

ACDS, LLC

P.O. BOX 6666

Columbia, MD 21045 USA

Phone: 011-410-799-4300 Fax: 011-410-799-4337

Web: www.acds-llc.com



The Long View

A Business Development Plan for
Loudoun County's Rural Economy

LOUDOUN COUNTY RURAL ECONOMY BUSINESS DEVELOPMENT STRATEGY

February 2013

The Rural Economy Business Development Strategy

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The Rural Economy Business Development Strategy

Rural Economy Business Development Strategy Executive Summary

Loudoun County receives a myriad of economic benefits from its rural economy in the form of agricultural products, cost avoidance, and attracting businesses, residents and tourists. As a result of the assets of the rural economy, Loudoun County has become a world class location to “Live, Work and Play.” In a recent survey of residents conducted by the University of Virginia, the top identified reason for locating to Loudoun was as a work site location, and one of the top two best things about the County was its rural character. Visitors agree: according to Visit Loudoun, visitors spent over \$1 billion while visiting DC’s Wine Country in FY11.

The Rural Economic Development Council embarked on a project to develop a guide that will serve as a Council blueprint for recommending strategies for supporting the rural economy, ensuring the future of rural Loudoun, and continuing the recognition of the County as a world class location to “Live, Work and Play.”

Over 300 stakeholders in the rural economy came together over an eighteen month period to develop strategies in several areas:

- New and improved marketing strategies, research and education
- Existing and new financial tools to support entrepreneurs entering or expanding within the rural economy
- Resources needed to reach the level of support required, and
- Public policy development

The challenge that the County faces right now is to harness its current agricultural base and continue to grow in the face of change. Loudoun’s rural businesses are small businesses; with a rural overlay. The rural nature of these small businesses presents burdens beyond those faced by other small businesses; the rural economy faces high development pressure, restrictive regulations and low replacement rates of rural business owners. Losing agricultural and rural industries will have a profound effect on Loudoun’s rural economy given its high output, employment and earnings multipliers. On average, rural businesses contribute 25 cents in additional sales output and 20 cents in additional earnings for every dollar in sales. For every million dollars in sales, the rural economy generates approximately eight (8) additional jobs beyond those employed on the farm.

The rural economy represents interconnected and interdependent elements. Agricultural and rural businesses must be considered as a network; there is a ripple effect throughout the industry when one sector is weakened or lost. The interconnectedness of agriculture is evidenced by percent allocation of output data. “Agriculture” allocates 53.5 percent of its output back into agriculture. In contrast, “Professional, Technical and Management Services” allocates 3.0 percent of its output back into its own sector. Because of the interconnectedness of agriculture, each

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recommendation herein represents input from each sector of Loudoun's rural economy; thus the entire Strategy represents a commitment from a proven economic engine with identifiable goals and objectives which the drivers themselves have developed.

The following broad assets were identified through development of the Strategy:

- Positive demographic and psychographic trends associated with growth,
- Strong rural land preservation programs, and
- Interest among rural economy stakeholders to develop cooperative solutions.

In general, this Strategy strives to create an environment that is friendly to all farm businesses, similar to that which has resulted in the rapid expansion of the winery sector in Loudoun County. The range of recommendations address processing facilities, value-added initiatives, analysis and start up assistance for new ventures and enterprises, marketing assistance, market expansion and improvement of distribution networks for the County's agricultural businesses.

Resource requirements have been calculated in order to move forward to fully execute the planning phases and program upgrades within this Strategy. To create an environment that supports the growth and development of agriculture and related industries, an additional full time equivalent within the Department of Economic Development and a commitment of approximately \$190,000 at the County level over the next four (4) years will be required.

This Strategy strives to create an environment for high value agricultural production that supports the equine and tourism industries, that maintains prime farmland, and that recognizes that the commercial growth in eastern Loudoun is augmented by a thriving rural economy in western Loudoun. It is only through such balance that Loudoun County can remain a world class location to "Live, Work and Play."

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Rural Economic Development Council Members

Mary Ellen Taylor	<i>Chair, Horticulture</i>
Nicki Bazaco	<i>Vice Chair, Wine Industry</i>
Malcolm Baldwin	<i>At-large</i>
Wendy Bebie	<i>Historic Tourism Property</i>
Gem Bingol	<i>Environmental Resources</i>
Jean Brown	<i>BNB/Rural Lodging Establishment</i>
Jeffrey S. Browning	<i>Agribusiness</i>
Jim Christian	<i>Soil & Water Conservation</i>
Don Dramstad	<i>Direct Marketing</i>
Doug Fabboli	<i>At-large</i>
Kelly Foltman	<i>Professional Services</i>
Dennis Fuze	<i>At-large</i>
Chris Hatch	<i>Production Agriculture</i>
Pete Holden	<i>ADAC</i>
Tony Howard	<i>LC Chamber of Commerce</i>
Marilyn Jarvis	<i>Banking & Finance</i>
Destry Jarvis	<i>Outdoor Recreation</i>
Alta Jones	<i>At-large</i>
Cindy Lowther	<i>At-large</i>
John Magistro	<i>Education</i>
Avis Renshaw	<i>Rural-Based Business</i>
Stacey Sheetz	<i>Visit Loudoun</i>
Mary Terpak	<i>Equine</i>
Nathan Thomas	<i>At-large</i>
Chris VanVlack	<i>Loudoun County Farm Bureau</i>

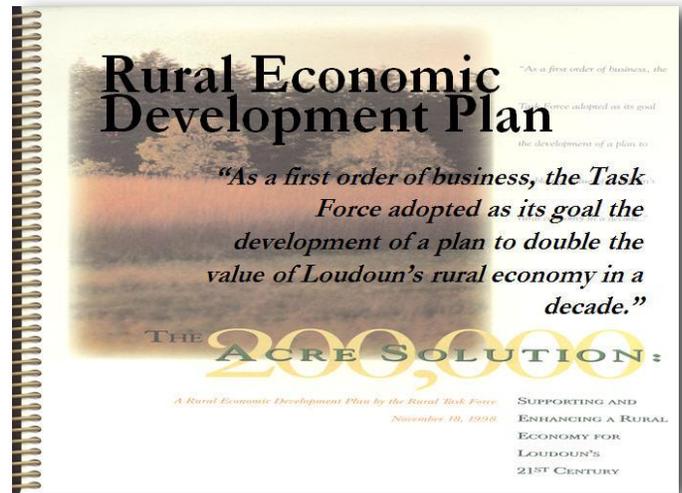
Rural Economy Business Development Strategy Committee

Doug Fabboli	<i>Co-Chair</i>
Martin Hamberger	<i>Co-Chair</i>
Jeffrey S. Browning	<i>Agribusiness</i>
Mark Fedor	<i>Wine/Grapes</i>
Ellen Goldberg	<i>Tourism Business</i>
Warren Howell	<i>Rural Based Business</i>
Carroll Laycock	<i>Rural Credit/Banking</i>
Benjamin Leigh	<i>Tourism Business</i>
Cindy Lowther	<i>Arts</i>
Bruce McIntosh	<i>Traditional Livestock/Agronomy</i>
Frank Milligan	<i>Education</i>
Beverly Morton Billand	<i>Culinary Industry</i>
Lou Nichols	<i>Horticulture</i>
Ben Sedlins	<i>Young Farmer</i>
Mary Ellen Taylor	<i>Direct/Farmers Markets</i>
Mary Terpak	<i>Equine</i>
Tyler Wegmeyer	<i>Fruits/Vegetables</i>

The Rural Economy Business Development Strategy

Section 1: Background

In 1998 Loudoun County adopted a rural economic development strategy called the “The 200,000-Acre Solution, A Rural Economic Development Plan by the Rural Task Force.” The intent of the plan was to provide a positive policy and programmatic support environment that enhanced the rural economy, encouraged private investment, supported greater profitability in rural enterprises, and to protect critical working landscapes. The overarching goal of the program was to oversee an increase in rural economic growth of 100 percent.



Over the last 13 years, this plan has guided the County’s rural economic development efforts and supported County-level policy development. Many good outcomes have been achieved by the plan with the most notable being a 154 percent increase in rural business output, which is highlighted in the 10-year update to the Plan, published in December 2008.

During the intervening years, Loudoun County has gone through enormous change as it has rapidly urbanized in its eastern corridor and seen some of the highest year-on-year growth rates in the Mid-Atlantic and the nation. The forces of change that come with high development such as infrastructure development, new land-use rules, and higher costs of living have had a significant impact on the rural economy, which is why the County has embarked on this latest rural economic development initiative.

The Rural Economic Development Council (REDC), which is the body charged with overseeing implementation of the “200,000-Acre Solution”, saw the need to develop a new plan that accounted for the changes in the economy that were most influential in determining the future of Loudoun’s Rural Economy. In January 2011, the REDC developed a process for the new plan, which was dubbed the “Rural Economy Business Development Strategy” (REBDS) that would allow rural industry sectors to drive the process. This concept was presented to, and approved by the Loudoun County Board of Supervisors on April 19, 2011.

The Rural Economy Business Development Strategy

The REBDS Process

The REBDS process began when the REDC appointed a committee to oversee the project. This committee, the Rural Business Development Strategy Planning Committee was formed in the summer of 2011 and is co-chaired by a rural business owner and a suburban business sector leader. The REBDS Committee was charged with developing a strategy to evaluate the current conditions facing rural Loudoun then established a direction for action and a vision for the future. These activities were to lead to the development of recommendations and strategic actions to be undertaken by the County and private industry to further enhance rural profitability.

REBDS Subcommittees

- Agribusinesses
- Arts
- Banking/Finance
- Culinary
- Direct Marketing/Farmers Markets
- Education
- Equine
- Fruits and Vegetables Production
- Horticulture and Ornamentals
- Preservation/Conservation
- Rural Based Business
- Tourism
- Traditional Agriculture
- Wine/Grapes
- Young and Beginning Farmers

This process began when the REBDS committee established 15 sub-committees in 2011 representing various rural industry sectors and constituencies. The 15 industry and constituent groups met through the fall and winter of 2011 -2012 to conduct industry self-assessments and to produce a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis for each sector.

The output of these planning endeavors was then integrated with other work items such as case studies, economic modeling, community interviews, and focus groups, to further define the issues and needs identified. These activities took place during the spring and summer of 2012 and culminated in the presentation of draft recommendations to the REBDS in Summer 2012. REBDS refined these through the fall of 2012 and now presents the recommendations in this document.



The Rural Economy Business Development Strategy

Expected Outcomes

The REBDS committee has the following expectations for this strategic planning process:

1. Improve the already strong inter-relationships between the County's rural businesses thereby leveraging growth internally.
2. Increase the understanding of the important role that rural businesses play in supporting the economic development and fiscal policy goals of the County.
3. Oversee a doubling of growth in rural economic sectors between 2013 and 2023 as a continuation of the success of the "200,000 Acre Solution."
4. Improve the economic data on rural businesses used to make public policy and encourage private investment in rural areas.
5. Highlight the areas of integration between the rural west and the urban east.



The banner above has been displayed on county transit vehicles throughout Loudoun.

The Rural Economy Business Development Strategy

Section 2: The Rural Economy

This section of the Loudoun County Rural Economy Business Strategy is intended to provide a snapshot of current conditions in the agriculture industry using best available data as of Spring 2012. Sources consulted in preparing this section include the 2007 US Census of Agriculture, the Regional Economic Information System, Bureau of Economic Analysis, and select industry reports and surveys.

Agricultural Economy

Agriculture in Loudoun County is a declining industry, consisting of 1,427 farms spread across 142,452 acres of farmland, according to the 2007 US Census of Agriculture. These numbers are down from 2002, when Loudoun County had 1,516 farms over 164,753 acres of land.

The local farming economy suffers from similar economic woes as the regional farm economy, as declining infrastructure and rising farm costs have made it more and more difficult for farming to be a profitable enterprise. Total sales are down to \$33.8 million from \$38.7 million in 2002 and the net income of farms in Loudoun County has been negative for 19 out of the past 30 years.

There has been an overall shift from livestock to crop production in with a focus on direct marketing. This cuts down on shipping costs and allows farmers to charge a premium for their product. Large-scale grain farming and livestock production are not nearly as profitable as they once were, and so farmers are turning to other crops to make money. Where these commodity businesses thrive, they have developed a niche that allows them to thrive.

While declining infrastructure and higher costs are indeed a national phenomenon for agriculture, Loudoun County farmers find their problems exacerbated by local conditions. The development growth within the

Percent Change in farm Cost Structure	
Description	1981-2010
Cash receipts from marketings (thousands of dollars)	0.87
Cash receipts: livestock and products	-0.41
Cash receipts: crops	2.41
Other income	6.82
Government payments	2.19
Imputed and miscellaneous income received 1/	6.94
Total production expenses	2.58
Feed purchased	1.71
Livestock purchased	-2.42
Seed purchased	0.33
Fertilizer and lime (incl. ag. chemicals 1978-fwd.)	-1.51
Petroleum products purchased	1.38
Hired farm labor expenses 2/	4.14
All other production expenses 3/	3.61
Total cash receipts and other income	2.1
Farm wages and perquisites	4.33

Washington Metropolitan Area has put pressures on local land and has presented alternatives to farming that discourage production agriculture.

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Other contributors to rising production costs include energy, production chemicals, agronomic services, repairs, taxes, and depreciation. The rapid increases in these costs in part reflect the more capital-intensive nature of agriculture practiced in Loudoun County.

Losing agricultural and rural industries will have a profound effect on Loudoun’s rural economy given the high output, and employment, and earnings multipliers.

Historically important components of cost, such as feed, have risen because of high corn and soybean prices due to a growing market for biofuels.

The challenge that the County faces right now is to harness its current agricultural base and continue to grow in the face of change and to transition these opportunities for future growth.

Dealing with the financial health of farm operators is a key point in this process and one that begins with supporting growth sectors such as nursery/ greenhouse production, wine grapes, and vegetables, which constitute most of the growth in farm income over the past couple of decades. This income growth has seen the countervailing force of rapidly rising costs in labor, energy, and chemical inputs.

Loudoun County RIMS Type 1 Multipliers			
	Output	Earnings/\$1	Employment/\$1mm
Grain and Oilseed Farming	\$ 1.31	\$ 0.15	4.75
Vegetable and Melon Farming	\$ 1.22	\$ 0.19	6.9
Fruit and Tree Nut Farming	\$ 1.20	\$ 0.22	9.7
Greenhouse, Nursery, and Floriculture	\$ 1.20	\$ 0.28	10
Cattle Ranching and Farming	\$ 1.26	\$ 0.16	4.41
Animal Product (except cattle and Poultry)	\$ 1.20	\$ 0.14	4.62
Poultry and Eggs	\$ 1.25	\$ 0.14	3.77
Logging	\$ 1.14	\$ 0.25	6.1
Hunting and Trapping	\$ 1.26	\$ 0.17	9.7
Fluid Milk Manufacturing	\$ 1.19	\$ 0.10	1.96
Bread and Baking	\$ 1.31	\$ 0.22	6.74
Wineries	\$ 1.32	\$ 0.19	6.63
Food Service and Drinking Places	\$ 1.25	\$ 0.20	11.03

Losing agricultural and rural industries will have a profound effect on Loudoun’s rural economy given the high output, and employment, and earnings multipliers. On average, rural industries contribute approximately 25 cents in additional sales output, 20 cents of in additional earnings for every dollar in sales. For every million dollars in sales, the rural economic generates approximately eight additional jobs, beyond those employed on the farm, in the vineyards, or art galleries.

Note: RIMS is an Input-Output Model developed by the US Bureau of Economic Analysis.

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Section 3: Rural Industry Sectors

This section of the Loudoun County Rural Economy Business Strategy is intended to provide a snapshot of current conditions in the rural economy and is presented in 13 segments based on the 17 industry reports produced by the Rural Economy Business Strategy Team during the fall of 2011 and winter of 2012. Several industry reports were combined due to the similarities in the report content.

Several key findings among the groups warrant attention. The first relates to the importance of the land use tax benefits that accrue to rural landowners, which all sectors agree are critical to the continued success of the rural economy. The second relates to the cost avoidance associated with a healthy rural economy. Specifically, a healthy rural economy reduces development pressure and reduces the cost burden to the county of providing infrastructure and services to rural areas. The third finding relates to the high quality of life that the rural west brings to the County by providing a bucolic background to the robustly developed east. The fourth relates to the interconnected nature of the various rural business sectors. All of which support each other through upstream and downstream sales.

This last point is demonstrated clearly in the following table. This table traces how the aggregate expenditures by each of the 17 sectors are allocated across all industry sectors. This table clearly demonstrates the importance of the agricultural, agribusiness service and supply, and arts sectors in supporting the rural economy.

Allocation of Sector Expenditures for all Rural Business Sectors	
Industry Sector	Percent Allocation of Output
Agriculture	53.3
Service and supply	28.1
Arts and recreation	7.9
Professional, technical, and management services	3.0
Real Estate	2.8
Transportation and utilities	1.8
Finance	0.9
Information technology	0.7
Food, accommodations, and services	0.8
Construction	0.4
Retail	0.2
Education	0.1

Following is a summary of the industry self-assessments that can be found in Appendix A.

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Art Sector

Loudoun County's art sector is an integral, if not overlooked, element of Loudoun's rural economy. That said, there is a robust arts community in Loudoun that centers on various business activity centers and community events.

Given the difficulty in defining the art cluster, it is equally difficult to define economic impacts. Using basic art sector NAICS sectors such as galleries and museums, ACDS estimates that the Arts community in Loudoun employs 318 people and generates \$13.7 million in sales annually.



Sale at Franklin Park Arts Center

To really grow into an industry cluster, Loudoun's art community needs to market itself as a major arts destination for tourists, something that it has the opportunity to do, given its location in the Washington Metropolitan Area much in the way Stafford Canada has done with the Shakespeare Festival. Professional leadership in the arts community would also aid in organization and effective marketing, as well-intentioned but often inexperienced volunteers currently plan events.

Development of the arts community into an industry would benefit Loudoun County as a whole by attracting consumers, who will spend money in other sectors of the local economy. An established arts district will also raise property values, on the basis that it will improve the quality of life for the residents of Loudoun County.

Tourism and Recreation

The tourism industry in Loudoun County is very robust, owing much to its many historic sites and its thriving wedding industry. The wedding industry in Loudoun accounted for more than \$25 million in tourism income in 2010, with the average wedding costing \$30,163. In order for Loudoun County to maintain its status as a destination for weddings and other events, it needs to preserve its open space and scenic areas, which are being threatened by urban sprawl.



