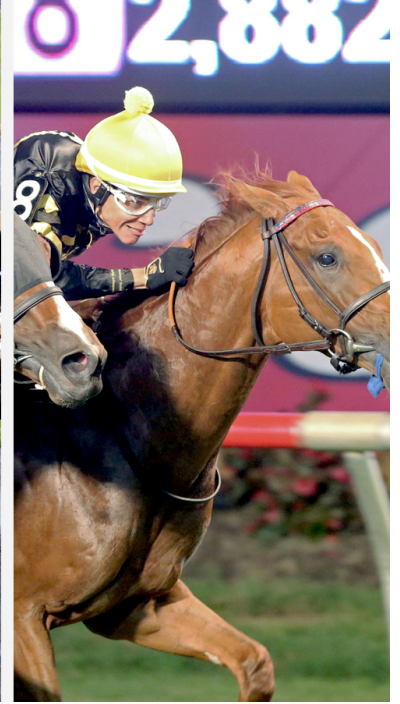
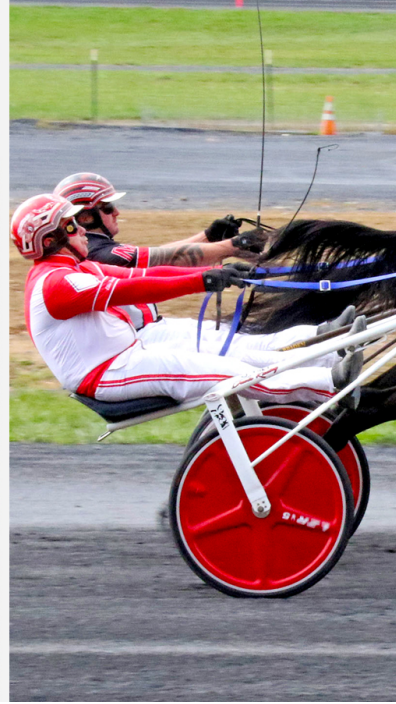




PREPARED FOR
Virginia Equine Alliance



February 9, 2021

ECONOMIC IMPACT

VIRGINIA HORSE RACING AND
BREEDING INDUSTRY



Table of Contents

- 1. Executive Summary 3**
- 2. Background..... 5**
- 3. Methodology 6**
 - 3.1. Economic Impact Methodology 6
 - 3.2. Data Collection 7
- 4. Profile of the Virginia Horse Racing and Breeding Industry 8**
 - 4.1. Profile of Virginia Horsemen 8
 - 4.1.1. Virginia’s Horse Population 8
 - 4.1.2. Estimated Employment..... 10
 - 4.2. Profile of Virginia’s Horse Racing Events..... 10
- 5. Economic Impact of the Virginia Horse Racing and Breeding Industry 12**
 - 5.1. Impact from Horsemen Expenditure..... 12
 - 5.1.1. Horse-Related Expenditures 12
 - 5.1.2. Capital Expenditure 13
 - 5.2. Impact of Horse Racing Related Gaming Operations 14
 - 5.3. Impact from Horse Races 14
 - 5.3.1. Race Organization Expenditures 15
 - 5.3.2. Horse-Related Personnel and Visitor Spending 15
 - 5.4. Incentive and Retirement Programs 16
 - 5.5. Economic Impact Summary of the Virginia Horse Racing and Breeding Industry 16
- 6. Fiscal Impact..... 18**
 - 6.1. Revenue from Horsemen Expenditures 18
 - 6.2. Revenue from Horse Racing Related Gaming Operations 19
 - 6.3. Revenue from Race Organization Expenditures and Visitor Spending 19
 - 6.4. Revenue from Incentive and Retirement Programs 19
- 7. Conclusion 20**
- Appendix 1: Impact Analysis Glossary 21**
- Appendix 2: Horsemen Survey Report..... 22**
 - A.2.1. Survey Report 22
 - A2.1.1. Horse Activity 22
 - A2.1.2. Employment 24
 - A2.2.3. Spending 25
 - A.2.2. Survey Instrument 26

1. Executive Summary

The horse racing and breeding industry makes significant contributions to Virginia's economy.¹

Virginia has a vibrant horse population involved in multiple races each year.²

- Chmura³ conducted a survey of Virginians involved in the thoroughbred racing, standardbred racing, and breeding industry and found that there were an estimated 5,468 racehorses fully or partially owned by Virginia horsemen in 2019. There were an additional 2,466 out-of-state horses being boarded in Virginia. In 2019, 933 horses were in incentive programs, and 172 horses were in various retirement centers.
- Racehorses are present in every region of the state, with concentrations in Northern Virginia and Central Virginia.
- Chmura's survey found that Virginia horsemen employed 1,874 workers in 2019.
- Virginia is home to multiple horse racing events each year. Data from the Virginia Equine Alliance indicate that in 2019, there were 2,950 horses participating in various races, with total spectators reaching 207,100.

Horsemen expenditures generated an estimated economic impact of \$239.4 million in Virginia in 2019.⁴

- Chmura's survey found that the average horseman spent an estimated \$14,663 in Virginia to raise, train, and care for each horse, totaling \$116.3 million.
- The total capital expenditures by horsemen in Virginia is estimated to have been \$34.9 million in 2019.
- The direct spending by horsemen also generated additional benefits to other businesses in Virginia. The estimated total economic impact of horsemen expenditures, which includes direct, indirect, and induced spending, is \$239.4 million in 2019, supporting 2,765 jobs (Table 1.1).

Horse racing related gaming operations play important roles in supporting the horse racing, and breeding industry in Virginia, generating \$224.6 million economic impact in Virginia in 2019.

- Data from the Virginia Racing Commission indicate that the total wagered amount on horse racing reached \$1.2 billion in 2019. This includes wagering from historical horse racing (HHR) facilities, off-track-betting (OTB) facilities across Virginia, and online gaming sites such as online partner advance-deposit-wagering (ADW) companies.
- The estimated total economic impact (direct, indirect, and induced) of horse racing related gaming operations in

Virginia is \$224.6 million in 2019, supporting 1,819 jobs (Table 1.1).

Multiple horse racing events in Virginia generated an estimated economic impact of \$68.7 million in Virginia in 2019.

- In 2019, organizations in Virginia spent an estimated \$11.4 million to stage and organize horse racing events.
- There were 2,950 racehorses that participated in these events. Chmura estimated that 7,517 horse related personnel were associated with those horses and total spectators were 207,100. Visitors to horse racing events spent an estimated \$33.2 million in Virginia in 2019.
- The estimated total economic impact (direct, indirect, and induced) of horse racing events and visitor spending in Virginia is \$68.7 million in 2019, supporting 631 jobs.

Incentive programs and retirement centers generated \$9.5 million in economic impact in Virginia in 2019.

- The estimated economic impact (direct, indirect, and induced) of incentive programs was \$8.5 million in the state, supporting 74 jobs in 2019.
- The estimated economic impact (direct, indirect, and induced) of

¹ The Virginia Equine Alliance (the Alliance), which is the primary organization promoting horse racing in the state, commissioned this study to understand the economic impact of Virginia's horse racing industry.

² The horse racing industry in Virginia includes businesses, individuals, and organizations related to the following horse races: flat race, harness race, steeplechase, and point-to-point.

³ Chmura provides economic software, consulting, and data so our clients can make informed decisions that benefit their communities. Our PhD economists, data scientists, and strategic planners are your guide to your local labor market. Over the past 22 years, we have served hundreds of clients nationwide with our thoroughness, accuracy, and objectivity.

⁴ The economic impact of Virginia's horse racing industry comes from the following four sources:

- Horsemen expenditure, which is spending to raise, train, and care for horses, and horsemen capital expenditure
- Horse racing related Gaming operations
- Race organization expenditure and visitor spending
- Incentive programs and retirement centers

retirement centers was \$1.0 million in Virginia, supporting nine jobs in 2019.

The overall economic impact of Virginia’s horse racing and breeding industry reached \$542.1 million in 2019.

- When summing the above four components (as listed in Table 1.1), the total economic impact (direct, indirect, and induced) of the horse racing and breeding industry in Virginia is estimated to have been \$542.1 million in 2019, supporting 5,297 jobs.
- This projection is conservative, as Colonial Downs was only open for nine months in 2019.
- The COVID-19 pandemic had significant impact on the horse racing and breeding industry in 2020. Those effects are not part of this study.

Virginia’s horse racing and breeding industry contributed an estimated \$26.5 million in tax revenue to the state in 2019.

- Total revenue included \$5.3 million sales tax, \$7.0 million individual

Table 1.1: Summary of Economic and Fiscal Impact of Virginia Horse Racing and Breeding Industry, 2019

		Direct Impact	Total Impact	Tax Revenue (\$Million)
Horsemen Expenditures	Spending (\$Million)	\$151.2	\$239.44	\$4.0
	Employment	2,058	2,765	
Horse Racing Related Gaming Operations	Spending (\$Million)	\$133.4	\$224.6	\$20.0
	Employment	1,088	1,819	
Race Organization Expenditures & Visitor Spending	Spending (\$Million)	\$44.6	\$68.7	\$2.2
	Employment	415	631	
Incentive & Retirement Programs	Spending (\$Million)	\$7.6	\$9.5	\$0.2
	Employment	67	83	
Total Impact	Spending (\$Million)	\$336.8	\$542.1	\$26.5
	Employment	3,628	5,297	

Note: Numbers may not sum due to rounding

Source: Chmura and JobsEQ by Chmura

income tax, \$0.4 million corporate income tax, and \$13.9 million gaming license tax.

- Horse racing related gaming license tax revenue is allocated among the Virginia Racing Commission, Virginia Equine Alliance, Virginia Horse Center, Breeders Fund, and the

Virginia-Maryland College of Veterinary Medicine at Virginia Tech, among others. This revenue supports the horse industry in Virginia.

