Commonwealth of Virginia, Expanded Legalized Gaming Report
Richmond, VA

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INTRODUCTION

This report is designed to assist the Joint Legislative Audit and Review Commission (JLARC) in assessing the impacts and implications of potential expansion of legalized gaming in the Commonwealth of Virginia. It contains a gaming market assessment analyzing the market potential for five casinos in a base case scenario and a sixth casino in Northern Virginia, as well as the impacts of potential casino development on historical horse racing (HHR) and downstream impacts on the Virginia equine industry. The report also assesses the potential impact on the Virginia Lottery and charitable gaming from casino development, as well as the market potential for sports betting and online casino gaming.

The Virginia legislature is considering whether to allow five casinos to be developed in the following cities: Bristol, Danville, Norfolk, Portsmouth and Richmond. These five comprise the base case scenario for casino development. Additionally, the report assesses the market potential of a casino in Northern Virginia.

A statewide gravity model was employed to estimate topline gaming revenue and casino visitation for the six casino locations and their impact on HHR revenue. Operating proforma models were then used to estimate employment, payroll, and casino expenditures for input into an economic impact analysis. A return-on-investment (ROI) analysis, including high-level estimates for development costs, was also performed to validate the potential viability of the locations for casino development and to provide construction costs for input into the economic impact analysis.

Further, the report contains a casino tax sensitivity analysis showing the economic and fiscal impacts of alternative gaming tax rates (12%, 27% and 40%). The following bullets summarize the scenarios assessed:

  Scenario 1. HHR (historical horse racing) operations at Colonial Downs and in Chesapeake, Hampton, Richmond, and Vinton. HHR has been approved by the Commonwealth (and implemented at three locations already), and HHR is therefore an assumed competitor in all scenarios.
  Scenario 2. Casino development in Bristol, Danville, Norfolk, Portsmouth and Richmond (competing with the HHR facilities).
  Scenario 3. Casino development in Northern Virginia (NOVA) added to Scenario 2 above.
  Scenario 4. Online casino gaming.
  Scenario 5. Sports betting at casinos.
  Scenario 6. Sports betting at casinos and pari-mutuel facilities.
  Scenario 7. Sports betting at casinos and pari-mutuel facilities, and on mobile devices.
  Scenario 8. Mobile sports betting only.

The impact of potential casino development is measured on a future baseline year of 2025, which is estimated to be the first stabilized year of casino operation and the second full year of operation, given the following assumptions for development timeline. Voter approval would be required under the legislation, and the legislation is anticipated to be taken up in early 2020.

- November 2020: Casino Ballot Initiatives

- 2021: Casino Licensing Process
- 2022-2023: Construction of Casino Facilities
- 2024: Opening of Casino Facilities

The report begins with a description of the regional casino competition and revenue trends, followed by the casino market assessment, horse racing industry analysis, online gaming assessment, and sports betting assessment. Then the report examines Virginia Lottery and charitable gaming trends and the potential impact of casino development on those two sectors. The report concludes with analysis of the economic and fiscal impacts of the alternative gaming expansion scenarios.

COMPETITIVE ENVIRONMENT

The competition for Virginia's expanded gaming market will come from gaming facilities operating in neighboring states such as Maryland, West Virginia, Delaware, Pennsylvania and North Carolina. The Innovation Group identified 14 existing competitors and 3 proposed gaming facilities in this market area.

Two of the proposed facilities are Pennsylvania's new Category 4 "mini-casinos" in Shippensburg and York, predicted to open in 2020. In addition, the Catawba Tribe's proposed resort casino in King's Mountain, NC could become a more distant competitor for Virginia's southern markets.

Table 1 presents all of the existing competitive casinos in the region:

Table 1: Existing Competitive Casinos

Name	Location	Machines	Tables	Positions	Hotel Rooms	F&B**	Employ-ees
Maryland Live!	Hanover, MD	3,830	197	5,012	310*	8	2,764
Horseshoe Baltimore	Baltimore, MD	2,120	128	2,888	0	6	1,364
Hollywood Perryville	Perryville, MD	821	21	947	0	1	313
Ocean Downs	Berlin, MD	892	18	892	0	3	249
Rocky Gap	Cumberland, MD	665	17	767	198	5	324
MGM National Harbor	Oxon Hill, MD	3,138	200	4,338	308	12	2,706
Hollywood Charles Town	Charles Town, WV	2,068	89	2,602	154	5	
Greenbrier	White Sulphur Springs, WV	181	30	361	710	14	
Mardi Gras	Cross Lanes, WV	807	47	1,089	150	2	
Delaware Park	Wilmington, DE	2,296	39	2,530	0	9	
Dover Downs	Dover, DE	2,255	40	2,495	500	8	
Harrington Park	Harrington, DE	1,724	31	1,910	0	8	
Hollywood Harrisburg PNRC	Grantville, PA	2,002	75	2,452	0	5	907
Harrah's Cherokee	Cherokee, NC	3,305	180	4,385	1,108	11	

Source: The Innovation Group, Various Gaming Boards and Commissions, CasinoCity.com. *Onsite casino hotel; MD Live also has a 250-room offsite hotel. **Food and beverage venues within the property.

Existing

This section details the fourteen existing competitors within the gaming market categorized by state.

Maryland

The Maryland Lottery and Gaming Control Commission (MLGCC) was created in 2008 following a constitutional amendment authorizing slot machines at five locations throughout the state. The MLGCC awarded licenses for facilities within the counties of Anne Arundel, Baltimore City, Cecil, Allegany, and Worcester. In 2012, a referendum was approved to expand the gaming market allowing for table games at all existing facilities and a sixth casino license for Prince George's County. The following section details each facility in the existing Maryland gaming market.

Maryland Live!

The Maryland Live! Casino is located 15 miles southwest of Baltimore, just outside of Hanover, MD. The casino opened in June 2012 adjacent to the Arundel Mills Mall near the junction of Baltimore Washington Parkway and State Route 100, five miles south of Interstate I-95. The Arundel Mills Mall has over 200 indoor retail stores in addition to several restaurants and a 24-screen Cinemark movie theater. Several airport hotels are also located on the property, as the Washington-Baltimore International Thurgood Marshall Airport (BWI) is only two miles away.

Maryland Live! Casino is one of the largest gaming facilities in the region with over 3,800 slots and nearly 200 and table games including 50 poker tables. The facility has several non-gaming amenities including ten on-site dining options and a live entertainment venue. The 17-story Live! Hotel opened in June 2018 featuring 310 luxury guest rooms and 52 suites, a spa and salon, a 1,500-seat event center, meeting facilities, an entertainment bar, and David's Cafe. Additionally, Live Lofts is a 250-room offsite hotel. The property also features a high-limit smoking patio, which is unique in the marketplace and includes 12 gaming tables and 166 slot machines.

Total annual revenues for Maryland Live! reached a high of $656 million in 2014, and have since fallen to $545 million, likely as a result of MGM National Harbor opening in December 2016, and Horseshoe Baltimore opening in 2014. Table games were introduced at this facility in April 2013 and currently comprise roughly 32% of total annual revenue.

The following table shows the annual breakdown between slots and table revenue at the Maryland Live! facility.

Table 2: Maryland Live! Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2013	$586,004,454		$433,126,631		$152,877,823		
2014	$655,726,354	12%	$414,304,250	-4%	$241,422,105	NA	63%
2015	$629,732,520	-4%	$400,728,150	-3%	$229,004,370	-5%	64%
2016	$653,149,783	4%	$399,340,298	0%	$253,809,485	11%	61%
2017	$544,992,891	-17%	$354,297,449	-11%	$190,695,442	-25%	65%
2018	$576,634,908	6%	$392,355,099	11%	$184,279,809	-3%	68%

Source: Maryland Lottery.

Horseshoe Baltimore

Horseshoe Casino in Baltimore opened in late August 2014. It is the state's only urban casino, built on the former site of the Maryland Chemical Company in South Baltimore. The casino is located on a major thoroughfare, State Highway 295, just north of the Interstate I-95 overpass. The casino neighbors existing entertainment facilities such as the M&T Bank Stadium and Oriole Park at Camden Yards. The casino does not have any on-site accommodations but offers discounts at multiple hotel partners in the area.

This facility is the third largest and the third highest revenue generating casino in the state after Maryland Live! and MGM National Harbor. It has a 122,000-square foot gaming floor and nearly

3,000 gaming positions. Table play at Horseshoe is substantial. In 2018, table revenues comprised nearly 42% of total revenues at Horseshoe, among the highest percentages in the nation.

The following table is a breakdown of annual gaming revenue at the Horseshoe Baltimore Casino since opening in 2014.

Table 3: Horseshoe Baltimore Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2014	$96,900,188		$55,023,401		$41,876,787		57%
2015	$289,452,530	NA	$157,600,245	NA	$131,852,286	NA	54%
2016	$324,313,284	12%	$176,969,107	12%	$147,344,177	12%	55%
2017	$272,050,773	-16%	$156,087,809	-12%	$115,962,964	-21%	57%
2018	$259,900,845	-4%	$150,801,294	-3%	$109,099,550	-6%	58%

Source: Maryland Lottery

MGM National Harbor, a direct competitor with Horseshoe Baltimore, opened in December of 2016. Slot and table revenue at Horseshoe both declined by double digits in 2017, with total revenue falling by 16%. Total revenues declined a further $12 million in 2018, a year over year decrease of 4%.

Hollywood Perryville

The Hollywood Casino located in Perryville lies just north of Interstate I-95 near the John F. Kennedy Memorial Tollway Bridge over the Susquehanna River, an inlet to Chesapeake Bay. The casino opened in September 2010, the same month as Sugar House Casino only 60 miles away in Philadelphia. Hollywood Casino was slightly disadvantaged from this, as Pennsylvania passed legislation that month allowing for table games at all of the state's casinos. Hollywood Perryville added table games in March 2013.

Total annual revenues peaked at $111 million for this facility in 2011, during its first full year of operations. Since then total revenues have declined annually reaching an all-time low of $74 million in 2017. In recent years table game revenues have slipped by about 5% annually, while slot revenue rebounded slightly from 2017 to 2018.

Table 4: Hollywood Perryville Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2011	$110,778,097		$110,778,097				
2012	$98,608,997	-11%	$98,608,997	-11%			
2013	$87,836,405	-11%	$74,878,286	-24%	$12,958,119	NA	85%
2014	$82,936,620	-6%	$70,181,900	-6%	$12,754,720	-2%	85%
2015	$77,269,241	-7%	$65,275,658	-7%	$11,993,583	-6%	84%
2016	$75,296,270	-3%	$63,947,648	-2%	$11,348,622	-5%	85%
2017	$74,450,839	-1%	$63,707,085	0%	$10,743,754	-5%	86%
2018	$76,009,282	2%	$65,496,883	3%	$10,512,399	-2%	86%

Source: Maryland Lottery

There was a significant impact on Hollywood Perryville's revenues following the opening of Horseshoe Baltimore Casino in August 2014. The opening of MGM National Harbor did not have significant effects on Hollywood, due to the distance between the two. Table games were hit the hardest with a 5% decline.

Ocean Downs Casino

The Ocean Downs Casino opened in January 2011 at a harness racetrack dating to 1949 near Ocean City, MD. In December 2017 Ocean Downs Casino completed a renovation and rebranding project which included adding 100 slot machines, a special events room, and the grand opening of 10 table games at the facility. The track is situated one-half mile north of U.S. 50, the major highway leading to Ocean City.

Total annual revenues at Ocean Downs are the second lowest in the state at roughly $76 million in 2018. However, annual gaming revenues have continued to increase since 2011, apart from a 0.2% decline from 2013 to 2014. From 2014 through 2017, Ocean Downs experienced a 5.6% CAGR, and with the addition of table games, slot revenue grew by 12% in 2018.

Table 5: Ocean Downs Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2011	$44,930,696		$44,930,696				
2012	$49,919,419	11%	$49,919,419	11%			
2013	$51,892,469	4%	$51,892,469	4%			
2014	$51,809,524	0%	$51,809,524	0%			
2015	$55,889,526	8%	$55,889,526	8%			
2016	$58,470,069	5%	$58,470,069	5%			
2017	$61,019,442	4%	$60,965,490	4%	$53,952		
2018	$75,804,421	24%	$68,028,287	12%	$7,776,135	NA	90%

Source: Maryland Lottery

Rocky Gap

The Rocky Gap Resort and Golf Course was developed in 1998 but did not begin casino operations until May 2013. The resort is situated on the west side of the Rocky Gap State Park near Cumberland, MD and only one mile from exit 50 off Interstate I-68. The resort has 198 guest rooms, five onsite restaurants and lounges, an indoor pool, spa, golf course, and offers a variety of outdoor activities including: canoeing, stand-up paddle boards, kayaks, fishing gear rentals, and more. The entire outdoor Lakeside Terrace was remodeled in 2017.

Since Rocky Gap Casino's first full year of operations in 2014, slot machines have accounted for roughly 85% of total annual revenues. Despite having the smallest revenue figures of Maryland's five casinos, Rocky Gap total annual revenues continue to grow slightly year over year, reaching $54.8 million in 2018 despite an 8% decline in table game revenue.

Table 6: Rocky Gap Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2014	$43,710,330		$37,474,952		$6,235,378		86%
2015	$46,082,330	5%	$39,442,593	5%	$6,639,738	6%	86%
2016	$50,123,716	9%	$42,827,956	9%	$7,295,760	10%	85%
2017	$53,808,924	7%	$46,026,283	7%	$7,782,642	7%	86%
2018	$54,779,408	2%	$47,648,148	4%	$7,131,260	-8%	87%

Source: Maryland Lottery

MGM National Harbor

In December 2016, MGM National Harbor was opened in Oxon Hill, MD, located in Prince George's County. Construction of the casino, hotel, and amenities began in 2015 and cost roughly $1.4 billion. The facility is situated along the eastern shore of the Potomac River just south of Interstate I-495 near Washington D.C. The resort includes a 24-story 308 room hotel with amenities, 18,000 square feet of high-end retail space, a 27,000 square foot spa and salon, a 3,000-seat theater, 50,000 square foot meeting and convention facilities, and 125,000 square foot gaming floor that includes slots, table games and poker. There are 12 dining options for guests and visitors including two restaurants opened by celebrity chefs José Andrés and brothers Bryan and Michael Voltaggio.

By the end of the first full year of operations, National Harbor already had the highest grossing revenue of all Maryland casinos. In 2018, total annual gaming revenue increased another 16%, reaching $704 million. More than 48% of total gaming revenue was attributed to table game play, which is more than Horseshoe Baltimore made in total revenue for the year.

Table 7: MGM National Harbor Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2017	$608,627,387		$318,584,995		$290,042,392		52%
2018	$704,878,971	16%	$368,171,418	16%	$336,707,553	16%	52%

Source: Maryland Lottery

West Virginia

West Virginia currently has five casinos operating within the state in addition to live racing. For this analysis, the only facilities identified as potential competitors were Hollywood casino in Charles Town, Mardi Gras Casino, and Greenbrier Resort.

Hollywood Charles Town

The Charles Town Race Track began casino slot operations in 1998 after seven decades of live thoroughbred racing. The casino was rebranded to Hollywood Casino in July 2010 when the facility was allowed table games. The facility is located near the junction of US Highway 340 and State Highway 9 in Charles Town, 65 miles northwest of Washington DC.

Slot revenues have continued to decline since industry highs in 2007 at $463 million. The addition of table games in July 2010 temporarily offset the overall casino revenue decline from 2010-2011. However, both table games and slots have seen significant declines in the recent years with total revenues now 23% less than 2015 figures, reflecting the impacts of Maryland Live!, Horseshoe Baltimore, and MGM National Harbor. Slot revenues on average comprise 77% of total revenue at Hollywood Charles Town.

Hollywood Charles Town Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2000	$107,063,209		$107,063,209				
2001	$162,338,743	52%	$162,338,743	52%			
2002	$220,985,043	36%	$220,985,043	36%			
2003	$295,275,827	34%	$295,275,827	34%			
2004	$360,236,654	22%	$360,236,654	22%			
2005	$414,124,376	15%	$414,124,376	15%			
2006	$448,022,619	8%	$448,022,619	8%			
2007	$463,367,841	3%	$463,367,841	3%			
2008	$454,010,812	-2%	$454,010,812	-2%			
2009	$424,334,013	-7%	$424,334,013	-7%			
2010	$455,792,444	7%	$397,124,594	-6%	$58,667,850		87%
2011	$541,931,341	19%	$393,313,030	-1%	$148,618,311	NA	73%
2012	$541,314,204	0%	$379,701,881	-3%	$161,612,323	9%	70%
2013	$456,460,858	-16%	$329,907,042	-13%	$126,553,817	-22%	72%
2014	$391,938,061	-14%	$300,645,161	-9%	$91,292,900	-28%	77%
2015	$396,194,442	1%	$307,267,580	2%	$88,926,862	-3%	78%
2016	$368,614,763	-7%	$288,986,209	-6%	$79,628,554	-10%	78%
2017	$339,392,579	-8%	$273,887,597	-5%	$65,504,983	-18%	81%
2018	$303,659,331	-11%	$246,500,017	-10%	$57,159,314	-13%	81%

Source: West Virginia Lottery

Mardi Gras

Mardi Gras Casino and Resort is located in Cross Lanes, West Virginia. The property has a 90,000 sq. ft. gaming area, which currently features 80 slot machines, 30 table games, and 20 poker tables. The racetrack at Mardi Gras features greyhound racing. The property also includes a 150-room hotel, 2 dining options, and live entertainment at Louie's lounge.

The following table displays annual gaming revenues at Mardi Gras Casino. Following years of decline and stagnant growth, total annual revenues at Mardi Gras increased with the addition of table games to reach a facility high of $84 million in 2010. However, since then gaming revenues have declined annually to $54 million.

Table 8: Mardi Gras Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2000	$38,062,385		$38,062,385				
2001	$51,882,685	36%	$51,882,685	36%			
2002	$63,302,905	22%	$63,302,905	22%			
2003	$68,508,593	8%	$68,508,593	8%			
2004	$66,096,622	-4%	$66,096,622	-4%			
2005	$65,477,695	-1%	$65,477,695	-1%			
2006	$63,254,632	-3%	$63,254,632	-3%			
2007	$67,183,680	6%	$67,183,680	6%			
2008	$65,475,632	-3%	$59,162,441	-12%	$6,313,192		
2009	$79,091,169	21%	$47,442,402	-20%	$31,648,768	NA	
2010	$84,428,958	7%	$47,108,853	-1%	$37,320,105	18%	56%
2011	$74,166,803	-12%	$50,486,780	7%	$23,680,024	-37%	68%
2012	$70,799,562	-5%	$52,210,638	3%	$18,588,924	-21%	74%
2013	$65,009,861	-8%	$48,062,517	-8%	$16,947,344	-9%	74%
2014	$59,295,603	-9%	$43,076,945	-10%	$16,218,658	-4%	73%
2015	$60,153,242	1%	$43,760,530	2%	$16,392,712	1%	73%
2016	$60,138,906	0%	$43,841,218	0%	$16,297,687	-1%	73%
2017	$58,712,798	-2%	$44,415,944	1%	$14,296,854	-12%	76%
2018	$54,943,352	-6%	$41,896,698	-6%	$13,046,655	-9%	76%

Source: West Virginia Lottery

Greenbrier

The Greenbrier is an historic luxury resort located in the Allegheny Mountains near the state's eastern border with Virginia. The resort opened in 1778 but did not begin gambling operations until late 2009. The 11,000-acre property offers 710 rooms, including 33 suites and 96 guest homes, designer boutiques, meeting event space, 14 dining options, a mineral spa, 55 attraction/activities, and a 103,000 sqft gaming floor.

This unique casino is the smallest revenue generating property of the five gaming locations in West Virginia earning only $11 million in 2018. Unlike most other casinos, slot machine revenue comprises less than half of the total annual revenue. Despite a few years of significant declines, total revenues at Greenbrier have increased by 39% since 2016.

Table 9: Greenbrier Annual Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2010	$6,899,626		$3,106,813		$3,792,813		45%
2011	$10,724,748	55%	$4,249,547	37%	$6,475,202	71%	40%
2012	$11,871,524	11%	$4,719,950	11%	$7,151,574	10%	40%
2013	$12,385,295	4%	$4,634,411	-2%	$7,750,884	8%	37%
2014	$11,002,576	-11%	$4,195,575	-9%	$6,807,002	-12%	38%
2015	$9,778,251	-11%	$4,231,834	1%	$5,546,416	-19%	43%
2016	$8,142,855	-17%	$3,993,420	-6%	$4,149,435	-25%	49%
2017	$8,714,640	7%	$4,527,003	13%	$4,187,637	1%	52%
2018	$11,312,811	30%	$4,955,731	9%	$6,357,080	52%	44%

Source: West Virginia Lottery

Delaware

The Delaware gaming regulations enacted in 1995 allow for video lottery terminals (VLTs) to be located the state's three existing racetracks. These racinos were awarded table games in 2010 and began internet gaming in late 2013. All three are potential competitors for a casino based in Northern Virginia. They have traditionally drawn upon the Baltimore-Washington D.C. corridor for a significant portion of gaming revenue and thus they have experienced notable declines from the expanded gaming market in Maryland.

Delaware Park

Delaware Park remains the only thoroughbred horse racetrack in the state and has been in continual operation since first opening in 1937. The facility offers live seasonal racing and year-round simulcast wagering in addition to being one of a limited few on the east coast that allow parlay sports betting. The location is roughly two miles northwest of Interstate I-95 between Wilmington and Newark. The facility is easily accessible to interstate travelers by State Highway 7 and 58, or via transit using the SEPTA regional rail line traveling from Wilmington to Philadelphia, PA during weekdays. The Churchman's Crossing rail station is located on the southwest corner of the property.

Delaware Park is the best performing property within the state, though total annual revenue has been on a drastic decline, apart from the modest revenue increases over the past few years. Recent revenue increases appear to be the result of significant jumps in table revenue, and minor increases in slot revenue. Table games only comprise about 16% of total annual revenue at Delaware Park.

Table 10: Delaware Park Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2000	$245,470,800		$245,470,800				
2001	$263,421,200	7%	$263,421,200	7%			
2002	$268,209,000	2%	$268,209,000	2%			
2003	$233,889,500	-13%	$233,889,500	-13%			
2004	$261,596,000	12%	$261,596,000	12%			
2005	$272,026,200	4%	$272,026,200	4%			
2006	$306,668,000	13%	$306,668,000	13%			
2007	$272,615,900	-11%	$272,615,900	-11%			
2008	$253,288,300	-7%	$253,288,300	-7%			
2009	$235,034,600	-7%	$235,034,600	-7%			
2010	$236,207,227	0%	$216,815,963	-8%	$19,391,264		
2011	$222,947,964	-6%	$185,698,800	-14%	$37,249,164		83%
2012	$211,773,659	-5%	$175,920,100	-5%	$35,853,559	-4%	83%
2013	$167,755,692	-21%	$141,651,300	-19%	$26,104,392	-27%	84%
2014	$156,704,148	-7%	$134,227,200	-5%	$22,476,948	-14%	86%
2015	$160,496,275	2%	$136,355,400	2%	$24,140,875	7%	85%
2016	$159,180,566	-1%	$135,140,500	-1%	$24,040,066	0%	85%
2017	$164,887,349	4%	$138,835,600	3%	$26,051,749	8%	84%
2018	$167,011,552	1%	$139,998,639	1%	$27,012,913	4%	84%

Source: Delaware Lottery

The opening of the Maryland gaming market and Sugar House Casino in Philadelphia had profound impacts on the slot revenues at this facility. By the time Baltimore opened in 2014, the majority of Delaware Park's Maryland market had already been cannibalized by existing properties.

Dover Downs

Dover Downs is located in the northern suburbs of the state capital between U.S. Route 13 and State Highway DE-1. Opened in 1969, the racetrack remains the only gaming facility to offer a dual-purpose track for both harness and motorsport racing. The original gaming facility was built in 1995 to accommodate the new video lottery terminals but was expanded in later years to allow for additional amenities. Dover Downs is currently the only casino resort operating within the state.

Annual slot revenues at Dover Downs have been steadily declining since 2006, dipping to 1990's levels in 2014. Dover Downs has the second highest annual gaming revenues and is on track to remain in that position for 2019. Table games have comprised less than 15% of total annual revenues since they became operational in 2010 and have also seen slight increases in the past three consecutive years.

Table 11: Dover Downs Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2000	$156,999,600		$156,999,600				
2001	$168,373,700	7%	$168,373,700	7%			
2002	$186,893,500	11%	$186,893,500	11%			
2003	$167,411,100	-10%	$167,411,100	-10%			
2004	$191,847,000	15%	$191,847,000	15%			
2005	$194,644,900	1%	$194,644,900	1%			
2006	$218,586,800	12%	$218,586,800	12%			
2007	$216,892,300	-1%	$216,892,300	-1%			
2008	$213,571,000	-2%	$213,571,000	-2%			
2009	$207,738,200	-3%	$207,738,200	-3%			
2010	$210,142,788	1%	$199,496,703	-4%	$10,646,085		
2011	$209,715,609	0%	$186,746,300	-6%	$22,969,309		89%
2012	$201,526,674	-4%	$177,109,800	-5%	$24,416,874	6%	88%
2013	$166,574,255	-17%	$145,620,700	-18%	$20,953,555	-14%	87%
2014	$154,253,239	-7%	$135,978,400	-7%	$18,274,839	-13%	88%
2015	$151,888,438	-2%	$134,559,600	-1%	$17,328,838	-5%	89%
2016	$150,958,687	-1%	$133,510,500	-1%	$17,448,187	1%	88%
2017	$151,104,472	0%	$133,477,200	0%	$17,627,272	1%	88%
2018	$149,023,782	-1%	$130,827,348	-2%	$18,196,434	3%	88%

Source: Delaware Lottery

Harrington Park

Harrington Park is Delaware's smallest gaming facility in terms of both size and revenue generation. The facility is located 25 minutes south of Dover directly off of U.S. Route 13 in the southern suburbs of Harrington. The half-mile oval raceway opened in 1946 and currently offers live racing, simulcast wagering and sports betting in addition to casino operations.

Table games were introduced in 2010, comprising only 12% of total annual revenues at Harrington Park. Like elsewhere in Delaware, annual slot revenues began to decline in 2007 and the addition of table games did little to offset the losses. Annual slot revenues reached a low of $77 million following ten consecutive years of consistent decline. Since the high of $126 million in 2006, total revenues declined at an annual rate of 3%. Most of the declines at Harrington Park occurred between 2010 and 2013 when Perryville, Ocean Downs and Maryland Live! opened their facilities.

Table 12: Harrington Park Gaming Revenue

	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2000	$82,633,900		$82,633,900				
2001	$95,145,000	15%	$95,145,000	15%			
2002	$110,807,400	16%	$110,807,400	16%			
2003	$100,699,100	-9%	$100,699,100	-9%			
2004	$105,856,600	5%	$105,856,600	5%			
2005	$112,874,900	7%	$112,874,900	7%			
2006	$126,479,000	12%	$126,479,000	12%			
2007	$122,898,900	-3%	$122,898,900	-3%			
2008	$122,063,700	-1%	$122,063,700	-1%			
2009	$121,466,500	0%	$121,466,500	0%			
2010	$125,029,688	3%	$116,534,044	-4%	$8,495,644		
2011	$115,208,860	-8%	$101,559,900	-13%	$13,648,960		88%
2012	$107,248,558	-7%	$94,727,800	-7%	$12,520,758	-8%	88%
2013	$97,728,495	-9%	$86,724,300	-8%	$11,004,195	-12%	89%
2014	$92,737,977	-5%	$82,194,100	-5%	$10,543,877	-4%	89%
2015	$92,196,387	-1%	$80,859,500	-2%	$11,336,887	8%	88%
2016	$88,518,150	-4%	$77,355,400	-4%	$11,162,750	-2%	87%
2017	$93,273,090	5%	$81,664,900	6%	$11,608,190	4%	88%
2018	$91,669,509	-2%	$81,536,592	0%	$10,132,917	-13%	89%

Source: Delaware Lottery

The opening of Ocean Downs in 2011 and Maryland Live! in 2012 showed the strongest impacts on revenues at Harrington. By the time Baltimore opened in 2013, revenues had somewhat adjusted to the loss of patrons from the eastern Maryland market.

Pennsylvania

The Pennsylvania Gaming Control Board licensed 13 casinos within the state, only 12 of which are operational. The licenses are broken into four categories; category 1 for racetrack casinos, category 2 for a stand-alone casino, category 3 for a resort casino, and category 4 for a satellite casino ("mini casino"). Only one Pennsylvania casino is considered a potential competitor for the Virginia gaming market.

Hollywood Casino at Penn National Race Course

Located 110 miles west of Philadelphia, Hollywood Casino originally started as a racetrack in 1972. The casino began operations in February of 2008 and began offering table games in July of 2010. The facility includes meeting and event space, five F&B options, and live entertainment. The casino currently operates over 2,000 slot machines and 75 table games.

Annual gaming revenues at Hollywood reached a high of $287 million in 2011, following the first full year of table game operations at the facility. In the proceeding years, both table and slot revenues have declined annually with the exception of minor increases in 2015 and 2017.

Table 13: Hollywood PNC Annual Gaming Revenue

Year	Total Revenue	% Change	Slot Revenue	% Change	Table Revenue	% Change	Slot % of Total
2009	$237,721,830		$237,721,830				
2010	$268,466,104	13%	$253,403,976	7%	$15,062,128		
2011	$287,335,903	7%	$248,924,977	-2%	$38,410,926		
2012	$282,601,312	-2%	$244,021,769	-2%	$38,579,543	0%	86%
2013	$266,761,833	-6%	$230,334,692	-6%	$36,427,141	-6%	86%
2014	$247,350,413	-7%	$213,954,040	-7%	$33,396,373	-8%	86%
2015	$250,340,147	1%	$215,578,964	1%	$34,761,184	4%	86%
2016	$244,246,780	-2%	$209,885,267	-3%	$34,361,514	-1%	86%
2017	$244,772,994	0%	$209,014,353	0%	$35,758,641	4%	85%
2018	$242,606,198	-1%	$206,470,185	-1%	$36,136,014	1%	85%

Source: Pennsylvania Gaming Control Board

North Carolina

North Carolina prohibits most forms of gambling with the exception of casino facilities located on federally recognized Tribal lands. Caesars Entertainment operates two casinos owned by the Eastern Band of Cherokee Indians tribe in North Carolina: the original and flagship Harrah's Cherokee Casino Resort and a newer satellite property, Harrah's Cherokee Valley River Resort in the southwestern corner of the state. These casinos are located outside the Virginia market area; however, as an established resort with hotel, Harrah's Cherokee would be expected to draw some gaming visits from the southwest and southside market areas as shown later in the report.

Harrah's Cherokee Casino Resort

Harrah's Cherokee Casino Resort is the larger of the two properties and hosts 3,305 slot machines, and 180 table games for a total of 4,385 gaming positions. The property is owned by the Eastern Band of Cherokee Indians; however, it is operated by Caesars Entertainment. The casino features video poker, video gaming, "Le Fu Men", poker, blackjack, craps, and roulette. Attached to the casino is the 21-story Harrah's Cherokee Hotel which offers 1,108 hotel rooms, full gym, indoor and outdoor pool, and cabanas and bar area. The property also features the Cherokee Golf Sequoyah National Golf Club, Mandara Spa, a night club, 11 food and beverage options, and a shopping center. As a Tribal owned casino, annual gaming revenues are not available to the public.

Proposed

The Innovation Group identified 3 proposed gaming facilities that could become potential competitors for facilities in the Virginia gaming market.

Catawba

The Catawba Indian Nation has proposed to build a 220,000 sqft casino resort in King Mountain, NC, just west of Charlotte. The proposed resort would include a 1,500-room hotel, multiple food and beverage options, and a multi-use entertainment venue. Catawba announced plans for this location back in 2013 but was met with opposition from the state legislature and the Eastern Band

of Cherokee Indians, the only tribal casino operator in North Carolina. If approved, the process could take many years before the development were to open.

Pennsylvania Category 4 "Mini-Casinos"

There are five Category 4 ("mini-casino") licenses being developed in Pennsylvania, including two in the southern side of the state: Shippensburg, and York. The Category 4 casinos will be permitted to operate up to 750 slot machines and 30 tables with the option to petition the board for an additional 10 tables.

The York license was awarded to Penn National Gaming, who plan to open the Hollywood mini casino in a vacant anchor location of the York Galleria Mall. The 80,000 sqft facility will open with 500 slots and 24 table games in the first year of operations but may expand up to the maximum allowance. The site also will feature a sports and race book, two dining options, a lounge and entertainment stage.

The Shippensburg license was awarded to Greenwood Racing, the operators of Parx Casino in Bensalem, PA. The Parx mini-casino will be located on a new site in a rural area of Cumberland County, just north of Interstate I-81 outside Shippensburg. The 63,000 sqft facility will include 475 slot machines, 40 electronic table game positions, a sportsbook, and sports bar restaurant.

GAMING MARKET ANALYSIS

Methodology

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

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

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

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

The gravity model included the identification of 36 discrete market areas based on drive times and other geographic features and the competitive environment. Using our GIS software and CLARITAS database[1], the adult population (21 and over), latitude and longitude, and average household income is collected for each zip code.

Each of these market areas is assigned a unique set of propensity and frequency factors. Gamer visits are then generated from zip codes within each of the areas based on these factors. The gamer

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[1]The GIS software used was MapInfo. This software allows for custom data generally in a tabular format with a geographic identification code (census tract, zip code, latitude and longitude, or similar identifier) to be mapped or displayed and integrated with other geographic census based information such as location of specific population or roadways. MapInfo is one of the most widely used programs in the geographic information systems industry. Nielsen Claritas is a vendor of demographic information located in the United States. Nielsen Claritas provides census demographic and psychographic data on a variety of geographic levels of detail ranging from census block groups and counties to postal zip codes. Their information is updated every six months and includes a current year estimate and provides a five year forecast for the future. The Innovation Group has utilized this data for inputs to its models for the last six years and has purchased full access to their demographic database for the entire United States.

visits thus generated are then distributed among the competitors based upon the size of each facility, its attractiveness and the relative distance from the zip code in question. The gravity model then calculates the probabilistic distribution of gamer visits from each market area to each of the gaming locations in the market.

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

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

Gamer Visits

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

Net Gaming Revenue (or Net Win)

Net Gaming Revenue (NGR) or Net Win in this report refers to amount wagered (for example, coin-in to a machine) minus prizes awarded (or Gross Gaming Revenue) minus the value of redeemed free play credits. The main existing casino jurisdictions in the Virginia region (Maryland, Pennsylvania and West Virginia) allow free play credits to be subtracted before gaming taxes are applied, and therefore public reporting of gaming revenue shows NGR, which has been utilized in the model calibration. In other markets, such as Illinois and Iowa, free play is taxed and the public reporting shows Gross Gaming Revenue.

Propensity

Propensity measures the percentage of adults who will participate in casino gaming within the zip code. This varies based upon a number of factors, which includes the number of gaming venues, their type (i.e. landbased versus cruising riverboat versus dockside riverboat), games permitted, availability of other entertainment and leisure options, and most importantly distance from a gaming venue. After proximity, age and income are the most influential factors in propensity, with 35 and older having higher propensity. Surveys conducted by the American Gaming Association have shown that gamers have higher-than-average income. Propensity is fairly consistent among racial and ethnic groups although people of Asian origin tend to prefer table gaming. Propensity in the inner market areas from 0-50 miles can vary between the low thirty per cent range in a single casino market to the upper forty percent range, or more in a market like Las Vegas, for multiple casinos with a well-developed array of amenities.

Demographic variability is adjusted at the zip code level with the MPI score as discussed below. The propensity rates shown in this report reflect drive-time proximity and other supply issues (such

as games permitted—for example, in Scenario 1, gaming is limited to HHR machines—and capacity constraints).

Frequency

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

MPI (Market Potential Index)

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

Win per Visit

Win per visit varies not only by gaming jurisdiction, but also in some cases by individual facilities. Normatively, win per visit is a function of distance and income. Gamers traveling greater distances tend to spend more per visit, typically making fewer gamer visits on average.

Attraction Factors

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

The sensitivity of the model to changes in these factors is not in the nature of a direct multiplication. For example, a doubling of the attraction factor will not lead to a doubling of the gamer visits attracted to the site. It will however cause a doubling of the attractive power of the gaming venue, which is then translated via non-linear equations into an increase in the number of gamer visits attracted to the gaming venue. This is based upon the location, size and number of competing gaming venues and their relationship to the market area to which the equation is applied. The variation of these factors is based upon The Innovation Group's experience in developing and

applying these models, and consideration of the existing visitation and revenues. The latter represents the calibration of the model and has been accomplished by adjusting attraction factors to force the model to recreate the existing revenues and patron counts. In this case attraction factors have been adjusted for each casino for each market area. This is based upon known visitation patterns.

Out-of-Market Visitation and Revenue

In addition to the local market revenue generated through the gravity model, casinos generate visitation and revenue from gamers from outside of a defined local market area. This out-of-market gaming demand represents visits driven by reasons other than proximity of permanent residence, such as traffic intercept, tourism, visiting friends and family, seasonal residence, and variety of gaming experience. This typically ranges between 4% and 10% of a casino's revenue depending upon location and the strength of the tourism market relative to the size of the local population.

Market Carve-out

Virginia's expanded gaming market has been carved into 36 distinct market areas, from which different participation rates may be expected depending on the level and location of competition that is present in the market currently and in the future. The following table and map show the market areas and their respective adult population (21 and over) and average household income.

Table 14: Market Area Demographics

	Adult Pop 2019	Adult Pop 2024	CAGR 2019-2024	Average HHI 2019	Average HHI 2024	CAGR 2019-2024
1 - Bristol Primary	52,943	53,611	0.3%	$64,504	$68,149	1.1%
2 - Bristol Primary TN	142,000	146,514	0.6%	$65,258	$69,601	1.3%
3 - Bristol Secondary TN	791,008	824,980	0.8%	$62,764	$68,991	1.9%
4 - Bristol Secondary NC	463,354	486,949	1.0%	$66,640	$74,585	2.3%
5 - Bristol Secondary	180,257	178,157	-0.2%	$52,667	$54,355	0.6%
6 - Blacksburg-Wytheville	192,992	198,819	0.6%	$69,519	$76,706	2.0%
7 - Roanoke	230,541	237,283	0.6%	$72,297	$76,172	1.0%
8 - Lynchburg	160,702	166,833	0.8%	$69,723	$74,071	1.2%
9 - Southside Secondary West	54,423	55,198	0.3%	$60,760	$66,295	1.8%
10 - Southside Primary	107,053	107,041	0.0%	$58,017	$63,832	1.9%
11 - Southside Primary NC	78,601	79,843	0.3%	$52,803	$56,056	1.2%
12 - Winston-Salem NC	1,540,174	1,637,102	1.2%	$78,470	$87,405	2.2%
13 - Raleigh-Durham NC	1,809,372	1,956,990	1.6%	$91,363	$101,842	2.2%
14 - Southside Secondary East	59,357	59,668	0.1%	$58,147	$63,276	1.7%
15 - Lynchburg East	55,950	56,628	0.2%	$59,885	$65,182	1.7%
16 - Greenbrier WV	113,872	111,445	-0.4%	$54,027	$56,459	0.9%
17 - Shenandoah Valley South	162,267	166,549	0.5%	$69,169	$73,465	1.2%
18 - Shenandoah Valley North	218,205	229,498	1.0%	$80,020	$88,415	2.0%
19 - Charlottesville	188,794	198,607	1.0%	$96,483	$103,407	1.4%
20 - Richmond West	76,337	79,497	0.8%	$85,812	$90,472	1.1%
21 - Richmond Primary	848,949	895,703	1.1%	$94,220	$102,814	1.8%
22 - Richmond South	90,809	90,995	0.0%	$62,007	$66,776	1.5%
23 - Northeastern NC	333,788	339,082	0.3%	$60,976	$65,948	1.6%
24 - Hampton Roads Primary	903,688	928,602	0.5%	$87,027	$96,263	2.0%
25 - Northampton	33,319	33,308	0.0%	$60,690	$64,213	1.1%
26 - Hampton Roads Secondary	253,747	260,649	0.5%	$86,747	$94,025	1.6%
27 - Richmond East	146,087	152,715	0.9%	$98,096	$106,839	1.7%
28 - Richmond North	199,370	210,268	1.1%	$99,076	$108,296	1.8%
29 - Northern VA Secondary	442,337	477,582	1.5%	$133,824	$142,956	1.3%
30 - Northern VA Primary	1,645,233	1,742,226	1.2%	$160,724	$170,004	1.1%
31 - US Capital Region	2,012,324	2,111,071	1.0%	$131,277	$141,998	1.6%
32 - Maryland South	401,821	422,578	1.0%	$129,023	$139,144	1.5%
33 - Maryland East	183,443	188,757	0.6%	$97,204	$105,769	1.7%
34 - Baltimore	1,925,148	1,981,209	0.6%	$111,346	$124,929	2.3%
35 - Charles Town	444,209	465,292	0.9%	$96,486	$105,745	1.8%
36 - Pennsylvania South	549,525	563,423	0.5%	$82,274	$90,651	2.0%
Total	**17,091,999**	**17,894,672**	**0.9%**	**$100,214**	**$109,544**	**1.8%**
Virginia State Total	*6,303,830*	*6,579,859*	*0.9%*	*$105,163*	*$113,367*	*1.5%*
National	*241,443,147*	*251,847,827*	*0.8%*	*$89,646*	*$98,974*	*2.0%*

Source: iXPRESS, Nielsen Claritas, Inc.; MapInfo: The Innovation Group; CAGR=Compound Annual Growth Rate

Figure 1: Virginia Market Area Definitions and 2-Hour* Drivetime Ring (*from a VA HHR or potential casino location)

Gaming Facilities

◆ Subject	◆ Out of State Casino	○ OTB	
◆ Rosie's	◆ Potential Casino		

Market Areas

1 - Bristol Primary
2 - Bristol Primary TN
3 - Bristol Secondary TN
4 - Bristol Secondary NC
5 - Bristol Secondary
6 - Blacksburg-Wytheville
7 - Roanoke
8 - Lynchburg
9 - Southside Secondary West
10 - Southside Primary
11 - Southside Primary NC
12 - Winston-Salem NC
13 - Raleigh-Durham NC
14 - Southside Secondary East
15 - Lynchburg East
16 - Greenbrier WV
17 - Shenandoah Valley South
18 - Shenandoah Valley North

19 - Charlottesville
20 - Richmond West
21 - Richmond Primary
22 - Richmond South
23 - Northeastern NC
24 - Hampton Roads Primary
25 - Northampton
26 - Hampton Roads Secondary
27 - Richmond East
28 - Richmond North
29 - Northern VA Secondary
30 - Northern VA Primary
31 - US Capital Region
32 - Maryland South
33 - Maryland East
34 - Baltimore
35 - Charles Town
36 - Pennsylvania South

Model Calibration

The gravity model was calibrated for 2018-2019 using publicly reported data from state gaming commissions. Competitive casinos were input into the model as discussed in the Competitive Environment section above. The following table shows the rates for propensity, frequency, and win per visit by market area that were used to re-create the actual conditions in the Base 2018-2019 model. Win has been varied based on differences between market areas in average household income and travel time.   These gaming visits and revenues reflect the total gaming revenue from the defined market area in the last 12 months.

As discussed above in the Methodology section, gaming revenue is shown as Net Gaming Revenue (NGR, or net of free play promotional credits) consistent with public reporting in Maryland, Pennsylvania and West Virginia.

Table 15 shows the results of the calibration model, which is based on the existing casino competition in the broad region as discussed in the Competitive Environment chapter above and the NGR generated in the twelve-month period of April 2018 through March 2019, which was the latest month available at the time the analysis was being set up. As such, it reflects conditions prior to any gaming in Virginia and excludes the Virginia HHR facilities (Rosie's) that have recently opened. It represents gaming spend by residents of the defined market areas at existing casinos discussed in the Competitive Environment chapter.

Table 15: Local Market Gravity Model Calibration Base LTMs thru March 2019

	Gamer Pop	Propensity	Frequency	MPI	Visits	WPV	NGR (MMs)
1 - Bristol Primary	52,943	10.3%	1.1	79	4,711	$88	$0.4
2 - Bristol Primary TN	142,000	12.8%	1.7	83	25,957	$88	$2.3
3 - Bristol Secondary TN	791,008	24.3%	4.2	84	668,192	$82	$55.0
4 - Bristol Secondary NC	463,354	21.6%	3.3	83	269,138	$86	$23.1
5 - Bristol Secondary	180,257	9.2%	0.9	70	10,072	$83	$0.8
6 - Blacksburg-Wytheville	192,992	12.8%	2.1	82	43,401	$90	$3.9
7 - Roanoke	230,541	20.6%	4.5	91	195,924	$87	$17.1
8 - Lynchburg	160,702	15.7%	2.6	88	57,617	$89	$5.1
9 - Southside Secondary West	54,423	13.6%	1.9	74	10,588	$86	$0.9
10 - Southside Primary	107,053	4.0%	0.2	77	539	$86	$0.0
11 - Southside Primary NC	78,601	4.7%	0.2	75	605	$83	$0.1
12 - Winston-Salem NC	1,540,174	11.5%	0.9	91	146,336	$96	$14.0
13 - Raleigh-Durham NC	1,809,372	6.0%	0.2	96	25,557	$103	$2.6
14 - Southside Secondary East	59,357	5.0%	0.3	71	534	$86	$0.0
15 - Lynchburg East	55,950	7.6%	0.6	74	1,900	$86	$0.2
16 - Greenbrier WV	113,872	22.4%	5.3	70	96,148	$77	$7.4
17 - Shenandoah Valley South	162,267	14.1%	2.6	84	50,881	$89	$4.5
18 - Shenandoah Valley North	218,205	20.1%	4.3	90	168,249	$92	$15.4
19 - Charlottesville	188,794	12.9%	1.7	94	40,087	$104	$4.2
20 - Richmond West	76,337	13.0%	1.8	87	15,339	$99	$1.5
21 - Richmond Primary	848,949	14.9%	2.3	100	293,987	$102	$30.0
22 - Richmond South	90,809	9.1%	0.9	75	5,332	$87	$0.5
23 - Northeastern NC	333,788	5.3%	0.3	78	3,840	$87	$0.3
24 - Hampton Roads Primary	781,377	8.2%	0.7	110	48,486	$102	$4.9
25 - Northampton	33,319	18.7%	3.7	69	15,968	$83	$1.3
26 - Hampton Roads Secondary	376,058	8.8%	0.8	98	25,818	$97	$2.5
27 - Richmond East	146,087	11.3%	1.3	91	20,106	$105	$2.1
28 - Richmond North	199,370	18.4%	3.6	97	126,398	$102	$12.9
29 - Northern VA Secondary	442,337	21.7%	5.0	106	512,298	$116	$59.2
30 - Northern VA Primary	1,645,233	24.2%	7.9	110	3,442,890	$121	$416.1
31 - US Capital Region	2,012,324	30.0%	9.7	110	6,436,889	$99	$640.0
32 - Maryland South	401,821	24.7%	6.5	106	685,839	$109	$74.8
33 - Maryland East	183,443	28.5%	8.3	94	410,238	$89	$36.6
34 - Baltimore	1,925,148	30.4%	9.9	112	6,468,294	$90	$584.7
35 - Charles Town	444,209	26.7%	7.6	98	885,799	$91	$80.7
36 - Pennsylvania South	549,525	22.5%	5.4	96	642,057	$90	$58.0
Total	**17,091,999**				**21,856,012**	**$99**	**$2,163.3**

Source: The Innovation Group; WPV=Casino Win per Visit; NGR=Net Gaming Revenue; LTM = Last 12 Months

Forecast Scenarios

The impact of potential casino development is measured on a future baseline year of 2025, which is estimated to be the first stabilized year of casino operation and the second full year of operation, given the following assumptions for development timeline:

- November 2020: Casino Ballot Initiatives

- 2021: Casino Licensing Process
- 2022-2023: Construction of Casino Facilities
- 2024: Opening of Casino Facilities

The Innovation Group conducted assessments for the following scenarios:

1. **Scenario 1**: HHR Benchmark (five facilities totaling 2,850 machines, as discussed below). HHR has been approved by the Commonwealth (and implemented at three locations already), and HHR is therefore an assumed competitor in all scenarios.
2. **Scenario 2**: Baseline Casino Development (five casinos as mentioned in the current legislation: Bristol, Danville, Norfolk, Portsmouth and Richmond) competing with the HHR facilities.
3. **Scenario 2a**: North Carolina and Tennessee Sensitivity Analysis (testing the impact of hypothetical new casino development in these two states on Bristol and Danville).
4. **Scenario 3**: Northern Virginia (NOVA) alternative. This scenario adds a casino in NOVA to the Scenario 2 assumptions.

We have utilized realistically conservative assumptions throughout the modeling process. For the gravity modeling we assumed a mid-range gaming tax of 27%, and to simplify the analysis we have assumed a blended rate. Many states—including in the mid-Atlantic region—have higher tax rates for slot machines than for tables, in recognition of the higher labor expense needed for the operation of table games. However, the 27 percent blended rate is competitive with the actual blended rate experienced in other mid-Atlantic states.

Scenario 1: HHR Benchmark Forecast

The first step in the analysis is to create a Benchmark model for 2025 using projected population and income growth and modeling for the implementation of Historical Horse Racing (HHR) facilities. HHR wagering has already been approved by the Commonwealth and three facilities were in operation as of July 1, 2019.

The HHR modeling was started in April 2019 and thus includes only those facilities that had been proposed at that point; moreover, the modeling did not have the benefit of any early HHR results. The following facilities and their respective number of HHR machines were assumed to be operating by 2025:

- Colonial Downs 600
- Vinton 150
- South Richmond 700
- Chesapeake 700
- Hampton 700

Subsequent to the completion of the modeling, additional proposals emerged for HHR facilities near Danville in the south and Dumfries in the north. These two have not been included in the analysis.

Table 16 shows the inputs and total market results of the Benchmark HHR forecast for 2025. The addition of HHR facilities could be expected to increase propensity and frequency in market areas 7, 8, 9, 15, 21, 26 and 27. Of the $2.6 billion total market, the HHR facilities are estimated to capture nearly $300 million, as shown in Table 17.

Table 16: Total Market Gravity Model Forecast 2025: Scenario 1 (Virginia HHRs)

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	NGR ($MMs)
1 - Bristol Primary	53,746	10.3%	1.1	79	4,781	$91	$0.4
2 - Bristol Primary TN	147,436	12.8%	1.7	83	26,966	$90	$2.4
3 - Bristol Secondary TN	831,979	24.3%	4.2	84	703,800	$84	$59.4
4 - Bristol Secondary NC	491,835	21.6%	3.3	83	286,156	$88	$25.2
5 - Bristol Secondary	177,744	9.2%	0.9	70	9,935	$85	$0.8
6 - Blacksburg-Wytheville	200,017	12.8%	2.1	82	45,066	$92	$4.2
7 - Roanoke	238,660	20.7%	6.3	91	285,597	$87	$24.9
8 - Lynchburg	168,099	16.1%	3.2	89	76,636	$91	$7.0
9 - Southside Secondary West	55,356	14.1%	2.7	74	15,859	$87	$1.4
10 - Southside Primary	107,040	4.0%	0.2	77	546	$88	$0.0
11 - Southside Primary NC	80,094	4.7%	0.2	75	617	$85	$0.1
12 - Winston-Salem NC	1,657,361	11.5%	0.9	91	157,996	$98	$15.4
13 - Raleigh-Durham NC	1,988,090	6.0%	0.2	96	28,157	$105	$3.0
14 - Southside Secondary East	59,732	5.0%	0.5	71	1,039	$88	$0.1
15 - Lynchburg East	56,766	7.7%	0.8	74	2,476	$89	$0.2
16 - Greenbrier WV	110,977	22.4%	5.3	71	93,780	$79	$7.4
17 - Shenandoah Valley South	167,425	14.1%	2.6	84	52,547	$91	$4.8
18 - Shenandoah Valley North	231,837	20.1%	4.3	90	179,003	$94	$16.8
19 - Charlottesville	200,636	12.9%	1.8	94	44,314	$106	$4.7
20 - Richmond West	80,146	13.0%	3.5	87	31,716	$99	$3.1
21 - Richmond Primary	905,429	15.6%	10.0	101	1,416,696	$96	$135.5
22 - Richmond South	91,036	9.1%	4.4	75	27,194	$88	$2.4
23 - Northeastern NC	340,187	5.3%	0.5	78	6,591	$89	$0.6
24 - Hampton Roads Primary	810,812	13.1%	9.8	110	1,151,193	$96	$110.1
25 - Northampton	33,307	18.7%	3.7	69	15,970	$85	$1.4
26 - Hampton Roads Sec.	385,000	13.0%	9.3	98	456,478	$91	$41.7
27 - Richmond East	154,092	11.8%	6.1	91	100,998	$103	$10.4
28 - Richmond North	212,529	18.4%	4.0	97	153,753	$104	$15.9
29 - Northern VA Secondary	484,994	21.7%	5.0	106	562,359	$118	$66.2
30 - Northern VA Primary	1,762,426	24.2%	7.9	110	3,690,296	$123	$453.7
31 - US Capital Region	2,131,491	30.0%	9.7	110	6,817,391	$102	$692.2
32 - Maryland South	426,878	24.7%	6.5	106	728,959	$111	$81.0
33 - Maryland East	189,849	28.5%	8.3	94	425,108	$91	$38.8
34 - Baltimore	1,992,821	30.4%	9.9	111	6,687,619	$92	$618.6
35 - Charles Town	469,655	26.7%	7.6	98	938,489	$93	$87.5
36 - Pennsylvania South	566,250	26.3%	7.4	96	1,054,614	$88	$92.4
Total	**18,061,732**				**26,280,695**	**$100**	**$2,629.7**

Source: The Innovation Group; WPV=Casino Win per Visit; NGR=Net Gaming Revenue

The following table shows the Net Gaming Revenue forecast for Scenario 1. Vinton is projected to have the highest WPP (win per position per day) since it is limited to 150 machines and has a monopoly in the Roanoke area market.

Table 17: Scenario 1 Results

	Colonial Downs	South Richmond	Hampton	Chesapeake	Vinton	Total
Gravity Model	$40,816,928	$82,022,268	$57,968,964	$88,526,471	$20,764,953	$290,099,583
Out-of-Market	$3,265,354	$1,640,445	$1,855,007	$1,770,529	$415,299	$8,946,635
Total NGR	**$44,082,282**	**$83,662,713**	**$59,823,971**	**$90,297,000**	**$21,180,252**	**$299,046,218**
Positions	600	700	700	700	150	2,850
WPP	$201	$327	$234	$353	$387	$287

Source: The Innovation Group; WPP= Win per Position (per day); NGR=Net Gaming Revenue

Scenario 2: Baseline Casino Forecast

The addition of casinos in Bristol, Danville, Norfolk, Portsmouth and Richmond would be expected to lead to significant increases in propensity and frequency in nearby market areas. WPV, however, tends to decrease with increased participation rates as more casual gamers enter the market and gaming budgets are stretched over more frequent visits.

Table 18 shows the inputs and total market results of the Scenario 2 forecast:

Table 18: Total Market Gravity Model Forecast 2025: Scenario 2 (Baseline Casino)

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	NGR ($MMs)
1 - Bristol Primary	53,746	32.0%	11.0	79	149,293	$70	$10.5
2 - Bristol Primary TN	147,436	29.7%	9.5	83	346,341	$75	$25.9
3 - Bristol Secondary TN	831,979	25.8%	4.7	84	842,672	$83	$70.1
4 - Bristol Secondary NC	491,835	26.0%	4.9	83	517,835	$85	$43.8
5 - Bristol Secondary	177,744	21.9%	5.1	70	138,015	$79	$10.9
6 - Blacksburg-Wytheville	200,017	16.0%	2.7	82	70,415	$91	$6.4
7 - Roanoke	238,660	25.1%	8.5	91	461,571	$82	$37.9
8 - Lynchburg	168,099	22.4%	5.3	89	177,398	$87	$15.4
9 - Southside Secondary West	55,356	22.7%	5.5	74	51,159	$82	$4.2
10 - Southside Primary	107,040	29.1%	9.1	77	216,938	$73	$15.8
11 - Southside Primary NC	80,094	28.3%	8.6	75	145,358	$72	$10.4
12 - Winston-Salem NC	1,657,361	16.6%	2.6	91	658,207	$96	$62.9
13 - Raleigh-Durham NC	1,988,090	17.7%	3.3	96	1,124,281	$101	$113.5
14 - Southside Secondary East	59,732	22.6%	5.4	71	51,940	$81	$4.2
15 - Lynchburg East	56,766	15.5%	2.5	74	16,304	$87	$1.4
16 - Greenbrier WV	110,977	22.4%	5.3	71	93,780	$79	$7.4
17 - Shenandoah Valley South	167,425	17.7%	3.3	84	82,105	$90	$7.4
18 - Shenandoah Valley North	231,837	20.1%	4.3	90	179,003	$94	$16.8
19 - Charlottesville	200,636	17.2%	3.1	94	101,340	$104	$10.5
20 - Richmond West	80,146	25.1%	6.7	87	117,292	$91	$10.7
21 - Richmond Primary	905,429	31.6%	10.7	101	3,086,346	$83	$255.7
22 - Richmond South	91,036	20.9%	4.6	75	65,675	$84	$5.5
23 - Northeastern NC	340,187	17.2%	3.1	78	144,059	$86	$12.4
24 - Hampton Roads Primary	810,812	33.3%	12.0	110	3,571,441	$77	$275.7
25 - Northampton	33,307	18.7%	3.7	69	15,970	$85	$1.4
26 - Hampton Roads Sec.	385,000	30.2%	9.8	98	1,117,449	$80	$89.5
27 - Richmond East	154,092	24.5%	6.4	91	221,487	$97	$21.5
28 - Richmond North	212,529	22.8%	5.5	97	260,451	$100	$26.0
29 - Northern VA Secondary	484,994	21.7%	5.0	106	562,359	$118	$66.2
30 - Northern VA Primary	1,762,426	24.2%	7.9	110	3,690,296	$123	$453.7
31 - US Capital Region	2,131,491	30.0%	9.7	110	6,817,391	$102	$692.2
32 - Maryland South	426,878	24.7%	6.5	106	728,959	$111	$81.0
33 - Maryland East	189,849	28.5%	8.3	94	425,108	$91	$38.8
34 - Baltimore	1,992,821	30.4%	9.9	111	6,687,619	$92	$618.6
35 - Charles Town	469,655	26.7%	7.6	98	938,489	$93	$87.5
36 - Pennsylvania South	566,250	26.3%	7.4	96	1,054,614	$88	$92.4
Total	**18,061,732**				**34,928,961**	**$95**	**$3,304.3**

Source: The Innovation Group; WPV=Casino Win per Visit; NGR=Net Gaming Revenue

Table 19 shows the Net Gaming Revenue forecast for Scenario 2 in thousands of dollars. Richmond is projected to have the highest NGR potential at nearly $300 million. Norfolk and Portsmouth split approximately $350 million in total revenue potential for the Hampton Roads region.

