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Towards the Creation of a Horse Park in the Commonwealth of Massachusetts: A Feasibility Study

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Renski, Henry; Mullin, John R.; and Cooper, Jonathan G., "Towards the Creation of a Horse Park in the Commonwealth of Massachusetts: A Feasibility Study" (2016). *Center for Economic Development Technical Reports*. 171.

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Towards the Creation of a Horse Park in the Commonwealth of Massachusetts: A Feasibility Study

FINAL REPORT

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July 7, 2016

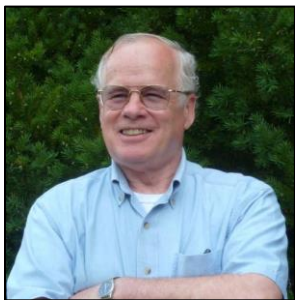
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ABOUT THE CENTER FOR ECONOMIC DEVELOPMENT

The Center for Economic Development (CED) is a research and community-oriented technical assistance center at the University of Massachusetts Amherst. Housed in the Department of Landscape Architecture and Regional Planning, the CED provides technical assistance, undertakes critical studies, disseminates information, and enhances local and multi-community capacity for strategic planning and development. This approach is designed to relate the concerns and goals of commerce and industry to those of the broader community. The CED works closely with community and business sectors, providing information and assistance needed for growth, management, and public benefit. The CED's clientele reflects that the Center does indeed work well with all sectors: community development corporations, state agencies, municipalities, regional planning agencies, developers, business leaders, chambers of commerce, local officials, public groups, and the managers of firms.

ACKNOWLEDGEMENTS

CED research assistants Michael Havlin (MRP/MPPA) and Sarah Lang (MRP/MS) assisted Dr. Renski with the economic impacts and case study sections of the report. The Berkshire Design Group provided conceptual renderings and visual materials for use in public presentations.

EXECUTIVE SUMMARY

CONCEPT

Numerous social and economic factors have coalesced to present the Commonwealth with an opportunity to create a new model for a multi-use horse park. This model would combine a race track for Thoroughbred horses with a high-end equestrian center and a Thoroughbred horse retirement farm. This equestrian center, capable of hosting indoor and outdoor dressage, eventing, and hunter/jumper competitions, would be anchored by a large indoor arena with stadium seating and Olympic-sized surfaces. With space for conferences and trade shows, 4-H activities and meets, local community recreation, pleasure riding, agricultural and artisanal markets, and equine health trainings and services, among other uses, the “Massachusetts Model” would create an economic and social hub in the service of the Commonwealth’s equestrian heritage and agricultural economy.

This study finds that the development of a Massachusetts Model horse park represents a significant economic opportunity for the Commonwealth. Capital costs are not expected to exceed \$150 million. The annual economic impact is expected to approach \$99 million and lead to the creation of more than 950 jobs throughout Massachusetts. Economic activity resulting from the facility’s development would also generate an additional \$5 million in state and local tax revenues per year.

EXISTING ACTIVITY & LOCATION CRITERIA

There are nearly 1,200 equine farms in Massachusetts, making it the most common farm type in the state. A review of commercial equestrian centers and registered Thoroughbred farms found no fewer than 125 facilities hosting various equestrian competitions, providing horse retirement and retraining services, operating riding academies, breeding Thoroughbreds, and a number of other activities. From the Berkshires to the Cape, in towns as geographically and socioeconomically distinct as Orange and Sherborn, these facilities have shown a propensity to cluster in four geographic regions: Essex County; the western suburbs of Boston; southeastern Massachusetts; and the Pioneer Valley. Surprisingly, there are very few equestrian centers west of the Pioneer Valley.

Official dressage and eventing competitions are popular in each region, as are the competitions between the 27 intercollegiate teams and 120 interscholastic teams located in Massachusetts. Since relatively few equestrian centers have the necessary facilities for hosting competitions in the winter, most activity takes place between September and November. The most distinct regional variation is the extensive presence of shows and competitions for non-Thoroughbred horse breeds in the Pioneer Valley, where Arabian and Morgan horses are especially popular.

Based on a review of existing race tracks and equestrian centers across the country, site visits to successful facilities, interviews with industry experts, and an inventory and spatial analysis of the existing equine activities in Massachusetts, we have identified six criteria for assessing the fitness of any potential location for the proposed horse park, listed on the following page.

- At least 300 to 600 acres of preferably contiguous land, to meet all spatial, social, and logistical needs.
- Slopes of 3 to 8 percent, free from wetlands, streams, and poorly-drained soils. This will provide ease of circulation, ensure appropriate drainage, and prevent erosion.
- Access to an interstate or state route with a high level of service within five miles, to minimize traffic impacts and time lost in transit on event days.
- Open views to appealing landscapes that connect the facility visually, emotionally, and physically to its agricultural milieu.
- One hour's travel time to at least two of New England's largest cities, so that a trip to the facility is not especially burdensome for event participants, spectators, and guests.
- Land use compatibility to underscore the natural partnership between the facility's activities and the character and culture of a potential site's host community.

Although subject to change, there are currently ten sites on the real estate market that meet some or all of the established criteria. These parcels are in Bristol, Essex, Franklin, Hampden, Plymouth, and Worcester counties, in rural and suburban settings of varying density. Nearly all have some equestrian and/or agricultural activity nearby, and many are within 20 minutes of a major road or interstate.

ECONOMIC IMPACTS

This section used the industry-standard IMPLAN economic modeling program to assess the economic impacts of three of the major components of the horse park: the Thoroughbred race track; the equestrian center; and the Thoroughbred retirement farm. Because these are not the only uses proposed for the site, and the separate modeling of each component does not factor in the cost savings that would likely result from this combination of related uses, what follows is a very conservative estimate.

In 2016 dollars, the proposed facility is expected to bring approximately \$53.7 million per year in new spending to the Massachusetts economy from out-of-state sources. The ripple effects would yield a total annual impact of \$98.9 million across the entire economy, and generate another \$5 million per year in new state and local tax revenues. More than half of this total economic impact will be paid directly to Massachusetts workers as labor income, and is expected to support the creation of 958 full-time equivalent (FTE) year-round jobs in the Commonwealth. Of these, we anticipate more than 300 FTE jobs at the horse park: more than 250 at the track; at least 30 at the equestrian center; and approximately 12 at the retirement farm. In addition, the creation of a new racetrack coupled with recently enacted purse supplements and breeder awards will result in 20 new workers at thoroughbred breeding and training farms across Massachusetts.

RACE TRACK COMPONENT

Based on our research, we expect the Thoroughbred racing component to yield \$66.3 million in annual output and sales statewide. This level of economic activity would support the creation of nearly 664 FTE jobs, which would add roughly \$38 million of labor income to Massachusetts

households. Money spent directly at the track by breeding farms, racing participants and spectators, or spent in-state by the track itself for services and operations, would account for \$36.7 million of the total annual output.

These totals are built on the following assumptions: 75 racing days during a typical season between May and October; 9 races per day; 800 horses in residence throughout the season; an average of 3,000 spectators per race day; and an out-of-state attendance rate of 20 percent. We also assume that the new racetrack, coupled with the purse supplements and breeding awards provided through the Expanded Gaming Act of 2011, will spur the production of 115 new foals per year.

EQUESTRIAN CENTER COMPONENT

The horse park's other major component is a first-class equestrian center capable of hosting elite national events. Based on our research, we expect the equestrian center to generate \$31.7 million in annual output and sales throughout the Massachusetts economy. This new activity is enough to support the equivalent of 280 full time jobs, and will generate \$14.5 million in new household income across the Commonwealth. Money spent directly at the center by event visitors and participants coming from out-of-state, or by the center itself for its operations, accounts for \$16.7 million. This is slightly more than half of the total output, and the rest is generated downstream.

The analysis assumes that the facility will host 70 equestrian events per year: five major events of a national scale; 40 mid-sized events of a regional/interstate scale; and 25 minor events at state and local levels. In addition, the center will also host 18 non-equestrian events of local interest. Through industry research and consultation, each event type (major, mid-sized, minor, and non-equestrian) was assigned a set of distinguishing characteristics, such as event duration, total attendance, and out-of-state attendance levels. A first-class equestrian center is likely to draw approximately 66 percent of its revenue from out-of-state sources, and we estimate that the proposed facility will result in over 82,500 visits from non-Massachusetts residents per year for all events.

RETIREMENT FARM COMPONENT

The horse park also includes a retirement farm for up to 40 Thoroughbred racing horses whose competitive careers have come to an end. A review of existing Thoroughbred retirement facilities indicates that they have the potential to become significant tourist destinations in their own right. The study suggests that such an operation would draw roughly 7,000 out-of-state visitors per year; require annual operational expenditures of approximately \$325,000; provide 11 FTE jobs; and generate a total economic impact of approximately \$800,000 per year.

I. PROJECT OVERVIEW

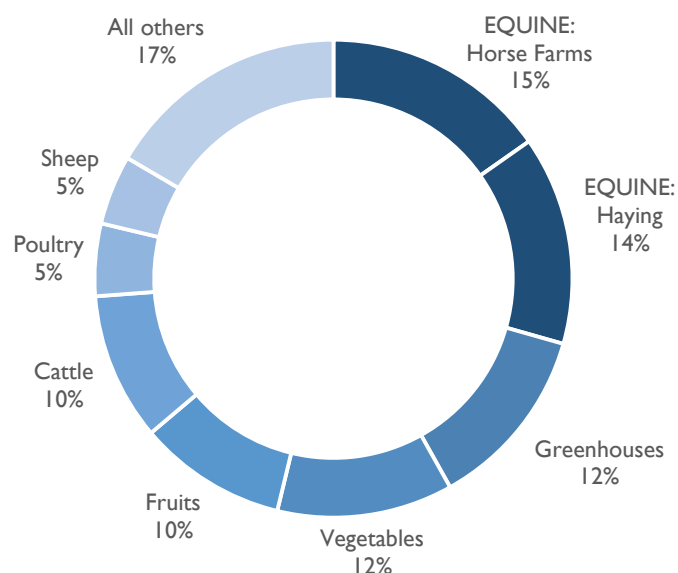
INTRODUCTION

The Commonwealth of Massachusetts enjoys a deep and varied equestrian presence that can be found in her landscapes, industries, history, and people. Horses have represented the many characteristics of Massachusetts equally well: like the state itself, its relationships with horses are at once agricultural and industrial, urban and rural, sophisticated and functional, and historic and forward-looking.

The turnpikes and Great Roads that proliferated across Massachusetts at the end of the 18th century were local successors to the King's Highway and Post Roads of the colonial era. These feats of civil engineering were ideal for the speed and stamina of horses, enabling messengers to speed from Boston to Concord under cover of night, and carriages to ferry mail through the hinterlands of southern New England. The canals that democratized shipping and commerce in the first half of the 19th century relied on draft horses to pull barges along miles of towpaths. Later on, after the Industrial Revolution had given rise to the implements that mechanized agriculture along the Great Plains, horses and oxen remained the most sensible choices in Massachusetts. Most suited to the task was the Morgan, bred from a bay stallion named Figure that was born in West Springfield in 1789. The Morgan's compact and powerful build was ideal for the smaller farms and rockier fields that still characterize much of the Commonwealth's agricultural land.

This link between horses and agriculture in Massachusetts is still evident today. The most common farms in Massachusetts are horse farms and haying operations. As Figure 1.1 shows, as of 2012 these categories alone account for over 29 percent of the 7,755 farms in Massachusetts. Furthermore, the combined acreage of these farms accounts for 30 percent of the Commonwealth's agricultural land.

Figure 1.1: MA Farms by Type, 2012



Source: *USDA. 2012 Census of Agriculture.*

PURPOSE & MOTIVATION

The purpose of this report is to present our preliminary findings concerning the feasibility of developing a multi-use Horse Park in the Commonwealth of Massachusetts. This center would be operated as a non-profit entity, dedicated to furthering a wide range of activities that would promote equestrian education, racing events, and Massachusetts agriculture, among other functions. The study, sponsored by the New England Horseman's Benevolent and Protective Society (NEHBPA), is being undertaken by the Center for Economic Development (CED) at the University of Massachusetts Amherst. Research for this project involved site visits to equestrian centers, interviews with equestrian business leaders and academics, and analysis of data related to equestrian activities. The project also included extensive input through an advisory committee consisting of equestrian experts familiar with equestrian operations throughout the United States.

The motivation for the project is to enhance interest in the sport of horseracing, create a tourist opportunity for the enjoyment of visitors, expand employment opportunities in equestrian activities, develop and maintain agricultural and open spaces, promote the breeding, training, racing and exhibition of Thoroughbred and other horses, and to protect the Thoroughbred racing industry and jobs resulting directly and indirectly from these purposes. The complex is intended to be multi-functional, high end, and to appeal to a wide array of patrons. It will be state of the art and befitting of the image of Massachusetts as a tourist destination. It is further envisioned that the complex will be located in a rural area outside of metropolitan Boston. The property, to be owned by a non-profit corporation, shall be deemed land devoted to agricultural use under MGL Chapter 61A. This corporation will establish relationships with (a) the Massachusetts 4-H and similar organizations to encourage the growth of agricultural products to be used at the facility and (b) Massachusetts schools offering agricultural studies dedicated to creating agricultural career opportunities in the Commonwealth.

Several factors contributed to the current interest in developing a multi-use horse park in Massachusetts. These included the following:

- Consumer preferences for Thoroughbred racing attendance are shifting away from the large urban venues of the early 20th century, such as Suffolk Downs.
- Equestrian competition opportunities are increasing across the United States. Massachusetts has very few venues for these events and most are private.
- Recreational interest in equestrian activities is growing across the country and in Massachusetts. It is of considerable interest to Massachusetts 4-H.
- The healthy caring and nurturing of horses is of great interest to those undertaking research on animals including horses. It is an opportunity for the equine studies field.
- There are no state of the art facilities in Massachusetts dedicated to the protection and care of retired and ageing horses.
- Equestrian related conferences, exhibitions, and conventions are growing business opportunities. Relatively few choose Massachusetts as a venue.