2. Background

The horse industry in Virginia, which is a more comprehensive enterprise than the horse racing and breeding industry, makes significant contributions to the state's economy. Based on a 2018 study commissioned by the American Horse Council Foundation, the estimated total annual contribution of the horse industry to the state's economy was \$3.3 billion in economic output, and \$2.0 billion in gross domestic product (GDP) in 2016. This industry also supported over 38,000 Virginia jobs for the year.⁵

Horse racing is an important component of the state's horse industry. For that reason, the Virginia Equine Alliance (the Alliance), which is the primary organization that promotes horse racing in the state, commissioned an economic impact of horse racing in Virginia.⁶

The Alliance is a non-profit, 501 (c) 6 organization which is comprised of the following:

- Virginia Harness Horse Association

- Virginia Horsemen's Benevolent & Protective Association
- Virginia Gold Cup Association
- Virginia Thoroughbred Association

The purpose of the Virginia Equine Alliance is to sustain, promote, and expand the horse breeding and horse racing industries in the Commonwealth of Virginia. The Alliance seeks to establish and support new and multiple venues for horse racing in the state and to advocate and support legislation, regulations, and rules beneficial to the breeders, owners, and trainers of horses ("horsemen") in the state.⁷

The rest of this report is organized as follows:

- Section 3 describes the approach and methodology for analyzing the economic impact of the horse racing and breeding industry, including the approach to data collection.

- Section 4 provides a profile of Virginia's horse racing and breeding industry, including key data points related to the number of horses, direct employment, the number of venues, and a list of racing events in Virginia.

- Section 5 analyzes the economic impact of Virginia's horse racing and breeding industry, including horsemen expenditures; horse racing related gaming operations; race organization expenditures and visitor spending; and incentive and retirement programs.

- Section 6 summarizes state tax revenue generated from Virginia's horse racing and breeding industry.

- Section 7 presents a summary and conclusion.

- The Appendix provides the horsemen survey report and the survey instrument conducted by Chmura.

⁵ Source: Economic Impact of the Horse Industry in Virginia, by Virginia Horse Council Foundation.

⁶ Chmura Economics & Analytics (Chmura) was commissioned to conduct this analysis. Chmura is a nationally known provider of economic research, software, and data solutions.

⁷ Source: Virginia Equine Alliance website at <https://www.virginiahorseracing.com/about-us/>.

3. Methodology

3.1. Economic Impact Methodology

The horse racing and breeding industry in Virginia includes businesses, individuals, and organizations related to the following horse races:

- Thoroughbred flat racing
- Standardbred harness racing
- Thoroughbred steeplechase racing
- Thoroughbred point-to-point racing

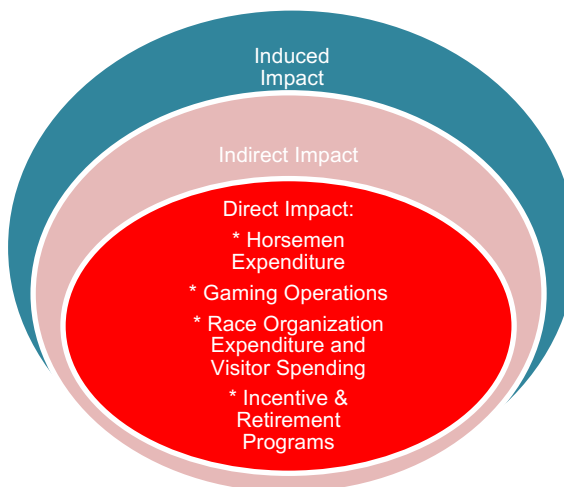
The horses involved in the above races are thoroughbred and standardbred horses. Horses for recreational use, and those presented in horse shows, three-day events, or other recreational activities are not included.

The horse racing and breeding industry is broad. In this study, it encompasses all economic activities related to horse racing in Virginia. Aside from horse racing events, other activities include horse breeding, incentive programs, and gaming facilities established to support horse racing.

More specifically, the economic impact of the horse racing and breeding industry comes from the following four components:

- **Horsemen expenditures.** Horsemen are individuals participating in the horse racing and breeding industry, including horse owners, trainers, and breeders. Virginia horsemen spend a considerable amount each year on feed, breeding, and training for their horses. They also invest in capital projects such as structures or farm equipment. This spending supports many jobs and other businesses throughout Virginia.
- **Horse racing related Gaming operations.** The horse racing and breeding industry in Virginia is

Figure 3.1: Economic Impact Analysis Framework



Source: Chmura Economics & Analytics

supported by gaming revenue, as is the model in most U.S. racing jurisdictions. Some racing venues, like Colonial Downs, also operate historical horse racing and off-track-betting (OTB) facilities across Virginia. Those gaming facilities attracted tens of thousands of participants in 2019. Horse racing related gaming operations generate considerable economic impact in the state.

- **Race organization expenditures and visitor spending.** Virginia has multiple venues for horse racing, such as Colonial Downs, Shenandoah Downs, and Great Meadow, among others. Each year, those venues host multiple horse racing events, which bring participants and spectators to Virginia. Specifically, the economic impact of horse racing events in Virginia includes spending by organizers to stage horse races, as well as spending by participants and spectators.

- **Incentive and retirement programs.** The Virginia Equine Alliance has two incentive programs for horses: Virginia-Certified and Virginia-Bred. Hundreds of horses participate in these programs each year. In addition, the Alliance supports various retirement programs at centers across the state to care for horses retired from racing.

These four components constitute the direct economic impact of Virginia's horse racing and breeding industry. The total economic impact also includes the ripple effects derived from the direct impact. Using horsemen expenditures as an example, indirect impacts are benefits to businesses that supply goods and services to Virginia horsemen, including those providing feed or veterinary services. The induced impact occurs when workers in the industry spend their income in the state, benefiting businesses such as retail and food service (Figure 3.1).

Direct impact is estimated based on data from the Virginia Equine Alliance and from a survey of horsemen conducted by

Chmura. Ripple effects of the industry are estimated using Chmura's JobsEQ economic impact model.

This study also estimates the fiscal benefit of Virginia's horse racing and breeding

industry to the state government. The state typically can benefit from sales, individual, and corporate income taxes from horsemen expenditures; horse related gaming operations; race organization expenditures and visitor spending; and

incentive and retirement programs. In addition, horse racing related gaming operations generate considerable license tax revenue to support the industry.

3.2. Data Collection

Numerous data related to Virginia's horse racing and breeding industry were collected to complete the economic impact analysis of this industry.

Data on horse racing related gaming operations were provided by the Virginia Equine Alliance, gaming operators, and Virginia Racing Commission.

The Alliance provided a list of horse racing events, the number of participants, the estimated event expenditures, and total attendance at those events.

The Alliance also provided data related to the number of horses in Virginia's incentive and retirement programs.

For horsemen expenditures, Chmura conducted a survey of Virginia horsemen

involved in the horse racing and breeding industry.⁸ Those surveyed include horse owners, breeders, and trainers.

Chmura compiled a list of potential survey respondents from the contact list provided by the Virginia Equine Alliance. A total of 788 individuals were contacted in October and November of 2020 via email, phone, and personal meetings. A total of 293 completed surveys were received, for a response rate of 37.0%. This is equivalent to a margin of error of 5%. The following key information was collected:

- Number of horses owned
- Number of racing events attended

- Total horse-related capital expenditures, such as for barns, trailers, and equipment
- Ongoing horse-related expenditures such as feed, service fees, and other goods and services
- Services provided for other horse owners, such as boarding and breeding

Data collected from the survey were used to estimate the economic impact of horsemen expenditures in Virginia.

Further, Chmura combined data from the Virginia Equine Alliance and the horsemen survey to provide the profile of Virginia's horse racing and breeding industry.

⁸ Please see the Appendix for a more detailed survey report, including the survey instrument.

4. Profile of the Virginia Horse Racing and Breeding Industry

This section provides a profile of the Virginia horse racing and breeding industry, presenting key data points such

as the total number of horses, direct employment, venues, and a list of racing events in Virginia. These data are

important drivers of the overall economic impact of Virginia’s horse racing and breeding industry.

4.1. Profile of Virginia Horsemen

4.1.1. Virginia’s Horse Population

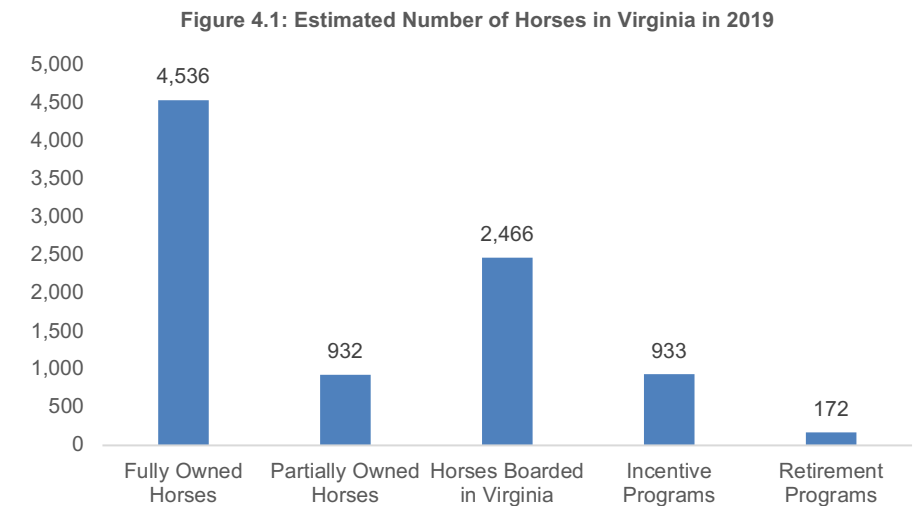
Data in this section come from a survey Chmura conducted on Virginia horsemen. Those surveyed include horse owners, breeders, trainers, and race track operators.

The survey found that of all contacts approached by Chmura, 72.5% of them were involved in Virginia’s horse racing and breeding industry in 2019, and 66.8% of them were horse owners. Chmura estimated that there were 571 horsemen, of which 526 were horse owners in Virginia in 2019.