Table 19: Scenario 2 NGR 2025 Results by Property and Market Area (000s)

	Bristol	Danville	Richmond	Norfolk	Portsmouth	NOVA
1 - Bristol Primary	$10,349	$43	$0.2	$0	$0	$0
2 - Bristol Primary TN	$24,334	$240	$1	$0	$0	$0
3 - Bristol Secondary TN	$27,702	$2,059	$13	$0	$0	$0
4 - Bristol Secondary NC	$16,378	$2,338	$10	$0	$0	$0
5 - Bristol Secondary	$9,358	$693	$18	$0	$0	$0
6 - Blacksburg-Wytheville	$2,868	$1,967	$333	$3	$3	$0
7 - Roanoke	$4,977	$9,403	$2,602	$122	$121	$0
8 - Lynchburg	$1,874	$6,848	$3,454	$145	$143	$0
9 - Southside Secondary West	$466	$2,468	$255	$119	$121	$0
10 - Southside Primary	$55	$15,638	$35	$14	$15	$0
11 - Southside Primary NC	$68	$10,230	$45	$19	$20	$0
12 - Winston-Salem NC	$9,824	$27,717	$5,564	$3,053	$3,083	$0
13 - Raleigh-Durham NC	$2,165	$91,380	$9,369	$3,872	$3,954	$0
14 - Southside Secondary East	$110	$3,268	$434	$157	$159	$0
15 - Lynchburg East	$78	$398	$640	$144	$143	$0
16 - Greenbrier WV	$1,793	$697	$422	$194	$192	$0
17 - Shenandoah Valley South	$458	$874	$1,889	$500	$493	$0
18 - Shenandoah Valley North	$0	$589	$1,668	$510	$503	$0
19 - Charlottesville	$0	$847	$4,978	$938	$922	$0
20 - Richmond West	$0	$384	$6,781	$640	$626	$0
21 - Richmond Primary	$0	$219	$186,869	$6,319	$6,191	$0
22 - Richmond South	$0	$523	$2,667	$732	$754	$0
23 - Northeastern NC	$0	$813	$3,276	$3,858	$3,944	$0
24 - Hampton Roads Primary	$0	$3	$2,232	$121,410	$105,144	$0
25 - Northampton	$0	$0	$97	$315	$303	$0
26 - Hampton Roads Secondary	$0	$4	$3,988	$24,640	$24,306	$0
27 - Richmond East	$0	$4	$6,238	$4,589	$4,377	$0
28 - Richmond North	$0	$0	$9,555	$816	$798	$0
29 - Northern VA Secondary	$0	$0	$5,223	$978	$961	$0
30 - Northern VA Primary	$0	$0	$14,764	$0	$0	$0
31 - US Capital Region	$0	$0	$2,962	$0	$0	$0
32 - Maryland South	$0	$0	$3,069	$0	$0	$0
33 - Maryland East	$0	$0	$31	$0	$0	$0
34 - Baltimore	$0	$0	$764	$0	$0	$0
35 - Charles Town	$0	$0	$97	$0	$0	$0
36 - Pennsylvania South	$0	$0	$76	$0	$0	$0
Gravity Model subtotal	*$112,855*	*$179,647*	*$280,420*	*$174,088*	*$157,276*	*$0*
Out-of-Market	$16,928	$10,779	$16,825	$10,445	$9,437	$0
Total NGR	**$129,783**	**$190,426**	**$297,245**	**$184,533**	**$166,713**	**$0**

Source: The Innovation Group; NGR=Net Gaming Revenue; Note: Assumes 27% blended tax rate.

Table 20 shows the Net Gaming Revenue forecast for the HHR facilities in Scenario 2. Vinton is projected to have the lowest impact since it is limited to 150 machines and is more insulated from casino competition, whereas the other four HHR facilities all would have market overlap with casinos.

Table 20: Scenario 2 Results for HHR Facilities 2025

	Colonial Downs	South Richmond	Hampton	Chesapeake	Vinton	Total
Gravity Model	$20,827,132	$36,746,858	$38,543,610	$44,083,217	$18,847,477	$159,048,294
Out-of-Market	$2,612,283	$984,267	$1,113,004	$1,062,318	$249,179	$6,021,052
Total NGR	**$23,439,415**	**$37,731,125**	**$39,656,614**	**$45,145,535**	**$19,096,656**	**$165,069,346**
Positions	600	700	700	700	150	2,850
WPP	$107	$148	$155	$177	$349	$159

Source: The Innovation Group; WPP= Win per Position (per day); NGR=Net Gaming Revenue

Scenario 2a: Hypothetical North Carolina and Tennessee Impact

Given the heavy reliance by Bristol and Danville on feeder markets in northern North Carolina and northeastern Tennessee, we have assessed what impact gaming development in those areas would have on the two Virginia locations. It should be stressed that there are no current proposals in either state that match the Hypothetical North Carolina or Knoxville location assumption.

Danville has the greatest sensitivity to out-of-state gaming development, and a casino in the Winston-Salem/Durham corridor would be expected to result in a 38.4% decline in revenue. Casino development in Knoxville is projected to result in a nearly 15% decline in revenue at Bristol, as shown in Table 21.

Table 21: Scenario 2a Results for Bristol & Danville and Comparison with Scenario 2 (000s)

	Bristol	Impact	% Impact	Danville	Impact	% Impact
1 - Bristol Primary	$10,231.3	-$117.3	-1.1%	$41	-$1.0	-2.5%
2 - Bristol Primary TN	$22,808.2	-$1,526.1	-6.3%	$220	-$20.4	-8.5%
3 - Bristol Secondary TN	$21,014.8	-$6,687.0	-24.1%	$1,537	-$521.6	-25.3%
4 - Bristol Secondary NC	$13,487.1	-$2,890.9	-17.7%	$1,895	-$443.1	-19.0%
5 - Bristol Secondary	$8,452.4	-$905.3	-9.7%	$616	-$76.4	-11.0%
6 - Blacksburg-Wytheville	$2,451.3	-$416.7	-14.5%	$1,672	-$294.5	-15.0%
7 - Roanoke	$4,843.4	-$133.6	-2.7%	$9,145	-$257.9	-2.7%
8 - Lynchburg	$1,765.4	-$108.7	-5.8%	$6,450	-$398.7	-5.8%
9 - Southside Secondary West	$348.2	-$118.1	-25.3%	$1,878	-$590.6	-23.9%
10 - Southside Primary	$49.6	-$5.5	-10.0%	$15,045	-$592.8	-3.8%
11 - Southside Primary NC	$47.8	-$19.8	-29.3%	$8,078	-$2,151.2	-21.0%
12 - Winston-Salem NC	$7,150.4	-$2,673.5	-27.2%	$15,871	-$11,846.0	-42.7%
13 - Raleigh-Durham NC	$1,070.4	-$1,094.2	-50.6%	$40,417	-$50,963.0	-55.8%
14 - Southside Secondary East	$88.4	-$21.4	-19.5%	$2,655	-$613.7	-18.8%
15 - Lynchburg East	$64.1	-$13.6	-17.5%	$325	-$73.1	-18.4%
16 - Greenbrier WV	$1,790.5	-$2.7	-0.2%	$696	-$1.0	-0.1%
17 - Shenandoah Valley South	$457.1	-$0.5	-0.1%	$873	-$0.9	-0.1%
18 - Shenandoah Valley North	$0.0	$0.0	0.0%	$589	$0.0	0.0%
19 - Charlottesville	$0.0	$0.0	0.0%	$847	$0.0	0.0%
20 - Richmond West	$0.0	$0.0	0.0%	$375	-$9.0	-2.4%
21 - Richmond Primary	$0.0	$0.0	0.0%	$219	-$0.5	-0.2%
22 - Richmond South	$0.0	$0.0	0.0%	$432	-$91.6	-17.5%
23 - Northeastern NC	$0.0	$0.0	0.0%	$695	-$118.1	-14.5%
24 - Hampton Roads Primary	$0.0	$0.0	0.0%	$3	$0.0	0.0%
25 - Northampton	$0.0	$0.0	0.0%	$0	$0.0	0.0%
26 - Hampton Roads Secondary	$0.0	$0.0	0.0%	$4	$0.0	0.0%
27 - Richmond East	$0.0	$0.0	0.0%	$4	$0.0	0.0%
28 - Richmond North	$0.0	$0.0	0.0%	$0	$0.0	0.0%
29 - Northern VA Secondary	$0.0	$0.0	0.0%	$0	$0.0	0.0%
30 - Northern VA Primary	$0.0	$0.0	0.0%	$0	$0.0	0.0%
31 - US Capital Region	$0.0	$0.0	0.0%	$0	$0.0	0.0%
32 - Maryland South	$0.0	$0.0	0.0%	$0	$0.0	0.0%
33 - Maryland East	$0.0	$0.0	0.0%	$0	$0.0	0.0%
34 - Baltimore	$0.0	$0.0	0.0%	$0	$0.0	0.0%
35 - Charles Town	$0.0	$0.0	0.0%	$0	$0.0	0.0%
36 - Pennsylvania South	$0.0	$0.0	0.0%	$0	$0.0	0.0%
Gravity Model Total	**$96,120.4**	**-$16,734.7**	**-14.8%**	**$110,582**	**-$69,065.4**	**-38.4%**

Source: The Innovation Group

Scenario 3: Casino Forecast with NOVA

Table 22 shows the inputs and total market results of the Scenario 3 forecast, adding a casino in the Northern Virginia market:

Table 22: Total Market Gravity Model Forecast 2025: Scenario 3 (NOVA)

	Gamer Pop.	Propensity	Frequency	MPI	Gaming Visits	WPV	NGR ($M)
1 - Bristol Primary	53,746	32.0%	11.0	79	149,293	$70	$10.5
2 - Bristol Primary TN	147,436	29.7%	9.5	83	346,341	$75	$25.9
3 - Bristol Secondary TN	831,979	25.8%	4.7	84	842,672	$83	$70.1
4 - Bristol Secondary NC	491,835	26.0%	4.9	83	517,835	$85	$43.8
5 - Bristol Secondary	177,744	21.9%	5.1	70	138,015	$79	$10.9
6 - Blacksburg-Wytheville	200,017	16.0%	2.7	82	70,415	$91	$6.4
7 - Roanoke	238,660	25.1%	8.5	91	461,571	$82	$37.9
8 - Lynchburg	168,099	22.4%	5.3	89	177,398	$87	$15.4
9 - Southside Secondary West	55,356	22.7%	5.5	74	51,159	$82	$4.2
10 - Southside Primary	107,040	29.1%	9.1	77	216,938	$73	$15.8
11 - Southside Primary NC	80,094	28.3%	8.6	75	145,358	$72	$10.4
12 - Winston-Salem NC	1,657,361	16.6%	2.6	91	658,207	$96	$62.9
13 - Raleigh-Durham NC	1,988,090	17.7%	3.3	96	1,124,281	$101	$113.5
14 - Southside Secondary East	59,732	22.6%	5.4	71	51,940	$81	$4.2
15 - Lynchburg East	56,766	15.5%	2.5	74	16,304	$87	$1.4
16 - Greenbrier WV	110,977	22.4%	5.3	71	93,780	$79	$7.4
17 - Shenandoah Valley South	167,425	17.7%	3.3	84	82,105	$90	$7.4
18 - Shenandoah Valley North	231,837	20.1%	4.3	90	179,003	$94	$16.8
19 - Charlottesville	200,636	17.2%	3.1	94	101,340	$104	$10.5
20 - Richmond West	80,146	25.1%	6.7	87	117,292	$91	$10.7
21 - Richmond Primary	905,429	31.6%	10.7	101	3,086,346	$83	$255.7
22 - Richmond South	91,036	20.9%	4.6	75	65,675	$84	$5.5
23 - Northeastern NC	340,187	17.2%	3.1	78	144,059	$86	$12.4
24 - Hampton Roads Primary	810,812	33.3%	12.0	110	3,571,441	$77	$275.7
25 - Northampton	33,307	18.7%	3.7	69	15,970	$85	$1.4
26 - Hampton Roads Sec.	385,000	30.2%	9.8	98	1,117,449	$80	$89.5
27 - Richmond East	154,092	24.5%	6.4	91	221,487	$97	$21.5
28 - Richmond North	212,529	22.8%	5.5	97	260,451	$100	$26.0
29 - Northern VA Secondary	484,994	23.5%	6.2	106	751,300	$115	$86.1
30 - Northern VA Primary	1,762,426	30.7%	10.1	110	6,013,833	$112	$672.9
31 - US Capital Region	2,131,491	30.0%	9.7	110	6,817,391	$102	$692.2
32 - Maryland South	426,878	24.7%	6.5	106	728,959	$111	$81.0
33 - Maryland East	189,849	28.5%	8.3	94	425,108	$91	$38.8
34 - Baltimore	1,992,821	30.4%	9.9	111	6,687,619	$92	$618.6
35 - Charles Town	469,655	26.7%	7.6	98	938,489	$93	$87.5
36 - Pennsylvania South	566,250	26.3%	7.4	96	1,054,614	$88	$92.4
Total	**18,061,732**				**37,441,439**	**$95**	**$3,543.5**

Source: The Innovation Group; WPV=Casino Win per Visit; NGR=Net Gaming Revenue

Table 23 shows the Net Gaming Revenue forecast for Scenario 3 in thousands of dollars. The addition of a casino in Northern Virginia is expected to have minimal impact on the other Virginia facilities compared to Scenario 2 results while generating significantly more revenue statewide. Richmond has the greatest market overlap with NOVA and is projected to generate 5.5% less NGR.

Table 23: Scenario 3 NGR Results by Property and Market Area (000s)

	Bristol	Danville	Richmond	Norfolk	Portsmouth	NOVA
1 - Bristol Primary	$10,349	$43	$0	$0	$0	$0
2 - Bristol Primary TN	$24,334	$240	$1	$0	$0	$0
3 - Bristol Secondary TN	$27,702	$2,059	$13	$0	$0	$0
4 - Bristol Secondary NC	$16,378	$2,338	$10	$0	$0	$0
5 - Bristol Secondary	$9,358	$693	$18	$0	$0	$0
6 - Blacksburg-Wytheville	$2,868	$1,967	$333	$3	$3	$0
7 - Roanoke	$4,973	$9,396	$2,600	$122	$121	$25
8 - Lynchburg	$1,871	$6,838	$3,449	$144	$143	$25
9 - Southside Secondary West	$466	$2,468	$255	$119	$121	$0
10 - Southside Primary	$55	$15,638	$35	$14	$15	$0
11 - Southside Primary NC	$68	$10,230	$45	$19	$20	$0
12 - Winston-Salem NC	$9,824	$27,717	$5,564	$3,053	$3,083	$0
13 - Raleigh-Durham NC	$2,165	$91,380	$9,369	$3,872	$3,954	$0
14 - Southside Secondary East	$110	$3,268	$434	$157	$159	$0
15 - Lynchburg East	$78	$397	$639	$144	$142	$2
16 - Greenbrier WV	$1,792	$697	$422	$194	$192	$4
17 - Shenandoah Valley South	$384	$734	$1,563	$415	$409	$1,223
18 - Shenandoah Valley North	$0	$453	$1,283	$392	$387	$3,480
19 - Charlottesville	$0	$677	$3,974	$745	$732	$2,181
20 - Richmond West	$0	$341	$6,109	$567	$555	$1,110
21 - Richmond Primary	$0	$210	$181,740	$6,059	$5,935	$7,393
22 - Richmond South	$0	$478	$2,473	$679	$699	$411
23 - Northeastern NC	$0	$813	$3,276	$3,858	$3,944	$0
24 - Hampton Roads Primary	$0	$3	$2,232	$121,407	$105,141	$8
25 - Northampton	$0	$0	$97	$315	$303	$1
26 - Hampton Roads Secondary	$0	$4	$3,987	$24,637	$24,303	$10
27 - Richmond East	$0	$4	$5,839	$4,309	$4,109	$1,304
28 - Richmond North	$0	$0	$8,125	$692	$676	$4,181
29 - Northern VA Secondary	$0	$0	$4,797	$894	$878	$26,279
30 - Northern VA Primary	$0	$0	$10,597	$0	$0	$314,525
31 - US Capital Region	$0	$0	$2,280	$0	$0	$143,840
32 - Maryland South	$0	$0	$2,574	$0	$0	$11,130
33 - Maryland East	$0	$0	$30	$0	$0	$1,395
34 - Baltimore	$0	$0	$709	$0	$0	$34,940
35 - Charles Town	$0	$0	$88	$0	$0	$6,799
36 - Pennsylvania South	$0	$0	$72	$0	$0	$3,356
Gravity Model subtotal	*$112,774*	*$179,086*	*$265,031*	*$172,810*	*$156,025*	*$563,622*
Out-of-Market	$16,916	$10,745	$15,902	$10,369	$9,361	$30,999
Total NGR	**$129,690**	**$189,831**	**$280,933**	**$183,178**	**$165,386**	**$594,621**
% Change over Scenario 2	*-0.1%*	*-0.3%*	*-5.5%*	*-0.7%*	*-0.8%*	*-0.1%*

Source: The Innovation Group; NGR=Net Gaming Revenue

The HHR facilities assessed in this analysis are expected to be only marginally affected by a NOVA casino.

Summary NGR Results and Tax Sensitivity Analysis

In this section we summarize and compare the results of the gravity modeling. In addition, the Innovation Group assessed the impact of low and high gaming tax assumptions on gaming revenue and return-on-investment (ROI). For the low tax assumption, we utilized a rate of 12%, which is consistent with unlimited-license jurisdictions like Mississippi and Atlantic City. For the high tax assumption, we utilized a rate of 40%, which is consistent with regional limited-license jurisdictions like Maryland, Pennsylvania and West Virginia. There may be decisions by individual operators that could lead to greater variance between tax rates, such as more aggressive marketing spend in the lower tax rate scenarios. However, to stay consistent with the "realistically conservative" premise of the modeling, we have based NGR variances on moderate capital and operating responses decisions by operators.

Table 24 and Table 25 on the following pages summarize the results of the gaming revenue forecast under the three tax scenarios. The following are the key takeaways:

- Richmond and the Richmond-area HHR facilities would be the most heavily impacted by a NOVA casino, although the impact is low, at 3.2% to 5.5%. NOVA would not materially affect the other casino locations or HHR facilities.
- The net statewide gain in NGR from adding a NOVA casino is approximately 50%, or more than $570 million.
- The locations most heavily reliant upon distant feeder markets—Bristol and Danville— would benefit the most by a low tax rate, since it would allow them to develop larger hotels and other amenities to attract gamers from outside their respective primary local market areas.
- The other locations have large primary local market areas (within 30 minutes) that would be less sensitive to differences in tax rates.
- Of the Scenario 2 locations, Richmond has the largest primary market and thus shows the least sensitivity to changes in tax rates. The difference in NGR between the 27% and 40% rates is marginal, at just 1.5%.
- At a 12% tax rate, NOVA would be expected to have more hotel rooms and a slightly larger NGR potential. However, we would not expect any material difference in the building program or revenue between a 27% and 40% rate. A 27% would just allow the operation to retain more profit.
- HHR facilities would be slightly more impacted by a 12% tax rate than a 27% rate at the casinos since the casinos would be able to increase amenity development and be slightly more attractive to local gamers. However, we would not anticipate any material difference in HHR NGR at a 40% casino tax rate.
- On a net statewide basis, NGR at the 12% rate is estimated to be $42.4 million higher than the 27% rate in Scenario 2 (and $50.7 higher in Scenario 3). NGR in the 40% scenario is estimated to be approximately $22 million lower in both Scenarios.

As noted, all figures are expressed in 2025 dollars.

Table 24: NGR Tax Sensitivity Results 2025 (MMs)

NGR @ 12% Tax				$ Impacts		% Impacts	
	Scenario 1	Scenario 2	Scenario 3	2 over 1	3 over 2	2 over 1	3 over 2
Vinton	$21.2	$19.1	$19.1	-$2.1	$0.0	-9.8%	-0.2%
Colonial Downs	$44.1	$23.2	$22.3	-$20.9	-$0.9	-47.4%	-4.0%
South Richmond	$83.7	$37.4	$36.2	-$46.3	-$1.2	-55.4%	-3.2%
Hampton	$59.8	$39.3	$39.2	-$20.6	-$0.1	-34.4%	-0.2%
Chesapeake	$90.3	$44.7	$44.7	-$45.6	$0.0	-50.5%	0.0%
HHR Subtotal	*$299.0*	*$163.6*	*$161.4*	*-$135.4*	*-$2.2*	*-45.3%*	*-1.4%*
Bristol		$140.2	$140.1		-$0.1		-0.1%
Danville		$205.7	$205.1		-$0.6		-0.3%
Richmond		$303.2	$287.8		-$15.4		-5.1%
Norfolk		$191.0	$189.7		-$1.3		-0.7%
Portsmouth		$172.5	$171.3		-$1.3		-0.7%
NOVA			$601.8		$601.8		
Casino Subtotal		*$1,012.6*	*$1,595.8*		*$583.2*		*57.6%*
Total	**$299.0**	**$1,176.2**	**$1,757.1**		**$581.0**		**49.4%**

NGR @ 27% Tax				$ Impacts		% Impacts	
	Scenario 1	Scenario 2	Scenario 3	2 over 1	3 over 2	2 over 1	3 over 2
Vinton	$21.2	$19.1	$19.1	-$2.1	$0.0	-9.8%	-0.2%
Colonial Downs	$44.1	$23.4	$22.5	-$20.6	-$0.9	-46.8%	-4.0%
South Richmond	$83.7	$37.7	$36.5	-$45.9	-$1.2	-54.9%	-3.2%
Hampton	$59.8	$39.7	$39.6	-$20.2	-$0.1	-33.7%	-0.2%
Chesapeake	$90.3	$45.1	$45.1	-$45.2	$0.0	-50.0%	0.0%
HHR Subtotal	*$299.0*	*$165.1*	*$162.8*	*-$134.0*	*-$2.2*	*-44.8%*	*-1.4%*
Bristol		$129.8	$129.7		-$0.1		-0.1%
Danville		$190.4	$189.8		-$0.6		-0.3%
Richmond		$297.2	$280.9		-$16.3		-5.5%
Norfolk		$184.5	$183.2		-$1.4		-0.7%
Portsmouth		$166.7	$165.4		-$1.3		-0.8%
NOVA			$594.6		$594.6		
Casino Subtotal		*$968.7*	*$1,543.6*		*$574.9*		*59.4%*
Total	**$299.0**	**$1,133.8**	**$1,706.5**		**$572.7**		**50.5%**

NGR @ 40% Tax				$ Impacts		% Impacts	
	Scenario 1	Scenario 2	Scenario 3	2 over 1	3 over 2	2 over 1	3 over 2
Vinton	$21.2	$19.1	$19.1	-$2.1	$0.0	-9.8%	-0.2%
Colonial Downs	$44.1	$23.4	$22.5	-$20.6	-$0.9	-46.8%	-4.0%
South Richmond	$83.7	$37.7	$36.5	-$45.9	-$1.2	-54.9%	-3.2%
Hampton	$59.8	$39.7	$39.6	-$20.2	-$0.1	-33.7%	-0.2%
Chesapeake	$90.3	$45.1	$45.1	-$45.2	$0.0	-50.0%	0.0%
HHR Subtotal	*$299.0*	*$165.1*	*$162.8*	*-$134.0*	*-$2.2*	*-44.8%*	*-1.4%*
Bristol		$125.9	$125.8		-$0.1		-0.1%
Danville		$184.7	$184.2		-$0.6		-0.3%
Richmond		$292.8	$277.4		-$15.4		-5.3%
Norfolk		$179.9	$178.6		-$1.3		-0.7%
Portsmouth		$162.5	$161.3		-$1.3		-0.8%
NOVA		$0.0	$594.6		$594.6		
Casino Subtotal		*$945.9*	*$1,521.9*		*$576.1*		*60.9%*
Total	**$299.0**	**$1,110.9**	**$1,684.7**		**$573.8**		**51.7%**

The following table compares the Scenario 2 and Scenario 3 results by tax scenario.

Table 25: NGR Comparisons by Tax Rate Assumption 2025 (MMs)

Scenario 2 Comparison				$ Impacts		% Impacts	
	12%	27%	40%	12% over 27%	40% over 27%	12% over 27%	40% over 27%
Vinton	$19.1	$19.1	$19.1	$0.0	$0.0	0.0%	0.0%
Colonial Downs	$23.2	$23.4	$23.4	-$0.2	$0.0	-1.0%	0.0%
South Richmond	$37.4	$37.7	$37.7	-$0.4	$0.0	-1.0%	0.0%
Hampton	$39.3	$39.7	$39.7	-$0.4	$0.0	-1.0%	0.0%
Chesapeake	$44.7	$45.1	$45.1	-$0.5	$0.0	-1.0%	0.0%
HHR Subtotal	*$163.6*	*$165.1*	*$165.1*	*-$1.5*	*$0.0*	*-0.9%*	*0.0%*
Bristol	$140.2	$129.8	$125.9	$10.4	-$3.9	7.4%	-3.0%
Danville	$205.7	$190.4	$184.7	$15.2	-$5.7	7.4%	-3.0%
Richmond	$303.2	$297.2	$292.8	$5.9	-$4.5	2.0%	-1.5%
Norfolk	$191.0	$184.5	$179.9	$6.5	-$4.6	3.4%	-2.5%
Portsmouth	$172.5	$166.7	$162.5	$5.8	-$4.2	3.4%	-2.5%
NOVA	$0.0	$0.0	$0.0	$0.0	$0.0		
Casino Subtotal	*$1,012.6*	*$968.7*	*$945.9*	*$43.9*	*-$22.8*	*4.3%*	*-2.4%*
Total	$1,176.2	$1,133.8	$1,110.9	$42.4	-$22.8	3.6%	-2.0%

Scenario 3 Comparison				$ Impacts		% Impacts	
	12%	27%	40%	12% over 27%	40% over 27%	12% over 27%	40% over 27%
Vinton	$19.1	$19.1	$19.1	$0.0	$0.0	0.0%	0.0%
Colonial Downs	$22.3	$22.5	$22.5	-$0.2	$0.0	-1.0%	0.0%
South Richmond	$36.2	$36.5	$36.5	-$0.4	$0.0	-1.0%	0.0%
Hampton	$39.2	$39.6	$39.6	-$0.4	$0.0	-1.0%	0.0%
Chesapeake	$44.7	$45.1	$45.1	-$0.5	$0.0	-1.0%	0.0%
HHR Subtotal	*$161.4*	*$162.8*	*$162.8*	*-$1.4*	*$0.0*	*-0.9%*	*0.0%*
Bristol	$140.1	$129.7	$125.8	$10.4	-$3.9	7.4%	-3.0%
Danville	$205.1	$189.8	$184.2	$15.3	-$5.7	7.4%	-3.0%
Richmond	$287.8	$280.9	$277.4	$6.9	-$3.5	2.4%	-1.3%
Norfolk	$189.7	$183.2	$178.6	$6.5	-$4.5	3.4%	-2.5%
Portsmouth	$171.3	$165.4	$161.3	$5.9	-$4.1	3.5%	-2.5%
NOVA	$601.8	$594.6	$594.6	$7.1	$0.0	1.2%	0.0%
Casino Subtotal	*$1,595.8*	*$1,543.6*	*$1,521.9*	*$52.1*	*-$21.7*	*3.3%*	*-1.4%*
Total	$1,757.1	$1,706.5	$1,684.7	$50.7	-$21.7	2.9%	-1.3%

Source: The Innovation Group

Table 26 shows the five-year forecast for statewide NGR for the two scenarios and three tax alternatives. First year (2024) revenue is estimated at 94% of 2025 to account for a ramp-up of marketing efforts and market penetration. Growth for year three is estimated at 3%, followed by ongoing normative growth of 2.5%.

Table 26: Statewide 5-Year NGR Forecast by Scenario and Tax Rate

	2024	2025	2026	2027	2028
Scenario 2					
12% Tax	$951,802,137	$1,012,555,465	$1,042,932,129	$1,069,005,432	$1,095,730,568
27% Tax	$910,578,193	$968,700,205	$997,761,212	$1,022,705,242	$1,048,272,873
40% Tax	$889,102,857	$945,854,103	$974,229,726	$998,585,469	$1,023,550,106
Scenario 3					
12% Tax	$1,517,453,123	$1,614,311,833	$1,662,741,188	$1,704,309,718	$1,746,917,461
27% Tax	$1,469,521,855	$1,563,321,123	$1,610,220,756	$1,650,476,275	$1,691,738,182
40% Tax	$1,448,046,519	$1,540,475,020	$1,586,689,271	$1,626,356,502	$1,667,015,415

Source: The Innovation Group

Source of Revenue Analysis: In-State vs. Out-of-State

As discussed in the methodology section, gaming revenue derives from 1) the gravity model—which is divided into in-state and out-of-state markets within two hours of the proposed locations—and 2) out-of-market visitation, which represents visits not tied to place of residence, such as tourism and business travel, traffic intercept, and distant gamers looking for variety in their casino experience.

Some of the out-of-market spending is attributable to in-state travel, such as a tourist from the western part of the state visiting Hampton Roads or a business traveler on a work trip to Richmond.

Table 27 summarizes the source of NGR for Scenario 2, broken down between in-state and out-of-state markets. Table 28 summarizes the net statewide change attributable to casino development for in-state growth, in-state repatriation, and out-of-state capture. Casino development under Scenario 2 is estimated to result in a net increase in gaming revenue by Virginia residents of approximately $440 million, and repatriation of spending by Virginia residents that would otherwise be spent at out-of-state casinos of between $62 million and $69 million. The net gain in capture of out-of-state spending ranges from $294 million to $338 million.

Table 29 summarizes the source of NGR for Scenario 3. Table 30 summarizes the net statewide change attributable to casino development for in-state growth, in-state repatriation, and out-of-state capture. Casino development under Scenario 3 is estimated to result in a net increase in gaming revenue by Virginia residents of approximately $680 million, and repatriation of spending by Virginia residents that would otherwise be spent at out-of-state casinos of between $166 million and $173 million. The net gain in capture of out-of-state spending ranges from $516 million to $565 million.

Table 27: Source of Revenue Comparison Scenario 2

2025	HHR Scenario 1	HHR Scenario 2	Casino Scenario 2	Total VA Scenario 2
12% Tax				
VA Markets	$289,482,096	$157,161,909	$643,773,636	$800,935,545
Out-of-State Markets	$617,487	$484,377	$273,465,711	$273,950,088
Total Gravity Model	**$290,099,583**	**$157,646,286**	**$917,239,347**	**$1,074,885,633**
Out-of-Market	$8,946,635	$5,963,333	$95,316,118	$101,279,451
in-state	*$4,442,482*	*$2,899,693*	*$28,917,628*	*$31,817,321*
out-of-state	*$4,504,153*	*$3,063,640*	*$66,398,490*	*$69,462,130*
Total In-State	$293,924,578	$160,061,602	$672,691,264	$832,752,865
Total Out of State	$5,121,640	$3,548,017	$339,864,201	$343,412,218
Total Revenue	$299,046,218	$163,609,619	$1,012,555,465	$1,176,165,084
27% Tax				
VA Markets	$289,482,096	$158,559,789	$638,660,631	$797,220,420
Out-of-State Markets	$617,487	$488,505	$265,625,446	$266,113,950
Total Gravity Model	**$290,099,583**	**$159,048,294**	**$904,286,076**	**$1,063,334,370**
Out-of-Market	$8,946,635	$6,021,052	$64,414,129	$70,435,181
in-state	*$4,442,482*	*$2,926,717*	*$20,224,230*	*$23,150,947*
out-of-state	*$4,504,153*	*$3,094,334*	*$44,189,899*	*$47,284,233*
Total In-State	$293,924,578	$161,486,506	$658,884,861	$820,371,367
Total Out of State	$5,121,640	$3,582,839	$309,815,344	$313,398,184
Total Revenue	$299,046,218	$165,069,346	$968,700,205	$1,133,769,551
40% Tax				
VA Markets	$289,482,096	$158,559,789	$633,547,626	$792,107,415
Out-of-State Markets	$617,487	$488,505	$258,042,175	$258,530,680
Total Gravity Model	**$290,099,583**	**$159,048,294**	**$891,589,801**	**$1,050,638,095**
Out-of-Market	$8,946,635	$6,021,052	$54,264,302	$60,285,354
in-state	*$4,442,482*	*$2,926,717*	*$16,629,602*	*$19,556,319*
out-of-state	*$4,504,153*	*$3,094,334*	*$37,634,700*	*$40,729,034*
Total In-State	$293,924,578	$161,486,506	$650,177,228	$811,663,734
Total Out of State	$5,121,640	$3,582,839	$295,676,875	$299,259,714
Total Revenue	$299,046,218	$165,069,346	$945,854,103	$1,110,923,448

Source: The Innovation Group

Table 28: Net* Impact Summary Scenario 2

2025	12% Tax	27% Tax	40% Tax
In-State Growth	$442,578,789	$441,613,894	$440,351,212
In-State Repatriation	$68,874,660	$66,124,429	$62,274,107
Net Out-of-State	$338,290,578	$308,276,543	$294,138,074

Source: The Innovation Group; *Net of Scenario 1

Table 29: Source of Revenue Comparison Scenario 3

2025	HHR Scenario 1	HHR Scenario 3	Casino Scenario 3	Total VA Scenario 3
12% Tax				
VA Markets	$289,482,096	$154,944,441	$990,326,894	$1,145,271,335
Out-of-State Markets	$617,487	$484,330	$478,686,649	$479,170,979
Total Gravity Model	**$290,099,583**	**$155,428,771**	**$1,469,013,544**	**$1,624,442,314**
Out-of-Market	$8,946,635	$5,963,333	$126,737,012	$132,700,345
in-state	*$4,442,482*	*$2,899,693*	*$38,355,968*	*$41,255,661*
out-of-state	*$4,504,153*	*$3,063,640*	*$88,381,043*	*$91,444,684*
Total In-State	$293,924,578	$157,844,134	$1,028,682,863	$1,186,526,997
Total Out of State	$5,121,640	$3,547,970	$567,067,693	$570,615,663
Total Revenue	$299,046,218	$161,392,104	$1,595,750,555	$1,757,142,659
27% Tax				
VA Markets	$289,482,096	$156,320,218	$983,505,518	$1,139,825,736
Out-of-State Markets	$617,487	$488,458	$465,841,003	$466,329,461
Total Gravity Model	**$290,099,583**	**$156,808,676**	**$1,449,346,521**	**$1,606,155,197**
Out-of-Market	$8,946,635	$6,021,052	$94,292,306	$100,313,358
in-state	*$4,442,482*	*$2,926,717*	*$29,084,768*	*$32,011,486*
out-of-state	*$4,504,153*	*$3,094,334*	*$65,207,538*	*$68,301,873*
Total In-State	$293,924,578	$159,246,935	$1,012,590,286	$1,171,837,221
Total Out of State	$5,121,640	$3,582,792	$531,048,541	$534,631,334
Total Revenue	$299,046,218	$162,829,728	$1,543,638,828	$1,706,468,555
40% Tax				
VA Markets	$289,482,096	$156,320,218	$978,494,927	$1,134,815,145
Out-of-State Markets	$617,487	$488,458	$458,276,494	$458,764,952
Total Gravity Model	**$290,099,583**	**$156,808,676**	**$1,436,771,421**	**$1,593,580,097**
Out-of-Market	$8,946,635	$6,021,052	$85,142,321	$91,163,373
in-state	*$4,442,482*	*$2,926,717*	*$25,882,183*	*$28,808,900*
out-of-state	*$4,504,153*	*$3,094,334*	*$59,260,138*	*$62,354,473*
Total In-State	$293,924,578	$159,246,935	$1,004,377,110	$1,163,624,045
Total Out of State	$5,121,640	$3,582,792	$517,536,632	$521,119,425
Total Revenue	$299,046,218	$162,829,728	$1,521,913,742	$1,684,743,470

Source: The Innovation Group

Table 30: Net* Impact Summary Scenario 3

2025	12% Tax	27% Tax	40% Tax
In-State Growth	$682,868,110	$680,772,003	$678,887,605
In-State Repatriation	$172,921,129	$169,571,637	$166,445,445
Net Out-of-State	$565,494,022	$529,509,694	$515,997,784

Source: The Innovation Group; *Net of Scenario 1

Table 31 compares the repatriation and out-of-state capture (net of Scenario 1) between Scenarios 2 and 3:

Table 31: Net* Repatriation and Out-of-State Capture Comparison

2025	Scenario 2	Scenario 3	$ Difference	% Difference
Repatriation				
12%	$68,874,660	$172,921,129	$104,046,469	151%
27%	$66,124,429	$169,571,637	$103,447,208	156%
40%	$62,274,107	$166,445,445	$104,171,338	167%
Net Out-of-State				
12%	$338,290,578	$565,494,022	$227,203,444	67%
27%	$308,276,543	$529,509,694	$221,233,150	72%
40%	$294,138,074	$515,997,784	$221,859,711	75%

Source: The Innovation Group; *Net of Scenario 1

Return-on-Investment (ROI) Analysis

A high-level ROI analysis was conducted for the five-plus-one casino locations to identify the different levels of capital investment that would be viable under the alternative tax scenarios. Given the small marginal impact by NOVA on the five Base Casino locations, the ROI analysis utilized the Scenario 2 forecasts for Bristol, Danville, Norfolk, Portsmouth and Richmond and the Scenario 3 results for NOVA.

Methodology

The first step in the ROI process was to complete operating pro formas for each location under the alternative tax scenarios. The operating pro formas were developed utilizing the Innovation Group's proprietary operating model and is based upon operating characteristics of comparable properties in the region. It also takes into consideration existing and assumed future market dynamics and the major assumptions addressed in previous sections of this report. It is a dynamic model built on a foundation of staffing and expense estimates relative to facility size and business volume, whereby changes to the facility or business volume flow through the model to estimate how variable expenses will be affected. The outputs of the operating model include Employment and Employee Compensation (wages, salaries, tips, taxes and benefits), gaming taxes, other casino expenses, and Earnings before Interest, Taxes, Depreciation, and Amortization (EBITDA)

The Return on Investment analysis utilized a discounted cash flow analysis (DCF), which uses unlevered cash flow (a company's cash flow before interest payments). A DCF analysis adjusts for the time value of money in estimating the value of an investment. NPV (net present value) is a comparison of a dollar today to a projected value for the same dollar at some point in the future or the past.

To adjust for the time value of money, a DCF analysis utilizes a Weighted Average Cost of Capital (WACC) or discount rate. Companies and projects are financed by a combination of debt and equity. There is a cost of using this capital, so investors and companies try to earn returns in excess

of this cost. This cost—the WACC—corresponds to the weighted average cost, expressed as a percentage, of the various means of financing (loans, equity, etc.) available to fund an investment project. A higher WACC or discount rate results in a lower NPV.

The first step in identifying cash flow is to arrive at a figure for EBIT (Earnings before Interest and Taxes). We began with the incremental EBITDA for the five forecasted years and applied a growth rate of 1.5% through Year 10. EBIT was calculated subtracting the following from EBITDA:

- Depreciation[2] as calculated from building cost, FF&E, and maintenance cap ex;
- Amortization[3].

Next, EBIT is adjusted to derive Unlevered Cash Flow, which is calculated as follows:

EBIT:
Less: Unlevered Taxes (at 27%)[4]
Plus: Depreciation
Less: Maintenance Capex
Unlevered Cash Flow

Construction costs, including fixtures, furnishings, and equipment (FF&E) were estimated on a square-foot and per-unit basis. Building costs were depreciated over 20 years; FF&E costs were depreciated over seven years. Other development costs were included in the ROI analysis, including architectural and engineering, permits and site work, land costs, regulatory application fee, working capital, and pre-opening costs.

The analysis also includes an allowance for maintenance capital expenditures. This reflects the need, which grows greater as a property ages and experiences wear and tear, to replace FF&E and in general maintain the facility. Maintenance capex is typically calculated as a percentage of total revenues; in the present analysis a capex allowance of 0.5% is applied to incremental revenue in year two, gradually rising to 3.5% by year six.

Unlevered cash flow through Year Ten was then applied to the DCF analysis. In addition, standard methodology is to assess a terminal value to reflect the value the property would continue to have beyond the forecast period. We utilized the Gordon Model: Value equals to Cash Flow divided by Discount Rate (k) minus a long-term or perpetual Growth Rate (g), "V=CF/(k-g)". Terminal CF is calculated as Year Ten cash flow times 1+g. The value for "g" (the perpetual growth rate) has been set at 1.5%.

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[2] Depreciation is the deduction over a specific period of time (usually over the asset's life) of the consumption of the value of tangible assets, including in this case the building cost and furnishings, fixtures and equipment.
[3] Amortization is the deduction over a specific period of time (usually over the asset's life) of the consumption of the value of an intangible asset, such as a patent or a copyright. It was not utilized in this analysis.
[4] Federal plus Virginia state corporate income tax

The following table shows an illustrative example of the DCF analysis using the NOVA location under the 27% tax scenario:

Table 32: NPV Cash Flow Illustration: NOVA 27% ($MM)

Year>	Year One	Year Two	Year Three	Year Four	Year Five	Year Six	Year Seven	Year Eight	Year Nine	Year Ten	Terminal	Total
EBITDA	225.7	246.6	255.5	262.7	270.2	275.6	281.1	286.7	292.4	298.3		
EBIT	181.1	201.6	210.2	217.1	223.7	228.4	233.8	264.8	270.5	276.3		
Less: Unlevered Taxes	(48.9)	(54.4)	(56.8)	(58.6)	(60.4)	(61.7)	(63.1)	(71.5)	(73.0)	(74.6)		
Plus: Depreciation	44.6	45.0	45.3	45.7	46.4	47.2	47.2	21.9	21.9	22.0		
Less: Maintenance Capex	0.0	(3.3)	(6.8)	(10.5)	(18.0)	(25.7)	(26.2)	(26.7)	(27.2)	(27.8)		
Unlevered Cash Flow	176.8	188.8	191.9	193.6	191.8	188.2	191.8	188.5	192.2	195.9	1,807.6	
NPV factor	88.9%	79.0%	70.2%	62.4%	55.5%	49.3%	43.8%	39.0%	34.6%	30.8%		
NPV of Cash Flow	157.16	149.18	134.80	120.87	106.42	92.85	84.08	73.46	66.57	60.33	556.65	*1,602.4*

Source: The Innovation Group

Enterprise value (EV) includes the value of debt, which would need to be paid by a willing buyer. Therefore, the development costs need to be subtracted from EV to determine residual equity value (or *net* present value), which represents the fair market value in a DCF valuation. In other words, the NPV line represents the present value of cash flows, minus the cost of development or capital outlay. A positive NPV value indicates a project is generally worth pursuing.

Table 33: ROI Illustration: NOVA 27% ($MM)

Discount Rate	12.50%
Perpetual Growth Rate	1.50%
Enterprise Value (Present Value of Cash Flows)	$1,602.4
Less: Project Debt & Equity	($672.5)
Net Present Value (NPV) of Project*	$929.9
Cash-on-Cash Return in Year 5	28.5%

Source: The Innovation Group; *Also known as Residual Equity Value

The cash-on-cash return is commonly used as a basis for determining the return rate of a real estate investment or transaction. This calculation determines the cash income on the cash invested. The Innovation Group calculated the cash-on-cash return rate for the project by utilizing the capital outlay as the denominator, and a numerator taken from Year 5 unlevered cash flow.

Cash-on-cash expectations can vary by company, and in the gaming industry they can fluctuate with economic conditions and investment returns available elsewhere. From the mid-1990s but prior to the Great Recession, when there was dramatic growth in the gaming industry, investor expectations ranged from 20 to more than 25 percent. In the immediate aftermath of the recession,

expectations tempered, and returns dropped to the 10 to 15 percent range as gaming revenue in established jurisdictions remained relatively flat into 2014. As normative growth has resumed in the industry, return expectations have started to rise again, into the 15 to 20 percent range.

Summary Results

The following tables compare the ROI results for each location under the three tax scenarios, along with staffing and employment compensation estimates and gaming floor and hotel development assumptions. The tables also show NGR, Total Revenue (NGR plus non-gaming revenue), Gaming Tax, EBITDA and Cash Flow for 2025 (Year Two).

High-level estimates for development costs used in the ROI analysis included hard construction, fixtures, furnishings, and equipment (FF&E, including gaming equipment), architectural and engineering, permits and site work, land costs, regulatory application fee, working capital, and pre-opening costs. For the purposes of estimating the economic impact of development, land costs and regulatory application fees have been subtracted in the capital investment numbers shown below, since those costs would not add to economic development in the Commonwealth. Building program assumptions included front- and back-of-house space for casino, hotel, food and beverage, gift shop, entertainment, and meeting space operations, as well as surface and structured parking. Food and beverage programs included a variety of venues to be competitive in the regional market and a sufficient number of seats to accommodate the projected visitation.

As discussed, Bristol and Danville would be the most sensitive to gaming tax rates. A low tax rate would enable the development of sizable hotel and amenity programs needed to maximize the capture of gamers from longer-distant feeder markets in north-central North Carolina and Knoxville, Tennessee. In the 40% tax scenario, the lower EBITDA potential relative to capital costs results in thin cash-on-cash returns, even with hotel and amenities scaled back substantially, in the case of Bristol to well below $200 million. Cash-on-cash return for Bristol and Danville is within or close to the range of current expectations at the 12% and 27% tax rates, but the return would fall below 15% with a 40% tax. In all scenarios, however, the NPV of the Project is positive.

Table 34: Bristol ROI Summary

Tax Scenario>	12%	27%	40%
2025 Revenue and Cash Flow Results			
NGR	$140,166,108	$129,783,434	$125,889,931
Total Revenue	$168,781,293	$150,778,020	$142,798,831
Gaming Tax	$16,819,933	$35,041,527	$50,355,972
EBITDA	$64,176,825	$40,190,005	$26,069,594
Cash Flow	$51,586,151	$32,814,426	$21,324,058
Program and Employment Stats			
Gaming Positions	1,879	1,740	1,479
Hotel Rooms	400	200	100
Employment	1,244	1,067	909
Employee Compensation 2024	$49,346,515	$45,540,852	$40,070,809
Investment and ROI Results			
Capital Investment*	$310,409,467	$226,234,929	$158,970,098
NPV of Project**	$118,345,543	$34,928,357	$397,949
Cash-on-Cash Return Yr5	16.7%	14.1%	12.5%

Source: The Innovation Group; *excluding Land Cost and Application Fee; **Also known as Residual Equity Value

Table 35: Danville ROI Summary

Tax Scenario>	12%	27%	40%
2025 Revenue and Cash Flow Results			
NGR	$205,660,146	$190,426,061	$184,713,279
Total Revenue	$243,630,656	$220,695,240	$211,000,530
Gaming Tax	$24,679,217	$51,415,036	$73,885,312
EBITDA	$97,160,470	$61,228,343	$40,596,642
Cash Flow	$77,133,796	$49,311,177	$32,963,159
Program and Employment Stats			
Gaming Positions	2,538	2,350	1,998
Hotel Rooms	500	300	200
Employment	1,770	1,582	1,365
Employee Compensation 2024	$71,958,694	$66,418,004	$58,228,054
Investment and ROI Results			
Capital Investment*	$409,539,593	$308,285,126	$234,303,604
NPV of Project**	$238,219,786	$90,033,720	$17,766,412
Cash-on-Cash Return Yr5	19.0%	15.7%	13.3%

Source: The Innovation Group; *excluding Land Cost and Application Fee; **Also known as Residual Equity Value

Norfolk and Portsmouth would also be somewhat sensitive to a 40% tax since they would be sharing the Hampton Roads area market (with each other as well as HHR facilities), although they would still be viable projects. A 12% tax would allow for larger hotel and amenity development, but realistically, that level of development (350-400 hotel rooms each) may be more than optimal to meet market demand. Cash-on-cash return is within the range of current expectations at the 12% and 27% tax rates, but the return would fall below 15% with a 40% tax.

Table 36: Norfolk ROI Summary

Tax Scenario>	12%	27%	40%
2025 Revenue and Cash Flow Results			
NGR	$190,991,599	$184,532,946	$179,919,622
Total Revenue	$226,558,847	$214,933,373	$204,580,688
Gaming Tax	$22,918,992	$49,823,895	$71,967,849
EBITDA	$90,903,369	$60,413,617	$38,827,950
Cash Flow	$71,638,298	$48,540,813	$31,573,168
Program and Employment Stats			
Gaming Positions	2,298	2,220	1,998
Hotel Rooms	400	300	150
Employment	1,614	1,509	1,333
Employee Compensation 2024	$66,323,268	$63,378,786	$57,524,393
Investment and ROI Results			
Capital Investment*	$351,160,390	$298,536,623	$223,756,376
NPV of Project**	$246,207,964	$89,197,269	$11,695,625
Cash-on-Cash Return Yr5	20.3%	15.7%	13.0%

Source: The Innovation Group; *excluding Land Cost and Application Fee; **Also known as Residual Equity Value

Table 37: Portsmouth ROI Summary

Tax Scenario>	12%	27%	40%
2025 Revenue and Cash Flow Results			
NGR	$172,547,717	$166,712,770	$162,544,951
Total Revenue	$204,666,979	$194,264,931	$185,276,221
Gaming Tax	$20,705,726	$45,012,448	$65,017,980
EBITDA	$80,881,704	$53,280,963	$33,833,697
Cash Flow	$63,802,771	$42,850,118	$27,543,698
Program and Employment Stats			
Gaming Positions	2,060	1,990	1,791
Hotel Rooms	350	250	150
Employment	1,478	1,384	1,231
Employee Compensation 2024	$61,439,723	$58,837,000	$53,521,360
Investment and ROI Results			
Capital Investment*	$316,950,824	$266,255,162	$200,717,221
NPV of Project**	$213,281,509	$73,868,570	$2,212,895
Cash-on-Cash Return Yr5	19.9%	15.5%	12.5%

Source: The Innovation Group; *excluding Land Cost and Application Fee; **Also known as Residual Equity Value

For Richmond, a 40% tax rate would result in a cash-on-cash return of less than 15%, but it would still allow for a 250-room hotel, which is a reasonable size for the market. A 12% tax would allow for larger hotel and amenity development, but realistically, that level of development (400 hotel rooms) may be more than optimal to meet market demand. The biggest difference would be in the return on investment (as reflected in the cash-on-cash percentage of more than 25%) rather than in economic impact, as the lower tax rate would result in larger profits and not necessarily in more capital investment or more hiring.

Table 38: Richmond ROI Summary

Tax Scenario>	12%	27%	40%
2025 Revenue and Cash Flow Results			
NGR	$303,189,895	$297,244,995	$292,786,320
Total Revenue	$347,895,396	$338,611,705	$332,355,037
Gaming Tax	$36,382,787	$80,256,149	$117,114,528
EBITDA	$151,105,057	$103,532,176	$65,888,627
Cash Flow	$117,290,235	$81,575,004	$53,310,726
Program and Employment Stats			
Gaming Positions	3,295	3,230	3,069
Hotel Rooms	400	300	250
Employment	2,122	2,050	1,955
Employee Compensation 2024	$96,711,516	$94,356,147	$90,419,861
Investment and ROI Results			
Capital Investment*	$462,844,011	$402,861,310	$358,255,824
NPV of Project**	$529,881,494	$263,387,183	$49,517,818
Cash-on-Cash Return Yr5	25.4%	19.8%	14.0%

Source: The Innovation Group; *excluding Land Cost and Application Fee; **Also known as Residual Equity Value

For NOVA, a 40% tax rate would still allow for optimal penetration of the market potential and development of a 400-room hotel, and the cash-on-cash return is still near the top end of current expectations; therefore, no change in NGR or program is estimated. A 12% tax would allow for more hotel rooms, but the biggest difference would be in the return on investment (as reflected in the cash-on-cash percentage of more than 36%) rather than in economic impact, as the lower tax rate would result in larger profits and not necessarily in more capital investment or more hiring.

Table 39: NOVA ROI Summary

Tax Scenario>	12%	27%	40%
2025 Revenue and Cash Flow Results			
NGR	$601,756,368	$594,620,917	$594,620,917
Total Revenue	$676,899,248	$663,878,600	$663,878,600
Gaming Tax	$72,210,764	$160,547,648	$237,848,367
EBITDA	$339,274,265	$246,561,479	$169,260,760
Cash Flow	$257,400,919	$188,808,227	$132,378,702
Program and Employment Stats			
Gaming Positions	4,635	4,580	4,580
Hotel Rooms	500	400	400
Employment	3,267	3,170	3,170
Employee Compensation 2024	$144,814,701	$142,006,159	$142,006,159
Investment and ROI Results			
Capital Investment*	$715,278,379	$657,011,198	$657,011,198
NPV of Project**	$1,502,263,249	$929,865,249	$407,155,032
Cash-on-Cash Return Yr5	36.4%	28.5%	19.4%

Source: The Innovation Group; *excluding Land Cost and Application Fee; **Also known as Residual Equity Value

Employment Illustration

Table 40 shows the FTE (full-time-equivalent) staffing positions and projected average 2024 compensation from payroll (salaries/wages, benefits, and payroll taxes) resulting from the pro forma staffing model for a representative casino with 1,500 slot machines and 40 table games. Included is the assumption of a 200-room hotel. Tips are not included in the table below. For the Employment Compensation estimates in the Economic Impact section later in this report, estimates of tips have been applied. Dealer tips (known as toke rates in the industry) can vary between locations, but toke rates are generally substantial. In the Economic Impact analysis, we conservatively estimate dealer tips at twice the hourly rate but note that many properties see tip rates three times the hourly wage or higher. For food and beverage (F&B) tips, we have conservatively utilized a rate of 12.5% of F&B revenue.

Table 40: Representative Employment and Average Compensation 2024

	FTEs	Average Compensation
Executive	7	$297,330
Managerial/Supervisory	168	$84,365
Administrative	10	$43,993
Accounting & Other Professional	20	$79,833
Technical/Mechanical	43	$59,403
Cage/Cashier	45	$40,029
Dealers	134	$24,738
Line Workers Iincluding F&B)	267	$26,075
Security/Surveillance	77	$44,763
Housekeeping	102	$27,392
Total/Average	**873**	**$44,869**

These are based on 2019 salaries and wages estimated in the industry with five years of annual growth applied. We would expect salaries and wages in NOVA to be higher than these averages and therefore we applied a premium in the NOVA proformas.

For the purposes of the Economic Impact Analysis later in the report, FTEs are translated into total employees (including full and part-time workers) according to an IMPLAN conversion matrix for the gaming industry of approximately 0.82 FTE per employee. Employee-to-gaming-position ratios in commercial casinos range from 0.3 employees per gaming position in slot-only facilities to 0.8 employees per gaming position in casino resorts with hotels. Table gaming is especially labor intensive.

HHR Impact Summary

Casino development is estimated to reduce annual HHR revenue by between $134 million and $138 million and HHR revenue sharing payments to Virginia horse industry interests ("Horsemen") by approximately $9.5 million. The differences in Horseman payments are marginal among scenarios, as they would remain at approximately $11 million under all scenarios.

Table 41: HHR Impact Summary

	HHR Scenario 1	HHR Scenario 2	Impact	HHR Scenario 3	Impact
12% Casino Tax					
Wagering	$3,738,077,728	$2,045,120,234	-$1,692,957,493	$2,017,401,299	-$1,720,676,429
Payout	$3,439,031,510	$1,881,510,616	-$1,557,520,894	$1,856,009,195	-$1,583,022,315
HHR NGR	$299,046,218	$163,609,619	-$135,436,599	$161,392,104	-$137,654,114
State Tax	$28,035,583	$15,338,402	-$12,697,181	$15,130,510	-$12,905,073
Local Tax	$18,690,389	$10,225,601	-$8,464,787	$10,087,006	-$8,603,382
Horsemen Payments	$20,333,235	$10,852,673	-$9,480,562	$10,697,447	-$9,635,788
27% Casino Tax					
Wagering	$3,738,077,728	$2,063,366,821	-$1,674,710,907	$2,035,371,597	-$1,702,706,131
Payout	$3,439,031,510	$1,898,297,475	-$1,540,734,035	$1,872,541,869	-$1,566,489,641
HHR NGR	$299,046,218	$165,069,346	-$133,976,873	$162,829,728	-$136,216,490
State Tax	$28,035,583	$15,475,251	-$12,560,332	$15,265,287	-$12,770,296
Local Tax	$18,690,389	$10,316,834	-$8,373,555	$10,176,858	-$8,513,531
Horsemen Payments	$20,333,235	$10,954,854	-$9,378,381	$10,798,081	-$9,535,154
40% Casino Tax					
Wagering	$3,738,077,728	$2,063,366,821	-$1,674,710,907	$2,035,371,597	-$1,702,706,131
Payout	$3,439,031,510	$1,898,297,475	-$1,540,734,035	$1,872,541,869	-$1,566,489,641
HHR NGR	$299,046,218	$165,069,346	-$133,976,873	$162,829,728	-$136,216,490
State Tax	$28,035,583	$15,475,251	-$12,560,332	$15,265,287	-$12,770,296
Local Tax	$18,690,389	$10,316,834	-$8,373,555	$10,176,858	-$8,513,531
Horsemen Payments	$20,333,235	$10,954,854	-$9,378,381	$10,798,081	-$9,535,154

Source: The Innovation Group, Virginia Racing Commission, Colonial Downs. Wagering is equivalent to the slot industry term Coin-in.

HISTORICAL HORSE RACING TRENDS

Historical horse racing (HHR) was launched in 2000 at Oaklawn Park and Southland Greyhound in Arkansas. HHR machines were originally developed by RaceTech LLC, the manufacturer and producer of "Instant Racing Machines" (IRMs), and AmTote, a supplier of systems software and hardware for the pari-mutuel wagering industry. Early versions of the machines, or Generation 1, displayed full videos of the race; in Generation 2 machines, the underlying race that drove the wager was placed in the background while traditional slot symbols and reels were moved to the visual forefront, leading to an increase in performance.

A second manufacturer, Exacta Systems, made further advancements. Exacta Systems came to dominate the Kentucky market, although a third manufacturer, Ainsworth, is featured at the new Derby City facility (operated by Churchill Downs) in Louisville. Kentucky has emerged as the highest-performing HHR market in the United States. Wyoming has also operated HHR machines for several years.

Virginia has recently approved HHR machines, which led to the re-opening of the state's premier horse racetrack. Colonial Downs had ceased racing after the 2013 season, but with HHR implementation, live racing is scheduled to resume in 2019. The following sections provide historical data and context for HHR machines and live racing in Arkansas, Kentucky, and Wyoming.

Arkansas

Arkansas is home to two pari-mutuel facilities: Oaklawn Park and Southland Greyhound Park. The Arkansas State Racing Commission approved historical racing at both Oaklawn Park and Southland Greyhound Park in 2000. The "test approval" resulted in 50 machines at each track which were overwhelmingly popular from the beginning. After the test approval proved successful, machines were fully incorporated into the racetracks. Arkansas regulations and reporting concerning historical horse racing use the term Instant Racing Machines (IRM).

While IRMs continued to be popular at Oaklawn Park, Southland Greyhound was not seeing the same success. This is likely due to its proximity to Tunica (only 25 miles south) with its full-scale casino operations, further indicating that these machines operate at a discount from traditional games. In November of 2005, Oaklawn and Southland were given approval to install a new category of machine called Electronic Games of Skill (EGS). The following year, Southland opened a $40 million expansion to house 819 of the new EGS machines, which came to replace all IRMs at the facility.

Oaklawn Park, however, continued using IRMs at the facility. In 2004, Oaklawn's win on historical racing machines was about $6.7 million, jumping to $20.3 million in 2007 and nearly $22 million in 2009 as Generation 2 machines were launched. However, in 2010 Oaklawn began to reduce the number of IRM terminals in favor of EGS terminals. The most recent IRM revenue is not available, but data dating back to 2013 shows the declining trend in IRMs at Oaklawn.

Table 42: Oaklawn Park IRM Performance

Year	IRM Takeout	Units	TPU
2007	$20,259,110	350	$159
2008	$20,521,951	350	$161
2009	$21,928,061	350	$172
2010	$17,796,474	325	$150
2011	$12,774,948	220	$159
2012	$9,262,605	215	$118
2013	$7,655,670	175	$120

Source: Oaklawn Park; TPU=Takeout Per Unit per day

Updated horse industry data shows that the trend away from IRMs has continued. Although Oaklawn Park no longer releases IRM revenue data, they do report horse industry contributions from IRMs and EGS. The following table shows a declining contribution to purses and breeders' awards from IRMs and a growing trend from EGSs. Over the last decade IRM contributions have decreased significantly from over $37,000 in 2009 to just slightly over $1,000 in 2018. In the same time frame, EGS contributions have increased by over ten-fold.