- Equestrian activities provide well-paying jobs for vocational school and community college graduates. A center would stimulate the creation of these opportunities.
- A horse park would increase farm production and agricultural land use in Massachusetts.
- A horse park would be a job and tax producer (PILOT) in the region and town where it would be located.
- A horse park would provide the opportunity for Massachusetts retailers to expand their markets.
- A horse park built with a cultural sense of the New England design ethos and complete with a first class hotel, would become a tourist destination.

VISION

The Horse Park is envisioned to include a wide range of activities that will take place throughout the year. It will be designed to reflect design features common to New England's rural character and be a welcoming place for a wide array of equestrian enthusiasts.

The center will feature a one-mile dirt oval racetrack designed for the safest possible racing of Thoroughbred horses for a 60-90 day season per year. This track could also serve as a venue for Standardbred horse racing if there is interest. Within the oval is a 7/8 mile turf course. Overlooking the track will be a viewing stand capable of seating 4,000 patrons. Within this facility will be restaurants, local wagering areas, and off track betting spaces.

In close proximity to the racing facilities and barns and paddocks will be a series of indoor, outdoor, and covered arenas with rings of varying sizes to meet Olympic-level standards for equestrian training, exercise, and competition. The most substantial of these structures, a large multi-purpose arena, will provide the physical counterpoint to the track and grandstand. Inside the arena, a large natural sand surface of at least 200' x 300' will be designed to house indoor competitions of local and national prominence, surrounded by seating and concessions for upwards of 4,000 spectators. The arena will also include lecture spaces intended for research and educational activities. At other times it would be expected to be used for horse breed shows, 4-H fairs, Future Farmers of America, staff trainings, conferences and exhibitions, commercial expositions, and community college/high school instruction.

As will be noted later, the ability to attract these conferences and exhibitions to Massachusetts will generate extensive new revenues and job opportunities of their own. The racing activities and competition events will be supported by state of the art barns and paddocks that are intended to safely house and protect horses throughout the year. This part of the center will include space that would be available for use by the thousands of Massachusetts horse owners who enjoy equestrian recreational opportunities.

The Equestrian Center might include space for a veterinary facility designed to meet the needs of the horse racing community and equestrian enthusiasts throughout the northeast. It would have a small permanent staff that would expand to meet the needs of the racing season, horse show

season, conference visitors, and those housing their horses on site. Whether in conjunction with one of the veterinary or equine studies programs in Massachusetts, or through a partnership with local large animal veterinarians, it has become clear that such a facility would not only help to maintain the health of a wide range of horses but assist in expanding research opportunities partnering institutions.

The satellite veterinary center would also play an important role in the care and protection of horses, which would be housed in a retirement farm on site. Many local owners have had to ship their ageing horses to retirement homes as far away as Virginia and Kentucky. Not only would such a facility provide great care for the horses, it would create additional jobs for equestrian caregivers in Massachusetts. Furthermore, these equine retirement and retraining programs could be coupled with any number of approaches to equestrian therapy. This arrangement could provide several groups – veterans, urban youth, low-risk offenders, and the physically/developmentally disabled, as examples – with meaningful opportunities for personal and practical skill-building.

All of the above would contribute to creating an expanded market for Massachusetts agriculture. The horse park will operate under local purchasing policies in which the feed for horses would be sourced from local farmers to the greatest possible extent. Furthermore, the Center will provide a space for practical research opportunities intended to improve the health of the horses. Specific opportunities will be offered to the University of Massachusetts Stockbridge School, the Commonwealth’s agricultural high schools (i.e.: Essex Agricultural, Norfolk Agricultural, Smith Vocational High School), and nearby community colleges.

Given the increasing interest in recreational equestrian activities, the Center will provide extensive space for community recreational riding. Through trails on-site, it will provide opportunities for riders of a wide range of skills and interests. Moreover, if possible, the Center will be closely linked to nearby state parks and forests, such that riders can experience the unique environments of these special places.

All of the above will be interlaced with retail opportunities. During the racing season, as well as conference, convention and exhibition times, “pop-up” market vendors will be encouraged to participate. In so doing, these local and regional merchants will be able to expand their sales. As the Center matures, there will also be opportunities for lodging. Given that the Center will be located in a rural area, it is expected that local bed and breakfast facilities will expand, and that a four season resort-style hotel will be constructed.

2. FACILITY OVERVIEW

This section of the report addresses the presence of existing equestrian centers in Massachusetts; identifies the siting criteria for evaluating potential sites; applies the criteria to currently available sites; and describes a number of best practices to ensure the facility's success in meeting previously articulated goals.

EXISTING FACILITIES IN MASSACHUSETTS

There are several dozen equestrian centers in Massachusetts, which serve a variety of equestrian activities. For the sake of simplicity, this inventory places the facilities into two categories: those that are hosting at least one sanctioned horse show competition this year, and those that are not. The various regional organizations affiliated with the United States Equestrian Federation (USEF) are responsible for ensuring that competitions take place at equestrian centers with adequate facilities, staffing, experience, and planning. This is not meant to imply that centers not hosting a USEF-sanctioned competition are sub-standard, however; it is merely a useful way to determine which centers function as regional destinations. More information about the facilities described below is available on the following pages, in Figures 2.1 and 2.2, and Table 2.1.

USEF-SANCTIONED COMPETITION

In 2016, twenty-five equestrian centers in Massachusetts will host at least one competition sanctioned by regional affiliates of the United States Equestrian Federation. These are some of the most successful equestrian centers in the Commonwealth, and through them the following disciplines are represented at the competitive level: Carriage Pleasure; Dressage (including Para-Equestrian, Seat Medal, and Western dressage); English Pleasure; Eventing; Hunter; Hunter Equitation; Jumping; Roadster; and Saddle Seat Equitation.

These venues are split fairly evenly into four geographic regions: Essex County; the western suburbs of Boston; southeastern Massachusetts; and the Pioneer Valley. Although dressage and eventing competitions are found throughout the state, there appear to be some regional preferences. Most remarkably, competitive jumping is limited to the western suburbs and southeastern Massachusetts. Essex County prefers to host hunter events, and the equestrian centers of the Pioneer Valley are far more likely to host dressage and eventing shows than hunter/jumper competitions. Meanwhile, horse shows for non-Thoroughbred breeds (Arabians, Friesians, Morgans, and American Saddlebreds) and more specialized disciplines do not stretch beyond West Springfield and Northampton.

Figure 2.1: Locations of USEF-Sanctioned Competitions

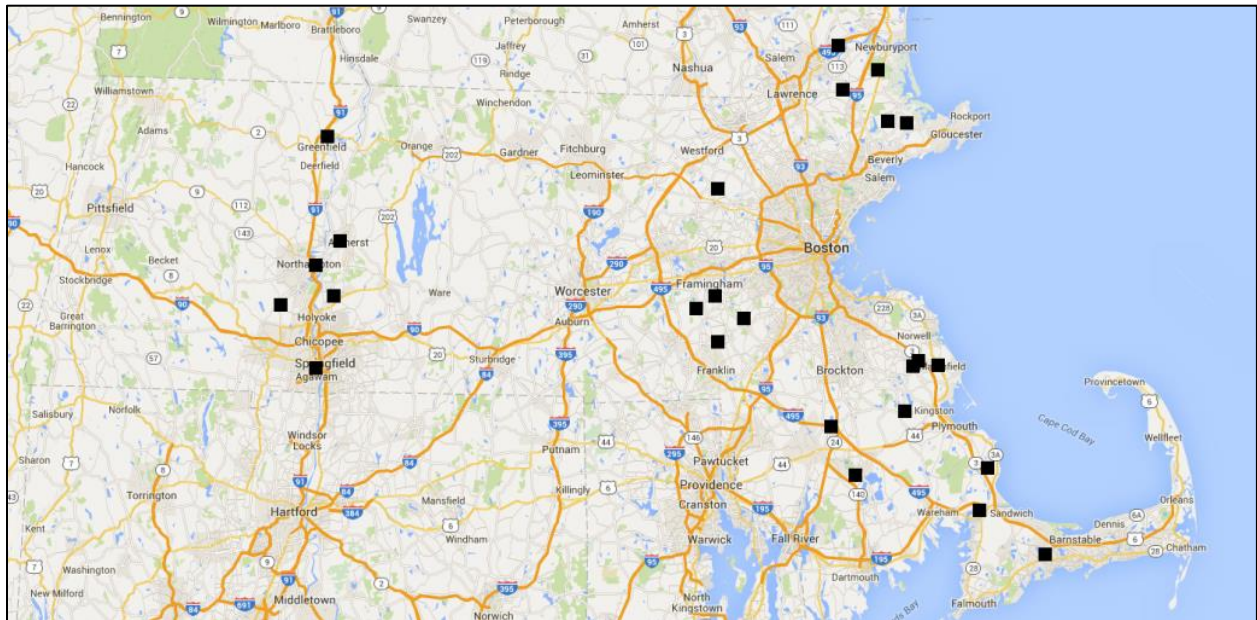


Figure 2.2: Locations of Interscholastic (Red) and USEF-Sanctioned (Black) Competitions

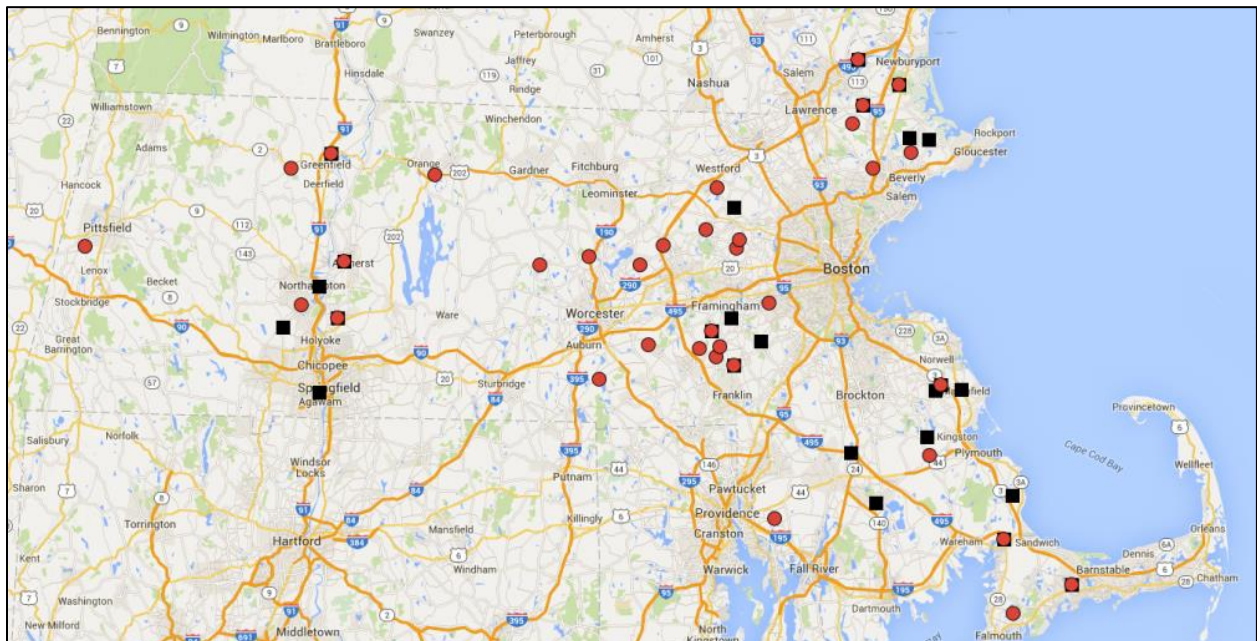


Table 2.1: Equestrian Center Community Details

County	Town	MA \$/Cap Rank	USEF-Sanctioned	Interscholastic
Barnstable	Barnstable	160	Hunter/Hunt Eq	Hunt Seat
	Bourne	209	Hunter/Hunt Eq/Jump	Hunt Seat
	Falmouth	110		Western
Berkshire	Richmond	34		Hunt Seat
Bristol	Raynham	185	Hunter/Hunt Eq/Jump	
	Rehoboth	139		Hunt Seat
Essex	Boxford	11		Hunt Seat
	Danvers	128		Hunt Seat
	Georgetown	76	Dressage	Hunt Seat
	Hamilton	71	Eventing	Hunt Seat
	Haverhill	284	Hunter/Hunter Eq	Hunt Seat
	Ipswich	80	Hunter/Hunter Eq	
	Newbury	91	Hunter/Hunter Eq	Hunt Seat
Franklin	Greenfield	313	Eventing	Hunt Seat
	Orange	345		Western
	Shelburne	255		Hunt Seat
Hampden	W Springfield	308	Western Dressage	
Hampshire	Easthampton	261		Hunt Seat
	Hadley	146	Dressage/Seat Medal	Hunt Seat
	Northampton	198	Hunter Equitation	
	South Hadley	270	Dressage	Hunt Seat
	Southampton	207	Eventing	
Middlesex	Concord	12	Dressage	Hunt Seat
	Holliston	40	Hunter/Hunter Eq	Hunt Seat
	Sherborn	4	Eventing	
	Stow	50		Hunt Seat
	Sudbury	5		Hunt Seat
	Westford	42		Hunt Seat
Norfolk	Medfield	18	Hunter/Hunt Eq/Jump	
	Medway	75	Hunter/Hunt Eq/Jump	Hunt Seat
	Wellesley	6		Hunt Seat
Plymouth	Halifax	221	Jumper	
	Lakeville	163	Dressage	
	Marshfield	77	Dressage/Seat Medal	
	Pembroke	140	Hunter/Hunt Eq/Jump	Hunt Seat
	Plymouth	172	Eventing	
	Plympton	121		Hunt Seat
Worcester	Berlin	72		Hunt Seat
	Bolton	27		Hunt Seat
	Grafton	106		Western & Hunt Seat
	Holden	99		Hunt Seat
	Rutland	218		Hunt Seat
	Sutton	87		Hunt Seat

ADDITIONAL FACILITIES

There are a number of other equestrian facilities in the state as well, which include breeding farms, stables, and riding academies. Although they are too numerous to review in great detail here, there are at least five facilities for Thoroughbred retraining and retirement; four university-based academic and research programs; and nearly three dozen centers for region-wide interscholastic competitions. The academic programs are located between Greater Boston and the Pioneer Valley, with educational options ranging from associate's degrees in equine studies at junior colleges to large-animal surgical concentrations at world-renowned veterinary schools.