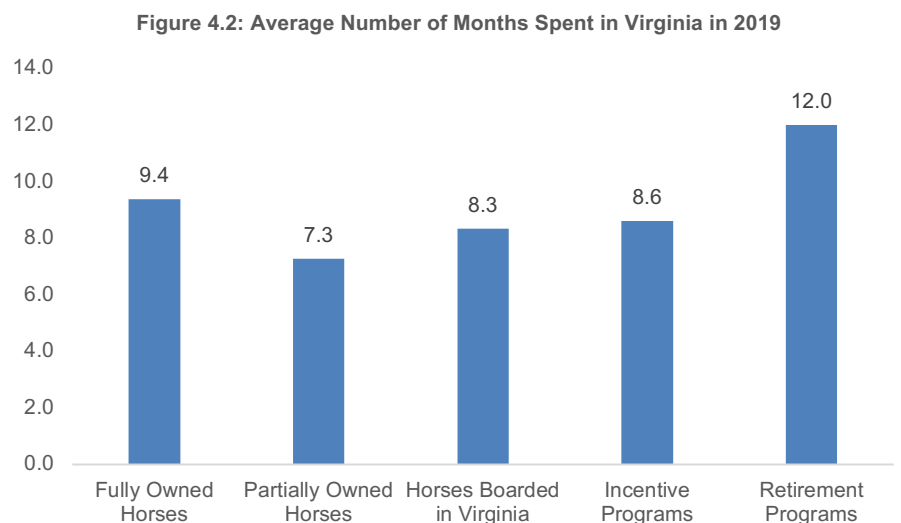
Based on Chmura’s survey, it is estimated that Virginia horse owners possessed 5,468 horses in 2019. Among those, 4,536 horses were fully owned by Virginia owners, and 932 were partially owned (Figure 4.1).

While there are horsemen and racehorses in all parts of the state, data from Chmura’s survey show that more than half of all horses involved in racing reside in Northern Virginia. Fauquier, Loudoun, Warren, Clarke, and Frederick counties have the largest number of horses (Figure 4.3). The Central Virginia region also has a large number of horses, with Albemarle, Chesterfield, and Hanover counties leading in the number of horses.

In order to estimate the economic impact of horsemen expenditures in Virginia, it is necessary to examine the number of horses living in Virginia and determine how long they have been in the state. Some of horses owned by Virginians are boarded



Source: Chmura Economics & Analytics

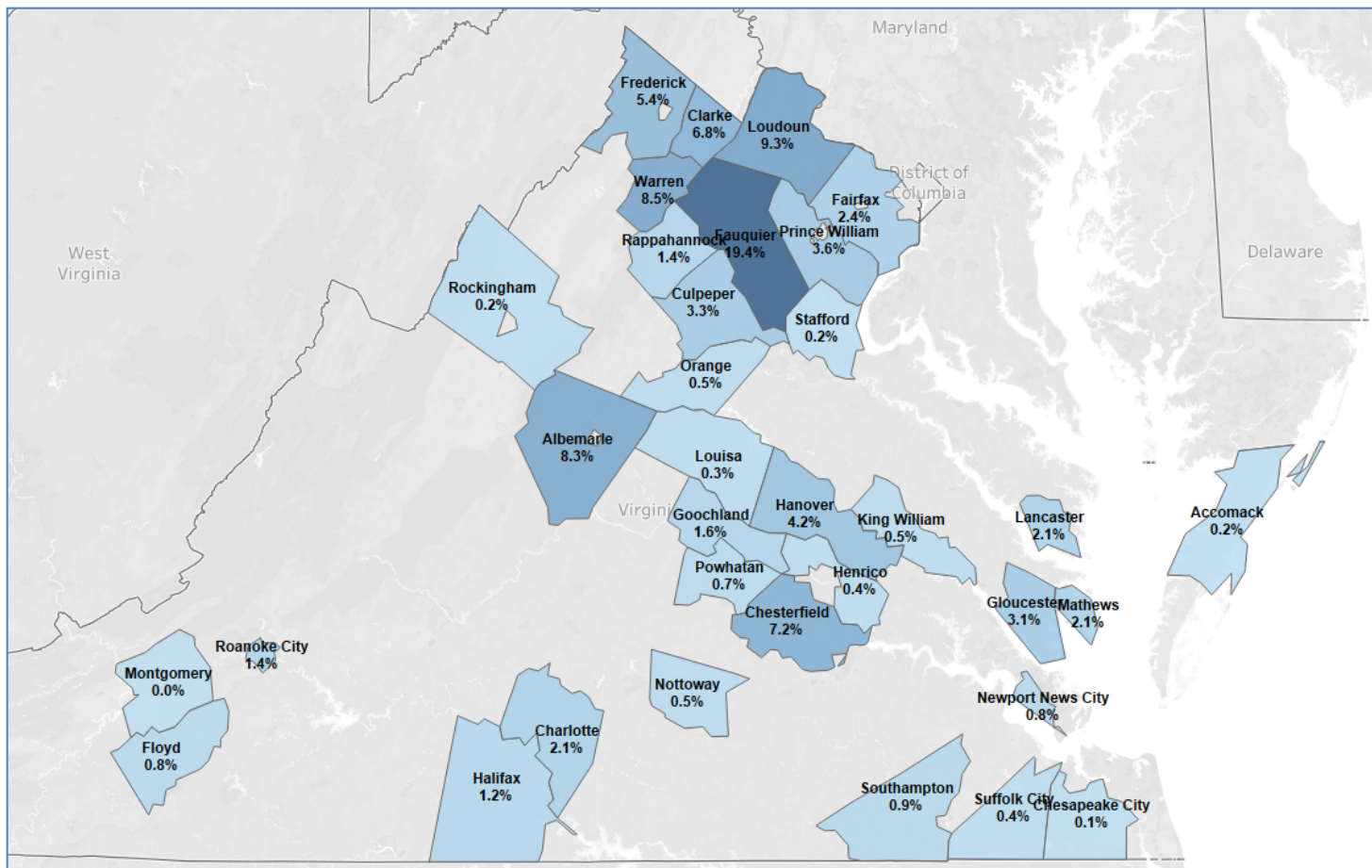


Source: Chmura Economics & Analytics

outside the state, and some out-of-state owners board horses in Virginia. Chmura’s survey found that, on average, an

estimated 2.2 horses per owner were sent to out-of-state farms for boarding. Removing those, Chmura estimated that

Figure 4.3: Reported Percentage of Horses by Locality



Note: The percentages shown on this map only represent the number of horses reported by survey respondents, not all horses in each locality.

Source: Chmura

fully owned horses spent an average of 9.4 months in Virginia in 2019, while partially owned horses spent 7.3 months in Virginia (Figure 4.2).

Chmura’s survey also discovered that an estimated 2,466 horses from outside the state were boarded in Virginia in 2019, spending an average of 8.3 months in the state (Figures 4.1 and 4.2).

There are additional horses living in Virginia in incentive and retirement programs. The Virginia Equine Alliance has two incentive programs for horses: Virginia-Certified and Virginia-Bred. In

2019, there were 933 horses participating in those two programs, with 65%-70% of them from outside of Virginia. On average, each horse stays in one of the programs for 8.9 months. In Virginia, there are dozens of farms where horses can go when they retire from racing. Data from the Virginia Equine Alliance indicate that in 2019, there were an estimated 172 horses at those farms.

In total, it is estimated that 8,736 horses that had been involved in the horse racing and breeding industry lived in Virginia in 2019.⁹ They spent an average of 8.8 months in the state. This number only

represents horses involved in the racing industry and does not represent all horses in Virginia. In fact, the total number of horses in Virginia is much larger than this figure. A study published by the American Horse Council Foundation found that there were 182,000 horses in Virginia in 2016—the majority of them involved in non-racing activities such as farm work, recreation, or horse shows.¹⁰ A 2011 study on Virginia’s horse industry estimated that 8,800 horses in Virginia were involved in horse racing in 2006.¹¹ Chmura’s estimate is consistent with the 2011 study estimate.

⁹ The in-state horses in incentive programs are excluded; they are already counted as those fully or partially owned in the state.

¹⁰ Source: Economic Impact of the Horse Industry in Virginia, by the American Horse Council Foundation, 2018.

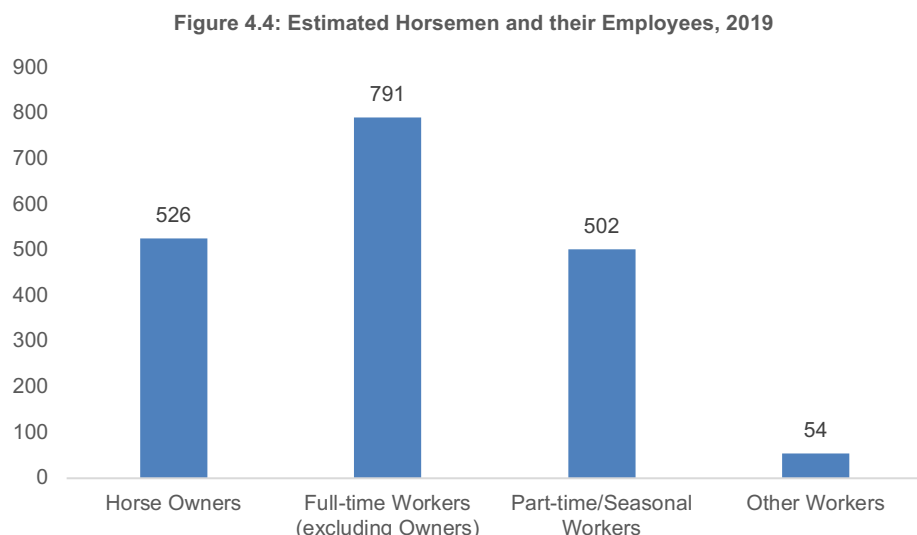
¹¹ Source: The Economic Impact of the Horse Industry in Virginia, by Weldon Cooper Center for Public Service, University of Virginia, 2011.