Table 43: Oaklawn Park Purse and Awards Fund Contributions from Machine Gaming

	EGS	IRM	IRM % of Total
2009	$33,215	$37,470	53.0%
2010	$66,177	$30,379	31.5%
2011	$96,758	$23,180	19.3%
2012	$163,878	$16,579	9.2%
2013	$191,754	$14,085	6.8%
2014	$206,676	$11,285	5.2%
2015	$288,546	$7,303	2.5%
2016	$320,985	$4,723	1.5%
2017	$345,145	$1,387	0.4%
2018	$363,047	$1,125	0.3%
CAGR	**30.4%**	**-32.3%**	

Source: Oaklawn Park; The Innovation Group

Though live handle at this racetrack has declined over the last decade, total purses at Oaklawn have nearly doubled and the average race size has continued to increase as well.

Table 44: Oaklawn Performance

Year	Number of Races	Live Handle	Purses	Average Race Size
2008	525	$46,859,138	$14,775,976	8.81
2009	532	$47,705,141	$14,718,294	9.27
2010	504	$41,645,045	$15,587,181	9.1
2011	490	$40,441,707	$15,794,464	9.26
2012	526	$42,519,206	$18,014,808	8.9
2013	503	$40,353,159	$18,780,984	9.02
2014	481	$37,396,364	$20,684,855	8.96
2015	478	$35,365,674	$22,626,200	9.36
2016	478	$38,173,571	$22,626,200	9.62
2017	525	$36,766,091	$28,308,500	9.51
2018	507	$34,570,254	$28,881,530	9.2
2013-18 CAGR	**0.2%**	**-3.0%**	**9.0%**	**1.3%***

Source: Oaklawn Park; The Innovation Group; *Average Race Size CAGR calculated for 2013-2017

Thus, while alternative revenue sources have not prevented declines in live handle at Oaklawn Park, they have helped maintain live racing at a relatively consistent level. Moreover, live handle in general has declined in the horse industry while simulcasting has grown. Live handle at comparable tracks in Texas, where machines are not available, has decreased by a larger margin.

Table 45: Texas Live Handle

	Lone Star Park	Retama Park	Sam Houston Park	State Total
2013	$15,930,857	$4,149,433	$6,192,318	$26,272,608
2014	$16,100,971	$3,888,908	$5,850,750	$25,840,629
2015	$14,684,732	$3,547,166	$5,800,483	$24,032,381
2016	$13,483,221	$3,194,203	$5,461,764	$22,139,189
2017	$13,617,902	$2,665,921	$4,795,448	$21,079,271
2018	$12,093,574	$1,531,629	$4,321,793	$17,946,996
CAGR	**-5.4%**	**-18.1%**	**-6.9%**	**-7.3%**

Source: Texas Racing Commission; The Innovation Group

Arkansas purse trends stand in stark contrast to these three Thoroughbred racetracks in Texas, where purses have been flat to declining, as shown in the following table for the five-year period of 2013-2017.

Table 46: Texas Purse Trends

	Lone Star Park	Retama Park	Sam Houston Park	State Total
2013	$7,198,200	$2,590,510	$5,412,330	$15,201,040
2014	$7,125,500	$2,511,300	$5,253,280	$14,890,080
2015	$7,001,750	$2,498,912	$5,196,512	$14,697,174
2016	$7,389,550	$2,435,498	$5,049,373	$14,874,421
2017	$7,553,550	$1,853,280	$4,971,744	$14,378,574

Source: Texas Racing Commission; The Innovation Group

The decline in Arkansas live handle should be placed in the broader racetrack industry as well, since several racetracks have closed altogether in states where alternative forms of wagering are not available to the industry.

Kentucky

In 2010 the Kentucky Horse Racing Commission modified its regulations to allow tracks to accept pari-mutuel bets on old races; previously the races had to be viewed live. Since that time, four of the eight racetracks in the state have installed historical horse racing (HHR) machines: Kentucky Downs in Franklin, Ellis Park in Henderson, Derby City in Louisville, and Red Mile/Keeneland in Lexington. Kentucky Downs first introduced machines in September 2011 followed by Ellis Park in August 2012. Red Mile and Keeneland opened a joint operation in October 2015 followed by the most recent opening, Derby City, in September 2018.

Table 47 shows the annual take out per unit for each of the Kentucky HHR facilities.

Table 47: HHR TPU by Facility

Year	Kentucky Downs	Ellis Park	Keeneland	Derby City
2011	$53	-	-	-
2012	$109	$25	-	-
2013	$158	$34	-	-
2014	$135	$48	-	-
2015	$155	$72	$34	-
2016	$175	$100	$55	-
2017	$210	$85	$64	-
2018	$235	$106	$68	$171
2019	$295	$127	$79	$271

Source: The Innovation Group; Kentucky Racing Commission; TPU=Takeout Per Unit per day;

Kentucky Downs

Kentucky Downs was the first racetrack in Kentucky to introduce historical racing machines. It first launched in September 2011 with 390 units. Since then revenue has been on the rise year over year. The success is likely due to the proximity to Nashville (35 miles south) as a major population base and a lack of competition. Additionally, due to its success, the facility has increased its total number of units to a yearly average of over 750 in 2018. Note that there are currently 753 machines in operation, which Kentucky Downs advertises to be Exacta Systems machines.

Table 48: Kentucky Downs HHR

Year	Total Wagered	Return to Public	HHR Take Out	Units	TPU
2011*	$29,343,452	$26,794,729	$2,533,188	390	$53
2012	$190,378,096	$174,868,112	$15,448,569	390	$109
2013	$291,201,325	$268,800,319	$22,439,051	390	$158
2014	$325,498,532	$300,548,316	$24,691,761	500	$135
2015	$349,562,591	$321,066,951	$28,326,480	500	$155
2016	$475,669,966	$427,542,867	$38,032,617	594	$175
2017	$645,176,291	$593,661,794	$51,290,893	670	$210
2018	$814,541,373	$749,335,118	$64,618,598	753	$235
2019*	$336,769,998	$310,232,865	$26,642,984	753	$295

Source: The Innovation Group; Kentucky Racing Commission; TPU=Takeout Per Unit per day; *2019 has 120 days 2011 has 122 days

The Kentucky Horse Racing Commission provides annual and biennial reports for racetrack data prior to 2016, as well as monthly reports from 2016-2018. The following table shows the performance of Kentucky Downs from 2010 to 2018 for pari-mutuel wagers on horse racing at their facility. As shown below, since the introduction of HHR machines in 2011, total handle on horse races has increased at a rate of 30% per year. Total purses increased by 40.3% from 2011 to 2017. 2018 purse data has not been made available at the time of this report.

Table 49: Kentucky Downs Handle

Year	Race Dates	On-Track Handle	Off-Track Handle	Total Handle	Total Purses
2010	4	$294,469	$4,163,926	$4,458,395	$785,000
2011	4	$313,562	$3,361,892	$3,675,454	$769,000
2012	6	$550,759	$7,019,972	$7,570,731	$2,086,651
2013	5	$645,343	$12,169,547	$12,814,890	$4,150,687
2014	5	$744,543	$15,136,213	$15,880,756	$4,874,772
2015	5	$628,146	$16,258,988	$16,887,134	$6,609,355
2016	5	$929,409	$21,611,355	$22,540,764	$7,727,660
2017	5	$1,028,952	$29,217,937	$30,246,889	$8,404,905
2018	5	$1,118,276	$35,282,739	$36,401,015	-
CAGR	**2.8%**	**18.2%**	**30.6%**	**30.0%**	**40.3%**

Source: The Innovation Group; Kentucky Racing Commission; BloodHorse.com

Ellis Park

Ellis Park first launched in August of 2012 as the second Historical racing facility but is currently the smallest of the three that currently exist. It is located in Henderson, Kentucky about 100 miles west of Louisville and caters more to a local's crowd. It is likely that the facility doesn't generate the revenue that the other facilities do due to its proximity (just a few miles across the Ohio River) to Tropicana Evansville which is a full-scale Class III casino operation with over 1,000 slot machines, 40 table games, and accompanying hotel. In January 2017, Ellis Park switched to Exacta Systems machines.

Table 50: Ellis Park HHR

Year	Total Wagered	Return to Public	HHR Take Out	Units	TPU
2012*	$8,479,789	$7,730,626	$670,424	177	$25
2013	$27,707,575	$25,231,985	$2,187,286	177	$34
2014	$39,602,684	$36,639,427	$3,128,698	177	$48
2015	$60,091,817	$55,510,474	$4,655,550	177	$72
2016	$84,233,746	$78,248,404	$6,545,420	179	$100
2017	$69,374,899	$63,547,323	$5,538,989	179	$85
2018	$86,993,410	$80,321,281	$6,949,544	179	$106
2019*	$34,159,478	$31,485,738	$2,727,988	179	$127

Source: The Innovation Group; Kentucky Racing Commission; TPU=Takeout Per Unit per day; *2012 has 153 days 2019 has 120 days

The Kentucky Horse Racing Commission provides annual and biennial reports for racetrack data prior to 2016, as well as monthly reports from 2016-2018. The following table shows the performance of Ellis Park from 2011 to 2018 for pari-mutuel wagers on horse racing at their facility. As shown below, since the introduction of HHR machines in 2012 total handle on horse races has decreased at a rate of 1.4% per year. However, Total Purses has increased by over 4% from 2011 to 2017.

Table 51: Ellis Park Handle

Year	Race Dates	On-Track Handle	Off-Track Handle	Total Handle	Total Purses
2011	31	$5,920,352	$33,017,323	$38,937,675	$4,261,368
2012	29	$5,810,124	$35,535,517	$41,345,641	$4,552,431
2013	29	$5,339,103	$29,149,832	$34,488,935	$4,363,233
2014	28	$4,402,977	$28,071,943	$32,474,920	$4,447,441
2015	31	$5,008,862	$28,054,918	$33,063,780	$4,929,673
2016	30	$4,665,126	$30,616,238	$35,281,364	$5,815,380
2017	31	$4,784,068	$36,018,931	$40,802,999	$6,134,745
2018	29	$4,130,485	$34,941,954	$39,072,439	-
CAGR	**0.9%**	**-4.4%**	**-1.0%**	**-1.4%**	**4.2%**

Source: The Innovation Group; Kentucky Racing Commission; BloodHorse.com

Table 52: Market Revenue Comparison LTM (May18-Apr19)

	Ellis Park	Tropicana Evansville	Market Total
# Units	179	1,129	1,308
Revenue	$7,442,878	$124,334,544	131,777,422
WPU	$114	$302	$276
Market Share Ratio (MSR)	0.41	1.09	
Local Adult Population (21+)	-	-	220,801
Win per capita			$597

Source: The Innovation Group; Kentucky Racing Commission; Indiana Gaming Commission

Keeneland – Red Mile

The combined Keeneland and Red Mile facility opened in October 2015. It is the largest of the three operational facilities but has so far underperformed considering its location so close to Lexington. Given its large size and underwhelming results to date, the win per unit is also quite a bit lower than its competitors. Moving forward it is expected for revenue to increase over the next few years as the operation ramps up.

Table 53: Keeneland – Red Mile HHR

Year	Total Wagered	Return to Public	HHR Take Out	Units	TPU
2015*	$36,356,969	$33,338,185	$2,812,285	900	$34
2016	$241,349,062	$222,905,210	$18,041,424	902	$55
2017	$286,897,862	$265,425,887	$21,017,897	902	$64
2018	$293,798,709	$269,944,577	$22,267,773	895	$68
2019*	$116,571,901	$107,120,337	$8,592,852	902	$79

Source: The Innovation Group; Kentucky Racing Commission; TPU=Takeout Per Unit per day; *2015 has 92 days 2019 has 120 days

The Kentucky Horse Racing Commission provides annual and biennial reports for racetrack data prior to 2016, as well as monthly reports from 2016-2018. The following table shows the performance of Keeneland from 2014 to 2018 for pari-mutuel wagers on horse racing at their facility. As Keeneland hosted the Breeder's Cup in 2015, the data below shows a substantial increase in total purses. However, using 2014 as a baseline, purses have increased by 2.1% per year since the introduction of HHR machines.

Table 54: Keeneland Handle

Year	Race Dates	On-Track Handle	Off-Track Handle	Total Handle	Total Purses
2014	32	$36,557,476	$224,320,867	$260,878,343	$20,218,184
2015	33	$32,886,268	$209,544,871	$242,431,139	$44,780,986
2016	33	$35,751,183	$261,348,746	$297,099,929	$21,472,638
2017	32	$35,251,850	$248,381,110	$283,632,960	$22,513,024
2018	33	$33,877,620	$265,869,704	$299,747,324	-
CAGR	**0.6%**	**-1.8%**	**0.4%**	**0.1%**	**2.1%**

Source: The Innovation Group; Kentucky Racing Commission

Derby City

The newly opened Derby City facility has 900 machines and in its seventh full month of operation (April 2018) achieved revenue of $29.2 million, for win per unit of $271.

Table 55: Derby City HHR

	Total Wagered	Return to Public	HHR Take Out	Units	TPU
Sep-18	$26,903,142	$24,069,934	$2,617,094	900	$138
Oct-18	$44,827,715	$40,281,001	$4,376,599	900	$157
Nov-18	$49,804,893	$44,944,877	$4,822,054	900	$179
Dec-18	$57,891,732	$52,268,654	$5,529,922	900	$198
Jan-19	$59,479,465	$53,797,674	$5,672,934	900	$203
Feb-19	$75,392,622	$68,358,003	$7,160,385	900	$284
Mar-19	$92,602,595	$83,888,722	$8,673,542	900	$311
Apr-19	$82,828,580	$75,144,512	$7,665,075	900	$284
2018*	$179,427,482	$161,564,466	$17,345,669	900	$171
2019*	$310,303,262	$281,188,911	$29,171,936	900	$271

Source: The Innovation Group; Kentucky Racing Commission; TPU=Takeout Per Unit per day; *2018 has 113 days 2019 has 120 days

Derby City has a 10-minute drivetime advantage over Horseshoe SI in relation to the population base located in the Louisville market area. Ohio River flooding forced the closure of Horseshoe SI in February 2019.

Table 56: Market Revenue Comparison 2019 YTD*

	Derby City	Horseshoe SI	Market Total
# Units	900	1,579	2,479
Revenue	$22,011,551	$42,571,469	$64,583,020
WPU	$266	$293	$283
Market Share Ratio (MSR)	0.94	1.03	1.00
Local Adult Population (21+)	-	-	738,324
Win per capita (Annualized)			$347

Source: The Innovation Group; Kentucky Racing Commission; Indiana Gaming Commission;
*February was excluded from total due to closure at Horseshoe SI Casino from flooding

Wyoming

Historical racing machines were installed at Wyoming's four off-track betting parlors in June of 2003 after approval by the Wyoming Pari-Mutuel Commission. The state attorney general questioned the legality of these machines, and they were removed in 2005 after a court ruling. In 2006, the Wyoming Supreme Court ruled them illegal as well. However, in February 2013, Wyoming passed legislation legalizing historical horse racing. Wyoming Downs LLC was the first to receive a permit in December 2013, followed by Wyoming Horse Racing LLC in March 2014. In 2018, there were 17 sites.

The Wyoming Pari-Mutuel Commission provides annual reports for historical horse racing machines over the years 2013-2018. Numbers for 2013 below represent the month of December only. Handle on HHR machines has doubled since 2015.

Table 57: Wyoming Historical Horse Racing State Totals

Year	Wagered	Payouts	Takeout	Sites
2013	$467,236	$398,960	N/A	N/A
2014	$113,589,236	$104,755,928	N/A	11
2015	$286,352,310	$264,468,483	$21,524,185	13
2016	$238,797,158	$220,367,550	$18,197,151	14
2017	$420,210,518	N/A	$31,473,558	17
2018	$570,599,000	$525,610,689	$42,535,662	17

Source: The Innovation Group; Wyoming Pari-Mutuel Commission

Income from historical racing terminals funds operations, purses, and other expenses at the state's two racetracks. Thus, the additional cash flows from HHR allows the horse racing tracks to increase the amount of live racing days and offer richer purses. As a result, legalization of HRR boosted live horse racing revenue. The Wyoming Pari-Mutuel Commission provides annual reports for the years 2011-2018. The table below summarizes the live horse racing data and shows the dramatic impact HHR revenue has had on live racing.

Table 58: Wyoming Live Horse Racing State Totals

Year	Racing Days	Total Handle	Returned to Public	Sites	Average Handle per Site	Average Handle per Day	Total Purses
2011	4	$115,960	$87,922	2	$57,980	$28,990	-
2012	4	$136,547	$104,214	2	$68,273	$34,137	-
2013	10	$248,817	$191,676	2	$124,409	$24,882	-
2014*	20	$1,152,465	$891,791	2	$576,233	$57,623	$1,100,637
2015	31	$1,527,032	$1,188,203	2	$763,516	$49,259	$1,645,797
2016	22	$1,019,471	$791,394	2	$509,736	$46,340	$1,097,385
2017	30	$1,456,664	N/A	2	$728,332	$48,555	$1,361,612
2018	34	$1,560,505	N/A	2	$780,252	$45,897	$1,819,850

Source: The Innovation Group; Wyoming Pari-Mutuel Commission; *2014 if the First Full Year of HHR Operations

Summary

Wagering on historical horse races has clearly benefited live racing in Arkansas, Kentucky, and Wyoming. The resulting increases in purses have led to increases in the number of live races, dramatically in the case of Wyoming, or average field size. Handle[5] also has increased significantly in a number of cases, particularly the smaller tracks where a little boost in purses can go a long way to improving live racing. Where handle has been flat to declining, this should be placed in context of general horse industry trends: comparable tracks to Oaklawn Park, for example, have experienced sharper declines in handle or closed altogether without new revenue sources from alternative forms of wagering. Once home to eight horse racing tracks, Michigan has only two remaining active tracks, both in the Detroit area. In Illinois, two tracks have closed, Balmoral and Maywood, leaving three remaining active tracks: Arlington Park, Fairmount and Hawthorne Race Course.

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[5] Handle in this report refers to traditional pari-mutuel betting whether at a racetrack, OTB facility or through an ADW account. It does not include HHR machines; wagering on HHR machines is equivalent to the gaming industry's term "Coin-in" and is referred to in this report as "wagering" or "wagered."

Virginia Horse Racing Background

Colonial Downs, Virginia's premier racetrack, opened the first live pari-mutuel wagering horseracing meet in Virginia with 30 days of live Thoroughbred racing starting on September 1, 1997 and added Harness racing beginning in 1998. About 90 percent of Colonial Downs' Thoroughbred races were contested on turf. Colonial Downs operated Thoroughbred and Harness racing through 2013 and 2014, respectively, before surrendering its racing license in October 2014. Colonial Downs' eight satellite wagering facilities also closed in 2014.

Virginia began licensing and regulating advance deposit wagering (ADW) companies in 2003. ADW handle increased steadily from 2003 through 2014, declined slightly in 2015 and has remained relatively steady since then. Virginia imposed a 10 percent source market fee on ADW handle for the benefit of horsemen and the industry beginning in 2010, distributed currently according to the following schedule.

Table 59: ADW Handle Distributions to Horse Industry Interests

New Kent County (thru 2019)	0.35%
Virginia Equine Alliance	3.35%
Virginia Tech Vet School	0.15%
Virginia Horse Center	0.05%
Virginia Horse Industry Board	0.05%
Virginia Thoroughbred Assoc.	0.05%
Breeders Fund	1.00%
Purses/Horsemen	5.00%

Source: Virginia Racing Commission; The Innovation Group

Virginia has had pari-mutuel wagering on Steeplechase racing since 2013, primarily at Great Meadow in The Plains, Virginia. Virginia hosts more steeplechase races than any other state.

Limited Harness racing took place at Oak Ridge in Arrington, Virginia in 2015. Since 2016, there have been 10 days of live harness racing annually at the Shenandoah County Fairgrounds in Woodstock, Virginia under the name Shenandoah Downs. The Fairgrounds also host harness racing during the Shenandoah County Fair.

The Virginia Equine Alliance (VEA), comprising the Virginia Harness Horse Association, the Virginia Horsemen's Benevolent & Protective Association, the Virginia Gold Cup Association, and the Virginia Thoroughbred Association, opened its first satellite wagering facility in 2016 and operated four satellite wagering facilities by 2018.

The Virginia Racing Commission had derived its operating revenue from a percentage of pari-mutuel handle, which declined substantially after the closure of Colonial Downs and its satellite wagering facilities. The Virginia General Assembly modified ADW licensing fees in 2015 to provide additional funding for the racing commission.

Historical Horse Racing in Virginia was legalized in 2018 and Colonial Downs, now owned by Colonial Downs Group, was purchased in April 2018. Historical Horse Racing debuted at Colonial Downs on April 18, 2019, and will be rolled out to satellite wagering facilities. Colonial Downs will conduct 15 days of live flat and Steeplechase Thoroughbred racing during August and September 2019. The VEA has projected 30 race days of Thoroughbred racing and 30 race days of Harness racing in the state by 2021.

Virginia Trends

ADW has emerged as the dominant form of horse wagering in Virginia and consisted of virtually the only form after the closing of Colonial Downs and before the VEA opened OTB facilities beginning in 2016.

Total Virginia Pari-Mutuel Wagering Handle
2007-2018
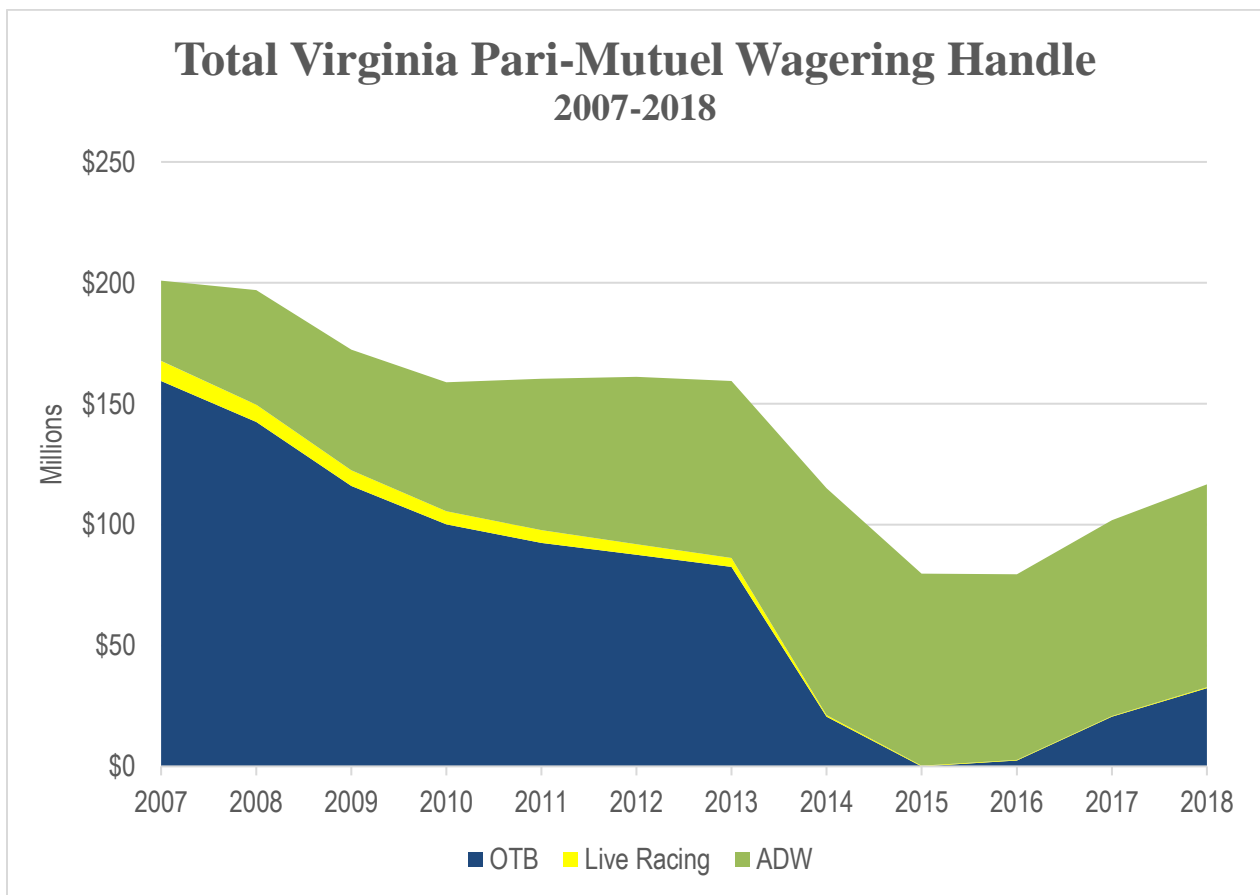
Source: Virginia Racing Commission; The Innovation Group

Table 60 details the handle data through 2013, further illustrating how live and simulcast handle were in decline even prior to the closing of Colonial Downs.

Table 60: Virginia Pari-Mutuel Wagering Handle 2007-2013 ($ 000's)

	2007	2008	2009	2010	2011	2012	2013	CAGR
Colonial Downs (Live)	$8,314.9	$7,222.2	$6,415.3	$5,388.6	$5,369.5	$4,415.5	$3,545.6	-13.2%
OTB	$159,369.8	$142,407.0	$116,046.2	$100,117.2	$92,368.4	$87,511.7	$82,674.9	-10.4%
Subtotal	*$167,684.7*	*$149,629.2*	*$122,461.5*	*$105,505.8*	*$97,737.9*	*$91,927.2*	*$86,220.5*	*-10.5%*
ADW	$33,206.7	$47,303.4	$49,850.5	$53,392.1	$62,646.8	$69,233.9	$73,205.1	14.1%
Total	**$200,891.4**	**$196,932.6**	**$172,311.9**	**$158,897.9**	**$160,384.7**	**$161,161.0**	**$159,425.6**	**-3.8%**

Source: Virginia Racing Commission; The Innovation Group

Pari-mutuel wagering at Great Meadow and Shenandoah Downs is relatively minor compared to historical handle at Colonial Downs.

Table 61: Virginia Live Racing Handle 2013-2018

	2013	2014	2015	2016	2017	2018	CAGR
Great Meadow	$119,956	$218,262	$259,363	$241,860	$179,931	$194,528	10.2%
Shenandoah Downs	$0	$0	$31,811	$105,537	$124,993	$119,083	6.2%*
Total Handle	**$121,969**	**$220,276**	**$293,189**	**$349,413**	**$306,941**	**$315,629**	**20.9%**

Source: Virginia Racing Commission; The Innovation Group

As discussed above, the VEA started opening OTB facilities in 2016, and handle has increased dramatically, as shown in Table 62.

Table 62: OTB Wagering Handle 2016-2018

	2016	2017	2018
Breakers - Henrico	$2,378,767	$10,931,062	$9,767,852
Buckets - Chesapeake	$0	$1,352,264	$11,726,715
Ponies & Pints - Richmond	$0	$8,215,369	$7,005,279
The Windmill - Collinsville	$0	$0	$3,868,194
Total Handle	**$2,378,767**	**$20,498,696**	**$32,368,040**

Source: Virginia Racing Commission; The Innovation Group

ADW wagering by Virginia residents declined dramatically when Colonial Downs stopped all operations, including its ADW operation in 2015, as shown in the following chart.

Virginia Pari-Mutuel ADW Handle
2007-2018
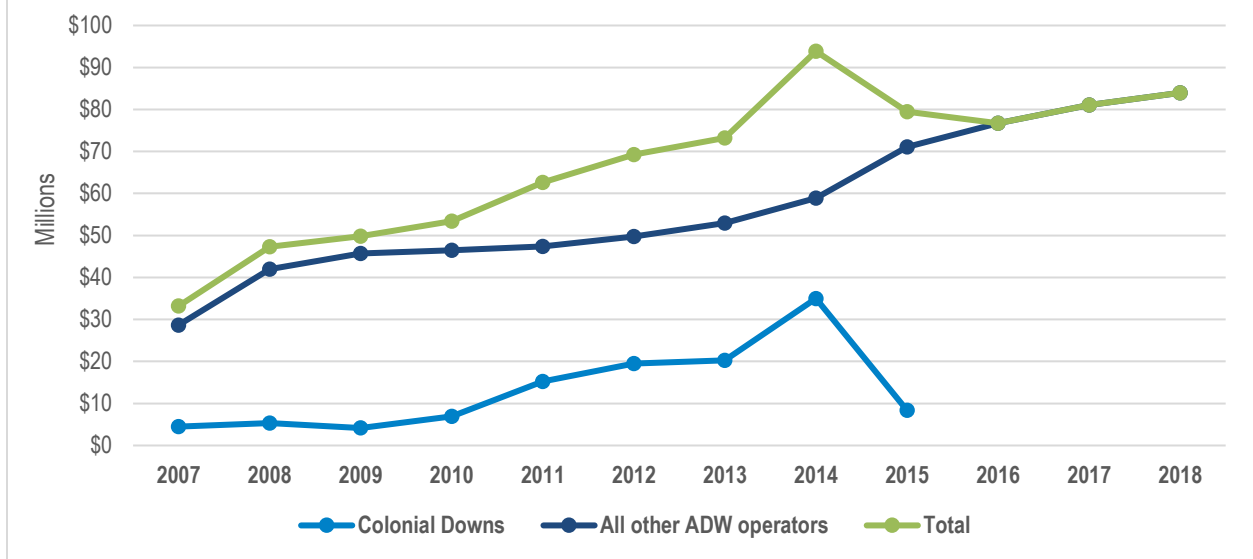
Source: Virginia Racing Commission; The Innovation Group

Racehorse breeding in Virginia peaked at 678 in 1999, but has dropped to below 150 in the last two years for which data is available.

Table 63: Foals Born in Virginia

Year	Thoroughbred	Standardbred	Total	Thoroughbred Pct.	Standardbred Pct.
1997	517	60	577	89.6%	10.4%
1998	566	57	623	90.9%	9.1%
1999	614	64	678	90.6%	9.4%
2000	513	53	566	90.6%	9.4%
2001	540	77	617	87.5%	12.5%
2002	463	54	517	89.6%	10.4%
2003	498	78	576	86.5%	13.5%
2004	425	80	505	84.2%	15.8%
2005	413	97	510	81.0%	19.0%
2006	384	98	482	79.7%	20.3%
2007	410	83	493	83.2%	16.8%
2008	377	86	463	81.4%	18.6%
2009	331	82	413	80.1%	19.9%
2010	283	56	339	83.5%	16.5%
2011	260	38	298	87.2%	12.8%
2012	188	37	225	83.6%	16.4%
2013	150	37	187	80.2%	19.8%
2014	132	33	165	80.0%	20.0%
2015	123	43	166	74.1%	25.9%
2016	126	18	144	87.5%	12.5%
2017	122	24	146	83.6%	16.4%

Source: The Jockey Club; USTA; The Innovation Group

The Virginia breeder's fund receives 1% of handle (excluding HHR). The goal of the breeder's fund is to encourage Thoroughbred breeding in Virginia through financial incentives to breeders of Virginia-bred racehorses and owners of Virginia-registered stallions. Contributions peaked in 2007 at nearly $1.7 million. ADW did not contribute until 2010. The closing of Colonial Downs and associated OTBs is evident in the 2015 and 2016 data. By 2018, contributions have risen to nearly $1.2 million.

Table 64: Virginia Breeders Fund Contributions

Year	Thoroughbred	Standardbred	Total
1996	$263,517	$105,288	$368,805
1997	755,900	195,041	950,941
1998	917,484	289,688	1,207,172
1999	915,431	297,811	1,213,242
2000	942,714	274,834	1,217,548
2001	967,123	271,671	1,238,794
2002	970,555	270,091	1,240,646
2003	1,035,181	268,647	1,303,828
2004	1,136,789	317,156	1,453,945
2005	1,176,374	341,208	1,517,582
2006	1,285,476	356,604	1,642,080
2007	1,318,153	358,693	1,676,846
2008	1,167,875	328,417	1,496,292
2009	960,763	263,852	1,224,615
2010	1,266,614	287,607	1,554,221
2011	1,301,040	286,961	1,588,001
2012	1,338,896	276,548	1,615,444
2013	1,325,659	262,990	1,588,649
2014	854,434	287,360	1,141,794
2015	651,792	118,890	770,682
2016	729,940	96,759	826,699
2017	875,229	140,971	1,016,200
2018	997,228	175,765	1,172,993

Source: Virginia Racing Commission; The Innovation Group

Table 65 shows occupational racing licenses and related statistics. Colonial Downs is slated to have 30 race days in 2020, and thus a return to earlier numbers of licensed owners, trainers and grooms is expected.

Table 65: Racing Licenses and Racing Statistics by Breeds

Year	Track	Licensed Owners & Trainers	Licensed Grooms	Thoroughbred Race Days	Thoroughbred Races	Harness Race Days	Harness Races
2011	Colonial Downs	1,288	331	32	309	30	338
2012	Colonial Downs	1,597	322	30	297	24	243
2013	Colonial Downs	1,262	283	24	209	24	255
2014	Colonial Downs	474	84	0	0	24	251
2015							
2016	Shenandoah Downs	457	87	0	0	10	112
2017	Shenandoah Downs	433	87	0	0	10	114
2018	Shenandoah Downs	378	71	0	0	12	119

Source: Virginia Racing Commission; The Innovation Group. Colonial Downs was closed in 2015 and Shenandoah Downs had not yet begun operations.

National Trends

Handle

U.S. handle on pari-mutuel horse races declined during the Great Recession and has been relatively flat since 2011. Combined 2018 handle totaled $12.9 billion including all three major breeds.
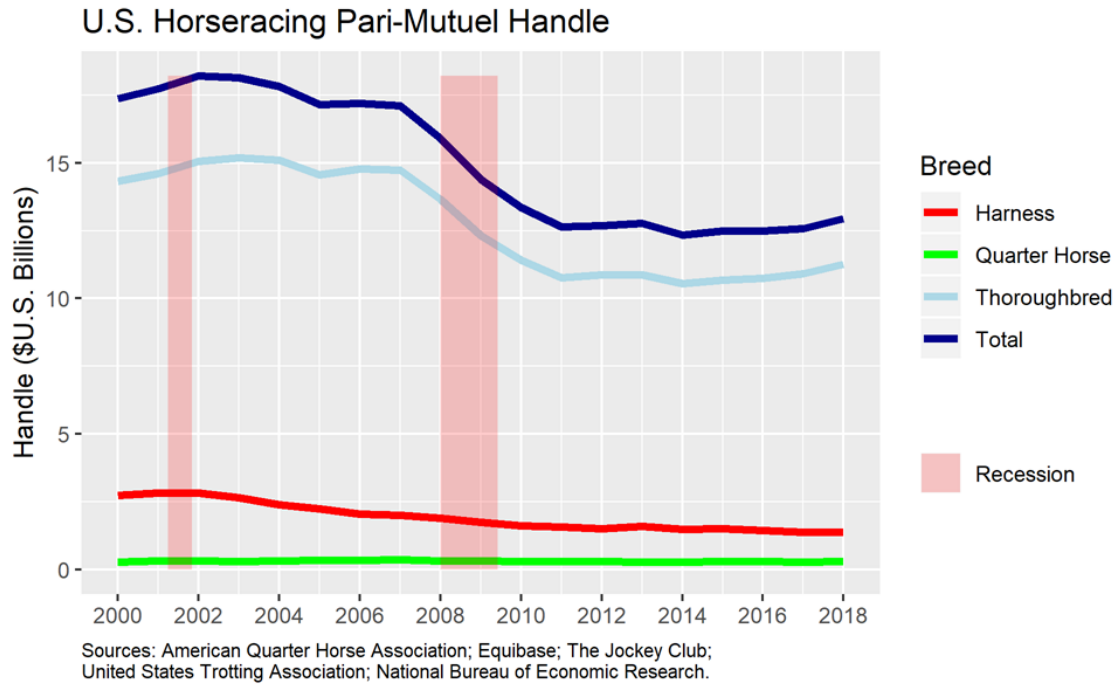
However, ADW handle has grown steadily since its inception, other than during the Great Recession. Oregon-based companies account for more than 90% of U.S. ADW.
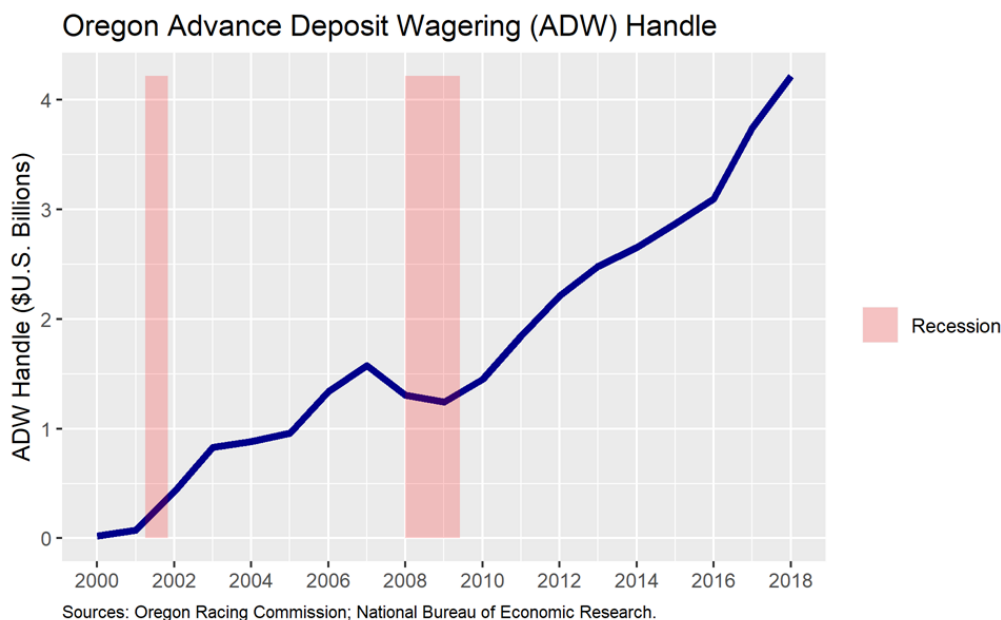
Advance deposit wagering (ADW) is a form of simulcast wagering wherein bettors deposit funds into an account with an ADW company prior to placing wagers via the Internet or phone. ADW winnings are credited to the ADW account. ADW accounted for about one-third of combined Harness, Quarter Horse and Thoroughbred handle in 2018. Most major ADW companies have hubs based in Oregon due to favorable tax rates on handle. From just $20 million in 2000, Oregon-based ADW handle has increased steadily, reaching $4.2 billion in 2018. Oregon considers wagers made from an account maintained by an advance deposit wagering licensee (i.e., an Oregon-based multi-jurisdictional simulcasting and interactive wagering totalizator hub) to have been made in the state of Oregon.

Purses

U.S. horse racing purses have been relatively stable since 2000 despite declining handle, which has been offset by casino-style gaming revenue earmarked for purses in many states. Combined 2018 U.S. Harness, Quarter Horse and Thoroughbred purses totaled $1.7 billion, with Thoroughbred purses accounting for 67 percent of the total in 2018.

U.S. Horseracing Purses

Sources: American Quarter Horse Association; Equibase; The Jockey Club; United States Trotting Association; National Bureau of Economic Research.
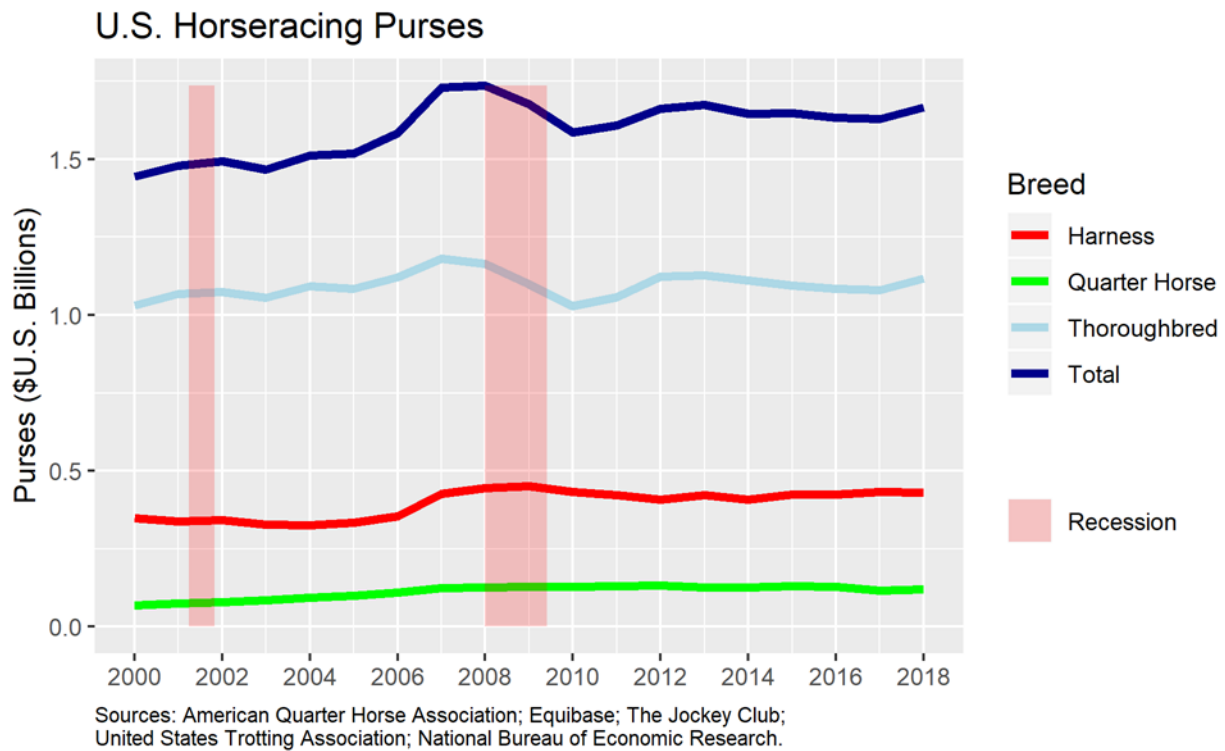
Nearly all of the gains in purses between 2009 and 2018 occurred in states with casino-style gaming revenue for racing. Purses have declined in some states with casino-style gaming revenue, typically due to that advent of gaming benefiting purses in adjacent states (e.g., Maryland's impact on Delaware and West Virginia). Suffolk Downs could not remain viable despite modest gaming revenue for Thoroughbreds generated by Plainridge Park. Several racetracks closed without support from gaming, including Colonial Downs in Virginia.

The following chart shows changes in Thoroughbred purses between 2009 and 2018 for states with at least $2 million in Thoroughbred purses in either year, and indicates which states benefited from alternative gaming revenue by 2018.

Change in Thoroughbred Purses (2009 vs. 2018)

Pct. Chg. in Thoroughbred Purses (2009 vs. 2018)

Sources: The Jockey Club; Charles Vickery
States with at least $2 million in purses in 2009 or 2018.

Alternative Gaming Revenue in 2018   Yes   No
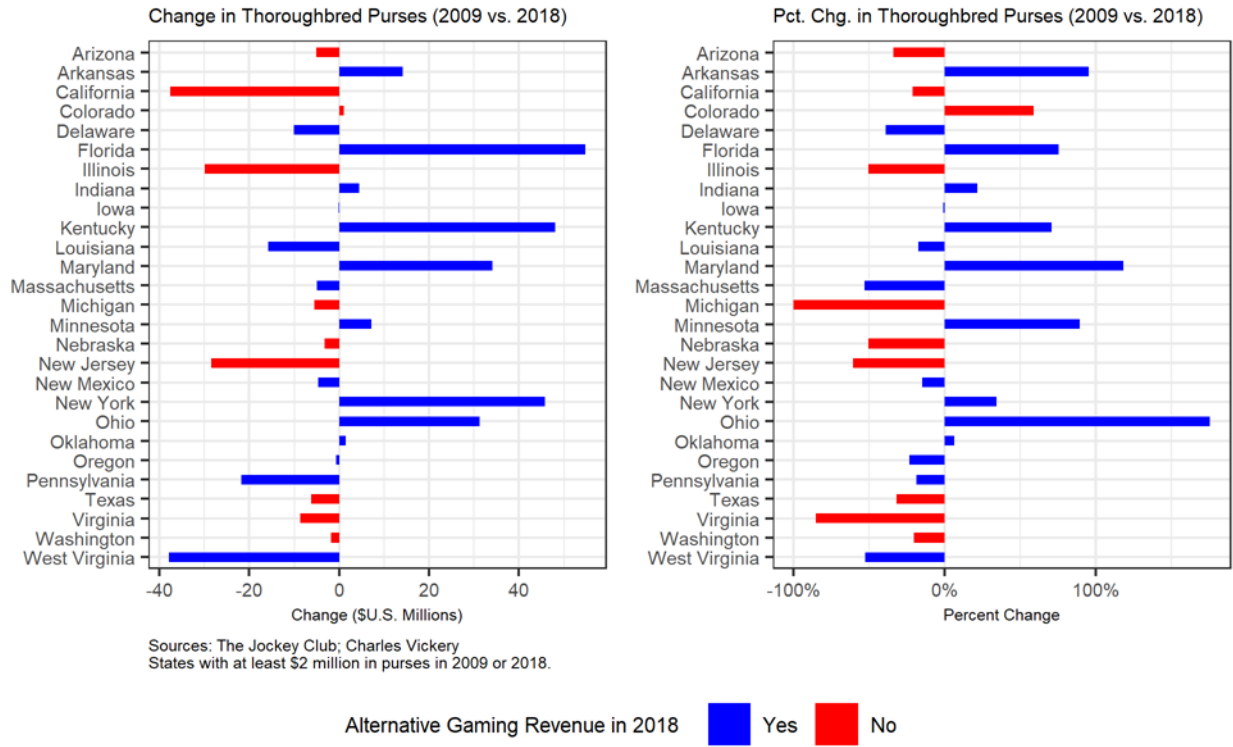
Breeding

U.S. Thoroughbred and Standardbred foal crops each declined by about 38 percent in the past decade, with few states spared. However, states with alternative gaming revenue for racing fared better in terms of the percentage decline in registered foals. The following chart shows the percentage change in registered Thoroughbred foals by state between 2008 and 2017 for the same states listed in the chart that showed changes in purses by state. The bars on the chart are ordered by percentage change and indicate which states benefited from alternative gaming revenue by 2017, which was the latest year for which Thoroughbred foaling data was available.

Pct. Chg. in Thoroughbred Foals (2008 vs. 2017)
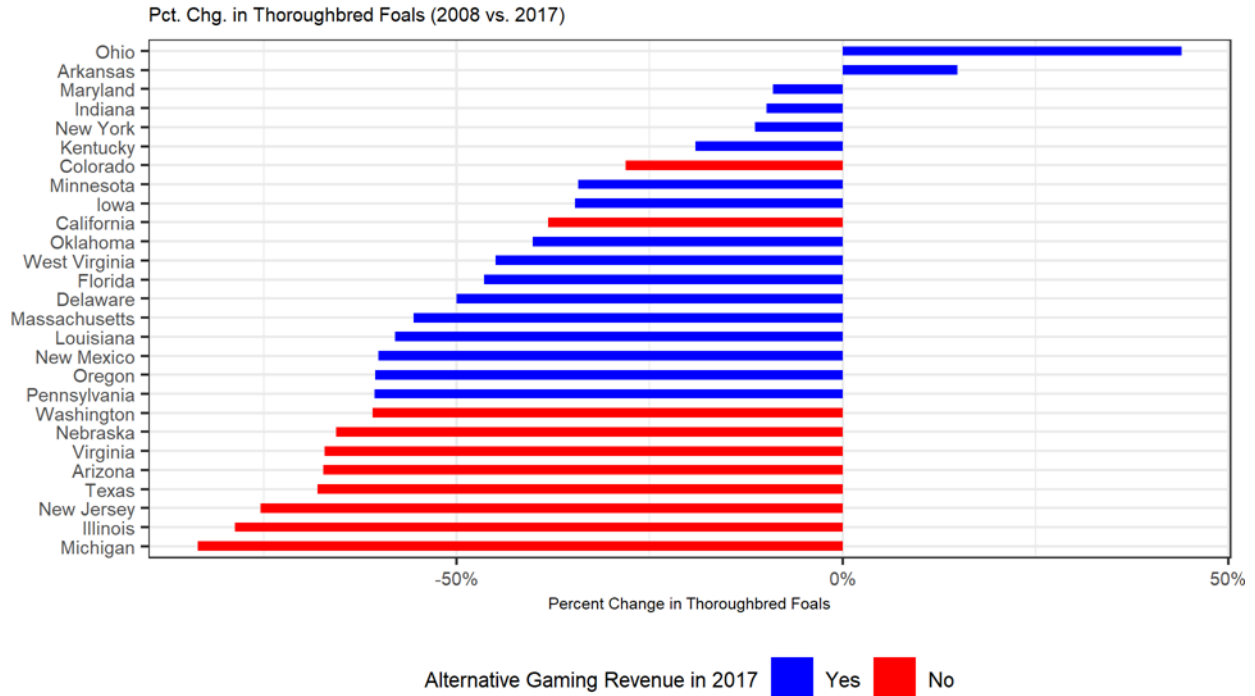
Regional Trends

Racing in Virginia and surrounding states in the region has had mixed results. States with alternative gaming revenue for racing have fared better than states without alternative gaming in terms of breeding, purses, handle and other measures.

Charts on the following pages summarize Thoroughbred industry purses, purses per race, races, starters and registered foals for Maryland, New Jersey, New York, Ohio, Pennsylvania, Virginia, West Virginia and the U.S. Each state has a unique story. For example, gaming in states around Pennsylvania came online after Pennsylvania. Despite Pennsylvania's substantial gaming contributions to racing, Pennsylvania's Thoroughbred breeding (more so than its Standardbred breeding) has under-performed relative to surrounding gaming states. For example, between 2011 and 2017, registered foals in the U.S. and Pennsylvania declined by 9.8 percent and 52.4 percent, respectively, while combined registered foals for Maryland, Ohio and New York increased by 47.6 percent. The net change in registered Thoroughbred foals in all four states (MD, NY, OH and PA) during the same period was a 7 percent gain. The region's racing industry remains strong relative to the U.S.

As Table 66 shows, gaming funds do not always result in an increase in economic activity in the equine industry. Gaming-derived funds to the Pennsylvania Thoroughbred breeding industry are substantial and initially led to a spike in breeding. However, as neighboring states such as Maryland and Ohio created their own funds from new casino development, breeding declined in Pennsylvania despite continued funding in the $15 million to $20 million range. The number of foals bred in Pennsylvania is now lower than in the years before casino development, and the fund paid out more than $33,000 for each foal bred in 2017.

Table 66: Pennsylvania Thoroughbred Breeding Fund Results

	TB Foals	TB Breeding Fund	Per Foal Spend
2003	999		
2004	951		
2005	1,200		
2006	1,216	$190,328	
2007	1,222	$8,399,133	
2008	1,329	$14,681,313	$11,047
2009	1,414	$18,235,972	$12,897
2010	1,403	$16,213,108	$11,556
2011	1,042	$11,634,739	$11,166
2012	883	$18,184,986	$20,595
2013	827	$17,125,771	$20,708
2014	784	$18,413,707	$23,487
2015	629	$20,222,210	$32,150
2016	563	$14,849,226	$26,375
2017	540	$18,178,389	$33,664

Source: The Innovation Group; Pennsylvania Gaming Control Board

Annual Thoroughbred Purses (1998-2018)

Thoroughbred Purses ($U.S. Millions)
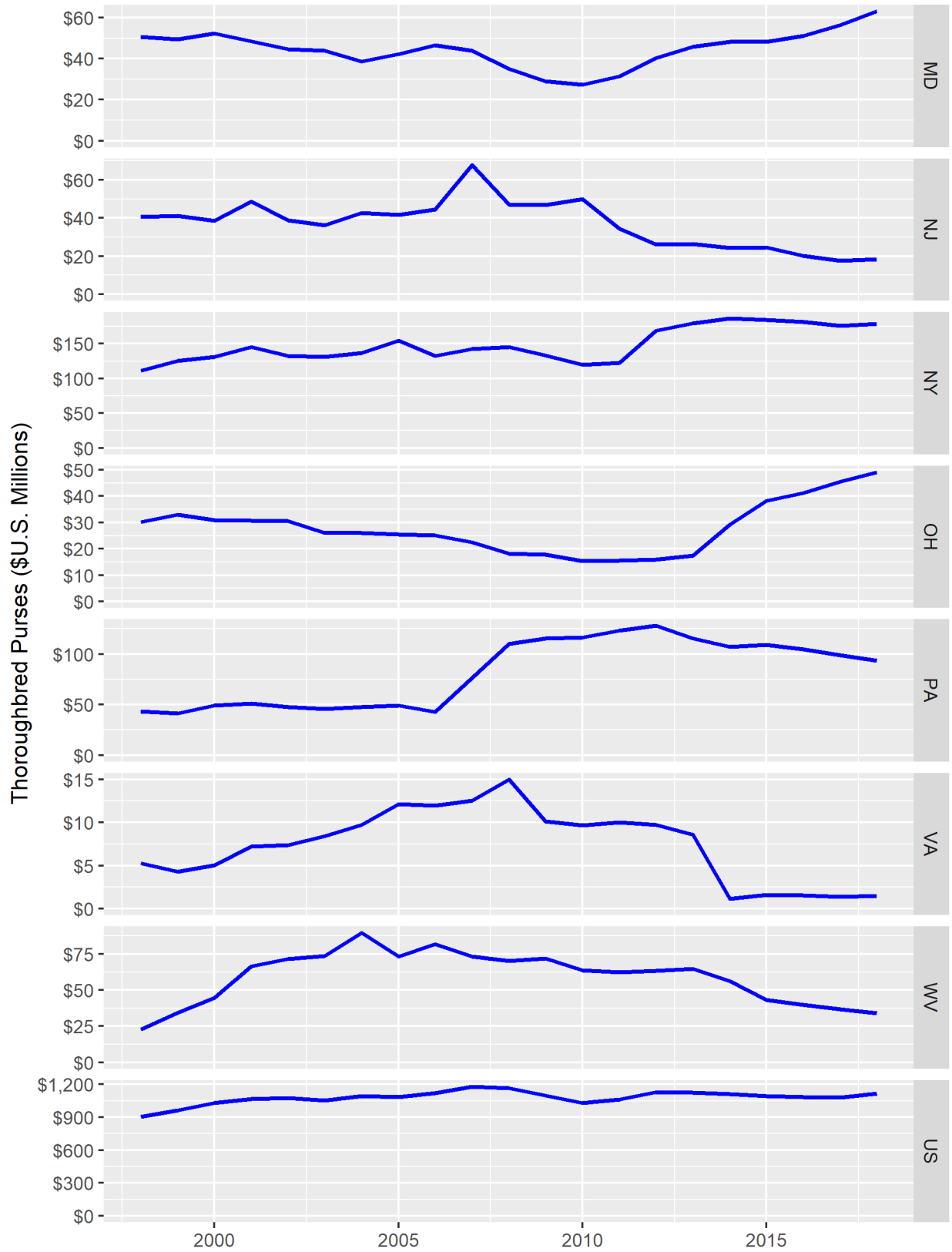
Source: The Jockey Club

Average Thoroughbred Purse Per Race (1998-2018)
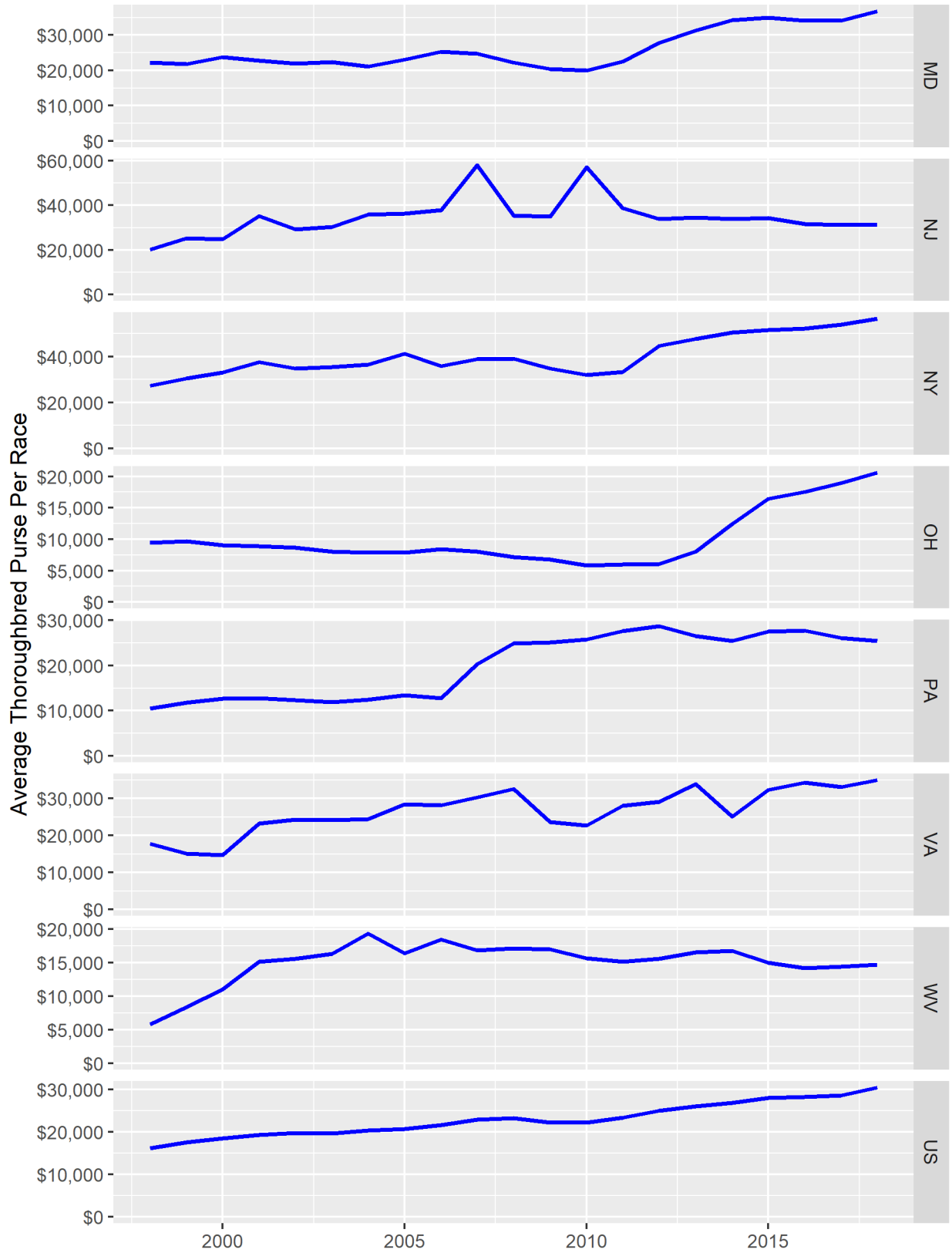
Source: The Jockey Club