In addition to these academic programs, intercollegiate equestrian teams operate at 27 colleges and universities in the Commonwealth. At the primary and secondary school levels, several hundred teams across New England (hailing from country day schools, riding academies, and private stables) participate in interscholastic competitions, with over 120 teams based in Massachusetts alone. As Figure 2.2 shows, the 35 venues hosting interscholastic competitions this year largely follow the four-region location pattern described above (nine equestrian centers are hosting both USEF-sanctioned and interscholastic competitions). In New England, the bulk of these events will take place in October and November; with nine facilities hosting competitions in the winter months of December, January, and February (see Best Practices, below).

ANALYSIS

First, the relatively low level of equestrian centers west of the Connecticut River Valley suggests that it may be difficult to establish a viable facility in the Berkshires. Despite the outstanding visual resources, exceptional rural character, and extensive park and trail access, the area has not found a natural fit with equestrian activities. Interestingly, much of the same could be said of the area east of the Connecticut River Valley, as well, from the Quabbin Reservoir to as far east as Worcester.

Second, although this is an incomplete list of equestrian centers in Massachusetts, there is a remarkable range of host communities. The 43 municipalities in Table 2.1 include some of the wealthiest towns in the Commonwealth (Sherborn and Sudbury), and some of the poorest (Greenfield and Orange). Although equestrian centers provide services to upscale consumers, more than one-third of the host communities have per capita income levels below the state median.

Finally, it is unclear whether the subtle differences in horse show tendencies of the four in-state regions is merely a coincidence, or points to something more significant. The advisory board may wish to consider ways to ensure a good match between the host region and the types of equestrian competition envisioned for the facility, especially where staffing and event planning experience is concerned.

CRITERIA FOR FACILITY LOCATION

A horse park incorporating the range of showing, racing, veterinary, adoption, agricultural, and recreational uses described in the vision will require a site with desirable characteristics in six categories, each of which is examined in the following sections. The first three pertain to the site itself, and the latter half pertain to the host community.

- **Substantial acreage:** to meet all spatial, social, and logistical needs.
- **Workable terrain:** to provide ease of circulation, ensure appropriate drainage, and prevent erosion.
- **Streamlined access:** to minimize traffic impacts on event days and time lost in transit.
- **Appealing landscapes:** to connect the facility visually, emotionally, and physically to its agricultural milieu.
- **Useful location:** so a trip to the facility is not especially burdensome for event participants, spectators, and guests, especially when compared to journeys to other facilities.
- **Land use compatibility:** to demonstrate a natural partnership between the facility's activities and the character and culture of a potential site's host community.

SUBSTANTIAL ACREAGE

At a minimum, a Thoroughbred racing park will need approximately 150 acres to meet its facility requirements, and a number of tracks have upwards of 300 acres at their disposal. However, bigger is not automatically better in the industry, primarily because the oval that is the main attraction is often a fairly consistent size from one track to the next. For equestrian centers, however, site requirements can change significantly based on the anticipated events: shows that gather hundreds of horses require hundreds of stalls and adequate space for trailers, RVs, and other equipment, while more exclusive eventing and endurance competitions bring comparatively fewer horses, but require miles of trail and open space. As an example, the Virginia Horse Park is a 600-acre facility, but approximately half of the total land is for cross country and combined driving courses, while the rest is allocated to barns, arenas, campgrounds, parking, and other structures.

The Massachusetts Horse Park is intended as a high-end equestrian center and race track. Since races and horse shows will not take place on the same days, there is the opportunity for shared facilities to reduce the total overall footprint. The ideal site is approximately 600 acres of contiguous land, with a potential reduction if the site has access to adjacent trails and parkland.

WORKABLE TERRAIN

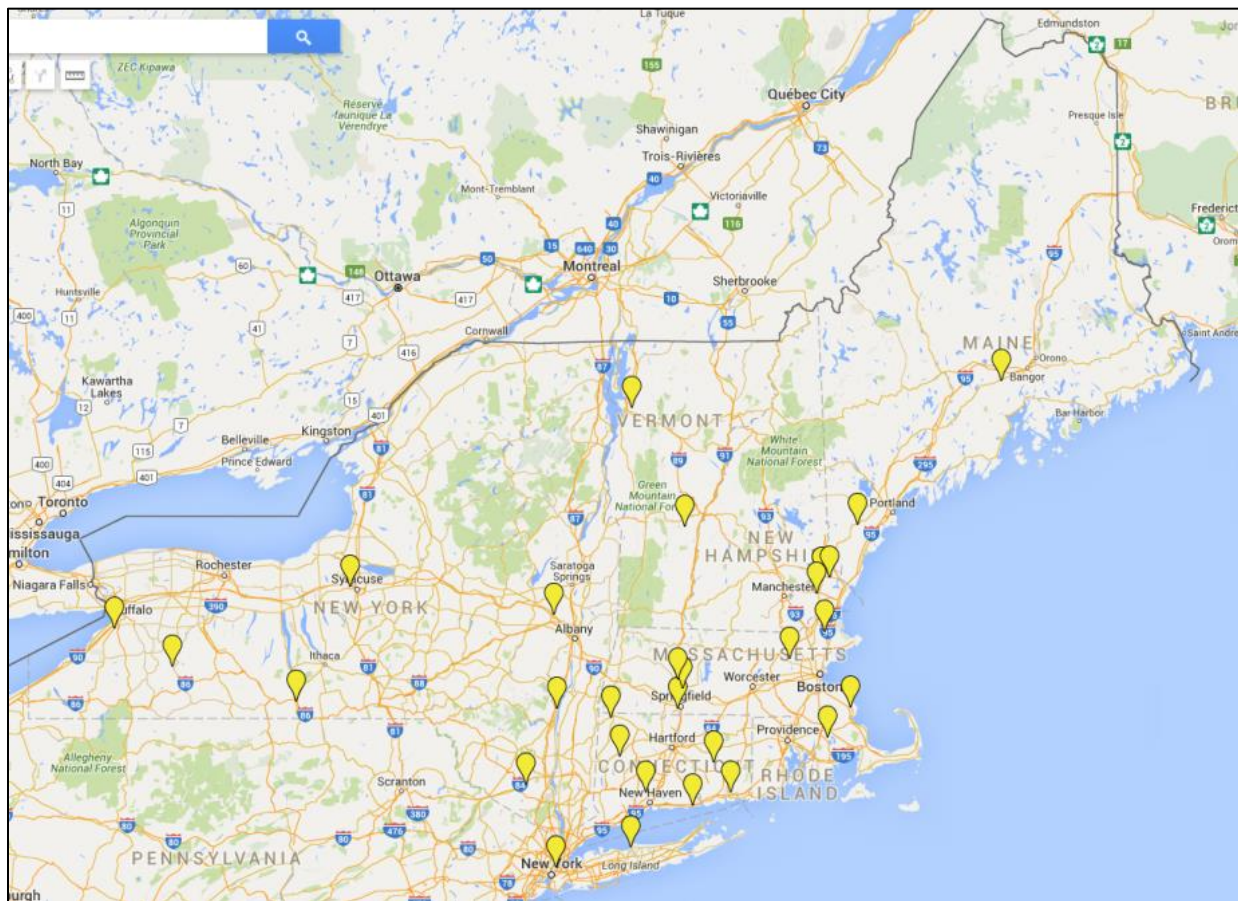
Due to the robust environmental protections in Massachusetts, the ideal site will be free from wetlands, streams, and poorly-drained soils. Slopes of 3 percent to 8 percent allow for adequate site drainage, and low-impact site engineering. Sites free from agricultural protections under Chapter 61 and 61A are preferable, but not essential. Section 3 of Chapter 40A of the Massachusetts General Laws protects commercial agriculture from over-regulation by town zoning bylaws. The law relies on a definition of agriculture found in Chapter 128A, which includes both

the raising of horses and the keeping of horses as a commercial enterprise. On parcels five acres or greater, such uses are allowed by-right, meaning that no special permit is needed for such uses.

STREAMLINED ACCESS

Thoroughbred race tracks are rarely more than three miles from an interstate exit, and show a significantly higher tolerance for urbanized contexts than equestrian centers do. Equestrian centers, meanwhile, are far more tolerant of non-highway driving, but are rarely more than five miles from a state route. Figure 2.3 shows the location of the 29 facilities hosting a US Dressage Federation-recognized competition in Region 8 (New York and New England). Clearly, very few are any appreciable distance from a major transportation route. This same tendency could be observed in Figures 2.1 and 2.2, as well.

Figure 2.3: Region 8 Equestrian Centers hosting USEF-Sanctioned Dressage Competitions



APPEALING LANDSCAPES

The exacting aesthetics of competitive horse shows underscores the importance of appearance and presentation to this key user group. Massachusetts is home to some very well-regarded equestrian centers, and some legendary polo and hunting grounds. The equine community is highly discerning, and national-level event coordinators are accustomed to top-of-the-line facilities and services. This eye for detail extends to the surrounding landscape. The facility must be located in a pastoral context, with a preference for open views to natural and visually appealing landscapes. Satisfying this “country estate” aesthetic is essential for demonstrating that the facility makes a meaningful and thorough contribution to equestrian culture.

USEFUL LOCATION

Although equestrian activities are by definition mileage-heavy pursuits, the facility is meant to strengthen and promote the connections horses have to the culture, history, and economy of rural Massachusetts. An exceptionally remote location reduces the potential audience for this message, and increases the transportation costs of the in-state suppliers and vendors that would do business at the facility. Therefore, sites within an hour’s drive of New England’s largest cities - Boston, Worcester, Providence, and Springfield - provide riders, spectators, and vendors with increased availability and exposure.

LAND USE COMPATIBILITY

Because the horse park envisions an unprecedented variety of equestrian uses, the facility is likely to have a noteworthy impact on whichever community hosts it. It is essential, therefore, that the equestrian nature of the facility be congruent with existing local land uses. For example, rural communities with active equestrian activities - stables, horse farms, or agricultural haying, for example - are highly likely to view the proposed horse park as an appropriate use of locally available open space.

CURRENT SITE OPTIONS

Table 2.2 includes the characteristics of ten sites that most nearly meet the established criteria. It is important to bear in mind that this selection reflects currently-available real estate. As such, it does not identify optimal sites (those not currently for sale, but otherwise meeting all siting criteria), and it is subject to change. Identifying features have been obscured.

Table 2.2: Potential Sites and Criteria Matches

	Acres	Terrain	Access	Landscape	Location	Compatibility
001	225-250; near state forest.	Rolling; partially cleared. Stream.	10-15 min.	Rural, low density.	1 under 60; 1 under 90.	No equestrian activity nearby.
002	550-575; trails near.	Flat; partially cleared.	20-30 min.	Strong pastoral scenic.	1 under 60; 1 under 90.	Active outdoor and farming.
003	250-300; town land adj.	Hilltop. Ponds.	20-30 min.	Rural decline.	1 under 60; 1 under 90.	No equestrian activity nearby.
004	200-250 ac.	Flat; partially cleared. Pond.	5-10 min.	Suburban, mid-density.	3 under 90.	Some equestrian activity nearby.
005	475-500 ac.	Rolling, forested. Stream. 61A.	10-15 min.	Rural, low-density.	2 under 60; 2 under 90.	Equestrian and farming nearby.
006	400-415 ac.	Rocky, forested. Pond.	5-10 min.	Rural, mid-density	1 under 60; 2 under 90.	High equestrian activity nearby.
007	200-250 ac; near parks.	Non-contiguous, forested. Stream.	5-10 min.	Mid-density suburb.	3 under 60.	High equestrian activity nearby.
008	175-200 ac; trails, 4H adj.	Rolling; partially cleared. 61A.	20-30 min.	Strong pastoral.	2 under 60; 2 under 90.	Equestrian and farming nearby.
009	275-300 ac; parks adj.	Rolling, forested. No restrictions.	15-20 min.	Forested, low visual element.	2 under 60; 2 under 90.	Some equestrian nearby.
010	500 ac.	Hilly; forested.	5-10 min.	Strong scenic components.	1 under 60.	Some equestrian activity nearby.

BEST PRACTICES

In recent years, researchers and designers have begun to incorporate sustainability indicators and other markers of social and environmental well-being into the best management practices of equestrian facilities. Some principles, such as siting and designing barn and indoor arenas to maximize solar aspect, are natural extensions of existing practices. Others, such as the use of native plantings for grazing, horticultural identity, and invasive species management purposes, address

industry-specific environmental concerns. Meanwhile, the management of manure for haying and other crop-planting purposes addresses the equine-agriculture linkages this project attempts to develop. Two issues - shared services and intra-state partnerships - are described in greater detail here.

SHARED SERVICES

The parking lot of Lone Star Park, a racing track outside of Dallas, is approximately 60 acres. By comparison, in Massachusetts the average farm is just 68 acres, with a median value of 23 acres. It is therefore relatively uncommon for more than 300 acres of agricultural land in Massachusetts to come onto the market. Since it may be impractical to wait for the ideal parcel to become available, it is essential that the advisory board work closely with architectural and engineering firms to think creatively about the most efficient use of available land. Whether it be parking, RV hookups, paddocks, exercise tracks, or loading areas, every duplicative function that can be reduced, or site use that can be shared, will provide additional acreage for other programmatic elements.