4.1.2. Estimated Employment

Chmura’s survey found that each horse owner in Virginia hired an average of 1.5 full-time workers (excluding the owners themselves) in 2019, and they worked an average of 11.2 months per year. Including horse owners, the total estimated number of full-time workers was 1,317 in 2019.¹² In addition, each horse owner hired one part-time/seasonal worker in 2019, and they worked an average of 6.6 months per year. The total estimated number of part-time/seasonal workers in 2019 was 502 (Figure 4.4).

In addition, Chmura’s survey found that there are an estimated 54 other workers employed by horsemen in Virginia, such as boarders, breeders, or trainers.

When adding horse owners, full-time workers, part-time workers, and other employees, it is estimated that Virginia horsemen employed 1,874 individuals in



2019. Horsemen-supported jobs are only one component of employment in Virginia’s horse racing and breeding industry, because total industry

employment also includes those working in race venues and gaming facilities across the state.

4.2. Profile of Virginia’s Horse Racing Events

Horse racing has a long history in Virginia. Today, Virginia is home to different types of horse races, including thoroughbred flat racing, standardbred harness racing, thoroughbred steeplechase, and thoroughbred point-to-point. Flat racing involves thoroughbred horses while harness racing requires standardbred

horses. In steeplechase races, horses jump over obstacles. Point-to-points are steeplechase races that do not offer purses.

Table 4.1 lists all horse racing events in Virginia in 2019, along with the number of participating horses and spectators at

each race. Examples of major horse races in Virginia are thoroughbred flat races at Colonial Downs and standardbred harness races at Shenandoah Downs. Thoroughbred steeplechase events, such as the Virginia Gold Cup and the International Gold Cup races are held at Great Meadow each year.

¹² Chmura assumes that horse owners are involved in the management of horse affairs, and they are counted as full-time workers.

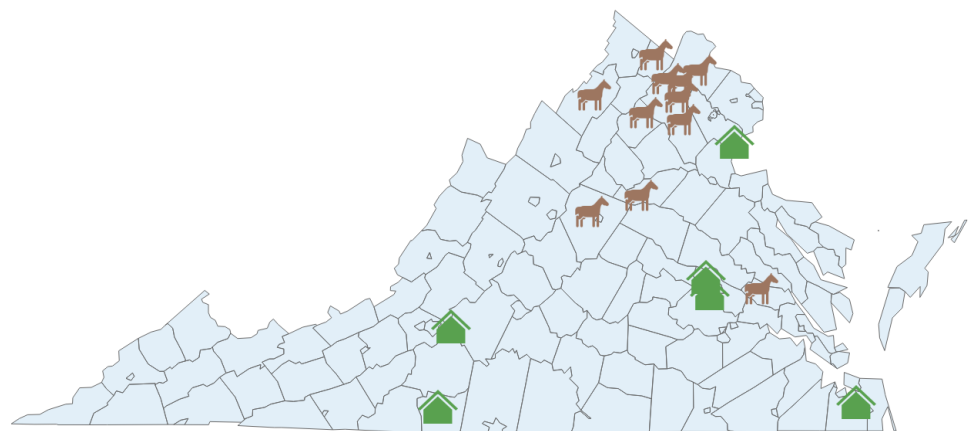
Table 4.1: Virginia Horse Racing Venues, Events, Participants and Spectators (2019)

Venue	Event	Event Type	Participating Horses	Spectators
Colonial Downs	Multiple Pari-mutuel Racing	Pari-mutuel thoroughbred racing (flat)	1,230	42,000
Shenandoah Downs	Multiple Pari-mutuel Racing	Pari-mutuel standardbred racing (harness)	869	6,000
	Shenandoah County Fair (VHHA Fair Race)	Standardbred racing (harness)	139	600
Great Meadow	Virginia Gold Cup	Pari-mutuel steeplechase	77	60,000
	International Gold Cup	Pari-mutuel steeplechase	57	30,000
Glenwood Park	Middleburg Spring Races	Steeplechase	66	6,500
	Middleburg Fall Races	Steeplechase	63	5,000
Foxfield Races	Foxfield Spring Races	Steeplechase	39	20,000
	Foxfield Fall Races	Steeplechase	23	8,500
Montpelier Races	Montpelier Hunt Races	Steeplechase	62	18,000
Warrenton	Warrenton Hunt	Point-to-point	76	1,000
Upperville	Piedmont Fox Hounds	Point-to-point	65	3,500
Middleburg	Orange County Hounds	Point-to-point	40	1,000
Ben Venue	Old Dominion Hounds	Point-to-point	21	1,000
Leesburg	Loudoun Hunt	Point-to-point	65	1,000
Berryville	Blue Ridge Hunt	Point-to-point	13	1,000
Glenwood Park	Middleburg Hunt	Point-to-point	45	2,000
Total			2,950	207,100

Source: Virginia Equine Alliance

Figure 4.5: Horse Racing Venues and OTB Sites in Virginia

Horse racing venues are located throughout Virginia, with a large concentration in Northern Virginia (Figure 4.5). Colonial Downs in New Kent County is the only venue in Virginia that hosts traditional extended parimutuel races, featuring thoroughbred races. In 2019, there were 18 race days with a total of 1,229 participants in races in Colonial Downs. Those races attracted 42,000 spectators. Shenandoah Downs in Shenandoah County hosts over one hundred harness races each year, including Virginia Harness Horse Association (VHHA) races held at the Shenandoah County Fair each year. There are several venues in Virginia that host steeplechase events, including Great Meadow, Glenwood Park, Foxfield, and Montpelier.



Note: Brown horses represent racing venues and green buildings represent OTB sites
 Source: Virginia Equine Alliance

Data from the Virginia Equine Alliance show that in 2019, total spectators at all Virginia horse race events reached 207,100. The number of participating horses in those races was 2,950. While

there are no horse racing venues in Southern or Southwest Virginia, there are off-track-betting (OTB) facilities in those regions.

5. Economic Impact of the Virginia Horse Racing and Breeding Industry

5.1. Impact from Horsemen Expenditure

One of the largest economic impact components of Virginia’s horse racing and breeding industry involves spending by

horsemen to care for and train their horses. Also involved is the capital expenditures horsemen incur each year in

terms of maintaining farms, stables, and purchasing necessary equipment.

5.1.1. Horse-Related Expenditures

Chmura’s survey found that, in 2019, the average horseman spent an estimated \$152,331 in Virginia to care for, train, and board horses, averaging \$14,663 per horse. As Table 5.1 shows, expenditures items include feed; training and boarding costs; wages, salaries, and benefits for workers; veterinary service; and a wide range of other spending categories.

This total only includes spending in Virginia. Chmura’s survey also found that the average horseman spent \$4,626 per horse at businesses outside of Virginia, for stud fees, breeding, boarding, and training expenses.

Chmura compared average spending per horse, as indicated in this survey, with the spending value in existing studies, and considered this estimate reasonable. The 2018 study on the economic impact of the horse industry in the United States found that annual average spending per horse was \$5,945 in Virginia in 2016.¹³ In addition, the 2011 study on the economic impact of the horse industry in Virginia estimated an annual spending of \$4,060 per horse in 2010.¹⁴ The average

spending per horse in those two prior studies covered all horses in Virginia, not just those involved in horse racing—which typically only involve thoroughbred and standardbred horses. Compared with horses for farm work or recreational use,

racehorses are more costly to own in areas of training, boarding, stud fees, and travel expenses. It is not surprising that the average spending per racehorse is significantly higher than the average spending for all horses in Virginia.

Table 5.1: Estimated Ongoing Spending per Horse in Virginia, 2019

Category	Amount
Feed	\$2,174
Tack, grooming supplies, and other equipment	\$624
Professional dues and entry fees	\$405
Stud fees	\$343
Veterinary service	\$1,487
Training/boarding cost	\$1,423
Facilities maintenance	\$605
Horse insurance	\$85
Horse transportation	\$273
Staff travel expenses	\$83
All other business service expenses	\$688
Salary, wages, and benefits	\$5,473
Cash value of perks	\$419
Property taxes	\$391
Cost of all other goods	\$189
Total	\$14,663

Source: Chmura Survey

¹³ Source: Economic Impact of the Horse Industry in Virginia, by the American Horse Council Foundation, 2018.

¹⁴ Source: The Economic Impact of the Horse Industry in Virginia, by Weldon Cooper Center for Public Service, University of Virginia, 2011.

Table 5.2: Economic Impact of Horsemen Expenditures, 2019

		Direct	Indirect	Induced	Total Impact
Horse-Related Expenditure	Spending (\$Million)	\$116.3	\$38.8	\$31.3	\$186.4
	Employment	1,874	306	269	2,449
Capital Expenditure	Spending (\$Million)	\$34.9	\$12.6	\$5.5	\$53.0
	Employment	184	77	54	316
Total	Spending (\$Million)	\$151.3	\$51.4	\$36.7	\$239.4
	Employment	2,058	383	323	2,765

Note: Numbers may not sum due to rounding

Source: Virginia Equine Alliance and JobsEQ by Chmura

Multiplying average spending per horse with the number of horses in Virginia, the annual horse-related expenditures by Virginia horsemen is estimated to have been \$116.3 million in 2019 (Table 5.2). This figure does not include payment to out-of-state parties related to stud fees, breeding and boarding, and travel expenses to racing events held outside Virginia.

Table 5.2 presents the estimated economic impact of horsemen expenditures in Virginia. In 2019, this spending generated a total economic impact (direct, indirect, and induced) of \$186.4 million in Virginia, supporting 2,449 jobs. Of the total impact, \$116.3 million is the estimated direct spending by horsemen in the state on various essentials such as feed, training/boarding, and employee salaries. Direct employment

is the number of workers hired by horsemen, which is estimated to have been 1,874, including the horsemen themselves.¹⁵

The indirect impact in the state is estimated to have been \$38.8 million and 306 jobs in 2019. Examples of indirect impact are businesses providing feed, veterinary services, and training services.