Annual Thoroughbred Races (1998-2018)
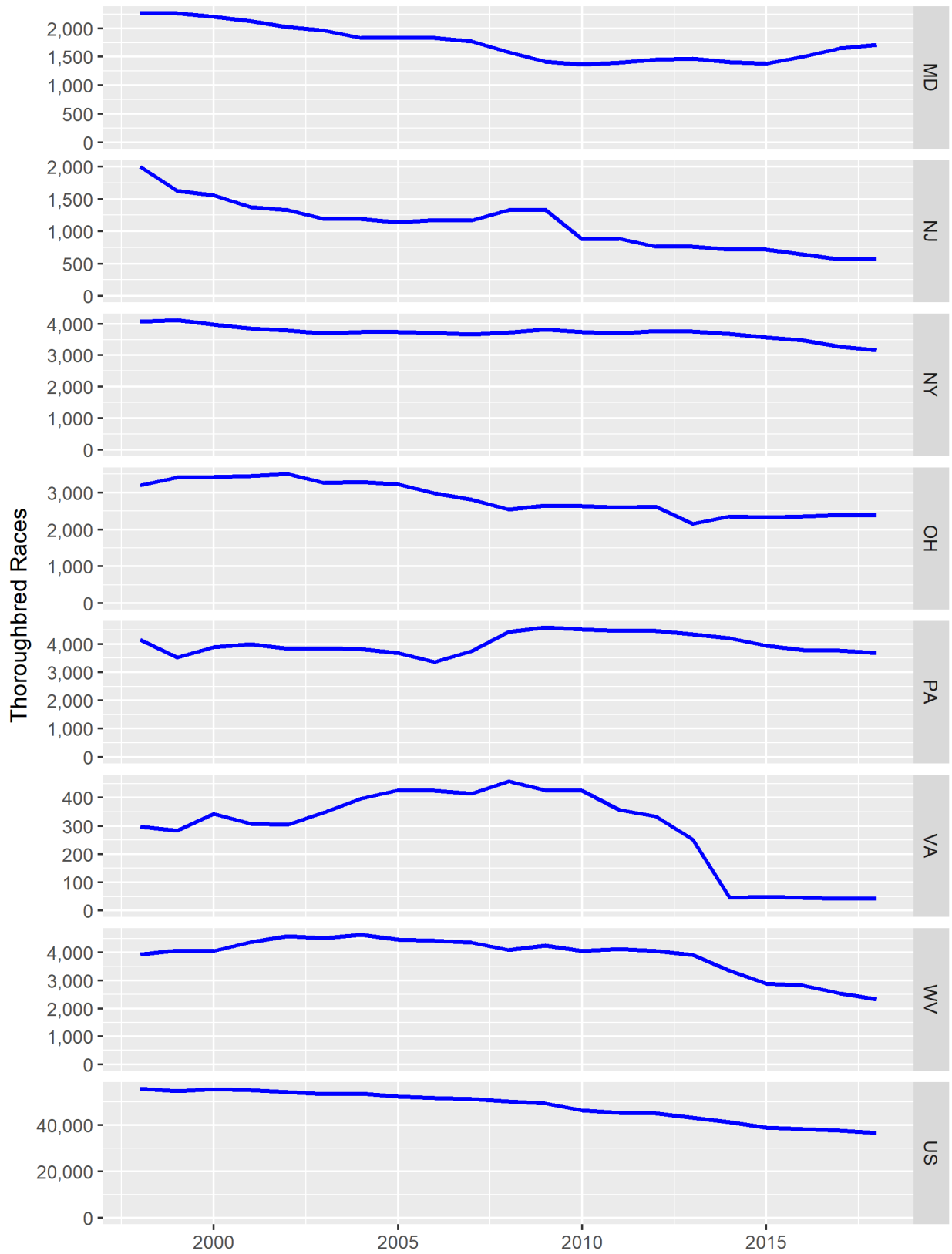
Source: The Jockey Club

Annual Thoroughbred Starters (1998-2018)
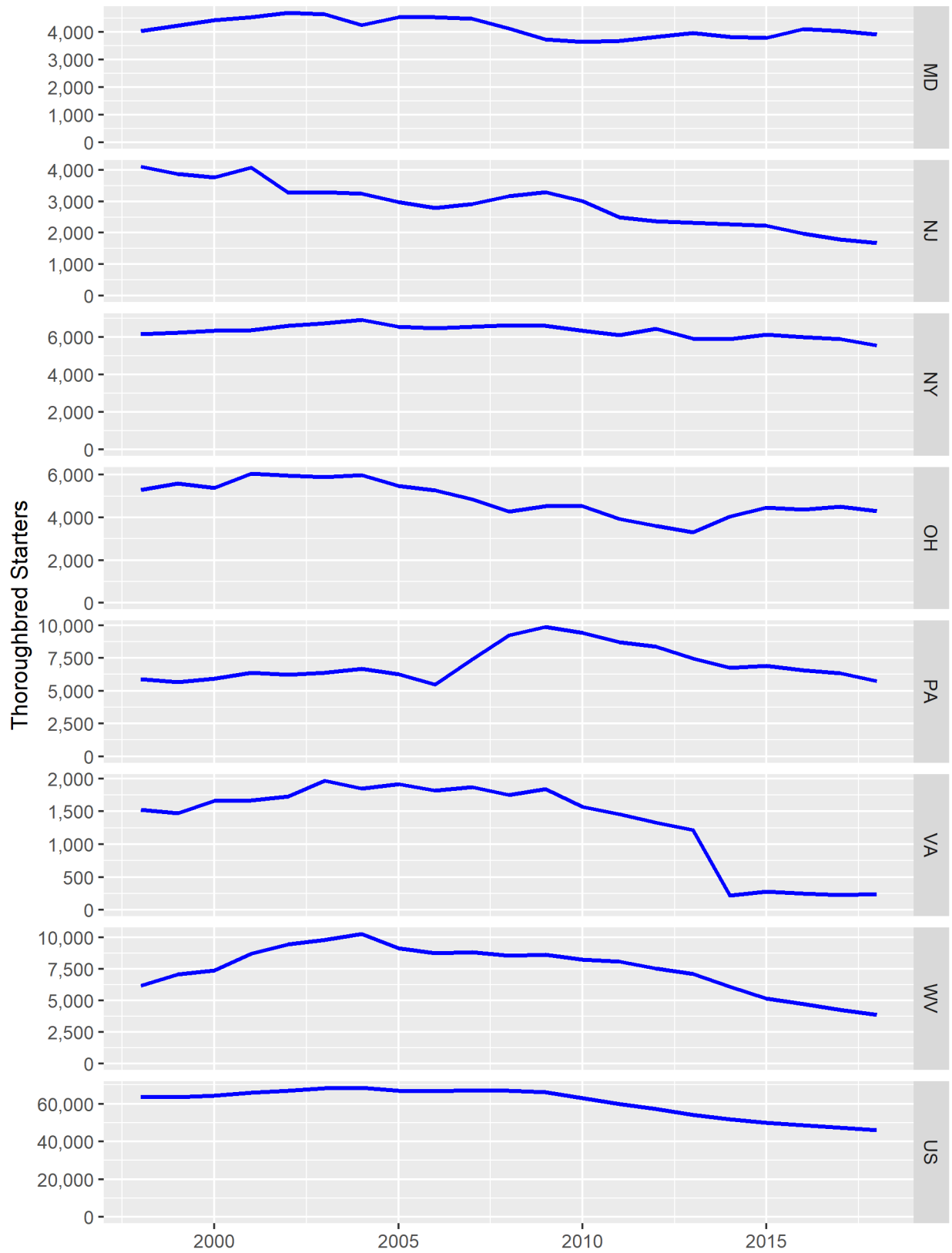
Source: The Jockey Club

Registered Thoroughbred Foals (1997-2017)

Thoroughbred Foals
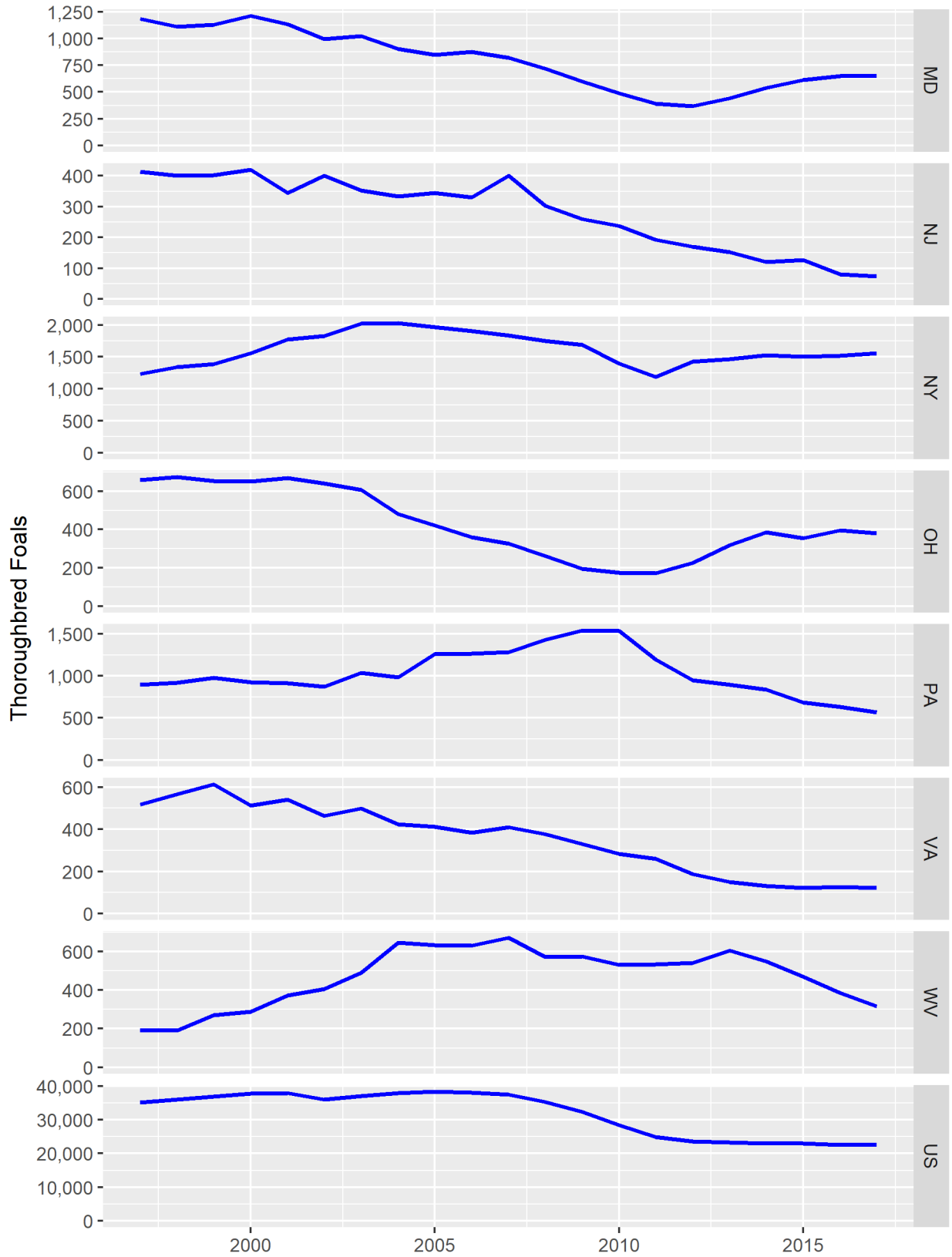
Source: The Jockey Club

HHR and Casino Impact Analysis

As discussed in the gaming market assessment section earlier and shown on Table 41, the horse industry is projected to receive more than $20 million from HHR revenue in Scenario 1. This level of funding is more than sufficient to achieve the goal of $500,000 in purses per Thoroughbred race day (30 race days) and $100,000 in purses per Harness race day (30 race days). These purse levels are estimated to allow Virginia horse racing to compete effectively in the regional market, and they are contingent upon purse enhancements from HHR revenue of $12,380,200, or approximately $200,000 per race day. Purses are also funded from pari-mutuel handle, ranging from 5% of simulcast and ADW handle to 8% of live racing handle (9% for "exotic" bets such as trifectas). Between HHR and handle contributions, a total of $18 million in purses is forecast for Virginia tracks to offer 30 race days each for Thoroughbred and Standardbred racing and successfully compete in the Mid-Atlantic region.

Historically, purses at Colonial Downs were substantially below these goals. As noted, there were no Thoroughbred races in 2014.

Table 67: Colonial Downs Historical Purses

	Total Thoroughbred Purses	Per Race Day	Per Race	Total Standardbred Purses	Per Race Day	Per Race
2011	$6,193,924	$193,560	$20,045	$1,519,463	$50,649	$4,495
2012	$6,224,644	$207,488	$20,958	$1,258,161	$52,423	$5,178
2013	$5,176,642	$215,693	$24,769	$1,286,778	$53,616	$5,046
2014	$0	$0	$0	$1,301,346	$54,223	$5,185

Source: Virginia Racing Commission; The Innovation Group

Table 68: Shenandoah Downs Historical Purses

	Total Standardbred Purses	Per Race Day	Per Race
2016	$757,475	$75,748	$6,763
2017	$825,711	$82,571	$7,243
2018	$868,240	$72,353	$7,296

Source: Virginia Racing Commission; The Innovation Group

The estimate of nearly $11 million in funding in Scenario 2 would reduce purse contributions to approximately $180,000 per race day. Casino development is not expected to have a substitution effect on traditional pari-mutuel handle. Casino gambling and horse race betting are very different types of gambling and crossover between the two has not been demonstrated to be material. Thus, the impacts to the horse racing industry from casino development are expected to be limited to the reduction in HHR revenue and horsemen payments.

With purse contributions from HHR revenue under either Scenario 1 or Scenario 2, the horse racing industry in Virginia should exceed levels of pari-mutuel handle, employment and other economic

impacts compared to when Colonial Downs and its OTB facilities were operating at full capacity before its closure in 2015.

While $20 million or $12.4 million is lower than other regional states in absolute terms, it is more than competitive on a per-race-day basis. As Table 69 shows, gaming funding in Maryland averages just under $200,000 per race day, with the larger share going to Thoroughbred racing. Maryland is a significant horse racing hub of the United States and hosts the Preakness Stakes, the second race of the Triple Crown. There are three Thoroughbred tracks: Laurel Park, Timonium, and Pimlico Race Course, home of the Preakness. Pimlico also host Arabian races. There are two harness tracks: Ocean Downs and Rosecroft Raceway. Maryland had 275 race days in 2017 among the five tracks.

Table 69: Maryland Purse Contributions from Gaming

	Gaming Funding	# of Race Days	Purse Contributions per Race Day	Thoroughbred	Standardbred
2017	$51,964,110	275	$188,960	$269,329	$107,351
2016	$51,875,840	261	$198,758	$259,821	$102,899
2015	$49,257,387	249	$197,821	$282,317	$101,717
2014	$37,672,996	251	$150,092	$264,469	$96,583
2013	$35,325,904	255	$138,533	$194,441	$75,346
2012	$23,537,784	251	$93,776	$184,711	$72,094
2011	$9,700,658	207	$46,863	$125,535	$82,589
2010	$1,719,257	151	$11,386	$52,793	$485,033

Source: Maryland Racing Commission

Pennsylvania has a similar level of purse funding enhancements from gaming. Pennsylvania has six major tracks hosting over 900 race days among them. Three are Thoroughbred tracks—Parx Casino and Racing, Hollywood Casino at Penn National Race Course, and Presque Isle Downs and Casino—and three are harness tracks—Harrah's Philadelphia Racetrack, The Downs at Mohegan Sun Pocono and The Meadows Race Track and Casino.

Table 70: Pennsylvania Purse Contributions from Gaming

	Gaming Funding	# of Race Days	Purse Contributions per Race Day
2018	$162,502,322	906	$179,362
2017	$172,736,841	926	$186,541
2016	$180,965,228	913	$198,209
2015	$190,449,263	948	$200,896
2014	$192,963,004	977	$197,506
2013	$203,262,053	992	$204,901
2012	$218,698,621	993	$220,240
2011	$216,164,317	989	$218,569
2010	$192,803,207	981	$196,537
2009	$195,606,516	999	$195,802
2008	$177,911,864	937	$189,874
2007	$117,212,127	838	$139,871

Source: Pennsylvania Gaming Commission

There are two major conclusions to be drawn from the data in this chapter:

1. Breeding and other economic activities within the horse industry can benefit from funding from gaming, although purse contributions from gaming do not necessarily translate 100% into downstream benefits, and even states with substantial levels of funding such as Pennsylvania have seen declines in breeding, albeit less steep declines than in states without gaming contributions.
2. With casino development in Virginia, purse contributions from HHR revenue would be reduced by approximately 10% or $20,000 per race day relative to proposed racing schedules in Virginia. However, contributions from gaming, at $180,000 per race day, would remain relatively competitive with funding levels in Pennsylvania and Maryland.

Thus, while it could be argued that casino development would have a minimal impact on the horse industry, for the purpose of the Economic Impact analysis we have assumed that the full $9.5 million in reduced HHR funding as shown in Table 41 would accrue negatively to the horse industry.

IGAMING

In this section, we give an overview of iGaming in the U.S. with an eye towards which states may be a good comparison of how Virginia will perform. We believe U.S. comparisons will provide the most realistic projections compared to international comparisons. While Europe has mature iGaming markets, Europe lacks large brick-and-mortar casinos. With little brick-and-mortar competition, more gaming spend is channeled into the iGaming markets leading to iGaming participation rates and per capita spend that we feel are not representative of what Virginia may expect. We look to New Jersey primarily, as its iGaming landscape is thriving, in our opinion due to its regulatory and implementation decisions, discussed below. Following our overview of iGaming in the U.S., we outline our forecast methodology and provide revenue estimates for Virginia iGaming.

Just as cities and states offer reduced tax rates in economic development zones, we believe that states should aim to incent businesses that create local economic impact. Typically, iGaming suppliers are located out of state or even abroad, so iGaming revenue provides minimal local economic impact. It is also generally higher margin, as it is not labor intensive. As such we recommend an environment where iGaming is taxed at a higher rate than brick-and-mortar gaming. A lower tax rate on iGaming than on brick-and-mortar gaming creates a situation where casinos would rather have their patrons playing online than in the casino, a scenario which produces both lower income and lower economic benefit to the state.

U.S. iGaming Landscape

Below we describe the iGaming market in the five states that have legalized a form of online gambling: Delaware, Nevada, New Jersey, Pennsylvania, and West Virginia. Delaware, Nevada, and New Jersey were early adopters of iGaming, launching their first online gambling sites in 2013. In July 2019, Pennsylvania became the next state to launch legal online gambling sites. West Virginia iGaming sites, while legal, are not expected to hit the market until 2020. Several additional states have interactive (online) lottery products, but these are not discussed here. Mobile and online sports betting are discussed in the sports betting section of this document.

States implementing iGaming are required to make many regulatory decisions, such as who is eligible for licensure, which games to allow and whether license holders may operate multiple brands, or "skins". In all states except Nevada and Pennsylvania, iGaming licensure is open only to brick-and-mortar casino operators. The chart below summarizes how U.S. states have approached which games and number of skins to allow.

Table 71: Comparison of U.S. iGaming Implementation

State	Games Allowed	Skins per License holder
Delaware	Slots, tables, and poker	1
Nevada	Poker only	1
New Jersey	Slots, tables, and poker	5
Pennsylvania	Slots, tables, and poker	Unlimited
West Virginia	Slots, tables, and poker	Undetermined

Delaware

Online gambling in Delaware was legalized in 2012, and the first online gambling sites launched in 2013. Since inception, Delaware has allowed online poker, slots, and table games through a single platform manager. Each of the state's three brick-and-mortar casinos has an online gambling license and a branded path to the online gambling system. In 2015, the state signed a liquidity agreement with Nevada, allowing poker players from both states to play against each other. In 2018, New Jersey joined this agreement; however, only a single operator is licensed in all three states, so the addition of New Jersey is not expected to materially grow the U.S. online poker market.

Table 72: Delaware Annual iGaming Revenue

Year	GGR
2013*	$251,397
2014	$2,098,532
2015	$1,798,931
2016	$2,906,886
2017	$2,391,942
2018	$2,591,130

Source: Delaware Lottery
*iGaming began November

Since its first full year of operations, gross iGaming revenue grew on average 5% annually, while brick-and-mortar casino revenue has remained flat. In 2018, iGaming revenue represented roughly half a percent of brick-and-mortar casino revenue.

The tax environment for online gaming in Delaware is as follows: the first $3.75 million generated industry-wide go to the state, and marginal revenue is taxed at 43.5% for slots and 29.4% for tables. An additional 10% of slot revenue and 4.5% of table revenue goes to the horse racing industry. Since statewide revenue totals have yet to exceed the $3.75 million threshold, online gambling GGR in Delaware is effectively taxed at 100%.

Nevada

Online poker was legalized in February 2013, and the player pool was restricted to adults located within Nevada. In 2015, the state signed a liquidity agreement with Delaware, allowing poker players from both states to play against each other. Despite many companies applying for poker licenses, only three providers have ever offered licensed real money online poker in Nevada. Due to the limited number of players, the market struggled to gain traction. Ultimate Poker, which opened to players in early 2013, shut down in November 2014. The other two – WSOP.com and Real Gaming Online Poker – opened in late 2013 and early 2014 respectively, and while both still exist, the Nevada Gambling Control Board stopped publishing revenue reports due to low revenues from online gambling. Online poker revenue is subject to the same 6.75% state tax imposed on land-based gaming revenue.

New Jersey

Online gambling in New Jersey was legalized in February 2013 with passage of Bill A2578, and the first online gambling sites began operating in November of that same year. Each license holder is allowed five skins, or sites. Currently, there are 7 land-based casinos offer an online gaming option and 28 total authorized sites.

Table 73: New Jersey Annual iGaming Revenue

Year	GGR
2013*	$8,371,486
2014	$123,096,896
2015	$149,029,795
2016	$196,858,746
2017	$246,018,441
2018	$299,076,588

Source: New Jersey Division of Gaming Enforcement
*iGaming began November

New Jersey offers a full online casino experience, allowing operators to offer slots, poker, and table games, such as blackjack or craps. Players may create and fund an account from anywhere in the world; however, they must physically be inside New Jersey in order to play. Since its first full year of operations, gross iGaming revenue grew on average 25% annually, while brick-and-mortar casino revenue declined on average -1%. In 2018, iGaming revenue represented 10.6% of the state's gaming revenue (brick-and-mortar casinos plus iGaming).

Online gambling GGR is subject to a 15% state tax and an additional 2.5% of GGR goes to the Casino Reinvestment Development Authority (CRDA). By comparison, brick-and-mortar gaming revenue is subject to an 8% state tax and an additional 1.25% community investment alternative tax. The iGaming tax rate being higher than the brick-and-mortar tax rate reflects both the higher margins present in online gaming and the fact that the economic impact from online gaming – with suppliers abroad and across the US – is primarily out of state, as we discussed above.

Pennsylvania

In October 2017, Pennsylvania legalized online versions of poker, casino games, daily fantasy sports, and sports betting. The state's first two online casinos launched on July 15th 2019, and six additional online casinos are expected to launch this year. While the sites are/will be accessible to those outside of the state, players must be within Pennsylvania state lines in order to make deposit and real money wagers.

Online gaming tax rates vary based on the revenue source: online table games and poker will be taxed at 16% while online slot revenue will be taxed at 54%. These are the same rates that apply to brick-and-mortar slot and table revenue.

West Virginia

West Virginia legalized online casinos in March 2019 with passage of the West Virginia Lottery

Interactive Wagering Act. The law allows each of the state's five land-based casinos to apply for a permit to offer online poker and casino games. Certain details, such as expected launch date, skins allowed, and tax rate still need to be hashed out by the legislature. Online casinos not expected to launch in the state until 2020 at the earliest. Mobile sports betting license holders are allowed three skins, and it is likely online casino license holders may see a similar skin limit. The expected tax rate for online gambling revenue is 15%. By comparison, revenue from video lottery terminals in the state are taxed at 49% and table revenue is taxed at 35%.

Methodology

The Innovation Group used a multi-step process to estimate Virginia iGaming revenues. The process is highlighted in the section that follows. As the above competitive landscape section illustrated, there is only one mature online gambling market in the United States: New Jersey. Other markets are either too new (Pennsylvania, West Virginia) or have restricted product offering that has hindered market growth (Nevada, Delaware). In the absence of additional comparison states, we developed three different forecast methodologies using data from New Jersey.

Assumptions

In developing our forecast for Virginia iGaming revenues, we assumed Virginia fully implements New Jersey's model of iGaming. This includes:

- Multiple licensed iGaming operators offering slot, table, and poker games;
- Shared poker liquidity;
- Licensed operators allowed multiple "skins", or brands, so sites can be customized to appeal to different demographics;
- iGaming revenues are taxed at 15%.

Calibrating a Model to Actual New Jersey Revenues

The first step in the process was to develop a model that accurately recreates the revenue generated in New Jersey. Based on survey work performed by The Innovation Group and on the actual performance of New Jersey we developed a model to recreate the 2018 revenues, which generated an approximate penetration rate of 6.8%, and this is shown below:

Table 74: 2018 NJ Calibrated Penetration Model

Total 2018 NJ Adult Population	6,684,805
Market Penetration	6.8%
Gamers	454,567
Spend per Gamer	$650
2018 Market Size	$295,468,399

Virginia iGaming GGR Projections

We feel the time required to reach market maturity will be significantly shorter in Virginia than it was in New Jersey. New Jersey was one of the earliest U.S. iGaming adopters, and the iGaming providers were not prepared to operate in a regulated U.S. environment. A letter released by the

New Jersey Division of Gaming Enforcement discussing the one-year anniversary of iGaming operations stated, "[The iGaming providers] thought they would be able to flip a switch and start up their current system here. They quickly found out that was not going to happen."[6]. Issues such as geolocation and payment processing hindered early market growth. With these issues resolved and providers now experienced operating in a regulated U.S. environment, we expect operators will be able to flip a switch and start operations, allowing the Virginia iGaming market to reach full market maturity faster than New Jersey.

As a result, we believe that in its fifth year of operation the Virginia industry will operate under the same conditions as currently experienced in New Jersey. By applying similar factors to those currently applicable to New Jersey, we forecast a steady-state Virginia iGaming market size of $301 million. The chart below illustrates how we arrived at this forecast.

Table 75: 2028 VA Penetration Model Mature Market

Total 2028 VA Adult Population	6,809,447
Initial Market Penetration	6.8%
Gamers	463,044
Spend per Gamer	$650
2028 Market Size	$300,978,879

Not wishing to rely on one method we then employed two other approaches to estimating iGaming GGR in Virginia. The first relies on a calculation of the percent of GDP spent on online gaming. In New Jersey, online gaming accounted for 0.05% of the state's GDP in 2018. This is then applied to Virginia's projected 2028 GDP. The third method employed was applying a spend per adult estimated at $44.61. Our estimate is based on New Jersey's 2018 iGaming revenue and adult population. In the table below the results of all three methods are presented along with an average of the three. While all three methods yield a steady-state market size of $300-$330 million, we stress these numbers represent estimates and could vary based on market conditions and Virginia's iGaming regulatory model, including tax rate and number of providers allowed. We expect this revenue will be additive to the total Virginia gaming market and not cannibalized from brick-and-mortar casinos. This is based on the experience of New Jersey's brick-and-mortar casinos, which failed to register declines in visitation or customer spending post-iGaming implementation. In fact, some casinos noted a boost in brick-and-mortar performance as iGaming exposed their brand to new players.

Table 76: Average Projection for Mature VA Online Gaming Market

Method	Penetration Method	Spend per Adult Method	% of GDP Method	Average
2028 VA Online GGR	$300,978,879	$304,654,360	$331,798,226	$312,477,155

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[6] https://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf

Assuming iGaming operations begin in 2024, the table below illustrates how we expect iGaming revenues to ramp up to our steady-state projection.

Table 77: Virginia iGaming Revenue ($ millions)

2024	2025	2026	2027	2028
$195.6	$219.9	$247.2	$277.9	$312.5

It's important to note that while our forecasts are based on a mature New Jersey iGaming market, iGaming, exclusive of online poker, is in its infancy in the United States and only makes up a small fraction of the total gaming landscape. In New Jersey, revenue from iGaming, while growing on average 25% annually since 2014, only contributes approximately 11% of the state's overall gaming revenue. In Delaware, iGaming revenue contributes less than 1% of the state's overall gaming revenue. We believe Delaware's iGaming implementation through the lottery and a single iGaming supplier has hindered market growth, whereas the New Jersey market, with 28 authorized sites fostering a strong and competitive marketplace, has thrived. With more states coming online soon, the U.S. iGaming market is destined to mature, and the strengths of various implementation models will become apparent. However, more time is needed. One common thread across all states is the limited local economic impact from iGaming. Typically, iGaming suppliers are located out of state, if not abroad, and therefore do not directly affect the local economy. Therefore, we exclude iGaming from our economic impact study.

Local benefits from iGaming come in the form of tax revenue, since the suppliers are largely out of state or abroad. We believe that with the higher margins associated with iGaming, driven by substantially lower labor costs, iGaming revenues will be less sensitive to tax rates than brick-and-mortar revenues. Nonetheless, the iGaming business model requires that the operators invest in product (e.g., game content), platform (i.e., the user experience and optionality in the app or website), and marketing through direct patron reinvestment and patron acquisition. That is to say that there is a tax rate threshold, after which an operator's ability to reinvest in product, platform, and marketing is hindered. Because iGaming in the US is still in its infancy, we cannot compare across several jurisdictions to arrive at this threshold. However, through conversations with operators and through our own experience, we believe that there will be little difference to iGaming operations between a 12% and 27% tax rate. At 40%, we believe that operators will make small adjustments, and we reflect this with a 5% decline in overall iGaming revenues in our forecast. We still believe that operators can operate profitably in a 40% iGaming tax environment, and we believe that a 5-10 percentage point rate increase from brick-and-mortar to online provides a reasonable incentive for casinos to keep patrons based in their brick-and-mortar facilities, rather than preferring that they play online.

SPORTS BETTING

In this section, we discuss the current sports betting landscape in the United States and present a forecast of sports wagering revenue in various legislative and distribution scenarios in Virginia.

In May 2018, the Supreme Court of the United States ruled in favor of New Jersey in *Murphy v. NCAA*, overturning PASPA, the Professional and Amateur Sports Protection Act. PASPA was the legislation that effectively rendered sports betting illegal in most of the United States. This SCOTUS ruling puts the legislation and regulation of sports wagering in the hands of the states. In addition to Nevada, many states, such as New Jersey, Delaware, Pennsylvania, Mississippi, New York, and West Virginia, have already passed legislation legalizing sports wagering, and several other states have bills being considered in their legislatures.

The Innovation Group built its revenue projections by combining primary research, secondary research, and its internal models. In January 2018, The Innovation Group administered a survey to a random sample of more than 7,500 adults from across the United States to ask them about their would-be sports betting habits, in an effort to understand the impact of drivetime on market participation. These results form the basis for the drivetime-based adjustments to our comparables-based revenue forecast. Additionally, TIG studied legislative environments from across the globe where sports betting is already legal This data was synthesized into The Innovation Group's internal gravity model to develop a forecast for revenue and property share.

Assumptions

In evaluating prospective gaming revenues, the following assumptions were made in addition to those presented earlier in the document:

- Neighboring states, including Pennsylvania, Delaware, Maryland, Tennessee, and West Virginia offer convenient sports wagering.
- Sportsbook offerings are consistent with those offered in the Las Vegas market and yield a blended hold of approximately 5.5%.

Additional specific modeling assumptions, including available sports betting channels in Virginia, can be found throughout this section. We note that the assumption about neighboring states will not impact revenues dramatically, as sports betting revenue is highly local, with most sports betting revenue at brick-and-mortar casinos (not mobile/online) coming from within a 30-minute drivetime.

Operating Paradigms

Before discussing the state of the states, we describe the various functions and range of operating agreements between operators (casinos) and suppliers in the sports betting market.

From a **patron-facing** perspective, there are three main interfaces:

- Betting window / counter: Here, a patron purchases a betting ticket (the wager) from a member of the staff, called a ticketwriter. This is a traditional sportsbook setup, and the window/counter is typically staffed by a member of the casino staff. There are typically one or more supervisors, also casino employees, behind the counter. These staffers are only there to execute transactions and provide a good customer experience.
- Kiosk: These are terminals into which cash or TITO (Ticket IN – Ticket Out, these are barcoded slips of paper reflecting a monetary balance, for example from cashing out from a slot machine) are inserted, after which sports wagers can be placed. The kiosk will print a scannable (barcoded, QR-coded, or similar) reflecting the patron's wager, similar to the ticket printed at a betting window. Such kiosks are produced by a number of sports betting, slot machine, and other casino kiosk suppliers. Often a casino employee will staff the kiosks for customer support reasons, just as airlines have support staff near kiosks in the airport.
- Mobile/Online: A mobile app or online portal on which a player can place wagers. Similar to horse racing, these environments typically support *advance-deposit wagering*, where the player funds the account with cash (e.g., at the betting window) or via electronic deposit, and then the player can wager remotely with those funds. Third-party suppliers are licensed to create and supply this software to casinos.

Next, there is the **brand** of the sportsbook. Here, casinos can brand their own sportsbook, or they can use a partner brand. The William Hill sportsbook inside the SLS Casino in Las Vegas is an example of a casino operating a sportsbook under the sportsbook partner's brand. Some casinos operate their own sportsbooks under their own brands. Other times, a supplier will manage all or part of the sportsbook under a *white label*, where the casino can brand its own sportsbook, even though most elements are being provided by a licensed third-party supplier.

Then there are the various operating elements of the sportsbook. Most of these can be run in-house, or outsourced to a partner. In many cases, all of these elements are outsourced.
- Data: Sportsbooks need data feeds from games in order to move lines, grade wagers, and report to the public. There are data providers that provide this information, including video feeds and tickers, directly to sportsbooks. Another option is to get this data packaged with other services from a supplier that has a deal with a data provider.
- Trading and Risk Management: The team that sets and moves lines on games is the trading and risk management team. These can be casino employees, or this function can be outsourced. For in-game wagering – that is, wagers that reflect the current state of the game and can be made at any time during the course of the game – this function is typically outsourced, since lines and risk decisions are constantly moving and need to be managed algorithmically.
- Sports betting software: This is the software managing the sportsbook. This tells the ticketwriters what the current lines are and allows the ticketwriter to enter a wager into the system. If accepted, the software will send a message to the printer to print the ticket. The traders will update lines in this system as they move. Third parties provide this software to casinos.

- Casino Management System: Nearly all casinos have a platform that stores information about players and machines on the casino floor. Some sportsbooks do not integrate sportsbook data into the casino management system, but many do, in order to track players and effectively market. This is provided by a third party.
- Geolocation: Companies offer geolocation services in order to ensure that someone attempting to make a mobile or online wager is physically located within an allowable jurisdiction, for example within state lines, or within a casino. This can be provided separately to a casino, but typically this is packaged with the app or online site by the app/site supplier.
- Payment processing: Again, normally packaged with the site/app, there needs to be a mechanism to support the deposits and withdrawls in an advance-deposit wagering environment.
- ID/Verification: Ensuring that patrons are of legal wagering age and are not disassociated (e.g., for problem gaming reasons) is paramount, so there is an ID verification process for in-person and mobile signups.
- Patron account management: Referred to as "PAM," player account management is important for marketing and reinvestment reasons, as well as for assigning skill levels to customers, a crucial part of the trading/risk management process.

The main operating paradigms for casinos offering sports betting are:

- DIY: The casino takes on its own risk management and trading for its pre-game wagering. It takes on all of the risk, and it pays a negotiated flat fee or revenue share to the suppliers providing sports betting software, kiosks, app/website, data, and PAM. Even in a DIY scenario, the casino typically partners with a supplier for in-game lines/trading. Geolocation, payments, and ID verification are typically bundled with the app/website, since the casino does its own ID verification manually onsite.
- Fully outsourced: In the example of SLS installing a William Hill sportsbook, William Hill manages all of the operations, except for the window, which is (almost certainly) staffed by a casino employee. Revenue share agreements vary, but they typically involve the casino receiving a profit share with an annual guaranteed minimum. Suppliers may provide their brand, while some suppliers allow a white label.
- Partially outsourced: The casino may do a portion of its own trading, say on NFL, NCAAFB, NBA, NCAABB, and MLB, and outsource the rest, including in-game wagering on the sports the casino is trading. Again, a profit share with a guarantee is the most common revenue share agreement, but here it is typically restricted to the sports that the supplier is trading.
- Lottery: The state lottery controls sports betting and offers it either at the state's casinos or via mobile/online. The lottery partners with a supplier in a version of the "fully outsourced" model above.

Even when risk management and trading are outsourced, the casino partner is typically involved in high-level risk management discussions, such as an overall approach to setting lines on the local team. For example, a Philadelphia area casino may take the approach to set Eagles lines in near lockstep with Las Vegas lines, offering a superior product to the customer but taking on the risk

that a large portion of the market may bet on the Eagles. That sportsbook's weekend financial results may be highly dependent on the Eagles outcome. Alternatively, the casino may decide to move the line slightly, in an effort to deter bettors from wagering on the Eagles, or indeed to incent bettors to bet against the Eagles. This approach would yield a wagering book that is more balanced with lower risk based on the outcome of the Eagles game. The downside here is that Eagles bettors may bet elsewhere, where they can find a better price, limiting the sportsbook's expected win for the weekend. Less risk, less reward. This kind of high-level decision is usually a joint effort between the supplier and the casino.

In the cases of Rhode Island and Delaware, the "Lottery" model is employed, and the lottery contracts with a supplier in a monopolistic version of the "fully outsourced" model. In Nevada, New Jersey, Mississippi, West Virginia, Pennsylvania, New Mexico, and New York, the casino has control over its choice of operating paradigm. Lottery-controlled markets with a single supplier have had challenges. An environment with multiple suppliers fosters competition; market participants must offer a competitive product in terms of user experience, technology, game selection, customer service and support, marketing, and price in order to thrive in the market. In a single-operator environment, no such incentive exists. From a market size perspective, total topline revenue will be much higher in a competitive marketplace than in a monopolistic one.

Besides being monopolistic, the effective tax rates in Delaware (47.5%) and Rhode Island (51%) are very high. Anecdotally, operators in Nevada (6.75% tax) operate their sportsbooks at around a 25% margin. In the monopolistic setting, we've argued that the supplier/operator have limited *incentive* to improve their offering. In a high tax rate environment, the supplier/operator have limited *profits* to reinvest in these items crucial to the customer experience. In our view, the ideal marketplace is a competitive one with tax rates that allow the operators and suppliers to deliver innovative products and an excellent customer experience, delivering solid tax revenues to enhancing casino revenues

U.S. Sports Betting Landscape

As of July 2019, legal sports wagers may be placed in nine states. Below we summarize the landscape in each of these states.

In addition to the state tax rates described below, there is a 0.25% federal excise tax on sports betting *handle* (wagers placed). This amounts to around 5% of *revenue*, since sportsbooks on average win around 5% of handle. To make this clear: a sportsbook tends to realize around $5 in revenue for each $100 wagered. In various parts of the world the $100 is called *handle* or *turnover*, which is distinguished from the *revenue* or *win*, defined as the handle less the amount paid back to bettors as the result of winning (or pushing) wagers. Though the federal excise tax is applied to handle, state tax rates – for example 10% in West Virginia – are typically applied to revenue. For this reason, it helps to think of the 0.25% federal tax translated into a tax on the revenue, and with books winning (or *holding*) around 5% of handle, the 0.25% federal tax on handle translates to approximately 5% of win. So in West Virginia, operators pay approximately 15% (10% state tax + 5% federal) of revenue in taxes.

Nevada

Sports betting has been legal in Nevada since 1951. Currently sports betting is taxed at the Nevada gaming tax rate of 6.75%, same as slots and tables. Wagers may be placed in brick-and-mortar casinos or via mobile apps, tied to individual casino sportsbooks. In the latter case, the wagering is advance deposit wagering – i.e., the bettor deposits cash with a sportsbook and can wager that balance on the smartphone application. Even in Nevada, the sports betting industry is growing. In 2018, Nevada sportsbooks won $301 million, the first time the industry had eclipsed the $300 million mark. Around 50% of Nevada's sports betting revenue is mobile.

Delaware

Delaware in 2018 legalized sports betting at its three commercial casinos. In DE, sports betting is run by one supplier, through the DE lottery. This is an example of the fully outsourced model described above. The casino's involvement is generally only to staff the betting windows, though they may participate in risk management discussions as well. Revenue is shared as follows: 40% to the operator (casino), 12.5% to the supplier, and 47.5% to the state. This is an effective 47.5% state tax environment. Delaware's results have been underwhelming to date, with only ~$15 million in win through its first year of operations. We attribute this to both the high tax rate and the lack of competition in the market, factors we discussed earlier. Mobile sports wagering is legal but not yet regulated in Delaware, so has not yet been implemented.

New Jersey

New Jersey had been planning for sports betting for several years prior to implementation, with supplier William Hill having inked a partnership deal with Monmouth Park racetrack years earlier. New Jersey's environment allows for racetracks and casinos to offer land-based sports betting and provides licenseholders with mobile "skins" – online betting licenses that they can utilize under different branding. For example, with three skins per casino in NJ, a casino could operate three different branded sports betting websites, as well as a mobile app associated to each of those sites, all under its license. Around 80% of sports betting handle in NJ is mobile, which we attribute to the considerable drivetime to a casino or racetrack for much of the population.

Mississippi

Sports betting launched in Mississippi in August 2018, in time for the lucrative college and NFL football seasons. In Mississippi, online sports betting is prohibited. Taxes on sports betting revenue are approximately 12%, with 8% going to the state and up to 4% to local governments.

West Virginia

West Virginia legalized sports betting fifth, beginning with its casinos in August 2018. In December 2018, it became the third state (behind NV and NJ) to legalize online sports betting. The tax rate on sports betting in the state is 10%. The industry is still developing in the state, as a technology issue (on the supplier side) with the mobile sports betting rollout impacted sports betting operations at 2 of the state's 5 casinos, where operations continue to be suspended.

Pennsylvania

Pennsylvania passed an omnibus gaming expansion bill in October 2017. One part of this bill was the legalization of sports betting – including online sports betting – subject to the repeal of PASPA.

It included a tax rate of 36% (34% to the state and 1% each to the municipal and county governments) and upfront licensure fees as high as $10 million. The first bets in PA were placed in November 2018, and mobile betting launched in May 2019.

Rhode Island

Rhode Island implemented sports betting at its two casinos in November 2018, through the state lottery. The state takes 51% of win, with the remaining 49% divided between the casino operator and the supplier. Rhode Island only takes land-based wagers today, but mobile wagering is expected to be live for the 2019-2020 football season. Like Delaware, Rhode Island has underperformed expectations and operates in a single-supplier, high tax environment. They had the additional misfortune of having the local NFL team – the New England Patriots – win the Super Bowl in 2019, causing losses at the state's sportsbooks. RI casinos have won approximately $5 million in sports betting since inception. Rhode Island's lottery issued an RFP to source a service provider. The RFP received only one proposal, with IGT winning the bid and later partnering with William Hill. The duo plans to offer mobile betting later this year.

New Mexico

In New Mexico, only one tribal property offers sports betting since it is not expressly forbidden at the state level, i.e., the state never authorized sports betting. Revenue numbers are not public, and tribal entities do not pay state taxes.

New York

Sports betting began in New York in July 2019. The state legislature is working to pass legislation for sports betting across the state, but today sports betting is only legal at the commercial casinos. Online and mobile betting are not allowed.

States Close to Legal Sports Betting

Several states have passed sports betting legislation or are close to doing so. Tennessee has authorized sports betting through the lottery, online only. Illinois recently passed sports betting legislation as part of a gaming expansion bill. Arkansas passed a gaming expansion that included sports betting on the 2018 ballot. Maryland will likely have a ballot initiative in either 2020 or 2022. We expect to see sports betting in Indiana, Iowa, Maine, Montana, New Hampshire, and elsewhere in the coming years.

Research and Modeling

In this section, we describe research that guided the modeling process. This research has two parts.

First, we looked at US and worldwide market comparisons to gauge performance across the world and to understand the likely legislative outcomes in neighboring states. Second, we conducted primary research regarding prospective sports bettors via a survey instrument. The information gathered in this research forms the basis of the revenue model discussed later in this document.

Worldwide Markets and Comparative Performance

Sports wagering is legal and regulated in many jurisdictions across the globe. Below we include information about these jurisdictions, noting where we feel that jurisdictions are good or bad comparables for US markets.

Europe has some of the world's most mature sports betting markets, and we look to them as comparables to evaluate the potential in the US market. Several of the markets, however, have some glaring differences to what we're expecting in the United States. In particular, a study by Copenhagen Economics shows channeling rates – the portion of play channeled into legal and regulated channels as opposed to playing on black market or grey market sites – versus effective tax rates. What we see immediately removes several countries as comparable.
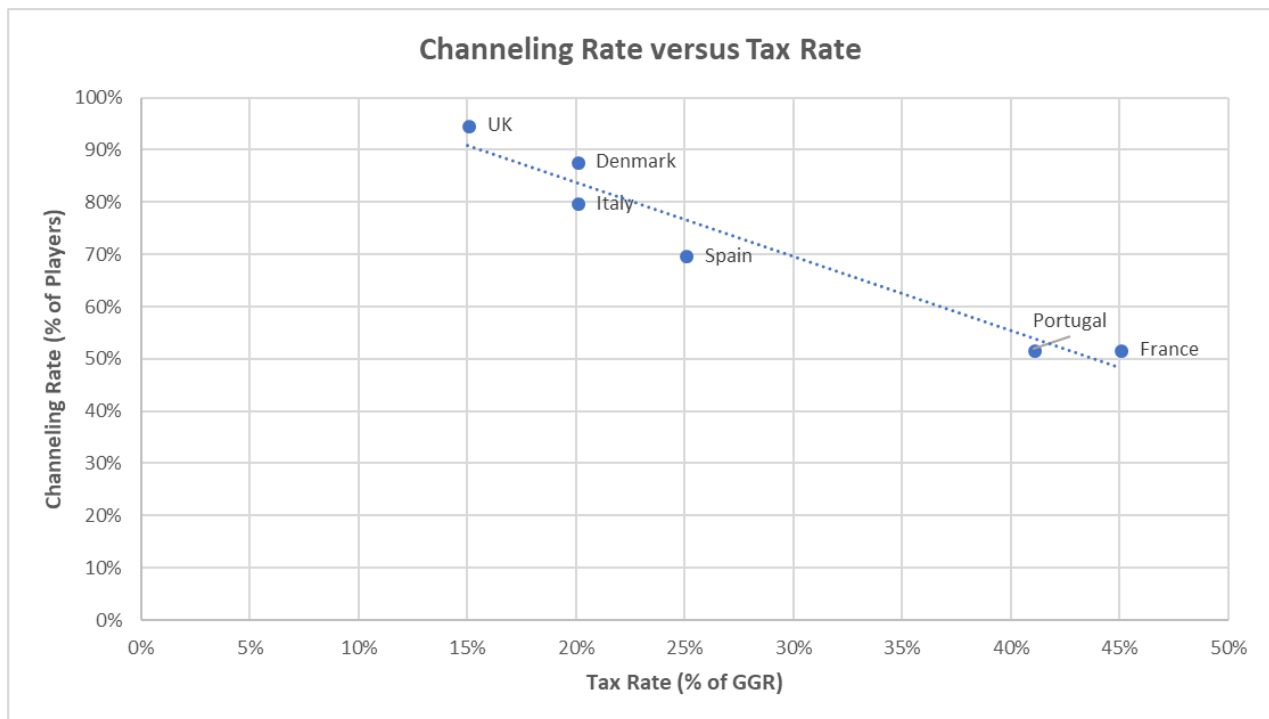
Source: Copenhagen Economics, Table A.1
(https://www.copenhageneconomics.com/dyn/resources/Publication/publicationPDF/8/368/1478078895/copenhagen-economics-2016-licensing-system-for-online-gambling.pdf)

This data shows that high tax rates correlate with players remaining with black market or grey market sports betting shops. This warrants a few remarks. First, black market shops are not (necessarily) the seedy underbelly of the sports betting world that some may imagine from years past. These are generally sophisticated operations where players can place wagers by telephone, online, or on their mobile devices. They are doubly convenient since players play on credit; they need not front the wager as they must do at a casino sportsbook. Second, we comment on the relationship between tax rates and black-market play. Casino operators will change their operating models to accommodate higher tax rates. Player marketing suffers, and worse, lines become less favorable to players (akin to 'tightening' slot machines), causing players to lose at a higher rate (risking, for example, $120 to win $100 instead of a more typical risking $110 to win $100 on an

approximately 50-50 wager). In Poland, for example, operators have closed down rather than operate in an environment that doesn't provide a good player experience and an acceptable margin for the operators[7].

As such, we anticipate most states producing tax rates that operators deem workable. We therefore look primarily at the UK (15% tax) and Denmark (20% tax) as European comps, rather than jurisdictions with higher tax rates, such as Spain, Portugal, and France. We also remark that in conversations with European operators, we have found a general consensus that 10%-20% is a reasonable tax environment, though we are cognizant of the fact that they have financial incentive for lower tax rates.

In Pennsylvania, however, the 36% tax rate is likely to impact operators' ability to reinvest directly in customers and to reinvest in their product features. On top of this, the United States has a 0.25% federal tax on sports betting handle. Since hold at sportsbooks – revenue as a percentage of handle (total wagers) – is around 5.5%, this tax amounts to around 4.5% of casino win, bringing Pennsylvania's total effective tax to around 40.5%. Following the trendline in the chart above, we estimate channelization at approximately 55%, instead of near 85% if the combined tax rate were 20%. We reduce our forecasted market size accordingly.

It is worth noting that the European markets have a maturing online market for both casino gaming and sports wagering. In Denmark, for example, 51% of sports wagers are mobile (i.e., via an app on a smartphone/tablet), and 16% are online (i.e., through a web browser), while only 33% are in person. So, when evaluating them as comparables, we must take these differences into account.

Revenue Comparables

Based on the discussion of European and US (Nevada) comps above, we produce the following table of revenue per adult (of legal gaming age).

Table 78: Sports Betting Market Comparables

	Sports GGR	Gamer Pop	Win Per Adult (21+)
Denmark [1,2,3]	$368,394,461	4,612,795	$80
United Kingdom [4,5,6]	$6,668,934,365	51,879,246	$129
Nevada (Locals) [7]	$65,933,000	1,461,394	$45
Nevada (Locals) [8]	$108,084,000	1,461,394	$74
Nevada (Locals) [9]	$134,502,000	2,193,225	$61

[1] Revenue: https://spillemyndigheden.dk/sites/default/files/filer-til-download/the_danish_gambling_authority_the_year_in_numbers_2017_0.pdf
[2] Used conversion rate of .1582USD=1DKK, 17Q4 weighted avg (https://www.x-rates.com)
[3] Adult population per http://www.statbank.dk/FOLK1A, used 17Q4 data

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[7] See, for example, https://www.casino.org/news/polands-brutal-new-online-gambling-tax-regime-sparks-mass-operator-exodus

[4] Revenue GBP2.0B online + GBP3.3B live (http://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-industry-statistics.pdf)

[5] Conversion rate of 1.26USD=1GBP, 17H1 weighted avg (https://www.x-rates.com)

[6] Linearly interpolated population from 2016-2026 to get 2017 population, used 2016 populations by age (https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/july2017)

[7] North Las Vegas, Boulder, and "Other" Clark County casino sports revs (ex-Strip, Downtown, Mesquite, Laughlin), vs Clark County pop

[8] Clark County ex-Strip vs Clark County Pop

[9] State ex-Strip vs State pop

[7,8,9] NV populations based on July 2017 census estimates, pro-rating the 18-64 population linearly to 21-64 (https://www.census.gov/quickfacts/fact/table/nv/PST045217)

[7,8,9] NV gaming data by region from NV GCB Gaming Revenue Report 2017 (http://gaming.nv.gov/modules/showdocument.aspx?documentid=12725)

We make several notes from this data. First, Great Britain is an incredibly mature market with a wide array of online options. Sports betting shops abound – there are approximately 9,000 retail sports betting shops in the UK. Additionally, nine of the 20 teams (45%) in England's Premiership are kit-sponsored (i.e., name on their jersey) by betting companies, down from 10 (50%) last year, pointing to a marketing and advertising environment that is mature and friendly to betting companies. These differences make us believe that the UK estimate is higher than what we'd experience in a US jurisdiction with online betting, despite the breadth of sports leagues (both college and professional) available to bet in the US.

By contrast, we believe Denmark to be a reasonable comp for a US online sports betting environment with open licensure. Onshore betting in Denmark was a state-run monopoly until 2012, when licenses were issued and many of the offshore operators became licensed. While betting shops in Denmark provide a distribution advantage over casino only, we note that (1) the betting shop market is still maturing and being introduced to new competition there, (2) the US arguably has a stronger sports culture with several professional and collegiate sports leagues, and (3) mobile and online betting should absorb much of the impact of not having a convenience store-type distribution. Regarding (2), we remark that Virginia has no professional sports teams. Even in a thriving sports betting jurisdiction like Nevada, we saw hockey betting volumes increase when the Golden Knights franchise began in Las Vegas. Since we use Nevada pre-Golden Knights as a comparable, we do not discount Virginia estimates based on it not having a professional sports team.

Lastly, we consider Nevada. We note that Nevada does not have full online sports betting. Bettors may bet using mobile devices with accounts that they establish at a brick-and-mortar casino and fund either in cash in person, or via deposits to a prepaid card linked to a sports account. In Nevada, it is challenging to provide an accurate figure of win per adult. The gambling-based tourism to the state produces an inflated estimate of what locals spend if we simply look at sports GGR versus population. To address this, we provide three estimates and a discussion of their merits. First, we look at sports betting revenue in North Las Vegas + Boulder + "Other" Clark County betting facilities (exclusive of LV Strip, Downtown, Laughlin, and Mesquite) versus total Clark County population. This should be an underestimate of actual spend, since some Clark County locals will bet in the tourist-heavy resort areas, such as the Strip. This estimate is $45 per adult. Alternate estimates that only exclude the Las Vegas Strip are $61 per adult (21+) when

looking statewide and $74 per adult when looking at Clark County. We use these estimates as a reasonableness test for future models.

Combining all of this, we estimate a baseline sports revenue of $80 per in-state adult (21+) in an online environment and $45-$74 per adult in a "hybrid" environment, with mobile linked to a brick-and-mortar account, similar to the Nevada model. Above, we noted that Nevada's sports betting revenue grew 61% in excess of market when mobile betting was introduced. Backing this 61% growth out from the $45-$74 estimate provides a Nevada locals brick-and-mortar only comparable of around $28-$46 per adult, or an average of around $37 per adult. We use these as a starting point to estimate the Virginia sports betting market, which is expected to launch in 2024.

Table 79: Estimated Baseline Sports Betting Revenue Per Local Adult (21+)

	Range	Estimate
Denmark [1,2,3]	--	$80
Nevada with Mobile	$45 - $75	$60
Nevada without Mobile	$28 - $46	$37

The Innovation Group's Sports Wagering Survey

In January 2018, The Innovation Group developed and administered a survey to understand likely behaviors of prospective sports bettors. The survey was not developed for JLARC; rather it was developed to help understand the impact of drivetime on sports betting behavior, so that The Innovation Group could adapt its geospatial (gravity) model that is highly accurate for casinos to the new sports betting landscape. The survey had 7,500 respondents nationwide. Responses across the states were relatively consistent when adjusted for demographics and drivetime.

Methodology / Setup

We built and administered a nationwide survey using Survey Monkey. We purchased responses from CINT, an industry-standard provider of panel data for survey research, through the Survey Monkey platform. For diversification and to measure bias in the CINT panel versus other data sources, we supplemented these results with additional responses purchased through MTurk, an Amazon platform. In all, we collected approximately 7,500 responses, of which around 3,000 said that they would be likely to place sports wagers in the next twelve months if it were legal and regulated.

Demographics

We asked the survey-takers about their age, gender, ZIP code, education-level, household income, and race/ethnicity. We built a regression model to adjust likelihood to wager based on these demographic variables. From the regression results, we adjust zip code level forecasts based on demographic information obtained from the census.

Wager Propensity and Frequency

We wanted to determine what portion of people would place sports bets and how many sports bets they'd place in a year under the various legislative scenarios.

To estimate propensity, we asked the survey-takers to identify with one of the following statements (presented in this order):
- If sports betting were legal in CASINOS ONLY, I would be likely to place a sports bet in the next 12 months
- I would not be likely to place a sports bet in a CASINO, but I would be likely to place a sports bet on a MOBILE DEVICE in the next 12 months
- I would not be likely to place a sports bet in the next 12 months.

To estimate frequency, we asked survey-takers about specific sports, identifying Baseball (Major League), Basketball (NBA), Basketball (NCAA Men's), Football (NFL), Football (NCAA), and Hockey (NHL) as the major sports people bet on. We asked survey-takers how often they bet on each of these, and gave them the options of:
- More than 5 times per week, during the season
- 2-5 times per week, during the season
- Every two weeks, during the season
- Once a week, during the season
- A few times per year, but less frequent than every two weeks

- Once per year
- Unlikely to bet on this sport

Additionally, we asked them if they would have any interest in betting on the following sports (which they may not have known that they could bet on): MMA/Boxing, Soccer, Tennis, Golf, Auto Racing, and Olympics.

Average Bet Size

To estimate average bet size, we asked guests how much they'd bet when placing a sports bet. "If sports wagering were legal and regulated in your state, how much do you think you would wager on each individual game/event that you bet, on average?"

Survey Analysis and Key Drivers of Behavior

Based on the results of the survey and based on the comparable data compiled through market research, The Innovation Group built a predictive model to forecast revenue. The model relies on a baseline provided by the comparables, and several adjustments are made to consider the effects of the local markets we are analyzing.

First, we adjust estimated spend based on demographics of the region. Then we look at drivetime. We acquired several pieces of demographic information for each of our respondents and tested each demographic variable for importance and significance in our predictive model. We looked at age, gender, education-level, household income, and race/ethnicity. After consideration, our model adjusts at a zip code level based on gender, age, HHI, and race/ethnicity.

Drivetimes

While demographics certainly vary from zip code to zip code, across entire states and regions, these effects tend to flatten out to near national averages. The most prominent driver that we find, then, is drivetime to the nearest casino, which as we've discussed has a considerable influence on whether prospective sports bettors will actually make a wager. Based on the survey data we collected, we modeled propensity as a function of drivetime.

Propensity versus Drivetime
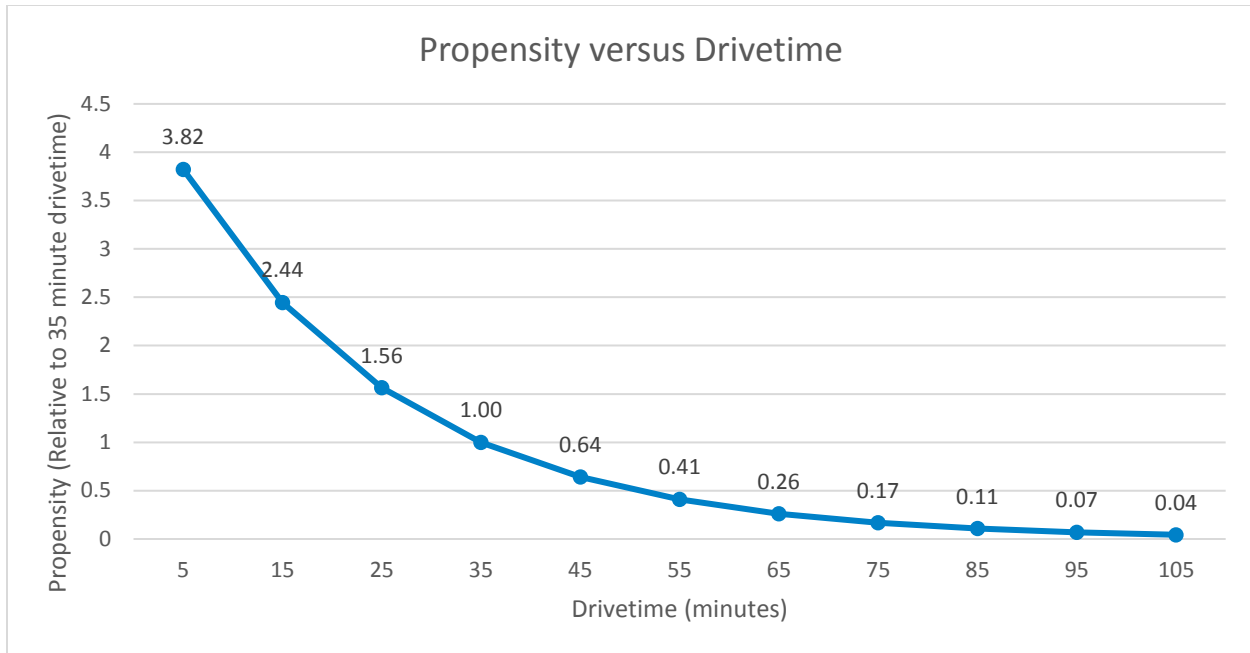
The data in this graph allow us to measure how likelihood to participate in the sports wagering market changes with drivetime. For example, a person 5 minutes from a casino is 3.82 times more likely to sports wager than someone 35 minutes away, while someone 95 minutes away will only sports wager at a rate of .07 times that of someone that is a 35 minute drive away. These dynamics reflect the transactional nature of sports betting. While a patron may drive 90 minutes to experience a few hours of entertainment at slot machines or table games, that patron is highly unlikely to drive 90 minutes to place a sports wager.