PARTNERSHIPS WITH OTHER FACILITIES

Across the Commonwealth, dozens of facilities host horse shows for numerous equestrian communities. Anticipating how the facility could benefit these entities, rather than compete with them, could help generate industry-wide support. As an example, of the 35 equestrian centers currently hosting interscholastic shows, only nine do so between December and February: Mount Holyoke, Silverstone Stables, Stoneleigh-Burnham School, Saddle Rowe, Rising Star, Volo Farm, Dana Hall School, Willow Brook, and Hillside Meadows. These centers have the facilities necessary to host indoor scholastic events, and three of these (Mount Holyoke, Stoneleigh-Burnham, and Saddle Rowe) currently host USEF-sanctioned events, as well. With the addition of the horse park to the state's equestrian center mix, there is the possibility that these four equestrian centers, and perhaps others, would be able to gain approval for a series of sanctioned wintertime competitions in Massachusetts. As the largest dressage region in the country, there are many families in the northeast that might prefer participating in a competitive series around the holidays that is closer to home than Florida or Texas.

COST ESTIMATE

To date, no integrated equestrian facilities have been developed. The truly unique nature of the Massachusetts Model - thoroughbred racing, showing, riding, and retirement - means that there is no "industry standard" for estimating development costs. Accordingly, we have consulted with racetrack developers and equestrian center developers to estimate project costs for the proposed horse park. We estimate that total development costs of a world-class horse park would not exceed \$150 million. Of this, \$90 million is allocated for all land acquisition and infrastructure development, along with the construction of the equestrian center. The remaining \$60 million is the expected cost for the development of the race track's oval, rail, grandstand, stables, and other necessary structures.

The \$150 million estimate is meant to describe the upper bounds of development: it does not factor in any of the anticipated cost savings resulting from shared services, materials, or facilities.

3. ECONOMIC IMPACT ANALYSIS

CHAPTER SUMMARY

This chapter considers the potential economic impacts of the proposed Horse Center on the Commonwealth of Massachusetts. Because we are estimating the impacts of a facility that does not yet exist, our estimates were developed by looking at the expenditures and existing facilities in other locations coupled with insights from our advisory board and other industry experts.

We provide preliminary estimates of the economic impact of the three major components of the proposed horse park. These include:

- A Thoroughbred race track with 75 race-days of activity during a full season.
- An equestrian center that will be capable of hosting a variety of equestrian events (e.g. dressage, 3-day evening, hunting/jumping competitions, etc.) at a national scale. We anticipate 70 equestrian and 18 non-equestrian events per year.
- A horse retirement farm, capable of the housing and care of 40 former Thoroughbred racehorses.

To our knowledge, no other facility in the nation includes all three components together at a single site. The proposed “Massachusetts Model” is truly unique. However, this creates a challenge for estimating the prospective impacts of such a facility, because there is no appropriate template to guide us. Therefore, we model each of the three components independently, and then combine their separate impacts to produce an overall estimate of the overall impact. In other words, we assume that the race track will operate as a distinct entity from the horse center and the retirement facility. Because we are treating each separately, we are not able to account for possible cost-savings in terms of shared facilities, staff, or discounts through bulk purchasing.

Table 3.1: Combined Economic Impacts: Thoroughbred Racing, Equestrian Center, and Retirement Farm

	FTE EMPLOYMENT	LABOR INCOME*	OUTPUT (SALES)*
DIRECT EFFECT	651.7	\$34,905,383	\$53,785,565
INDIRECT EFFECT	98.4	\$6,011,609	\$13,503,183
INDUCED EFFECT	207.0	\$12,216,334	\$31,569,240
TOTAL EFFECT	957.0	\$53,133,324	\$98,857,986

*Reported in 2016 dollars

Table 3.1 reports the combined economic impacts from the three major components of the proposed facility. We estimate that a multi-purpose horse park will bring \$53.8 million in direct new spending to Massachusetts from out-of-state sources. These new dollars will have ripple effects throughout the entire economy, resulting in a total annual output impact of nearly \$100 million.

This is enough to support the creation of 957 new full-time equivalent (FTE) year-round jobs in the state. Slightly more than half of the new sales will make its way into the pockets of Massachusetts workers and households in the form of additional income.

The ratio of total to direct effects is known as the multiplier. For these three components combined, our output multiplier is 1.83. That means for each dollar spent at the new facility—whether by visitors, participants, or via facility operations—we predict an additional 83 cents will flow to other area businesses and workers.

Table 3.2: Combined State and Local Tax Revenue Impacts: Thoroughbred Racing, Equestrian Center, and Retirement Farm

	STATE AND LOCAL TAX REVENUES*
EMPLOYEE COMPENSATION	\$78,244
TAX ON PRODUCTION AND IMPORTS	\$3,125,820
HOUSEHOLDS	\$1,678,505
CORPORATIONS	\$188,253
TOTAL	\$5,070,822

*Reported in 2016 dollars

According to IMPLAN-based estimates, the combination of direct, indirect, and induced impacts will generate roughly \$5 million in new state and local tax revenues per year (Table 3.2). The majority of the increased tax revenues will come from taxes on production and imports (62 percent), namely sales tax revenues. Because we only include impacts from out-of-state visitors and participants, these sales taxes will almost entirely be borne by non-Massachusetts residents. The second largest source of tax revenues is household tax revenue, specifically the portion of personal income taxes paid on the additional earnings of workers directly and indirectly benefiting from the center. Corporate taxes (taxes on profits and dividends) are a distant third source of new tax revenue. Much of the anticipated revenue from increased corporate taxes will be from indirect sources, as we assume that the Horse Center and Retirement Farm portion of the project will operate as a non-profit entity.

STUDY LIMITATIONS

We believe that these are extremely conservative estimates of the actual impacts for several reasons. For one, we do not model economic impacts related to land acquisition costs or the construction of the facility – only operational costs. While construction impacts only last for a few years, they can often be substantial. However, construction impacts also depend heavily on site-specific features, as well as design and architectural decisions. It is rather premature to estimate these impacts before site is selected, designs for the facility have been drawn up, and there have been some preliminary engineering and architectural estimates.

Second, we only count impacts that are attributable to “new money” flowing into the state. More specifically, we exclude the anticipated spending by in-state patrons of the race track, as well as spending by Massachusetts residents and participants attending equestrian shows and competitions. We have to assume they would have spent this money within the state even if the proposed facility did not exist. This is a standard assumption of most economic impact studies, although a rather conservative one. Clearly, if there were better facilities available within the state, then more Massachusetts riders and tourists would choose to recreate closer to home, rather than spend their money elsewhere.

Third, we do not model the impacts of every aspect of the horse park: only the race track, the equestrian center events, and the retirement farm. The current plans also leave room for an on-site large-animal veterinary clinic and research center that will be operated by a university-affiliated partner institution. To the extent that this facility serves the needs of racing and event participants, its economic impacts are included. Our cost estimates for racing and event participants cover expenses on veterinary care that we assume will be provided at the on-site veterinary clinic. However, the clinic will have additional impacts that are not counted in this study if it is able to attract other (non-participant) patients of research grants from outside of the Commonwealth.

WHAT IS ECONOMIC IMPACT ANALYSIS?

Economic impact analysis is a technique for measuring the net effects of new spending and investment on a regional economy’s employment, wages and business output (i.e. sales). This is done by estimating the amount of net new spending in the region as a direct result of a project (i.e. the direct effects). In the case of the proposed horse park, the direct economic impacts come from numerous sources. These include additional spending by event participants and horse owners required for the stabling, feeding, care and maintenance of their horses; the spending by out-of-state visitors at area retailers, restaurants, lodging establishments and other services; and the operational expenditures of the facility, of which wages and salaries are usually the largest portion.

Beyond the initial influx of new funds, new direct spending in the region then goes on to have secondary (or indirect) economic impacts. Indirect impacts are generated from the exchange of these additional revenues among area businesses and their workers. For example, a portion of the increased visitor spending on area hotels is used to pay the employees of the hotel, and another portion goes toward the purchase of products and services from other local businesses. These local workers and businesses, in turn, use some of their increased revenues to buy other goods and services from other local businesses. Some of these funds are also spent outside the study region. This is considered “leakage” and does not continue to generate additional economic activity within the region. The direct investment combined with the exchange of money among local vendors and workers make up the total economic impact. The ratio of the direct to total economic impact is referred to as the multiplier effect. The total economic impacts and multipliers were generated using the IMPLAN economic modeling system.

Similarly, the facility also calls for an RV Park. On the one hand, the RV Park is expected to cater to people attending one or more of the Center's many events, in which case they are included under our impacts of visitor spending on lodging. On the other hand, other visitors may also reserve space at the RV Park. The spending impacts from this group of visitors are not included. At this early stage we lack the information to know how widely the facility will be used by non-center related visitors. Lastly, current plans call for an extensive system of recreational trails for the general enjoyment of the public. We assume that these recreational trails will primarily attract users from within Massachusetts. However, the trails may draw visitors from neighboring states as well, depending on its proximity, the quality of the trails, and the availability of other, similar recreational trail facilities. But without knowing more about the specific site and the plans for recreational trails, it is difficult to predict the number of out-of-state visitors.

It is important to bear in mind that economic impact analysis is capable only of estimating impacts that are directly quantifiable in dollars. It is not capable of estimating impacts from less tangible benefits, such as helping to preserve Massachusetts's agricultural heritage and open space; offering a venue for outdoor recreation that improves the wellness of area residents; and helping to ensure the continued vitality of the larger equestrian industry in the state. Local and statewide horse shows and competitions are integral to the long-term growth of the equestrian industry. They fuel the enthusiasm of young and established equestrians, and imbue them with a sense of belonging to a larger community. Sponsoring and showing support for local competitions and shows is also an important prerequisite for attracting national and regional events. Yet these types of events have little impact in this type of study, because they draw almost entirely from within the state. While we adhere to the conservative assumptions of the economic impact framework, we offer several case studies of actual equestrian competition to help illustrate some of these less tangible benefits.

Our final limitation is simply a warning regarding the inherent uncertainty involved when forecasting economic impacts. This is a very early-stage assessment, and as the project develops the magnitude and distribution of the impacts will likely change. Furthermore, while the construction of a world-class facility is necessary for attracting top racing talent and sponsoring national and international caliber horse shows and competitions, it is not sufficient. The horse park must also be well-designed, well-managed, and able to successfully market itself to event organizers if it is to attract the full spectrum of events and attendance described in this report.

The remainder of this chapter provides more detail on the assumptions that are the foundation for our estimates, as well as a breakdown of the impacts by each component (race track, equestrian center and retirement farm) as well as by sub-component (e.g. racing operations, racing participants, and racing spectators).

THOROUGHBRED HORSE RACING EXPENDITURES & IMPACTS

SUMMARY & ASSUMPTIONS

The direct effects that determine the total economic impacts can be modeled either by estimating revenues or by estimating spending (i.e. expenditures). We model spending, because it allows us to more clearly identify economic transactions that take place within Massachusetts. A portion of the proceeds from racing never reaches the pockets of Massachusetts businesses or residents: the payouts to bets made over the internet or through off-site simulcast venues.

The direct effects of the Thoroughbred racing facility come from numerous sources. First, there are expenditures associated with race track operations. Much of the funds used to support operations comes from betting revenues (the handle), although portions also come from on-site purchases of spectators, and payments made to the facility by racing participants. The spending of racing participants is the second primary source of direct impact. This includes the spending of Thoroughbred race horse owners who pay for training costs, jockeying fees, veterinary care, feed and bedding, tack and equipment, and the other miscellaneous costs incurred during the racing season. The final source of direct impact is the off-track spending of out-of-state visitors and spectators. This spending has an immediate benefit to area businesses, especially hotels, restaurants, gas stations, and other retail outlets. As previously mentioned, we only consider the spending of visitors that come from out-of-state, and exclude spending by Massachusetts residents under the standard assumption that it would have occurred within the state even if a new race track had never been built.

Modeling the economic impacts of a prospective facility requires making some assumptions regarding the length of the racing season, the number of participants, and the number of out-of-state visitors.

Key Assumptions:

- There will be 75 days of racing during a typical season.
- The racing season will last for 150 days (mid-May through mid-October).
- There will be an average of 9 races per race day, or 675 races during a typical season.
- There will be a daily average of 800 horses in residence over the entire season.
- The facility will average 3,000 spectators per race day, which accounts for typical racing events and one marquee special event, such as the MassCap.
- Twenty percent of all spectators will be come from outside of Massachusetts.
- The expansion of thoroughbred racing will spur the increased production of 115 new foals per year by Massachusetts breeders.

We base these assumptions on our discussions with the client regarding their anticipated plans for race track, a review of existing Thoroughbred race tracks around the county, and through interviews with Thoroughbred racing experts.

Based on these assumptions, we expect the new race track to yield \$36.7 million in direct additional economic activity in the state (Table 3.3). These direct effects include the actual money spent in state by the race track, breeding farms, as well as by racing participants and spectators. This “new” money in the Massachusetts economy will change hands among workers and other area businesses, to generate a total of \$66.3 million in annual output and sales, and support the creation of 664 new jobs and put over \$38.2 million in the pockets of Massachusetts households each year. Our output multiplier for the race track component is 1.81. Thus, for every dollar spent directly at the race track, spectators or breeding/training farms, we expect an additional 81 cents to flow to other businesses in the state.