The induced impact is estimated to have been \$31.3 million in 2019, supporting 269 jobs in Virginia. Since the source of induced impact is labor income for workers in this industry, the beneficiaries are concentrated in consumer service industries such as retail, food services, and health care.

5.1.2. Capital Expenditure

Capital expenditures by horsemen are any investment made on durable structures or equipment on horse farms. This includes horse trailers, farm or barn buildings, land improvement, and farm equipment. Chmura's survey found that, in 2019, capital expenditures by the average horseman was approximately \$45,729 in Virginia, averaging \$4,402 per horse (Table 5.3). Total capital expenditures by horsemen in Virginia is estimated to have been \$34.9 million in 2019.

It is estimated that the total economic impact (direct, indirect, and induced) of horsemen capital expenditures in 2019 were \$53.0 million in Virginia, supporting 316 state jobs (Table 5.2). Of this impact, \$34.9 million are the estimated direct capital expenditures in the state,

Table 5.3: Estimated Capital Expenditures per Horse in Virginia, 2019

Category	Amount
Horse trailers	\$754
Land improvement	\$752
Farm/barn structures	\$2,063
Farm equipment	\$766
Other	\$67
Total	\$4,402

Source: Chmura Survey

supporting 184 jobs. The indirect impact is estimated to have been \$12.6 million and 77 jobs. Beneficiaries of the indirect impact include suppliers of construction materials, and contractors such as electricians or truck drivers. The induced impact is estimated to be \$5.5 million, which can support 54 jobs in 2019.

Combining horse-related expenditures and capital expenditures by Virginia horsemen, it is estimated that the annual total impact of horsemen expenditures (direct, indirect, and induced) was \$239.4 million in 2019 supporting 2,765 jobs in Virginia.

¹⁵ The employment estimated in this report is based on the place of work, and it includes both full-time and part-time/seasonal workers, not full-time-equivalent employment.

5.2. Impact of Horse Racing Related Gaming Operations

The horse racing and breeding industry in Virginia is supported by horse racing related gaming revenue. Some racing venues, like Colonial Downs in New Kent County, also operate a historical horse racing (HHR) facility and off-track-betting (OTB) facilities in different cities across Virginia. Those gaming facilities attracted tens of thousands of patrons in 2019. There are also advance-deposit-wagering (ADW) online gaming sites. Data from the Virginia Racing Commission indicate that the total wagered amount reached \$1.2 billion in 2019.

Chmura used multiple data sources to calculate the revenue of horse racing related gaming operations at all venues in Virginia. One resource was the Virginia Racing Commission. From this 2019 report, Chmura estimated the operational revenue of gaming facilities in Virginia.¹⁶ Chmura also used prior economic impact reports to estimate the number of visitors to HHR and OTB facilities and their spending in Virginia.¹⁷

It is estimated that the total net revenue from horse racing related gaming

Table 5.4: Economic Impact of Horse Racing Related Gaming Operations, 2019

	Direct	Indirect	Induced	Total Impact
Spending (\$Million)	\$133.4	\$38.8	\$52.4	\$224.6
Employment	1,088	274	457	1,819

Note: Numbers may not sum due to rounding

Source: Virginia Equine Alliance and JobsEQ by Chmura

operations was \$139.9 million in 2019. This figure includes gaming revenue, food and beverage revenue from HHR and OTB facilities, and estimated spending by visitors to those gaming facilities in Virginia.

Table 5.4 presents the economic impact of horse racing related gaming operations in Virginia in 2019. It is estimated that gaming operations generated an annual economic impact (including direct, indirect, and induced) of \$224.6 million, which supported 1,819 jobs in the state. Of the total impact, \$133.4 million is the estimated direct impact in Virginia. Direct employment is estimated to have been 1,088, which reflect individuals employed

in gaming operations in HHR and OTB facilities around the state. The indirect impact in the state is estimated at \$38.8 million, supporting 274 jobs. Beneficiaries include Virginia businesses in a wide range of industries such as advertising and marketing, banking, and food service. The induced impact in the state is estimated to have been \$52.4 million, supporting 457 jobs in Virginia.

The estimated economic impact from horse racing related gaming operations is conservative, as Colonial Downs, with its HHR and OTB facilities, only started operations in April 2019. The economic impact will be larger if Colonial Downs operates for a full year.

5.3. Impact from Horse Races

Virginia has several venues for thoroughbred flat, standardbred harness, and thoroughbred steeplechase races. Each year, there are several hundred horse races across the state. There are two types of spending associated with horse races: race organization expenditures and visitor spending.

Data from the Virginia Equine Alliance indicate that those venues spent an estimated \$11.4 million in 2019 to organize and stage those events. In addition, horse racing events attracted thousands of visitors to Virginia in 2019, including 7,517 horse-related personnel and 2,950 participating horses.¹⁸ Also, there were

207,100 spectators at racing events in Virginia. Visitor spending generates significant economic impact in the state. Table 5.5 presents the estimated economic impact of race organization expenditures as well as visitor spending in Virginia.

¹⁶ The Virginia Racing Commission reported total wagered amount and the percentage that goes to gaming operators.

¹⁷ One such report is the Economic Impact of Colonial Downs in Virginia, prepared by Chmura Economics & Analytics, 2018. The economic impact of visitors to HHR and OTB facilities are included as part of the gaming operations. Visitor spending to horse race events is estimated in Section 5.3.

¹⁸ It is assumed that each horse is accompanied by two to three individuals. Source: Virginia Equine Alliance.

5.3.1. Race Organization Expenditures

Total race organization expenditures are estimated to be \$11.4 million for 2019. Many businesses in Virginia are hired to provide facility maintenance, food and drink, and other services for those events. Spending activities to organize and stage those events generated an economic impact (direct, indirect, and induced) of \$20.8 million in Virginia, supporting 156 jobs. Of the total impact, \$11.4 million are the estimated direct race organization expenditures in Virginia, supporting 87 jobs.¹⁹ Examples of those jobs include concession stand workers, security guards, and parking attendants, among others. The indirect economic impact from race organization expenditures is estimated to have been \$5.5 million, supporting 37 jobs in 2019. The induced impact is estimated to have been \$3.9 million in 2019, supporting 32 jobs in Virginia.

5.3.2. Horse-Related Personnel and Visitor Spending

In this analysis, visitor spending refers to spending by both horse-related personnel and spectators at horse racing events.

To calculate direct visitor spending from horse racing events in Virginia, the first task is to estimate the number of visitors. For all horse races, the Virginia Equine Alliance provided the total number of participating horses, which was 2,950. Chmura estimated that the total number of personnel associated with these horses was 7,517 in 2019. The Virginia Equine Alliance provided the approximate number of spectators for those events, which was 207,100 in 2019. The estimated total number of visitors to all horse racing events reached 214,617 in 2019.²⁰

Table 5.5: Economic Impact of Race Organization Expenditures and Visitor Spending, 2019

		Direct	Indirect	Induced	Total Impact
Race Organization Expenditures	Spending (\$Million)	\$11.4	\$5.5	\$3.9	\$20.8
	Employment	87	37	32	156
Visitor Spending	Spending (\$Million)	\$33.2	\$10.0	\$4.7	\$47.8
	Employment	328	98	49	475
Total	Spending (\$Million)	\$44.6	\$15.5	\$8.6	\$68.7
	Employment	415	134	81	631

Note: Numbers may not sum due to rounding
Source: Virginia Equine Alliance and JobsEQ by Chmura

After the total number of visitors is estimated, the next step is to determine their spending in Virginia. For this, Chmura utilized different data sources, including visitor profile data from the Virginia Tourism Corporation and other studies on the horse racing and breeding industry to estimate the visitor spending amounts and categories.

For horse-related personnel, since they travel with horses, their spending patterns are different from spectators. Horse-related personnel are usually responsible for horse transportation and other related expenses. They also tend to stay near race venues for longer as they need to prepare horses for race days. Using a prior survey, Chmura assumed that for horse-related personnel, spending was \$84.40 per person per day in Virginia. They spend an average of 9.5 days in Virginia for each race.²¹

For spectators, their spending patterns resemble those of typical tourists. Major spending items are food, lodging, and transportation. Using data from the Virginia Tourism Corporation for sports tourism, Chmura assumed that average spectators spent \$73.60 per person per day in Virginia.²² They also stay an average of 2.0 days in Virginia to attend races.

A portion of horse-related personnel spending to attend horse races, such as horse and personnel transportation and race entry fees, is reported by Virginia horsemen in the survey. That spending is already included in the economic impact from horsemen expenditures in Virginia estimated in Section 5.1.

Removing overlapping spending items, Chmura estimates that in 2019, horse-related personnel and spectators at all horse races spent \$33.2 million in Virginia. Total visitor spending generated an economic impact (direct, indirect, and induced) of \$47.8 million, supporting 475 state jobs in 2019 (Table 5.5). Of the total impact, \$33.2 million is the estimated direct visitor spending in the state, supporting 328 jobs. The indirect impact is estimated to have been \$10.0 million and 98 jobs, while the induced impact is estimated to have been \$4.7 million and 49 jobs.

Adding race organization expenditures and visitor spending, the total annual economic impact of horse races (direct, indirect, and induced) was \$68.7 million in spending in Virginia, supporting 631 jobs in 2019.

¹⁹ The jobs estimated here are measured in annual jobs, assuming they would work for one year. However, the number of individuals working on race days can be in the hundreds.

²⁰ Please note that the number of total visitors is not the number of unique visitors. Some individuals attend multiple races.

²¹ Economic Impact of Virginia Horse Center, prepared by Chmura Economics & Analytics for Virginia Horse Center. February 2020.

²² Source: Virginia Tourism Corporation at: <https://www.vatc.org/research/travel-data-and-profiles/>.

5.4. Incentive and Retirement Programs

The Virginia Equine Alliance has two incentive programs for horses: Virginia-Certified and Virginia-Bred. In 2019, there were a total of 933 horses participating in those programs. On average, each horse stays in one of the programs for 8.9 months. The approximate daily spending for those horses, including training and boarding, was \$41.60.²³ As a result, the direct spending of the incentive programs is estimated to have been \$10.1 million in 2019.