Frequencies and Wager Size

We base our total revenue forecast, on the observed behavior in comparable markets. However, we look at median values of wager size and frequency to give us a general estimate of market behavior and visitation patterns.

Market Revenue Forecast

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

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

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

where N_i = the number of gaming positions in gaming venue i, P_j = the population (21+) in market area j, d_{ij} = the distance between market area j and gaming venue i, and k = an attraction factor relating to the quality and amenities to be found at each gaming venue in comparison to the competing set of venues.

When this formulation is applied to each gaming venue gaming revenue generated from any given zip code is distributed among all the competing venues. In this model, we did not vary k by property for several reasons, primarily that (1) placing a sports wager does not necessitate meaningful interaction with the property – in other words, a portion of sports bettors will make a wager and immediately leave the property – and (2) we expect that the introduction of sports wagering in the state will prompt most operations to make significant changes to property offerings, both in terms of a sportsbook buildout and in terms of food and beverage outlets and other amenities.

We use zip codes to develop the gravity model, pulling population estimates, household incomes, and demographic breakouts from census data and using our GIS software for drivetimes. From this, we calculate the revenue potential from the zip code and apportion it to the casinos (and racinos, where appropriate) based on the gravity model's results.

Scenario 5: Brick-and-Mortar Casinos

The table below shows forecasted Virginia market revenue for 2024-2028 assuming sports betting is allowed only at brick-and-mortar casinos. For this scenario, we forecast revenues with and without a Northern Virginia casino site. The forecast includes a ramp-up, with the market reaching a steady-state size by year 5. Given the distance between NOVA and the rest of the assumed casino and pari-mutuel facilities, we do not expect material market overlap and therefore NOVA results can simply be added to the five baseline casinos.

Table 80: Virginia Sports Betting Revenue Scenario 5 ($ millions)

Scenario 5	2024	2025	2026	2027	2028
5 Baseline Casinos	$65.2	$100.7	$129.8	$160.5	$183.8
NOVA	$21.1	$32.6	$42.1	$52.0	$59.6
Total 6 Casinos	**$86.3**	**$133.4**	**$171.8**	**$212.5**	**$243.3**

Scenario 6: Brick-and-Mortar Casinos, Pari-mutuels, and HHRs

The table below shows forecasted Virginia market revenue for 2024-2028 assuming sports betting is allowed at brick-and-mortar casinos, HHR facilities, and pari-mutuels. Since wagering is already occurring at these facilities, we see no reason why they should be excluded, and the standard practice in other states is to allow both casinos and pari-mutuel facilities to have sports betting. Here, when we refer to pari-mutuel facilities, we mean off-track betting locations (OTB). We've identified and included OTB locations in Richmond, Collinsville, Chesapeake, and Henrico. There would be material overlap between casinos and pari-mutuel and HHR facilities in Danville, Richmond, and Hampton Roads. The forecast includes a ramp-up that assumes brick-and-mortar casinos, HHRs, and pari-mutuels start offering sports betting at the same time. We expect the market to reach a steady-state size of $207.8M in year 5, with revenue split essentially equally between brick-and-mortar casinos and pari-mutuels.

Table 81: Virginia Sports Betting Revenue Scenario 6 ($ millions)

Revenue Source	2024	2025	2026	2027	2028
5 Baseline Casinos	$36.4	$56.2	$72.4	$89.6	$102.6
Pari-mutuels and HHR	$37.3	$57.7	$74.3	$91.9	$105.2
Total	**$73.7**	**$113.9**	**$146.7**	**$181.5**	**$207.8**
Total with NOVA	**$94.8**	**$146.6**	**$188.8**	**$233.5**	**$267.3**

Scenario 7: Brick-and-Mortar Casinos, Pari-mutuels, HHRs, and Mobile

The table below shows forecasted Virginia market revenue for 2024-2028 assuming sports betting is made available at brick-and-mortar casinos, pari-mutuels (same four as described in Scenario 6), HHRs, and mobile. The forecast includes a ramp-up, with the market reaching a steady-state size of $462.1M in year 5 (2028). Mobile accounts for 80% of the market with the remaining 20% split roughly equally between brick-and-mortar casinos and pari-mutuels/HHRs.

Table 82: Virginia Sports Betting Revenue Scenario 7 ($ millions)

Revenue Source	2024	2025	2026	2027	2028
5 Baseline Casinos	$28.4	$37.6	$40.4	$44.9	$45.6
Pari-mutuels and HHR	$29.2	$38.6	$41.4	$46.0	$46.8
Mobile	$107.0	$177.9	$245.3	$313.1	$369.7
Total	**$164.6**	**$254.1**	**$327.0**	**$404.0**	**$462.1**
Total with NOVA	**$171.3**	**$269.7**	**$352.0**	**$441.1**	**$509.2**

Scenario 8: Mobile Only

The table below shows forecasted Virginia market revenue for 2024-2028 assuming sports betting is made available only through mobile. The forecast includes a ramp-up, with the market reaching a steady-state size of $398.5M in year 5.

Table 83: Virginia Sports Betting Revenue Scenario 8 ($ millions)

Revenue Source	2024	2025	2026	2027	2028
Mobile	$159.4	$239.1	$298.8	$358.6	$398.5

Summary

Table 84 summarizes our steady-state projections for each of the scenarios described above.

Table 84: Five-Year Virginia Sports Betting Forecast by Scenario (MMs)

Scenario	2024	2025	2026	2027	2028
Scenario 5: 5 Baseline Casinos Only	$65.2	$100.7	$129.8	$160.5	$183.8
Scenario 5n: Adding NOVA	$86.3	$133.4	$171.8	$212.5	$243.3
Scenario 6: 5 Baseline Casinos and Pari-mutuels	$73.7	$113.9	$146.7	$181.5	$207.8
Scenario 6n: Adding NOVA	$94.8	$146.6	$188.8	$233.5	$267.3
Scenario 7: 5 Baseline Casinos, Pari-mutuels, and Mobile	$164.6	$254.1	$327.0	$404.0	$462.1
Scenario 7n: Adding NOVA	$171.3	$269.7	$352.0	$441.1	$509.2
Mobile Only	$159.4	$239.1	$298.8	$358.6	$398.5

To provide context, we include the following table of sports betting revenue vs gross gaming revenue in select states.

Table 85: Sports Betting Revenue vs. Gross Gaming Revenue (MMs)

State	Distribution Method	Date Range	Sports Betting Revenue	GGR [1]	Sports Betting (% of GGR)
Delaware	Brick & mortar only	7/1/2018 – 6/30/2019	$12.6	$418.4	3.0%
Mississippi	Brick & mortar only	8/1/2018 – 6/30/2019	$30.5	$1,995.2	1.5%
Nevada	Brick & mortar, mobile	7/1/2018 – 6/30/2019	$306.7	$11,560.3	2.7%
New Jersey	Brick & mortar, mobile	7/1/2018 – 6/30/2019	$200.2	$2,656.7	7.5%
Virginia (yr 1, forecast)	Brick & mortar, mobile	1/1/2024 – 12/31/2024	$164.6	$951.8 [2]	17.3%

[1] Includes slot and table games, no sports betting
[2] Based on Scenario 2 (no northern VA casino) forecast at 12% tax rate

At first blush, the Virginia number looks particularly high. However, we note that Delaware has not yet had a mobile rollout; Mississippi is brick-and-mortar only, and it has a significant portion of its GGR coming from out-of-state patrons visiting the Gulf Coast (sports betting is a highly local form of gambling); Nevada's GGR is inflated by tourism spend as well as VIP table games play from east Asia, plus Nevada has many other forms of convenience gambling, such as slot machines in gas stations and grocery stores; and New Jersey's GGR reflects a large amount of visitation from New York City and Philadelphia, while there is a relatively small population living within 30 minutes of Atlantic City. Virginia, on the other hand, has high populations within 30 minutes of several HHRs and proposed casinos, and is well-positioned to capture sports betting revenue. In other words, we don't believe that sports betting as a percentage of GGR is a good metric for assessing the reasonableness of the forecast.

A true apples-to-apples comparison appears below, where we compare New Jersey's first year of sports betting to Virginia's forecasted first year of sports betting in the scenario where casinos and HHRs are both allowed to offer sports betting and where mobile sports betting is allowed. New Jersey's revenue per adult (21+) is higher in this year than our forecasted revenue per adult in Virginia in 2024, and the gap would widen if we were to inflate New Jersey's revenue per capita to 2024 dollars (via, say, a 2% inflationary increase per year). The difference in revenue per adult is reflective of differences in the population makeup and in drivetimes to the brick-and-mortar outlets.

Table 86: Year 1 Comparison: NJ vs VA

State	Distribution Method	Date Range	Sports Betting Revenue	Spend Per Adult (21+)
New Jersey	Brick & mortar, mobile	7/1/2018 – 6/30/2019	$200.2	$29.8
Virginia	Brick & mortar, mobile	1/1/2024 – 12/31/2024	$164.6	$25.0

The substantial sports betting revenue growth we are forecasting over 5 years in Virginia is in line with the substantial growth we are forecasting in New Jersey, which we expect to be a more than $500 million market at maturity. The steep ramp-up is reflective of the industry's infancy in the United States and the slow adoption to all forms of online and mobile gaming.

VIRGINIA LOTTERY

As a part of The Innovation Group's analysis of the possible introduction of casinos in Virginia, we have assessed the potential impact of gaming on the State's lottery. We recognize the historical significance of the Virginia Lottery, which has operated for over 31 years, generating sales of $2.1 billion in the fiscal year 2018 (ending June 30th). Dependence on this revenue stream has logically raised the question of what substitution might take place with the introduction of gaming.

The effect of gaming on state lotteries has been of great interest to states contemplating the addition of gaming, beginning with the first wave of industry expansion in the early 1990's. Since that time, there has been substantial research on the topic, with a degree of progress in identifying certain trends, however results have been largely inconclusive for the following main reasons:

- Lottery sales can vary widely from year to year based on the addition of new games, which can mask or exaggerate business trends.

- Macro-economic influences are difficult to isolate.

- The distribution of impacts and their relation to the proximity of lottery customers to gaming are not well understood.

- The timing of the introduction of multiple gaming venues into the market, in different locations over time, further complicates analysis.

Despite the ambiguities arising from these factors, some vague trends have been cited in past research. Taking the experience of multiple states into account, and a variety of sources of analysis, the following has been observed:

- At least some states have shown a marked decline in lottery sales and/or lottery sales growth rates immediately following the introduction of gaming.

- Among those showing declines, several have shown signs of recovering as early as one or two years following the introduction of gaming.

- Some state lotteries have minimized the impact of slot gaming on state lottery sales by expanding their lottery program (ie: introducing new games, expanding retail outlets, etc.) with some exhibiting sustained rates of growth.

This portion of our analysis is organized into several key sections. First, we provide an overview of the Virginia Lottery including a discussion of historical sales, distribution, and growth trends over the past ten years, and unique factors addressing the Virginia Lottery. Next, we assess key State lottery markets comparable to the Virginia Lottery where gaming has been introduced in markets with an established lottery. Using the case studies, we will project the potential impacts of gaming on the Virginia Lottery. Virginia Lottery sales are first projected for a Status Quo baseline based on historical trends (along with an attribution for the new MobilePlay product recently introduced). This baseline is then compared to three development scenarios: (1) the Benchmark Scenario, which assumes gaming only occurs at HHR facilities, (2) Base Case Scenario, which assumes that casinos are introduced in five market areas, and (3) NOVA Scenario, which assumes a sixth casino is introduced in the Northern Virginia market. We then compared each scenario, to determine the effects of expanded gaming on the Virginia Lottery on a same-year

(or "but-for") basis. On a year-over-year basis, the impacts are likely to be masked by continued normative growth.

Overview of Virginia Lottery

Historical Sales

Lottery sales have grown an average of 5.1% annually from FY2009 to FY2018, propelling sales from $1.4 billion in FY2009 to $2.1 billion in FY2018. New games hit the Virginia Lottery market during this time including Powerball (2010) and Print 'n Play (2016). Print 'n Play is an instant-win product that allows consumers to know instantly or near instantly if they have won or lost and provides on-demand excitement. In addition, despite having lower prizes, gamers can play as often as they wish without having to wait for numbers to be drawn either once a day or twice weekly as in traditional draw games.

Lottery sales grew year over year in all but one of the last nine years, falling -0.8% in 2017. However, this slight dip may be due to a stacked prior year, which saw Print 'n Play enter the market and a record Powerball jackpot. The chart that follows shows lottery sales from FY2009 to FY2018. Growth over the last four years has slowed to 4.3% compared to 5.8% in the previous five years.
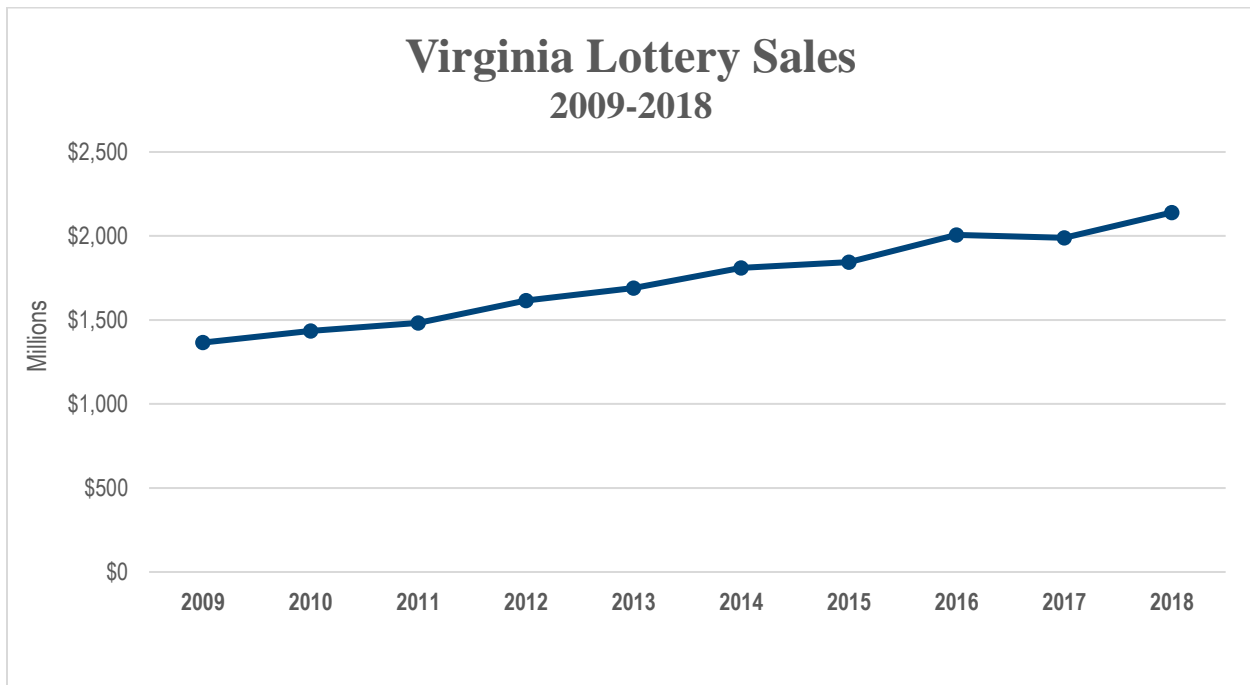
Source: Virginia Lottery

Lottery sales data by locality for FY2016 to FY2018 shows lottery sales growth is strongest in the interior of the state with localities near the state's border experiencing declining lottery samples. Examples of declining localities near the border include Dickenson near the Kentucky border, Bland near the West Virginia Border, and King and Queen near the Maryland border. This is likely

due to competitive products in adjacent states. King George has the fastest growing lottery market and observed an average growth rate of 13.5% annually from FY2016 to FY2018. In terms of percentage growth, Richmond outperformed the other major metro areas in the state during this time period.

Distribution

Lottery sales by game type, based on a percentage of total sales from lottery games in FY2018, are shown in the chart that follows. The vast majority, 55%, of all game related sales is derived from scratch games. Scratch games use tickets with a latex covering that is scratched off in order to find out if the ticket is a winner. The tickets have the advantage of providing a player with instant notification of the outcome of the game. Daily draw games (Pick 3, Pick 4, and Cash 5) make up the second largest portion of game-based sales at approximately 30% of total game related sales, followed by multi-state games (Powerball, Mega Millions, and Cash4Life) with approximately 12% of lottery sales. The chart that follows shows the lottery sales distribution by game type for FY2018.

Virginia Lottery Sales Distribution
(FY 2018)

Other 1%
Instant 2%
Multi-state 12%
Daily 30%
Scratch 55%
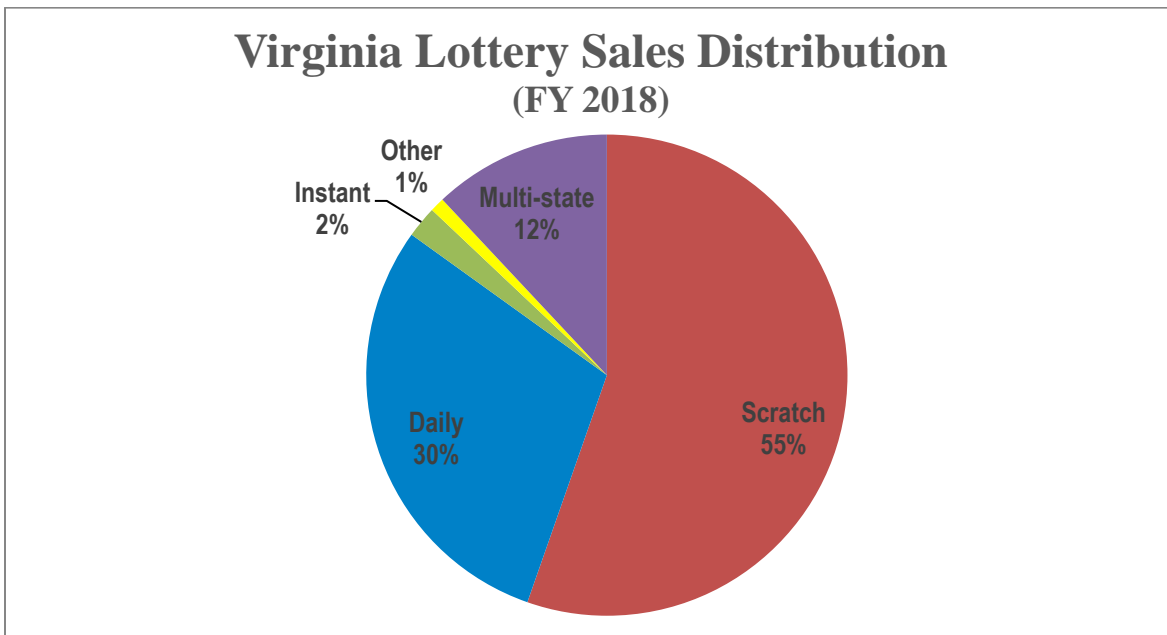
Source: Virginia Lottery, The Innovation Group

The trend has remained fairly consistent over the past five years, with Scratch game sales comprising approximately 55% of total annual lottery sales.

Table 87: Annual Lottery Sales by Game Type (SMMs)

	2014	2015	2016	2017	2018
Scratch sales	$988.59	$1,018.49	$1,100.57	$1,117.71	$1,184.64
Computer terminal games (drawings and raffles)	$822.23	$825.38	$906.32	$872.16	$955.18
Total sales	**$1,810.82**	**$1,843.87**	**$2,006.89**	**$1,989.87**	**$2,139.82**
% Scratch	*54.6%*	*55.2%*	*54.8%*	*56.2%*	*55.4%*

Source: Virginia Lottery, The Innovation Group

The Impact of iLottery on Lottery Performance

In May 2019, the Virginia Lottery began accepting mobile Lottery purchases through its MobilePlay application. This application allows a smart phone user to purchase Lottery products while on the premises of a licensed retailer via a Bluetooth connection. Users may purchase all draw-based games and exclusive MobilePlay-only games, which may affect future Virginia Lottery sales distribution.

The aim of this section is to understand the trends in lottery sales in selected states directly after the introduction of online Lottery sales, which will help inform the impact we assign to the Virginia Lottery from the introduction of MobilePlay.

While many states offer online Lottery sales, we use Kentucky as a comparison due to its proximity to Virginia and recent introduction of an online lottery product. In 2016, Kentucky Lottery began offering online sales of draw games and instant games to any adult with a valid Kentucky address within the state's borders. Kentucky's experience can shed light on how introducing an online/mobile lottery product may affect the Virginia Lottery market, although it should mark an upper bound since MobilePlay requires Virginians to be on the premise of a licensed retailer versus Kentucky being a true online product.

In the year preceding online lottery in Kentucky, year-over-year sales grew 5%. That growth rate doubled to 10% once online lottery sales were added to the market; however, the growth rate stabilized in the following year. Overall, total lottery sales grew on average 5% between 2014 and 2018, suggesting adding an online lottery option may cause a short-term spike in total Virginia Lottery revenues followed by a return to normal growth behavior.

Table 88: Kentucky Online Lottery Impact

	2014	2015	2016	2017	2018	CAGR
Draw Games + Retail Instant	$858.8	$899.1	$996.9	$995.3	$1,032.2	4.71%
Internet Instant	-	-	$0.4	$5.2	$10.3	-
Total Sales	**$858.8**	**$899.1**	**$997.3**	**$1,000.5**	**$1,042.5**	**4.97%**

Source: Kentucky Lottery Annual Reports, The Innovation Group

The following table shows the forecasted iLottery sales and profits provided by the Virginia Lottery. The Lottery's Year 4 estimate will result in approximately a 5% increase to total annual lottery sales, though this estimate does not reflect any cannibalization from traditional lottery sales. However, the introduction of new products is implicit in the historical growth trends, which has

averaged 5% over the past decade but which has slowed to 4.3% in recent years. Given the limitations of MobilePlay (can only be activated on premise), we conservatively estimate that MobilePlay will help the Virginia Lottery restore annual sales to a 5% annual growth compared to the 4.3% experienced in the previous four years.

Table 89: Virginia Lottery's iLottery Forecast Estimates

	Year 1	Year 2	Year 3	Year 4
iLottery Sales	$18M	$45M	$72M	$98M
iLottery Profits	$4M	$9M	$14M	$20M

Source: Virginia Lottery, The Innovation Group

Casino Impacts in Other States

The aim of this section is to understand trends in lottery sales from selected states directly after the introduction of casinos into the market, which will help instruct the impact we assign to the Virginia State Lottery. States included in this analysis were chosen for their proximity, and similarities to Virginia, including a long-standing lottery history and the introduction of casinos and/or racinos.

Lottery sales in five casino states continued to grow after the introduction of casinos in all but one; however, the rate of growth slowed compared to previous trends. Lottery sales growth rates can vary widely depending on external and extenuating circumstances, and isolating casino impacts from other factors can be challenging. However, there does appear to be a slight impact on lottery growth rates from the introduction of casino gaming.

One significant finding is that the decline in lottery growth rates is typically confined to counties and municipalities hosting casinos, with other counties largely unaffected. In New York, for example, lottery sales in areas surrounding new racinos grew by 1.7% in 2005 (the first full year of racino development) compared to 5.7% statewide and 7% in non-host communities.

Case Studies

We would note that the effect on growth rates, not sale itself, was the focus of these case studies. This is because in many circumstances growth continued as new gaming was added to the market, albeit at a lower rate of growth. As such, the impact of casinos and racinos, which can be limited in terms of a lasting effect, could be missed on a pure sales comparison. Therefore, by looking at growth, we are able to observe small changes in lottery behavior and better understand the impact of gaming in isolation of secondary impacts. In addressing the below markets, we would point out that a variety of factors influence growth trends: in addition to gaming, fluctuations can also result from macroeconomic trends, the introduction of new games, competitive factors from surrounding states, such as gaming and larger lottery jackpots, as well as other influences.

As shown in the following charts, after the introduction of Powerball, nearly all state lotteries experienced growth with the exception of Indiana. Those states introducing Powerball in the latter half of the fiscal year (ending 6/30), including Indiana, Iowa, and Missouri, had only operated the

game for three months. Therefore, not surprisingly, each state experienced far more growth in the year following the introduction of Powerball, with lottery sales growth rates ranging from 17% to 32%. Pennsylvania, which introduced Powerball at the beginning of the fiscal year, showed 9% growth, followed by consecutive double digits growth in the following four years.

Once gaming was introduced via either racinos or casinos, there was a negative effect on the year over year lottery sales growth rates, though in some cases lotteries continued to see growth. For example, in December 1995 casinos began operating in the Indiana market, approximately three-and one-half years after the introduction of Powerball in April 1992. Lottery sales growth declined from 32% in Year 2, to only 2% growth in Year 5 when casinos were introduced, followed by a decline in lottery sales of 7% in Year 2 post casino opening. When racinos opened approximately 13 years later, the growth trend collapsed, though the effect on lottery sales was also likely compounded by the 2008-2009 economic recession.
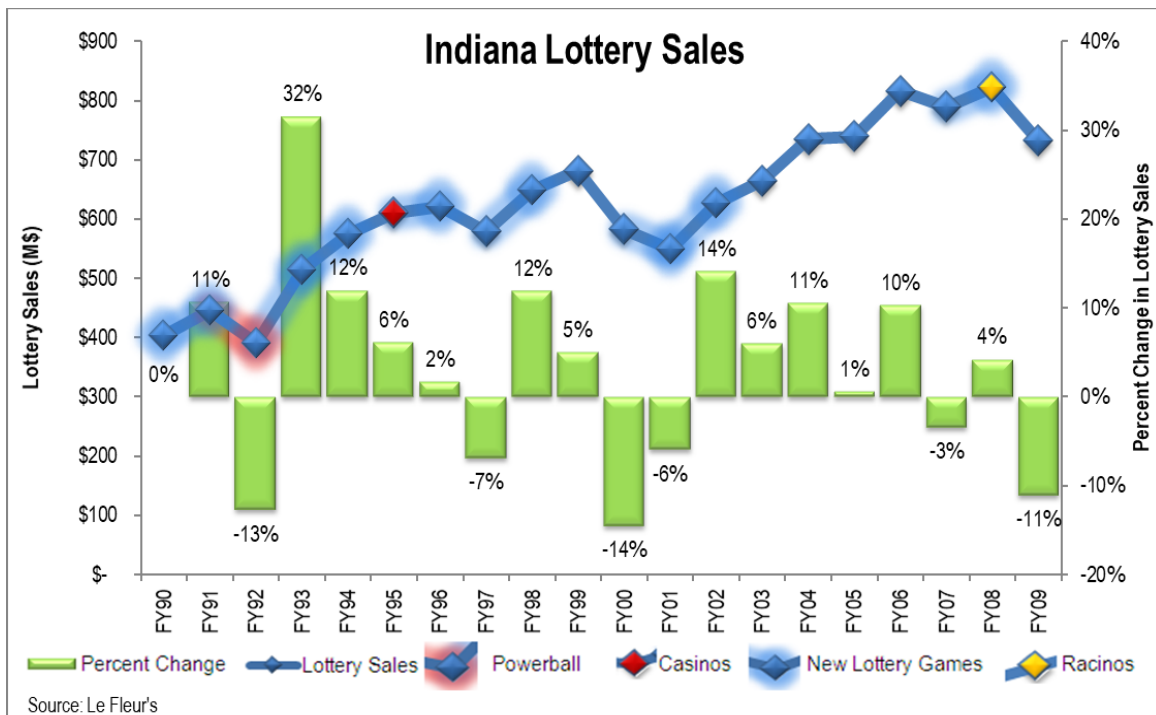
Iowa introduced its lottery in FY1986, approximately six years prior to the introduction of riverboat gaming. In those first few years, lottery sales experienced dramatic year over year growth peaking at approximately 39% in FY1989, likely attributable to the newness of the lottery. In the first year riverboat gaming became operational, lottery sales experience a decline of approximately 6%, only to rebound by 5% in Year 2 after the introduction of Powerball lottery game in April 1992. The following year, lottery sales increased another 25%. Years 3, 4 and 5 following the introduction of Powerball began to show slowed growth, with little to no growth in Years 3 and 4, followed by an 8% decline in Year 5 after the introduction of racinos.

Iowa Lottery Sales

Source: Le Fleur's
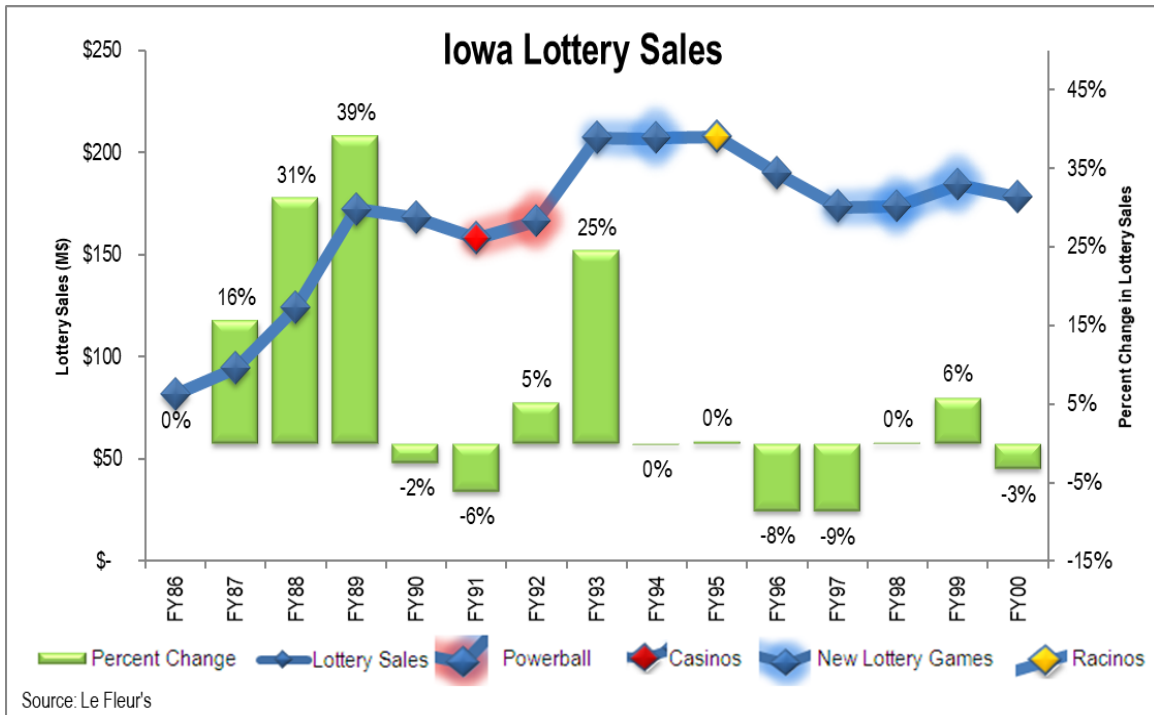
Missouri's lottery, which began in FY1986, introduced Powerball in April 1992. Again, the majority of growth occurred in the second year, as April is the tenth month of the fiscal year. Sales in the first years after the introduction of Powerball increased from 2% in Year 1 to 17% in Year 2 and 36% in Year 3. However, in May 1994, four riverboats opened throughout the State of Missouri, and though lottery sales continued to grow, the rate of growth declined to 17% in Year 2 and further to 3% growth in Year 3 before sales began to rebound in years 4 and 5.

Missouri Lottery Sales

Source: Le Fleur's
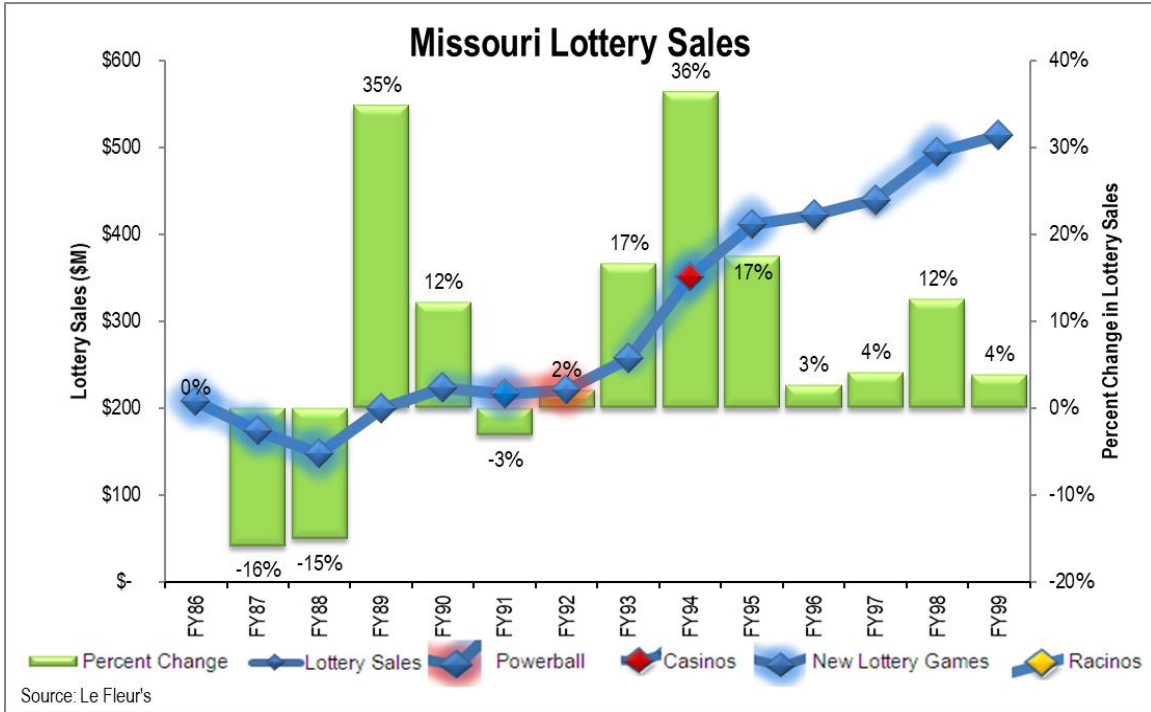
The Pennsylvania Lottery, which began in 1972, introduced Powerball in July 2002 and experienced lottery sales growth of 9% annually in the first year, followed by consecutive double digits growth in each of the four years following. However, in late 2006 (FY2007), Pennsylvania introduced slot machine gaming at various racinos, followed by additional slot machines in October 2007 at various standalone casinos. Once gaming was introduced, growth on lottery sales plateaued at just over 0% annually.

Pennsylvania Lottery Sales

Source: Le Fleur's
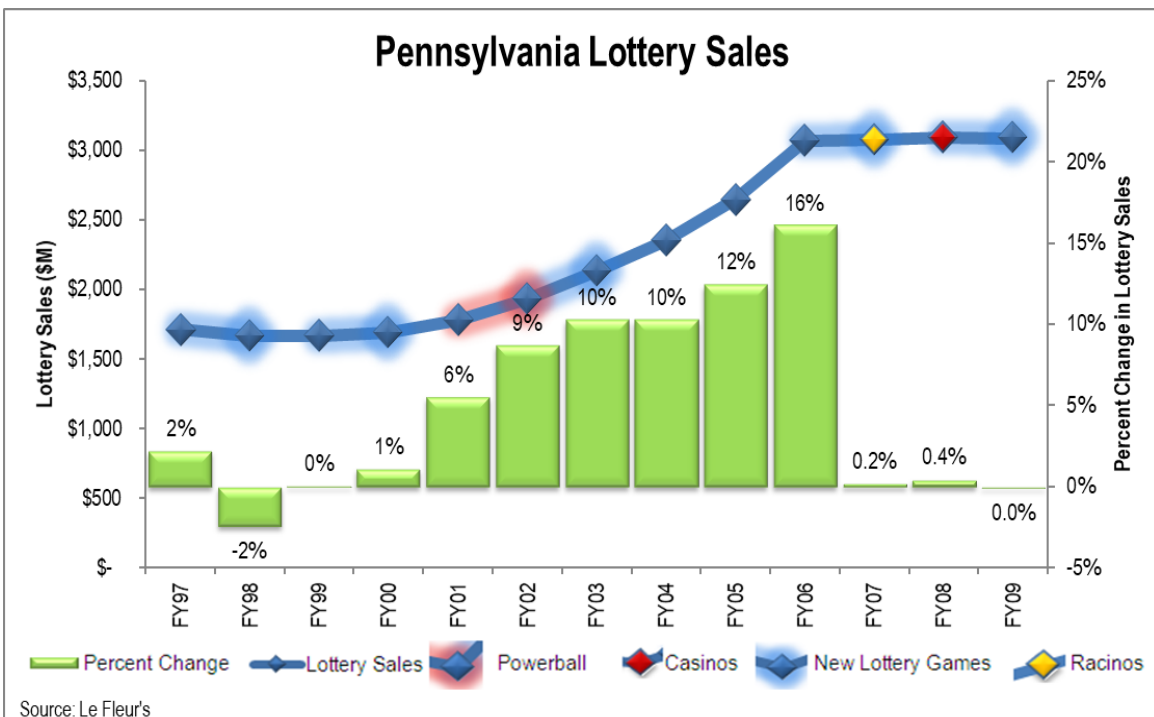
Pennsylvania is the most interesting and applicable comparable case to Virginia for a number of reasons. Firstly, the introduction of Powerball and gaming occurred within the past two decades, providing the most recent example of current industry trends. Secondly, Pennsylvania is proximate to Virginia and would therefore likely have somewhat similar gaming styles. Finally, the manner in which Pennsylvania introduced gaming is similar, with slots at casinos and racinos introduced in consecutive years (HHR facilities and casinos in the case of Virginia).

As a condition to the legislation allowing gaming, Pennsylvania included a separate act that requires that the Legislative Budget and Finance Committee to conduct an annual report on the impact of slots gaming on the Pennsylvania State Lottery. In each year following the introduction of slots gaming, the study has been conducted, providing an excellent example of the potential impacts. The result of these studies showed that the counties that host the casinos or racinos showed declines ranging from 1.5-7.7%, while counties surrounding the host county saw declines ranging from 0.1% to approximately 7%. The variations could be attributable to a number of factors such as proximity to out-of-state gaming jurisdictions, the type of gaming introduced, macro-economic factors, and proximity to out-of-state lotteries with large jackpots, among other factors.

These four case studies have identified a modest declining impact on lottery sales following the introduction of expanded gaming. However, the extent of the impact is highly dependent on external and extenuating circumstances.

Maryland

In 2014, as gaming expansion continued across the Northeast region, the consulting group Cummings & Associates released a report titled, "The Effect of Casino Proximity on Lottery Sales: Zip Code-Level Evidence from Maryland". Prior to this study, research on the topic was limited to the substitution of lottery to casino revenues by jurisdiction. However, the Cummings' report used a regression analysis on lottery sales at the zip code level to isolate the impact of casino proximity on sales of specific lottery game products.

Maryland was likely chosen for Cummings research due to its established Lottery market, as it had been in operation for more than 37 years prior to the first casino property opening. By the time Hollywood Perryville opened in 2010, the Great Recession had officially ended and multi-state games (such as Powerball and Mega Millions) had already been introduced into the market. Table 90 and Figure 2 show lottery sale trends in the state from fiscal year 2009 through the most recent year. During that time total sales increased nearly every year, mostly as a result of growing popularity in Instant and Jackpot Games, while the sales of other product categories remained stagnate or declined.

Table 90: Maryland State Lottery Annual Sales ($MMs)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Instant (Scratch off)	$507.1	$490.9	$493.5	$506.8	$485.8	$479.6	$546.1	$611.3	$676.8	$750.9
All Other Sales	$1,191.0	$1,215.7	$1,220.9	$1,288.1	$1,270.3	$1,244.4	$1,214.8	$1,294.3	$1,254.8	$1,291.9
Total Lottery Sales	**$1,698.1**	**$1,706.6**	**$1,714.4**	**$1,794.9**	**$1,756.1**	**$1,724.0**	**$1,760.9**	**$1,905.5**	**$1,931.5**	**$2,042.8**
% Scratch off Sales	*29.9%*	*28.8%*	*28.8%*	*28.2%*	*27.7%*	*27.8%*	*31.0%*	*32.1%*	*35.0%*	*36.8%*

Source: Maryland Lottery and Gaming Control Agency; The Innovation Group

Figure 2: Maryland Lottery Sales by Product Category
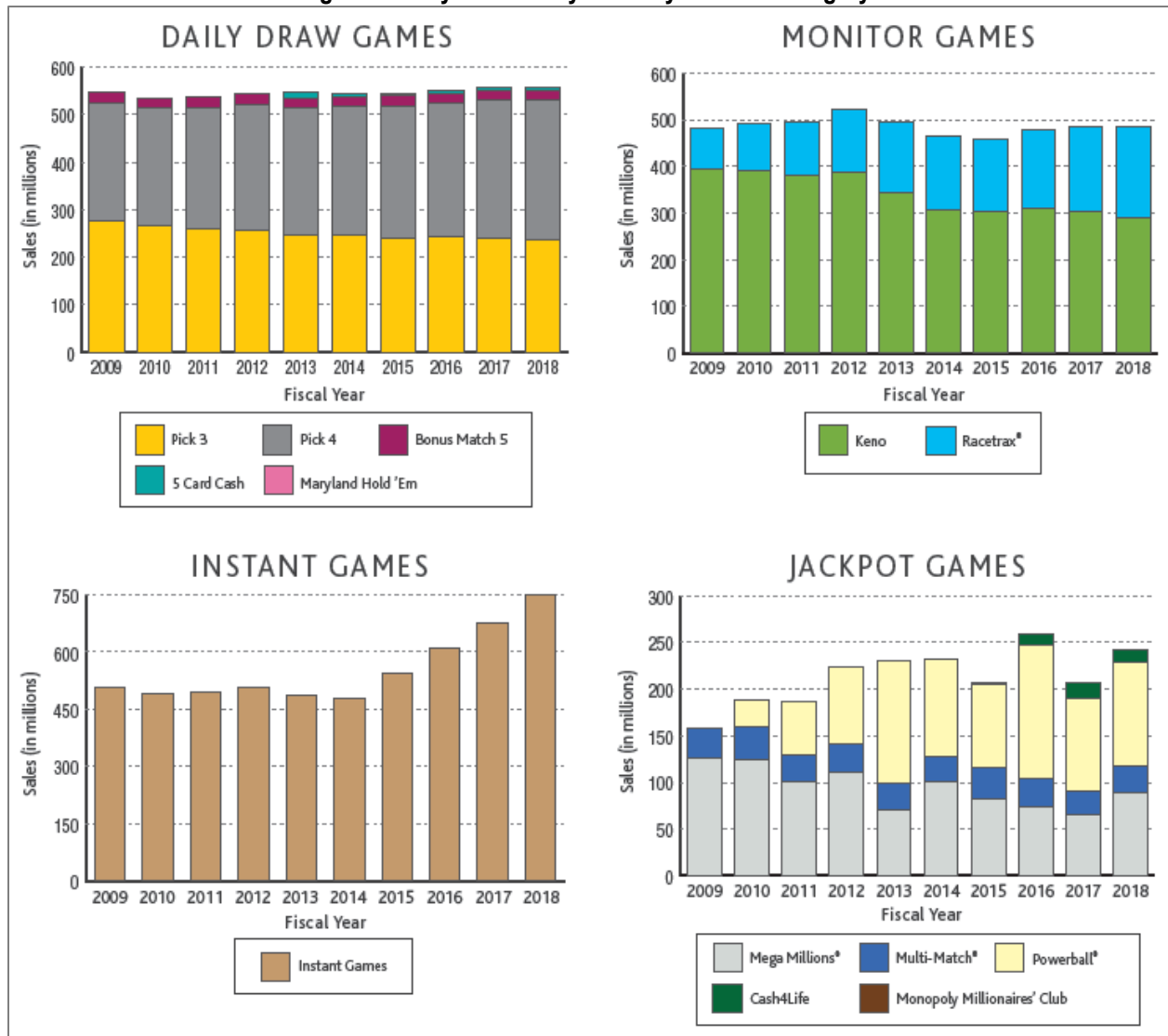
Source: Maryland Lottery and Gaming Control Agency, Comprehensive Annual Report

The Maryland Lottery and Gaming Control Agency provided Cummings with monthly sales revenue at each zip code by game type from July 2009 through February 2014, during which time four of the six casinos opened. Cummings then identified the following groupings in order to simplify the results of the 17 lottery game products used in their regression analysis.

Game Category	Description	Game Names
"Instant" tickets	Instant tickets (activations)	(various; scratch-off tickets)
"Monitor"	Games played on video monitors; many times per day, with associated bonuses	Keno, Keno Bonus, Keno Super Bonus, Racetrax, Racetrax Bonus
"Pick"	"Daily numbers" games	Pick 3 Eve, Pick 4 Eve, Pick 3 Mid, Pick 4 Mid
"Multi-State"	"Large" lotto games with associated bonus games	MegaMillions, MegaPlier, Powerball, PowerPlay
"Other"	Miscellaneous games	Bonus Match-5, 5-Card Draw, Multi-Match

Using an estimated drive time of 75 minutes to the nearest out-of-state casino in the baseline (pre-casino development), Cummings was able to predict the impact of a casino opening anywhere from 0-60 minutes' drive on sales at each zip code. Cummings found that Monitor Games (comprised mostly of Keno) and Multi-State games suffered the greatest impact to a casino opening within a 15-minute drive, between 17-27% decline in monthly sales. Instant games were the least substitutable in this analysis, with only a 5% impact on sales after a casino opens within a 15-minute drive. These results indicate a diminishing effect by distance, the further a casino the less likely the impact on lottery revenues.

Figure 3 shows the results of this analysis with a percentage impact on the top four game categories.

Figure 3: Estimated Percent Impact of New Casino on Monthly Lottery Sales by Category
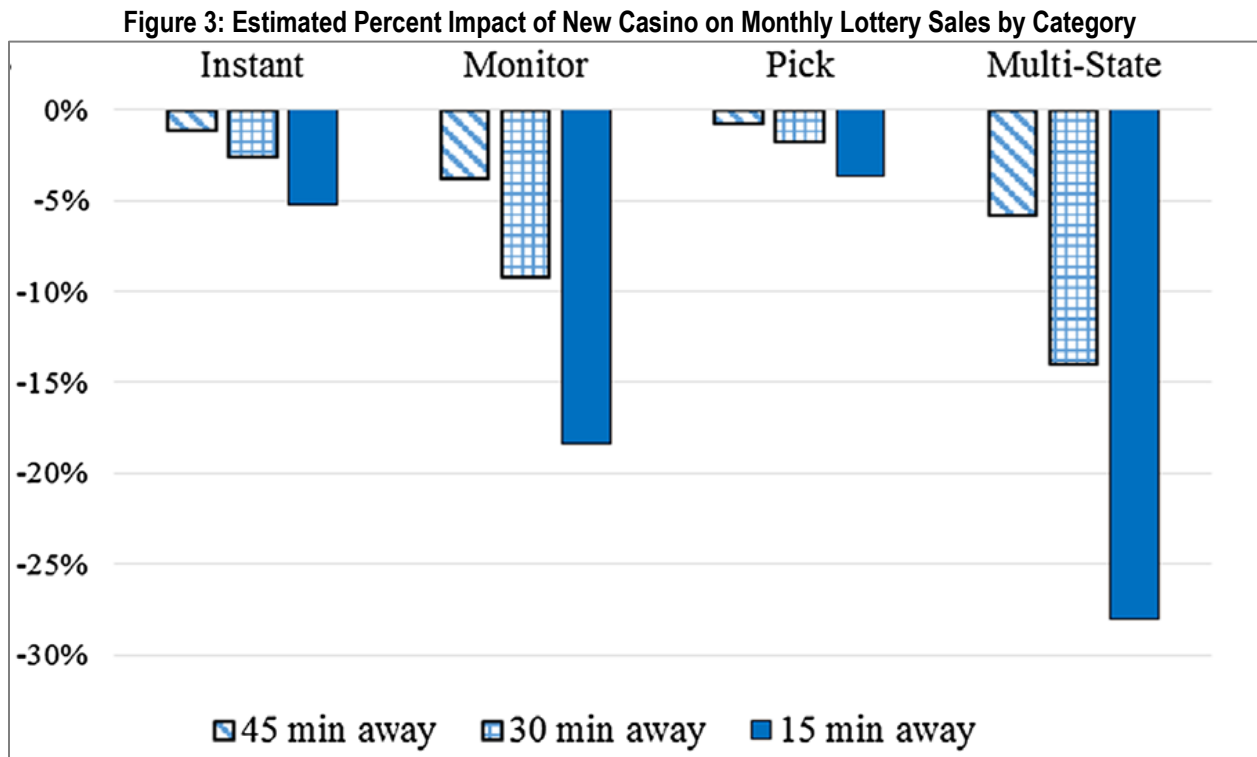
Source: Cummings & Associates; *Estimated Impact of a New Casino Opening on Monthly Sales in the Representative ZIP Code, Relative to the Closest Casino Being 60 Minutes Away

Cummings concludes the report estimating total impacts from the four casino openings in Maryland to a decrease in lottery sales of approximately $44-50 million per year, or 2.7% of annual sales. The report also predicted that after the two additional casinos opened by end of 2016 (MGM National Harbor & Horseshoe Baltimore) that lottery sales will be almost $100 million (5.5%) less than they otherwise would have been in the absence of all casinos.

HHR and Casino Impact on Virginia Lottery

Methodology
For the impact analysis we identified the jurisdictions hosting or close to a potential HHR facility or casino. Including the NOVA location, 48% of lottery sales currently come from potential gaming jurisdictions.

Table 91: Annual Lottery Sales of Host Counties Impacted by Gaming

City/County	2016	2017	2018	Three Year Total	% of 3 Yr Total
HHR Only					**1.2%**
New Kent	$6,724,920	$7,119,293	$7,997,632	$21,841,844	0.3%
Roanoke	$18,045,815	$17,965,017	$19,541,238	$55,552,069	0.9%
HHR and Casino (Baseline)					**19.3%**
Chesapeake (city)	$74,501,613	$76,813,450	$85,577,361	$236,892,424	3.7%
Hampton (city)	$51,836,811	$52,411,247	$57,492,778	$161,740,836	2.6%
Richmond (city)	$70,973,852	$73,707,041	$77,548,944	$222,229,837	3.5%
Chesterfield	$85,237,588	$86,604,988	$97,774,482	$269,617,058	4.3%
Henrico	$107,267,218	$106,937,533	$117,464,089	$331,668,840	5.2%
Casino Only (Baseline)					**16.6%**
Washington	$10,601,982	$10,314,892	$11,770,083	$32,686,957	0.5%
Bristol (city)	$6,870,169	$6,493,186	$6,966,787	$20,330,141	0.3%
Pittsylvania	$13,763,877	$14,407,676	$14,892,551	$43,064,104	0.7%
Danville (city)	$30,572,595	$30,304,264	$30,747,574	$91,624,433	1.4%
Newport News (city)	$54,388,572	$55,099,712	$61,237,197	$170,725,482	2.7%
Norfolk (city)	$73,170,302	$74,880,438	$78,672,942	$226,723,682	3.6%
Portsmouth (city)	$37,223,545	$38,379,006	$42,074,157	$117,676,707	1.9%
Virginia Beach (city)	$113,955,362	$113,437,981	$121,894,205	$349,287,549	5.5%
NOVA					**11.2%**
Arlington	$39,309,684	$36,352,811	$38,689,983	$114,352,477	1.8%
Fairfax	$162,226,529	$158,064,095	$173,806,258	$494,096,882	7.8%
Alexandria (city)	$27,367,018	$24,693,277	$26,904,265	$78,964,560	1.2%
Fairfax (city)	$8,402,592	$7,701,958	$8,067,862	$24,172,412	0.4%
Host County Totals	**$992,440,040**	**$991,687,864**	**$1,079,120,389**	**$3,063,248,292**	**48.3%**

Source: The Innovation Group

Based on historical trends and the impact of the recently implemented MobilePlay product, we have estimated an annual growth rate of 5% to forecast baseline sales of $2.867 billion by 2024.

From that baseline, we have applied percentage impacts to host HHR and casino markets in line with the results of the Cummings Maryland study discussed above, which is consistent with Innovation Group research. For HHR-only impacts, we applied a reduction of 5% for affected markets only, and for casino impacts we increased the reduction to 10%.

Results

Table 92 shows the forecasted impact on total statewide lottery sales in Virginia under each of the three development scenarios. These are but-for impacts, not year-over-year impacts. In other words, Lottery sales in 2024 would be 3.6% higher without the development of HHR facilities and casinos in Scenario 2.

Table 92: Forecasted 2024 Lottery Sales and Impact Scenarios

	5% Impact applied to % of Total Baseline	10% Impact applied to % of Total Baseline	Lottery Sales	% Impact
2024 Baseline			$2,867,563,454	
HHR Benchmark Scenario 1	20.5%	0%	$2,838,161,045	-1.0%
Casino Base Scenario 2	1.2%	35.9%	$2,762,900,895	-3.6%
Casino NOVA Scenario 3	1.2%	47.1%	$2,730,701,339	-4.8%

Source: The Innovation Group

On a year-over-year basis compared to a baseline 2023, Lottery sales would still increase since the forecast for normative annual growth (5%) is greater than the projected impacts, although just slightly so for Scenario 3. These are one-time impacts, with normative growth of 5% resuming after 2024 in all scenarios. The following table shows the five-year forecasts for the impact scenarios compared to the baseline.

Table 93: Lottery Five-Year Forecast (MMs)

	2023	2024	2025	2026	2027	2028
Baseline	$2,731	$2,868	$3,011	$3,161	$3,320	$3,486
HHR Benchmark Scenario 1		$2,838	$2,980	$3,129	$3,286	$3,450
Casino Base Scenario 2		$2,763	$2,901	$3,046	$3,198	$3,358
Casino NOVA Scenario 3		$2,731	$2,867	$3,011	$3,161	$3,319

VIRGINIA CHARITABLE GAMING

Similar to the analysis of gaming on Virginia's lottery, The Innovation Group assessed the potential impact of casino gaming on the State's charitable gaming market. Since charitable gaming is an important funding stream for charitable organizations and entities throughout the State—generating proceeds of over $59 million in 2018—we understand the concerns surrounding any potential negative impacts on charitable gaming from the introduction of casino gaming. As such, we completed an analysis following the same logic as the previously described lottery assessment

Like the lottery assessment, our charitable gaming analysis is organized into several key sections. First, we provide an overview of the Virginia Charitable Gaming market including a discussion of historical sales, key operating metrics, and growth trends over the past five years. Next, we assess two key comparable state charitable gaming markets, Massachusetts and Texas, where gaming has recently been introduced. Using these case studies, we will project the potential impacts of gaming on the Virginia Charitable Gaming market. Similar to the Virginia Lottery analysis, Charitable Gaming sales are projected for three development scenarios: (1) the Benchmark Scenario or "Status Quo", which assumes gaming only occurs at HHR facilities, (2) Base Case Scenario, which assumes that casinos are introduced in five market areas, and (3) NOVA Scenario, which assumes a sixth casino is introduced in the Northern Virginia market. We then compared each scenario, to determine the effects of expanded gaming on Virginia Charitable Gaming on a same-year (or "but-for") basis. On a year-over-year basis, the impacts are likely to be masked by continued normative growth.

Overview of Virginia Charitable Gaming

Charitable Gaming in Virginia is offered in two primary forms—Bingo (and accompanying games during bingo sessions, such as raffles) and Electronic Pull-Tab Devices. Registered Bingo activity occurs throughout the State at over 300 locations annually. According to the Virginia Charitable Gaming Board, any location that is registered to offer Bingo can operate Electronic Pull-Tab Devices during the hours of active Bingo games. Additionally, social clubs with physical locations, such as American Legion locations, are permitted to operate Electronic Pull-Tab Devices with the appropriate licensing. As of 2018, there was a total of 2,067 Electronic Pull-Tab Devices within Virginia.

Historical Sales

Charitable Gaming sales have increased by a compound annual growth rate ("CAGR") of 19.5% from FY2014 to FY2018, with FY2018 sales totaling over $1.0 billion. The following chart displays Virginia Charitable Gaming sales from FY2014 to FY2018. As shown in the chart below, total Charitable Gaming sales in FY2014 were $510.7 million.

Virginia Charitable Gaming Sales
2014-2018
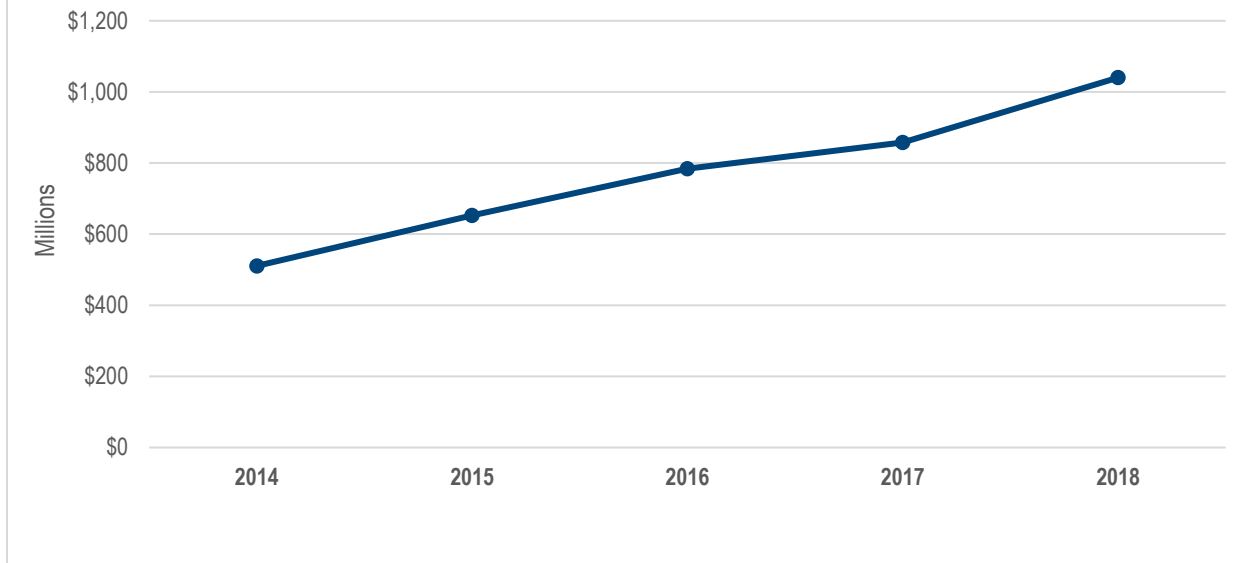
Source: Virginia Charitable Gaming Board

Distribution

Charitable Gaming sales by game type and location, based on a percentage of total sales from Charitable Gaming in FY2018, are displayed in the chart below. Over 75% of total Charitable Gaming sales are generated by Electronic Pull-Tab Devices in social clubs. Recognizing that the Devices in social clubs are permitted to operate during the opening hours of each respective location—versus the Devices within Bingo-Only locations which can only operate during Bingo games—the fact that Devices in social clubs generate such a significant portion of Charitable Gaming sales is logical. Bingo-Only sales represents the game type with the lowest share of total sales (9% of total sales for FY2018). Please note that the Bingo-Only category includes all accompanying games during bingo sessions, including instant paper pull-tab sales as well as raffles. The chart that follows shows the lottery sales distribution by game type for FY2018.