Notaviva Vineyards, Purcellville

The local farms and wineries that grow their own grapes and make their own wine lend authenticity to its tourism, and its international airport and proximity to Washington makes it a very convenient area to visit. Tourism income, excluding that related to weddings, totals \$27.7 million and the industry employs 825 people.

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A major strength of Loudoun County's tourism industry is that it has an organization specifically to promote tourism -- Visit Loudoun. This organization helps to bring the industry together and market its various sectors to tourists in one comprehensive website. Similarly, the development of the Loudoun County Bed and Breakfast Guild has advanced the rural lodging sector significantly, which supports all other rural economic sectors.

One factor that weighs down some local tourism businesses is a lack of clear and easy to follow regulations. The ambiguity and complexity of regulations in place for bed and breakfasts and event sites makes it very difficult for new entrepreneurs to enter the industry and results in some sites that are currently a part of it to operate under the radar.

Additionally, Loudoun's tourism could benefit from further development of its recreational sites, including hiking trails, equestrian facilities, water activities, sports fields, and outdoor concert venues.

Traditional Agriculture

Loudoun County has a traditional agricultural industry that is composed mostly of grains, forage, sheep and cattle, though many of the large scale animal feeding operations have been replaced with smaller, pasture-based operations to meet demand for local, grass-fed meat. Cattle farms have decreased in number from 565 in 2002 to 496 in 2007 and harvested cropland has decreased from 64,491 acres to 51,553 acres in the same time.



This is one of the contributing factors to the rising number of farms with smaller acreage in Loudoun County.

There are 370 service providers that support traditional agriculture in Loudoun County, which employ 2,320 people and are valued at \$121.3 million. These services include breeding, training, equine, and veterinary services, as well as equipment sales and landscape contracting.



As is the case with agriculture on a national level, agriculture in Loudoun County is facing several challenges, including rising input costs and volatile markets. Loudoun farmers also face expanding suburbs and budget cuts to agricultural support programs.

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Opportunities to expand traditional agriculture in Loudoun include development of local food production to meet the demands of a growing suburban population and the expansion of agritourism programs.

Equine

Loudoun County is well known as “Horse Country” in Virginia and it is the fox hunting capital of the United States. The equine industry in Loudoun County is the largest in the state, with total sales of over \$70 million that generate nearly \$2.9 million in tax revenue. It is followed closely by Fauquier County. Virginia’s total sales from the horse industry are more than \$1.2 billion.

The equine industry has the greatest economic impact of all agricultural sectors in Loudoun County. Its 15,500 horses require feed, hay, veterinary care, hoof care, pasture, fencing, shelter, and tack, needs that are met by other local services and businesses. The industry employs 1,079 people. That stated, Loudoun’s equine



industry lacks industry-reporting metrics at the county level, a factor that hurts the industry’s ability to make a case for itself as a large contributor to the local economy.

Equine events attract many tourists, who also contribute to the local economy through spending at restaurants, hotels, and other entertainment venues, generating more than \$44 million in value-added sales. Loss of events in recent years have challenged this tourism link and it is feared that additional changes in equine events will continue



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the decline in the linkage to tourism and will limit the interest of a new generation of equine enthusiasts

Equine activities in Loudoun County are threatened by suburban development, which has contributed to a decline in large acreage farming and land available for horse farms and equine activities. High land prices and taxes have made it very difficult to purchase and maintain horse properties.

Preservation of the equine industry may become an uphill battle, if corrective actions are not taken. This will require actions such as the construction of a large, all-inclusive performance facility with ample acreage, a trail system, and a reversal of the loss of open space available for equine activities.

Wine and Vineyard



Loudoun County has the highest concentration of wineries in Virginia, which makes it an ideal destination for tourists to and residents of D.C. These residents are ideal consumers of Loudoun County wine because they are consistently ranked as having the highest median income in the country and have higher than national expenditure rates for alcoholic beverages.

Factors that have contributed to the development of the wine industry in Loudoun County include the allocation of the Virginia wine liter tax to the marketing of the wine industry, as well as a 25% tax credit (for 2011) to winery and vineyard owners for investments in assets to expand wine production or acreage of grapes planted. The expansion of acreage is key to the continued success of the wine industry, and if efforts are

not made to realize this goal, Loudoun wineries may be forced to look elsewhere in the State for grapes, which will limit its linkage to the production agriculture sector.

One of the unique aspects of Loudoun vineyards is a large commitment to producing a native variety of grapes called Norton. In 2006 Virginia produced 6,200 tons of grapes, 220 of which were the Norton grape, the most distinctly American grape used in wine production. Developed in 1830, the Norton grape has become a favorite of American wine enthusiasts, and is known for its suitability for dry wines, something that is rather uncommon among varieties of American grapes.

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Loudoun's wine industry lacks industry-reporting metrics at the county level, a factor that hurts the industry's ability to make a case for itself as a large contributor to the local economy. As the industry grows there is also a concern that there will not be adequate cooperation between wineries, and there are already significant challenges in negotiating cooperative agreements between wineries and other sectors to the agricultural economy.



Ornamental Horticulture

Horticulture in Loudoun County is a very small segment of the agricultural economy as measured by sales, and it faces many challenges in the path to further development and marketing of its products. These challenges include, but are not limited to, a lack of new growers, high land costs, declining availability of agricultural land, deer and other pest damage, and long-term establishment of certain crops (Christmas trees can take 6 to 10 years to mature). There is a long history of growing Christmas trees in the county and the climate is appropriate for growing a variety of trees, but Christmas tree sales are down nearly 50% in the past five years. The number of nursery stock farms has also fallen more than half, from 43 to 20 between 2002 and 2007.



Snickers Gap Tree Farm

Opportunities for growth include accessing a growing population with high levels of disposable income. The population of Loudoun County is expanding rapidly, creating a higher demand than supply of direct market goods.

Produce

The produce industry in Loudoun County has the opportunity to expand beyond its current scope and meet the demand for locally grown products. As is the case across the country, there is a growing demand for products that are grown locally, in an environmentally responsible manner. Additionally, there is an interest in growing fruits and vegetables, though many of the people interested in growing them cannot afford to do so full time, due to high cost of operating in Loudoun. This factor often requires that produce growers keep significant off-farm income.

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Loudoun County currently has 411 acres of fruit trees in bearing age, and 503 acres total (92 acres are in nursery). However this is down 22% from 2002. There are also 42 farms with 200 acres in vegetable production, compared to 41 farms in 2002, on 232 acres.

There are opportunities to expand greenhouse production of vegetables and fresh cut herbs, and there is an established cluster of blueberry and brambles growers that farm a total of 58 acres on 30 farms, which comprises 6% of the state's production. However, a strategic effort to develop an industry is needed. Currently there are individuals making an attempt to establish their businesses in a market that has very high input costs and little support from local governments.

Other factors that are prohibitive to the development of the produce sector in Loudoun include development pressure, deer damage, and labor availability. Although there are parcels of land within developed areas that are set aside for agricultural use, these lots are often too small, steep, or of too poor land quality to be productive. Compliance with Home Owner Association rules also makes it difficult to utilize such properties in a meaningful way.

Actions that would aid in the development of the produce industry include implementation of educational programs for young farmers and those who are interested in becoming farmers.

Actions that would aid in the development of the produce industry include implementation of educational programs for young farmers and those who are interested in becoming farmers. Additionally, the formation of growers associations and a distribution hub would help to organize local growers and give them an outlet to sell their products.

Culinary

The culinary sector in Loudoun County is under developed and is struggling to procure local foods at a price in a competitive manner. Currently, there are 464 restaurants and bars that bring in \$148.5 million per year, but most of these establishments are either bars or chain restaurants that are unlikely sources of procurement for local farm products. A more educated customer would help efforts to market local foods, as would a reliable supply of products from farmers. The potential for an educated consumer is there, as the growing population of Loudoun County contains many people who have the high levels of disposable income, high educational attainment, and to support a developed culinary sector.

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The future of local farms is a concern for the culinary sector, as development has threatened their growth. Opportunities to grow are dependent upon the viability of local farms and farmer's awareness of restaurants as potential buyers.

Education

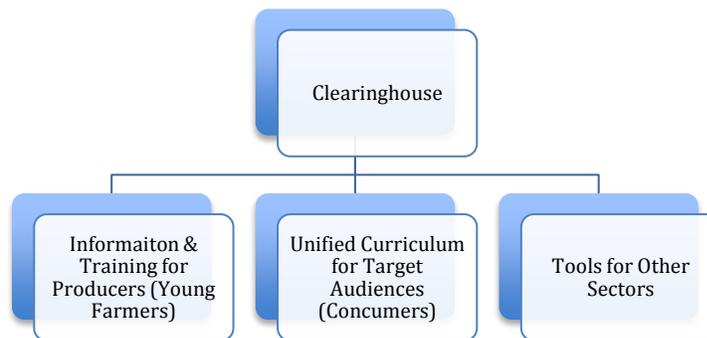
Agricultural Education in Loudoun County is in need of greater organization and development. There is no centralized source of agricultural education in the county; resources are spread out and difficult to locate. There is also no unified message from the

resources that do exist. The Agriculture Extension Services are underfunded, with about \$400,000 out of yearly budget of about \$540,000 going toward personnel. The leftover margin does not allow for any significant programs to be funded through the Agricultural Extension activities. Additionally, there are not enough employees to offer classes or seminars at a county level.

An overall solution would be a clearinghouse, either physical or web-based, to coordinate efforts and resources, and centralize reference materials.



Lightfoot Restaurant, Leesburg



The clearinghouse would provide information and training for young farmers, who face many challenges in their efforts to start new production operations in Loudoun. High land costs and zoning and Home Owner Association policies are prohibitive to new farming operations and require new farmers to find creative new ways to access the land that they need through long-term leases or lease-to-own options. The clearinghouse would also be instrumental in connecting these aspiring farmers with non-farming landowners.

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A second issue is the lack of a strong agricultural education program, particularly in the schools. There is one program at Monroe Tech that addresses the cycle of producers and consumers, but

A second issue is the lack of a strong agricultural education program, particularly in the schools ...

expansion and revitalization of education programs in schools is needed. The unified curriculum provided by the clearinghouse can address both school programs as well as other, less formal efforts to educate residents about agricultural practices. A more educated community will ease efforts to preserve/ promote agricultural growth in Loudoun County.

Conservation and Preservation

Conservation and Preservation in Loudoun County is key to maintaining a healthy rural economy. Loudoun County has done an admirable job of protecting the land resource by permanently preserving more than 68,000 acres and placing nearly 21,000 more under term easements. Loudoun County has many historic landmarks, as well as several permanent conservation easements. There is a large inventory of protected lands, and the challenge will be to maintain these protected lands in the face of expanding urban development. This is a significant concern because there is currently no strategic plan to accomplish this. Residential development is contributing to a continued loss of land, while driving up the price of real estate.



Another challenge to conservation efforts is the subpar infrastructure that provides access to some of the open spaces that are in preservation. Narrow roads, many of which are in need of repair, present problems to tourists and residents trying to access these areas.

In cooperation with the Education sector, the Conservation sector needs to develop a clearinghouse with tools and curriculum to educate the public about the areas in conservation and the importance of putting more land into conservation easements. Additionally, a plan to improve roads and develop more parks, trails, and open spaces would aid in the continued existence of conserved land in Loudoun County.

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Rural Business

Rural business is a wide category that is difficult to define, and can include enterprises such as wineries, fruit and produce farms, service businesses, and more. Businesses in Loudoun County are able to take advantage of very favorable market

Barriers to further development of rural businesses include the lack of a strategic plan, prohibitive zoning regulations, high land costs, and poor communications between the industry and elected officials.

demographics. Residents of Loudoun are young and well educated, with high household incomes. Additionally, Loudoun rural businesses have received targeted assistance from county and state government to come together and organize themselves for the advancement of their own economic interests.

Barriers to further development of rural businesses include the lack of a strategic plan, prohibitive zoning regulations, high land costs, and poor communications between the industry and elected officials. The county fees attached to the development of a new rural business can range from \$2,300 for a rural site plan to \$8,215 for a minor special exception. These fees are staggering for new entrepreneurs looking to start a business in Loudoun. The lack of communication is especially evident when observing the stark differences between the technology oriented economic business sectors and high density developments of eastern Loudoun compared to the rural west with its rolling pastures and vibrant resource based industries.

Opportunities for further development include the creation of temporary use permits to encourage/ support more start-up opportunities, and educational activities to foster cooperation across the divide of interests between farmers and other residents of Loudoun.

Agribusiness

According to the US Census Bureau's County Business Patterns database, Loudoun County houses approximately 44 agribusiness ranging from large animal veterinarians to custom service providers and tractor dealers. These businesses employ over 200 individuals and provide approximately \$43 million in annual sales revenue.

The economic success of agribusinesses in Loudoun is closely tied to agriculture and as such, agribusinesses see many of the same opportunities and have many of the same concerns. Their support comes largely from production sectors in equine, grapes, field crops, and the many small and boutique farm operations in the County. Growth of rural residences has added a large market segment that, particularly tractor dealers, did not have previously. This market adds liquidity to both service

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and supply sectors. The large number of recreational horse operations also supports a robust support economy ranging from farriers to feed dealers.

But growth in rural areas also challenges agribusinesses in much the same way as farmers.

Traffic congestions, reduced investment in farm-scale equipment, and a poor understanding of agriculture all come with this trend and threaten the viability of rural industries. This industry, however, does not see the future as bleak. The entrance of new and beginning farmers, growth in markets for local foods, and the burgeoning wine grape sector all indicate a future in agriculture is here, albeit a different type of agriculture than was practiced 30 years ago.

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Young and Beginning Farmers

Agriculture has no future without a new generation of farmers and Loudoun County seems to have a ready source of young and beginning farmers. Many of these individuals do not come from agricultural backgrounds and, in fact, many are not young. The profile of the new farmer in the County runs the gamut from next generation farmers emerging from multi-generational agriculture operations to college graduates seeking to enter the workforce as a farmer and recent retirees seeking a new career path.

This group sees promise in the marketing opportunities that abound in the Washington, DC metropolitan market area and are often quite entrepreneurial in their approach to product development, production, marketing, and processing. In short, young and beginning farmers in Loudoun are characterized by their initiative, drive, and innovation.

As a group, these rural entrepreneurs are challenged. Entering farming in Loudoun County is difficult and the costs are high. Land values often exceed its intrinsic agricultural value, which is a factor ameliorated by land use tax valuation and a well-funded land preservation program. Many young farmers feel that these programs are lynchpins to land access. Other costs associated with managing a business in the area are also of concern and range from health care costs to transportation and housing.



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This cohort of entrepreneurs generally has high training and development needs and seems to seek out integrated approaches to learning and development that allow them to leverage each other's strengths. There is an expectation that learning opportunities be both experiential and virtual. Young and beginning farmers want to have access to the accumulated knowledge of the farmers working in the area and want to learn from hands-on experience. These individuals also seek access to market data and Internet based resources that are at-the-ready to meet their real-time production and marketing demands.

Despite the good access to markets and a generally supportive farm infrastructure, this group feels that their future in the County is in question. Factors contributing are dis-investment in agricultural programming, high regulatory burdens, disaggregation of agricultural industries, and a poor understanding by the general public of agriculture. The interests of this group are best summarized in the words of the committee that met to represent them in this process.

"The optimism that each Young Farmer (YF) has for their own effort is clear, and this is promising. However, there seems to be two important facts to highlight with regard to the future of YF in Loudoun.

First, a de-emphasis on the rural economy – whether through a weakened Land

Use program or serious suburban residential development or increased small farm regulations – will make farming in the manners that many YF currently do much more difficult and could threaten their existence entirely. The county should, at a minimum, maintain the infrastructures that are currently in place to help YF, and of course improvement in any of these areas can only help.

Second, to increase the YF presence in Loudoun, serious innovation will be necessary. The standard model of buying a farm and starting a business is largely impossible in our county, and this necessitates an emphasis on alternative approaches. Agricultural incubators, long-term leases, lease-to-own plans, food/farm institutes, micro-farm strategies – these are but a few possibilities. Insofar as some alternative methods are untested or have some financial risk, the county should do everything it can to support these enterprises. Not only will this help YF and agriculture in Loudoun, but it will position the county as a leader in these sorts of innovations and give us a well of knowledge which we can then export to other regions."

... a de-emphasis on the rural economy – whether through a weakened Land Use program or serious suburban residential development or increased small farm regulations – will make farming in the manners that many [young farmers] currently do much more difficult and could threaten their existence entirely.

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Section 4: Demographics and Consumer Purchasing Patterns

Section 3 of this strategy provides a snapshot of the consumer markets and demographic trends that both provide the source of development pressure that challenges rural businesses develop and provides them with their customer base. Data in this section is derived from multiple sources to include ESRI, Bureau of Labor Statistics, 2010 US Population Census, and American Factfinder.

Consumers Drive the Local Food Market

Loudoun County has a population of just over 300,000 in over 100,000 households. The Washington Metropolitan Area (WMA) has a population of 5.5 million.

The median household income of Loudoun County suggests a solidly upper-middle class population. The substantial difference between Median and Average Household Income suggests a large disparity between the highest income earners and the majority of income earners. Most households earn close to the median income, while a few earn so much as to increase the average income by over \$25,000. When compared to the WMA and the nation, Loudoun County's household income suggests a population more upper class and mobile than those of those areas.

Consumer Data	Loudoun County	Washington Metropolitan Area	United States
Population	308,819	5,500,613	306,348,230
Households	105,862	2,054,654	115,337,039
Average Household Size	2.91	2.63	2.66
Median Household Income	\$114,367	\$81,213	\$53,154
Average Household Income	\$140,572	\$102,588	\$73,126
Per Capita Income	\$48,238	\$38,613	\$27,916

Loudoun County households are larger than both the national average as well as the average size for the greater area. Coupled with a relatively low median age (35.3), this indicates that younger couples, many of which have children, characterize the Loudoun County population.

While household income is an important factor in making "local" food purchases, educational attainment is the primary determinant and urbanization is a secondary determinant. Highly educated consumers who associate themselves with an urban lifestyle have the highest propensity for purchasing local foods, despite their income level. Urbanization in Loudoun County is analyzed on the following page using Tapestry Segments. The chart on the following page shows educational attainment

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levels for Loudoun County and the WMA, along with the breakdown of household income. The number of residents with a college or postgraduate degree is higher for Loudoun County than for the WMA, and both regions rank higher than the national average.