However, spending by Virginia horsemen to participate in incentive programs is presumably included in the impact of horsemen expenditures. Data from the Virginia Equine Alliance indicate that 30%-35% of horses in incentive programs were owned by Virginians in 2019. Excluding spending on those horses, the direct spending of incentive programs would be \$6.8 million.

In Virginia, there are dozens of retirement centers where horses retired from races

Table 5.6: Economic Impact of Incentive and Retirement Programs, 2019

		Direct	Indirect	Induced	Total Impact
Incentive Programs	Spending (\$Million)	\$6.8	\$1.1	\$0.6	\$8.5
	Employment	59	9	6	74
Retirement Program	Spending (\$Million)	\$0.8	\$0.1	\$0.1	\$1.0
	Employment	8	1	1	9

Note: Numbers may not sum due to rounding

Source: Virginia Equine Alliance and JobsEQ by Chmura

can live. Data from the Virginia Equine Alliance indicate that in 2019, there were an estimated 172 horses in the retirement program. Caring for retired horses in this program has an estimated total budget of \$0.8 million in 2019.

Table 5.6 presents the economic impact of these programs in Virginia. For incentive programs, the total economic impact (direct, indirect, and induced) is estimated to have been \$8.5 million in 2019, supporting 74 jobs. Of the total impact, \$6.8 million is the estimated direct

spending in the state to provide training and boarding for those horses, supporting 59 jobs. The indirect impact is estimated to be \$1.1 million and nine jobs, while the induced impact is estimated to be \$0.6 million and six jobs.

In 2019, the economic impact (direct, indirect, and induced) of retirement centers is estimated to have been \$1.0 million, supporting nine jobs in Virginia.

5.5. Economic Impact Summary of the Virginia Horse Racing and Breeding Industry

Combining horsemen expenditures; horse racing related gaming operations; race organization expenditures and visitor spending; and incentive and retirement programs, Table 5.7 summarizes the overall economic impact of the Virginia horse racing and breeding industry in 2019. The total economic impact of the industry is assessed at \$542.1 million that supported 5,297 jobs in Virginia. The largest component of the economic impact is horsemen expenditures, followed by horse racing related gaming operations,

and race organization expenditures and visitor spending.

The economic impact of the horse racing and breeding industry is only a fraction of the overall economic impact of the wide-ranging horse industry in Virginia. There are thousands of other horses in the state that engage in horse shows, recreation, and farm work. For horses involved in horse shows, Chmura completed an economic impact analysis of the Virginia Horse Center, whose economic impact is estimated to have been \$95.0 million that

supported 896 jobs in Virginia.²⁴ The 2018 study by the American Horse Council Foundation found that the overall economic impact of Virginia's horse industry is estimated to have been \$3.3 billion in spending that supported 38,873 jobs in 2016. The American Horse Council

²³ Source: Virginia Equine Alliance.

²⁴ Source: Economic Impact of the Virginia Horse Center, prepared by Chmura Economics & Analytics, March 2020.

study included an estimated 182,000 total horses in Virginia, creating a much larger impact for the broad horse industry.²⁵

The economic impact of the horse racing and breeding industry in 2019 is likely an underestimation of the full potential industry impact. That is because Colonial Downs only started operations and hosting events in April 2019. Had it been in operation for the full year, the economic impact of the industry would be larger.

The economic impact of Virginia’s horse racing and breeding industry for 2019 was not affected by the COVID-19 pandemic. In 2020, the pandemic has affected components of the horse racing and breeding industry significantly, including racing events and horse racing related gaming operations in Virginia. Those affects are not included in this study.

Table 5.7: Economic Impact of the Virginia Horse Racing and Breeding Industry, 2019

		Direct	Indirect	Induced	Total Impact
Horsemen Expenditures	Spending (\$Million)	\$151.3	\$51.4	\$36.7	\$239.4
	Employment	2,058	383	323	2,765
Horse Racing Related Gaming Operations	Spending (\$Million)	\$133.4	\$38.8	\$52.4	\$224.6
	Employment	1,088	274	457	1,819
Race Organization Expenditures & Visitor Spending	Spending (\$Million)	\$44.6	\$15.5	\$8.6	\$68.7
	Employment	415	134	81	631
Incentive & Retirement Programs	Spending (\$Million)	\$7.6	\$1.2	\$0.6	\$9.5
	Employment	67	10	6	83
Total Impact	Spending (\$Million)	\$336.8	\$106.9	\$98.4	\$542.1
	Employment	3,628	802	867	5,297

Note: Numbers may not sum due to rounding

Source: Virginia Equine Alliance and JobsEQ by Chmura

²⁵ Source: Economic Impact of the Horse Industry in Virginia, by the American Horse Council Foundation, 2018.

6. Fiscal Impact

The Virginia horse racing and breeding industry generates tax revenue for the Commonwealth. The state can benefit from the following main tax streams: sales, individual income, and corporate income.

Horse related gaming operations also generate sizable license tax revenue for the state. To be conservative, only tax revenue from the direct impact is estimated.²⁶

Based on the data availability, Chmura utilized different approaches to calculate the tax revenue from this industry.

6.1. Revenue from Horsemen Expenditures

Virginia has a 5.3% state sales tax. To care for and train their horses, horsemen spend in several categories. Chmura applied the sales tax rate to spending on tangible goods but not services. The estimated state sales tax was \$1.3 million in 2019 (Table 6.1).

Individual income tax was calculated based on the average wage and salary data collected from Chmura’s survey. Further, an income tax rate of 4.5% was applied.²⁷ From horse-related expenditures, individual income tax is estimated at \$1.7 million in 2019.

For capital expenditures by Virginia horsemen, Chmura applied state sales tax rates for spending on farm equipment and other tangible items. The estimated sales tax was \$0.6 million in 2019.

For capital expenditures such as land improvement or construction of farm buildings, horsemen typically hire contractors. The contractors hire

Table 6.1: State of Virginia Fiscal Impact, 2019 (\$Million)

	Sales	Individual Income	Corporate Income	Gaming License Tax	Total
Horse-Related Expenditures	\$1.3	\$1.7			\$2.9
Horsemen Capital Expenditures	\$0.6	\$0.3	\$0.1		\$1.1
Horse Racing Related Gaming Operations	\$1.8	\$4.2	\$0.2	\$13.9	\$20.0
Race Organization Expenditure		\$0.2	\$0.03		\$0.2
Visitor Spending	\$1.5	\$0.5	\$0.1		\$2.0
Incentive & Retirement Programs	\$0.1	\$0.1			\$0.2
Total Tax	\$5.3	\$7.0	\$0.4	\$13.9	\$26.5

Source: Chmura

additional workers and also pay state taxes. Chmura uses the following methodology to estimate individual and corporate income taxes from capital expenditures. The JobsEQ impact model provides an estimate of the profit margin and employment compensation as a share of total capital expenditures. With this information, Chmura estimates total profit and wages attributed to capital

expenditures before applying the state corporate income tax rate of 6% and average state personal income tax rate of 5.0%. As a result, state individual and corporate income taxes from Virginia horsemen capital expenditures are estimated to have been \$0.3 million and \$0.1 million, respectively, in 2019.

²⁶ This approach is recommended by Burchell and Listokin in *The Fiscal Impact Handbook*. Source: Burchell, R.W. and Listokin, D. 1978. *The Fiscal Impact Handbook: Estimating Local Costs and Revenues of Land Development*. Center for Urban Policy Research, New Brunswick, NJ; Rutgers, The State University of New Jersey. Local taxes are not in the scope of this study.

²⁷ Virginia has a progressive state income tax system where high-income individuals pay higher percentages of income tax. The rate used in this study is estimated based on the average wage of jobs supported by Virginia’s horse racing industry.

6.2. Revenue from Horse Racing Related Gaming Operations

At HHR and OTB facilities, concession sales such as food, beverage, and merchandise are subject to state sales tax, which is estimated at \$1.8 million in 2019.

For individual and corporate income taxes, Chmura used the same methodology as for capital expenditures. State individual and corporate income taxes from horse racing related gaming operations are estimated to have been \$4.2 million and \$0.2 million, respectively, in 2019.

Virginia collects a gaming license tax on horse race wagering, which is levied on the total amount wagered. The tax rate depends on whether the wager is placed at a racetrack or at a satellite facility, and also on whether the horse race occurs in Virginia or elsewhere. Data from the Virginia Racing Commission indicate that in 2019, the state government received \$13.9 million in license tax revenue from the gaming industry. The gaming license tax is allocated among the Virginia Racing

Commission, Virginia Equine Alliance, Virginia Horse Center, Breeders Fund, and the Virginia-Maryland College of Veterinary Medicine at Virginia Tech, among others, supporting the state's horse industry. Additional license tax revenues also contribute to the Virginia state General Fund.

6.3. Revenue from Race Organization Expenditures and Visitor Spending

Chmura uses a similar approach to calculate state tax revenue from race organization expenditures. In 2019, state individual and corporate income taxes are

estimated to have been \$0.2 million and \$0.03 million, respectively.²⁸

Visitor spending also generates significant individual and corporate income tax, at

\$0.5 million and \$0.1 million, respectively. Sales tax from visitor spending on retail, lodging, and food services are estimated at \$1.5 million.

6.4. Revenue from Incentive and Retirement Programs

Spending to care for horses in incentive and retirement programs is estimated to have generated \$0.1 million in sales tax and \$0.1 million in individual income tax for the state government.

Combining tax revenue from horsemen expenditures; horse racing related gaming operations; race organization expenditures and visitor spending; and incentive and retirement programs,

Chmura estimates that in 2019, the Virginia horse racing and breeding industry contributed an estimated total of \$26.5 million in state revenue.

²⁸ Chmura does not have available data to estimate sales tax from race organization expenditures. Even so, the amount is not significant.