Virginia Charitable Gaming Sales Distribution
(FY 2018)
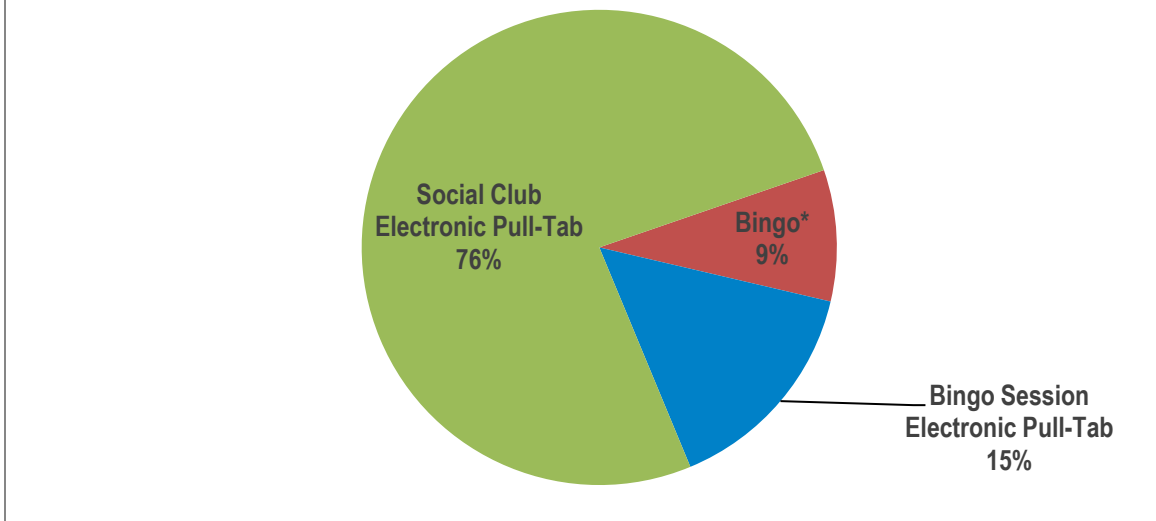
Source: Virginia Charitable Gaming Board, The Innovation Group: *Bingo includes all games accompanying bingo sessions including bingo paper sales, instant paper pull-tab sales, and raffle sales, among others.

Examining the historical distribution of Charitable Gaming in greater detail reveals interesting findings. First, it is clear that the Electronic Pull-Tab devices at social clubs are driving the growth in Charitable Gaming within Virginia. As shown in the table below, from FY2014 to FY2018 sales from Devices in social clubs increased by a CAGR of 33.0%. This compares to minimal annual growth for Electronic Pull-Tab Device sales (1.4%) and an average annual decline of 4.0% Bingo sales over the same time period. Furthermore, similar to the sales distribution for Charitable Gaming, the majority of total charity proceeds generated by Charitable Gaming comes from Electronic Pull-Tab Devices at social clubs. This is illustrated in the chart below which displays the rise in Social Club Electronic Pull-Tab Proceeds and the corresponding decline and flatline in Bingo Proceeds and Bingo-Session Electronic Pull-Tab Proceeds, respectively.

Table 94: Virginia Charitable Gaming Statistics ($000's)

	2014	2015	2016	2017	2018	CAGR
Total Sales						
Bingo Sales*	$109,583	$105,622	$102,409	$99,785	$92,958	-4.0%
Electronic Pull-Tab Sales	$148,399	$161,509	$164,078	$163,654	$156,806	1.4%
Social Club Electronic Pull-Tab Sales	$252,696	$385,655	$517,783	$594,773	$790,277	33.0%
Total Sales	**$510,678**	**$652,786**	**$784,271**	**$858,212**	**$1,040,041**	**19.5%**
Total Prize Payout						
Bingo Prizes*	$89,142	$86,054	$82,957	$81,183	$75,359	-4.1%
Electronic Pull-Tab Prizes**	$107,254	$116,521	$118,737	$119,497	$116,120	2.0%
Social Club Electronic Pull-Tab Prizes	$232,480	$354,803	$476,360	$547,191	$727,055	33.0%
Total Prizes	**$428,876**	**$557,378**	**$678,054**	**$747,871**	**$918,534**	**21.0%**
Total Hold (Revenue)						
Bingo Hold*	$20,441	$19,568	$19,453	$18,602	$17,599	-3.7%
Electronic Pull-Tab Hold	$41,146	$44,988	$45,341	$44,157	$40,686	-0.3%
Social Club Electronic Pull-Tab Hold	$20,216	$30,852	$41,423	$47,582	$63,222	33.0%
Total Hold	**$81,802**	**$95,408**	**$106,217**	**$110,340**	**$121,507**	**10.4%**
Total Proceeds to Charity						
Bingo Proceeds***	$8,397	$8,899	$8,480	$7,111	$7,196	-3.8%
Electronic Pull-Tab Proceeds	$20,573	$22,494	$22,671	$22,078	$20,343	-0.3%
Social Club Electronic Pull-Tab Proceeds	$10,108	$15,426	$20,711	$23,791	$31,611	33.0%
Total Proceeds	**$39,077**	**$46,819**	**$51,862**	**$52,980**	**$59,150**	**10.9%**

Source: Virginia Charitable Gaming Board: *Bingo includes all games accompanying bingo sessions including bingo paper sales, instant paper pull-tab sales, and raffle sales, among others; **Charitable gaming data does not break out paper pull-tab sales, it is assumed that a majority of these prizes are electronic pull-tab prizes versus paper prizes; ***Bingo proceeds are calculated by subtracting electronic pull-tab proceeds (50% of electronic pull-tab hold) from total proceeds as reported by the Virginia Charitable Gaming Board
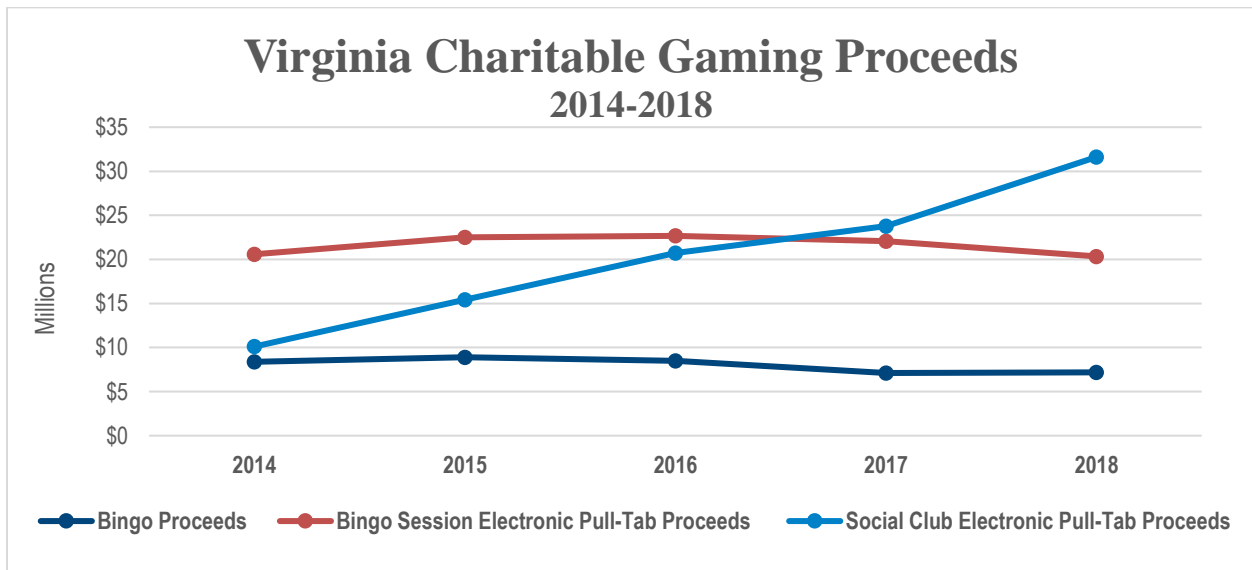
Source: Virginia Charitable Gaming Board

The following table displays the combined Electronic Pull-Tab Device statistics for both social clubs and Bingo locations in FY2018. As shown in the table below, combined Device sales totaled approximately $947.1 million in FY2018. Given the total number of devices of 2,067, this translates to total sales per device and total hold per device of roughly $1,255 and $138, respectively for FY2018. Please note that the hold for total electronic pull-tab devices is based on an assumed hold rate of 8% for devices at social clubs and the reported hold (sales less prize payouts) reported for the bingo session devices, which averages more than 25%.

Table 95: Virginia Electronic Pull-Tab Device Statistics – FY2018

Total Electronic Pull-Tab Sales* ($000's)	$947,083
Total Electronic Pull-Tab Hold* ($000's)	$103,908
Total Number of Devices	2,067
Total Sales per Device per Day	$1,255
Total Hold per Device per Day	$138

Source: Virginia Charitable Gaming Board; *Includes Electronic Pull-Tab Devices at Bingo Halls and Social Clubs

Casino Impacts in Massachusetts

The aim of this section is to understand trends in charitable game sales in Massachusetts directly after the introduction of casinos into the market, which will help instruct the impact we assign to the Virginia Charitable Gaming Market.

Charitable Gaming in Massachusetts

In September of 1971, Massachusetts legalized charitable gaming by overturning a 1940s-era prohibition on bingo. The Massachusetts Department of Public Safety was given responsibility for the oversight of bingo operations. In 1973, legislation transferred responsibility for bingo to the Massachusetts State Lottery Commission (MSLC) and in 1974, legislation was passed establishing rules and regulations controlling bingo. The Charitable Gaming Division (CGD) under the MSLC regulates all operations for games classified as charitable gaming. Charitable gaming currently includes bingo, casino nights, raffles and pull-tabs. Casino nights offer the opportunity to play games of chance, such as roulette, craps, blackjack and poker (including Texas Hold'em) tournaments.

The following table shows total annual charitable gaming revenue for the Massachusetts Pull-Tabs and Charity Games from fiscal year 2018 going back to 2010, five years prior to the opening of Plainridge in June 2015, as reported by the Massachusetts Lottery. From fiscal year 2010 to fiscal year 2015, the period prior to the opening of Plainridge, total Pull-Tab & Charity Game revenue fell from approximately $3.0 million to roughly $2.3 million. It is important to reiterate that the figures in the table below represent revenues (sales less prizes).

Table 96: Massachusetts State Pull-Tab & Charity Game ($ 000's)

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Pull-Tab Revenues	$914	$880	$855	$714	$734	$689	$712	$748	$686
Charity Game Revenues	$2,062	$2,008	$1,912	$1,741	$1,672	$1,635	$1,666	$1,639	$1,605
Total Pull-Tab & Charity Revenue	**$2,976**	**$2,888**	**$2,767**	**$2,455**	**$2,406**	**$2,324**	**$2,378**	**$2,387**	**$2,291**

Source: Massachusetts Lottery; The Innovation Group

The following graph displays annual growth of Charitable Gaming revenue, as reported by the Massachusetts Lottery. As shown in the graph, Charitable Gaming revenue actually increased year-over-year by 2.3% in FY16—with Pull-Tab and Charity Game revenue increasing by 3.3% and 1.9%, respectively—following the opening of Plainridge Casino. Examining the total growth trends after the opening of Plainridge reveals that Charitable Gaming revenue in FY18 declined slightly FY15 levels. Over this time period, Charitable Gaming revenue declined by a CAGR of approximately 0.5%—with Pull-Tab and Charity Game revenue decreasing by a CAGR of 0.1% and 0.6%, respectively over the same time period. While the Massachusetts Lottery does not report Charitable Gaming Revenue statistics on smaller geographic levels, the statewide data reveals that the introduction of casino gaming did not result in a significant impact on Charitable Gaming. However, it is important to note that long-term impacts may change with the opening of MGM Springfield in 2018 and Encore Boston Harbor in 2019.

Percent Change in Massachusetts Charitable Gaming Revenue 2011-2018
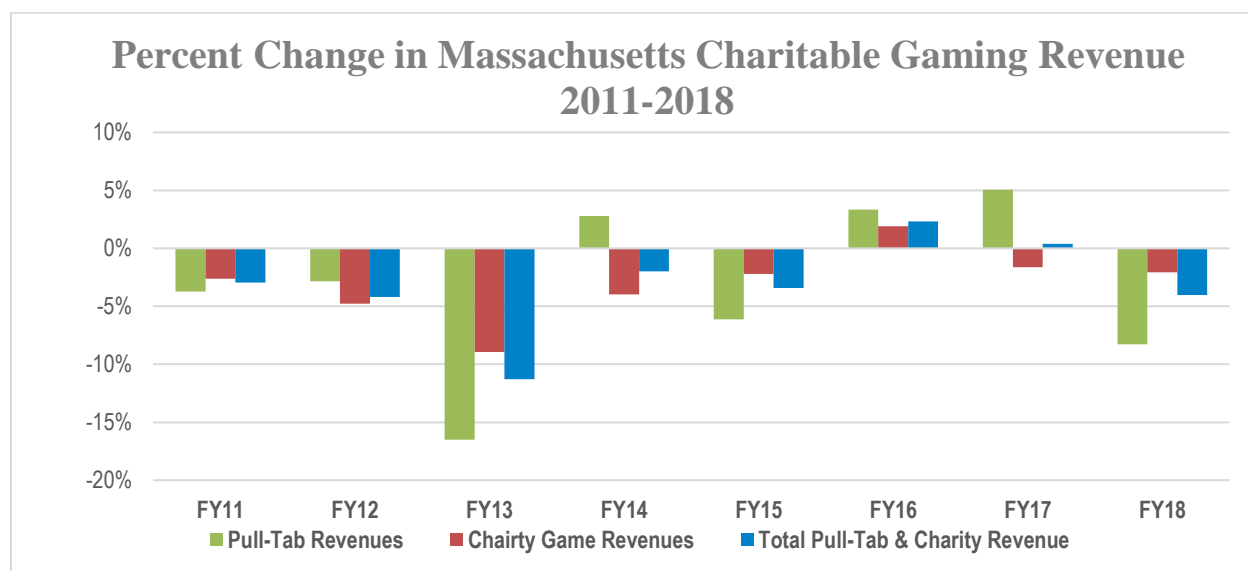
Source: Massachusetts Lottery; The Innovation Group

Casino Impacts in Texas

The aim of this section is to understand trends in charitable game sales in Texas directly after the introduction of casinos into the market. Like the Massachusetts analysis, this will help inform the impact assigned to the Virginia Charitable Gaming Market. Currently, there are two operating casinos in Texas—both of which are tribal—the Naskila Gaming and Kickapoo Lucky Eagle Casino Hotel. These casinos are located in Polk County and Maverick County, respectively. For our analysis of Texas Charitable Gaming we were able to examine both the county and state impacts of casino gaming, given greater data availability. As our analysis will show, the negative impacts on charitable gaming associated with the opening of a casino are largely and do not impact long-term statewide trends.

Charitable Gaming in Texas

The first charitable gaming licenses were issued in 1982 within Texas. Charitable bingo is the oldest form of legalized gaming in Texas and has been approved by voter referendum in 226 of the state's 254 counties. Currently there are over 1,300 licensed organizations related to conducting charitable gaming bingo in Texas.

Polk County Impacts

The following table displays annual operating statistics for charitable bingo within Polk County from 2012 to 2017, the timeframe of county-level data availability from the Texas Lottery Commission. Naskila Gaming opened in Polk County in May 2016. As displayed in the table, Gross Receipts and Total Income from bingo operations within the county decreased by a CAGR of approximately 4.2% and 6.6% from 2012 to 2017, respectively. It is important to note that Net Proceeds and Charitable Distributions increased over this period—by a CAGR of 17.5% and 13.0%, respectively—despite decreases in Gross Receipts and Total Income.

Table 97: Texas Charitable Bingo Operating Statistics – Polk County

	2012	2013	2014	2015	2016	2017
Gross Receipts	$1,636,908	$1,751,829	$2,238,012	$2,534,267	$1,962,024	$1,317,425
Prizes Paid	$1,241,569	$1,388,890	$1,837,781	$2,025,144	$1,606,950	$1,035,965
Total Income	**$395,372**	**$362,958**	**$400,253**	**$530,695**	**$355,074**	**$281,460**
Total Expenses	$343,621	$310,706	$291,294	$331,626	$251,358	$165,450
Net Proceeds	$51,751	$52,252	$108,959	$199,069	$101,075	$115,748
Charitable Distributions	$54,964	$56,854	$87,775	$151,085	$134,813	$101,233

Source: Texas Lottery Commission

The following graph displays annual growth of charitable bingo revenue within Polk County—in the form of Gross Receipts and Total Income— as reported by the Texas Lottery Commission. As shown in the graph, charitable bingo operations within Polk County experienced a sizeable impact in 2016, when Naskila Gaming began operations. While charitable bingo experienced annual growth in the years leading up to the opening of Naskila Gaming facility, Gross Receipts and Total Income declined by 22.6% and 33.1% in 2016, respectively. Polk County's charitable bingo experienced similar declines in 2017, the year after the opening of Naskila Gaming. In 2017, Gross Receipts and Total Income declined by 32.9% and 20.7%, respectively.

Percent Change in Polk County Charitable Bingo Revenue 2013-2017
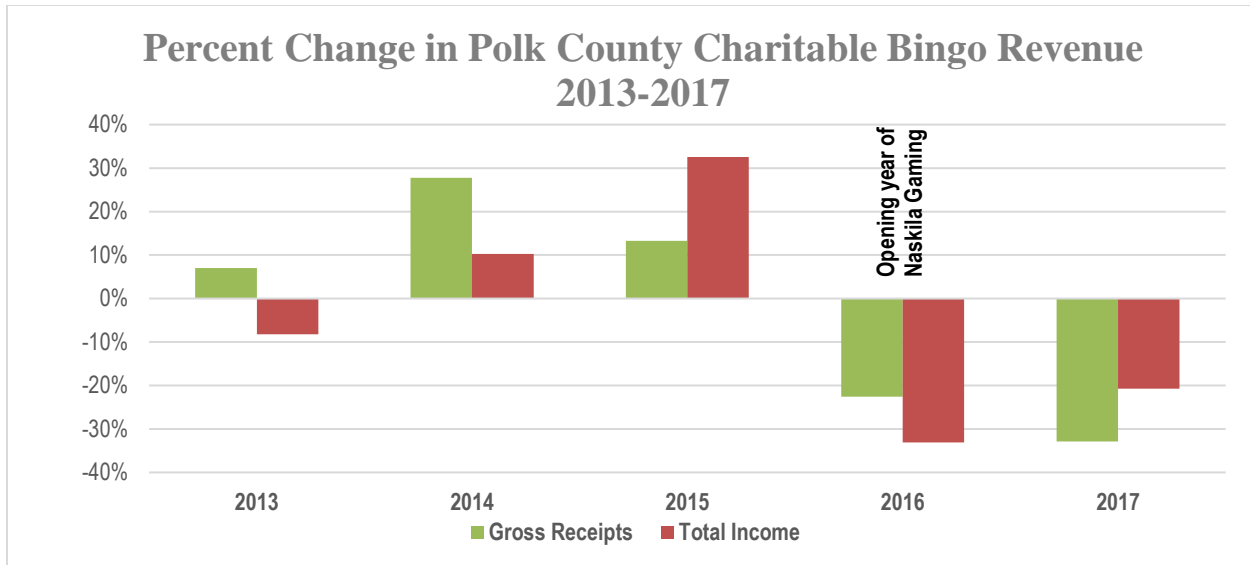
Source: Texas Lottery Commission; The Innovation Group

Maverick County Impacts

Examining the charitable bingo trends in Maverick County, where the Kickapoo Lucky Eagle Casino Hotel operates, reveals similar trends to those experienced in Polk County. The Kickapoo gaming facility opened in October 2013. As displayed in the table below, Gross Receipts and Total Income from bingo operations within Maverick County decreased by a CAGR of approximately 8.1% and 4.2% from 2012 to 2017, respectively.

Table 98: Texas Charitable Bingo Operating Statistics – Maverick County

	2012	2013	2014	2015	2016	2017
Gross Receipts	$114,054	$112,223	$89,344	$79,169	$62,778	$74,740
Prizes Paid	$71,600	$64,650	$47,750	$41,015	$34,000	$40,500
Total Income	**$42,454**	**$47,576**	**$41,597**	**$38,154**	**$28,778**	**$34,240**
Total Expenses	$34,708	$37,935	$34,597	$30,465	$26,846	$24,744
Net Proceeds	$7,746	$9,641	$7,000	$7,689	$1,977	$9,721
Charitable Distributions	$8,071	$9,068	$6,795	$5,634	$3,885	$6,046

Source: Texas Lottery Commission

The following graph displays annual growth of charitable bingo revenue within Maverick County. As shown in the graph, charitable bingo operations within Maverick County experienced a similarly sizeable impact in 2014, the first full year of operations for the Kickapoo Lucky Eagle Casino Hotel. Gross Receipts and Total Income declined by 20.4% and 12.6% in 2014,

respectively. Maverick County's charitable bingo continued to experience declines through 2016. Interestingly, in 2017, charitable bingo operations returned to growth with Gross Receipts and Total Income increasing by 19.1% and 19.0%, respectively.
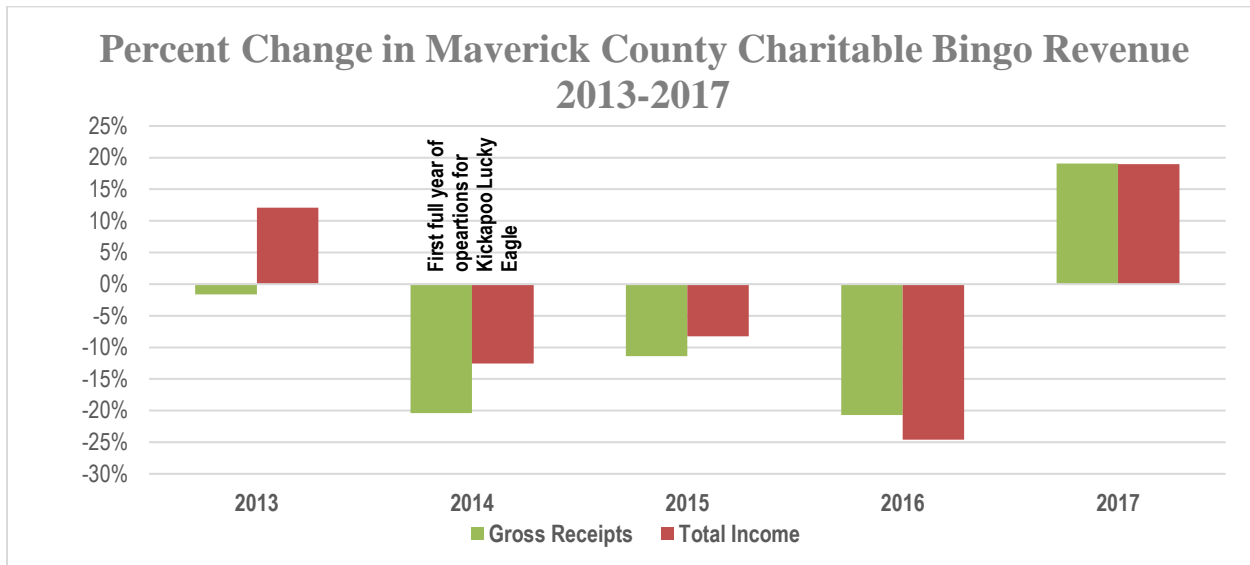
Source: Texas Lottery Commission; The Innovation Group

Statewide Impacts

As mentioned in the beginning of this section, despite the localized impacts experienced in the host counties of casinos, Texas' statewide charitable bingo operations achieved growth throughout the opening periods of the state's two casinos. The following table displays annual operating statistics for charitable bingo within the state of Texas as a whole from 2011 to 2017. As displayed in the table, Adjusted Gross Receipts and Charitable Distributions from bingo operations within the state increased by a CAGR of approximately 0.1% from 2011 to 2017, respectively. These growth rates accelerated from 2013 (the year Kickapoo began operations) to 2017, with Adjusted Gross Receipts and Charitable Distributions increasing by a CAGR of approximately 2.2% and 4.2%, respectively.

Table 99: Texas Charitable Bingo Operating Statistics ($000)

	2011	2012	2013	2014	2015	2016	2017	CAGR '11-'17	CAGR '13-'17
Total Gross Receipts	$706,128	$723,515	$719,645	$739,748	$756,773	$761,489	$776,587	0.1%	1.9%
Prizes Paid	$534,017	$549,003	$549,396	$566,542	$575,252	$579,702	$590,542	0.1%	1.8%
Adjusted Gross Receipts	**$172,111**	**$174,512**	**$170,249**	**$173,206**	**$181,521**	**$181,787**	**$186,045**	**0.1%**	**2.2%**
Charitable Distributions	$29,040	$29,464	$26,574	$25,849	$28,521	$30,187	$31,295	0.1%	4.2%

Source: Texas Lottery Commission

The following graph displays annual growth of charitable bingo revenue within Texas—in the form of Adjusted Gross Receipts and Charitable Distributions—as reported by the Texas Lottery Commission. As shown in the graph, 2013 and 2014 were the only years that displayed any negative growth over the timeframe analyzed—2012 to 2017. Adjusted Gross Receipts declined by 2.4% in 2013 while Charitable Distributions declined by 9.8%. In 2014, Adjusted Gross Receipts actually increased by 1.7% while Charitable Distributions declined by 2.7%. By 2015, statewide charitable bingo returned to annual growth, which continued in subsequent years. This signals that a large, diversified statewide charitable gaming market will likely absorb any short-term negative impacts resulting from casino openings.

Percent Change in Texas Charitable Bingo Revenue 2012-2017
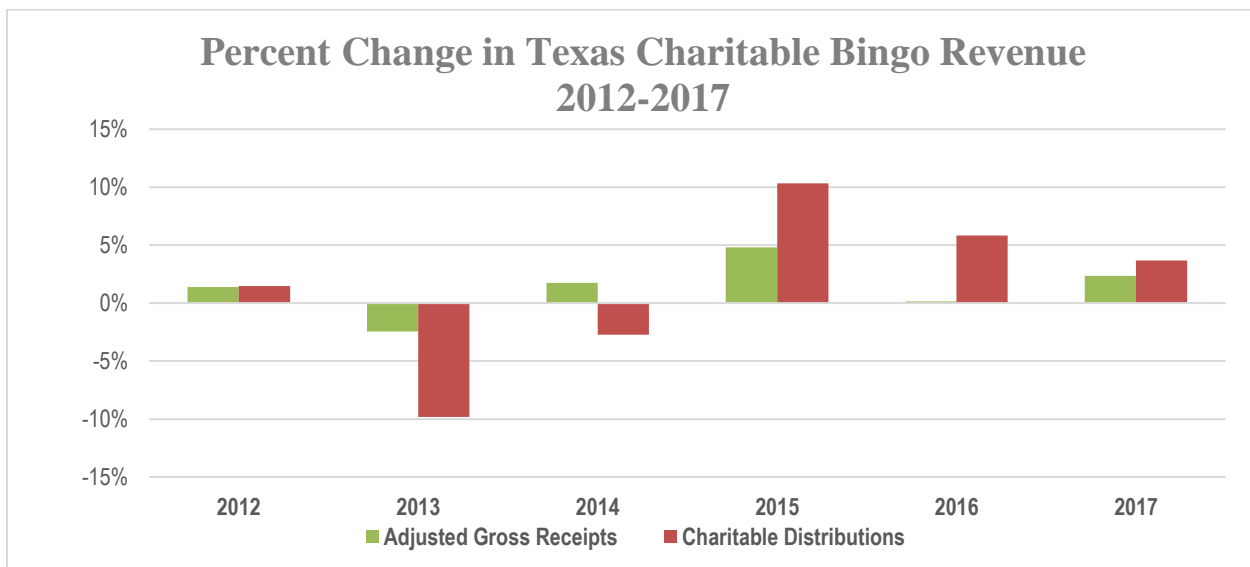
Source: Texas Lottery Commission; The Innovation Group

Casino Impact on Virginia Charitable Gaming

Methodology

In order to forecast the potential impacts of casino gaming on Charitable Gaming we first had to create a baseline forecast for the existing Charitable Gaming market. The following table summarizes The Innovation Group's sales forecasts for each Charitable Gaming game type, assuming casino gaming is not introduced within the State. To forecast sales, The Innovation Group relied on the historical sales statistics for each game type as well as the economic and demographic data for Virginia, both of which were presented previously in this report. As shown in the table below, we forecast total Charitable Gaming sales to increase by a CAGR from 3.9% from fiscal year 2018 through fiscal year 2024.

Table 100: Virginia Charitable Gaming Baseline Forecast (000's)

	2018 (Actual)	2024 (Forecast)	2018-2024 CAGR
Bingo Sales	$92,958	$82,346	-2.0%
Bingo-Session Electronic Pull-Tab Sales	$156,806	$166,452	1.0%
Social Club Electronic Pull-Tab Sales	$790,277	$1,059,047	5.0%
Total Sales	**$1,040,041**	**$1,307,846**	**3.9%**

Source: The Innovation Group

With the baseline sales forecasted we were then able to assess the potential impacts of casino gaming for each Charitable Gaming game type. The impacts are summarized and discussed in the results section below.

Results

Table 101 shows the forecasted impact on Charitable Gaming in Virginia under each of the three development scenarios. As displayed in the table, the forecasted impact on Charitable Gaming Proceeds for each development scenario ranges from a low of 1.1% to a high of 4.8%. These impacts are based on the case study analysis completed for Charitable Gaming in Massachusetts (slight long-term decline after casino opening) and Texas (long-term increase after casino opening) as well as a measure of conservatism. While the comparable states' statewide Charitable Gaming operations experienced minimal or no meaningful long-term impact, we believe our forecast range of low-single-digit declines is warranted and reasonable. The hold rate and proceed margin used to calculate revenue and charity proceeds are based on historical actuals for the Virginia Gaming Market.

Table 101: Forecasted 2024 Charitable Gaming Performance and Impact Scenarios

	Charitable Gaming Sales	% Impact	Charitable Gaming Revenue	% Impact	Charitable Gaming Proceeds	% Impact
2024 Baseline	$1,307,845,972		$143,502,739		$70,330,494	
HHR Benchmark	$1,293,966,259	-1.1%	$141,985,375	-1.1%	$69,585,757	-1.1%
Casino Base Scenario	$1,249,219,063	-4.5%	$137,156,835	-4.4%	$67,203,583	-4.4%
Casino NOVA Scenario	$1,244,477,865	-4.8%	$136,634,110	-4.8%	$66,947,879	-4.8%

Source: The Innovation Group

To validate the reasonableness of these projections, we have used the number of electronic pull-tabs by locality as a proxy for the distribution of charitable gaming sales within the commonwealth. Host communities in the Casino Base scenario account for 22.7% of statewide units (and we therefore assume they account for 22.7% of total charitable gaming sales), with Roanoke adding 5.8% of supply (Vinton HHR market) and NOVA another 4.6%. If the casino host communities experience a 20% decline as experienced in Texas, that would equate to a 4.5% decline (22.7% times 20%). Bingo development in NOVA is not as extensive as other parts of the state; therefore, the incremental impact of a NOVA casino is not expected to be substantial. Given the 150 HHR limit in Vinton, which is a capacity constrained level of supply relative to the Roanoke-area population, we would not expect a significant impact on charitable gaming from the Vinton HHR. Therefore, a 1% impact from HHRs statewide is considered a reasonable estimate.

Table 102: Electronic Pull Tabs by Host Community

	# of Units	% of State Total
HHR Only	**120**	**5.8%**
New Kent	0	
Roanoke	120	
HHR and Casino (Baseline)	**203**	**9.8%**
Chesapeake (city)	25	
Hampton (city)	21	
Richmond (city)	36	
Chesterfield	9	
Henrico	112	
Casino Only (Baseline)	**267**	**12.9%**
Washington	18	
Bristol (city)	7	
Pittsylvania	8	
Danville (city)	33	
Newport News (city)	41	
Norfolk (city)	87	
Portsmouth (city)	28	
Virginia Beach (city)	45	
NOVA	**95**	**4.6%**
Arlington	9	
Fairfax	73	
Alexandria (city)	13	
Fairfax (city)	0	
Host County Totals	**685**	**33.1%**

Source: The Innovation Group, JLARC

These are but-for impacts, not year-over-year impacts. In other words, Charitable sales in 2024 would be 4.5% higher than they would be without the development of casinos in Scenario 2. The following table shows the five-year forecasts for the impact scenarios compared to the baseline and to the 2023 baseline forecast for year-over-year comparison.

Table 103: Charitable Five-Year Forecast (MMs)

	2023	2024	2025	2026	2027	2028
Forecast Sales						
Baseline	$1,257.4	$1,307.8	$1,360.8	$1,416.5	$1,475.0	$1,536.4
HHR Benchmark Scenario 1		$1,294.0	$1,346.4	$1,401.4	$1,459.3	$1,520.1
Casino Base Scenario 2		$1,249.2	$1,299.7	$1,352.9	$1,408.7	$1,467.3
Casino NOVA Scenario 3		$1,244.5	$1,294.8	$1,347.7	$1,403.3	$1,461.7
Revenue						
Baseline	$139.4	$143.5	$147.9	$152.4	$157.2	$162.3
HHR Benchmark Scenario 1		$142.0	$146.3	$150.8	$155.6	$160.6
Casino Base Scenario 2		$137.2	$141.3	$145.7	$150.3	$155.1
Casino NOVA Scenario 3		$136.6	$140.8	$145.1	$149.7	$154.5
Charity Proceeds						
Baseline	$68.2	$70.3	$72.5	$74.9	$77.3	$79.8
HHR Benchmark Scenario 1		$69.6	$71.8	$74.1	$76.5	$79.0
Casino Base Scenario 2		$67.2	$69.3	$71.5	$73.8	$76.3
Casino NOVA Scenario 3		$66.9	$69.0	$71.2	$73.6	$76.0

Source: The Innovation Group

ECONOMIC IMPACT ANALYSIS

Economic impact analyses are commonly used tools to estimate the economic activity that results from the opening or closure of a business or industry to an area. In this section, the Innovation Group assesses the economic impacts resulting from the projected changes in business volume (as measured in revenue) and employment due to legalized gambling in the state.

The Innovation Group performed the analysis utilizing IMPLAN data and software, a leading supplier of economic impact data and software used and relied upon by thousands of private developers and government agencies.

Methodology

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

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

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

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

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

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

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

Determining the direct economic impact is a critical first step in conducting a valid economic impact analysis. Once the direct expenditures are identified, the indirect and induced effects are

calculated using multipliers derived from an input-output model[8] of the economy. The IMPLAN input-output model identifies the relationships between various industries. The model is then used to estimate the effects of expenditures by one industry on other industries so that the total impact can be determined. Industry multipliers are developed based on U.S. Census data. IMPLAN accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis.

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

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                        ┌──────────────────────────┐
                        │     Direct Spending      │
                        └──────────────────────────┘
                                    │
                                    ▼
  Leakages    ┌──────────────────────────────────────────┐    Leakages
              │         Direct Economic Benefits          │
    ┌─────┐   │      Economic Output and Value Added       │      ┌───────────┐
    │Outside│  │               Job Creation                │      │ Spending  │
    │Taxes │  └──────────────────────────────────────────┘      │Outside the│
    └─────┘               │                                       │Geographic │
                          ▼                                       │  Region   │
              ┌──────────────────────────────────┐               └───────────┘
              │        Multiplier Effect          │                ┌─────────┐
              │      (Respending of Initial $)    │                │ Savings │
              │ (National, State, and County Multipliers) │        └─────────┘
              └──────────────────────────────────┘
                   │          │          │
                   ▼          ▼          ▼
              ┌──────┐   ┌──────┐   ┌────────┐
              │Labor │   │Goods │   │Services│
              └──────┘   └──────┘   └────────┘
                   │          │          │
                   ▼          ▼          ▼
              ┌──────────────────────────────────┐
              │       TOTAL ECONOMIC IMPACT        │
              └──────────────────────────────────┘
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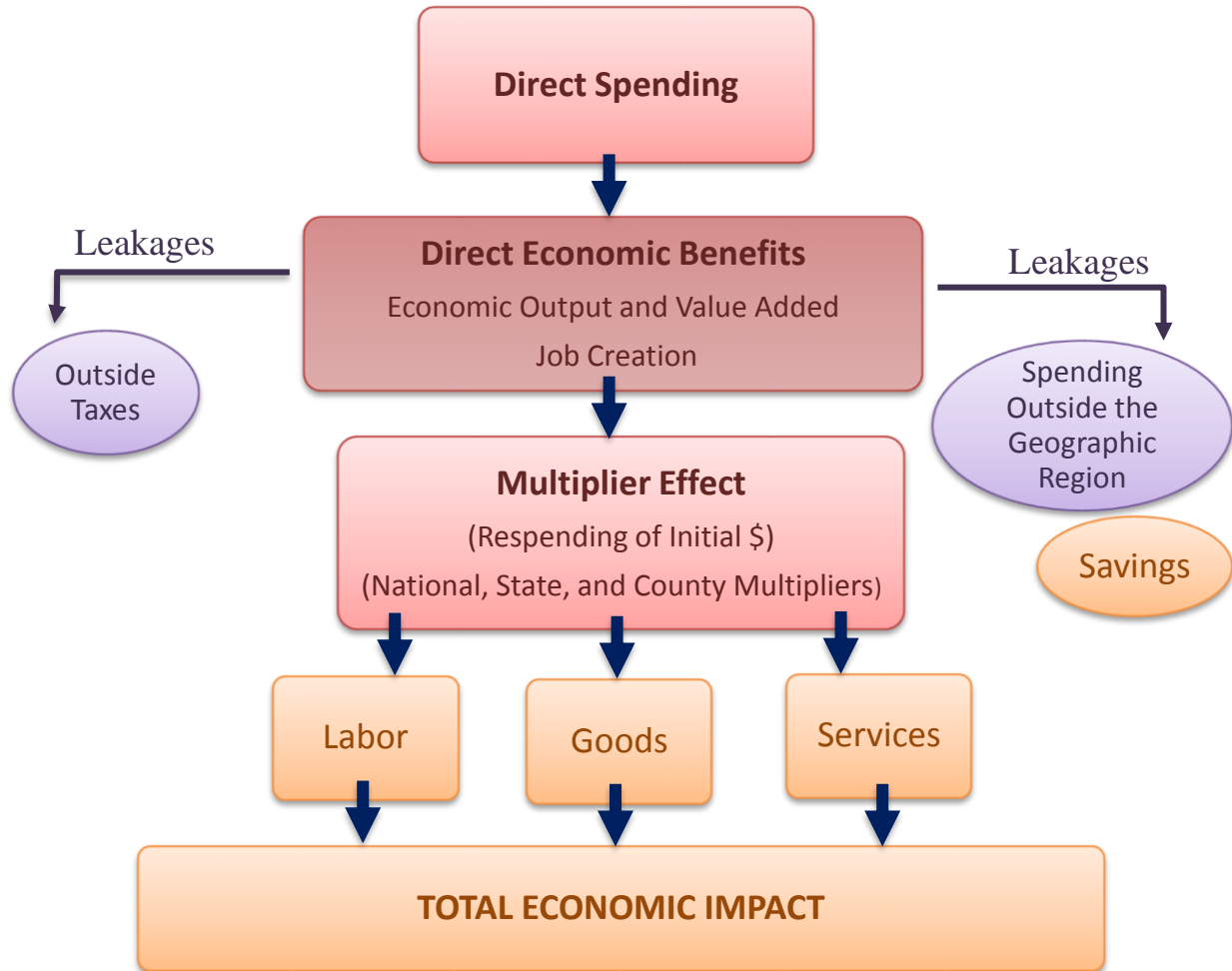
Given the number of counties and cities that would be affected by the potential changes, we relied upon the multi-regional input-output (MRIO) analysis method available in the IMPLAN Pro 3.1 software. In this process, we enter the direct spending associated with the construction and

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[8] IMPLAN 3.1 software and data were utilized for this study.

operation of the facility into a study area model. For this analysis, there are five study area models each comprised of the local jurisdiction hosting a gaming facility and surrounding jurisdictions within the region. Then, the regional model is linked to a model of all remaining jurisdictions within the state. This allows our analysis to capture impacts from purchases and employment that would have otherwise occurred outside the study area but within Virginia. IMPLAN models estimate the additional impact using existing trade flow patterns and data on each industry's supply chain, identifying linkages between industries from one region to another.
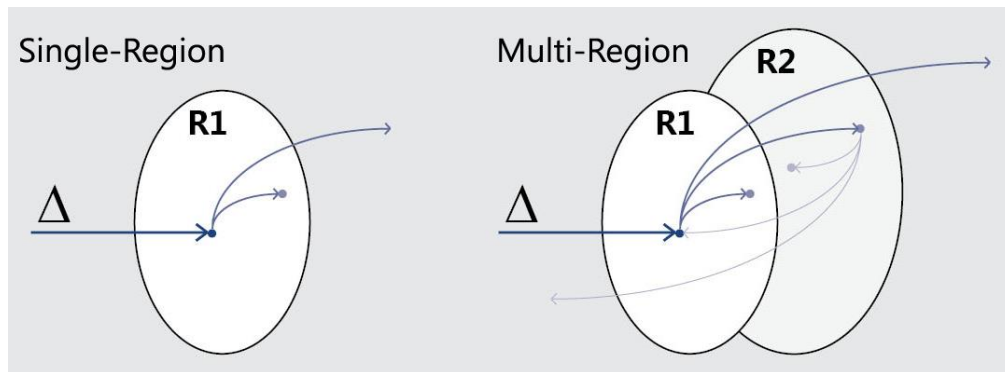
Our analysis of these linked models yields direct, indirect, and induced effects for the study area, as well as indirect and induced effects for the balance of the state; direct effects occur *only* in the study area as all purchases and employment associated with construction, employment, and operations occur there. The multi-regional analysis thus results in impacts for the study area ("Host Region") and the rest of Virginia (termed "Rest of State" in the table headings in this report).

The following map identifies the counties in each of the five regional models used for the analysis.

Figure 4: Virginia Gaming Regions
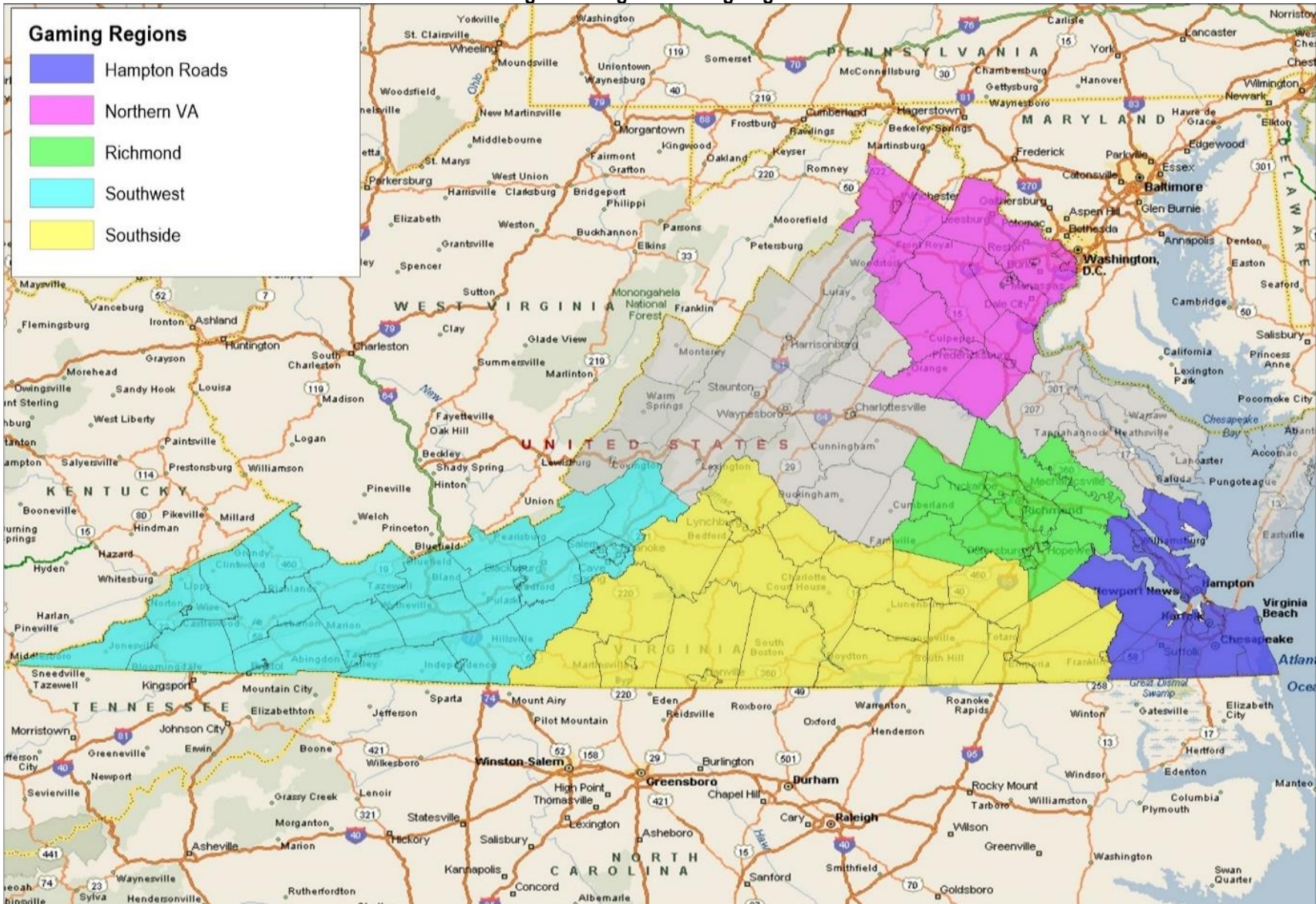
Source: The Innovation Group

A Note on Substitution

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

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

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

Description of Scenarios

The following scenarios were run through IMPLAN's MRIO modeling:

- Scenario 2 casino development for the regions of Hampton Roads, Richmond, Southside, and Southwest for the three tax alternatives.
- Scenario 3 casino development for the Northern Virginia (NOVA) region for the three tax alternatives.
- Scenario 5: Sports Betting at casinos in Hampton Roads, NOVA, Richmond, Southside, and Southwest.
- Scenario 6: Sports Betting added to pari-mutuel facilities in Hampton Roads, Richmond, Southside, and Southwest. These include Colonial Downs and the other Rosie's facilities as well as four OTB operations in Chesapeake, Collinsville, downtown Richmond, and Henrico.
- Scenario 7: Sports Betting at casinos in Hampton Roads, NOVA, Richmond, Southside, and Southwest but with the impact of Mobile Sports Betting, with would decrease wagering at bricks-and-mortar facilities but increase the statewide fiscal impact.
- HHR operations in Hampton Roads, Richmond, and Southwest for Benchmark and Casino Impact scenarios (Scenarios 1 and 2).

Additionally, we modeled the statewide impact of reduced Horsemen's payments on the Virginia horse industry.

Mobile sports betting, online gaming, lottery, and charitable gaming are presented on a statewide fiscal impact basis following the Economic Impact Analysis. Although mobile and online betting would create some employment in Virginia, it would be difficult to quantify with any certainty and is not expected to be significant. Similarly, negative impacts on lottery employment are not expected to be material. Staffing of live bingo sessions is primarily volunteer and therefore no labor income impacts are expected.

Economic and Demographic Analysis

As background to the economic impact analysis, we compare the economic and demographic characteristics among the regions. Virginia and National average are included as benchmarks to provide context for local trends.

Population

Population growth has been strongest in the NOVA region, with the Richmond area also experiencing growth above state and national averages. The Southside and Southwest regions have experienced population loss, although slight growth is forecast for the future.

Table 104: Total Population

Ring	2010	2019	2024	CAGR 2010-2019	CAGR 2019-2024
Hampton Roads	1,648,136	1,707,915	1,754,700	0.4%	0.5%
Northern VA	2,815,130	3,191,575	3,368,465	1.4%	1.1%
Richmond	1,139,468	1,236,513	1,291,168	0.9%	0.9%
Southside	738,349	729,852	736,144	-0.1%	0.2%
Southwest	832,530	821,274	828,080	-0.2%	0.2%
Virginia Statewide	**8,001,024**	**8,554,008**	**8,872,540**	**0.7%**	**0.7%**
National	*308,745,538*	*329,236,175*	*340,950,101*	*0.7%*	*0.7%*

Source: IXPRESS/Nielsen Claritas; The Innovation Group

Looking at the portion of the population 21-years and older, the Southside and Southwest regions have the highest proportions at 76% and higher. NOVA has the lowest proportion, at approximately 72%. Richmond and Hampton Roads are similar to state and national averages.

Table 105: Population 21 Yrs. and Over

Ring	2019	% of Total Population	2024	% of Total Population	CAGR 2019-2024
Hampton Roads	1,251,097	73.3%	1,288,821	73.4%	0.6%
Northern VA	2,306,093	72.3%	2,451,600	72.8%	1.2%
Richmond	911,311	73.7%	961,029	74.4%	1.1%
Southside	554,480	76.0%	563,514	76.5%	0.3%
Southwest	626,664	76.3%	636,817	76.9%	0.3%
Virginia Statewide	**6,303,830**	**73.7%**	**6,579,859**	**74.2%**	**0.9%**
National	*241,443,147*	*73.3%*	*251,847,827*	*73.9%*	*0.8%*

Source: IXPRESS/Nielsen Claritas; The Innovation Group

Race and Ethnicity

Racial and ethnic diversity is generally consistent with national averages, except for the Southwest region which is nearly 90% white alone. NOVA has the highest percentage of Asian descent population, followed by Hampton Roads and Richmond, which are approximately 1.5 percentage points lower than the national average of 5.8%.

Table 106: 2019 Population by Single Race Classification or Ethnicity

Ring	Total Pop	White Alone	Black or African American Alone	American Indian & Alaska Native Alone	Asian Alone	Native Hawaiian & Other Pacific Islander Alone	Some Other Race Alone	Two or More Races	Hispanic or Latino
Hampton Roads	1,707,915	57.6%	31.3%	0.4%	4.1%	0.1%	2.2%	4.2%	7.2%
Northern VA	3,191,575	62.5%	12.5%	0.4%	13.1%	0.1%	6.6%	4.7%	16.4%
Richmond	1,236,513	59.6%	29.8%	0.4%	4.3%	0.1%	2.9%	2.9%	6.5%
Southside	729,852	69.1%	26.0%	0.3%	1.0%	0.0%	1.5%	2.0%	3.3%
Southwest	821,274	87.7%	6.9%	0.2%	2.1%	0.0%	1.1%	1.9%	3.0%
Virginia Statewide	**8,554,008**	**65.8%**	**19.4%**	**0.4%**	**6.8%**	**0.1%**	**3.8%**	**3.6%**	**9.7%**
National	*329,236,175*	*69.8%*	*12.9%*	*1.0%*	*5.8%*	*0.2%*	*6.9%*	*3.5%*	*18.4%*

Source: IXPRESS/Nielsen Claritas; The Innovation Group

Income

Income is an important indicator of a region's economic well-being and the discretionary spending power of its residents. The following section analyzes national, state, and regional trends in income and discusses their potential impact on Virginia's development options.

National and Regional Trends

The following chart illustrates the overall widening gap between real growth in household income and gains in productivity, affecting the ability of American households to purchase the goods and services being produced. Even before the recession hit in 2008, real median income was lower than it had been in 1999 and 2000, as incomes declined in 2001 through 2004. Consumer

expenditures on gaming and other leisure activities remained strong into 2007 largely on the basis of rising home values; however, gaming revenues started a steady and pronounced decline once the housing bubble burst and the financial sector collapsed. Following the Great Recession, not until 2013 did the country see a slight uptick in real income, the first since 2007, and not until 2016 did income reach pre-recession peaks. In summary, real income has risen by 11% since 1989 while GDP per capita has risen by 49%.

Real Growth in GDP and HH Income
(Indexed to 1989)

Source: Bureau of Labor Statistics
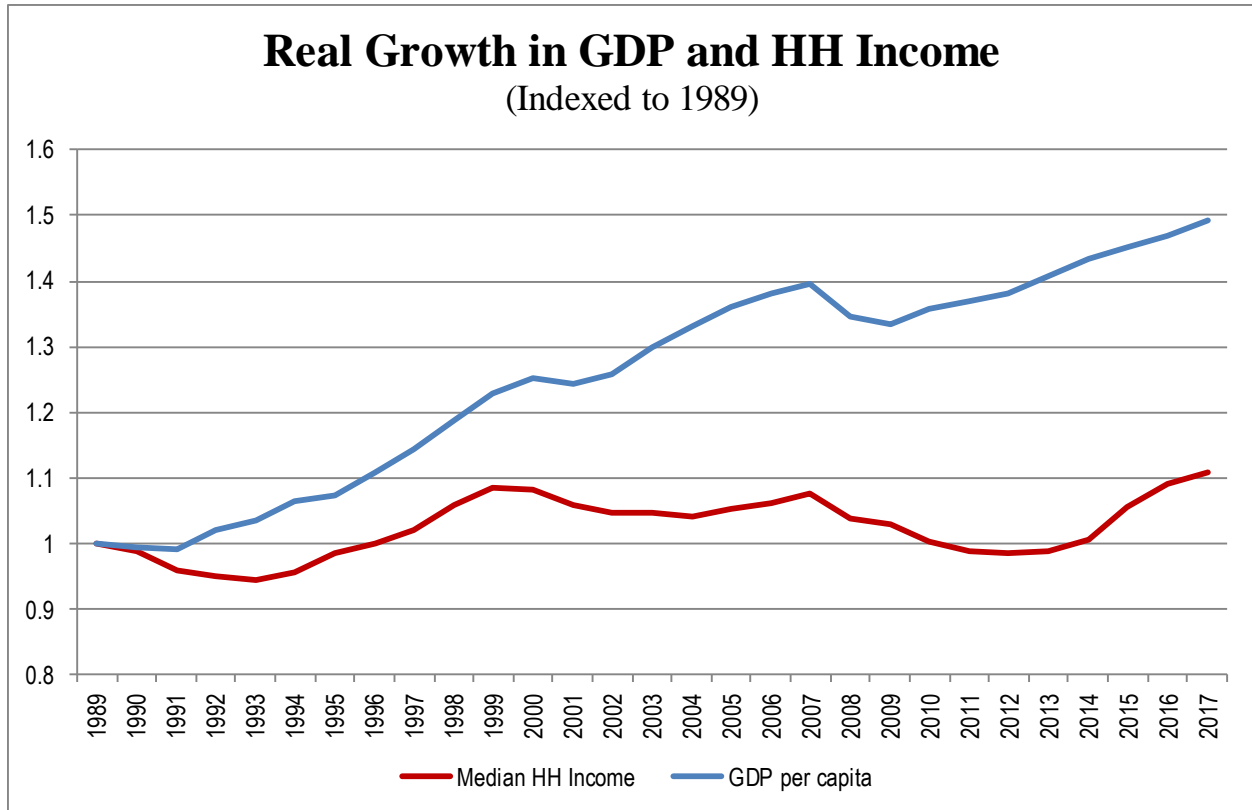
Median income in Virginia has been considerably higher than the national median income since the 1990s.

Real Median Income (1990-2017)
2017 Dollars
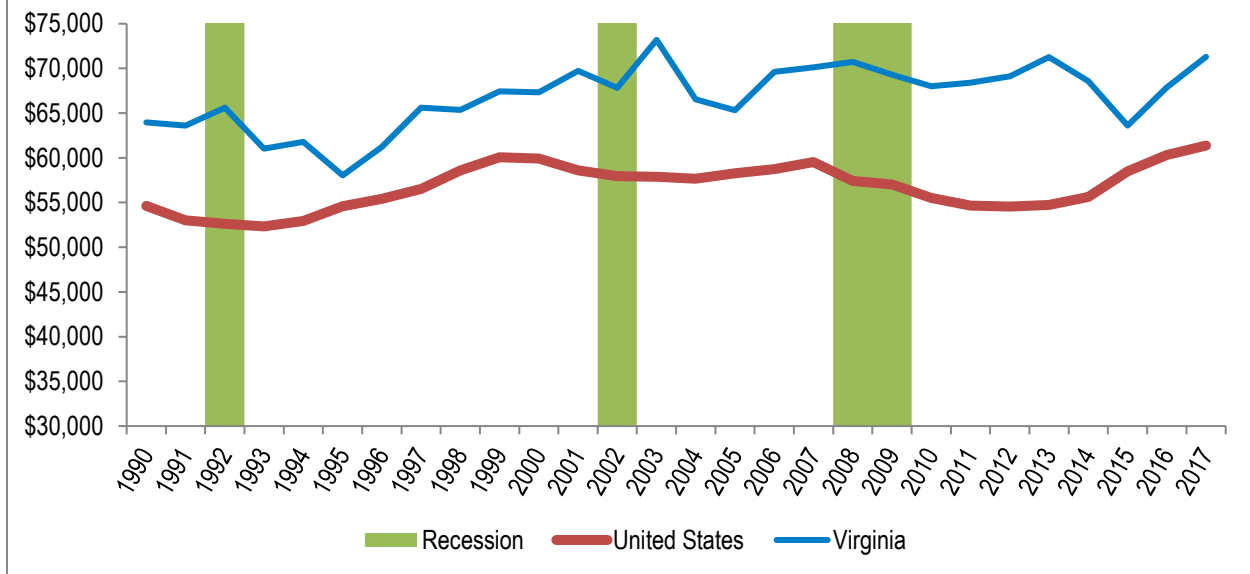
Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements.

Regional Virginia Household Income

Average household income (A.H.I) in Virginia is generally above the national average. However, the Southside and Southwest regions are substantially lower than national and state averages, and growth rates have generally been lower as well.

Table 107: Average Household Income

Ring	2000	2019	2024	CAGR 2000-2019	CAGR 2019-2024
Hampton Roads	$53,487	$87,802	$96,484	2.6%	1.9%
Northern VA	$86,333	$149,606	$158,779	2.9%	1.2%
Richmond	$60,095	$94,018	$102,375	2.4%	1.7%
Southside	$43,107	$63,110	$68,037	2.0%	1.5%
Southwest	$42,172	$64,948	$69,238	2.3%	1.3%
Virginia Statewide	**$61,785**	**$105,163**	**$113,367**	**2.8%**	**1.5%**
National	*$56,644*	*$89,646*	*$98,974*	*2.4%*	*2.0%*

Source: IXPRESS/Nielsen Claritas; The Innovation Group

Economic Impact Modeling

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

The IMPLAN sectoring scheme is based on the 6-digit North American Industry Classification System (NAICS), developed under the auspices of the Office of Management and Budget (OMB), which classifies business establishments based on the activities they are primarily engaged in or the commodities they create. IMPLAN's current sectoring scheme aggregates the 2017 version of the NAICS classification scheme down to just 536 industry sectors. When an industry and the commodity produced by the industry have the same name, the commodity is considered the primary product of that industry and will share the same sector code. Other commodities produced by that industry are considered secondary products of that industry. Therefore, it is possible for more than one industry to produce a specific good or service.

When using the Industry Change function, the direct effect values are entered into IMPLAN using the appropriate sector and IMPLAN calculates the multiplier effects resulting from that direct spending. A commodity change will distribute the total demand or sales for the good or service as an industry change across all producing industries or institutions, based on their regional market share distribution of that commodity. For construction impacts, the Industry Change function was most appropriate for modeling the costs associated with land improvements and building related costs. Costs associated with purchases of Furniture, Fixtures and Equipment (FF&E) were modeled using the Commodity Change function. The Industry Change function was also utilized for casino-related amenity operations including Hotel and Food & Beverage revenues.

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

Analysis-by-Parts for Gaming-Related Operating Impacts

The Analysis-by-Parts (ABP) differs from the traditional Industry Change Activity, as it separates out the multiplier effects into individual impact components, Intermediate Expenditure (indirect impacts from Type I multipliers) and Labor Income (induced impacts from Type II multipliers).[9] This allows for more flexibility and customization capabilities in the analysis to model actual business operations.

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

For the Labor Income (LI) component we used a Labor Income Change activity to analyze the impact of the payroll of casino operations necessary to meet the demand or production level. The direct input for Labor Income in the casino analysis consisted of Employee Compensation from our operating pro forma models.

For Intermediate Expenditures (IE), we import an Industry Spending Pattern to specify the goods and services of industry purchases needed for the sector 495 - Gambling industries (except casino hotels) in order to satisfy projected casino revenues. The purchase of these goods and services from local sources actually represents the first round of indirect purchases by the casino industry. The coefficients listed in an Industry Spending Pattern represent the amount spent on each commodity to produce one dollar of the industry's output, while the sum of all commodity coefficients equals total intermediate expenditures used by that industry sector.