The growth rate in the marketplace, along with generally high-income levels, suggests strong opportunities for expansion in direct market sales, horticulture (especially in landscaping services and nursery items), and pleasure equine. Expansion opportunities in local agritourism may arise as economic uncertainty causes residents to travel close to home.

25+ Educational Attainment	Loudoun County	Washington Metropolitan Area
No High School Diploma	5.9%	9.7%
High School Graduate	14.9%	19.9%
Some College, No Degree	16.0%	16.8%
Associate's Degree	6.6%	6.0%
Bachelor's Degree	36.2%	25.3%
Master's/ Prof/ Doctorate Degree	20.5%	22.2%

Households By Income	Loudoun County	Washington Metropolitan Area
<\$15,000	2.3%	6.1%
\$15,000-\$24,999	1.8%	4.4%
\$25,000-\$34,999	2.5%	5.2%
\$35,000-\$49,999	5.9%	10.9%
\$50,000-\$74,999	16.2%	18.1%
\$75,000-\$99,999	12.4%	17.0%
\$100,000-\$149,999	27.6%	21.9%
\$150,000- \$199,999	15.6%	8.5%
\$200,000+	15.7%	7.9%

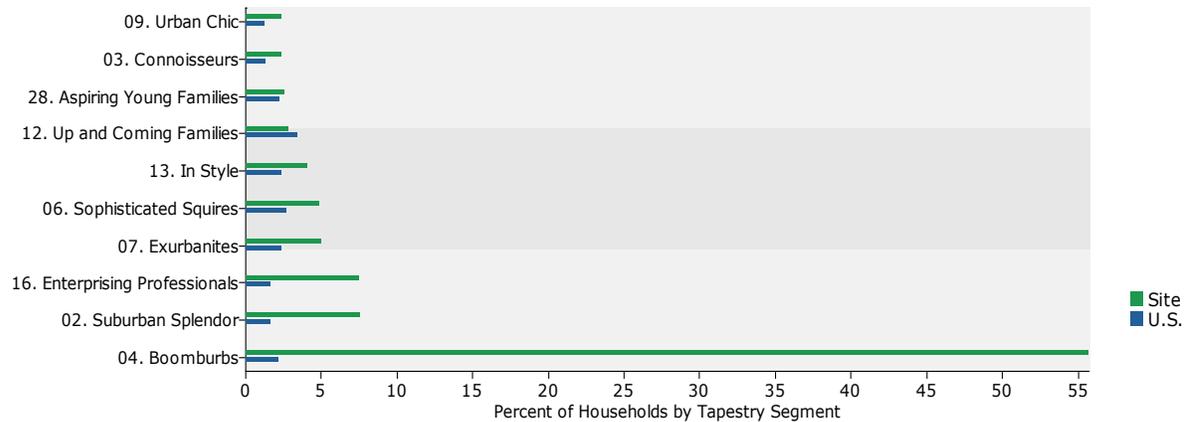
Consumer urbanization is determined using a proprietary measure developed by ESRI called Tapestry Segmentation. The Tapestry model provides a means by which communities of people can be typed by self-recognized characteristics.

Understanding how communities view themselves relates significantly to group lifestyle and purchasing habits. For example, self-described “urban” groups are those that display grouped characteristics such as walking to work, shopping at boutiques stores, and renting housing, despite whether they live in an urban area or not. For this project, Tapestries are important because these same urban consumers tend to shop more regularly, are more likely to buy perishable and whole products, especially local products, and prefer specialized retailers such as farmer’s markets.

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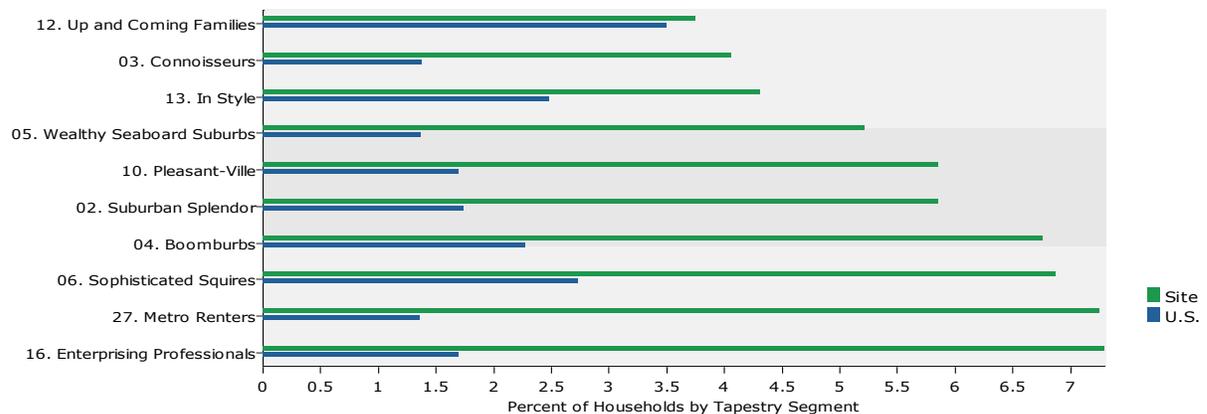
A. Loudoun County, VA

Top Ten Tapestry Segments Site vs. U.S.



B. Washington Metropolitan Area

Top Ten Tapestry Segments Site vs. U.S.



There are 66 Tapestry Segments, divided into Lifestyle and Urbanization classifications. Nearly 56% of Loudoun County population falls into the Tapestry Segment classified as Boomburbs. These residents are in their 30's, married with children, living in single family homes in brand new neighborhoods. They tend to be two income households and work in management, professional, and sales occupations. They tend to spend money on technology, owning multiple TVs, cell phones, laptops, and all kinds of software. The top five tapestry segments in Loudoun County represent 81.1% of the population and are mostly suburban-based. The dominant characteristic associated with these groups is their affiliation with an urbanite lifestyle and consumer pattern.

Loudoun County has a moderately high diversity index (57.8), slightly higher than the national average (54.6), and slightly lower than the regional average (70.3), suggesting a moderately diverse population, which is similar to the diversity shown

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in the Tapestry Segments. Diversity in the region and in the County is expected to increase with overall population growth. The population of Loudoun County doubled between 2000 and 2010, with significant growth in the Hispanic and Asian populations.

Hispanic Market

Another large market for fresh produce and niche dairy is the rapidly growing Hispanic Market. The Hispanic Market is the largest and fastest growing segment in the United States (16% of the U.S. population as of April 1, 2010). Hispanic populations tend to purchase more raw products and prepare more meals at home. Sixty-seven percent prepare meals from scratch and only use 9% convenience foods in preparing meals. Shoppers in this segment shop for fresh foods more frequently than other ethnic segments, averaging 4.7 shopping trips per week. Overall, U.S. shoppers average 2.2 shopping trips per week.

Hispanic buyers tend to shop at specialty stores more than other segments and tend to be highly price sensitive and aware of product quality. Shoppers tend to value Spanish language services and selections of ethnic specialty produce. Hispanic shoppers spend \$117 per week on grocery expenditures versus the U.S. average of \$87 per week.

Loudoun County had a population of Hispanic origin of 35,205 in 2010. The Washington Metropolitan Area had a Hispanic population of 737,082 in 2010.

Asian Market

The Asian marketplace, depending on make-up, can offer food and agricultural development opportunities. Asian populations tend to shop for bulk and fresh prepared foods at a rate higher than whites, but at a lower rate than Hispanics. Asian populations, however, acclimate to US shopping patterns quickly. Understanding the type of Asian populations making up the market place is critical to designing a production and marketing plan to reach these markets.

Purchasing Potential

Spending Potential is a measure used to determine the market of certain products. Spending Potential represents the amount spent on products versus the national average (of 100). A Spending Potential of 90 suggests spending

Food Category	Average HH Expenditure	SPI
Loudon (At-Home)	\$8,295	185
Bakery and Cereal Products	\$1,099	184
Meats, Poultry, Fish, and Eggs	\$1,905	184
Dairy	\$914	184
Fruits and Vegetables	\$1,471	187
Snacks and Prepared	\$2,906	186
WMA (At-Home)	\$6,428	144
Bakery and Cereal Products	\$853	143
Meats, Poultry, Fish, and Eggs	\$1,493	144
Dairy	\$707	142
Fruits and Vegetables	\$1,148	146
Snacks and Prepared	\$2,227	143

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10% below the national average, suggesting either a saturation of the market, a lowering of prices, or the fact that consumers' income restraints keep prices low.

Loudoun County has a Spending Potential Index of 185 for at-home food purchases and 197 for food away from home purchases. These numbers are significantly higher than the regional indices of 144 for at-home and 148 for away from home.

The final measure is that of the Retail Gap which measures demand minus supply. A negative Retail Group suggests that consumers come from outside the project area to make purchases, and a

The data suggests that there is significant room for growth in Loudoun County in every section of the Food and Beverage Stores and Services, but particularly in the grocery stores, full-service restaurants, and limited-service eating places.

positive Retail Gap suggests that consumers must leave the area to make purchases. Negative Retail Gap signifies both saturation of the immediate market, and a retail hub activity, while positive Retail Gaps suggest potential for new business growth.

The data suggests that there is significant room for growth in Loudoun County in every section of the Food and Beverage Stores and Services, but particularly in the grocery stores, full-service restaurants, and limited-service eating places.

Retail Gap (Demand- Supply)	Loudoun County	Washington Metropolitan Area
Food & Beverage Stores	\$152,262,755	\$2,869,983,011
Grocery Stores	\$134,664,772	\$2,625,456,595
Specialty Food Stores	\$182,010	\$89,921,771
Food Services & Drinking Places	\$362,714,443	\$1,145,760,549
Full-Service Restaurants	\$149,657,517	\$382,332,442
Limited-Service Eating Places	\$149,444,946	\$607,650,781
Special Food Services	\$59,231,503	\$196,850,555

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SECTION 5: FINDINGS AND FUTURE DIRECTION

Prior sections of this report highlight the importance of rural entrepreneurs in determining the success of rural Loudoun County. This reliance on entrepreneurship and individual initiative also points to the fact that development opportunities are defined as much by individual operator characteristics as by industry trends.

Despite the best efforts and interests of rural entrepreneurs, the rural economy in Loudoun County is in transition. High development pressure, restrictive regulations, and low replacement rates of rural business owners, particularly in agriculture, challenge the future of the industry. Only by leveraging the positive demographic and psychographic trends associated with growth, combined with strong rural land preservation programs, and an interest among rural economic sectors in participating in cooperative solutions to rural industry growth offer bright prospects for the future.

Findings

Rural business activities in Loudoun County fit within a complex community and economic fabric that includes a patchwork of unique cultures and sub-cultures. Factors influencing the success of rural businesses, be they arts, equine, tourism, or agriculture, are often affected more by influences outside of the rural areas of the County than inside rural areas. As such eastern areas of Loudoun and the Washington metropolitan area are prime actors of change. But, the sheer scope of these urban influences often overshadows the needs of rural industries, making it difficult for them to advocate for positive changes in policy. The benefits of proximity to these influences, however, are myriad and contribute greatly to the success of rural entrepreneurs.

In order for rural businesses in Loudoun to maintain their linkages within the community, and, more importantly, to remain profitable, public policy makers and industry officials should recognize some of the following temporal, but critical issues.

1. Individual initiative and market innovation are dominant characteristics of the region's successful agricultural entrepreneurs.
2. Market opportunities abound in the region, but opportunity is defined by individual operator's capacity rather than the scale of the opportunity. This factor limits outside investment in rural industries.
3. Farmers tend to be highly independent and naturally protective of market opportunities. This generally means that cooperative solutions to marketing problems are often difficult to organize and implement.

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4. Intergenerational transfers are becoming a challenge, as fewer farmers have a willing next generation interested in farming.
5. Beginning farmers are increasingly likely to come from sources such as the “second career” beginning or avocational gardener.
6. Non-traditional entrants to farmers demand more robust training and education programs to be successful.
7. High development pressure brings higher costs of doing business and presents challenging policy and regulatory conditions.
8. Information exchange among farmers and rural businesses has become a challenge with the loss of industry concentration.

Future Direction

This strategic plan is intended to provide a voice for rural businesses in Loudoun County to aid growth in rural prosperity. Its implementation, which will largely occur through the efforts of the Rural Economic Development Council, focuses on integrating what are now disparate industry sectors such as agriculture, hospitality, culinary, arts, equine, and recreation. The power of this plan will come from its ability to build and maintain the partnerships created in the REBDS process, thereby leveraging the many rural and urban assets that surround the County’s many vibrant community centers and its robust entrepreneurial culture.

As a specific goal of the plan, the REBDS team is specifically focused on continuing the fine accomplishments already underway as a result of “The 200,000 Acre Solution: Supporting and Enhancing a Rural Economy for Loudoun’s 21st Century”. This plan has successfully guided the

... this plan differs from the last in that it recognizes that government cannot alone provide the catalyst for positive rural economic growth and prosperity. It also recognizes that only through prosperity will the 200,000-acre Solution be achieved.

implementation of the many market driven business and economic development projects as well as the creation of a nationally recognized land conservation program that have successfully met one of the plan’s primary goals of doubling the value of agricultural production in the County.

With the shifting economic and fiscal fortunes at all levels of the public and private sector, this plan differs from the last in that it recognizes that government cannot alone provide the catalyst for positive rural economic growth and prosperity. It also recognizes that only through prosperity will the 200,000-acre Solution be achieved.

It is with this in mind that the plan looks to foster economic growth that is compatible with preservation of natural resources; that strives for a high value of agricultural production; that supports the equine and tourism industries; that

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maintains high quality farmland; and that recognizes that the economic growth in eastern Loudoun is augmented by a thriving rural west. Only through such balance, can the high quality of life for which the County is known be maintained. As such, the entire county benefits from a healthy rural Loudoun through a better quality of life, job creation, and lower costs of community services to rural areas.



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What are “Costs of Community Services?”

According to the American Farmland Trust:

“Communities pay a high price for unplanned growth. Scattered development frequently causes traffic congestion, air and water pollution, loss of open space and increased demand for costly public services. This is why it is important for citizens and local leaders to understand the relationships between residential and commercial growth, agricultural land use, conservation and their community’s bottom line. Three claims are commonly made in rural or suburban communities facing growth pressures:

1. Open lands—including productive farms and forests—are an interim land use that should be developed to their “highest and best use.”
2. Agricultural land gets an unfair tax break when it is assessed at its current use value for farming or ranching instead of at its potential use value for residential or commercial development.
3. Residential development will lower property taxes by increasing the tax base.

While it is true that an acre of land with a new house generates more total revenue than an acre of hay or corn, this tells us little about a community’s bottom line. In areas where agriculture or forestry are major industries, it is especially important to consider the real property tax contribution of privately owned working lands. Working and other open lands may generate less revenue than residential, commercial or industrial properties, but they require little public infra- structure and few services.

Studies conducted over the last 15 years show working lands generate more public revenues than they receive back in public services. Their impact on community coffers is similar to that of other commercial and industrial land uses. On average, because residential land uses do not cover their costs, and must be subsidized by other community land uses. Converting agricultural land to residential land use should not be seen as a way to balance local budgets.

The findings of Cost of Community Services studies are consistent with those of conventional fiscal impact analyses, which document the high cost of residential development and recommend commercial and industrial development to help balance local budgets. What is unique about COCS studies is that they show that agricultural land is similar to other commercial and industrial land uses. In every community studied, farmland has generated a fiscal surplus to help offset the shortfall created by residential demand for public services. This is true even when the land is assessed at its current, agricultural use.”

At an aggregate level, COCS studies indicate that working lands use \$.36 in services for every dollar of taxes generated. By comparison, residential uses consume \$1.16 in services for each dollar contributed in tax revenue. Commercial and industrial uses consumer only \$.26 in services per dollar of tax revenue.

Excerpted from: Farmland Information Center. FACT SHEET: Cost of Community Services Studies, 2002.

http://www.farmlandinfo.org/documents/27757/FS_COCS_11-02.pdf

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SECTION 6: STRATEGIES AND RECOMMENDATIONS

The underpinning of this plan is the recommendations that motivate words into action. This section of the report highlights the recommendations brought forth by the REBDS team. The REBS team has taken great care to partition these recommendations into two base categories. These categories are 1) Foundation Strategies, which are those designed to establish a long-term base of cross industry development and have a high potential for program leveraging, and 2) Program Strategies, which are designed to address discrete conditions or program enhancements, and may therefore have a narrow impact on the rural economy.

Foundation Strategies

Foundation strategies are a collection of recommendations and suggested implementation actions upon which solid rural economic development efforts can be based. The four recommended Foundation Strategies are:

- A. Assess the Need for a Loudoun Agriculture and Rural Business Accelerator
- B. Develop an Integrated Approach to Equestrian Industry Enhancement
- C. Conduct a Regular Rural Business Owners Survey
- D. Create a Formal Rural Business Peer-to-Peer Consulting and Research Network

A. ASSESS THE NEED FOR A LOUDOUN AGRICULTURE AND RURAL BUSINESS ACCELERATOR

NEED: Nearly all reporting rural economic sectors feel that support for rural and agricultural entrepreneurship is a universal need to ensure that new entrants into the rural economy are fully prepared to be successful in the challenging and high cost working environment that is Loudoun County. This recommendation is also intended to ease the shortage of marketing and process facilities and the difficulties in navigating complex federal, state, and local regulations.

CONCEPT: Develop a center for rural entrepreneurship to serve as a catalyst of business formation, job creation, value-added activities, technology development, and educational activities modeled after the Cornell Tech Farm in Geneva, NY. This

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facility will provide both at-place and virtual solutions and support structures to assist existing and start-up businesses within the rural economic business clusters that include agriculture, food, beverages, biosciences, and related sectors.

The Loudoun Agriculture and Rural Business Accelerator will offer services that are similar to, and perhaps in collaborative with existing programs such as the Mason Enterprise Center, as well as established businesses and professional service firms and the proposed Loudoun County Peer-to-Peer Consulting and Research Network. (See Foundation Strategy D.)

The center will offer state-of-the-art facilities that allows local entrepreneurs access to best in class resources for training, research, and food processing, while integrating a package of at-place services such as office space, meeting rooms, process areas, laboratory space, reception support, business services, executive coaching, marketing and sales areas, and strategic business planning for established businesses and start-ups in the County as well as businesses that might be attracted to the metropolitan area.