7. Conclusion

In 2019, the total economic impact (direct, indirect, and induced) of Virginia’s horse racing and breeding industry is estimated to have been \$542.1 million, supporting 5,297 jobs in the state (Table 7.1). Various components, including horsemen expenditures; horse racing related gaming operations; race organization expenditures and visitor spending; and incentive and retirement programs, all contributed to the economic impact of the industry.

Virginia’s horse racing and breeding industry provided an estimated total of \$26.5 million in state tax revenue in 2019. A portion of tax revenue is returned to various organizations that support the vibrant horse racing and breeding industry in the Commonwealth of Virginia.

Table 7.1: Summary of Economic and Fiscal Impact of Virginia’s Horse Racing and Breeding Industry, 2019

		Direct Impact	Total Impact	Tax Revenue
Horsemen Expenditures	Spending (\$Million)	\$151.3	\$239.4	\$4.0
	Employment	2,058	2,765	
Horse Racing Related Gaming Operations	Spending (\$Million)	\$133.4	\$224.6	\$20.0
	Employment	1,088	1,819	
Race Organization Expenditures & Visitor Spending	Spending (\$Million)	\$44.6	\$68.7	\$2.2
	Employment	415	631	
Incentive & Retirement Programs	Spending (\$Million)	\$7.6	\$9.5	\$0.2
	Employment	67	83	
Total Impact	Spending (\$Million)	\$336.8	\$542.1	\$26.5
	Employment	3,628	5,297	

Note: Numbers may not sum due to rounding

Source: Chmura and JobsEQ by Chmura

Appendix 1: Impact Analysis Glossary

Impact Analysis—an examination of business-business and business-consumer economic relationships capturing all monetary transactions in a given period, allowing one to calculate the effects of a change in an economic activity on the entire economy (input-output analysis).

Direct Impact—economic activity generated by a project or operation. For construction, this represents activity of the contractor; for operations, this represents activity by tenants of the property.

Overhead—construction inputs not provided by the contractor.

Indirect Impact—secondary economic activity that is generated by a project or operation. An example might be a new office building generating demand for parking garages.

Induced (Household) Impact—economic activity generated by household income resulting from direct and indirect impacts.

Ripple Effect—the sum of induced and indirect impacts. In some projects, it is more appropriate to report ripple effects

than indirect and induced impacts separately.

Total Economic Impact—the sum of the direct, indirect and induced impact.

Fiscal Impact—the tax revenue for federal, state or local governments derived from the direct economic impact. Appendix 2 shows the fiscal impact when ripple effects are also included.

Multiplier—the cumulative impacts of a unit change in economic activity on the entire economy.

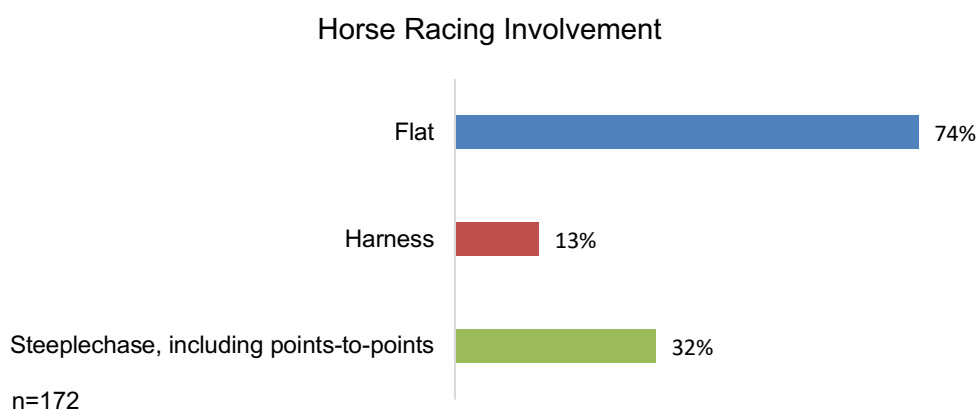
Appendix 2: Horsemen Survey Report

A.2.1. Survey Report

Chmura and the Virginia Equine Alliance (the Alliance) developed a survey instrument for Virginia horsemen. The survey focuses on horse ownership, horse population, racing, breeding, and associated costs. All questions refer to the 2019 calendar year. Chmura worked with the Alliance and Issues & Answers (phone survey subcontractor) to collect responses online, in person, and via phone from 788 contacts known to be involved in the Virginia horse racing and breeding industry. All individual survey responses were kept confidential and are only included in the aggregate in this report. In total, 293 responses were collected: 244 online, 46 via phone, and 3 in person. Of these responses, 190 respondents participated in the Virginia horse racing and breeding industry in 2019.

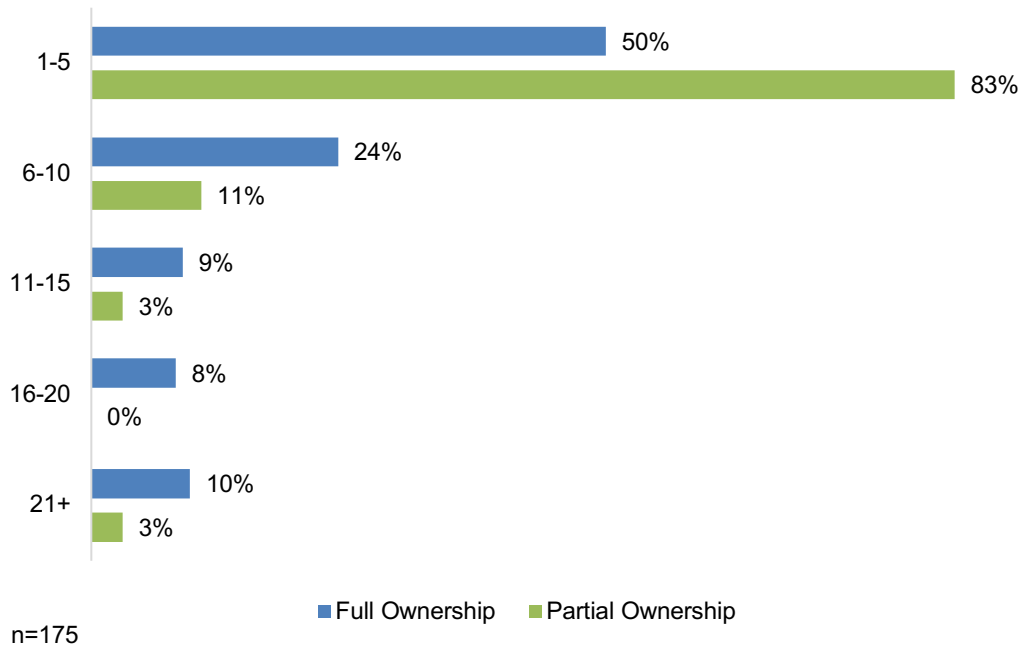
A2.1.1. Horse Activity

Respondents were asked several questions about their involvement in the Virginia horse racing and breeding industry. Nearly three out of four respondents (74%) were involved with thoroughbred flat racing, and almost one-third of respondents (32%) were involved with thoroughbred steeplechase. A smaller proportion of respondents (13%) were involved in harness racing.



Respondents were also asked about their horse ownership in 2019. On average, for horse owners who reported the number of horses, respondents fully owned an average of 9.7 horses in 2019, and partially owned an additional 3.6 horses. Half of all horse owners fully owned between one and five horses, and another 24% fully owned between six and ten horses in 2019. Approximately 10% of owners fully owned over 20 horses. Horse owners with partial ownership stakes mostly held between one and five horses during the year. On average, horse owners kept their fully owned horses in Virginia for 9.4 months and partially owned horses in Virginia for 7.3 months out of the year. Over half of horse owners (58.1%) kept their fully owned horses in Virginia for all 12 months in 2019, and over one-third of horse owners (38.3%) kept their partially owned horses in Virginia for all 12 months.

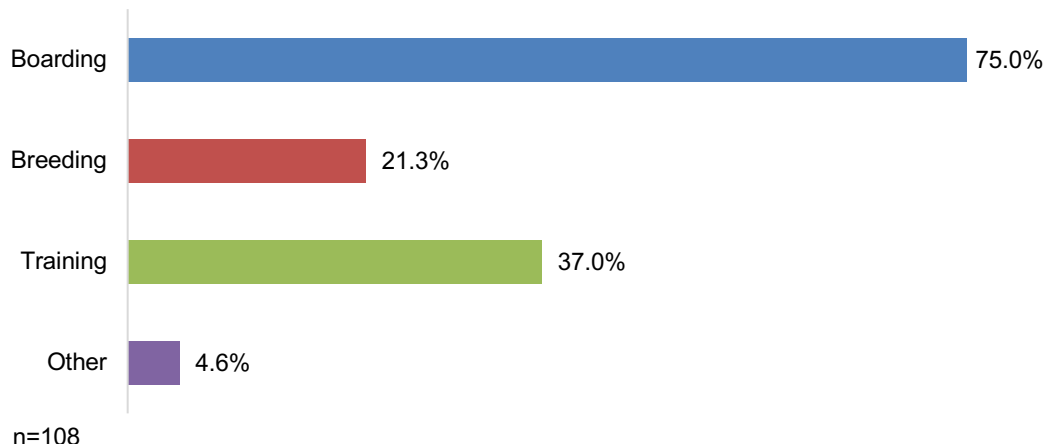
Horses Owned in 2019



Respondents were also asked several questions related to specific horse activities. On average, nearly half (46.5%) of respondents' horses were involved in racing in 2019. On average, each respondent reported an average of 2.5 races per horse in Virginia and 8.6 races per horse outside the state. Nearly one in four horses owned by respondents (23.7%) were involved in breeding in 2019. While 16.5% of owned horses were boarded elsewhere in Virginia in 2019, a higher proportion (23.1%) were boarded outside of Virginia. However, horses boarded in Virginia were sent for a longer amount of time (7.8 months) compared to horses boarded outside the state (6.4 months), on average.