Since the ABP technique shifts the direct inputs to indirect and induced impact results, the direct effects of these components are imputed using our proforma operating statements.

Customized Data

Since there is no casino industry in Virginia currently, the IMPLAN sector 495 (Gambling industries except casino hotels) data available for Virginia does not reflect casino gambling. Therefore, we have customized the sector 495 Virginia data to reflect states that have well-established casino industries. As shown in Table 108, the standard data from IMPLAN for sector 495 at the state level showed Other Property Income (OPI) at approximately 16%, significantly lower than would be expected of a state with casino resort operations. [10] Using comparable states within the mid-Atlantic region as a reference, we customized the OPI ratio to 35% of the total output per worker ratio in the modeling.

Table 108: Customized Data IMPLAN Industry Sector 495 - Virginia State

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$28,146	22%	$28,146	22%
Proprietor Income (PI)	$2,216	2%	$2,216	2%
Other Property Income (OPI)	$20,985	*16%*	$45,668	*35%*
Tax on Production & Imports (TOPI)	$9,514	7%	$9,514	7%
Value Added	*$60,861*	*47%*	*$85,544*	*66%*
Intermediate Expenditures (IE)	$69,620	53%	$44,937	34%
Output per worker	**$130,481**		**$130,481**	

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

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[10] See Appendix for customized data of all models.

The customization of IMPLAN sector 495 has the effect of decreasing the model's multipliers for that industry, since more of the output is shifted from Intermediate Expenditures into Other Property Income (OPI). Multipliers are not applied to OPI in an economic impact analysis since it does not stimulate any additional impacts that can be attributed to the study area. For example, corporate profits from a casino operation may accrue to a company based in another state, effectively a leakage from the model. In other words, by shifting more Output to OPI, more of the Output is effectively leaked out of state, and the multiplier effect is reduced. Figure 5 illustrates.

Figure 5: IMPLAN Modeling Components
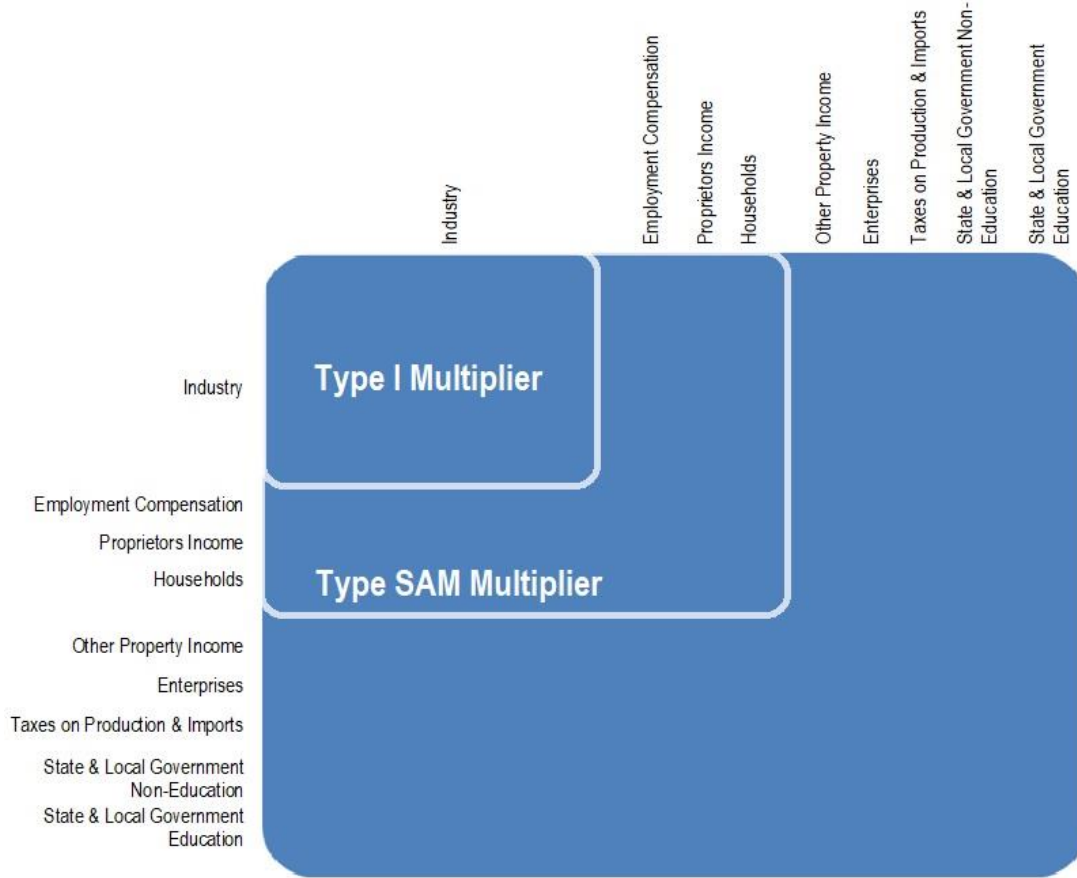
Table 109 shows the change in output multipliers for the Virginia state model resulting from this customization. To illustrate, an increase in direct effect of $1,000,000 would produce a total effect of $1,860,000 in the standard model, compared to $1,620,000 in the customized model.

Table 109: Output Multipliers for IMPLAN Industry Sector 495 – Virginia State

Multiplier	Standard Model	Customized Model
Type I	0.54	0.35
Type II	0.32	0.27
Total (SAM)	**1.86**	**1.62**

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

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

Interpreting Results

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

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

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

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

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

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

The following graph shows how economic impact components are distributed, using Scenario 2 as an illustration. The dark blue wedges combined are equivalent to Value Added and the total pie is equivalent to Output.

Figure 6: Economic Impact Distribution Illustration

Casino Operations Total Economic Output ($1,609 MM)
Scenario 2, 27% Tax rate

- Value Added ($1,219 MM)   ■ Intermediate Expenditures ($390 MM)
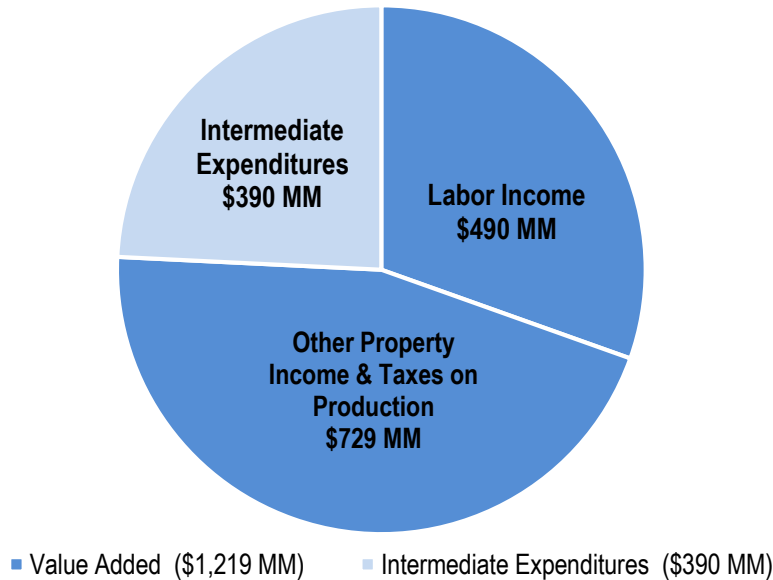
Ongoing Operations

Legalized gambling operations in Virginia will result in ongoing economic benefits that will accrue annually to the state. As discussed, the gaming and related[11] operations were modeled using an Analysis-by-Parts technique from operating expenditures including labor income and cost of goods (COGS). Projected F&B and hotel revenues at the casino were modeled using an industry change. The direct inputs for each of these components were derived from The Innovation Group's gaming market assessment, sports betting analysis, and proforma analysis of each casino property.

To summarize the main results of the annual ongoing operating analysis: if five full-scale casinos are developed in Bristol, Danville, Portsmouth, Norfolk, and Richmond, the direct ongoing employment impact to the state is estimated to be 8,227, 7,592 and 6,793, respectively, at the gaming revenue tax rates of 12, 27 and 40 percent, and the impact to the state's GDP in 2025 is estimated to be from $1.2 billion to $1.3 billion. Sports betting at those casinos would create an additional 576 jobs and $106 million in GDP.

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[11] Entertainment and events and casino gift shop.

If a sixth casino is developed in Northern Virginia, an additional 3,200 casino jobs would be created along with $700 million added to the state's GDP. Sports betting at NOVA would create an additional 187 jobs and $35 million in GDP.

Operating Inputs

To analyze the annual impact generated by direct operations of the facility we used Year 2 (2025), the first year of stabilized operations.

Casino Operations

Direct effect inputs for casino operations account for the workers employed at the facility and the compensation they earn as well as the purchases of goods and services. Staffing and employment compensation estimates were based on The Innovation Group's operating pro forma model and input into the IMPLAN software. Our staffing model has been calibrated to actual operating data from existing casinos and is on a Full-Time Equivalent ("FTE") basis. These FTEs were converted into total number of employees (Full and Part-time) using IMPLAN's conversion matrix, which for the casino sector is 0.82136 FTEs for each employee on a headcount basis.

The following tables show the total operating parameters and the adjusted inputs utilized in the IMPLAN modeling for all three tax scenarios (12%, 27% & 40%) by region.

Table 110: Casino Direct Effect Inputs – Hampton Roads Region*

Scenario 12%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$50,719,871		
5001 Employment Compensation		2,031	$106,447,476
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$24,377,438	320	$7,106,820
501 Full-service restaurants	$37,170,235	741	$16,908,814
Scenario 27%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$49,023,514		
5001 Employment Compensation		1,972	$103,494,563
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$17,876,788	234	$5,616,938
501 Full-service restaurants	$34,108,036	687	$15,687,310
Scenario 40%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$47,419,879		
5001 Employment Compensation		1,802	$95,082,474
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$9,750,975	128	$3,754,586
501 Full-service restaurants	$31,800,765	633	$14,555,626

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group;
*Combined inputs for proposed casinos in Portsmouth & Norfolk

Table 111: Casino Direct Effect Inputs – Northern VA Region*

Scenario 12%

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
495 Gambling industries (except casino hotels)	$84,947,469		
5001 Employment Compensation		2,255	$124,403,283
Industry Change	*Revenue*	*Employment*	*Labor Income*
499 Hotels and motels, including casino hotels	$16,251,625	213	$4,484,586
501 Full-service restaurants	$49,355,706	799	$18,980,128

Scenario 27%

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
495 Gambling industries (except casino hotels)	$83,946,347		
5001 Employment Compensation		2,230	$123,054,638
Industry Change	*Revenue*	*Employment*	*Labor Income*
499 Hotels and motels, including casino hotels	$13,001,300	170	$3,739,645
501 Full-service restaurants	$46,821,943	770	$18,206,057

Scenario 40%

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
495 Gambling industries (except casino hotels)	$83,946,347		
5001 Employment Compensation		2,230	$123,054,638
Industry Change	*Revenue*	*Employment*	*Labor Income*
499 Hotels and motels, including casino hotels	$13,001,300	170	$3,739,645
501 Full-service restaurants	$46,821,943	770	$18,206,057

Source: IMPLAN Group, LLC, IMPLAN System (data and software); The Innovation Group. *Applies to Scenario 3 only.

Table 112: Casino Direct Effect Inputs – Richmond Region

Scenario 12%

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
495 Gambling industries (except casino hotels)	$43,343,350		
5001 Employment Compensation		1,488	$78,261,448
Industry Change	*Revenue*	*Employment*	*Labor Income*
499 Hotels and motels, including casino hotels	$13,001,300	170	$4,644,428
501 Full-service restaurants	$26,689,573	464	$15,846,520

Scenario 27%

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
495 Gambling industries (except casino hotels)	$42,505,848		
5001 Employment Compensation		1,462	$76,932,542
Industry Change	*Revenue*	*Employment*	*Labor Income*
499 Hotels and motels, including casino hotels	$9,750,975	128	$3,657,751
501 Full-service restaurants	$26,675,418	461	$15,756,750

Scenario 40%

Industry Spending Pattern & Labor Change	Expenditures	Employment	Labor Income
495 Gambling industries (except casino hotels)	$41,731,063		
5001 Employment Compensation		1,396	$73,619,217
Industry Change	*Revenue*	*Employment*	*Labor Income*
499 Hotels and motels, including casino hotels	$8,125,813	107	$3,164,413
501 Full-service restaurants	$26,572,384	453	$15,543,937

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

Table 113: Casino Direct Effect Inputs – Southside Region

Scenario 12%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$28,706,568		
5001 Employment Compensation		1,156	$60,215,482
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$16,251,625	213	$4,484,586
501 Full-service restaurants	$18,394,568	400	$8,779,712
Scenario 27%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$26,604,667		
5001 Employment Compensation		1,081	$56,469,262
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$9,750,975	128	$2,994,704
501 Full-service restaurants	$17,392,537	373	$8,357,703
Scenario 40%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$25,466,037		
5001 Employment Compensation		939	$49,450,625
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$6,500,650	85	$2,249,764
501 Full-service restaurants	$16,740,568	341	$7,758,240

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

Table 114: Casino Direct Effect Inputs – Southwest Region

Scenario 12%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$19,899,970		
5001 Employment Compensation		777	$40,738,805
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$13,001,300	170	$3,739,645
501 Full-service restaurants	$13,284,940	297	$6,647,411
Scenario 27%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$18,444,265		
5001 Employment Compensation		729	$38,426,147
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$6,500,650	85	$2,249,764
501 Full-service restaurants	$12,301,841	253	$5,829,244
Scenario 40%			
Industry Spending Pattern & Labor Change	**Expenditures**	**Employment**	**Labor Income**
495 Gambling industries (except casino hotels)	$17,638,605		
5001 Employment Compensation		640	$34,094,657
Industry Change	**Revenue**	**Employment**	**Labor Income**
499 Hotels and motels, including casino hotels	$3,250,325	43	$1,504,823
501 Full-service restaurants	$11,522,214	226	$5,319,853

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

Sports Betting

Direct effect inputs for casino operations account for the workers employed at the facility and the compensation they earn as well as the purchases of goods and services. Staffing, employment compensation, and cost of goods (COGS) estimates were based on industry knowledge of sports betting facility's operational budget and input into the IMPLAN software.

The following table shows the total operating parameters and the adjusted inputs utilized in the IMPLAN modeling, combining all facilities in each region for development scenarios 5, 6, and 7. Scenario 8 has not been modeled since mobile-only betting would not likely have significant economic impact to the Commonwealth.

Table 115: Sports Betting Direct Effect Inputs by Region

Scenario 5	Hampton Roads	Northern VA	Richmond	Southside	Southwest
Industry Spending Pattern & Labor Change					
495 Gambling industries (except casino hotels)	$6,493,643	$4,570,386	$4,366,339	$2,556,011	$688,193
5001 Employment Compensation	$12,722,239	$8,954,226	$8,554,460	$5,007,695	$1,348,296
Employees	265	187	178	104	28
Scenario 6					
Industry Spending Pattern & Labor Change					
495 Gambling industries (except casino hotels)	$6,622,322	-	$5,442,580	$2,326,097	$1,555,803
5001 Employment Compensation	$12,974,345	-	$10,663,014	$4,557,252	$3,048,103
Employees	270	-	222	95	64
Scenario 7					
Industry Spending Pattern & Labor Change					
495 Gambling industries (except casino hotels)	$4,432,634	$2,172,466	$3,642,977	$1,556,967	$1,041,372
5001 Employment Compensation	$8,684,343	$4,256,261	$7,137,260	$3,050,384	$2,040,240
Employees	181	89	149	64	43

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

HHR Facilities

HHR operations are estimated based on The Innovation Group's operating pro forma model and our gaming revenue forecasts along with available third-party data. An estimate for food and beverage revenue is also included. We have modeled for Benchmark (Scenario 1) and Casino Impact (Scenario 2) alternatives using the same methodology as described above for the casinos.

Table 116: HHR Facilities Direct Effect Inputs by Region: Scenario 1 Benchmark

	Hampton Roads	Richmond	Southwest
Industry Spending Pattern & Labor Change			
495 Gambling industries (except casino hotels)	$18,014,516	$15,329,399	$2,541,630
5001 Employment Compensation	$20,533,860	$17,473,227	$2,897,079
Employees	425	362	60
Industry Change (Revenue)			
501 Full-service restaurants	$12,009,678	$10,219,600	$1,694,420

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

Vinton (Southwest) is not expected to be materially affected by casino development and job losses are not expected; therefore, the inputs for the Southwest region are the same for Scenarios 1 and 2.

Table 117: HHR Facilities Direct Effect Inputs by Region: Scenario 2

	Hampton Roads	Richmond	Southwest
Industry Spending Pattern & Labor Change			
495 Gambling industries (except casino hotels)	$10,052,432	$7,214,259	$2,541,630
5001 Employment Compensation	$14,294,008	$11,113,425	$2,897,079
Employees	302	236	60
Industry Change (Revenue)			
501 Full-service restaurants	$6,701,621	$4,809,506	$1,694,420

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

Statewide Horse Industry

As discussed in the horse racing analysis section, the horse industry is projected to receive more than $20 million from HHR revenue in Scenario 1. In Scenario 2, this level of funding would reduce by approximately $9.5 million. It could be argued that the impact of casino development would have a minimal impact on the horse industry. Breeding and other economic activities within the horse industry can benefit from funding from gaming, although purse contributions from gaming do not necessarily translate 100% into downstream benefits, and even states with substantial levels of funding such as Pennsylvania have seen declines in breeding, albeit less steep declines than in states without gaming contributions.

Moreover, with casino development in Virginia, purse contributions from HHR revenue would be reduced by approximately 10% or $20,000 per race day relative to proposed racing schedules in Virginia. However, contributions from gaming, at $180,000 per race day, would remain relatively competitive with funding levels in Pennsylvania and Maryland.

However, for the purpose of this analysis we have assumed that the full amount of reduced funding ($9.5 million) would accrue negatively to the horse owners in the industry.

To model this impact, the $9.5 million was attributed to known expenditures and capital investments of horse owners in Virginia based on previous work performed for The American Horse Council. The Commodity Change function was most appropriate for modeling horse

ownership expense data, excluding employment compensation, as we are unable to specify where or from whom the goods were purchased. All horse ownership expenses were entered into the IMPLAN commodity sector that corresponds to the most appropriate NAICS code for each individual expense line item. Employment compensation was modeled as an industry change through IMPLAN sector 19 Support activities for agriculture and forestry. Table 118 shows the expenses as classified in the IMPLAN sector scheme:

Table 118: Horse Industry Direct Effect Inputs

Commodity Change	Direct Effect Input
3002 Grains	$143,201
3010 All other crops	$143,201
3049 Electricity transmission and distribution	$5,119
3051 Water, sewage and other systems	$5,119
3057 Newly constructed commercial structures, including farm structures	$475,461
3058 Newly constructed nonresidential structures	$563,629
3062 Maintained and repaired nonresidential structures	$40,949
3066 Other animal food	$190,729
3174 Pharmaceuticals	$95,262
3262 Farm machinery and equipment	$697,827
3395 Wholesale trade distribution services	$282,029
3396 Retail services - Motor vehicle and parts dealers	$531,739
3402 Retail services - Gasoline stores	$56,454
3404 Retail services - Sporting goods, hobby, musical instrument and bookstores	$273,959
3411 Truck transportation services	$162,499
3437 Insurance	$151,723
3440 Real estate buying and selling, leasing, managing, and related services	$187,876
3459 Veterinary services	$792,464
3465 Business support services	$151,723
3474 Other educational services	$414
3489 Commercial sports except racetrack operations	$3,535,582
3491 Promotional services for performing arts and sports and public figures	$78,558
3499 Hotels and motel services, including casino hotels	$112,908
3500 Other accommodation services	$162,499
3501 Full-service restaurant services	$56,454
Industry Change	
19 Support activities for agriculture and forestry	$602,621
Total Net Decrease in Direct Effect	**$9,500,000**

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

Annual Economic Impacts from Operations

Assumptions

The results in the following section represent total impacts (direct, indirect and induced) of ongoing operations using the multi-regional analysis (MRIO).

All impacts are on an annual basis reflecting Year 2 stabilized operations, or 2025.

Casino operating impacts include amenities as discussed previously and are shown for the three gaming tax assumptions. Casino operating impacts do not include HHR facilities, the impacts for which are shown separately.

Because of narrow hold margins, Sports Betting is assumed to be taxed at a flat rate of 12%.

Context

To place the impacts presented in this chapter into context, we compare the Employment and Value Added results to total employment in the local area and total Gross Regional Product (GRP, a measure of a region's GDP), using the 27% gaming tax alternative as an illustration. GRP estimates come from IMPLAN and local employment statistics from the Bureau of Labor Statistics. For the employment comparisons, we narrowed the Southwest and Southside regions to the immediate localities.

As discussed, Value Added is considered the equivalent of GDP, and therefore we compare each region's Total Value Added resulting from proposed casino operations to IMPLAN's estimate of that region's GRP. Under the 27% tax rate alternative, casino development would increase GRP in Virginia by 0.4%, with Southside experiencing a 0.9% increase. The estimated impact on GRP is more significant to the economies in rural regions.

Table 119: Casino Operations Comparison to IMPLAN's Gross Regional Product (GRP)

Region	Total Pop	Total Employment	Gross Regional Product	Value Added Casino Operations* (27% tax rate)	Percent Increase to Gross Regional Product (GRP)
Hampton Roads	1,693,911	1,036,528	$91,776,046,588	$439,176,001	0.5%
NOVA	3,141,978	2,069,029	$234,275,263,564	$693,310,209	0.3%
Richmond	1,224,162	814,221	$88,574,491,482	$392,265,882	0.4%
Southside	728,573	357,478	$24,029,676,504	$215,510,979	0.9%
Southwest	822,323	443,273	$33,606,328,777	$154,317,060	0.5%
Virginia Statewide	*8,470,020*	*5,200,121*	*$510,183,130,782*	*$1,894,580,130*	*0.4%*

IMPLAN Group, LLC, IMPLAN System; *Note: Reflects total value added (direct, indirect & induced) resulting from casino operations at each property under the 27% tax rate alternative.

Direct casino employment would be a significant portion of the labor force in rural regions of the state, equaling up to 3.4% of workers currently employed in the Bristol-Washington County area and 3.2% of those employed in Dansville-Pittsylvania.

Table 120: Average Annual Unemployment Statistics by Region - 2018

Region	Labor Force	Employed	Unemployed	Rate	Casino Employment* (27% tax rate)	Percent of Labor Force
Hampton Roads	834,433	807,322	27,111	3.2%	2,893	0.3%
NOVA	1,712,792	1,669,732	43,060	2.5%	3,170	0.2%
Richmond	643,290	623,141	20,149	3.1%	2,051	0.3%
Dansville-Martinsville-Pittsylvania	79,146	75,936	3,210	4.1%	1,582	2.0%
Dansville-Pittsylvania	50,125	48,051	2,074	4.1%	1,582	3.2%
Bristol-Washington	43,249	41,781	1,468	3.4%	1,464	3.4%
Virginia Statewide	*4,331,384*	*4,202,799*	*128,585*	*3.0%*	*11,159*	*0.3%*

Source: Bureau of Labor Statistics, LAUS series; *Note: Reflects direct employment only under the 27% tax rate alternative.

Hampton Roads Region

There are economic impacts to this region from operations at the two proposed casino locations (Norfolk and Portsmouth) in addition to two Rosie's HHR locations (Chesapeake and Hampton) and the Chesapeake OTB facility.

The casino operating impacts for Hampton Roads are combined for Norfolk and Portsmouth. Based on the gaming revenue forecast, we estimate that 52.5% of the following impacts would be attributable to Norfolk and 47.5% to Portsmouth.

Table 121: Casino Operating Impacts ($MMs) – Hampton Roads Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,092	$130.5	$351.9	$431.2
Indirect Effect	424	$20.9	$43.7	$70.7
Induced Effect	775	$33.5	$65.3	$110.8
Total	**4,291**	**$184.8**	**$460.8**	**$612.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	20	$1.6	$2.4	$4.1
Induced Effect	33	$2.3	$3.5	$5.9
Total	**54**	**$3.9**	**$5.9**	**$10.0**
Total Statewide Impact				
Direct Effect	3,092	$130.5	$351.9	$431.2
Indirect Effect	444	$22.5	$46.0	$74.9
Induced Effect	808	$35.8	$68.8	$116.7
Total	**4,344**	**$188.7**	**$466.7**	**$622.8**

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

Table 122: Casino Operating Impacts ($MMs) – Hampton Roads Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,893	$124.8	$336.4	$409.2
Indirect Effect	393	$19.3	$40.7	$65.7
Induced Effect	737	$31.9	$62.1	$105.5
Total	**4,023**	**$176.0**	**$439.2**	**$580.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	18	$1.4	$2.1	$3.7
Induced Effect	31	$2.1	$3.3	$5.5
Total	**49**	**$3.6**	**$5.4**	**$9.2**
Total Statewide Impact				
Direct Effect	2,893	$124.8	$336.4	$409.2
Indirect Effect	411	$20.7	$42.8	$69.3
Induced Effect	768	$34.0	$65.4	$111.1
Total	**4,072**	**$179.5**	**$444.6**	**$589.6**

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

Table 123: Casino Operating Impacts ($MMs) – Hampton Roads Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,563	$113.4	$323.6	$389.9
Indirect Effect	360	$17.6	$37.6	$60.4
Induced Effect	670	$29.0	$56.5	$95.9
Total	**3,593**	**$160.0**	**$417.7**	**$546.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	16	$1.2	$1.8	$3.2
Induced Effect	28	$1.9	$3.0	$5.0
Total	**44**	**$3.2**	**$4.8**	**$8.1**
Total Statewide Impact				
Direct Effect	2,563	$113.4	$323.6	$389.9
Indirect Effect	375	$18.8	$39.4	$63.6
Induced Effect	698	$30.9	$59.5	$100.9
Total	**3,637**	**$163.1**	**$422.4**	**$554.3**

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

Table 124: Sports Betting Operating Impacts ($MMs) – Hampton Roads Scenario 5

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	265	$12.7	$39.9	$46.4
Indirect Effect	38	$1.8	$4.0	$6.2
Induced Effect	74	$3.2	$6.2	$10.6
Total	**377**	**$17.7**	**$50.1**	**$63.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.1	$0.2
Induced Effect	3	$0.2	$0.3	$0.5
Total	**4**	**$0.3**	**$0.4**	**$0.7**
Total Statewide Impact				
Direct Effect	265	$12.7	$39.9	$46.4
Indirect Effect	39	$1.8	$4.1	$6.4
Induced Effect	77	$3.4	$6.5	$11.1
Total	**380**	**$18.0**	**$50.5**	**$63.9**

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

Table 125: Sports Betting Operating Impacts ($MMs) – Hampton Roads Scenario 6

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	270	$13.0	$40.7	$47.3
Indirect Effect	38	$1.8	$4.0	$6.4
Induced Effect	76	$3.3	$6.4	$10.8
Total	**384**	**$18.0**	**$51.1**	**$64.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.1	$0.2
Induced Effect	3	$0.2	$0.3	$0.5
Total	**4**	**$0.3**	**$0.4**	**$0.7**
Total Statewide Impact				
Direct Effect	270	$13.0	$40.7	$47.3
Indirect Effect	39	$1.9	$4.2	$6.5
Induced Effect	79	$3.5	$6.7	$11.3
Total	**388**	**$18.3**	**$51.5**	**$65.2**

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

Table 126: Sports Betting Operating Impacts ($MMs) – Hampton Roads Scenario 7

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	181	$8.7	$27.2	$31.7
Indirect Effect	26	$1.2	$2.7	$4.3
Induced Effect	51	$2.2	$4.3	$7.2
Total	**257**	**$12.1**	**$34.2**	**$43.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.1	$0.1
Induced Effect	2	$0.1	$0.2	$0.3
Total	**3**	**$0.2**	**$0.3**	**$0.5**
Total Statewide Impact				
Direct Effect	181	$8.7	$27.2	$31.7
Indirect Effect	26	$1.2	$2.8	$4.4
Induced Effect	53	$2.3	$4.5	$7.6
Total	**260**	**$12.3**	**$34.5**	**$43.6**

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

Table 127: HHR Operating Impacts ($MMs) - Hampton Roads Scenario 1

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	425	$20.5	$132.7	$162.1
Indirect Effect	128	$6.2	$13.5	$21.6
Induced Effect	137	$5.9	$11.5	$19.6
Total	**690**	**$32.7**	**$157.8**	**$203.3**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	5	$0.4	$0.6	$1.0
Induced Effect	6	$0.4	$0.7	$1.1
Total	**12**	**$0.8**	**$1.3**	**$2.2**
Total Statewide Impact				
Direct Effect	425	$20.5	$132.7	$162.1
Indirect Effect	133	$6.6	$14.1	$22.6
Induced Effect	143	$6.3	$12.2	$20.7
Total	**701**	**$33.5**	**$159.0**	**$205.5**

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

Table 128: HHR Operating Impacts ($MMs) – Hampton Roads Scenario 2

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	302	$14.3	$74.0	$90.5
Indirect Effect	71	$3.5	$7.5	$12.1
Induced Effect	91	$3.9	$7.7	$13.0
Total	**464**	**$21.7**	**$89.3**	**$115.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	3	$0.2	$0.3	$0.6
Induced Effect	4	$0.3	$0.4	$0.7
Total	**7**	**$0.5**	**$0.8**	**$1.3**
Total Statewide Impact				
Direct Effect	302	$14.3	$74.0	$90.5
Indirect Effect	74	$3.7	$7.9	$12.6
Induced Effect	95	$4.2	$8.1	$13.7
Total	**471**	**$22.2**	**$90.0**	**$116.8**

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

Richmond Region

There are economic impacts to this region from operations at the proposed casino location in Richmond, in addition to two Rosie's HHR locations (Colonial Downs and South Richmond) and two OTB facilities (Henrico and Richmond).

Table 129: Casino Operating Impacts ($MMs) – Richmond Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,122	$98.8	$290.3	$347.9
Indirect Effect	336	$22.9	$43.6	$65.7
Induced Effect	706	$37.7	$68.9	$112.8
Total	**3,163**	**$159.4**	**$402.8**	**$526.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	10	$0.6	$1.2	$2.4
Induced Effect	17	$1.0	$1.8	$3.2
Total	**27**	**$1.6**	**$3.0**	**$5.7**
Total Statewide Impact				
Direct Effect	2,122	$98.8	$290.3	$347.9
Indirect Effect	346	$23.6	$44.8	$68.1
Induced Effect	722	$38.7	$70.6	$116.0
Total	**3,190**	**$161.0**	**$405.8**	**$532.1**

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

Table 130: Casino Operating Impacts ($MMs) – Richmond Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,051	$96.3	$283.1	$338.6
Indirect Effect	323	$22.1	$42.1	$63.4
Induced Effect	687	$36.7	$67.0	$109.8
Total	**3,061**	**$155.1**	**$392.3**	**$511.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	9	$0.6	$1.1	$2.3
Induced Effect	16	$1.0	$1.7	$3.1
Total	**26**	**$1.6**	**$2.9**	**$5.4**
Total Statewide Impact				
Direct Effect	2,051	$96.3	$283.1	$338.6
Indirect Effect	333	$22.7	$43.2	$65.7
Induced Effect	703	$37.6	$68.7	$112.9
Total	**3,086**	**$156.7**	**$395.1**	**$517.2**

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

Table 131: Casino Operating Impacts ($MMs) – Richmond Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,956	$92.3	$278.2	$332.4
Indirect Effect	315	$21.5	$41.1	$61.8
Induced Effect	660	$35.2	$64.4	$105.5
Total	**2,931**	**$149.1**	**$383.7**	**$499.6**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	9	$0.6	$1.1	$2.2
Induced Effect	15	$0.9	$1.7	$3.0
Total	**25**	**$1.5**	**$2.8**	**$5.3**
Total Statewide Impact				
Direct Effect	1,956	$92.3	$278.2	$332.4
Indirect Effect	324	$22.1	$42.2	$64.0
Induced Effect	675	$36.2	$66.1	$108.5
Total	**2,956**	**$150.6**	**$386.4**	**$504.9**

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

Table 132: Sports Betting Operating Impacts ($MMs) – Richmond Scenario 5

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	178	$8.6	$26.8	$31.2
Indirect Effect	26	$1.7	$3.4	$5.0
Induced Effect	60	$3.2	$5.8	$9.5
Total	**264**	**$13.5**	**$36.1**	**$45.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.1
Induced Effect	1	$0.1	$0.1	$0.3
Total	**2**	**$0.1**	**$0.2**	**$0.3**
Total Statewide Impact				
Direct Effect	178	$8.6	$26.8	$31.2
Indirect Effect	26	$1.8	$3.5	$5.1
Induced Effect	61	$3.3	$6.0	$9.8
Total	**266**	**$13.6**	**$36.2**	**$46.1**

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

Table 133: Sports Betting Operating Impacts ($MMs) – Richmond Scenario 6

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	222	$10.7	$33.4	$38.9
Indirect Effect	32	$2.2	$4.3	$6.3
Induced Effect	74	$4.0	$7.3	$11.9
Total	**329**	**$16.8**	**$44.9**	**$57.0**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.0	$0.1	$0.1
Induced Effect	2	$0.1	$0.2	$0.3
Total	**2**	**$0.1**	**$0.2**	**$0.4**
Total Statewide Impact				
Direct Effect	222	$10.7	$33.4	$38.9
Indirect Effect	33	$2.2	$4.3	$6.4
Induced Effect	76	$4.1	$7.4	$12.2
Total	**331**	**$16.9**	**$45.2**	**$57.5**

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

Table 134: Sports Betting Operating Impacts ($MMs) – Richmond Scenario 7

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	149	$7.1	$22.4	$26.0
Indirect Effect	22	$1.4	$2.8	$4.2
Induced Effect	50	$2.7	$4.9	$8.0
Total	**220**	**$11.2**	**$30.1**	**$38.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.1
Induced Effect	1	$0.1	$0.1	$0.2
Total	**1**	**$0.1**	**$0.2**	**$0.3**
Total Statewide Impact				
Direct Effect	149	$7.1	$22.4	$26.0
Indirect Effect	22	$1.5	$2.9	$4.3
Induced Effect	51	$2.7	$5.0	$8.2
Total	**221**	**$11.3**	**$30.2**	**$38.5**

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

Table 135: HHR Operating Impacts ($MMs) – Richmond Scenario 1

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	362	$17.5	$112.9	$138.0
Indirect Effect	110	$7.5	$14.4	$21.6
Induced Effect	144	$7.7	$14.1	$23.1
Total	**616**	**$32.7**	**$141.4**	**$182.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	3	$0.2	$0.4	$0.7
Induced Effect	4	$0.2	$0.4	$0.7
Total	**7**	**$0.4**	**$0.7**	**$1.4**
Total Statewide Impact				
Direct Effect	362	$17.5	$112.9	$138.0
Indirect Effect	113	$7.7	$14.8	$22.3
Induced Effect	148	$7.9	$14.5	$23.8
Total	**623**	**$33.1**	**$142.2**	**$184.1**

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

Table 136: HHR Operating Impacts ($MMs) – Richmond Scenario 2

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	236	$11.1	$53.1	$64.9
Indirect Effect	52	$3.5	$6.8	$10.2
Induced Effect	85	$4.5	$8.3	$13.6
Total	**372**	**$19.2**	**$68.2**	**$88.6**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.2	$0.3
Induced Effect	2	$0.1	$0.2	$0.4
Total	**4**	**$0.2**	**$0.4**	**$0.7**
Total Statewide Impact				
Direct Effect	236	$11.1	$53.1	$64.9
Indirect Effect	53	$3.6	$7.0	$10.5
Induced Effect	87	$4.6	$8.5	$13.9
Total	**376**	**$19.4**	**$68.6**	**$89.4**

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

Southside Region

There are economic impacts to this region from operations at the proposed casino location in Danville, in addition to the OTB facility in Collinsville.

Table 137: Casino Operating Impacts ($MMs) – Southside Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,769	$73.5	$199.0	$243.6
Indirect Effect	185	$6.2	$11.7	$22.2
Induced Effect	371	$13.1	$25.5	$45.9
Total	**2,325**	**$92.8**	**$236.2**	**$311.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	32	$2.4	$3.9	$6.3
Induced Effect	44	$2.7	$4.7	$7.6
Total	**76**	**$5.1**	**$8.6**	**$14.0**
Total Statewide Impact				
Direct Effect	1,769	$73.5	$199.0	$243.6
Indirect Effect	217	$8.6	$15.6	$28.6
Induced Effect	415	$15.8	$30.2	$53.5
Total	**2,401**	**$97.9**	**$244.8**	**$325.7**

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

Table 138: Casino Operating Impacts ($MMs) – Southside Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,582	$67.8	$181.9	$220.7
Indirect Effect	161	$5.4	$10.2	$19.4
Induced Effect	341	$12.0	$23.4	$42.1
Total	**2,084**	**$85.2**	**$215.5**	**$282.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	27	$2.0	$3.3	$5.3
Induced Effect	39	$2.5	$4.3	$6.8
Total	**66**	**$4.5**	**$7.5**	**$12.2**
Total Statewide Impact				
Direct Effect	1,582	$67.8	$181.9	$220.7
Indirect Effect	188	$7.4	$13.4	$24.7
Induced Effect	380	$14.5	$27.7	$49.0
Total	**2,149**	**$89.6**	**$223.0**	**$294.3**

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

Table 139: Casino Operating Impacts ($MMs) – Southside Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,365	$59.5	$175.0	$211.0
Indirect Effect	148	$4.9	$9.4	$17.8
Induced Effect	300	$10.6	$20.6	$37.0
Total	**1,814**	**$74.9**	**$205.0**	**$265.9**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	24	$1.8	$2.9	$4.8
Induced Effect	35	$2.2	$3.8	$6.0
Total	**59**	**$3.9**	**$6.7**	**$10.8**
Total Statewide Impact				
Direct Effect	1,365	$59.5	$175.0	$211.0
Indirect Effect	172	$6.7	$12.3	$22.6
Induced Effect	334	$12.7	$24.3	$43.1
Total	**1,872**	**$78.9**	**$211.6**	**$276.7**

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

Table 140: Sports Betting Operating Impacts ($MMs) – Southside Scenario 5

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	104	$5.0	$15.7	$18.3
Indirect Effect	11	$0.3	$0.7	$1.3
Induced Effect	25	$0.9	$1.7	$3.1
Total	**140**	**$6.2**	**$18.1**	**$22.6**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.0	$0.1	$0.1
Induced Effect	2	$0.2	$0.3	$0.4
Total	**3**	**$0.2**	**$0.3**	**$0.6**
Total Statewide Impact				
Direct Effect	104	$5.0	$15.7	$18.3
Indirect Effect	12	$0.4	$0.8	$1.4
Induced Effect	27	$1.0	$2.0	$3.5
Total	**143**	**$6.4**	**$18.4**	**$23.2**

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

Table 141: Sports Betting Operating Impacts ($MMs) – Southside Scenario 6

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	95	$4.6	$14.3	$16.6
Indirect Effect	10	$0.3	$0.6	$1.2
Induced Effect	23	$0.8	$1.6	$2.8
Total	**128**	**$5.7**	**$16.5**	**$20.6**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.0	$0.1	$0.1
Induced Effect	2	$0.1	$0.2	$0.4
Total	**3**	**$0.2**	**$0.3**	**$0.5**
Total Statewide Impact				
Direct Effect	95	$4.6	$14.3	$16.6
Indirect Effect	11	$0.4	$0.7	$1.3
Induced Effect	25	$0.9	$1.8	$3.2
Total	**131**	**$5.8**	**$16.8**	**$21.1**

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

Table 142: Sports Betting Operating Impacts ($MMs) – Southside Scenario 7

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	64	$3.1	$9.6	$11.1
Indirect Effect	7	$0.2	$0.4	$0.8
Induced Effect	15	$0.5	$1.0	$1.9
Total	**86**	**$3.8**	**$11.0**	**$13.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.1
Induced Effect	2	$0.1	$0.2	$0.3
Total	**2**	**$0.1**	**$0.2**	**$0.3**
Total Statewide Impact				
Direct Effect	64	$3.1	$9.6	$11.1
Indirect Effect	7	$0.2	$0.5	$0.9
Induced Effect	17	$0.6	$1.2	$2.1
Total	**87**	**$3.9**	**$11.2**	**$14.1**

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

Southwest Region

There are economic impacts to this region from operations at the proposed casino location in Bristol, in addition to the Rosie's HHR location in Vinton.

Table 143: Casino Operating Impacts ($MMs) – Southwest Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,244	$51.1	$137.2	$168.8
Indirect Effect	153	$6.3	$11.8	$21.1
Induced Effect	296	$12.0	$22.3	$39.3
Total	**1,693**	**$69.5**	**$171.4**	**$229.3**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	10	$0.7	$1.1	$1.9
Induced Effect	15	$1.0	$1.6	$2.6
Total	**25**	**$1.7**	**$2.7**	**$4.4**
Total Statewide Impact				
Direct Effect	1,244	$51.1	$137.2	$168.8
Indirect Effect	163	$7.1	$13.0	$23.0
Induced Effect	311	$13.0	$23.9	$41.9
Total	**1,718**	**$71.2**	**$174.1**	**$233.7**

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

Table 144: Casino Operating Impacts ($MMs) – Southwest Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,067	$46.5	$124.0	$150.8
Indirect Effect	130	$5.3	$10.1	$18.0
Induced Effect	267	$10.9	$20.2	$35.5
Total	**1,464**	**$62.7**	**$154.3**	**$204.3**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	8	$0.6	$0.9	$1.5
Induced Effect	13	$0.9	$1.4	$2.2
Total	**21**	**$1.4**	**$2.3**	**$3.7**
Total Statewide Impact				
Direct Effect	1,067	$46.5	$124.0	$150.8
Indirect Effect	138	$5.9	$11.0	$19.5
Induced Effect	280	$11.7	$21.5	$37.7
Total	**1,485**	**$64.1**	**$156.6**	**$208.0**

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

Table 145: Casino Operating Impacts ($MMs) – Southwest Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	909	$40.9	$118.7	$142.8
Indirect Effect	117	$4.8	$9.2	$16.3
Induced Effect	235	$9.6	$17.8	$31.3
Total	**1,262**	**$55.3**	**$145.7**	**$190.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	6	$0.5	$0.7	$1.2
Induced Effect	11	$0.8	$1.2	$2.0
Total	**18**	**$1.2**	**$1.9**	**$3.2**
Total Statewide Impact				
Direct Effect	909	$40.9	$118.7	$142.8
Indirect Effect	124	$5.3	$10.0	$17.6
Induced Effect	247	$10.3	$19.0	$33.2
Total	**1,279**	**$56.5**	**$147.6**	**$193.6**

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

Table 146: Sports Betting Operating Impacts ($MMs) – Southwest Scenario 5

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	28	$1.3	$0.0	$4.9
Indirect Effect	4	$0.1	$0.3	$0.5
Induced Effect	8	$0.3	$0.6	$1.0
Total	**39**	**$1.8**	**$0.9**	**$6.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.0
Induced Effect	0	$0.0	$0.0	$0.1
Total	**0**	**$0.0**	**$0.0**	**$0.1**
Total Statewide Impact				
Direct Effect	28	$1.3	$0.0	$4.9
Indirect Effect	4	$0.1	$0.3	$0.5
Induced Effect	8	$0.3	$0.6	$1.1
Total	**40**	**$1.8**	**$0.9**	**$6.5**

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

Table 147: Sports Betting Operating Impacts ($MMs) – Southwest Scenario 6

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	64	$3.0	$0.0	$11.1
Indirect Effect	8	$0.3	$0.6	$1.1
Induced Effect	17	$0.7	$1.3	$2.3
Total	**89**	**$4.1**	**$1.9**	**$14.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.0
Induced Effect	1	$0.1	$0.1	$0.1
Total	**1**	**$0.1**	**$0.1**	**$0.2**
Total Statewide Impact				
Direct Effect	64	$3.0	$0.0	$11.1
Indirect Effect	8	$0.3	$0.7	$1.1
Induced Effect	18	$0.8	$1.4	$2.4
Total	**90**	**$4.1**	**$2.0**	**$14.7**

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

Table 148: Sports Betting Operating Impacts ($MMs) – Southwest Scenario 7

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	43	$2.0	$0.0	$7.4
Indirect Effect	5	$0.2	$0.4	$0.7
Induced Effect	12	$0.5	$0.9	$1.5
Total	**60**	**$2.7**	**$1.3**	**$9.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.0
Induced Effect	1	$0.0	$0.1	$0.1
Total	**1**	**$0.0**	**$0.1**	**$0.1**
Total Statewide Impact				
Direct Effect	43	$2.0	$0.0	$7.4
Indirect Effect	6	$0.2	$0.4	$0.8
Induced Effect	12	$0.5	$0.9	$1.6
Total	**60**	**$2.8**	**$1.4**	**$9.8**

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

Table 149: HHR Operating Impacts ($MMs) – Southwest Scenario 1

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	60	$2.9	$18.7	$22.9
Indirect Effect	16	$0.6	$1.3	$2.2
Induced Effect	18	$0.7	$1.4	$2.4
Total	**94**	**$4.3**	**$21.4**	**$27.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.1	$0.2
Induced Effect	1	$0.1	$0.1	$0.2
Total	**2**	**$0.1**	**$0.2**	**$0.3**
Total Statewide Impact				
Direct Effect	60	$2.9	$18.7	$22.9
Indirect Effect	17	$0.7	$1.4	$2.4
Induced Effect	19	$0.8	$1.5	$2.6
Total	**96**	**$4.4**	**$21.6**	**$27.9**

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

Table 150: HHR Operating Impacts ($MMs) – Southwest Scenario 2

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	60	$2.9	$18.7	$22.9
Indirect Effect	16	$0.6	$1.3	$2.2
Induced Effect	18	$0.7	$1.4	$2.4
Total	**94**	**$4.3**	**$21.4**	**$27.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.1	$0.2
Induced Effect	1	$0.1	$0.1	$0.2
Total	**2**	**$0.1**	**$0.2**	**$0.3**
Total Statewide Impact				
Direct Effect	60	$2.9	$18.7	$22.9
Indirect Effect	17	$0.7	$1.4	$2.4
Induced Effect	19	$0.8	$1.5	$2.6
Total	**96**	**$4.4**	**$21.6**	**$27.9**

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

Northern VA Region

There are economic impacts to this region from operations at the proposed casino location in Northern VA as assessed in Scenario 3.

Table 151: Casino Operating Impacts ($MMs) – Northern VA Scenario 3 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,267	$147.9	$556.9	$676.9
Indirect Effect	521	$37.0	$72.9	$104.6
Induced Effect	738	$40.3	$75.8	$119.4
Total	**4,525**	**$225.2**	**$705.6**	**$900.9**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	13	$0.7	$1.3	$2.8
Induced Effect	13	$0.7	$1.2	$2.2
Total	**26**	**$1.3**	**$2.5**	**$5.0**
Total Statewide Impact				
Direct Effect	3,267	$147.9	$556.9	$676.9
Indirect Effect	534	$37.7	$74.2	$107.4
Induced Effect	751	$40.9	$77.0	$121.6
Total	**4,551**	**$226.5**	**$708.1**	**$905.9**

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

Table 152: Casino Operating Impacts ($MMs) – Northern VA Scenario 3 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,170	$145.0	$548.0	$663.9
Indirect Effect	507	$36.0	$71.1	$101.9
Induced Effect	722	$39.4	$74.2	$116.9
Total	**4,399**	**$220.4**	**$693.3**	**$882.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	13	$0.7	$1.3	$2.6
Induced Effect	13	$0.6	$1.1	$2.1
Total	**25**	**$1.3**	**$2.4**	**$4.8**
Total Statewide Impact				
Direct Effect	3,170	$145.0	$548.0	$663.9
Indirect Effect	520	$36.7	$72.3	$104.5
Induced Effect	735	$40.1	$75.4	$119.0
Total	**4,424**	**$221.7**	**$695.7**	**$887.4**

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

Table 153: Casino Operating Impacts ($MMs) – Northern VA Scenario 3 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,170	$145.0	$548.0	$663.9
Indirect Effect	507	$36.0	$71.1	$101.9
Induced Effect	722	$39.4	$74.2	$116.9
Total	**4,399**	**$220.4**	**$693.3**	**$882.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	13	$0.7	$1.3	$2.6
Induced Effect	13	$0.6	$1.1	$2.1
Total	**25**	**$1.3**	**$2.4**	**$4.8**
Total Statewide Impact				
Direct Effect	3,170	$145.0	$548.0	$663.9
Indirect Effect	520	$36.7	$72.3	$104.5
Induced Effect	735	$40.1	$75.4	$119.0
Total	**4,424**	**$221.7**	**$695.7**	**$887.4**

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

Table 154: Sports Betting Operating Impacts ($MMs) – Northern VA Scenario 5

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	187	$9.0	$28.1	$32.6
Indirect Effect	23	$1.5	$3.1	$4.3
Induced Effect	42	$2.2	$4.1	$6.5
Total	**252**	**$12.6**	**$35.2**	**$43.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.0
Induced Effect	1	$0.0	$0.1	$0.1
Total	**1**	**$0.0**	**$0.1**	**$0.1**
Total Statewide Impact				
Direct Effect	187	$9.0	$28.1	$32.6
Indirect Effect	23	$1.5	$3.1	$4.4
Induced Effect	43	$2.2	$4.1	$6.6
Total	**253**	**$12.7**	**$35.3**	**$43.6**

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

Table 155: Sports Betting Operating Impacts ($MMs) – Northern VA Scenario 7

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	89	$4.3	$13.3	$15.5
Indirect Effect	11	$0.7	$1.5	$2.1
Induced Effect	20	$1.0	$1.9	$3.1
Total	**120**	**$6.0**	**$16.7**	**$20.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	0	$0.0	$0.0	$0.0
Induced Effect	0	$0.0	$0.0	$0.0
Total	**0**	**$0.0**	**$0.0**	**$0.1**
Total Statewide Impact				
Direct Effect	89	$4.3	$13.3	$15.5
Indirect Effect	11	$0.7	$1.5	$2.1
Induced Effect	20	$1.0	$2.0	$3.1
Total	**120**	**$6.0**	**$16.8**	**$20.7**

Total State Impacts

The results in the following section represent total impacts (direct, indirect and induced) of ongoing operations using the multi-regional analysis (MRIO) under the Base Case Scenario and NOVA Scenario. Impacts are separated into Casino, Sports Betting, and HHR categories.

Table 156: Statewide Casino Operating Impacts ($MMs) – Scenario 2

	Employment	Labor Income	Value Added	Output
Scenario 12%				
Direct Effect	8,227	$353.8	$978.5	$1,191.5
Indirect Effect	1,170	$61.8	$119.3	$194.6
Induced Effect	2,256	$103.2	$193.6	$328.2
Total	**11,653**	**$518.8**	**$1,291.4**	**$1,714.3**
Scenario 27%				
Direct Effect	7,592	$335.5	$925.5	$1,119.3
Indirect Effect	1,069	$56.6	$110.5	$179.2
Induced Effect	2,131	$97.8	$183.4	$310.7
Total	**10,792**	**$489.9**	**$1,219.3**	**$1,609.1**
Scenario 40%				
Direct Effect	6,794	$306.1	$895.5	$1,076.0
Indirect Effect	996	$52.8	$103.8	$167.7
Induced Effect	1,955	$90.1	$168.8	$285.8
Total	**9,744**	**$449.1**	**$1,168.2**	**$1,529.5**

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

Table 157: Statewide Casino Operating Impacts ($MMs) – Scenario 3

	Employment	Labor Income	Value Added	Output
Scenario 12%				
Direct Effect	11,494	$501.7	$1,535.3	$1,868.4
Indirect Effect	1,704	$99.5	$193.5	$302.0
Induced Effect	3,007	$144.2	$270.6	$449.8
Total	**16,204**	**$745.4**	**$1,999.5**	**$2,620.2**
Scenario 27%				
Direct Effect	10,762	$480.5	$1,473.5	$1,783.2
Indirect Effect	1,588	$93.3	$182.8	$283.7
Induced Effect	2,866	$137.9	$258.7	$429.7
Total	**15,216**	**$711.7**	**$1,915.0**	**$2,496.6**
Scenario 40%				
Direct Effect	9,963	$451.1	$1,443.5	$1,739.9
Indirect Effect	1,515	$89.5	$176.1	$272.3
Induced Effect	2,690	$130.2	$244.2	$404.8
Total	**14,168**	**$670.8**	**$1,863.9**	**$2,416.9**

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

Table 158: Statewide Sports Betting Operating Impacts ($MMs) – Scenario 2

	Employment	Labor Income	Value Added	Output
Scenario 5				
Direct Effect	576	$27.6	$82.4	$100.7
Indirect Effect	80	$4.1	$8.6	$13.4
Induced Effect	173	$8.0	$15.1	$25.5
Total	**829**	**$39.8**	**$106.1**	**$139.7**
Scenario 6				
Direct Effect	651	$31.2	$88.4	$113.9
Indirect Effect	91	$4.7	$9.8	$15.3
Induced Effect	197	$9.2	$17.3	$29.2
Total	**939**	**$45.2**	**$115.5**	**$158.4**
Scenario 7				
Direct Effect	436	$20.9	$59.2	$76.2
Indirect Effect	61	$3.2	$6.6	$10.3
Induced Effect	132	$6.2	$11.6	$19.5
Total	**629**	**$30.3**	**$77.3**	**$106.0**

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

Table 159: Statewide Sports Betting Operating Impacts ($MMs) – Scenario 3

	Employment	Labor Income	Value Added	Output
Scenario 5				
Direct Effect	762	$36.6	$110.5	$133.4
Indirect Effect	104	$5.6	$11.7	$17.8
Induced Effect	216	$10.2	$19.2	$32.1
Total	**1,082**	**$52.5**	**$141.4**	**$183.3**
Scenario 6				
Direct Effect	837	$40.2	$116.5	$146.6
Indirect Effect	114	$6.3	$12.9	$19.7
Induced Effect	240	$11.4	$21.4	$35.8
Total	**1,192**	**$57.9**	**$150.8**	**$202.0**
Scenario 7				
Direct Effect	524	$25.2	$72.5	$91.8
Indirect Effect	72	$3.9	$8.0	$12.3
Induced Effect	153	$7.2	$13.5	$22.7
Total	**749**	**$36.3**	**$94.1**	**$126.8**

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

Table 160: Statewide HHR Operating Impacts ($MMs)

	Employment	Labor Income	Value Added	Output
Scenario 1				
Direct Effect	847	$40.9	$264.3	$323.0
Indirect Effect	262	$15.0	$30.3	$47.4
Induced Effect	311	$15.1	$28.2	$47.1
Total	**1,420**	**$71.0**	**$322.8**	**$417.4**
Scenario 2				
Direct Effect	537	$25.4	$127.2	$155.4
Indirect Effect	127	$7.3	$14.8	$23.1
Induced Effect	182	$8.9	$16.6	$27.7
Total	**846**	**$41.6**	**$158.6**	**$206.2**

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

Table 161: Statewide Horse Industry Impacts Scenario 2 or 3 ($MMs)

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	-47	-$2.9	-$3.6	-$5.1
Indirect Effect	-11	-$0.6	-$0.9	-$1.6
Induced Effect	-18	-$0.9	-$1.6	-$2.7
Total	**-75**	**-$4.4**	**-$6.2**	**-$9.4**

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

Construction

Construction of the proposed gambling facilities would bring one-time (non-recurring) benefits to the respective Host Regions and the rest of the state of Virginia. Construction impacts are expressed on a single-year basis. Therefore, the employment figures, for example, represent person-year equivalents; for a construction period of two years, the actual number of workers onsite would be half the person-year equivalent.

The impact of construction only relates to expenditures made directly by the development company to design, build and outfit the physical structure. For construction impacts, the Industry Change function using sector 57-Construction of New Commercial Structures was most appropriate for modeling the costs associated with land improvements and building related costs. Costs associated with purchases of Furniture, Fixtures and Equipment (FF&E) were modeled using the Commodity Change function sectors 3395-Wholesale Trade Distribution Services and 3394 - All other miscellaneous manufactured products.

Construction Inputs

Based on high-level construction capital costs estimated by the Innovation Group, the following table outlines the final inputs used to calculate the economic impact by sector. The cost of slot machines was separated out from the other FF&E as it is a very specialized product and is not expected to be available within the region. IMPLAN estimates what percentage of the purchases, including slot machines, will originate from within the study area based on its Social Accounting Matrix (SAM).

Table 162: Estimated Construction Cost Inputs – Hampton Roads Region ($MM)

Component	Scenario 12%	Scenario 27%	Scenario 40%	Sports Betting
Industry Change				
57 Construction of New Commercial Structures	$470.9	$388.5	$278.4	$12.6
Commodity Change				
3395 Wholesale trade distribution services	$94.0	$76.2	$54.5	$5.4
3394 All other miscellaneous manufactured products	$80.9	$78.2	$70.4	$0.0
Total Direct	**$645.9**	**$542.8**	**$403.3**	**$18.0**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 163: Estimated Construction Cost Inputs – Richmond Region ($MM)

Component	Scenario 12%	Scenario 27%	Scenario 40%	Sports Betting
Industry Change				
57 Construction of New Commercial Structures	$319.2	$271.9	$238.7	$8.4
Commodity Change				
3395 Wholesale trade distribution services	$69.7	$58.4	$50.1	$3.6
3394 All other miscellaneous manufactured products	$61.0	$59.8	$56.8	$0.0
Total Direct	**$449.9**	**$390.1**	**$345.6**	**$12.0**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 164: Estimated Construction Cost Inputs – Southside Region ($MM)

Component	Scenario 12%	Scenario 27%	Scenario 40%	Sports Betting
Industry Change				
57 Construction of New Commercial Structures	$293.7	$212.4	$156.7	$6.3
Commodity Change				
3395 Wholesale trade distribution services	$57.1	$41.0	$29.6	$2.7
3394 All other miscellaneous manufactured products	$47.2	$43.7	$37.1	$0.0
Total Direct	**$398.1**	**$297.1**	**$223.5**	**$9.0**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 165: Estimated Construction Cost Inputs – Southwest Region ($MM)

Component	Scenario 12%	Scenario 27%	Scenario 40%	Sports Betting
Industry Change				
57 Construction of New Commercial Structures	$221.2	$152.7	$100.7	$4.2
Commodity Change				
3395 Wholesale trade distribution services	$41.1	$29.6	$18.7	$1.8
3394 All other miscellaneous manufactured products	$37.3	$34.5	$29.3	$0.0
Total Direct	**$299.5**	**$216.8**	**$148.7**	**$6.0**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 166: Estimated Construction Cost Inputs – Northern VA Region ($MM)

Component	Scenario 12%	Scenario 27%	Scenario 40%	Sports Betting
Industry Change				
57 Construction of New Commercial Structures	$501.3	$454.3	$454.3	$10.5
Commodity Change				
3395 Wholesale trade distribution services	$107.6	$97.4	$97.4	$4.5
3394 All other miscellaneous manufactured products	$81.5	$80.5	$80.5	-
Total Direct	**$690.4**	**$632.2**	**$632.2**	**$15.0**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group; Only applies to Scenario 3

Economic Impacts from Construction

The results in the following section represent total impacts (direct, indirect and induced) of construction costs using the multi-regional analysis (MRIO).

Hampton Roads Region

There are one-time economic benefits to this region from construction of the two proposed casino locations in Norfolk and Portsmouth in addition to the Sports Betting facilities.

The construction impacts for Hampton Roads are combined for Norfolk and Portsmouth. Based on the capital investment projections, we estimate that 53% would be attributable to Norfolk and 47% to Portsmouth.