The Accelerator will provide linkages to local, state, and national research centers such as the food science program at Virginia Tech, Human Nutrition Program at the Beltsville Agricultural Research Station, and business finance and coaching services at George Mason University to enhance its value to resident businesses. These services are designed to accelerate the businesses into, and through, the early growth stages of their business life cycle.

Businesses will be admitted to the Accelerator based on a structured evaluation process. The process will include an analysis of the firm's business plan, management structure, financial capability, coach-ability, and economic development potential (e.g., job creation, wealth generation, relationship to key County industry sectors, and enhancement of tax base). The purpose of the screening process is to ensure that program participants have the greatest chance of success.

What is the Economic Development Value of Business Acceleration?

In 2010, the US Department of Commerce, Economic Development Administration conducted a study entitled, "*Construction Grants Program Impact Assessment*." This study concluded that investments in business incubation and business acceleration have much higher returns on public investment than other economic development project do. Specifically, the report found that for every \$10,000 in capital funds invested in business incubation programs, an estimated 47 to 69 local jobs were generated. By comparison, the study found that incubators provide up to 20 times more jobs than community infrastructure projects at a federal cost per job of between \$126 and \$144, compared with between \$744 and \$6,972 for other infrastructure projects.

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The overall intent of this recommendation is to provide a gateway facility for rural and agricultural businesses to receive support and technical facility access in an effort to augment their chances for commercial success. The Accelerator, if successful, will also become a center of activity for training, education, marketing, and sales and will serve as a vital link between the technology industries of eastern Loudoun and the resource based industries of western Loudoun. It will also anchor businesses created through its programs in Loudoun County¹ and serve to attract new businesses, as well.

ACTIONS: The following staged actions are necessary to fully implement the proposed recommendation.

1. Identify public and private sector leadership. (Year 1)
2. Predevelopment planning stage Activities. (Year 1 and 2)
 - a. Conduct predevelopment activities for the proposed Loudoun County Agriculture and Rural Business Accelerator.
 - i. Develop a scope of work and budget, to include:
 1. Assessment of demand;
 2. Definition of service and facility needs;
 3. Creation of a utilization plan;
 4. Suggestion for organizational and management structure;
 5. Estimation of magnitude of costs; and
 6. Creation of operating budget estimates.
 - ii. Raise funds to conduct study.
 - iii. Develop and release an RFP .
 - iv. Conduct Study.
 - b. Create a business plan for Accelerator operations, to include the following elements:
 - i. Goals and objectives,
 - ii. Marketing plan,
 - iii. Financial plan,
 - iv. Management plan,
 - v. Services plan,
 - vi. Governance plan, and
 - vii. Partnership plan.
3. Design and construction stage. (Year 3)
4. Operations stage. (Year 4 +)

¹ According to the National Business Incubation Association, 84 percent of all businesses graduating from incubation and acceleration programs will remain in their community.

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BUDGET AND COST CONSIDERATIONS: This recommendation has a highly speculative outcome for which it would be difficult to estimate a total life cycle cost. Only a complete predevelopment study can frame the magnitude of costs and operating parameters. A properly scoped predevelopment study for a project of this scale will require \$50,000 to \$85,000 to conduct. Federal funding is available to support such an effort.

LEAD AGENCY: Loudoun County Office of Economic Development

MODELS USED: Cornell Agriculture and Technology Farm (Geneva, NY), Massachusetts Life Science Center (Waltham, MA)

B. DEVELOP AN INTEGRATED APPROACH TO EQUESTRIAN INDUSTRY ENHANCEMENT

NEED: The equine industry is considered by many to be the largest single component of the agricultural economy in the County, yet little is understood about the industry. Furthermore, changes in the structure of the industry and disinvestment in infrastructure are believed to be causing the loss of key events and industry leadership. To maintain the industry's position of prominence and economic contribution, action must be taken to understand industry conditions.



CONCEPT: Support the efforts of the Loudoun equine industry to formalize an approach and long-term working plan that focuses on equine industry retention, attraction, and expansion. This effort will begin by catalyzing inter-industry (up-stream and down-stream industries) cooperation using a regularly conducted equine survey protocol. Efforts such as the Equine Survey should be conducted with cross-industry support to inform public policy decisions related to capital projects, planning and zoning decisions, inter-industry programming, and economic development planning. This effort should seek to formally link equine and agricultural activities by definition, which will aid future data gathering activities that may be undertaken by the County or equine industry associations.

Once a data gathering protocol is established, the County should engage in an integrated approach to equine industry development. This effort would include the creation of a formal planning process to ensure that future policy development and capital projects (particularly within the context of parks and recreation) are supportive of the industry. By example, the Maryland National Capital Park and Planning Commission have used a similar process to ensure that the industry's

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interests are represented in future park development in a manner that is consistent with an equine industry master plan. For examples of master planning activities see: www.montgomeryparks.org/PPSD/ParkPlanning/documents/wsMP_2004ammended_web.pdf

www.pgplanning.org/Assets/Planning/Programs+and+Projects/Community+Plans/Subregion+5/Trails_ListeningSession.pdf

The intent of the master planning process is to inform future policy development and to fully incorporate the needs of the equine industry within future general plan development activities.

ACTIONS: The following staged actions are necessary to fully implement the proposed recommendation.

1. Conduct data gathering. (Year 1)
 - a. Complete the equine industry survey.
 - b. Present findings to the industry and community at large.
 - c. Identify critical action items.
2. Develop an Equine Master Plan. (Years 2-3)
 - a. Create a work plan for completing an equine industry master plan.
 - b. Conduct fundraising effort to complete the master plan.
 - c. Seek to integrate findings of master plan into policy documents such as the Loudoun County Revised General Plan and Parks and Recreation and Community Services Strategic Plan.
 - d. Encourage private and public investments in infrastructure, events, marketing programs, etc., based on Master Plan.

BUDGET AND COST CONSIDERATIONS: The first and most critical phase of this recommendation is the Loudoun County Equine Survey. ACDS recommends that the County provide a challenge grant to encourage at least 20 percent participation from the private sector (e.g., dealers and suppliers) for the estimated \$20,000 to \$30,000 required for completion. This level of funding support will allow the County to direct the survey process so that any design and database development conducted as part of the project remain the property of the County and can be used to inform future surveys as described in Foundation Strategy C. It will also keep the survey process on track for a 2013 delivery of results.

If the survey yields sufficient data and demonstrates that the industry is both cooperative and interested in future development planning, it is suggested that the County support the development of an equine master plan. The cost of such a plan would be determined at that time.

LEAD AGENCY: Loudoun County Equine Alliance and Rural Economic Development Council.

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MODELS USED: Butte Community Business Surveys (CA), Maryland National Capital Park and Planning Commission – Woodstock Equestrian Park (MD) and Horses in the Sun (Saugerties, NY), Virginia Equine Survey.

C. CONDUCT A REGULAR RURAL BUSINESS OWNERS SURVEY

NEED: Data about rural economic activities and their impact on, and integration with, the general economy is inadequate. This is particularly true in the agricultural sector of the economy, which is poorly represented in the US

Data about rural economic activities and their impact on, and integration with, the general economy is inadequate. ... Without reliable information, understanding the rural economy and benchmarking new programs is challenging at best.

Census of Agriculture. Without reliable information, understanding the rural economy and benchmarking new programs is challenging at best. It is therefore critical to motivate supportive public policy and a positive regulatory climate with verifiable information that provides an accurate picture of the positive economic and social contributions of Loudoun's rural economy.

CONCEPT: This recommendation focuses on creating a regular process by which rural businesses will be surveyed to gather information germane to supporting a positive business and policy climate in western Loudoun County. The annual survey is intended to capture data from a wide range of industry sectors as means to improve the understanding of the rural economy from a financial and policy standpoint. As well, the survey is intended to include special series that target specific rural industries and/or industry clusters. ACDS recommends that the first special series survey be conducted in the equine sector, since this sector has a clearly defined strategy for conducting a cross-industry survey, which may serve as a model for future rural business surveys.

The general design of the survey should allow the County to easily target rural businesses with a simple form designed for mail or Internet distribution. The survey should be composed of no more the ten general questions with formatted responses and three open ended questions. This design suggestion is intended to keep the survey process discrete and short, which correlates to survey response.

Survey questions are best designed by a group of business owners and County officials who will serve as the oversight committee for the annual process. These volunteers will ensure that the questions are formatted in an accessible manner and that they serve the intended data requirements. This group of volunteers will also oversee the preparation of the survey results and analysis. County staff, or an

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outside organization, to ensure that responses remain confidential, can complete actual data entry and analysis.

Management of the survey population will likely be the greatest challenge facing successful implementation of this recommendation. The first hurdle is defining the universe of businesses and geographies to be covered. For instance, policy decisions must be made as to whether business owners or landowners are the exclusive targets of the survey. Similarly, a decision must be made if the entire population will be surveyed, or a sample of the population. Whatever the choices, the populations being surveyed must buy-in to the concept, or the effort will be wasted.

ACTIONS: The following actions are necessary to implement the recommendation.

1. Work with Weldon Cooper Center at the University of Virginia to develop a repeatable survey methodology. (Year 1)
2. Appoint a survey working group within REDC to oversee program. (Year 1)
3. Apply methodology to Equine Survey development, as a beta test.
 - a. Adopt survey methodology.
 - b. Identify survey population and sample.
 - c. Select survey outreach protocols.
 - d. Develop survey tool.
 - e. Create database system and select analytics system.
4. Evaluate Equine Survey process and adopt methodology for future surveys. (Year 1-2)
5. Select next sector targets and schedule survey process. (Year 1-2)
6. Conduct on-going surveying. (Year 2 +)

BUDGET AND COST CONSIDERATIONS: The primary cost drivers in conducting a survey are the size of population to be surveyed, design, delivery, and analysis, therefore cost management is a function of how many of these tasks can be completed with in-house staff and existing resources. Assuming that the survey design and analysis can be done by existing staff, and a survey population of 1,500 businesses, ACDS estimates an annual survey budget requirement of \$10,000, of which 20 percent would be provided by the private sector.

LEAD AGENCY: Department of Economic Development

MODELS USED: US Chamber of Commerce Small Business Outlook Survey and Butte County Small Business Survey (CA), Virginia Equine Survey

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D. CREATE A FORMAL RURAL BUSINESS PEER-TO-PEER CONSULTING AND RESEARCH NETWORK.

NEED: Leverage existing human capital resources to improve business start-up success and to enhance local intellectual capacity building, particularly in support of new and beginning farmers and rural entrepreneurs.

CONCEPT: The general business concept is to create a network of in-county and out-of-county technical experts that can be quickly assembled to assist rural businesses and agribusinesses with discrete business development needs such as finance, planning, staff development, process engineering, technical assistance, marketing, distribution, research, information

technology, and similar needs.

This expert network would be recruited and managed by the Economic Development Commission under the guidance and direction of the REBDS team. Businesses needing assistance would apply for assistance using an application process similar to those commonly used by incubator programs. The application would be used to screen for needs, ability, means, and serviceability. Those accepted to the program would receive services based on a negotiated three-party contract and would pay for services based on a means test.

This peer-based network would also be leveraged to create a mentor-protégé program with the specific and direct intent to attract and support new rural and agribusiness entrepreneurs to Loudoun County. Based on lessons learned from successful programs such as the SBA Mentor-Protégé Program, this recommendation envisions the creation of a publicly managed process run through existing economic development programs.

In order to ensure success, the contracting phase of the mentor-protégé relationship must be co-developed by all stakeholders with an eye toward graduating from the relationship within five years, preferably less. This will require that the program's administrator match the needs of potential "protégés" with mentors who will then develop a contract proposal. This process should have participants create a phased work plan that includes the following elements:



Loudoun farmer Lou Nichols leads a training session.

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- I. Initiation Phase – During this phase, the mentor and protégé will focus on developing the basic tools needed to complete the program. This may include external training and professional services as a remedial development stage to better prepare the protégé for the next phase.
- II. Developmental Phase – During this phase, the mentor and protégé will work closely together to focus on specific skills and knowledge development through regular meetings and on-site training, typically on a monthly or seasonal business.
- III. Transitional Phase – During this phase, the protégé and mentor will slowly closeout their relationship with the intent to leave the protégé with the necessary skills and learning to run a successful rural business. This phase will also include an evaluation of process and outcomes conducted by the program manager.

To the extent that the peer-to-peer consulting and research program is not fully employed, it may engage in industry-determined research such as invasive species management, localized production practices, market development, or similar research topics. Integration with research and field service agencies, such as Virginia Cooperative Extension and the Loudoun County Soil and Water Conservation District is essential to this program element.

Please note that this recommendation differs significantly from the Agriculture and Rural Business Accelerator in several regards. First, the peer-to-peer network is designed as a service program, not a real-estate program. Second, peer-to-peer programs are designed to be delivered, not at-place.

ACTIONS: The following actions are necessary to fully implement the proposed recommendation.

1. Recruit an advisory board. (Year 1)
2. Develop a program scope of work. (Year 1)
3. Develop a program budget. (Year 1)
4. Recruit peer advisors. (Year 1-2)
 - a. Amend budget and scope based on peer advisor input.
 - b. Create a peer advisor contract.
 - c. Develop disclosure and non-compete language.
5. Create an evaluation and benchmarking protocol. (Year 1)
6. Apply for support funding through federal and private sources. (Year 1)
7. Run a two-year program pilot and amend program as necessary. (Year 1-2)
8. Formalize mentor-protégé element of the peer-to-peer network, contingent upon a successful pilot program. (Year 3 +)
9. Develop three-party learning contracts. (Year 1)
10. Identify industry specializations and skills development requirements for successful implementation. (Ongoing)
11. Recruit additional peer advisors and mentors, as necessary. (Ongoing)

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12. Conduct additional fundraising, as necessary to support program. (Ongoing)
13. Develop the on-farm research component of this recommendation using the rural business owner survey to identify research priorities, pending resource utilization. (Years 3-4)
 - a. Run a three-year program pilot, to evaluate program functionality, and amend program design as necessary. (Years 4-6)
 - b. Continue operations based on above evaluation. (Ongoing)

BUDGET AND COST CONSIDERATIONS: The program is expected to require approximately \$50,000 in annual budget of which \$10,000 to \$15,000 would be County funded and used to leverage grants and corporate donations to fulfill the budgetary requirements. Users of the system would be expected to pay for an average of 50% of the offered services, bringing the total value of services available annually to \$100,000.

LEAD AGENCY: Loudoun County Economic Development – Rural Economic Development Council.

MODEL PROGRAMS: On-Farm Network (IA), Farm 101 – (Shawangunk, NY), South Carolina Quick Response Teams (Columbia, SC), the State of Georgia’s Intellectual Capital Access Program (Athens, GA), Small Business Administration Mentor-Protégé Program, Indiana Construction Roundtable (IN), Maryland Agricultural Resource Council Mentor-Protégé Program (Hunt Valley, MD).



The Maryland Agricultural Resource Council will be one model organization for the development of a peer-to-peer consulting and research network.

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Programmatic Strategies

The five Programmatic Strategies that follow are designed to address specific economic development, business development, and marketing needs, as defined through the REDBS process. These strategies are:

- A. Redesign Loudounfarms.org Website to Add a Greater Level of Business Support Information
- B. Encourage the Formation of a Loudoun County Trails Associations
- C. Enhance Marketing Programs to Improve Linkage Between Rural and Urban Economies
- D. Create a Branded Rural Business Awareness Program
- E. Develop a Consolidated, Year-Round Farmers Market in Loudoun County

A. RE-DESIGN LOUDOUNFARMS.ORG WEBSITE TO INCLUDE A GREATER LEVEL OF BUSINESS SUPPORT INFORMATION.

NEED: Agricultural service organizations such as Virginia Cooperative Extension are suffering from a long trend of budget cuts, which has limited their ability to fulfill some of their outreach and extension mission. Because of this, and the large number of new entrants to farming who rely on the Internet as their first source of information, filling the



The Loudounfarms.org homepage

information void electronically and with a “one-stop-shop” approach is essential for redesigning the service delivery model.

CONCEPT: Loudounfarms.org provides agriculture and the rural economy with a strong, but generalist web presence. This recommendation is designed to enhance Loudounfarms.org by adding functionality in several areas, as described below:

1. Providing a direct connection with the agricultural and rural industry development information sources such as Appropriate Technology Transfer for Rural Areas (ATTRA) and Cooperative Extension.

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2. Listing available farm real estate by providing an for online listing service for rental acreage as well as providing real estate professional with access to the system to post farm properties on the multiple list service.
3. Connecting young and beginning farmers with a list of resource providers and training opportunities.
4. Maintaining an up-to-date calendar of events to include classes, training, and marketing events.
5. Expanding the document library with links to outside resources such as Penn State University's Alternative Agriculture library.
6. Providing a topic driven and searchable blog site focused on farm and production management issues.
7. Providing online seminars and information resources to assist landowners and service professionals with understanding the land conservation and land-use tools available to them.

ACTIONS: The following actions are necessary to fully implement the proposed recommendation.

1. Complete a needs assessment of internal and external clients through brief needs assessment survey. This survey will help define what resources site users desire and how they intend to use them. (Year 1)
2. Develop the wire frame, or conceptual design of the web site. This will establish the following elements: (Year 1)
 - a. Information needed.
 - b. Types of functions required.
 - c. Ranking and ordering of information.
 - d. Layering and relationship of data.
 - e. Access and use rules.
3. Integrate the wireframe and design concept. (Year 1)
4. Code the site. (Year 1)

BUDGET AND COST CONSIDERATIONS: Changes to the website will need to be priced pursuant to the County's IT Department's procedures. ACDS, however, recommends an initial budget allocation of \$12,000 for this purpose. On-going costs of at least a part-time staff member or shared expenses with a conservation partner who would complete the needed tasks must also be considered, as these will be regular costs.

LEAD AGENCY: Department of Economic Development.

MODELS USED: Maryland Farmlink (MD) and the Farmland Information Center (farmlandinfo.org).

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B. ENCOURAGE THE FORMATION OF A LOUDOUN COUNTY TRAILS ASSOCIATION

NEED: The large equine community, as well as other recreational groups, have identified the County's lack of a unified trail system as a significant quality of life drawback and a missed economic development opportunity, since trail riding tourists are likely to bypass the area for trails in neighboring jurisdictions to the north and south.