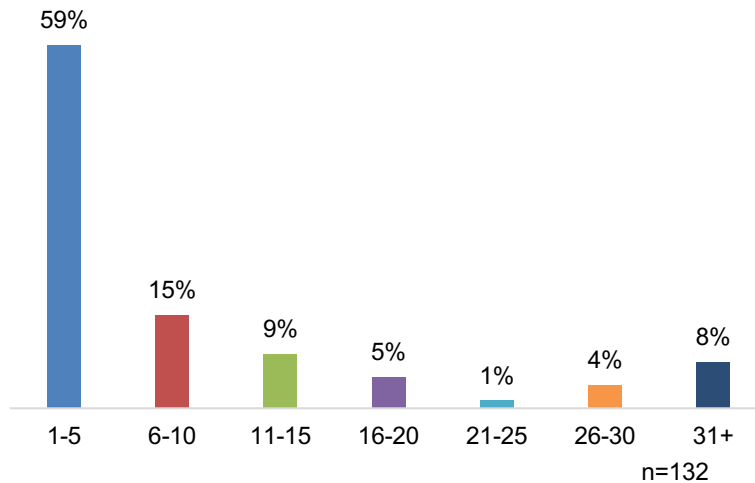
Many respondents provided services to the horse industry outside of horse ownership. Three out of four respondents (75.0%) provide boarding services to horses they did not own in 2019. Over one-third of respondents (37.0%) trained horses they did not own, and 21.3% of respondents bred horses other than their own in 2019. Additional services provided included farriers, racetrack operations, veterinarians, and certifiers.

Non-Owner Services Supplied in 2019



Respondents were asked for the number of horses they boarded on their property (excluding horses they own) and the average duration of boarding in months. Each respondent boarded an average of 6.3 horses, with the majority (59%) indicating they boarded between one and five horses. A subsequent 15% of respondents boarded 6-10 horses, 9% boarded 11-15, 5% boarded 16-20, 1% boarded 21-25, 4% boarded 26-30, and 8% boarded 31 or more. Each horse was boarded for an average of 8.3 months, with most respondents (35%) boarding horses for nine to ten months.

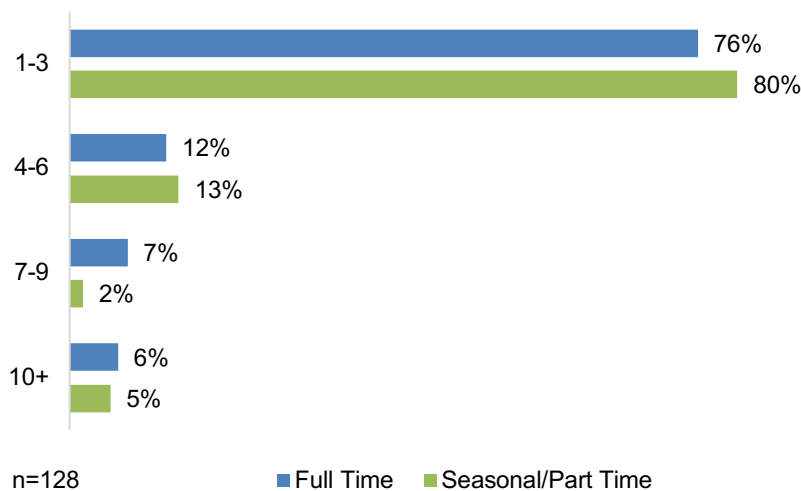
Number of Horses Boarded in 2019



A2.1.2. Employment

Respondents were asked about the number of individuals they employed and the average duration of employment, distinguishing between full time and part time or seasonal employees. For those who reported employment figures, each respondent employs an average of 2.2 full time employees and 1.8 seasonal or part time workers. Part time workers were employed for an average of 6.7 months. Of these part time workers, 18% were employed for one to three months, 33% were employed for four to six months, 7% were employed for seven to nine months, and 42% were employed for 10 to 12 months.

Number of Employees



A2.2.3. Spending

Respondents were asked to list their capital and operating expenditures paid to Virginia-based entities in 2019. The average spending per respondent in each category are shown in the following tables. Structures were the largest capital expenditure at \$27,527 for all respondents who listed any capital expenditures. Horse trailers, land improvements, and equipment each averaged about \$10,000 for each respondent in 2019. Average spending on capital expenditures totaled \$59,213 in 2019.

Virginia Capital Expenditures per Respondent

Category	Average Expenditures
Horse Trailers	\$10,067
Farmland and Land Improvements (e.g., New Fencing)	\$10,500
Farm and Barn Structures	\$27,527
Farm Equipment (e.g., Tractors, Vehicles, Machinery)	\$10,225
Other	\$894
Total Capital Expenditures	\$59,213

N=107

Respondents spent an average of \$187,520 on horse-related operating expenses in Virginia in 2019. The largest category was wages, which cost respondents \$68,995, on average. Other large spending categories included feed and bedding (\$27,408), veterinary services (\$18,881), and training and boarding costs (\$18,454).

Virginia Operating Expenses per Respondent

Category	Average Expenditures
Feed (e.g., Grain, Hay, Pellets) and Bedding (Including Straw)	\$27,408
Tack, Grooming Supplies, and other Equipment & Supplies	\$7,835
Professional Dues and Entry Fees	\$5,332
Stud Fees	\$5,480
Veterinary Services	\$18,881
Training and Boarding Costs	\$18,454
Facilities Maintenance	\$7,781
Horse Insurance	\$1,087
Horse Transportation	\$3,443
Staff Travel Expenses	\$1,047
All Other Business Services Expenses	\$8,724
Salary, Wages, and Benefits	\$68,995
Cash Value of Other Perks or Compensation	\$5,268
Property Taxes	\$5,014
All Other Goods Costs	\$2,769
Total Operating Expenses	\$187,520

N=103

Respondents spent an average of \$70,092 on horse-related expenses outside Virginia in 2019. Training (\$25,705) and stud fees (\$20,192) make up most of these expenses, followed by breeding and boarding fees (\$9,422).

A.2.2. Survey Instrument

The Virginia Equine Alliance wants to understand the **economic and fiscal impact of horse racing** in the state, and gathering information from breeders, owners, trainers, and other stakeholders is a vital piece of this study. The Virginia Equine Alliance has engaged Chmura Economics & Analytics for this effort, which is important for the long-term success of the industry.

As you may have been involved in the horse racing industry in 2019, you are invited to participate in this survey. Your responses will be kept strictly confidential and will only be used in aggregation with other responses. We would greatly appreciate your feedback via this short questionnaire.

Please note that all questions refer to the **2019 calendar year**. Thank you for your perspective and participation.

1. At any time in 2019, did you participate in the Virginia horse racing industry as a horse owner, boarder, breeder, or trainer?
 - a. Yes
 - b. No [if no, please stop here]

2. Please check all the types of horse racing you were involved with in 2019, if any.
 - Flat
 - Harness
 - Steeplechase, including point-to-point

3. At any time in 2019, how many horses did you own
 - a. Fully: _____
 - b. Partially: _____

4. On average, how many months did your horses spend in Virginia in 2019?
 - a. Average months for fully owned horses: _____
 - b. Average months for partially owned horses: _____

5. Of the horses you owned (fully or partially) in 2019, how many were involved in racing?
 - a. _____ [if 0, please skip the next question]

6. Of the racing horses you owned (fully or partially) in 2019, how many races did each horse participate in, on average?
 - a. Races in Virginia: _____
 - b. Races outside Virginia: _____

7. Of the horses you owned (fully or partially) in 2019, how many were involved in breeding?
 - a. _____

8. Of the horses you owned (fully or partially) in Virginia in 2019, how many did you board elsewhere for breeding, training, or other services?
 - a. Sent to farms in Virginia: _____; for how many months, on average? _____
 - b. Sent to farms outside Virginia: _____; for how many months, on average? _____

9. Please check the services you supplied to horses you did not own in 2019, if any?
 - Boarder [if not selected, please skip the next question]
 - Breeder
 - Trainer
 - Other (please specify): _____

10. How many horses did you board on your Virginia farm(s) in 2019, if any? Please do NOT include any horses you owned.
 - a. Number of horses: _____
 - b. For how many months, on average: _____

11. How many workers did you employ as an owner or horse industry supplier in 2019, if any? Include yourself if you actively participated in providing services to horses.

- a. Full time: _____; for how many months, on average? _____
 - b. Seasonal/part time: _____; for how many months, on average? _____
12. How much did you spend on the following horse-related **capital expenditure categories** in Virginia in 2019? Please only include expenses paid to Virginia-based entities.
- a. Horse trailers: _____
 - b. Farmland/land improvements (e.g. new fencing): _____
 - c. Farm/barn structures: _____
 - d. Farm equipment (e.g. tractors, vehicles, machinery): _____
 - e. Other (please specify): _____
13. How much did you spend on the following horse-related **operating expenditure categories** in Virginia in 2019? Please only include expenses paid to Virginia-based entities.
- a. Feed (grain, hay, pellets) & bedding (including straw): _____
 - b. Tack, grooming supplies, and other equipment and supplies: _____
 - c. Professional dues and entry fees: _____
 - d. Stud fees: _____
 - e. Veterinary services: _____
 - f. Training/boardings costs: _____
 - g. Facilities maintenance: _____
 - h. Horse insurance: _____
 - i. Horse transportation: _____
 - j. Staff travel expenses: _____
 - k. All other business services expenses: _____
 - l. Salary, wages, and benefits: _____
 - m. Cash value of other perks or compensation (e.g. housing, supplies, etc.): _____
 - n. Property taxes: _____
 - o. All other goods costs: _____
14. How much did you spend on horse-related expenditures **outside Virginia** in 2019?
- a. Stud fees: _____
 - b. Breeding/boardings: _____
 - c. Training: _____
 - d. All other out-of-state expenses: _____
15. What is the ZIP code of your primary farm or operating location in Virginia in 2019?
- a. _____

Thank you for taking the time to complete this survey. Your participation will help the future of horse racing in Virginia. Please contact Alex with Chmura at alex.doherty@chmuraecon.com if you have any questions.