Table 3.3: Summary Economic Impacts: Race Track Component

	FTE EMPLOYMENT	LABOR INCOME*	OUTPUT (SALES)*
DIRECT EFFECT	465.2	\$26,212,516	\$36,662,266
INDIRECT EFFECT	49.8	\$3,229,778	\$6,914,236
INDUCED EFFECT	149.0	\$8,792,345	\$22,720,396
TOTAL EFFECT	663.9	\$38,234,638	\$66,296,898

*Reported in 2016 dollars

The remainder of this section reports the economic impacts of each of the three racing components (operations, participants and visitors) separately, and discusses the key assumptions the yield our estimates.

IMPACTS FROM RACING OPERATIONS

The first component of our analysis of the proposed race track’s impacts is the impact generated from race track operations. We assume that the race track will generate \$13 million per year in operational expenditures. We arrived at our estimates by examining other studies of Thoroughbred racing facilities around the county and consulting with racing industry experts, considering the preliminary design of the facility, and the expected length of the racing season. This amount is slightly less that what we found for other Thoroughbred race tracks. On average, our sample of other race tracks cost roughly \$136 dollars per horse day, or just over \$16 million per year. By contrast, our industry advisors estimate operational expenses in the order of \$12 to \$14 million per year for a racing facility of this size. Given its smaller footprint and more economical use of space, it is not surprising that the horse park will cost less to operate than many existing facilities.

Assuming \$13 million figure as the direct effects, our economic impact model estimates a total economic impact of just over \$23.2 million per year in 2016 dollars (Table 3.4). At this level of output, we expect the facility will produce for roughly 338 jobs full-time equivalent (FTE) in the state economy, and contribute \$14.4 million in income for Massachusetts households. Seventy of these new jobs (indirect + induced) will be created by other businesses in the state.

Table 3.4: Summary Economic Impacts: Race track Operations

	FTE EMPLOYMENT	LABOR INCOME*	OUTPUT (SALES)*
DIRECT EFFECT	267.8	\$10,371,093	\$13,000,000
INDIRECT EFFECT	14.0	\$742,727	\$1,609,959
INDUCED EFFECT	56.3	\$3,324,200	\$8,588,390
TOTAL EFFECT	338.1	\$14,438,020	\$23,198,350

*Reported in 2016 dollars

IMPACTS FROM RACING PARTICIPANTS

We estimate the direct impacts of race participants based on the average amount spent on each horse per day over the racing season (horse-days). With an estimated average of 800 horses on site per day over a 150-day season, we estimate 120,000 horse-days per year. Based on interviews with industry experts and a review of past studies, we estimate that it costs roughly \$90 per day to train, feed, and provide for the general care of each horse during the racing season.¹ This includes trainer fees and other costs paid direct by the owners, but not payments made by horse owners directly to the racetrack. Direct payments from owners to the racetrack are already included under racetrack operations. In addition, we do not consider the earnings from the horse owners' takeout (or payments from betting revenues) beyond that amount that they spend on the training and care of their horses. This is likely to be negligible, as interviews with racing experts suggest that Thoroughbred racehorse owners often have very thin profit margins, and that many owners live out-of-state.

It is important to note that we only consider the impacts of horse-related expenditures during the racing season. Although some of these will be Massachusetts Thoroughbreds and will reside in-state during the off-season, we assume that Massachusetts horses would still be stabled in the Commonwealth during the off-season (even if there were no Thoroughbred racing facility), and that out-of-state horses would reside elsewhere. Likewise, we assume that both Massachusetts- and out-of-state horses would spend the racing season outside of Massachusetts if there were no racetrack. Therefore, all horse-related expenditures during the season are included as direct effects.

Based on these calculations, we estimate \$10.8 million per year in direct spending pertaining to the care, training and feeding of Thoroughbred racehorses at the horse park (Table 3.5). This direct spending will result in a total of \$19.7 million in additional sales revenues for the state. This level of additional output can support the creation of roughly 138 FTE jobs and provide an additional \$11.3 million in income to Massachusetts households.

¹ The \$90 per horse-day cost estimate is somewhat lower than what is typically reported in other studies of thoroughbred racetracks, which average in the range of \$120 to \$130 per horse-day. However, our industry advisors anticipate that training and related costs will be less in Massachusetts and that our averages are upwardly skewed by the inclusion of premier racetracks in our sample.

Table 3.5: Summary Economic Impacts: Racing Participants

	FTE EMPLOYMENT	LABOR INCOME*	OUTPUT (SALES)*
DIRECT EFFECT	77.3	\$7,664,557	\$10,800,000
INDIRECT EFFECT	16.0	\$1,102,041	\$2,218,360
INDUCED EFFECT	44.3	\$2,615,851	\$6,760,334
TOTAL EFFECT	137.5	\$11,382,448	\$19,778,693

*Reported in 2016 dollars

IMPACTS FROM SPECTATOR SPENDING OFF-SITE

We estimate that the new facility will attract 225,000 spectators per year. While our review of other studies produced an average daily attendance of 4,500, our advisory board and industry experts felt this number was too high, given the New England market, the relatively smaller grandstand, and industry wide trends of less foot traffic, but more remote forms of wagering. They suggested that a typical racing day will draw somewhere between 2,000 and 3,000 visitors, while special events (such as the MassCap) can draw up to 10,000. We settled on a daily average of 3,000 to account for attendance on both typical race days as well as for a handful of special racing events, across 75 days of racing.

We only count the spending of out-of-state visitors as direct effects, under the assumption that Massachusetts residents would have spent this money in the state anyway, even without the new racetrack. This is a rather conservative assumption, as some Massachusetts racing enthusiasts would travel to out-of-state venues or engage in remote forms of betting. We estimate that 20 percent of all spectators will be from out-of-state. This equates to 45,000 expected out-of-state visitors per year. The percentage of out-of-state spectators is difficult to predict, however. It depends greatly on the specific location of the facility in relation to major out-of-state population centers, highway access, the prestige of the racing events, as well as the availability of other competition venues. This variability is reflected in studies of other racetracks, which estimate the share of out-of-state visitors to be anywhere from 10 percent to 60 percent. We chose the estimate of 20 percent after consulting with advisory board members and other industry experts who understand the Massachusetts racing landscape.

Compiling data from multiple studies, we estimate that each out-of-state visitor spends roughly \$113 per day outside of the racetrack. This figure does not include money spent at the track, including wagers, food and souvenirs, which was already accounted for in our measurement of Center operational expenditures. Nearly 40 percent of all off-track spending is on lodging, with another 22 percent spent on food and drink. The remainder is near evenly split between entertainment, retail and travel expenses.

Given these assumptions, the total spending of out-of-state visitors will be \$5,089,050. We adjust this figure to account for travel-related expenses that may occur outside of Massachusetts. The adjusted direct effect from racing visitors is \$4.1 million per year (Table 3.6). An increase of \$4.1

million in direct spending will produce a total impact of \$7.2 million in additional sales and output per year. This is enough to support the creation of 76.5 new FTE jobs. It is important to note that because we only consider off-site spending, the entirety these 76.5 jobs will be generated by other businesses, and not at the track.

Table 3.6: Summary Economic Impacts: Racing Spectators (Off-Site Only)

	FTE EMPLOYMENT	LABOR INCOME*	OUTPUT (SALES)*
DIRECT EFFECT	57.29	\$1,943,647	\$4,079,141
INDIRECT EFFECT	6.89	\$488,773	\$1,281,831
INDUCED EFFECT	12.28	\$724,947	\$1,873,815
TOTAL EFFECT	76.46	\$3,157,368	\$7,234,787

*Reported in 2016 dollars

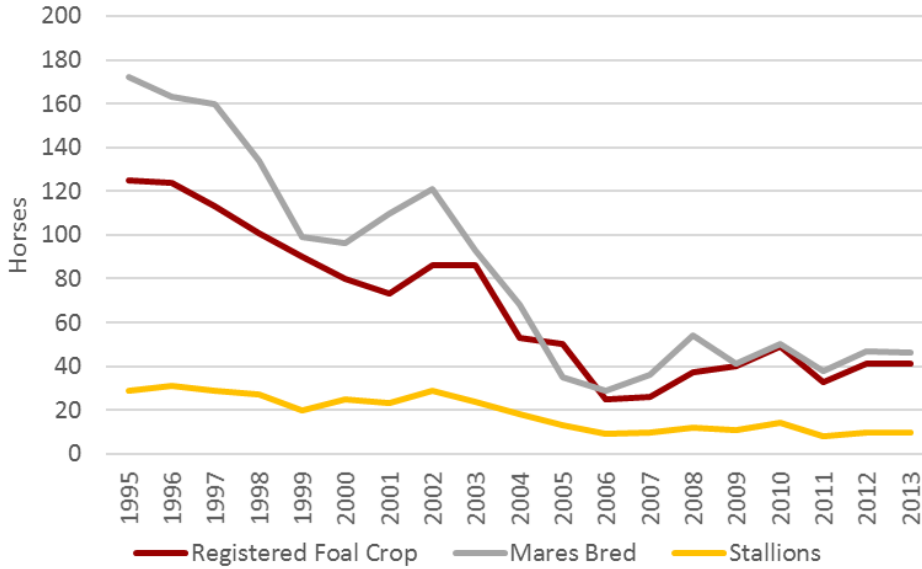
IMPACTS FROM THE THROUGHbred BREEDING INDUSTRY

Thoroughbred racehorse breeding is an important component of the Massachusetts Equine Industry, whose vitality is directly tied to the availability of racing opportunities within the Commonwealth. A Study of the Thoroughbred Equine Industry by Salem State University reported 62 thoroughbred breeding farms in Massachusetts as of 2013, with 71 additional farms that are somehow affiliated with Thoroughbred racing. According to that study, these farms accounted for \$15,086,483 in direct annual revenue and contributed 356 direct jobs to the state economy.

The Massachusetts breeding industry has fallen on hard times in recent years. Between 1995 and 2013, the Massachusetts foal crop has declined by 67 percent: dropping from 125 registered foals in 1995 to 41 in 2013 (Figure 3.1). We have seen a similar decline in the number of Mares bred by Massachusetts Stallions (down 73 percent) and the number of Massachusetts Stallions (down 67 percent).

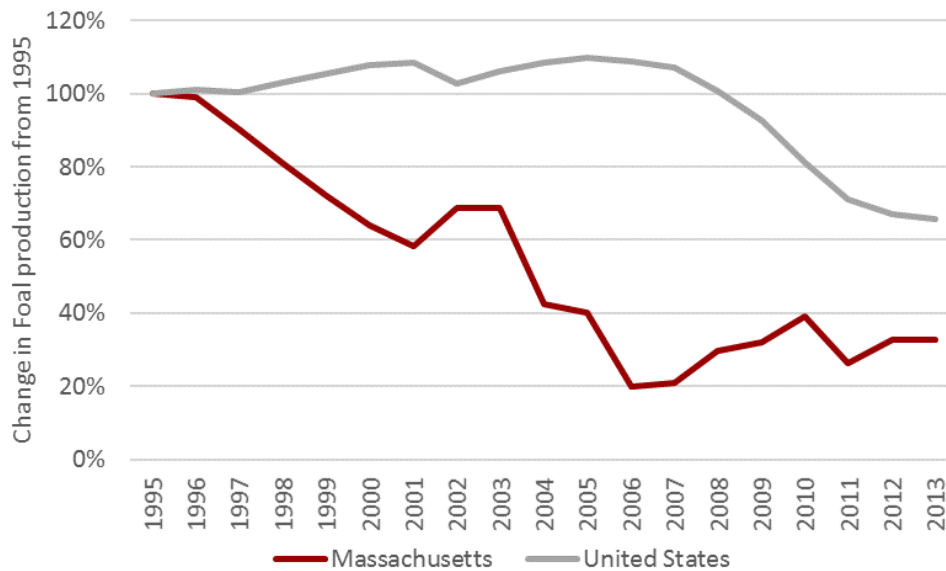
In part, the decline of Massachusetts Thoroughbred breeding reflects a broader, national decline driven by increased competition from expanded casinos and on-line wagering. As the handle to horse racing declines, so do the returns to breeders. However, the decline of the Massachusetts breeding industry far outpaces national trends. Figure 3.2, below, shows the relative decline in foal production since 1995.

Figure 3.1: Thoroughbred Horse Breeding in Massachusetts, 1995 to 2013



Source: The Jockey Club. 2016. Massachusetts Fact Book.

Figure 3.2: Foal Production, Massachusetts compared to the US, 1995 to 2013

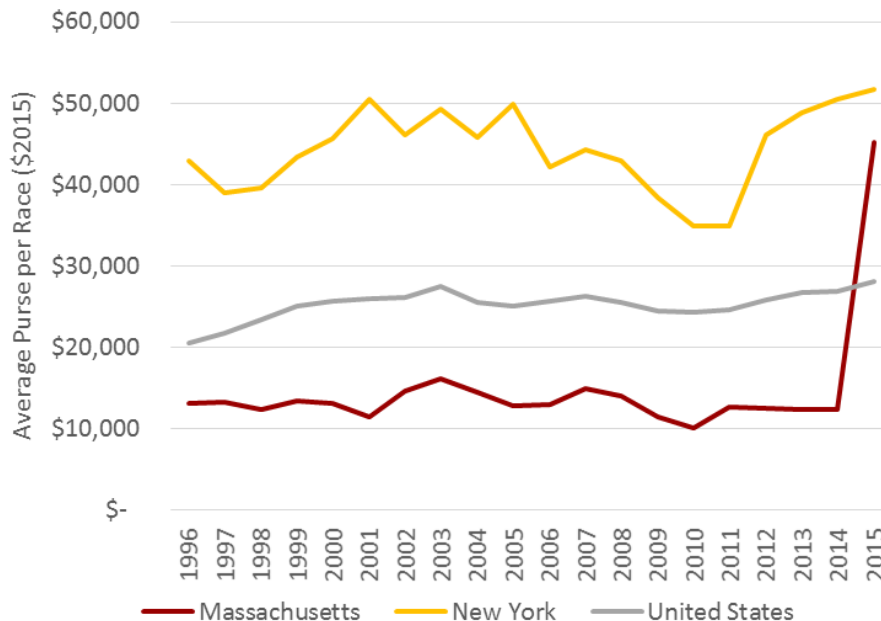


Sources: The Jockey Club. 2016. Massachusetts and National Fact Books.