CONCEPT: Improve access to multipurpose trails linking event centers, parks, private lands, recreational venues, and scenic areas by encouraging the development a membership association dedicated to trail development, land access, and conservation activities. Based on interviews with various trail management and conservation specialists, it is the advice of ACDS that the Association not engages in easement transactions or easement stewardship activities. The organization would instead focus on developing landowner relations, conducting outreach and training, developing rules and standards for trail access, self-enforcing said standards, and managing trails. To this end, ACDS feels the general mission of the organization would be:



An equine enthusiast group would protect and enhance trail access through collaboration with complementary organizations and the county government.

- To protect and enhance the interests of equine enthusiasts in Northern Virginia by providing access to substantial trails network that showcases the County's unique rural character and agricultural heritage.
- To encourage participation in equine and outdoor activities.
- To protect working landscapes and open space in rural Loudoun.
- To inform, educate and expand public awareness of the opportunities available for equine enthusiasts in the County.
- To collaborate with like-minded organizations such as ornithological societies, mountain biking organizations, heritage organizations, and hiking clubs in the development of a trail system.

This organization, while independent of the County, would encourage Loudoun County to develop a comprehensive trails plan as a long-term objective. Such a plan

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would include recommendations to update the general plan to allow for broader employment of land-use management devices to create trail corridors.²

The County may encourage the formation of such an entity by sponsoring, or co-sponsoring, a series of discussion groups on the topic with outside speakers from equine and non-equine trail associations.

ACTIONS: The following actions are necessary to fully implement the proposed recommendation.

1. Convene a meeting of trail advocates (equine, outdoor recreation, and related entities) to discuss the need for, and interest level, in starting an open dialogue on the topic. (Year 2)
2. If sufficient interest exists from above meetings, convene two to three additional meetings to discuss fundamentals for forming and operating such an entity. (Years 2-3)
 - a. Meetings should be moderated and include outside speakers familiar with the topic.
 - b. At final meeting, group should be queried about interest in proceeding.
3. If sufficient interest exists, provide technical assistance and support in creating a business plan and establishing organizational structure. (Year 3)

BUDGET AND COST CONSIDERATIONS: The organization is intended to run solely on membership fees, contributions, volunteers, and fund raising activities in order to support the expected \$15,000-\$20,000 in operating support. Operating support will primarily consist of the materials and supplies necessary to maintain trails with signage and maintenance materials. Trail development would be completed solely on volunteer effort and donations.

LEAD ORGANIZATIONS: Unless adopted as an operating entity within an existing organization such as the Loudoun County Equine Alliance, ACDS expects that a new organization will be formed to carry out this initiative. If the equine industry does not take a lead in trail development, leadership may arise from organizations such as the Mid-Atlantic Off-Road Enthusiasts in Alexandria.

MODELS USED: Pittstown Trail Association (NJ), Pomfret Horse and Trail Association (CT), International Mountain Bicycling Association (Boulder, CO)

² Best practice studies can be useful in determining structure and impact.
http://researchrepository.murdoch.edu.au/2631/1/case_study_analysis_of_horse_riding.pdf

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C. ENHANCE MARKETING PROGRAMS TO IMPROVE LINKAGES BETWEEN RURAL AND URBAN ECONOMIES

NEED: There is a strong feeling of economic disengagement between rural and urban Loudoun County that comes with a strong perception that rural Loudoun County is obscured by the scale and scope of economic activities in eastern Loudoun. Rural business owners feel that there is a strong need to bridge this gap through enhanced marketing programs.

CONCEPT: This proposal focuses on creating, promoting, and managing a larger number of coordinated public relations and marketing events that introduce culinary and arts elements. Events such as Farm-City Dinners, job/volunteer exchanges, youth summer camps, and hosted Farm-to-Fork Dinners.

With one exception, it is not the intent of this proposal that the Economic Development Department develop new events, but instead that the Commission support new and expanded events that focus on promoting the types of rural business covered by the REBDS through promotional support, volunteer management (as needed), and sourcing of local products. Execution and marketing of the events would remain the responsibility of the event organizers.

The exception to the rule would be the creation of a unique event, to be run by the County that serves as a fundraiser to support the continued operations of rural business development programs. This event would focus on introducing agriculture and rural industries through art and design, thereby linking multiple sectors of the rural economy. As model for such an event, ACDS recommends the Rural to Runway Ag Art gala in New Zealand as both an effective fundraising model and one that has not yet been introduced in the United States. As with the Gala, the proposed event has the potential to become both a fundraiser and a serious design competition.

ACTIONS: The following actions are necessary to fully implement the proposed recommendation.

1. Develop a special fund for supporting rural economy marketing efforts. (Year 1)
 - a. To qualify for support participants must show:
 - i. Need, and
 - ii. Broad based community benefit.
 - b. Funding must be cash matched at a level of at least 2:1



Crushed eggs, feathers and furs are among the rural materials used at the Rural to Runway Ag Art gala in New Zealand.

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2. Create a volunteer network to support agricultural and rural economy related events. (Year 1)
3. Create a part-time rural event marketing specialist to oversee program. (Year 1)
4. Explore concept feasibility of Rural to Runway event with design and arts community. (Years 1-2)
 - a. Hold exploratory meeting to assess the concept.
 - b. If response is positive, develop a work plan for event launch.
 - c. Assign a lead agency.
 - d. Conduct fundraising to support event, as a threshold feasibility analysis.
 - e. Hold first Gala event.

BUDGET AND COST CONSIDERATIONS: This recommendation will require staff time and a modest advertising and promotions budget. Changes to budget considerations are expected and will be dependent on the number and types of events. The Gala event will require an independent budget, once the concept is fully developed.

LEAD ORGANIZATIONS: REDC, Visit Loudoun, Chamber of Commerce, Piedmont Epicurean Arts Center (PEAC.)

MODELS USED: Colorado Department of Tourism Marketing Match Grants (CO), Farm to Fork Picnics (NC)' Farm to City Tour and Dinner (Carrollton, GA), Rural to Runway Ag Art (NZ), A Feast of Food on Film (OR), and Farm to Fork Dinner (Ithaca, NY).

D. DEVELOP A BRANDED RURAL BUSINESS AWARENESS PROGRAM

NEED: Despite interest in developing a rural Loudoun branding campaign, the rural economy lacks a recognizable image or even product line to build such an effort around. This recommendation responds to that need by aggregating known events, trails, and promotions under a single naming convention, with the intent to build a product image.

CONCEPT: This is an event centered branding program that links rural businesses across industry sectors to include culinary, heritage, equine, arts, recreation, agriculture, wine, and others through a "wine trail" type program. The Rural Business Awareness Program (to be named at a later time) will attempt to tie together myriad rural businesses by creating a "brand identity" that crosses

Seneca Lake Wine Trail

In 1986 the Seneca Lake Wine Trail was formed in the heart of New York State's Finger Lakes Wine Country to attract more visitors to experience its rich history, beauty and production of world-class wines. Today, Seneca Lake Wine Trail is the largest and most active wine trail in New York State with a community of 32 wineries, a distillery, two breweries, three cheese manufacturers, hotels, and a meadery. The wine trail attracts an estimated one million visitors per year, many of whom are drawn to the events that tie together the participating members of the Trail. 2013 events include the Reisling passport, Polar Passport, Bargain Bash, Pasta & Wine, Chocolate & Wine, Cruisin' the Tropics, Smokin' Summer Kickoff, and Deck the Walls events. The Trail has developed mobile device applications to keep customers and tourists up-to-date on events and sales.

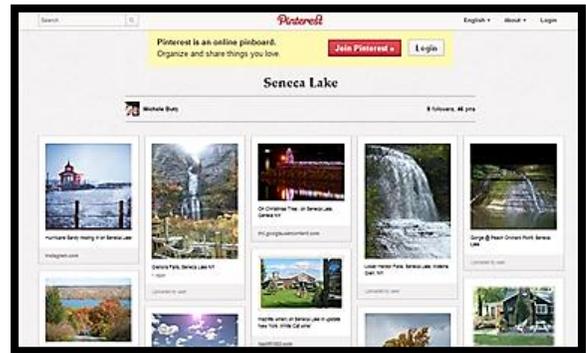
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multiple sectors while building on existing brand triggers such as the County's wineries, farmers' markets, festivals, equestrian events, and other farm and rural assets.

Following the example of the Seneca Lake Wine Trail in New York, it is suggested that the brand essence be developed around notable events and destination oriented agribusiness and food venues. This will allow the "Awareness Program" to ramp up operations quickly by leveraging existing activities, while at the same time allowing the brand to adapt its long-term strategy overtime.

Key elements of the trail would include:

1. Serves to develop a consolidated brand image that unifies rural industries.
2. Creates a gateway to introduce non-rural populations to rural areas and rural businesses.
3. Expands reach of social networking tools such as Pinterest.



Pinterest and other tools would help with branding.

A key element of developing the branding program will be focused on expanding the DC's Wine Country passport program. The intent of the proposed expansion of the DC's Wine Country Passport Program is to incentivize visits to multiple destinations and venues with the intent to encourage a greater in-county spend at rural destinations. As part of the program expansion, the passport program would operate on a continuous basis and expand the user benefits with a wider range of discounts and special offers.

Program structure will be a key feature of success. The integrity of the existing DC Wine Country Passport program must be maintained while encouraging visitors to expand their participation in other rural business opportunities. This calls for a tiered structure of incentives that allows visitors with a narrow interest to benefit from the program while still offering incentives for those with broader interests.

A key element of developing the branding program will be focused on expanding the DC's Wine Country passport program ... there may be passport sub-programs specific to wine, arts, agriculture, and culinary venues and others that encourage across the board participation.

For instance, the arts and agricultural sector may offer benefits for certain number of passport stamps within target categories that lead to a benefit, such as a discounted admission to a fair or event, but a higher level of benefit, which may

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include an overnight stay at a rural bed and breakfast, may be offered to those who receive stamps (or codes), from certain number of visits across a broad set of sectors. Put more simply, there may be passport sub-programs specific to wine, arts, agriculture, and culinary venues and others that encourage across the board participation.

Proper management of a passport program requires an active committee of participating businesses. Such a group can be informal, but must be committed to a process of continuous improvements. Formation of this group and its work plan, is the first step in moving the recommendation forward.

ACTIONS: The following actions are necessary to fully implement the proposed recommendation.

1. Establish a committee program or new organization to operate the branding program. (Year 1)
 - a. Seek broad membership from all elements the rural economy on a “pay to play” basis.
 - b. Incorporate like-minded groups in the early discussion.
 - c. Develop a mission statement as well as clear goals and objectives that will serve as recruitment tools for program membership.
 - d. Develop program rules and guidelines to ensure a great customer experience.
 - e. Align the program with four to five annual events that attract a broad range of local and regional visitors.
 - f. Develop a program message and logo that flows through all collateral materials and is adopted by all program participants.
 - g. Apply consistent, year-round program marketing.
2. Work with Loudoun Tourism officials to incorporate a broader range of rural businesses into the DC’s Wine Country Passport Program. (Year 1)
 - a. Establish parameters for participation that do not dilute the existing program.
 - b. Create a pilot-scale work program to test for the 2012-2013 passport program.
 - c. Evaluate participation and program activity during the pilot year and make amendments, as necessary.
 - d. Launch full program.

BUDGET AND COST CONSIDERATIONS: The planning requirements for this proposal are likely to range from \$15,000 to \$20,000. Creation of collateral material and signage is likely to require an additional budget of \$20,000, which should be supported by membership contributions. Expansion of the existing wine passport program will require start-up funding of \$20,000, which can be supported through a Value Added Producer Grant (VAPG), Planning Grant application. Future development of the program will require operational funding of approximately

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10,000 per annum and staff support, both of which can be provided through a second round of VAPG funding.

LEAD AGENCY: REDC.

MODELS USED: Seneca Lake Wine Trail (NY), Journey Through Hallowed Ground (Regional, Eastern US), DC Wine Country Passport Program (VA), Maryland Wine Passport Program (MD)

E. DEVELOP A CONSOLIDATED, YEAR-ROUND FARMERS' MARKET IN LOUDOUN COUNTY

NEED: Despite its proximity to a large and wealthy suburban consumer market, Loudoun County farmers have been unable to develop a large base of committed year-round customers. Because of this, direct market farmers, artists, and crafters have an expressed interest in establishing a permanent, indoor marketing presence that would allow them to develop a regular, year-round customer base.



The Leesburg farmers market

CONCEPT: Create a year-round farmers market oriented toward the eastern portion of the County and geared toward the shopping patterns and preferences of the County's large consuming population. This market would be linked to a tiered system of seasonal markets, as represented by the Loudoun Valley HomeGrown Markets Cooperative.

In order to maintain customer commitment, the market would be modeled after traditional urban public markets such as Eastern Market in the District of Columbia. This would allow them to offer a broad range of goods from fresh foods to craft items. The key to maintaining the market in manner that is most beneficial to farmers, however, is to structure its ownership and management in a way to keep control in the hands of producers, much as Local Roots Market has done in Wooster, Ohio (See case study in Appendix B.)



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ACTIONS: The following actions are necessary to fully implement the proposed recommendation.

1. Identify private sector partners and potential market vendors.
2. Conduct retail opportunity study, to include:
 - a. Needs assessment,
 - b. Retail conditions analysis,
 - c. Site location study,
 - d. Leakage-surplus analysis within targeted market areas,
 - e. Product and service definition,
 - f. Design analysis, and
 - g. Financial analysis.
3. Identify funding sources to continue the project, if feasibility is determined.

BUDGET AND COST CONSIDERATIONS: A properly scoped retail opportunity study for a project of this scale will require \$35,000 to \$45,000 to conduct. Federal funding is available to support such an effort.

LEAD ORGANIZATIONS: Loudoun Valley HomeGrown Markets Cooperative and REDC

MODELS USED: Local Roots Market (Wooster, OH), Raleigh State Farmers' Market (NC)



There are farmers markets in nine Loudoun communities, in addition to numerous roadside stands.

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SECTION 7: NEXT STEPS

Implementing the Plan

Implementing the recommendations included in this plan and future plan updates will be at the discretion of the Loudoun County Board of Supervisors under the advice of the Rural Economic Development Council. Factors such as fund availability, issue priority, cooperative participation, financial leverage, private sector participation, and overall economic impact will all influence if, and when, each recommendation is implemented. With these factors in mind, the following tables set forth suggestions for implementation in terms of timing, potential cooperation, and funds leveraging.

Strategy Implementation Timing			
Recommendation Name	Short-term <i>1-18 months</i>	Mid-term <i>19-36 months</i>	Long-term <i>37 + months</i>
FOUNDATION STRATEGIES			
A. Assess the need for a Loudoun Agriculture and Rural Business Accelerator	Planning	Development Activities	Program Implementation
B. Develop an Integrated Approach to Equestrian Industry Enhancement	Equine Survey	Planning	Development Activities
C. Conduct a Regular Rural Business Owners Survey	Development	Program Implementation	Ongoing Programming
D. Create a Formal Rural Business Peer-to-Peer Consulting and Research Network	Planning	Program Implementation	Ongoing Programming
PROGRAM STRATEGIES			
A. Redesign Loudounfarms.org and enhance biz.loudoun.gov Websites to Add a Greater Level of Business Support Information	Program Implementation	Ongoing Programming	Ongoing Programming
B. Encourage the Formation of a Loudoun County Trails Associations		Planning	Development Activities
C. Enhance Marketing Programs to Improve Linkage Between Rural and Urban Economies	Planning and Program Implementation	Ongoing Programming	Ongoing Programming
D. Create a Branded Rural Business Awareness Program	Planning and Program Implementation	Ongoing Programming	Ongoing Programming
E. Develop a Consolidated, Year-Round Farmers Market in Loudoun County	Planning	Development Activities	Ongoing Programming

This chart does not offer projections on the expected useful life of the programs. For more detailed project descriptions see Section 6.

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The RBEDS committee chose to limit the number and type of recommendations that were included in the report to those that would have a significant impact on rural economic development and generally have multi-industry benefits associated with their implementation. As such, the committee feels that the suite of recommendations are all “High Priority.”

Developing Long-Term Support and Funding

Success in plan implementation requires long-term support and funding at town, County, and State levels. Given the large fiscal and operating requirements for programs, like the Rural Business Accelerator and Loudoun Rural Business Mentor-Protégé program, the REDC must rely on outside support for both funding and program operations.

Based on stated mission and current program activities, there are numerous organizations that may find it beneficial to cooperate with the REDC in implementing this plan as means to advance their individual missions and augment current programming. Potential cooperators are highlighted in the table below.

Potential Cooperators, Program Partners, and Supporters		
Stakeholder Name	Foundation Strategies	Program Strategies
Loudoun Department of Economic Development	√	√
Visit Loudoun	√	√
Loudoun Department of Parks, Recreation, and Community Services	√	√
Office of the County Assessor	√	
Small Business Development Center	√	
Virginia Cooperative Extension	√	√
Loudoun County Equine Alliance	√	√
Piedmont Environmental Council	√	√
Morven Park	√	√
Piedmont Epicurean Arts Center	√	√
Loudoun Arts Council	√	√
Farm Bureau	√	√
Mason Enterprise Center	√	
Farm Credit System	√	√
US Small Business Administration	√	
Loudoun Soil and Water Conservation District	√	
Industry Associations	√	√
Community Foundations	√	√
Virginia Department of Agriculture and Community Services	√	√
Loudoun Chamber of Commerce	√	√
Virginia Horse Council	√	√
Agribusinesses	√	√
Others to include: Franklin Park Arts Center, Loudoun Heritage Farm Museum, Loudoun Wineries Assn., Loudoun Wine Growers Assn., Loudoun Bed and Breakfast Guild, Farmers Markets, Loudoun Valley HomeGrown Markets Cooperative Virginia Horse Industry Board, and others.	√	√

The Rural Economy Business Strategy

Typically, this funding would be supported through State and county grant and match programs; however, current fiscal conditions make this unlikely in the near term. The result is that the County may have to rely on non-traditional sources of funding and partnerships to implement its programmatic intent. The following table highlights possible funding opportunities.

Funding Opportunities and Grant Sources						
	USDA	SBA	EDA	VDACS	County	Other*
FOUNDATION STRATEGIES						
A. Assess the need for a Loudoun Agriculture and Rural Business Accelerator	√	√	√		√	√
B. Develop an Integrated Approach to Equestrian Industry Enhancement				√	√	√
C. Conduct a Regular Rural Business Owners Survey		√		√	√	√
D. Create a Formal Rural Business Peer-to-Peer Consulting and Research Network	√	√	√		√	√
PROGRAM STRATEGIES						
A. Re-design Loudounfarms.org Website to Add a Greater Level of Business Support Information	√				√	√
B. Encourage the Formation of a Loudoun County Trails Associations					√	√
C. Enhance Marketing Programs to Improve Linkage Between Rural and Urban Economies	√			√	√	√
D. Create a Branded Rural Business Awareness Program	√				√	√
E. Develop a Consolidated, Year-Round Farmers Market in Loudoun County	√			√	√	√
* Other includes privately raised funds, philanthropic/charitable donations, earmarks, private finance, partner in-kind match, and other grant programs.						