Table 167: Casino Construction Impacts ($MMs) – Hampton Roads Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,708	$213.3	$293.1	$541.6
Indirect Effect	656	$39.0	$64.4	$114.4
Induced Effect	1,313	$55.8	$108.6	$184.9
Total	**5,678**	**$308.0**	**$466.0**	**$840.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	124	$9.6	$13.9	$27.7
Induced Effect	90	$5.4	$9.0	$15.0
Total	**214**	**$15.0**	**$22.9**	**$42.6**
Total Statewide Impact				
Direct Effect	3,708	$213.3	$293.1	$541.6
Indirect Effect	781	$48.6	$78.3	$142.0
Induced Effect	1,403	$61.2	$117.6	$199.9
Total	**5,892**	**$323.1**	**$489.0**	**$883.5**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 168: Casino Construction Impacts ($MMs) – Hampton Roads Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,059	$175.7	$241.2	$446.3
Indirect Effect	541	$32.1	$53.0	$94.2
Induced Effect	1,082	$45.9	$89.5	$152.3
Total	**4,681**	**$253.8**	**$383.7**	**$692.9**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	103	$7.9	$11.5	$22.8
Induced Effect	74	$4.5	$7.4	$12.3
Total	**177**	**$12.4**	**$18.9**	**$35.2**
Total Statewide Impact				
Direct Effect	3,059	$175.7	$241.2	$446.3
Indirect Effect	643	$40.0	$64.5	$117.1
Induced Effect	1,156	$50.4	$96.9	$164.7
Total	**4,857**	**$266.2**	**$402.6**	**$728.1**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 169: Casino Construction Impacts ($MMs) – Hampton Roads Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,197	$126.0	$172.9	$320.5
Indirect Effect	389	$23.1	$38.1	$67.8
Induced Effect	776	$33.0	$64.2	$109.3
Total	**3,362**	**$182.1**	**$275.3**	**$497.6**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	74	$5.7	$8.3	$16.4
Induced Effect	53	$3.2	$5.3	$8.9
Total	**127**	**$8.9**	**$13.6**	**$25.3**
Total Statewide Impact				
Direct Effect	2,197	$126.0	$172.9	$320.5
Indirect Effect	463	$28.8	$46.4	$84.2
Induced Effect	829	$36.2	$69.5	$118.2
Total	**3,489**	**$191.0**	**$288.9**	**$522.9**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 170: Sports Betting Construction Impacts ($MMs) – Hampton Roads

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	108	$6.4	$9.2	$16.4
Indirect Effect	22	$1.3	$2.1	$3.8
Induced Effect	40	$1.7	$3.3	$5.6
Total	**170**	**$9.4**	**$14.6**	**$25.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	4	$0.3	$0.4	$0.8
Induced Effect	3	$0.2	$0.3	$0.5
Total	**7**	**$0.5**	**$0.7**	**$1.3**
Total Statewide Impact				
Direct Effect	108	$6.4	$9.2	$16.4
Indirect Effect	26	$1.6	$2.6	$4.6
Induced Effect	43	$1.9	$3.6	$6.1
Total	**176**	**$9.8**	**$15.3**	**$27.1**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Richmond Region

There are one-time economic benefits to this region from construction of the proposed casino in Richmond in addition to the Sports Betting facility.

Table 171: Casino Construction Impacts ($MMs) – Richmond Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,536	$159.1	$223.3	$394.6
Indirect Effect	534	$40.9	$64.7	$108.1
Induced Effect	1,175	$61.6	$112.6	$184.9
Total	**4,245**	**$261.6**	**$400.6**	**$687.7**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	68	$4.6	$7.5	$16.5
Induced Effect	45	$2.4	$4.4	$7.8
Total	**113**	**$7.1**	**$11.9**	**$24.3**
Total Statewide Impact				
Direct Effect	2,536	$159.1	$223.3	$394.6
Indirect Effect	602	$45.5	$72.2	$124.6
Induced Effect	1,220	$64.0	$117.0	$192.8
Total	**4,357**	**$268.6**	**$412.6**	**$711.9**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 172: Casino Construction Impacts ($MMs) – Richmond Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,161	$135.3	$189.7	$335.8
Indirect Effect	454	$34.8	$55.1	$92.1
Induced Effect	1,000	$52.4	$95.8	$157.4
Total	**3,615**	**$222.5**	**$340.6**	**$585.3**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	58	$3.9	$6.4	$14.0
Induced Effect	38	$2.1	$3.8	$6.7
Total	**96**	**$6.0**	**$10.2**	**$20.7**
Total Statewide Impact				
Direct Effect	2,161	$135.3	$189.7	$335.8
Indirect Effect	512	$38.7	$61.5	$106.1
Induced Effect	1,038	$54.5	$99.6	$164.0
Total	**3,711**	**$228.6**	**$350.8**	**$606.0**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 173: Casino Construction Impacts ($MMs) – Richmond Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,895	$118.5	$165.9	$294.1
Indirect Effect	398	$30.5	$48.2	$80.6
Induced Effect	875	$45.9	$83.9	$137.8
Total	**3,168**	**$194.8**	**$298.0**	**$512.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	51	$3.5	$5.6	$12.3
Induced Effect	33	$1.8	$3.3	$5.9
Total	**84**	**$5.3**	**$8.9**	**$18.2**
Total Statewide Impact				
Direct Effect	1,895	$118.5	$165.9	$294.1
Indirect Effect	449	$33.9	$53.8	$93.0
Induced Effect	909	$47.7	$87.2	$143.6
Total	**3,252**	**$200.1**	**$306.9**	**$530.7**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 174: Sports Betting Construction Impacts ($MMs) – Richmond

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	73	$4.8	$7.1	$12.0
Indirect Effect	17	$1.3	$2.1	$3.4
Induced Effect	36	$1.9	$3.4	$5.7
Total	**126**	**$8.0**	**$12.6**	**$21.1**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	2	$0.1	$0.2	$0.5
Induced Effect	1	$0.1	$0.1	$0.2
Total	**3**	**$0.2**	**$0.3**	**$0.7**
Total Statewide Impact				
Direct Effect	73	$4.8	$7.1	$12.0
Indirect Effect	19	$1.4	$2.3	$3.9
Induced Effect	37	$2.0	$3.6	$5.9
Total	**129**	**$8.2**	**$12.9**	**$21.8**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Southside Region

There are one-time economic benefits to this region from construction of the proposed casino in Danville in addition to the Sports Betting facility.

Table 175: Casino Construction Impacts ($MMs) – Southside Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	2,623	$117.4	$161.4	$336.3
Indirect Effect	388	$20.5	$32.5	$62.8
Induced Effect	655	$22.6	$44.2	$79.7
Total	**3,665**	**$160.5**	**$238.1**	**$478.8**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	155	$11.7	$17.7	$32.8
Induced Effect	114	$6.6	$11.7	$19.0
Total	**269**	**$18.3**	**$29.4**	**$51.8**
Total Statewide Impact				
Direct Effect	2,623	$117.4	$161.4	$336.3
Indirect Effect	543	$32.2	$50.2	$95.6
Induced Effect	769	$29.2	$55.9	$98.7
Total	**3,934**	**$178.8**	**$267.5**	**$530.6**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 176: Casino Construction Impacts ($MMs) – Southside Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,904	$85.4	$117.1	$244.5
Indirect Effect	282	$14.9	$23.6	$45.7
Induced Effect	476	$16.5	$32.1	$58.0
Total	**2,662**	**$116.8**	**$172.9**	**$348.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	113	$8.5	$12.9	$23.9
Induced Effect	83	$4.8	$8.5	$13.8
Total	**196**	**$13.3**	**$21.5**	**$37.7**
Total Statewide Impact				
Direct Effect	1,904	$85.4	$117.1	$244.5
Indirect Effect	395	$23.5	$36.6	$69.6
Induced Effect	560	$21.2	$40.6	$71.8
Total	**2,858**	**$130.1**	**$194.4**	**$385.9**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 177: Casino Construction Impacts ($MMs) – Southside Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,407	$63.1	$86.5	$180.8
Indirect Effect	208	$11.0	$17.5	$33.8
Induced Effect	352	$12.2	$23.8	$42.9
Total	**1,968**	**$86.4**	**$127.7**	**$257.5**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	84	$6.3	$9.6	$17.7
Induced Effect	62	$3.5	$6.3	$10.2
Total	**145**	**$9.9**	**$15.9**	**$27.9**
Total Statewide Impact				
Direct Effect	1,407	$63.1	$86.5	$180.8
Indirect Effect	292	$17.4	$27.0	$51.5
Induced Effect	414	$15.7	$30.1	$53.1
Total	**2,113**	**$96.2**	**$143.6**	**$285.4**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 178: Sports Betting Construction Impacts ($MMs) – Southside

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	60	$2.8	$4.0	$8.0
Indirect Effect	10	$0.5	$0.8	$1.5
Induced Effect	16	$0.5	$1.0	$1.9
Total	**85**	**$3.8**	**$5.8**	**$11.3**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	4	$0.3	$0.4	$0.8
Induced Effect	3	$0.2	$0.3	$0.5
Total	**7**	**$0.4**	**$0.7**	**$1.3**
Total Statewide Impact				
Direct Effect	60	$2.8	$4.0	$8.0
Indirect Effect	14	$0.8	$1.2	$2.3
Induced Effect	18	$0.7	$1.3	$2.3
Total	**91**	**$4.2**	**$6.5**	**$12.6**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Southwest Region

There are one-time economic benefits to this region from construction of the proposed casino in Bristol in addition to the Sports Betting facility.

Table 179: Casino Construction Impacts ($MMs) – Southwest Scenario 2 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,906	$90.3	$124.8	$251.9
Indirect Effect	337	$18.4	$29.1	$57.8
Induced Effect	569	$22.7	$42.2	$74.5
Total	**2,813**	**$131.5**	**$196.2**	**$384.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	49	$3.8	$5.3	$10.3
Induced Effect	41	$2.4	$4.1	$6.7
Total	**90**	**$6.2**	**$9.4**	**$17.0**
Total Statewide Impact				
Direct Effect	1,906	$90.3	$124.8	$251.9
Indirect Effect	386	$22.2	$34.5	$68.1
Induced Effect	610	$25.2	$46.3	$81.2
Total	**2,902**	**$137.7**	**$205.6**	**$401.2**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 180: Casino Construction Impacts ($MMs) – Southwest Scenario 2 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	1,325	$62.8	$86.8	$175.4
Indirect Effect	236	$12.9	$20.4	$40.4
Induced Effect	396	$15.8	$29.4	$51.8
Total	**1,956**	**$91.4**	**$136.6**	**$267.6**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	34	$2.7	$3.7	$7.2
Induced Effect	28	$1.7	$2.9	$4.7
Total	**63**	**$4.3**	**$6.6**	**$11.9**
Total Statewide Impact				
Direct Effect	1,325	$62.8	$86.8	$175.4
Indirect Effect	270	$15.5	$24.1	$47.6
Induced Effect	424	$17.5	$32.2	$56.5
Total	**2,019**	**$95.8**	**$143.2**	**$279.4**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 181: Casino Construction Impacts ($MMs) – Southwest Scenario 2 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	875	$41.3	$57.0	$115.6
Indirect Effect	155	$8.5	$13.4	$26.6
Induced Effect	261	$10.4	$19.3	$34.1
Total	**1,291**	**$60.2**	**$89.8**	**$176.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	23	$1.8	$2.5	$4.8
Induced Effect	19	$1.1	$1.9	$3.1
Total	**41**	**$2.9**	**$4.4**	**$7.8**
Total Statewide Impact				
Direct Effect	875	$41.3	$57.0	$115.6
Indirect Effect	178	$10.2	$15.9	$31.4
Induced Effect	280	$11.5	$21.2	$37.2
Total	**1,332**	**$63.1**	**$94.1**	**$184.2**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 182: Sports Betting Construction Impacts ($MMs) – Southwest

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	39	$1.9	$2.8	$5.4
Indirect Effect	8	$0.4	$0.6	$1.3
Induced Effect	12	$0.5	$0.9	$1.6
Total	**59**	**$2.8**	**$4.4**	**$8.3**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	1	$0.1	$0.1	$0.2
Induced Effect	1	$0.1	$0.1	$0.1
Total	**2**	**$0.1**	**$0.2**	**$0.4**
Total Statewide Impact				
Direct Effect	39	$1.9	$2.8	$5.4
Indirect Effect	9	$0.5	$0.8	$1.5
Induced Effect	13	$0.5	$1.0	$1.8
Total	**61**	**$3.0**	**$4.6**	**$8.7**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Northern VA Region

There are one-time economic benefits to this region from construction of the proposed casino in Northern VA in addition to the Sports Betting facility.

Table 183: Casino Construction Impacts ($MMs) – Northern VA Scenario 3 (12% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,507	$264.3	$358.8	$595.8
Indirect Effect	557	$46.8	$72.8	$116.3
Induced Effect	1,256	$67.3	$126.8	$200.2
Total	**5,320**	**$378.4**	**$558.4**	**$912.2**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	66	$4.0	$6.6	$15.4
Induced Effect	38	$1.8	$3.3	$6.0
Total	**105**	**$5.8**	**$9.9**	**$21.4**
Total Statewide Impact				
Direct Effect	3,507	$264.3	$358.8	$595.8
Indirect Effect	624	$50.8	$79.4	$131.7
Induced Effect	1,295	$69.1	$130.1	$206.2
Total	**5,425**	**$384.2**	**$568.3**	**$933.6**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 184: Casino Construction Impacts ($MMs) – Northern VA Scenario 3 (27% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,181	$239.5	$325.2	$540.3
Indirect Effect	506	$42.5	$66.1	$105.6
Induced Effect	1,139	$61.0	$114.9	$181.5
Total	**4,826**	**$343.1**	**$506.3**	**$827.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	60	$3.7	$6.0	$14.0
Induced Effect	35	$1.6	$3.0	$5.4
Total	**95**	**$5.3**	**$9.0**	**$19.4**
Total Statewide Impact				
Direct Effect	3,181	$239.5	$325.2	$540.3
Indirect Effect	566	$46.2	$72.1	$119.6
Induced Effect	1,174	$62.7	$117.9	$186.9
Total	**4,921**	**$348.4**	**$515.3**	**$846.8**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 185: Casino Construction Impacts ($MMs) – Northern VA Scenario 3 (40% tax)

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	3,181	$239.5	$325.2	$540.3
Indirect Effect	506	$42.5	$66.1	$105.6
Induced Effect	1,139	$61.0	$114.9	$181.5
Total	**4,826**	**$343.1**	**$506.3**	**$827.4**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	60	$3.7	$6.0	$14.0
Induced Effect	35	$1.6	$3.0	$5.4
Total	**95**	**$5.3**	**$9.0**	**$19.4**
Total Statewide Impact				
Direct Effect	3,181	$239.5	$325.2	$540.3
Indirect Effect	566	$46.2	$72.1	$119.6
Induced Effect	1,174	$62.7	$117.9	$186.9
Total	**4,921**	**$348.4**	**$515.3**	**$846.8**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 186: Sports Betting Construction Impacts ($MMs) – Northern VA

	Employment	Labor Income	Value Added	Output
Host Region Impact				
Direct Effect	79	$6.3	$8.9	$14.2
Indirect Effect	14	$1.2	$1.8	$2.9
Induced Effect	30	$1.6	$3.0	$4.8
Total	**123**	**$9.1**	**$13.7**	**$21.9**
Rest of State Impact				
Direct Effect	-	-	-	-
Indirect Effect	2	$0.1	$0.1	$0.3
Induced Effect	1	$0.0	$0.1	$0.1
Total	**2**	**$0.1**	**$0.2**	**$0.5**
Total Statewide Impact				
Direct Effect	79	$6.3	$8.9	$14.2
Indirect Effect	16	$1.3	$2.0	$3.2
Induced Effect	31	$1.7	$3.1	$4.9
Total	**126**	**$9.2**	**$14.0**	**$22.4**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Total State Impacts

Construction of the proposed gambling facilities would bring one-time (non-recurring) benefits to the state of Virginia. The following tables show the total combined benefits (direct, indirect, and induced effects) under the Base Case Scenario and NOVA Scenario.

The sports betting impacts show the incremental construction costs of adding sports books to the casinos' building programs. The cost to add sports betting to the existing pari-mutuel facilities has not been modeled, although there would presumably be some renovation costs involved.

Table 187: Statewide Casino Construction Total Impacts ($MMs) – Scenario 2

	Employment	Labor Income	Value Added	Output
Scenario 12%				
Direct Effect	10,773	$580.1	$802.6	$1,524.3
Indirect Effect	2,311	$148.5	$235.2	$430.4
Induced Effect	4,001	$179.6	$336.8	$572.5
Total	**17,085**	**$908.2**	**$1,374.6**	**$2,527.2**
Scenario 27%				
Direct Effect	8,448	$459.2	$634.9	$1,202.1
Indirect Effect	1,820	$117.8	$186.7	$340.4
Induced Effect	3,177	$143.7	$269.3	$457.0
Total	**13,445**	**$720.6**	**$1,090.9**	**$1,999.4**
Scenario 40%				
Direct Effect	6,374	$349.0	$482.3	$911.1
Indirect Effect	1,381	$90.4	$143.2	$260.1
Induced Effect	2,431	$111.1	$208.0	$352.1
Total	**10,187**	**$550.4**	**$833.5**	**$1,523.2**
Sports Betting				
Direct Effect	279	$15.9	$23.0	$41.8
Indirect Effect	68	$4.3	$6.8	$12.2
Induced Effect	111	$5.1	$9.5	$16.1
Total	**458**	**$25.2**	**$39.3**	**$70.1**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Table 188: Statewide Casino Construction Impacts ($MMs) – Scenario 3

	Employment	Labor Income	Value Added	Output
Scenario 12%				
Direct Effect	14,279	$844.4	$1,161.4	$2,120.1
Indirect Effect	2,935	$199.3	$314.6	$562.1
Induced Effect	5,296	$248.7	$466.9	$778.7
Total	**22,510**	**$1,292.4**	**$1,942.9**	**$3,460.8**
Scenario 27%				
Direct Effect	11,629	$698.7	$960.2	$1,742.4
Indirect Effect	2,386	$163.9	$258.8	$459.9
Induced Effect	4,351	$206.3	$387.3	$643.9
Total	**18,366**	**$1,069.0**	**$1,606.2**	**$2,846.3**
Scenario 40%				
Direct Effect	9,555	$588.5	$807.5	$1,451.4
Indirect Effect	1,947	$136.5	$215.3	$379.6
Induced Effect	3,605	$173.8	$325.9	$539.0
Total	**15,108**	**$898.8**	**$1,348.8**	**$2,370.1**
Sports Betting				
Direct Effect	358	$22.2	$31.9	$56.0
Indirect Effect	83	$5.6	$8.8	$15.5
Induced Effect	142	$6.7	$12.6	$21.0
Total	**584**	**$34.4**	**$53.3**	**$92.5**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Statewide Employment Impact Summary

This section compares the statewide employment impacts for the alternative scenarios. Table 189 summarizes the net change from casino development in the alternative development and tax rate scenarios. By "net change" we mean casino employment minus the projected impacts on HHR employment. In the Benchmark scenario, employment at the HHR facilities is estimated at approximately 850. Casino development at the five baseline locations (Scenario 2) would increase direct employment by between approximately 6,500 and 8,000 depending upon the tax rate. Adding a NOVA casino would increase employment by an additional 3,000+.

As discussed, while mobile sports betting would increase the fiscal impact, it would reduce the betting that occurs at bricks-and-mortar facilities and thus the employment needed to service sports betting customers. Therefore, the employment in Scenario 7 and 7n (n for Nova) is lower than in Scenario 6 or 5n, respectively.

Table 189: Statewide Employment Summary ($MMs)

	Direct Employment	Total Employment	Direct Labor Income	Total Labor Income
Scenario 1: HHR only	847	1,420	$40.9	$71.0
Scenario 2				
HHR	597	942	$25.4	$41.6
Casinos				
12% tax	8,227	11,653	$353.8	$518.8
27% tax	7,592	10,792	$335.5	$489.9
40% tax	6,794	9,744	$306.1	$449.1
Scenario 3				
HHR	597	942	$25.4	$41.6
Casinos				
12% tax	11,494	16,204	$501.7	$745.4
27% tax	10,762	15,216	$480.5	$711.7
40% tax	9,963	14,168	$451.1	$670.8
Net Change Scenario 2				
12% tax	7,917	11,079	$338.3	$489.4
27% tax	7,282	10,218	$320.0	$460.5
40% tax	6,484	9,170	$290.6	$419.6
Net Change Scenario 3				
12% tax	11,184	15,630	$486.2	$715.9
27% tax	10,452	14,642	$465.0	$682.2
40% tax	9,653	13,594	$435.6	$641.4
Net Change from NOVA (3-2)				
12% tax	3,267	4,551	$147.9	$226.5
27% tax	3,170	4,424	$145.0	$221.7
40% tax	3,170	4,424	$145.0	$221.7
Sports Betting Alternatives				
Scenario 5: at 5 Casinos	576	829	$27.6	$39.8
Scenario 5n: at NOVA	187	253	$9.0	$12.7
Scenario 6: 5 casinos + pari-mutuels	651	939	$31.2	$45.2
Scenario 7: 5 casinos + PM + mobile	436	629	$20.9	$30.3
Scenario 7n: at NOVA with mobile impact	89	120	$4.3	$6.0

Source: The Innovation Group

FISCAL IMPACT ANALYSIS

Gambling Taxes

Summary Results

This section compares the statewide fiscal impacts in the form of gaming taxes, state share of lottery sales, and charitable proceeds for the alternative scenarios.

To summarize the main results of the gaming tax analysis: if five full-scale casinos are developed in Bristol, Danville, Portsmouth, Norfolk, and Richmond, the tax revenue to the state in 2025 would be $122 million, $262 million, or $378 million, respectively, at direct gaming revenue tax rates of 12, 27 and 40 percent. Allowing sports betting at those casinos would increase tax revenues by an additional $12 million.

If a sixth casino is developed in Northern Virginia, the additional tax revenue to the state in 2025 would be $60 million, $145 million, or $220 million, respectively, at direct gaming revenue tax rates of 12, 27 and 40 percent, with an additional $4 million in tax revenue from sports betting at that casino.

Table 190 shows the total gaming taxes (HHR and casinos) for Scenarios 1-3 under the alternative tax rates.

Table 190: Gaming Tax Summary (MMs)

		2024	2025	2026	2027	2028
Scenario 1						
HHR		$45.6	$46.7	$47.9	$49.1	$50.3
Scenario 2						
HHR		$25.1	$25.8	$26.4	$27.1	$27.8
Casinos						
	12% tax	$114.2	$121.5	$125.2	$128.3	$131.5
	27% tax	$245.9	$261.5	$269.4	$276.1	$283.0
	40% tax	$355.6	$378.3	$389.7	$399.4	$409.4
Scenario 3						
HHR		$24.8	$25.4	$26.1	$26.7	$27.4
Casinos						
	12% tax	$179.8	$191.2	$197.0	$201.9	$207.0
	27% tax	$391.8	$416.8	$429.3	$440.0	$451.0
	40% tax	$572.0	$608.5	$626.8	$642.4	$658.5

Source: The Innovation Group

Casino development would be expected to lead to small decreases in lottery sales and charitable revenue. Table 191 shows the lottery tax (net income) and charitable proceed estimates for Scenarios 1-3. Net income (effectively the state tax) to the Commonwealth averages approximately 28% of sales.

Table 191: Lottery Net Income and Charitable Proceeds Summary (MMs)

	2024	2025	2026	2027	2028
Lottery Net Income					
Scenario 1	$794.7	$834.4	$876.1	$919.9	$965.9
Scenario 2	$773.6	$812.3	$852.9	$895.6	$940.3
Scenario 3	$764.6	$802.8	$843.0	$885.1	$929.4
Charitable Proceeds					
Scenario 1	$69.6	$71.8	$74.1	$76.5	$79.0
Scenario 2	$67.2	$69.3	$71.5	$73.8	$76.3
Scenario 3	$66.9	$69.0	$71.2	$73.6	$76.0

Source: The Innovation Group

Table 192 summarizes the net change from casino development in the alternative development and tax rate scenarios. By "net change" we mean casino gaming tax minus the projected impacts on Lottery Net Income and HHR state and local gaming taxes. In the "do-nothing" or Benchmark scenario, the fiscal impact from the Lottery and HHR gaming is estimated at $881 million in 2025. Scenario 2 casino development would increase the fiscal impact in 2025 by $78 million with a 12% tax rate and up to $335 million with a 40% tax rate. Adding a NOVA casino would increase the net fiscal impact by $60 million at the 12% tax rate and up to $220 million at the 40% tax rate.

Table 192: Net Casino Tax Summary (MMs)

	2024	2025	2026	2027	2028
Scenario 1 Total HHR and Lottery	$840.2	$881.1	$924.0	$969.0	$1,016.3
Scenario 2 Net Change					
12% tax	$72.7	$78.4	$80.5	$81.9	$83.3
27% tax	$204.4	$218.5	$224.7	$229.7	$234.9
40% tax	$314.2	$335.3	$345.0	$353.0	$361.3
Scenario 3 Net Change					
12% tax	$128.9	$138.4	$142.0	$144.7	$147.5
27% tax	$340.9	$363.9	$374.3	$382.8	$391.5
40% tax	$521.2	$555.6	$571.8	$585.2	$599.0
Net Change from NOVA (3-2)					
12% tax	*$56.2*	*$59.9*	*$61.5*	*$62.8*	*$64.1*
27% tax	*$136.6*	*$145.4*	*$149.6*	*$153.1*	*$156.6*
40% tax	*$207.0*	*$220.3*	*$226.8*	*$232.2*	*$237.7*

Source: The Innovation Group

Table 193 summarizes gaming tax estimates for Online Casino Gaming and Sports Betting for alternative tax and development scenarios. Because of narrow margins, Sports Betting is assumed to be taxed at a flat rate of 12%.

Table 193: Online and Sports Betting Fiscal Impacts

	2024	2025	2026	2027	2028
Scenario 4: Online Casino Gaming					
12% tax	$23.5	$26.4	$29.7	$33.4	$37.5
27% tax	$52.8	$59.4	$66.8	$75.0	$84.4
40% tax	$74.3	$83.6	$93.9	$105.6	$118.7
Sports Betting Alternatives*					
Scenario 5: Sports Betting at 5 Casinos	$7.8	$12.1	$15.6	$19.3	$22.1
Scenario 5n: Sports Betting at NOVA	$2.5	$3.9	$5.0	$6.2	$7.1
Scenario 6: 5 casinos + pari-mutuels	$8.8	$13.7	$17.6	$21.8	$24.9
Scenario 6n: add NOVA	$11.4	$17.6	$22.7	$28.0	$32.1
Scenario 7: 5 casinos + PM + mobile	$19.8	$30.5	$39.2	$48.5	$55.4
Scenario 7n: add NOVA	$20.6	$32.4	$42.2	$52.9	$61.1
Scenario 8: Mobile only	$19.1	$28.7	$35.9	$43.0	$47.8

Source: The Innovation Group; *Note: Scenarios 5, 6, 7 and 8 are mutually exclusive, only one would be implemented.

Gaming Tax Implications

While gaming tax rates can have dramatic impacts on a state's fiscal collections, they can also have a material impact on economic impacts. If gaming taxes are too high, they can stifle capital investment and hiring. However, there is no one single rate appropriate for all markets. Gaming jurisdictions with a limited number of licenses available typically have higher rates than jurisdictions such as Nevada, Mississippi, and Atlantic City, where there is no limit on the number casino licenses that can be issued by the State. Casinos in limited license jurisdictions generally have a defined and relatively fixed number of in-state competitors and generally enjoy higher market capture and less competition. Furthermore, tax rates in limited license jurisdictions are typically graduated to account for variability in market sizes, with casinos in larger markets—especially for casinos in densely populated areas—assumed to have higher revenue potential and ability to shoulder higher tax burdens.

As noted, the baseline casino revenue assessment assumed a blended tax rate of 27%, and a sensitivity analysis was performed to assess the impact of low and high gaming tax assumptions on gaming revenue and ROI.

The current Virginia casino legislation envisions a minimum capital investment of $200 million. In our development cost estimates, we assumed that the $200 million minimum would exclude land costs and license application fees, although these were included in the return-on-investment (ROI) analysis.

Scenario 2 Locations

Regarding the Scenario 2 locations, with a 27% tax we estimate all locations would be able to meet the $200 million investment threshold while maintaining a cash-on-cash return acceptable to investors, although there would not be much cushion at Bristol. Investment could reach $300

million in Danville, over $400 million in Richmond, and between $265 million and $300 million in Portsmouth and Norfolk.

A 40% tax would put Bristol in jeopardy of meeting the threshold and put stress on three others. The Bristol location would likely have difficulty meeting the $200 million investment target with a gaming tax rate of 40%, and Danville, Norfolk and Portsmouth may potentially be challenged in meeting that threshold.

Bristol and Danville have similar market characteristics: relatively small local populations (within 30 minutes) but distant feeder markets that are viable for capture given sufficient development of hotel rooms and other amenities. The feeder markets for Danville in north-central North Carolina are larger than the feeder markets for Bristol, and therefore, Danville has a higher revenue potential and therefore a relatively higher cushion for absorbing a 40% tax rate and still meeting the $200 million investment threshold.

Norfolk and Portsmouth would enjoy a large local population and not be dependent on distant feeder markets. However, they would be sharing the market with each other as well as two HHR facilities. At a 40% gaming tax, it could be challenging for both properties to meet the $200 million investment threshold and maintain a cash-on-cash return acceptable to investors.

Of the Scenario 2 locations, Richmond has the largest primary market and thus shows the least sensitivity to changes in tax rates. The difference in NGR between the 27% and 40% rates is marginal, at just 1.5%. And while the lower tax rate would allow for more capital investment, it is an open question as to whether more investment or hiring would occur, since the market would be well penetrated with the $358 million capital (including 250 rooms) estimated in the 40% scenario.

Moving to the lower tax rate (12%), we estimate that only Bristol and Danville would see a dramatic jump in investment and economic impact versus the 27% scenario, as the Richmond and Hampton Roads markets would be well penetrated by investment possible with a 27% tax rate. While the lower tax rate would allow for more capital investment in Richmond, Norfolk and Portsmouth, it is an open question as to whether more investment or hiring would occur.

At a 12% tax, capital investment in Bristol could reach over $300 million, allowing for 400 hotel rooms and the level of amenity development needed to maximize penetration of distant feeder markets. Investment at Danville could reach over $400 million, including 500 rooms. With larger operations, more staff would be required.

NOVA (Scenario 3)

The NOVA location shares some similarities with Richmond in terms of market potential and tax rate sensitivity, although on a much larger scale given the much larger local population base. We would not expect any material difference in the building program or revenue between a 27% and 40% rate, since the market would be well penetrated with the $657 million capital (including 400 rooms) estimated in the 40% scenario. However, at a 12% tax rate, NOVA would have such a high ROI potential that more investment and hiring could reasonably be expected.

The competitive environment is a consideration as well. A NOVA casino would be competing primarily with the MGM property in Maryland as well as Maryland Live! and the Hollywood Casino at Charles Town Races, West Virginia. The MGM casino has a 308-room hotel, whereas even at a 40% rate we estimate NOVA could have 400 rooms and still show a 19% cash-on-cash return.

Employment Summary

Table 194 summarizes the impact on direct casino employment from the tax sensitivity analysis.

Table 194: Direct Casino Employment Comparison

	12% tax	27% tax	40% tax	12%-27%	27%-40%
Bristol	1,244	1,067	909	177	158
Danville	1,770	1,582	1,365	188	217
Norfolk	1,614	1,509	1,333	105	176
Portsmouth	1,478	1,384	1,231	93	154
Richmond	2,122	2,050	1,955	72	95
Subtotal Scenario 2	*8,227*	*7,592*	*6,793*	*635*	*799*
NOVA (Scenario 3)	3,267	3,170	3,170	97	0
Total	**11,494**	**10,763**	**9,963**	**732**	**799**

Source: The Innovation Group

Online Gaming and Sports Betting (Scenarios 4-8)

For online gaming, we have utilized the same three rates (12%, 27% and 40%), and we would note that at 40% we have applied a sensitivity reduction of 5% to NGR to account for reduced funds for player acquisition and other marketing costs.

Moreover, when it comes time to set definitive casino and online rates, it is advisable to maintain a higher rate for online gaming than for bricks-and-mortar to avoid the shifting of play away from the casinos. New Jersey maintains a significantly higher rate for online gaming revenue compared to its bricks-and-mortar rate.

For sports betting, given its high volatility and low margins, we have assumed a flat rate of 12%.

Property Tax

Legalized gambling in the alternative development scenarios results in property taxes accruing at the local level. To estimate the direct effect on property taxes, local tax rates from the Virginia Department of Taxation were applied to the construction budget for each casino property, in addition to the incremental construction of sports betting. The tax levies by locality are given as rates per $100 of assessed value on real estate, tangible personal property, machinery and tools,

and merchants' capital. The real estate rate was applied to the hard construction cost portion of the budget and the tangible personal property rate was applied to the FF&E portion of the budget.

Table 195: Local Casino Property Tax – Direct Effect ($000's)

	Casino (12% gaming tax)	Casino (27% gaming tax)	Casino (40% gaming tax)	Sports Betting (Incremental)
Bristol	$4,624.6	$3,453.4	$2,426.3	$129.7
Danville	$5,479.3	$4,239.7	$3,255.4	$194.6
Norfolk	$6,828.9	$5,887.0	$4,565.4	$189.4
Portsmouth	$7,052.0	$6,028.8	$4,632.7	$216.9
Richmond	$8,666.7	$7,635.4	$6,821.3	$259.4
NOVA	$14,304.0	$13,265.5	$13,265.5	$324.3

Source: The Innovation Group

The indirect and induced effects on property taxes were estimated by the IMPLAN regional models for each of the development scenarios.

Table 196: Property Tax by Region - Indirect & Induced Effects ($000's)

	Hampton Roads	Richmond	Southside	Southwest	NOVA	Total
Scenario 1						
HHR 1	$991.1	$869.4	-	$112.1	-	**$1,972.7**
Scenario 2						
HHR 2	$607.3	$464.5	-	$112.1	-	**$1,184.0**
Casino 12% tax	$4,451.4	$3,515.6	$1,897.0	$1,434.3	-	**$11,298.3**
Casino 27% tax	$4,204.0	$3,412.3	$1,711.7	$1,273.9	-	**$10,601.9**
Casino 40% tax	$3,841.0	$3,295.6	$1,530.9	$1,137.0	-	**$9,804.6**
Scenario 3						
Casino 12% tax					$5,810.9	**$5,810.9**
Casino 27% tax					$5,680.2	**$5,680.2**
Casino 40% tax					$5,680.2	**$5,680.2**
Scenario 5						
Sports Betting	$415.5	$287.2	$117.7	$36.0	-	**$856.4**
NOVA Incremental					$301.8	**$301.8**
Scenario 6						
Sports Betting	$423.7	$358.0	$107.1	$81.5	-	**$970.2**
NOVA Incremental					$301.8	**$301.8**
Scenario 7						
Sports Betting	$283.6	$239.6	$71.7	$54.5	-	**$649.4**
NOVA Incremental					$143.5	**$143.5**
Horse Industry						**($164.0)**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Sales Tax

Legalized gambling in the alternative development scenarios results in sales taxes accruing at the state and local level. To estimate the direct effect, a sales tax rate from the Virginia Department of Taxation was applied to each casino property's non-gaming revenue. The state sales tax rate levied in Virginia is 4.3% while the additional local tax rate varies by county, ranging from 1%-2.7%.

Table 197: Casino Amenity Sales Tax – Direct Effect ($000's)

	Casino (12% gaming tax)	Casino (27% gaming tax)	Casino (40% gaming tax)
Local Sales Tax			
Bristol	$286.2	$209.9	$169.1
Danville	$379.7	$302.7	$262.9
Norfolk	$604.6	$516.8	$419.2
Portsmouth	$546.0	$468.4	$227.3
Richmond	$447.1	$413.7	$395.7
NOVA	$1,277.4	$1,177.4	$1,177.4
State Tax			
Scenario 2	$7,696.0	$6,475.1	$5,596.8
Scenario 3 (NOVA Incremental)	$3,231.1	$2,978.1	$2,978.1

Source: The Innovation Group

The indirect and induced effects on state & local sales taxes were estimated by the IMPLAN regional models for each of the development scenarios.

Table 198: Sales Tax by Region - Indirect & Induced Effects ($000's)

	Hampton Roads	Richmond	Southside	Southwest	NOVA	Total
Scenario 1						
HHR 1	$882.8	$816.6	-	$128.5	-	**$1,827.9**
Scenario 2						
HHR 2	$541.1	$436.5	-	$128.5	-	**$1,106.1**
Casino 12% tax	$3,964.3	$3,303.1	$2,072.2	$1,641.9	-	**$10,981.5**
Casino 27% tax	$3,745.1	$3,206.4	$1,873.6	$1,460.2	-	**$10,285.3**
Casino 40% tax	$3,422.8	$3,096.9	$1,676.1	$1,304.0	-	**$9,499.8**
Scenario 3						
Casino 12% tax					$3,088.9	**$3,088.9**
Casino 27% tax					$3,018.4	**$3,018.4**
Casino 40% tax					$3,018.4	**$3,018.4**
Scenario 5						
Sports Betting	$371.1	$270.5	$131.4	$41.6	-	**$814.6**
NOVA Incremental					$159.4	**$159.4**
Scenario 6						
Sports Betting	$378.5	$337.2	$119.6	$94.0	-	**$929.2**
NOVA Incremental					$159.4	**$159.4**
Scenario 7						
Sports Betting	$253.3	$225.7	$80.0	$62.9	-	**$622.0**
NOVA Incremental					$75.8	**$75.8**
Horse Industry						**($118.3)**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Income Tax

Legalized gambling in the alternative development scenarios results in income taxes accruing at the state level. The direct, indirect, and induced effects on income taxes were estimated by the IMPLAN regional models for each of the development scenarios.

Table 199: State Income Tax by Region– Total (Direct, Indirect & Induced) Effects ($000's)

	Hampton Roads	Richmond	Southside	Southwest	NOVA	Total
Scenario 1						
HHR 1	$754.3	$773.6	-	$91.4	-	**$1,619.3**
Scenario 2						
HHR 2	$499.4	$452.8	-	$91.4	-	**$1,043.6**
Casino 12% tax	$4,242.7	$3,760.0	$2,028.0	$1,473.8	-	**$11,504.6**
Casino 27% tax	$4,035.9	$3,658.7	$1,855.6	$1,326.4	-	**$10,876.7**
Casino 40% tax	$3,667.2	$3,516.7	$1,632.9	$1,168.9	-	**$9,985.7**
Scenario 3						
Casino 12% tax					$5,428.6	**$5,428.6**
Casino 27% tax					$5,313.8	**$5,313.8**
Casino 40% tax					$5,313.8	**$5,313.8**
Scenario 5						
Sports Betting	$403.6	$317.1	$132.7	$37.8	-	**$891.2**
NOVA Incremental					$308.7	**$308.7**
Scenario 6						
Sports Betting	$411.6	$395.3	$120.8	$85.3	-	**$1,013.0**
NOVA Incremental					$308.7	**$308.7**
Scenario 7						
Sports Betting	$275.5	$264.6	$80.8	$57.1	-	**$678.1**
NOVA Incremental					$146.7	**$146.7**
Horse Industry						**($103.5)**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

Corporate Profits Tax

Legalized gambling in the alternative development scenarios results in corporate profits taxes accruing at the state level. The indirect and induced effects on corporate profits taxes were estimated by the IMPLAN regional models for each of the development scenarios. No direct effect on corporate profits taxes were estimated for any of the development scenarios or included in the following table.

Table 200: Corporate Profits Tax by Region - Indirect & Induced Effects ($000's)

	Hampton Roads	Richmond	Southside	Southwest	NOVA	Total
Scenario 1						
HHR 1	$58.4	$60.2	-	$5.4	--	**$124.0**
Scenario 2						
HHR 2	$35.1	$31.6	-	$5.4	-	**$72.1**
Casino 12% tax	$244.0	$232.3	$86.8	$68.2	-	**$631.3**
Casino 27% tax	$230.8	$225.7	$78.3	$60.7	-	**$595.5**
Casino 40% tax	$212.3	$218.4	$70.0	$54.2	-	**$554.9**
Scenario 3						
Casino 12% tax					$322.4	**$322.4**
Casino 27% tax					$315.3	**$315.3**
Casino 40% tax					$315.3	**$315.3**
Scenario 5						
Sports Betting	$23.3	$19.2	$5.3	$1.7	-	**$49.6**
NOVA Incremental					$16.4	**$16.4**
Scenario 6						
Sports Betting	$23.8	$24.0	$4.8	$3.9	-	**$56.5**
NOVA Incremental					$16.4	**$16.4**
Scenario 7						
Sports Betting	$15.9	$16.0	$3.2	$2.6	-	**$37.8**
NOVA Incremental					$7.8	**$7.8**
Horse Industry						**($7.5)**

IMPLAN Group, LLC, IMPLAN System; The Innovation Group

APPENDIX A: VIRGINIA LOTTERY SALES BY COUNTY

The following sales were used in the Lottery section of this report to estimate potential impact of expanded gaming in the state. The highlighted rows represent host counties: Green for only HHR facilities, Orange for only Casinos, Red for HHR & Casino, and Blue for NOVA facility.

Table 201: Virginia Annual Lottery Sales (2016 – 2018)

City/County	2016	2017	2018	Three Year Total	% of Total
Accomack	$12,736,155	$13,243,950	$14,468,023	$40,448,127	0.6%
Albemarle	$18,234,590	$18,094,076	$20,302,360	$56,631,025	0.9%
Alleghany	$3,621,859	$3,674,510	$3,647,924	$10,944,292	0.2%
Amelia	$3,929,767	$4,175,890	$4,366,639	$12,472,295	0.2%
Amherst	$14,785,648	$14,541,432	$15,577,313	$44,904,393	0.7%
Appomattox	$5,529,072	$5,697,758	$6,557,046	$17,783,876	0.3%
Arlington	$39,309,684	$36,352,811	$38,689,983	$114,352,477	1.8%
Augusta	$9,052,741	$9,347,799	$10,406,501	$28,807,040	0.5%
Bath	$722,438	$693,417	$773,385	$2,189,239	0.0%
Bedford	$13,424,097	$13,569,111	$15,452,001	$42,445,208	0.7%
Bland	$880,690	$850,302	$833,463	$2,564,455	0.0%
Botetourt	$6,449,239	$6,307,042	$6,350,530	$19,106,811	0.3%
Brunswick	$7,433,591	$7,590,046	$7,990,014	$23,013,650	0.4%
Buchanan	$2,600,747	$2,617,119	$2,897,607	$8,115,472	0.1%
Buckingham	$5,726,209	$5,998,179	$6,394,071	$18,118,458	0.3%
Campbell	$14,773,485	$15,239,805	$16,862,425	$46,875,714	0.7%
Caroline	$10,626,186	$10,210,891	$10,874,843	$31,711,920	0.5%
Carroll	$6,512,979	$6,353,441	$6,518,312	$19,384,732	0.3%
Charles City	$1,653,431	$1,649,136	$1,605,455	$4,908,022	0.1%
Charlotte	$4,817,954	$4,731,294	$4,859,680	$14,408,928	0.2%
Chesterfield	$85,237,588	$86,604,988	$97,774,482	$269,617,058	4.3%
Clarke	$3,558,647	$3,472,141	$3,941,316	$10,972,104	0.2%
Craig	$481,959	$514,165	$625,779	$1,621,903	0.0%
Culpeper	$11,024,830	$11,675,735	$13,046,716	$35,747,281	0.6%
Cumberland	$2,776,253	$2,666,320	$2,960,137	$8,402,710	0.1%
Dickenson	$2,250,803	$2,267,494	$2,092,540	$6,610,836	0.1%
Dinwiddie	$10,605,084	$10,802,367	$10,791,020	$32,198,471	0.5%
Essex	$6,022,587	$5,965,094	$6,011,406	$17,999,087	0.3%
Fairfax	$162,226,529	$158,064,095	$173,806,258	$494,096,882	7.8%
Fauquier	$14,844,022	$14,199,630	$15,360,223	$44,403,875	0.7%
Floyd	$1,101,700	$1,073,596	$1,038,232	$3,213,528	0.1%
Fluvanna	$3,622,986	$3,657,291	$4,133,293	$11,413,570	0.2%
Franklin	$11,176,850	$11,190,206	$13,117,464	$35,484,520	0.6%
Frederick	$15,321,015	$15,525,863	$17,551,591	$48,398,469	0.8%
Giles	$3,553,388	$3,631,245	$3,710,846	$10,895,480	0.2%
Gloucester	$10,266,305	$10,485,651	$10,963,609	$31,715,564	0.5%
Goochland	$5,294,932	$5,589,954	$6,450,546	$17,335,432	0.3%
Grayson	$1,118,506	$1,181,801	$1,207,906	$3,508,212	0.1%
Greene	$3,943,827	$3,960,091	$4,407,419	$12,311,337	0.2%

Greensville	$9,412,394	$9,922,643	$9,832,045	$29,167,082	0.5%
Halifax	$15,852,823	$16,115,997	$16,404,852	$48,373,672	0.8%
Hanover	$26,480,450	$26,879,510	$30,252,081	$83,612,040	1.3%
Henrico	$107,267,218	$106,937,533	$117,464,089	$331,668,840	5.2%
Henry	$14,293,351	$13,668,431	$14,329,097	$42,290,878	0.7%
Highland	$245,335	$258,188	$318,170	$821,693	0.0%
Isle of Wight	$10,924,674	$11,142,444	$12,334,587	$34,401,704	0.5%
James City	$20,656,425	$20,521,619	$22,017,849	$63,195,892	1.0%
King and Queen	$1,555,919	$1,477,934	$1,467,646	$4,501,499	0.1%
King George	$5,988,143	$6,641,842	$7,707,006	$20,336,991	0.3%
King William	$4,843,788	$5,105,898	$5,352,578	$15,302,264	0.2%
Lancaster	$5,464,999	$5,946,478	$6,182,096	$17,593,573	0.3%
Lee	$3,323,164	$3,294,689	$3,941,475	$10,559,328	0.2%
Loudoun	$40,095,396	$40,477,494	$49,130,355	$129,703,245	2.0%
Louisa	$10,696,288	$10,758,838	$12,077,820	$33,532,945	0.5%
Lunenburg	$2,168,213	$2,507,416	$2,711,940	$7,387,569	0.1%
Madison	$2,469,003	$2,631,474	$2,804,842	$7,905,319	0.1%
Mathews	$2,148,242	$2,152,745	$2,218,183	$6,519,169	0.1%
Mecklenburg	$18,274,660	$18,493,664	$19,073,862	$55,842,186	0.9%
Middlesex	$3,525,190	$3,704,897	$4,329,444	$11,559,531	0.2%
Montgomery	$11,828,158	$11,236,723	$12,339,028	$35,403,908	0.6%
Nelson	$3,991,680	$4,101,481	$4,381,049	$12,474,210	0.2%
New Kent	$6,724,920	$7,119,293	$7,997,632	$21,841,844	0.3%
Northampton	$6,953,342	$7,307,515	$7,953,311	$22,214,167	0.4%
Northumberland	$3,357,530	$3,247,487	$3,693,055	$10,298,072	0.2%
Nottoway	$6,731,395	$6,731,518	$7,108,280	$20,571,193	0.3%
Orange	$11,167,618	$11,110,899	$12,859,715	$35,138,232	0.6%
Page	$4,389,202	$4,622,739	$5,037,336	$14,049,277	0.2%
Patrick	$2,393,805	$2,243,800	$2,605,062	$7,242,667	0.1%
Pittsylvania	$13,763,877	$14,407,676	$14,892,551	$43,064,104	0.7%
Powhatan	$6,483,678	$6,164,130	$6,660,325	$19,308,133	0.3%
Prince Edward	$10,597,221	$10,552,181	$11,142,592	$32,291,994	0.5%
Prince George	$7,536,626	$7,758,764	$8,936,826	$24,232,215	0.4%
Prince William	$81,881,311	$81,781,116	$92,203,032	$255,865,459	4.0%
Pulaski	$6,711,166	$6,961,167	$7,480,279	$21,152,612	0.3%
Rappahannock	$0	$230,981	$450,749	$681,730	0.0%
Richmond	$2,104,210	$2,318,330	$2,439,388	$6,861,928	0.1%
Roanoke	$18,045,815	$17,965,017	$19,541,238	$55,552,069	0.9%
Rockbridge	$2,443,517	$2,344,731	$2,488,621	$7,276,869	0.1%
Rockingham	$9,262,653	$9,092,490	$10,493,110	$28,848,253	0.5%
Russell	$3,420,849	$3,229,125	$3,259,236	$9,909,209	0.2%
Scott	$5,643,911	$5,460,446	$6,043,463	$17,147,820	0.3%
Shenandoah	$8,563,967	$8,685,577	$9,708,272	$26,957,815	0.4%
Smyth	$7,525,344	$7,342,305	$7,717,287	$22,584,936	0.4%
Southampton	$4,025,000	$4,112,616	$4,161,325	$12,298,940	0.2%
Spotsylvania	$31,337,903	$32,111,897	$36,359,493	$99,809,293	1.6%
Stafford	$27,296,730	$27,011,211	$30,212,778	$84,520,718	1.3%
Surry	$1,829,708	$1,653,699	$1,766,567	$5,249,973	0.1%

Sussex	$6,791,915	$6,788,361	$6,841,011	$20,421,287	0.3%
Tazewell	$8,702,126	$8,568,464	$9,207,120	$26,477,709	0.4%
Warren	$9,382,746	$9,222,244	$9,777,880	$28,382,870	0.4%
Washington	$10,601,982	$10,314,892	$11,770,083	$32,686,957	0.5%
Westmoreland	$5,489,505	$5,549,571	$5,762,240	$16,801,315	0.3%
Wise	$7,801,372	$7,784,774	$8,414,733	$24,000,879	0.4%
Wythe	$8,216,334	$8,044,189	$8,602,586	$24,863,110	0.4%
York	$13,966,934	$13,690,418	$14,813,215	$42,470,566	0.7%
Alexandria (city)	$27,367,018	$24,693,277	$26,904,265	$78,964,560	1.2%
Bristol (city)	$6,870,169	$6,493,186	$6,966,787	$20,330,141	0.3%
Buena Vista (city)	$1,370,560	$1,421,384	$1,418,678	$4,210,622	0.1%
Charlottesville (city)	$13,956,112	$13,914,018	$15,453,849	$43,323,979	0.7%
Chesapeake (city)	$74,501,613	$76,813,450	$85,577,361	$236,892,424	3.7%
Colonial Heights (city)	$13,610,152	$13,661,070	$15,470,459	$42,741,681	0.7%
Covington (city)	$2,275,195	$2,394,235	$2,551,603	$7,221,033	0.1%
Danville (city)	$30,572,595	$30,304,264	$30,747,574	$91,624,433	1.4%
Emporia (city)	$4,437,753	$4,414,575	$4,267,655	$13,119,983	0.2%
Fairfax (city)	$8,402,592	$7,701,958	$8,067,862	$24,172,412	0.4%
Falls Church (city)	$4,217,125	$4,231,125	$3,959,166	$12,407,416	0.2%
Franklin (city)	$7,846,428	$8,065,597	$8,379,856	$24,291,880	0.4%
Fredericksburg (city)	$8,690,088	$8,410,055	$9,363,397	$26,463,540	0.4%
Galax (city)	$2,994,294	$3,297,779	$3,589,714	$9,881,786	0.2%
Hampton (city)	$51,836,811	$52,411,247	$57,492,778	$161,740,836	2.6%
Harrisonburg (city)	$10,713,926	$11,249,904	$13,159,469	$35,123,299	0.6%
Hopewell (city)	$13,549,589	$13,448,312	$14,667,440	$41,665,340	0.7%
Lexington (city)	$2,795,383	$2,829,914	$3,496,249	$9,121,546	0.1%
Lynchburg (city)	$29,992,554	$30,423,615	$33,060,875	$93,477,043	1.5%
Manassas (city)	$16,251,915	$17,080,744	$19,465,894	$52,798,553	0.8%
Manassas Park (city)	$0			$0	0.0%
Martinsville (city)	$7,926,120	$7,427,844	$7,987,052	$23,341,016	0.4%
Newport News (city)	$54,388,572	$55,099,712	$61,237,197	$170,725,482	2.7%
Norfolk (city)	$73,170,302	$74,880,438	$78,672,942	$226,723,682	3.6%
Norton (city)	$1,407,647	$1,417,611	$1,668,962	$4,494,220	0.1%
Petersburg (city)	$32,615,109	$34,375,346	$36,424,301	$103,414,757	1.6%
Poquoson (city)	$2,563,867	$2,392,169	$2,502,253	$7,458,288	0.1%
Portsmouth (city)	$37,223,545	$38,379,006	$42,074,157	$117,676,707	1.9%
Radford (city)	$3,510,323	$3,347,413	$3,806,541	$10,664,277	0.2%
Richmond (city)	$70,973,852	$73,707,041	$77,548,944	$222,229,837	3.5%
Roanoke (city)	$29,302,758	$29,992,117	$32,219,545	$91,514,420	1.4%
Salem (city)	$9,217,486	$9,353,484	$10,595,359	$29,166,328	0.5%
Staunton (city)	$8,099,238	$8,119,979	$9,121,255	$25,340,472	0.4%
Suffolk (city)	$31,557,139	$32,357,160	$34,589,097	$98,503,396	1.6%
Virginia Beach (city)	$113,955,362	$113,437,981	$121,894,205	$349,287,549	5.5%
Waynesboro (city)	$8,087,598	$8,196,850	$9,160,993	$25,445,441	0.4%
Williamsburg (city)	$955,199	$1,045,724	$1,176,686	$3,177,609	0.1%
Winchester (city)	$6,473,446	$6,463,893	$7,069,265	$20,006,604	0.3%
Total All Counties	**$2,043,577,515**	**$2,052,226,757**	**$2,241,298,509**	**$6,337,102,781**	**100%**

APPENDIX B: IMPLAN CUSTOMIZED DATA TABLES

Hampton Roads

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$22,803	19%	$22,803	19%
Proprietor Income (PI)	$611	1%	$611	1%
Other Property Income (OPI)	$17,001	*14%*	$41,842	*35%*
Tax on Production & Imports (TOPI)	$9,514	8%	$9,514	8%
Value Added	*$49,929*	*42%*	*$74,770*	*63%*
Intermediate Expenditures (IE)	$69,620	58%	$44,779	37%
Output per worker	**$119,549**		**$119,549**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.56	0.36
Type II	0.26	0.22
Total	**1.82**	**1.58**

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

Rest of State – Hampton Roads

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$29,854	22%	$29,854	22%
Proprietor Income (PI)	$2,729	2%	$2,729	2%
Other Property Income (OPI)	$22,259	*17%*	$46,891	*35%*
Tax on Production & Imports (TOPI)	$9,514	7%	$9,514	7%
Value Added	*$64,356*	*48%*	*$88,988*	*66%*
Intermediate Expenditures (IE)	$69,619	52%	$44,987	34%
Output per worker	**$133,975**		**$133,975**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.52	0.34
Type II	0.31	0.27
Total	**1.83**	**1.60**

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

Northern VA

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$39,144	26%	$39,144	26%
Proprietor Income (PI)	$2,935	2%	$2,935	2%
Other Property Income (OPI)	$29,184	*19%*	$52,638	*35%*
Tax on Production & Imports (TOPI)	$9,511	6%	$9,511	6%
Value Added	*$80,774*	*54%*	*$104,228*	*69%*
Intermediate Expenditures (IE)	$69,619	46%	$46,165	31%
Output per worker	**$150,393**		**$150,393**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.46	0.31
Type II	0.29	0.25
Total	**1.75**	**1.56**

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

Rest of State – Northern VA

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$21,775	18%	$21,775	18%
Proprietor Income (PI)	$1,799	2%	$1,799	2%
Other Property Income (OPI)	$16,235	*14*%	$41,631	*35*%
Tax on Production & Imports (TOPI)	$9,515	8%	$9,515	8%
Value Added	*$49,324*	*41%*	*$74,720*	*63%*
Intermediate Expenditures (IE)	$69,621	59%	$44,225	37%
Output per worker	**$118,945**		**$118,945**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.56	0.35
Type II	0.30	0.25
Total	**1.86**	**1.61**

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

Richmond

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$21,682	18%	$21,682	18%
Proprietor Income (PI)	$3,585	3%	$3,585	3%
Other Property Income (OPI)	$16,166	*13%*	$42,199	*35%*
Tax on Production & Imports (TOPI)	$9,515	8%	$9,515	8%
Value Added	*$50,948*	*42%*	*$76,981*	*64%*
Intermediate Expenditures (IE)	$69,620	58%	$43,587	36%
Output per worker	**$120,568**		**$120,568**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.67	0.42
Type II	0.41	0.33
Total	**2.07**	**1.75**

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

Rest of State – Richmond

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$29,106	22%	$29,106	22%
Proprietor Income (PI)	$2,013	2%	$2,013	2%
Other Property Income (OPI)	$21,701	*16%*	$46,184	*35%*
Tax on Production & Imports (TOPI)	$9,514	7%	$9,514	7%
Value Added	*$62,334*	*47%*	*$86,817*	*66%*
Intermediate Expenditures (IE)	$69,620	53%	$45,137	34%
Output per worker	**$131,954**		**$131,954**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.50	0.32
Type II	0.28	0.24
Total	**1.78**	**1.57**

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

Southside

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$15,874	14%	$15,874	14%
Proprietor Income (PI)	$2,781	3%	$2,781	3%
Other Property Income (OPI)	$11,835	*11%*	$38,373	*35%*
Tax on Production & Imports (TOPI)	$9,523	9%	$9,523	9%
Value Added	*$40,013*	*36%*	*$66,551*	*61%*
Intermediate Expenditures (IE)	$69,624	64%	$43,086	39%
Output per worker	**$109,637**		**$109,637**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.32	0.20
Type II	0.15	0.13
Total	**1.47**	**1.33**

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

Rest of State – Southside

Customized Data IMPLAN Industry Sector 495

Industry Ratio	Standard Model		Customized Model	
	Value	%	Value	%
Employment Compensation (EC)	$28,768	22%	$28,768	22%
Proprietor Income (PI)	$2,187	2%	$2,187	2%
Other Property Income (OPI)	$21,449	*16%*	$46,038	*35%*
Tax on Production & Imports (TOPI)	$9,514	7%	$9,514	7%
Value Added	*$61,918*	*47%*	*$86,507*	*66%*
Intermediate Expenditures (IE)	$69,620	53%	$45,031	34%
Output per worker	**$131,538**		**$131,538**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.54	0.35
Type II	0.32	0.27
Total	**1.86**	**1.62**

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

Southwest

Customized Data IMPLAN Industry Sector 495

	Standard Model		Customized Model	
Industry Ratio	**Value**	**%**	**Value**	**%**
Employment Compensation (EC)	$17,714	15%	$17,714	15%
Proprietor Income (PI)	$4,644	4%	$4,644	4%
Other Property Income (OPI)	$13,207	*12%*	$40,149	*35%*
Tax on Production & Imports (TOPI)	$9,528	8%	$9,528	8%
Value Added	***$45,093***	***39%***	***$72,035***	***63%***
Intermediate Expenditures (IE)	$69,619	61%	$42,677	37%
Output per worker	**$114,712**		**$114,712**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.43	0.26
Type II	0.22	0.19
Total	**1.64**	**1.45**

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

Rest of State – Southwest

Customized Data IMPLAN Industry Sector 495

	Standard Model		Customized Model	
Industry Ratio	**Value**	**%**	**Value**	**%**
Employment Compensation (EC)	$28,924	22%	$28,924	22%
Proprietor Income (PI)	$2,035	2%	$2,035	2%
Other Property Income (OPI)	$21,565	*16%*	$46,080	*35%*
Tax on Production & Imports (TOPI)	$9,513	7%	$9,513	7%
Value Added	***$62,037***	***47%***	***$86,552***	***66%***
Intermediate Expenditures (IE)	$69,621	53%	$45,106	34%
Output per worker	**$131,658**		**$131,658**	

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

Multipliers for IMPLAN Industry Sector 495

Multiplier	Standard Model	Customized Model
Type I	0.55	0.35
Type II	0.32	0.27
Total	**1.87**	**1.63**

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

DISCLAIMER

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

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

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