Beyond national trends, the decline of the Massachusetts breeding industry is attributable to two primary factors: (1) low purses relative to other states, and (2) shrinking racing opportunities in the Commonwealth. Low relative purses reduce the potential returns to breeders and attract lower quality horses to racetracks in the state. This, in turn, leads to fewer bettors and smaller wagers,

which erode purses even further. The vicious cycle of falling purses depresses the value of Massachusetts equine breeding farms, which discourages investment in thoroughbred breeding, and threatens the open space the farms preserve. Over the past two decades, Massachusetts purses have typically fallen short of the national average, and have been well below our neighboring state of New York (Figure 3.3). That has changed following the passage of the Expanded Gaming Act of 2011, which dedicates a portion of casino revenues to supplement purses, making them more competitive with tracks in other states. The state’s first licensed slots parlor opened in 2015, at Plainridge Park Casino, resulting in the dramatic rise in purses from 2014 to 2015 (Figure 3.3.) The Act also dedicates a portion of casino revenues to breeder awards, which provides additional incentives to Massachusetts-based breeders.²

Figure 3.3: Thoroughbred Purses per Race, Massachusetts vs. New York and the US



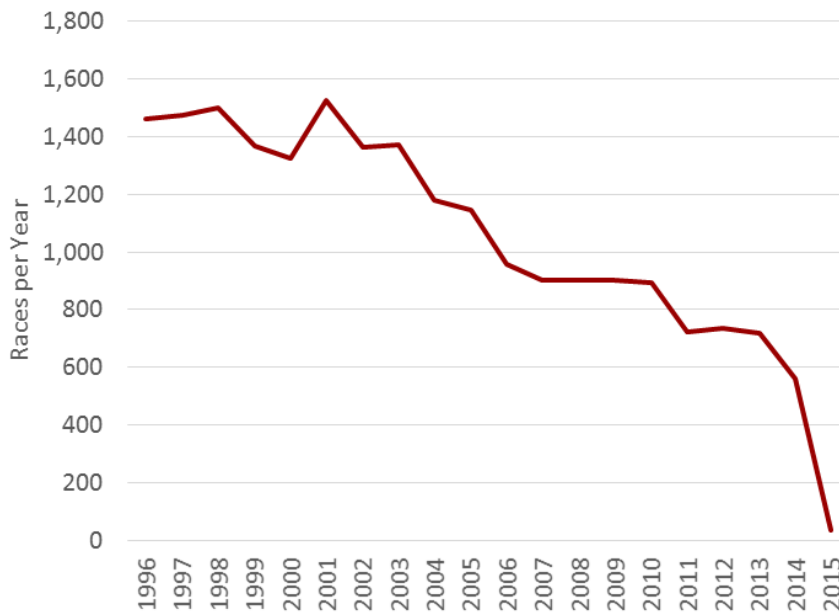
Sources: *The Jockey Club. 2016. Massachusetts, New York, and National Fact Books.*

The second critical component to a healthy thoroughbred breeding industry is access to ample in-state racing opportunities. Even with the competitive purse and breeding award programs codified in the Expanded Gaming Act, Thoroughbred breeding in Massachusetts will likely continue to struggle until there is more racing in Massachusetts. While the current rules permit bonuses paid to MA bred horses that race elsewhere, the major financial rewards are reserved for races taking

² It is worth noting that in 2011, New York began allocating a portion of the revenues from Video Lottery Terminals (VLTs) into the purse supports and breeder awards. As a result, the average purse per race rose from \$34,956 in 2011 to \$46,042 in 2012 (reported in 2015 equivalent dollars), according to data from the Jockey Club. These purse supplements and breeder awards had an immediate impact on foal production in New York, which increased by nearly 250 registered foals in a single year.

place within Massachusetts. Simply put, fewer races provide fewer opportunities to earn revenue. There were only 36 Thoroughbred races held in Massachusetts last year at Suffolk Downs (Figure 3.4). Without a racetrack of sufficient quality to attract top-level racing, the future of the Thoroughbred industry in Massachusetts remains uncertain. This uncertainty sends a negative market signal to breeders and owners that discourages long-term investments in horses, capital equipment, land acquisition and other infrastructure. Breeders and owners also have a strong preference to locate near where their horses are racing. This is, in part, due to costs associated with travel and related expenses, but it reflects the fact that owners and breeders simply love to see their horses compete.

Figure 3.4: The Number of Thoroughbred Races held in Massachusetts, 1996 to 2015



Source: The Jockey Club. 2016. Massachusetts Fact Book.

It is clear from the preceding discussion that the establishment of a new thoroughbred racetrack will have a direct impact on the state’s horse breeding industry. We focus on the expenditures associated with a reasonable expansion in the number of foals bred and housed in Massachusetts. We assume that the present purse subsidies and breeding program established under the Expanded Gaming Act of 2011 will continue in their present form. The discontinuation or restructuring of these incentives would certainly have a direct impact on the relative returns to breeding, and thus the possible expansion of the industry or the expected impacts of the program.

It is difficult to predict how many new foals we can reasonably expect following the opening of a new thoroughbred track with 75 days of racing. Our discussions with breeding industry experts suggests that it is reasonable to expect an increase in the Massachusetts foal crop to something

slightly above the 1995 level of production. Therefore, we assume an increase of 115 foals per year over current levels. This is a rather conservative assumption. The ultimate size of the foal crop may well be much larger as additional casinos open and purses and breeding awards continue to rise. Breeders typically raise their foals for two years prior to sale and the start of their training. Therefore, we estimate the number of additional foals residing in Massachusetts at 230: twice the expected number of foals born each year. The mother of the foals (mares) must also be cared for during the nearly year-long gestation period. We assume 115 additional Massachusetts mares will reside in Massachusetts per year (one mare per foal).

Breeding, raising and training thoroughbred racehorses is a rather expensive business. Based upon our discussions with several Massachusetts breeders, we estimate that it costs roughly \$10,000 per year to care for a foal or mare. This estimate corresponds with those from a 2013 study of a racetrack in Saratoga, NY that estimated costs between \$6,000 and \$12,000 per year to care for a mare or foal in New York. At \$10,000 per horse for 345 foals and mares, we estimate the equestrian racing complex will result in just under \$3.5 million per year in total annual new spending by Massachusetts breeders.

Foals typically begin their formal training for racing in their third year. A young racehorse typically spends a year in training before their first start, and continues training throughout their career. According to industry experts, 90 percent of Massachusetts-bred foals will likely train and race in state (assuming the construction of a new racetrack and the current purse and award supplements). The yearly costs of training, stabling, and feeding a thoroughbred racehorse is estimated at \$25,000 per year, for a total annual expenditure bill of nearly \$2.6 million. We assume the remaining 10 percent of foals are sold out-of-state at the national average auction price. Over the past three years, the average sale price from two-year old horses was approximately \$70,000 per horse according to statistics from the U.S. Jockey Club. Thus, we include an addition \$805,000 per year for expanded out-of-state horse sales.

Our estimates of racing participant impacts already include the costs associated with active racehorses during the racing season. There, we estimated that it costs roughly \$13,500 to train and care for each horse during the season. Some of these active horses will remain in Massachusetts off-season, while others will return to their home states or move on to events in other states. For example, a 2012 study of racing at Suffolk Downs reports that over 80 percent of all Suffolk Thoroughbreds are from out-of-state. However, the purse and breeder incentives enacted through the 2011 Expanded Gaming Act greatly improve the expected returns to Massachusetts-bred horses and thus will likely increase the share of Massachusetts horses racing at the new track. We use the conservative estimate that 400 active horses (or half of the assumed 800 horses on-site) will be from Massachusetts. In time, we expect an even larger share of horses racing at the new racetrack will be from in state, although it will take a few years for the Massachusetts-bred horses to work their way into the racing circuit. Given the average care and training costs of \$25,000 per horse and the racing season expenses of \$13,500, we estimate off-season expenditures of \$11,500 per horse, or \$4.6 million in total.

Expenditures for horse breeding, care, and training typically include veterinary fees, farrier (shoeing) care, bedding, feed, and labor costs. Breeding and training farms also make periodic investments in materials, new equipment, and other infrastructure. Most of this spending will go to workers living in Massachusetts or in-state vendors. Assuming that 75 percent of all direct expenditures stay in state, we estimate a combined direct effect of just under \$8.0 million in additional direct purchases to Massachusetts businesses/workers per year. With the \$805,000 in exports from out-of-state horse sales, the total direct effect approaches \$8.8 million per year, and a total economic impact of just over \$16 million per year in 2016 dollars (Table 3.7). This level of additional output is enough to sustain 112 full-time equivalent (FTE) jobs, and contribute over \$9 million in additional income for Massachusetts households.

Table 3.7: Summary Economic Impacts: Expansion of the MA Breeding Industry

	FTE EMPLOYMENT	LABOR INCOME*	OUTPUT (SALES)*
DIRECT EFFECT	62.9	\$6,233,219	\$8,783,125
INDIRECT EFFECT	13.0	\$896,237	\$1,804,086
INDUCED EFFECT	36.0	\$2,127,347	\$5,497,857
TOTAL EFFECT	111.9	\$9,256,802	\$16,085,068

*Reported in 2016 dollars

EQUESTRIAN CENTER HORSE SHOWS & COMPETITIONS

SUMMARY & ASSUMPTIONS

The economic impact of the equestrian center component of the horse park will also come from three primary sources: (1) center operations; (2) horse-related spending by out-of-state participants; and (3) people-related spending by out-of-state visitors and participants. As before, we are careful not to double count spending across categories, such as event and entry fees, paid by participants, which fund facility operations. We also only consider spending that comes from out-of-state sources.

Our approach is to model a hypothetical “calendar” of equestrian events that could be expected at the facility once it is in full operation and has had sufficient time to establish itself as a premier destination among event organizers and horse enthusiasts. The economic impact of the proposed Equestrian Center relies greatly on the number and prestige of the events held at the facility. Generally, the more events there are, the greater the impact becomes. This is especially true when those events are international and national in scope, as they draw a greater number of visitors from outside of the state.

We assume that the proposed Center will be a first-class facility, with the potential of hosting major national events. Our estimates of the number of events and presumptive attendance figures are

based on a thorough review of existing equestrian centers and horse parks around the nation, with a particular focus on the Virginia Horse Center, in Lexington VA, and the Kentucky Horse Park, in Lexington KY. Both are considered first-class equestrian facilities, and both regularly host national and international grade events.

Using the activity at other centers as a guide, we developed a set of initial assumptions regarding the usage of the facility. We then adjusted these initial estimates based on interviews with industry experts, such as directors of similar Centers in other parts of the country. Given the inherent uncertainty, we tend to err on the side of offering more conservative, yet realistic, attendance and participation estimates.

Key Assumptions:

- There will be 70 equestrian events held throughout the year. The calendar will include five major events (national scale such as division championship), 40 mid-sized events (multi-state such as a regional division championship), and 25 minor events (within state, or local).
- The facility will also host 18 non-equestrian events, predominantly catering to a local and regional audience.
- A typical major equestrian event will last for four days. Moderate and minor events will last for 4.5 and 1.5 days, respectively. Non-equine events will last for 2 days, on average.
- The average equine event will attract roughly 2,221 unique visitors. The average non-equine event will attract 1,211 unique visitors per event.
- Eighty percent of the visitors and participants at major events will come from out-of-state. The typical moderate-scale event will draw 45 percent of its visitors from neighboring states. A minor event will only draw 5 percent from out-of-state. Finally, 20 percent of the attendees of non-equine events will be from outside Massachusetts.

The key assumption of 70 equestrian events per year falls within the range of other major equestrian centers, such as in Virginia and Kentucky, which host between 70 and 90 equestrian events per year. Our assumption of 18 non-equestrian events is also in keeping with other centers, which typically host between three to four equine events for every non-equine event.

Based on these assumptions, we expect the new facility to attract \$16.7 million in direct additional economic activity in the state each year (Table 3.8). The largest portion of this comes from event visitors and participants who make purchases at the event and at area businesses. As this \$16.7 million in new money trickles through the Massachusetts economy, it will generate a combined total of \$31.8 million in annual output and sales: enough to support the creation of 280 new FTE jobs and generate \$14.5 million in new household income. The statewide output multiplier for the Equestrian Center component is 1.9. Thus for every dollar spend directly at or by the center, we expect an additional 90 cents to flow to other businesses in the state.

Table 3.8: Summary Economic Impacts: Equestrian Center Component

	FTE EMPLOYMENT	LABOR INCOME	OUTPUT (SALES)
DIRECT EFFECT	175.0	\$8,427,085	\$16,658,893
INDIRECT EFFECT	48.1	\$2,745,964	\$6,497,418
INDUCED EFFECT	56.5	\$3,333,705	\$8,615,606
TOTAL EFFECT	279.5	\$14,506,754	\$31,771,916

IMPACTS FROM CENTER OPERATIONS

We estimate that the proposed equestrian center will spend roughly \$5.6 million per year in operations. We developed this estimate by dividing the total annual operational expenditures at other equestrian centers by the number of days those facilities were hosting events (i.e. event-days). The average operational costs for existing centers run close to \$35,600 per event-day. As we expect 157.5 total event days at the proposed Massachusetts facility, the resulting annual operations budget is estimated to be roughly \$5.6 million. This compares well with other existing centers. The Virginia Horse Center’s operational budget is closer to \$4 million per year. The Kentucky Horse Park has annual operational expenditures of roughly \$12 million per year, but has extensive facilities, including a horse museum and the offices of national equestrian associations, complemented by numerous revenue streams.