Funding and support must be sought on a project-by-project basis and will require significant investment in grant writing and relationship building. These activities alone are likely to require additional staffing resources with Economic Development, even without the additional administrative burden of expanding web resources, supporting programs such as mentor-protégé, and staffing additional

The Rural Economy Business Strategy

marketing events. Combined, just these additional administrative functions will require an additional full-time equivalent marketing specialist.

Budget Implications Implementation of this strategic plan will have an impact on program budgets at both the capital and operating levels. As of the writing of this report, our understanding of these impacts can be best described as magnitude of cost estimates. These estimates, which are summarized in the table below, should be used to for guidance only and should not be considered firm or final. Further information can be found within the recommendations themselves.

Budget Implications				
	FY2014	FY2015	FY2016	FY2017
FOUNDATION STRATEGIES				
A. Assess the need for a Loudoun Agriculture and Rural Business Accelerator		\$50,000/\$25,000	TBD	TBD
B. Develop an Integrated Approach to Equestrian Industry Enhancement	\$25,000/\$20,000	\$0	TBD	TBD
C. Conduct a Regular Rural Business Owners Survey		\$10,000/\$8,000	\$10,000/\$8,000	\$10,000/\$8,000
D. Create a Formal Rural Business Peer-to-Peer Consulting and Research Network		\$50,000/\$15,000	\$50,000/\$15,000	\$50,000/\$15,000
PROGRAM STRATEGIES				
A. *Re-design Loudounfarms.org and biz.loudoun.gov Websites to Add a Greater Level of Business Support Information	\$12,000/\$12,000***	TBD	TBD	TBD
B. Encourage the Formation of a Loudoun County Trails Associations			\$15,000/\$2,500	\$15,000/\$2,500
C. Enhance Marketing Programs to Improve Linkage Between Rural and Urban Economies	\$5,000	TBD	TBD	TBD
D.** Create a Branded Rural Business Awareness Program	\$17,500/\$5,000	\$20,000/\$10,000	\$20,000/\$10,000	\$20,000/\$10,000
E. **Develop a Consolidated, Year-Round Farmers Market in Loudoun County	\$40,000/\$20,000	TBD	TBD	TBD
Note: Figures in Blue represent total estimated expenditure. Figures in Black represent total estimated County contribution. TBD: To be determined based on program development and implementation feedback.				
*Currently in process. **Majority of cost component is additional FTE. *** Work already begun and funded in FY13, DED Operating Budget				

The Rural Economy Business Strategy

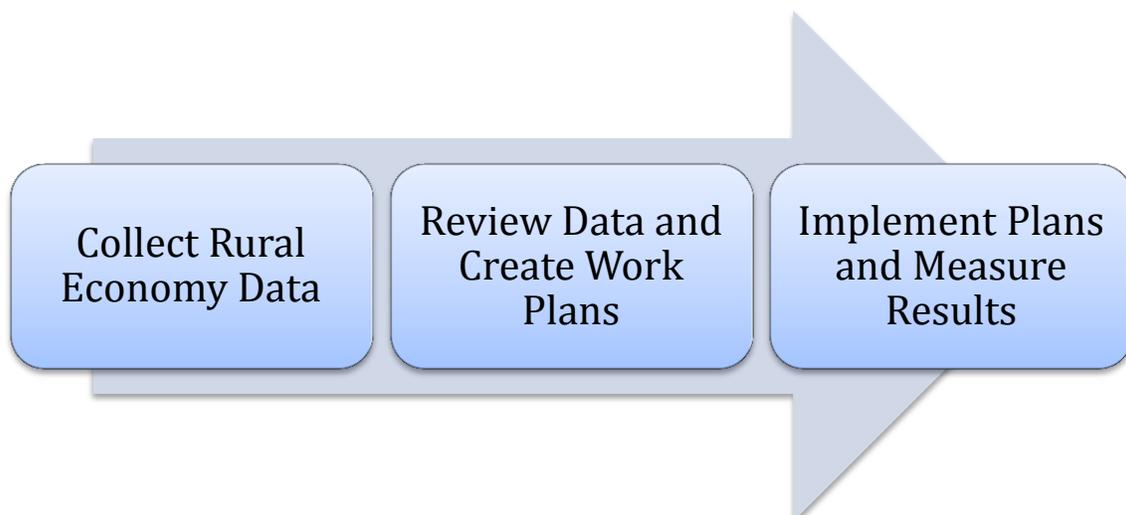
As a note to the prior table, it is not assumed that Loudoun County will bear the full responsibility for funding each initiative. In fact many initiatives are expected to generate significant grant and private funding support.

Updating the Plan

The Loudoun County Rural Economy Business Strategy provides a guiding vision for agricultural preservation and development in the County, as well as a strategic direction for achieving those ends. Both the vision and strategy are based on long-held community interests, as well as the current economic realities facing a wide range of rural businesses. Over time, these conditions are likely to change in unexpected ways, which will necessitate amendments to the strategy.

Developing a process to accommodate change, while keeping the strategy relevant will, therefore, be critical to the success of economic and business development efforts in Loudoun County. Therefore, charging a committee, such as REDC, or an ad hoc set of organizations, as was the process leading to the development of this report, to conduct an annual review of the strategy's impact and to prepare an annual work plan is essential to maintaining the relevance of the strategy over time. This agricultural advisory function would, in essence, be charged with identifying the top two or three initiatives annually, and ensuring that progress was made toward the fulfillment of these initiatives. At a minimum, the annual work plan created by this procedure would include specific actions to be taken, a budget note, staffing requirements, and other needs.

Periodic review of the full strategy is also expected and should follow a schedule similar to that used for General Plan updates. The graphic below summarizes the update process, which should include a purposeful attempt to collecting data on the strategy's effectiveness, reviewing the data with rural businesses, and using the data to identify critical points at which action is required.



The Rural Economy Business Strategy

Conceptual Program Returns	
Recommendation Name	Benchmark Description and Metrics
FOUNDATION STRATEGIES	
A. Assess the need for a Loudoun Agriculture and Rural Business Accelerator	According to research conducted by the US Economic Development Administration, California Goldstrike and others, Business Incubators and Accelerators create approximately 15.6 jobs per \$10,000 invested in capital assets (measured County investment) over a twenty-year life span. At an estimated sales value per employee of \$120,000, each \$10,000 invested will create \$1.9 million in sales.
B. Develop an Integrated Approach to Equestrian Industry Enhancement	Loudoun County has large populations of performance and recreational horses which drive a diverse but vibrant rural economy. For each performance horse added to the County's inventory, annual rural economy sales of \$7,000, new investment in real property of \$42,500, and annual employee compensation of \$11,000 are expected. Recreational horses are expected to yield annual rural economy sales of \$1,250, new investment in real property of \$37,750, and annual employee compensation of \$639 per equine. The County has an equine population estimated at 15,500 and is a nationally recognized center for performance horses. (Note: It is estimated that for every ten horses a full-time equivalent job is created outside of the industry.) Data aggregated from similar county studies outside of Virginia.
C. Conduct a Regular Rural Business Owners Survey	The business owners' survey is a retention and expansion strategy that is expected to reinvigorate the industry and effectuate a positive policy climate. Business growth (measured by firm numbers) is expected to increase 5 percent annually.
D. Create a Formal Rural Business Peer-to-Peer Consulting and Research Network	Peer-to-Peer consulting networks are strongly aligned with business accelerators and similar economic development tools. Therefore they have similar economic impact performance creating an estimated 8 jobs and \$360,000 in real property investment per \$10,000 invested in network operations in the food and agriculture sectors.
PROGRAM STRATEGIES	
A. Redesign Loudounfarms.org Website to Add a Greater Level of Business Support Information	Improving web content is designed to enhance information availability particularly targeting beginning farmers. It is also expected that an improved website will increase direct market sales. Key metrics are supporting the creation of two new farm operations annually and expanding direct market sales by \$200,000 annually.
B. Encourage the Formation of a Loudoun County Trails Associations	Payback from trails systems developments generally occurs through indirect expenditures. Based on recent research in the economic benefit of trails to a community by use, it was found that the average in-jurisdiction horse owner will spend \$566.20 per equine (\$29.80 per day) in trail use annually which equates to nearly \$8.8 million in annual revenue given Loudoun's horse population. Horse owners are eclipsed in trail spending by mountain bike riders who spend an average of \$142 per trail day in-jurisdiction.
C. Enhance Marketing Programs to Improve Linkage Between Rural and Urban Economies	This program area is designed to improve coordination among rural industry related events to leverage higher event sales. There is also an event development component that hopes to expand the reach of rural industry programs to a larger audience and assist in raising funds for rural industry development with a per event net fundraising target of \$15,000.
D. Create a Branded Rural Business Awareness Program	This program seeks to expand agricultural sales by 2023 and oversee the creation of 30 new rural enterprises during the same period.
E. Develop a Consolidated, Year-Round Farmers Market in Loudoun County	Based on the model of the Cobb International Farmers Market or the Roots Market, develop a year-round farmers market that can support annual sales of \$3,000,000 and create at-place employment for 16 individuals.

Appendix A
Rural Economic Development Strategy
Industry Sector Strategic Planning Reports

Department of Economic Development
1 Harrison Street, S.E.
Leesburg, VA 20175
703-777-0426

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Rural Economy Business Development Strategy

Agribusiness Sector Report

Jeff Browning - Browning Equipment, Inc.

Purcellville, VA

Personal interviews were conducted with the following persons to prepare this report:

Adam Pearson - Manager - Tractor Supply Co., Leesburg.

Scott Brownell - Custom Farm Services, Bluemont.

Joe Rogers - Loudoun County Milling Co., Hamilton.

Bo Carlyle - Carlyle & Anderson, Purcellville.

Dan Virts - Southern States, Purcellville.

Don Ulmer - Milcreek Farm & Fence Systems, Lovettsville.

Strengths

- large population - potential customers
- (affluent - can afford things)
- large equine population
- diverse customer base - wineries, produce growers, commercial landscapers, weekend warriors
- land use tax deferral program - requires some agricultural activity

Weaknesses

- traffic - effective hauling must be done after 8:30am and before 3:00pm.
- sprawl potential - many rural-looking farm parcels already subdivided into building lots.
- lack of investment by landowners - run-down fences, poor pasture or hay stands - unwilling to pay for lime, fertilizer or overseeding.

Opportunities

- a lost "traditional farm" can become several alternative agriculture operations - all needing equipment, supplies and services.
- vineyards
- horses
- local produce
- organics

Southern States example - knowing where your food comes from ...

2011 - sold 45 chicken houses at \$1,000.00 each.

Threats

- residential pressure - sprawl
- constant need to educate (and re-educate) the Board of Supervisors and Loudoun voters to sustain the rural economy.
- distracted drivers
- Government regulations. C.B.P.A., emission regulations.

Art Sector Final Report

March 27, 2012

Strengths/Assets

Diversity of Artisans. Western Loudoun has an abundance of artists with a variety of skills and talent that produce quality work.

Existing Art Venues and Facilities. Franklin Parts Art Center, Round Hill Arts Center and Art Square are valuable resources to the arts community.

Close Proximity to Large Metropolitan Areas. Besides visitors traveling from these metro areas just for art events, there is also a constant influx of commuters from Maryland into DC and from Northern Virginia to Baltimore.

Rural Landscape and Environment. Western Loudoun is very unique as it is an eclectic mix of rural and contemporary influences.

Variety of Community Events. Special events such as the Western Loudoun Studio Tour draws and entertains tourists and local alike while providing valuable marketing for the artist participants.

Arts Programs within the Public School System. The public schools provide an exceptional educational opportunity for not only the students but for the community arts groups as well.

Weaknesses

Lack of Marketing and Promotion of the Art Sector. Western Loudoun is not known as an “arts destination” and should be marketed as such. Without these efforts, residents and consumers continue to be uneducated about the Western Loudoun arts community and what we have to offer.

Lack of Collaboration and Organization Within the Arts Sector. Communication and cohesiveness within the arts community is weak. More needs to be done to help overcome this lack of solidarity within the arts community.

Failure of County/Town Governments to Embrace the Arts Community as an Essential Part of Successful Present and Future Planning. Franklin Park Arts Center has been built in direct response to citizenry need for arts and culture in their lives. It is an excellent beginning. Further support of the whole arts community will help the arts help the County in its quest to attract new businesses. Incorporating the arts into local government strategic plans will provide support and nurture growth of this sector as a key cultural, economic and quality of life factor for Loudoun County.

Opportunities

More Collaboration and Coordination between the various genres, mediums and organizations of the Arts Sector. This could include the creation of a collective or general association, the establishment of monthly networking seminars etc.

Develop Strong Partnerships. More outreach and progress needs to be made with organizations such as Visit Loudoun and the business community in both the eastern and western parts of the county.

Improved Signage to Better Market Arts Event and Venues. This relates to both county signs that promote permanent structures as well as the stringent sign permitting and display regulations for events and temporary structures.

Establish an Aggressive Marketing Campaign to Promote the Local Arts Industry. Western Loudoun is a real arts destination that just hasn't been discovered yet. Once people are educated and aware of how much art there is in the county, and that it is of such fine caliber we can compete with other local areas and work to retain up and coming artists.

Creation of a Large, Annual Arts Event. Creating a major annual arts event helps us build a long term reputation for the arts as well as bringing valuable tourist dollars to the county for other sectors.

Threats

Lack of Leadership. The lack of professional/full time administrative and programming staff, leaving only well-intentioned but inexperienced individuals working in volunteer time-frames to conduct the business of the arts.

Perception of Value. Educating the consumers about the value of locally produced goods is essential. There's a misinformed perception that art is only a "luxury".

National Economy. In a recession or period of economic contraction it's more imperative than ever to look for innovative solutions. The old models of success no longer apply.

The Economic Impact of Nonprofit Arts and Culture Organizations and Their Audiences in Loudoun County, VA (Fiscal Year 2010)

Direct Economic Activity	Arts and Culture Organizations	+	Arts and Culture Audiences	=	Total Industry Expenditures
Total Industry Expenditures	\$8,591,821		\$7,668,542		\$16,260,363

Spending by Arts and Culture Organizations and Their Audiences Supports Jobs and Generates Government Revenue

Total Economic Impact of Expenditures (Direct & Indirect Impacts Combined)	Economic Impact of Organizations	+	Economic Impact of Audiences	=	Total Economic Impact
Full-Time Equivalent (FTE) Jobs Supported	237		121		358
Household Income Paid to Residents	\$7,826,000		\$2,954,000		\$10,780,000
Revenue Generated to <u>Local</u> Government	\$349,000		\$274,000		\$623,000
Revenue Generated to <u>State</u> Government	\$257,000		\$281,000		\$538,000

Event-Related Spending by Arts and Culture Audiences Totaled \$7.7 million (excluding the cost of admission)

Attendance to Arts and Culture Events	Resident* Attendees	+	Non-Resident* Attendees	=	All Cultural Audiences
Total Attendance to Arts and Culture Events	151,308		106,897		258,205
Percentage of Total Attendance	58.6%		41.4%		100%
Average Event-Related Spending Per Person	\$21.20		\$41.73		\$29.70
Total Event-Related Expenditures	\$3,207,730		\$4,460,812		\$7,668,542

Nonprofit Arts and Culture Event Attendees Spend an Average of \$29.70 Per Person (excluding the cost of admission)

Category of Event-Related Expenditure	Resident* Attendees	Non-Resident* Attendees	All Cultural Audiences
Meals and Refreshments	\$9.84	\$12.16	\$10.80
Souvenirs and Gifts	\$8.24	\$17.57	\$12.10
Ground Transportation	\$0.68	\$4.77	\$2.37
Overnight Lodging (one night only)	\$0.00	\$3.64	\$1.51
Other/Miscellaneous	\$2.44	\$3.59	\$2.92
Average Event-Related Spending Per Person	\$21.20	\$41.73	\$29.70

* For the purpose of this study, residents are attendees who live within Loudoun County; non-residents live outside that area.

Source: *Arts & Economic Prosperity IV: The Economic Impact of Nonprofit Arts and Culture Organizations and Their Audiences in Loudoun County*. For more information about this study or about other cultural initiatives in Loudoun County, visit the Loudoun Arts Council's web site at www.LoudounArts.org.

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About This Study

The *Arts & Economic Prosperity IV* study was conducted by Americans for the Arts to document the economic impact of the nonprofit arts and culture industry in 182 communities and regions (139 cities and counties, 31 multi-city or multi-county regions, and ten states, and two individual arts districts)—representing all 50 U.S. states and the District of Columbia. The diverse communities range in population (1,600 to more than 3 million) and type (rural to urban). The project economists, from the Georgia Institute of Technology, customized input-output analysis models for each participating study region to provide specific and reliable economic impact data about their nonprofit arts and culture industry—specifically (1) full-time equivalent jobs, (2) household income, and (3) local and (4) state government revenue.

Surveys of Nonprofit Arts and Culture ORGANIZATIONS

Each of the 182 study regions attempted to identify its comprehensive universe of nonprofit arts and culture organizations using the Urban Institute’s National Taxonomy of Exempt Entity (NTEE) coding system, a definitive classification system for nonprofit organizations recognized as tax exempt by the Internal Revenue Code. In addition, the study partners were encouraged to include other types of eligible organizations if they play a substantial role in the cultural life of the community or if their primary purpose is to promote participation in, appreciation for, and understanding of the visual, performing, folk, and media arts. These include government-owned or government-operated cultural facilities and institutions, municipal arts agencies and councils, private community arts organizations, unincorporated arts groups, living collections (such as zoos, aquariums, and botanical gardens), university presenters, and arts programs that are embedded under the umbrella of a non-arts organization or facility (such as a community center or church). In short, if it displays the characteristics of a nonprofit arts and culture organization, it is included. *For-profit businesses (e.g., Broadway and motion picture theaters) and individual artists were excluded from this study.*

Nationally, detailed information was collected from 9,721 eligible organizations about their fiscal year 2010 expenditures in more than 40 expenditure categories (e.g., labor, local and non-local artists, operations, materials, facilities, and asset acquisition), as well as about their event attendance. Response rates for the 182 communities averaged 43.2 percent and ranged from 5.3 percent to 100 percent. It is important to note that each study region’s results are based solely on the actual survey data collected. No estimates have been made to account for non-respondents. Therefore, the less-than-100 percent response rates suggest an understatement of the economic impact findings in most of the individual study regions.

In Loudoun County, 35 of the approximately 64 total eligible nonprofit arts and culture organizations identified by the Loudoun Arts Council participated in this study—an overall participation rate of 55 percent. The organizations that participated are listed below:

2nd Flight Productions Community Theater; Blue Ridge Thunder Cloggers; Bluemont Concert Series; Catocin Area Turners; Franklin Park Performing and Visual Arts Center; Friends of Bluemont; Friends of Franklin Park Arts Center; Friends of the Thomas Balch Library; George C. Marshall International Center; International Council of the Air Shows Foundation; Journey Through Hallowed Ground; Loudoun Academy of the Arts Foundation; Loudoun Archaeological Foundation; Loudoun Arts Council Inc; Loudoun Ballet Company; Loudoun Chorale; Loudoun Fair and Associates; Loudoun Lyric Opera Company; Loudoun Museum; Loudoun Restoration and Preservation Society; Loudoun Symphony Association; Lucketts Community Center Advisory Board; Mastersingers of Virginia; Middleburg Players; Mosby Heritage Area Association; Northern Virginia Photography Exposition; Oatlands Historic House and Gardens; Pickwick Players; Piedmont Arts Foundation; Round Hill Arts Center; Sterling Playmakers; The Community Music School of the Piedmont; The Lucketts Bluegrass Foundation, Inc.; Waterford Foundation; and Westmoreland Davis Memorial Foundation.

Surveys of Nonprofit Arts and Culture AUDIENCES

Audience-intercept surveying, a common and accepted research method, was conducted in all 182 of the study regions to measure event-related spending by nonprofit arts and culture audiences. Patrons were asked to complete a short survey while attending an event. Nationally, a total of 151,802 valid and usable attendees completed the survey for an average of 834 surveys per study region. The randomly selected respondents provided itemized expenditure data on attendance-related activities such as meals, souvenirs, transportation, and lodging. Data were collected throughout 2011 (to guard against seasonal spikes or drop-offs in attendance) as well as at a broad range of both paid and free events (a night at the opera will typically yield more spending than a weekend children’s theater production or a free community music festival, for example). The survey respondents provided information about the entire party with whom they were attending the event. With an overall average travel party size of 2.69 people, these data actually represent the spending patterns of more than 408,000 attendees, significantly increasing the reliability of the data.

In Loudoun County, a total of 638 valid and usable audience-intercept surveys were collected from attendees to nonprofit arts and culture performances, events, and exhibitions during 2011.

Studying Economic Impact Using Input-Output Analysis

To derive the most reliable economic impact data, input-output analysis is used to measure the impact of expenditures by nonprofit arts and culture organizations and their audiences. This is a highly regarded type of economic analysis that has been the basis for two Nobel Prizes. The models are systems of mathematical equations that combine statistical methods and economic theory in an area of study called econometrics. They trace how many times a dollar is re-spent within the local economy before it leaks out, and it quantifies the economic impact of each round of spending. This form of economic analysis is well suited for this study because it can be customized specifically to each study region. To complete the analysis for Loudoun County, project economists customized an input-output model based on the local dollar flow between 533 finely detailed industries within the economy of Loudoun County. This was accomplished by using detailed data on employment, incomes, and government revenues provided by the U.S. Department of Commerce (County Business Patterns, the Regional Economic Information System, and the Survey of State and Local Finance), local tax data (sales taxes, property taxes, and miscellaneous local option taxes), as well as the survey data from the responding nonprofit arts and culture organizations and their audiences.

Strengths, Weaknesses, Opportunities, Threats (SWOT)

Culinary Sector

STRENGTHS:

- **What are our sector's assets?**
 - Supporting local agriculture thereby ensuring the growth and vitality of this sector.
 - Fostering relationships
 - Close proximity to locally grown foods
 - Agritourism
 - Loudoun County is the place to do business by supporting food and farming.
- **What differentiates Loudoun County and/or our sector from our competitors?**
 - Close proximity to locally grown foods
 - We have the opportunity to form a cooperative of food and farming entrepreneurs that could provide a wealth of opportunities for food production and health benefits for a large population.

WEAKNESSES:

- **What areas do we need to improve on?**
 - Marketing of farms throughout the year not just during the Fall Tour
 - Availability of products year round
 - Farmers need to do more to accommodate local chefs and restaurants ie. Price and availability of products
 - **Price point**-menu prices shock customers so more education needs to be done to educate them on why locally grown and/or certified organic cost more.
 - Integrity of some restaurants in the F2F movement
 - Teaching people that supporting the local economy will produce wide-spread benefits
 -
- **What could we do better?**
 - Educate the consumer by including public health safety, targeting the new consumer and emphasizing the importance of sustainable cooking
 - Educate the public about the importance of agriculture and its contribution to the county's economy
 - Target the younger generation (and the older) by promoting improvements in eating habits by linking locally-sourced food and farming products to the kitchen.
 - Educate farmers
 - Educate the local officials of the importance of agriculture to businesses
 - Create more visibility to the local consumer
 - Give proper recognition
 - Remove barriers to growth of the industry supporting farms and the culinary industry.
- **What are we criticized for or receive complaints about?**
 - Price

- **Where are we vulnerable?**
 - Future of local farms

OPPORTUNITIES:

- Potential subsidies for farmers
- **Trends:** Charities and community events that directly assist farmers and agribusinesses
- County to provide-quick list of restaurants for farmers to sell directly too
- **Develop a brand and/or label for producers supported by local advertising and promotion**
- **Promoting green practices in the food industry.**
- **Enhance the competitiveness and sustainability of food and farms**
- **Build on the strengths of Loudoun County**

THREATS:

- Potentially not having any farm land in Loudoun in the next 10 years
 - There needs to be a feasible way for farmers to keep their land ie. Tax incentives, tax breaks etc
 - Land use issues
- Contamination from small farms with no insurance
 - Regulatory issue

* **Losing sight of the real issue of food, water and nutrition**

* **We must continue to promote local, fresh food and environmental and sustainability issues.**

* **The challenge associated with non-support from government officials regarding the fierce competition for land, multiple and conflicting policies and regulations.**

Rural Economic Development Council – Education Sector Meeting 1/17/2012

Attendees:

Gem Bingol – Clark and Loudoun County Field Officer, Piedmont Environmental Council
John Magistro – REDC Education Representative and Stewardship Coordinator, Land Trust of Virginia
Frank Milligan – Executive Director, Morven Park
Abby Pfisterer – Director of Education, Morven Park
Dave Scheid – Program Head of Horticulture Technology Program, Northern VA Community College

Goal of the meeting: Prioritize issues and outline recommendations.

Issue #1: Lack of central and standardized source of agricultural education in the county.

Organizations in Loudoun County currently provide a great number of resources related to agricultural education. Many of these resources were identified at previous meetings. However, these resources are not fully utilized because:

1. They are spread throughout the county and can be difficult to locate.
2. Resources are not coordinated or organized in a way that is easy to use.
3. There is not a unified message.
4. The needs of a wide range of audiences are not always met.

Solution: Creation of one central clearinghouse for all sources of agricultural education in the county.

The clearinghouse must:

1. Act as the central coordination point for educational resources, information, and opportunities regarding agriculture and rural business.
2. Provide current information on trends and recent issues.
3. Create an easy and efficient process for finding reference materials, contacts, and solutions.
4. Reach a diverse range of audiences, including rural and urban populations (west and east Loudoun).
5. Deliver a unified message about agriculture, rural business and education.

Questions to be addressed:

1. What form should the clearinghouse take? Should it be a physical structure, a website, or both?
2. Who should be responsible for funding, updating, and managing the clearinghouse?
3. Should the clearinghouse be structured as a partnership between public and private entities?

Examples of clearinghouses:

1. Loudoun Environmental Stewardship Alliance
2. Forestry for the Bay

Issue #2: Agriculture Education in Loudoun County needs to be revitalized.

Agricultural education among non-producers is critical to fostering rural business and the economic chain that supports it. All residents of Loudoun County (sub-groups identified in 11/1/2011 notes) need to be educated about their role in the chain of the agricultural economy and to take pride in that role.

Residents who are aware of the cycle of producers and consumers are better equipped to take part in the rural economy and to bring to light new opportunities and ideas. However, in the public school system and in other areas, agriculture education has become increasingly less available. These programs can be found at Monroe Tech and informal educational organizations, and should be expanded.

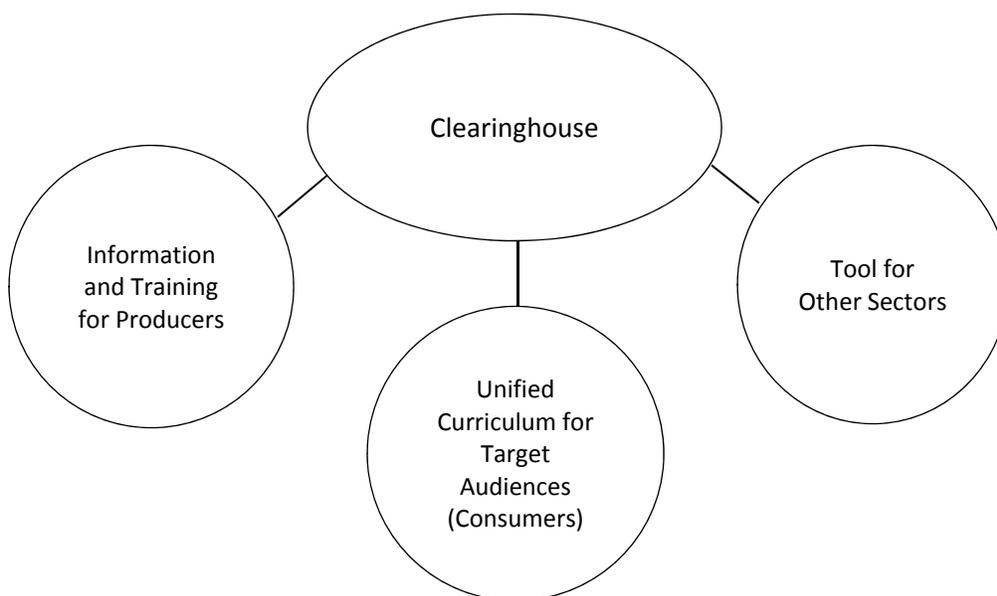
The ecology of rural business has become a huge web connecting the environment, food, business, health, and quality of life issues. Educating about agriculture involves all aspects of the rural business chain, including but not limited to the following:

1. Production
2. Traditional agriculture
3. Public spaces
4. Horticulture
5. Niche markets
6. Youth education – related to business by:
 - a. Developing future consumers in rural business – perpetuating the economic chain.
 - b. Creating the “spark” for future education and the creation of future producers in rural business.

Solution: Create a cohesive agriculture education curriculum that will support rural businesses and bring it to target groups through specified strategies.

The curriculum can be utilized by all organizations and groups providing agricultural education in the county. In the minutes from the November 1st meeting, strategies for using the curriculum to educate among each target group were defined. The curriculum should be based on the information contained in the clearinghouse.

Overall conclusion: The clearinghouse can create synergistic energy for the resources that already exist, allowing organizations and individuals to work together to become more productive. The clearinghouse may also be able to be used as a solution for other sectors’ needs.



Report Summary

- The notes of this meeting reflect the Education Sector's core messages to the REDC consultant and governing body.
- The minutes of previous meetings will be attached as addenda to the sector report.
- The importance of experiential learning as the essence of effective agricultural education, will be highlighted verbally during the co

EQUINE STAKEHOLDERS REPORT TO THE RURAL ECONOMIC BUSINESS STRATEGY COMMITTEE

February 2012

SUBMITTED BY THE REDC EQUINE SECTOR COMMITTEE

Donna Rogers

Marilyn Jarvis

Terri Young

Mary Terpak

Equine stakeholders held three large meetings and one subcommittee meeting during November and December 2011 to analyze the present situation and future prospects of the equine economy in Loudoun County. Attendees at these meetings represented all of the disciplines and many services connected to equines and equine related businesses in the County, which include dressage, hunters/jumpers, western riding and competition, cross-country/eventing, fox hunting, steeplechase racing, driving and trail riding, instruction, training, breeding, boarding, show facilities, veterinary services, and farrier services.

Loudoun County has long been known as “Horse Country” in Virginia and the fox hunting capital of all counties in the United States. There are still more horses located in Loudoun County than anywhere else in Virginia, although Fauquier County is now a close second. The most recent statistics on the equine economy in Loudoun County come from a report completed by Virginia Tech using data from the National Agricultural Statistics Service 2006 Survey and the Virginia Cooperative Extension Boarding Surveys of 2006 and 2007. At that time it was estimated that 15,500 horses were domiciled in Loudoun County and 14,800 were domiciled in Fauquier. The trend in Loudoun was downward; the trend in Fauquier was upward. Economic data on the equine industry was not provided at the county level. The absence of current data for Loudoun makes it very difficult to accurately estimate the true economic impact of the equine industry here. For example the Virginia Tech report cited a statewide average expenditure per horse per year of \$3,642. Horse owners in Loudoun County unquestionably spend more than that.

In March of 2011 the Weldon Cooper Center for Public Service of the University of Virginia published a study entitled [The Economic Impact of the Horse Industry in Virginia](#). It is worthwhile to include a quote from this study (page 9) because it applies to Loudoun County as it does to the state as a whole.

“Virginia’s horse industry is supported by a rich horse tradition, an excellent horse industry infrastructure of facilities and services, and an agreeable climate (Gerena 2005). However, its continued growth and development depends on five factors: (1)

availability of affordable undeveloped land, (2) maintenance of an agricultural infrastructure that provides the materials, services and facilities needed for breeding, training, stabling, feeding and caring for horses, (3) a healthy pari-mutual racing industry, (4) quality show and competition facilities and venues such as the Virginia Horse Center [Lexington], Commonwealth Park [Culpeper], and Great Meadows Event Park [The Plains], and (5) an active calendar of shows, competitions, and other equestrian events. The economic impact of the industry will largely be determined by the continued popularity of horse ownership and the strength and tourism drawing power of recreational pursuits such as horse racing, showing and other equestrian activities....”

The data showing that the horse industry in Loudoun County leads the state in economic impact is provided in Section 4 of the Weldon Cooper Report, Economic Impact Results. Section 4 in its entirety is included herewith as Appendix 6. Loudoun’s horse industry leads the state in local tax revenue, total sales, and value-added benefits. Only the locale which includes Lexington exceeds Loudoun in employment created by the horse industry.

It is also important to note that the report identifies the three top venues for shows and competitions in the state, by number of events, as the Virginia Horse Center in Lexington, Frying Pan Park in Herndon and Morven Park in Leesburg.

The equine economy of Loudoun County, that is the financial impact created by all of the expenditures on equines here, is also the largest sector of Loudoun’s rural economy. Every horse, pony or mule domiciled in Loudoun County requires feed, hay, veterinary care, hoof care, pasture, fencing, shelter and tack and these needs become expenditures to all of the local services and businesses which provide them. In addition, most, if not all, horse owners use trainers, instructors, schooling facilities, horse trailers and buy personal clothing and equipment suitable for their particular equine activities. Many participate regularly in competitions which require entry fees. Competitions such as dressage and hunter/jumper shows, cross-country and three day events, steeplechases, and the non-competitive sport of fox hunting abound here and generate revenue themselves, while at the same time attracting many participants, spectators and visitors from outside the county who spend money at hotels, restaurants and other businesses while they are here.

HOWEVER, ALL CURRENT SECTOR STRENGTHS ARE THREATENED BY THE FACT THAT LOUDOUN HAS NO COMPREHENSIVE, AFFORDABLE FACILITY OR FACILITIES THAT ADEQUATELY SERVE ALL DISCIPLINES IN THE EQUINE SECTOR, AND NO TRAIL SYSTEMS. SEE APPENDICES 2 AND 3.

The individuals who attended the equine sector meetings are all active and serious participants in the equine economy. Horse business - all aspects of it - is our business. It has to thrive and grow because we depend on it, we love it and we know that the precious rural character and economy of Loudoun County are largely dependent on it. We also recognize that the equine economy is facing unprecedented threats from a number of factors. Many of the attributes

which made Loudoun County so attractive for horsemen have changed. The decline of traditional large acreage farming and accompanying rural residential development have removed thousands upon thousands of acres of land formerly available for horse farms and equine activities. Land prices and taxes have skyrocketed so it is no longer easy for people to buy and maintain horse properties. In the absence of public equestrian facilities, venues for riding, schooling and showing are entirely dependent on the private sector. Private property owners do not and realistically cannot guarantee continued access to their facilities and events. In fact, during the course of the Stakeholder meetings Morven Park in Leesburg announced that it will no longer hold the annual Morven Park Steeplechase Races. Instead of having six race meets in Loudoun County each year there will now be five. Each time an important equestrian event like this is lost to us we lose much more than that one event. It is another blow to the entire equine economy, to the tourism economy, and to the businesses that provide support and services to the event.

We looked at our strengths and weaknesses objectively – no complacency that we live in splendid isolation in the country or that the separate equine disciplines that make up the horse community can thrive and grow by themselves, unconcerned about whether other disciplines or components of the rural economy are losing participants and support. The equine industry and the services which support it are completely interdependent. One of the great benefits that has come out of the Rural Business Strategy process is the realization that we in the equine sector need to be working together to strengthen our sector and the rural businesses which we support and which support us. This has been a crucial missing link in the equine industry here and has severely hampered communication within the industry, to the public, and to our elected officials.

A new industry group, the Loudoun County Equine Alliance, has been formed and is preparing to address and work towards solving weaknesses that were identified through the stakeholders meetings. Like the other sectors of the rural economy which are way ahead of the equine sector in forming an industry group, the Alliance hopes to become a meaningful and effective force for cooperation, planning and implementation of its goals, which are essentially the same goals identified by the Stakeholders, and which are laid out in detail in this report.

CONCLUSIONS OF THE EQUINE SECTOR

The equine sector provides the largest financial contribution to Loudoun County's rural economy. The Board of Supervisors and other official entities should vigorously support efforts to strengthen the equine sector.

Statistical data on the equine economy in Loudoun County is sketchy and out of date.