Not all of the operational spending can be counted as direct effects, however. Unlike a race track, which generates a separate revenue stream through the handle, a large share of an equestrian center’s operational costs are financed through fees charged to event organizers, participants, spectators, and on-site sales of products and services. Some of these individuals will be from Massachusetts. As before, we can only attribute the portion of the operational expenditures that come from out-of-state sources as direct effects. A 2007 study of the Kentucky Horse Park estimates that roughly 66 percent of all revenues originate from out-of-state.

Assuming a similar percentage, we estimate that Center operations will add \$3.7 million in new spending to the Massachusetts economy per year (Table 3.9). According to IMPLAN, this level of output is enough to sustain 32 FTE employees at the facility. The actual center may actually hire more workers than this, especially at peak season. However, our model only reports the portion of employment that is supported by new outside funds, and does not consider workers that are paid for by in-state proceeds.

We estimate the total economic impact due to operations at \$8.5 million per year. This is equivalent to 70 new FTE jobs and \$2.9 million in additional labor income.

Table 3.9: Summary Economic Impacts: Center Operations

	FTE EMPLOYMENT	LABOR INCOME	OUTPUT (SALES)
DIRECT EFFECT	31.72	\$912,007	\$3,703,346
INDIRECT EFFECT	27.43	\$1,295,161	\$3,046,032
INDUCED EFFECT	11.18	\$659,908	\$1,705,022
TOTAL EFFECT	70.32	\$2,867,076	\$8,454,400

EVENT PARTICIPANT/HORSE-RELATED EXPENDITURES

As with racehorses, participants at equestrian competitions and shows spend a considerable amount of money on the feeding and care of their horses during shows and competitions. They also make purchases of horse-related supplies and equipment at these events. Our hypothetical calendar includes 70 equestrian related events per season, divided into 5 major, 40 moderate, and 25 minor events per season. In this scenario, we model participant spending on a per horse-day basis. Based on an analysis of other studies, we assume that the typical major event hosts 500 horses per day over a four-day event. Moderate events are expected to last for 2.5 days, on average, and host 300 horses. We assume that minor events host 150 horses per day and last for 1.5 days, on average. We also make different assumptions regarding the origin of the participants, based on the scale of the event. There is no solid data on where the horses come from, but there is for the human participants. We assume that major events draw 80 percent of participants from out-of-state, moderate events draw 45 percent, and minor events only 5 percent. This is in keeping with the fact that, by definition, minor events are almost always local events that primarily draw participants from within the state.

Over a typical year of 70 events, we expect there will be just over 40,000 horse-days spent at the facility by out-of-state participants. Based upon data provide by studies of other centers, we estimate an average of \$141 of spending per horse per event day. This includes event fees, feed, bedding, veterinary care, and other direct horse expenditures while at the event. It also includes the purchase of horse-related equipment and supplies, which are typically for sale at shows by specialty retailers. It does not include spending pertaining to the lodging, care, and feeding of the human participants. The next section on visitor impacts covers the impacts of their spending.

The \$141 in daily purchases, made by out-of-state participants across 40,281 horse-days, produces a total direct effect of \$5.7 million per year (Table 3.10). This additional revenue will produce a total impact of over \$10.4 million on the Massachusetts economy, primarily through increases to household income and household spending. Over \$6 million will go to Massachusetts workers, and the additional spending of these workers alone (the induced effect) will generate \$3.6 million in new sales in the Commonwealth.

Table 3.10: Summary Economic Impacts: Center Participants

	FTE EMPLOYMENT	LABOR INCOME	OUTPUT (SALES)
DIRECT EFFECT	40.76	\$4,042,180	\$5,695,769
INDIRECT EFFECT	8.41	\$581,201	\$1,169,932
INDUCED EFFECT	23.37	\$1,379,563	\$3,565,305
TOTAL EFFECT	72.53	\$6,002,944	\$10,431,006

Note that while we provide these estimates for participants at equestrian events, we do not provide a comparable analysis of spending of participants at other events. The non-equine events held at equestrian facilities vary greatly: dog-shows, tractor-pulls, and agricultural fairs, just to name a few of the possibilities. There are simply far too many options to develop an accurate spending profile for participants at these venues. This means that our figures will be underestimates, but by how much we do not know. The downward bias may end-up being rather small considering that there are relatively few non-equestrian events on the hypothetical calendar. It is also likely that participants of horse shows and competitions spend far more money than other event participants, who do not normally have to cover the cost of feeding and care of a large animal.

IMPACTS FROM CENTER VISITOR SPENDING

The final component is the spending on the (human) participants and other event spectators. For the sake of brevity, we will refer to these as visitor impacts. We developed a profile of the typical spending patterns of equestrian center visitors, based on a review of studies of existing centers elsewhere in the county. Overall, the expenditure patterns of horse park visitors look a lot like the non-wager spending of racing spectators. Horse park visitors spend an average of \$109 per day, with lodging, food/restaurants, retail purchases, and travel services being the largest expenditure categories. We were not able to develop separate estimates for non-equestrian event visitors, but assume they follow a similar expenditure profile as those attending equestrian events.

We also used these studies to develop daily attendance rates for both equestrian and non-equestrian events. The average daily attendance for equestrian events was 2,221 visitors (including event participants). The average daily attendance for non-equestrian events held at existing centers was 1,211. Considering the number of hypothetical event days, we estimate the total annual out-of-state attendance at equestrian events (of all types) at 78,287 unique visitors per year. To put this in context, a recent study of the economic impact of the Kentucky Horse Park estimated the number of unique equine event visitors at 93,992. Attendance of roughly 80,000 visitors per year seems reasonable, given that we assuming fewer events at our prospective facility (70 equestrian events for MA, and roughly 90 for Kentucky). We also assume that larger events draw a relatively larger share of its visitors from out-of-state. Based on studies that use both license plate and visitor surveys at other centers, we assume that major events draw 80 percent of participants from out-of-state, moderate events draw 45 percent, and minor events only 5 percent. We assume that 20 percent of the visitors for non-equestrian events are from out-of-state, a number reported in a 2001 study of

the Virginia Horse Center. We estimate that there will be 21,201 attendees at non-equestrian events throughout the year, 4,240 of whom will be from out-of-state.

Multiplying our estimates of daily expenditures with our estimate of 82,527 daily event attendees produces an estimate of just over \$9 million in total visitor expenditures per year. Some of this spending will take place outside of Massachusetts. Using standard local spending averages provided within IMPLAN, we estimate that out-of-state visitors will spend roughly \$7.3 million per year in Massachusetts while attending events at the equestrian center. This additional revenue will produce roughly \$12.9 million in total new spending and 137 new FTE jobs in the Commonwealth each year (Table 3.11).

Table 3.11: Summary Economic Impacts: Center Visitor Spending

	FTE EMPLOYMENT	LABOR INCOME	OUTPUT (SALES)
DIRECT EFFECT	102.47	\$3,472,898	\$7,259,778
INDIRECT EFFECT	12.26	\$869,602	\$2,281,454
INDUCED EFFECT	21.92	\$1,294,234	\$3,345,279
TOTAL EFFECT	136.65	\$5,636,734	\$12,886,510

THOROUGHBRED HORSE RETIREMENT FARM

The third and final component of our economic impact model considers impacts from the operations of a retirement farm for Thoroughbred racehorses. Although there are no formal studies of the economic impact of Thoroughbred retirement farms to use as a guide, we were able to consult with the founder and current president of Old Friends Thoroughbred Retirement Farms. We used financial and operational data from Old Friends to estimate the economic impacts of a similar type of facility in Massachusetts.

Old Friends is a 501(c)(3) non-profit organization that operates two Thoroughbred retirement centers: one in Georgetown, KY and a second, smaller, facility in Saratoga, NY. In 2015, Old Friends also acquired a satellite facility along the Kentucky/Tennessee border. Together these facilities are home to roughly 150 rescued and retired Thoroughbreds. Revenues come entirely from donations, grants, sales at its gift shop, and private support. The larger Kentucky facility has also become a popular tourist destination, attracting roughly 20,000 visitors per year.

We assume that the proposed Massachusetts retirement farm will follow a similar revenue model where operational costs come entirely from out-of-state contributions. We further assume that the facility will house 40 Thoroughbreds on site, although the actual number will depend upon site-specific considerations that are yet to be determined. A 40-horse farm is considerably smaller than the Kentucky farm, with roughly 120 horses in residence, but it is larger than that of Saratoga, which has closer to 20. We cannot predict how many of these horses will be from out-of-state, but

it is a fair assumption that without such a facility in the state, these horses would have to be cared for elsewhere.

At this level, we estimate that the Massachusetts facility will spend slightly more than \$325,000 on operations, including all horse-related expenditures (Table 3.12). We also assume that the Massachusetts Farm will draw roughly 7,000 visitors per year, of which 20 percent will be from outside of the state. The spending profile of these out-of-state visitors will mirror that of other types of tourists who spend roughly \$96 per day on lodging, food and other purchases.

Table 3.12: Summary Economic Impacts, 40 Horse Retirement Farm

	FTE EMPLOYMENT	LABOR INCOME	OUTPUT (SALES)
DIRECT EFFECT	11.53	\$265,782	\$464,406
INDIRECT EFFECT	0.49	\$35,867	\$91,529
INDUCED EFFECT	1.53	\$90,284	\$233,238
TOTAL EFFECT	13.55	\$391,932	\$789,172

The combined spending of the Center and its out-of-state visitors is expected to generate roughly \$464,000 dollars in additional sales in the Commonwealth per year. This is enough to provide 11 FTE jobs at industry standard salaries. However, as this type of facility relies greatly on volunteer labor, the actual employment count at the farm may be smaller. Accounting for leakage and multiplier effects, the total economic impact of the retirement farm will be just under \$800,000 per year, enough to sustain 13.5 FTE year-round jobs.

4. CONCLUSION

Based on our analysis, it is our conclusion that the creation of a multi-use horse park would provide a significant economic opportunity for the Commonwealth. The following factors were critical in forming this conclusion.

- The creation of a horse park will result in the capture of a significant amount of tourist, recreational, educational, exhibition and service activity not presently found in the Commonwealth. The Center would be far more than a race track: it would be an all-season venue attractive to a wide array of visitors across New England. Indeed, there is no such center in New England.
- Massachusetts residents, despite a lack of local opportunities, have maintained a significant interest in horse wagering. The horse park would help to capture these funds within the Commonwealth.
- The horse park would capture conference and trade show events that, despite our significant interest in equestrian activities, is largely bypassing the Commonwealth and New England.
- The horse park would expand retail sales for a wide array of Massachusetts based merchants who focus on the sale of equestrian goods and services.
- The horse park would expand our academic research and training in equestrian activities through the potential involvement of equine programs at universities, community colleges, and agricultural vocational high schools.
- Through a local purchasing policy, local farmers would have increased opportunities to sell their produce. It would also bring more acreage, now unproductive, in to active use.
- Through involvement with 4-H and other organizations helping to educate our youth, the horse park would have a first rate facility to meet their needs and interests.
- Through the creation of a retirement home, the owners of older horses will be able to find a caring facility close enough for visiting.
- Through the creation of riding, hiking and cross country skiing trails, the horse park would stimulate a healthy recreational involvement of its citizens and job opportunities in a multi-season venue.
- The local community would capture additional income through a “Payments in Lieu of Taxes” (PILOT) agreement.
- The creation of a year round Farmer’s Market/Artisanal Market venue would provide the potential for the sale of local produce and products.
- Through the use of modern lodging networks, local homes could gain revenue through boarding opportunities for tourists.
- The horse park will employ green energy principles in order to save costs and reduce its carbon footprint. Given its open character, there will be extensive opportunities for solar power.
- With the creation of a high end hotel, it will become a destination for weddings and banquets far beyond the racing season.
- It will bring job opportunities to an area in need of economic development.

5. COMMUNITY IMPACT CASE STUDIES

In this section of the report, we profile three case studies to help illustrate the types of events that could be offered at a Massachusetts Horse Park. The first, the Rolex Kentucky Three Day Event, is a major national scale competition, one of a handful of premier events on the U.S. equestrian calendar. The second, the New England Dressage Association Fall Festival is more typical of a regional-scale event, primarily drawing participants from the Northeastern United States. The third, the Massachusetts 4-H horse-show, is a statewide event. While it may draw few visitors from outside of the Commonwealth, we include it as a case study to help illustrate how these types of events support agricultural education and heritage.

ROLEX KENTUCKY THREE-DAY EVENT | LEXINGTON, KY

HISTORY

The Rolex Kentucky Three-Day Event (RK3DE) is held annually at the Kentucky Horse Park in Lexington, KY (Figure C1, below). The 1,224-acre facility is dedicated to “man’s relationships to horse.” The Kentucky Horse Park opened in 1978; the first World Championships were held there the same year. The event attracted 170,000 spectators, and brought \$4 million to the local economy. It was also broadcast worldwide on



CBS, putting Lexington on the map. The success convinced the American Horse Show Association to ask the event organizers to hold the event annually. In 1979 it was termed the “Kentucky Horse Trials” which was later changed to its current title 1982, when it was chosen as the initial sponsorship recipient by Rolex Watch U.S.A. The RK3DE held many levels of events in its first decade of operation, including intermediate and preliminary competitions. In the equestrian eventing world, the highest event level rating is CCI**** (the Concours Complet International four-star), as determined by the International Federation for Equestrian Sports (FED). The RK3DE become the country’s first and the world’s third CCI**** competition in 1998. In 2000, the CCI**** is the event’s only competition, and RK3DE no longer offers any lower level competitions.

Figure C1: Kentucky Horse Park (source: kyforward.com)



EVENTING ACTIVITIES

Although the competition title states “three-day,” the eventing happens over a four-day span. Dressage encompasses the first two days, and focuses on equestrian control, and is considered the most aesthetically pleasing of the disciplines. The cross-country phase is held on the third day, testing equestrian stamina with 30-40 obstacles along an outdoor course, made to simulate the surrounding countryside. The final phase, jumping, tests equestrian fitness on the final day, and is held entirely within an indoor stadium ring (Figure C2). These three events, in combination, extensively test the partnership between the horse and its rider.

Figure C2: Stadium Jumping at RK3DE (source: kentuckyworlddequestriangames.com)



COMMUNITY IMPACT

Lexington is Kentucky's second-largest city, with an estimated population of 310,797 as of 2014, according to the U.S. Census Bureau. Lexington is the center of Kentucky's Bluegrass Region, an area characterized by fertile soil, open pasture land, and active farms. It was the first city in the United States to enact an Urban Growth Boundary, which restricts development and helps to preserve farmlands. Known as the "Horse Capital of the World," it is easy to see that horses and farms are a central part of this community.

Lexington's economy is among the most stable in the country, with a 4.4 percent unemployment rate as of January 2016. Its largest employer is the University of Kentucky, and the city is home to many large corporations, including Xerox, Lexmark International, Lockheed-Martin, IBM, and the J.M. Smucker Company. Unsurprisingly, Lexington is one of the ten well-educated cities in the nation: nearly 40 percent of its residents possess at least a bachelor's degree. The city also hosts many cultural events and fairs, such as the Mayfest Arts Fair, the Festival of the Bluegrass, Festival Latino de Lexington, and "Southern Lights: Spectacular Sights on Holiday Nights" held at the Kentucky Horse Park.

Even a single massive event like the RK3DE can have considerable impact on the community. The RK3DE brings in people from all over the world, who spend a considerable amount of money at area businesses. A 2013 study estimated that the RK3DE's total economic impact on the local economy was \$14.2 million in a four-day span: over \$3.5 million per day. The major impact driver was the money spent by the estimated 35,991 visitors from outside the region, who accounted for 10,600 paid lodging room-nights during the event. Remarkably, approximately 25 percent of visitors enjoyed annual household incomes exceeding \$150,000 per year. Visitors spent an average of \$243.74 per day per person in the local economy. Almost \$4 million of the new money flowing into the region went to area businesses outside of the horse-park, for food transportation, lodging, and equestrian needs.

The Kentucky Horse Park, where RK3DE is held, is about 10 miles outside of Lexington and about 8 miles outside of Georgetown. There were plans in 2010 to put in a hotel on the same I-75 exit as the Kentucky Horse Park, but this has yet to come to fruition. However, the lack of lodging near the horse park has been to the benefit of downtown Lexington, where many RK3DE visitors stay, shop, eat and drink.

Figure C3: A view of Lexington in the distance (source: visitlex.com)



Horses are an integral part of Lexington’s social fabric, woven into its, economy, culture, and identity. The RK3DE provides many benefits for people who live within the vicinity, namely the chance to see national and international equestrian celebrities. Tom Elben, a columnist for the *Lexington Herald-Leader*, describes the RK3DE as a bonus of living in Lexington. “It’s a good excuse to get out and walk around on a beautiful day in a beautiful place and see some of the world’s best horses and riders do amazing things” (Elben, 2009). This event is an inspiration for beginner riders who are looking to improve their riding and eventing skills. The possibility to see world-class riders and experience a world class event gives the community an opportunity to display their Kentucky pride and love of all things equestrian. “A major Rolex demographic is little girls who love horses and older girls who are getting good at riding them. They are accompanied by camera-toting fathers, and mothers, many of whom used to be those little girls” (Elben, 2009). The RK3DE is a symbol of the community’s legacy and tradition. It not only brings world-class riders to the community, it also brings the community to the riders.

FALL FESTIVAL OF DRESSAGE | SAUGERTIES, NY

HISTORY

The United States Dressage Federation (USDF) was founded in the early 1970s, in order to advance “education, recognition of achievement, and promotion of dressage.” The USDF is divided into nine regions with affiliated local dressage clubs as group member organizations, or GMOs (Figure C4, below). Each region hosts its own annual championship, and the largest of these is in Region 8, which comprises GMOs in New York and New England. Every year, the New England Dressage Association (NEDA) hosts the championship, the Fall Festival of Dressage, at the HITS-on-the-Hudson event center in Saugerties, NY.



Figure C4: USDF Region Map (Source: www.usdf.org)

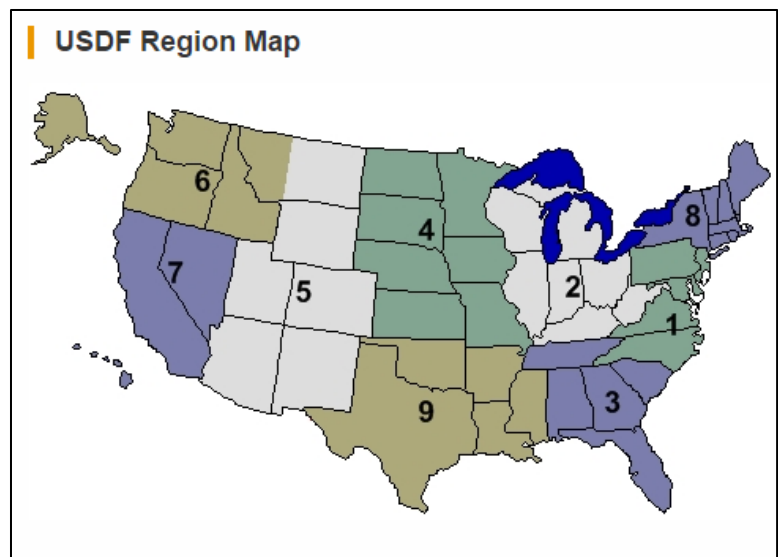
THE EVENT

The Fall Festival is held in late September. It is a four-day event, with multiple competitions in skill classes ranging from the Training Level to the Grand Prix. There are about 700 horses competing for the chance to move on to national competitions. The purse for the Fall Festival is \$49,000, and spectator admission is free.

The Region 8 Championship gives the winning riders the chance to

compete at the National Dressage Finals at the Kentucky Horse Park in November. This event also supports a National Competition in which many rider levels compete. The NEDA sponsors the Fall Festival Dressage Sweepstakes, the NEDA Adult Amateur Championships, and the NEDA Juniors/Young Rider Championships. The CDI-W Y/J Saugerties International Competition is also held during the Fall Festival, an event recognized by the International Federation for Equestrian Sport (FEI). During this competition, riders and their horse can earn points towards representing their country at the World Games.

The Fall Festival also hosts a major competition for horse breeders and a major equestrian trade fair. The Sport Horse Breed Show is held on Thursday and Friday and offers the New England Sport Horse Breeder's Futurity Award (\$5,400) to recognize quality sport horse breeders in the



New England area (Figure C5, below). This competition serves as the regional finals of the USDF Breeders Championship New England Series. Lastly, the Equestrian Trade Fair is held all four days of the Fall Festival, supporting artists, horse suppliers, boutiques, and trailers.

COMMUNITY IMPACT

Saugerties is located in southeastern New York, sandwiched between the Catskill Mountains and the Hudson River. As of the 2010 U.S. Census, its population was 19,482. Although it is a small town, it boasts a colorful history. The town was originally purchased from the Esopus Sachem Tribe in 1677 for a piece of cloth, a shirt, a loaf of bread, and maize.

Figure C5: DonarShaun ggf [sic], winner of the 2015 Futurity

The community is extremely proud of its heritage, evident through the preservation of many historical and cultural landmarks, such as the Saugerties Lighthouse, the 1727 Kiersted House, and the Opus 40 environmental sculpture (Figures C6 and C7, below). Industry still has an important role, but there has been substantial growth in tourism in recent years, attracting people from the New York City area and beyond.



Traditionally, Saugerties is not a horse town but rather a blue-collar community that has suffered under a number of major plant closings in the past decades—such as the 1994 closure of a 1,500 job IBM plant in the nearby city of Kingston. The influx of equestrian visitors has been a welcome change. HITS Inc. developed its \$15 million equestrian center along the Hudson River in 2003. HITS-on-the-Hudson now supports about 3,000 horses and 2,200 riders every year between May and September. This center has had a major impact on the economy of Saugerties and its character. A 2011 article in the *New York Times* quotes an area resident and business owner as stating, “When we first came to town, there were a lot of empty stores...and now it feels really vibrant. It’s like having the Hamptons in your backyard.”

It took some trial and error from the local businesses to figure out how best to capture the money of competitors and spectators at the equestrian center. One of the biggest changes to businesses over the summer is the extension of operating hours, in order to utilize the time after competitions end for the day.

Figure C6: Downtown Saugerties, NY (Source: discoversaugerties.com)



The last weekend of the dressage season is dedicated to the NEDA Fall Festival. The competition brings in about 700 horses and their riders along with another two to five individuals, often trainers and family members. The biggest effect the Fall Festival has is through the competitors and their retinue, who utilize the hotels, bed and breakfasts, and restaurants. Most of the spectators and participants come from no fewer than 15 to 20 miles outside Saugerties. Economically, for the town, this is an ideal situation. Money is brought in from outside the community, spent at local businesses, and then the people who brought the money leave after the competition. An owner of a local restaurant stated in the NY Times article, “People will say, ‘ugh, the restaurants are so crowded when they’re here...’ but I say, ‘yes, but we get to have that restaurant all year round.’ And if they weren’t here, I don’t know if we would or not.”



Figure C7: Saugerties Lighthouse (Source: www.tripadvisor.com)

It is rare for any single event, even one as well attended as the Fall Festival, to have a transformative impact on a community. Rather, it is the cumulative impact from the entire calendar of events that has helped to revive the Saugerties economy. Just about every week or weekend from May to September, there is something happening at HITS-on-the-Hudson,

drawing new visitors to the community. Beyond its immediate impact on Saugerties, the Fall Festival and regional events like it also play an important role in supporting the New England equestrian community. The Fall Festival supports all levels of dressage, from beginner classes to classes that include competitors who have also competed in the Olympics or World Games. The Fall Festival is a time for the entire NEDA community to come together and support their discipline. For them, boosting the town’s economy is a secondary benefit.

MASSACHUSETTS STATE 4-H HORSE SHOW | NORTHAMPTON, MA

HISTORY AND BACKGROUND

4-H is the youth development arm of the federal Cooperative Extension Service of 110 land-grant universities utilizing 611,800 volunteers, 3,500 professionals, and 25 million alumni. Its mission is “engaging youth to reach their fullest potential while advancing the field of youth development,” with over 90,000 clubs across the country empowering over six million young people across the country.

The Massachusetts 4-H chapter was founded in 1908 and incorporated in 1956. This year also marked the birth of the 4-H horse project in Massachusetts. It was different from 4-H’s many other livestock programs because it was the first large-scale approach with a recreational intent rather than an economic one.



Figure C8: 4-H fosters love and appreciation for other living beings (Source: manukahoneyusa.com)

The programs offered through the Massachusetts 4-H are animal science, which features the horse program; science, engineering, and technology; communications; community service; leadership; as well as other infrequent and smaller programs and projects. The animal science programs focus on companion animals, livestock, poultry, and heritage breeds; a popular

project animal is the horse.

The 4-H horse program is for horse owners as well as horse lovers who do not own a horse. It’s primarily focus is horse care and education. Members compete in areas such as horse judging, hippology, and public speaking. It does not provide in-depth riding instruction; however, 4-H members will sometimes ride their horse as part of the activities. 4-H also sponsors horse shows around the Commonwealth where members of the horse projects can display their riding skills.

THE EVENT

The annual Massachusetts 4-H State Horse Show is held on the second weekend in September at the Three County Fairgrounds in Northampton, Massachusetts. This fall will be the 38th annual show. The show consists of the Horse Lover Division, Model Horse Show, Drill Team Performance, Hunter/Jumper Classes, Showmanship, and more.



Figure C9: 4-H member at horse show
(Source: extension.usu.edu)

This two-day event allows all Massachusetts 4-H members who participate in the horse project to display the talents and skills they have learned throughout the year. It also fosters the connection between peers who share the same interest in horses. By choosing the divisions or classes they wish to participate in, the members are able to highlight their strongest attributes.

Although this show is only open to 4-H members, 4-H hosts other types of horse shows, some of which are open to non-members. Communities and clubs are also able to put on their own horse shows, using a horse show-planning guide developed by 4-H that covers all the aspects of a horse show, from judges to performance rings to prizes.

COMMUNITY IMPACT

Due to its focus on local talent, events such as the 4-H State Horse Show tend to draw few out-of-state participants. As a result, from a narrow economic impact perspective, they bring little new money into the Commonwealth. However, they play a critically important role in building the equestrian community, which has spillover benefits on entire equine industry in the Commonwealth. A 2013 study by Christiansen Capital Advisors estimates that the thoroughbred equine industry alone contributes \$107 million in revenue to the Massachusetts economy each year, and is directly and indirectly responsible for nearly 1,500 full-time equivalent jobs. But this industry cannot thrive without a community of horse-lovers to support it, and a new generation of enthusiasts to take the mantle in the years ahead. The state horse show is the culmination of the stewardship of the local horse community.

The Massachusetts 4-H State Horse Show also supports an even more important educational mission. Through the horse project, participants learn responsibility and commitment to the project and horse and learn important life and work skills, such as respect for a schedule, fulfilling the needs of others, selflessness, and accountability. In fact, a recent study conducted by researchers at Tufts University's Institute for Applied Research and Development found that 4-H members were more likely to contribute to their communities, become civically active, and more likely to participate in Science, Engineering and Computer Technology programs³.

³ Lerner, RM at al. "The Positive Development of Youth: Comprehensive Findings from the 4-H Study of Positive Youth Development." National 4-H Council. Chevy Chase, MD: 2013.