Equine activities and events attract visitors to Loudoun County and bring in significant revenue to Loudoun businesses. Equine properties preserve open space and like all non-residential land uses generate more tax revenue to the County than they cost the County in services.

A large, all-inclusive performance facility with ample acreage (several hundred acres) and/or several smaller facilities are needed in Loudoun County in order to sustain the equine industry.

An equestrian trail system accessible to the public is needed in order to sustain the equine industry.

Communication of the horse industry's needs within the industry and to the public and elected officials must be vastly improved.

Loss of open space and farm land available for equine and agricultural activities due to residential development must be effectively reversed.

ALL CURRENT SECTOR STRENGTHS ARE THREATENED BY THE FACT THAT LOUDOUN HAS NO COMPREHENSIVE, AFFORDABLE FACILITY OR FACILITIES THAT ADEQUATELY SERVE ALL DISCIPLINES IN THE EQUINE SECTOR, AND NO TRAIL SYSTEMS. See Appendices 1 and 2.

RECOMMENDED ACTIONS

Pursue development, funding and operational plan for needed equestrian facilities.

Request Planning Commission and Board of Supervisors to amend the Loudoun County General Plan to require easements for equestrian/multi-use trails around all new (by-right and rezoned) development in rural Loudoun County.

Establish a strong advocacy group for the needs of the equestrian community. The equine sector must educate and advocate for support. Efforts must be backed up with statistics. The Loudoun County Equine Alliance, which is being formed as an outcome of the equine sector's public input process, can fill this role.

Undertake a Loudoun County Equine Survey as soon as possible to establish current data on the equine population of Loudoun County and to establish a baseline for evaluating progress. Use earlier surveys done in Virginia and other jurisdictions as sources of information and models.

Encourage preservation of large open space through incentives for landowners to place their property in conservation easements and fund the Purchase of Development Rights program.

Provide incentives for the preservation of pastureland and cropland to retain open space for equine operations, trails and foxhunting.

Ensure the survival of the equine industry and at the same time avoid the costs of development. Open space and productive land generate more in tax revenue than it costs the County for services. Residential development requires public expenditures for services which greatly exceed the tax revenue from the houses in the residential developments.

BENCHMARKS FOR PRESERVATION AND RECOVERY OF THE EQUINE SECTOR

1 Year:

The Loudoun County Equine Alliance has been formally established and has a data base of at least 2,000 members of the equine sector.

Equine Survey designed, distributed and responses tabulated.

The Alliance is actively working on the creation of facilities and a trail system with the private and public sectors.

5 years:

Equine Alliance database includes all or nearly all horse industry participants based in Loudoun County.

Equestrian facility at Lovettsville Park open and hosting shows and events.

General Plan has been amended to require trails in all new development in rural Loudoun and encouragement of voluntary gifts of trail easements in by-right subdivision and development..

All disciplines accommodated. Facility calendar at capacity

At least 3 western competitions in Loudoun per year. (Barrel racing, pro rodeo, cutting, penning, etc.) (higher level than county fair)

Data on the number of shows, and entries in the county compiled.

Increase in the number of horses in Loudoun compared to initial survey, determined by follow up survey.

15 miles of trails have been created

10 years:

Large, well-equipped multi-discipline facility open and hosting shows and events, financed privately or as a public/private partnership.

Traditional Loudoun shows such as the Loudoun Pony & Junior Show and the Loudoun Hospital Benefit Show will have returned to Loudoun venue, and new high level shows and competitions will be located here.

Classes are filled and operational expenses are covered. Long term financial stability is in place.

30 miles of trails have been created.

APPENDICES

1. EQUINE SECTOR STRENGTHS
2. EQUINE SECTOR WEAKNESSES
3. GENERAL COMMENTS AND RECOMMENDATIONS FROM THE EQUINE SECTOR PARTICIPANTS
4. COMPETING FACILITIES
5. ELEMENTS NEEDED FOR SUSTAINABLE, COMPETITIVE FACILITIES
6. WELDON COOPER REPORT, SECTION 4, ECONOMIC IMPACT RESULTS

APPENDIX 1

EQUINE SECTOR STRENGTHS

Marion Scott DuPont Equine Medical Center

Morven Park Equestrian Facility

Glenwood Park

Oatlands

Presence of Olympic equestrians and large number of other high level professionals

High value of Loudoun equine

A lot of equestrian talent located here

Diversity of equine sector

Existence of many equestrian properties, large and small, and land

Equine require hundreds of acres of pasture which creates open space, supports ag-tourism and is

a buffer to development.

The current equine community is a terrific asset

High fiscal impact of equine to the local economy and economic support to traditional agriculture.

History and reputation of Loudoun County as Virginia's Horse Country

There is still substantial open country

Customers and demand for equestrian activities

Private properties are available for lower level shows

High level dressage shows at Morven Park, lower level shows at private facilities

Pleasure riding and trail riding available on private land

5 fox hunts

5 steeplechase races annually

Proximity to Dulles Airport

Mid-Atlantic regional location

Quality and quantity of support services – e.g. vets, farriers, tack shops, feed suppliers, hay suppliers

Loudoun County's economic future is strong

ALL CURRENT SECTOR STRENGTHS ARE THREATENED BY THE FACT THAT LOUDOUN HAS NO COMPREHENSIVE, AFFORDABLE FACILITY THAT ADEQUATELY SERVES ALL DISCIPLINES IN THE EQUINE SECTOR, AND NO TRAIL SYSTEMS.

APPENDIX 2

EQUINE SECTOR WEAKNESSES

No public equestrian facilities or public trail networks
Hunter/jumper shows have gone to other jurisdictions
No A-level show facilities that are affordable for competitors and sponsors (not-for-profit and publicly accessible)
No B and C level show facilities that are affordable (ditto)
Existing private facilities are not necessarily here to stay.
Loudoun has no top level show facility with outdoor and indoor arenas, cross-country and eventing courses.
Loudoun has no top level facility for western competitions
Loudoun has no public equestrian trail system or park developed for trail riding or carriage Driving and no combined driving event facilities
Polo fields are all private.
The Interscholastic Horse Show Association show hosted by George Mason University at a facility near Aldie has inadequate stabling facilities.
Competitors are moving their businesses closer to first-class venues. Opportunities for developing equestrians are dwindling.
Fewer newcomers to horse activities
Number of youngsters in competition is shrinking
Concerns about affordability for the next generation
Diversity of equine sector has resulted in poor communication across the industry
No equestrian facility for all disciplines (english, western, driving)
Increased pace of development with no accountability for developers to provide trail easements
Less horse friendly to riders, fewer horse friendly neighborhoods
Rural properties are getting smaller
Uncooperative political entities and agencies
Residents who are uneducated about the equine industry
Our geographic competitors have government support (e.g. requirement that developers provide trail easements; subsidized public equestrian facilities
Our geographic competitors have better facilities
Some neighbors have Park Authorities which can own land and issue bonds
Equine sector is not organized and doesn't communicate to advance equestrian needs
No education provided to public about the equine economy
Absence of firm statistics on the equine economy specifically in Loudoun County. No current data on the number of horses in Loudoun County and dollars spent annually per horse in Loudoun County. (Every survey shows Loudoun with more horses than any other county in Virginia, but these are estimates with no firm numbers behind them. State average of dollars spent annually per horse in Virginia is far lower than horse owners in Loudoun actually spend per horse.)

Too few hay growers in the county

Equestrians viewed as exclusive and unfriendly to spectators

Traditional lenders unwilling to work with farms

Some jurisdictions have more horse-friendly tax policies. Research is needed

Individual property owners have met zoning obstacles to developing their equine properties.

Research is needed

Old ways of thinking are limiting us; pro-active approaches at all levels are needed to address sector weaknesses

APPENDIX 3

GENERAL COMMENTS AND RECOMMENDATIONS FROM THE EQUINE SECTOR PARTICIPANTS

Secure a facility that is partially tax-payer supported and meets the needs of the majority of the various disciplines.

Loudoun would benefit from a large international equine event because participants tend to locate their businesses around such events. Business generated by the event itself would produce a net economic gain without any of the costs associated with residential services.

Drawing major shows to Loudoun would increase the horse community here.

Major shows, well-advertised to the general public, would stimulate the B&B, hotel, and restaurant sectors.

Polo, arena polo and top level western competitions attract many spectators and generate large revenues.

Venues for low-cost, small shows for juniors are needed. Rapid development of the equestrian portion of the Lovettsville Park to provide a publicly accessible, quality venue for B & C level and schooling shows and western events should be facilitated by the County. Include good spectator space.

Establish mentor programs to draw in young competitors.

Encourage beginner showing to develop interest by providing appropriate public facilities; reduce fees for junior competitors.

Open country is under siege and disappearing.

The professionals who compete, train and instruct other competitors and rising competitors and pleasure riders are leaving or have already left. The core of the equine business is bleeding away. Private stables and show facilities are being sold.

Equine tourism is attracted by riding and driving events.

Most organized pleasure drives and combined driving events last 3-5 days. The American Driving Society yearly drive at Fair Hill, MD is 4 days with 150 turnouts (participants).

The National Drive in Kentucky is 7 days with 300-400 turnouts.

Provide VA Equine Liability Law signs to landowners who open up their property for horse access to alleviate fears of liability. Educate landowners about protection from liability. Have competitive contracts for show managers encourage them to fill calendar at venues. 52 weekends a year should be booked and running two shows at once.

Develop trail systems in Loudoun County in existing parks.

Change Parks & Recreation Department's resistance to developing and maintaining extensive trail systems or press for a Loudoun County Park Authority.

APPENDIX 4

COMPETING FACILITIES THAT TAKE SHOWS, EVENTS AND ACTIVITIES AWAY FROM LOUDOUN COUNTY

VIRGINIA

Frying Pan Park, Fairfax County, VA show venue. Facilities available to public for schooling (8am-8pm daily riding when not scheduled for an event).

110' x235' indoor

150 semi-enclosed stalls

VHSA hunter/jumper shows

Pre-turkey quarter horse shows

Therapeutic riding

Good model but not enough land. Fairfax County Park Authority

Turner Farm Park, Fairfax County, VA. Near Frying Pan Park and run by FC Park Authority

Fairfax County trail systems (Great Falls, Burke, Featherbend. Trail easements required through and around development.

Commonwealth Park, Culpeper, VA. Private show grounds. Multiple rings, good footing, stabling, western competition facilities.

Warrenton, VA. Show grounds. Western competition facilities.

The Meadow, Doswell, VA Virginia State Fairgrounds. show and fair venue

Virginia Horse Center, Lexington, VA show venue. Excellent stabling and arenas. The Virginia Horse Show Association Championships now held there.

Manassas Battlefield, Prince William County, VA. Public trail system.

Elysian Hills, Hume, VA. Training facility

Gordonsdale, Clark County, VA. Private cross-country schooling course.

Great Meadow, Fauquier County, VA Private facility, steeplechase, polo venue.

Summerplace. Fauquier County, VA. Private. Large ring, easy access, good parking, nice jumps, well run.

Morningside Farm, Fauquier County, VA. Multi-discipline private training facility, includes cross-country, accessible, low cost

Kelly's Ford Equestrian Center, Remington, VA. Training, boarding, schooling and an Inn for overnight stays.

Shenandoah River State Park. 15 miles of trails

Foxhunting

Orange County Hunt, northern Fauquier, VA. Hunt territory is preserved by open space Easements

Casanova Hunt. Fauquier County, VA

Rappahannock Hunt, Rappahannock, Culpeper & Madison Counties, VA. lower land costs, less development

Loudoun foxhunting (Loudoun, Loudoun West, Fairfax, Middleburg, Piedmont) has less and less territory but has preserved land with open space easements. ,

MARYLAND

Trail systems specifically for horses: Little Bennett, Woodstock, Patapsco, Sugarloaf, Fairhill State Park

Fair Hill, MD. (State Park) FEI Events (international events). Large acreage for cross-country and combined driving event course

Lochmoy Farm, MD – Just across Potomac near Point of Rocks on Rt. 28. Large arenas for dressage, warm up and show jumping eventing. Maryland Horse Trials. Well run shows and schooling shows (events).

Prince George's County, MD. Show venue

Loudoun lost "Local Day" of the Washington International Horse Show to them.

Calendar capacity operated at 45% their first year (?), 65% second year, now at ?

Owings Mills, MD. McDonogh School. Loudoun Hospital Benefit Show now held here.

"Epic" Trails, Montgomery County, MD. Driving

PENNSYLVANIA

Plantation Field, Unionville, PA. FEI Events Prize money. Large acreage for cross-country.

Michaux State Forest. Hundreds of miles of trails

Gettysburg Battlefield trails

OTHER STATE COMPARABLES

Green Mountain Horse Center, VT (good model)

Jacksonville (FLA ?) Expo Center

Aiken, SC

Raleigh Horse Center, NC – 7 hunter/jumper shows moving to this facility

138' x 248' ring (arena ?)

120' x 240' Covered warm-up ring

120' x 240' schooling ring

485 stalls

ncstatefair.org/facilities

Biltmore, Asheville, NC

Blowing Rock Equestrian Center, Blowing Rock, NC. Good model for a facility

Moses Cone Plantation, Blowing Rock, NC. Public/private, 27 miles of mixed use trails

North Carolina and many other states – more open space for fox hunting

APPENDIX 5

ELEMENTS NEEDED FOR SUSTAINABLE, COMPETITIVE FACILITIES

Accessible trails. Endurance, pleasure/trail riding, combined training for riding and driving, pleasure driving can all use the same facility (If wide enough for driving, wide enough for all other)

20-30 miles of trails, including obstacle courses

250 stalls minimum

Space for additional temporary stalls if needed

Facility should offer day, week or yearly “passes” to public for schooling or pleasure riding and driving

Oatlands and Morven Park have current infrastructure of roads, nearby restaurants and hotels. Glenwood Park, Middleburg, is a potential venue.

Easy Access/Ease of trailering.

(At Morven Park the traffic on Rt. 15 makes it difficult to turn into Tutt Lane or re-enter Route 15. Cost for Sheriff’s Deputies to manage traffic on busy event days is prohibitive. A traffic light operating during events would help solve this.)

Excellent footing in rings, aerated fields for cross-country course

Warm-up rings, esp. next to each competition ring

Large multi-use arena to accommodate all disciplines including western with livestock

Welcoming of western disciplines

Welcoming to natural horsemanship activities. Add a “playground” area, round pen at Morven

Large indoor arena

Good viewing areas for spectators

12x12 stalls with good ventilation

Confinement space for livestock for western events

Schooling course available to the public

Ample parking daily and overnight

Top quality ground management

For cross-country and eventing: need 100 acres for sanctioned events. Lower level events need less land. Permanent jumps required.

Large undeveloped acreage for cross-country (for example, back of Morven Park)

Large acreage for western competition

Flexibility of design to run multiple types of equestrian events.

Needed conditions for foxhunting

Conserved open space

Land deeded forever for use of foxhunters

Lower cost land remaining in larger tracts

APPENDIX 6

SECTION 4, ECONOMIC IMPACT RESULTS, THE ECONOMIC IMPACT OF THE HORSE INDUSTRY IN VIRGINIA, Terance J. Rephann, Weldon Cooper Center for Public Service, University of Virginia, (by permission of the author)



THE ECONOMIC IMPACT OF THE HORSE INDUSTRY IN VIRGINIA

MARCH 2011

TERANCE J. REPHANN
WELDON COOPER CENTER FOR PUBLIC SERVICE
UNIVERSITY OF VIRGINIA

THE ECONOMIC IMPACT OF THE HORSE INDUSTRY IN VIRGINIA

A STUDY PREPARED FOR THE VIRGINIA HORSE INDUSTRY BOARD

TERANCE J. REPHANN, Ph.D.

**Center for Economic and Policy Studies
Weldon Cooper Center for Public Service
University of Virginia
March 8, 2011**

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Cover art provided by Xenophon Strategies



**WELDON COOPER
CENTER FOR PUBLIC SERVICE**
University of Virginia

P.O. Box 400206
Charlottesville, VA 22904
(434) 982-5522 • FAX: (434) 982-5524 • TDD: (434) 982-HEAR
Website: www.coopercenter.org/

Richmond
700 E. Franklin Street, Suite 700
Richmond, VA 23219-2328
(804) 371-0202 • FAX: (804) 371-0234 • TDD: (804) 982-HEAR

Southwest
One College Avenue
Wise, VA 24293
(276) 328-0133 • FAX: (276) 328-0233 • TDD (540) 328-0191

Southside
1008 South Main Street
Danville, VA 24541-4088
(434) 791-5174 • (434) 791-5175 • FAX: (434) 791-5176

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PREFACE

The purpose of this research is to provide a comprehensive evaluation of the statewide economic impact of the horse industry on the commonwealth of Virginia. It should be understood that although the word “equine,” which includes ponies, mules, donkeys, and burros as well as horses, would be a more accurate description of the industry, the term “horse” will be used here instead because it is more common and most of the animals involved are horses. The study relies on data drawn from numerous sources, including published data, information from research studies, and new primary data collection from surveys of horse industry participants. It uses standard regional economic tools to gauge the effect of spending of the varied industry participants on the Virginia economy. Participants include horse owners and operations (farms, breeders, boarding facilities), horse show and competition participants and spectators, and pari-mutuel racing patrons.

This study was commissioned by the Virginia Horse Industry Board, which was established in 1994 within the Virginia Department of Agriculture and Consumer Services for the purpose of promoting and developing the state’s horse industry. Recognizing the need for timely information on the economic status and influence of this growing industry, the board approached the University of Virginia’s Center for Economic and Policy Studies at the Weldon Cooper Center for Public Service about updating a statewide economic impact study conducted nearly eight years ago for the Virginia Equine Educational Foundation with financial support from the Virginia Horse Industry Board. This study implements the general methodology used in the earlier study. However, certain enhancements were made to improve data collection from industry participants. Moreover, a newer version of the regional economic model was employed. Lastly, this study provides additional economic information, including tax revenue estimates and impact estimates for each county and independent city.

In order to familiarize myself with the horse industry, I immersed myself in a review of the literature and consulted with colleagues and industry participants on different questions. I also visited venues and events described in the study, including a Thoroughbred race at Colonial Downs, the Cavalier Classic at Commonwealth Park in Culpeper, and the Southern States Showdown at the Virginia Horse Center in Lexington. These experiences helped to enhance my understanding of the industry.

I would like to thank numerous people for assistance in completing the study. Andrea Heid, Director of the Virginia Horse Industry Board, and members of the board (see the next page for member list) provided helpful guidance during all stages of the study, including defining the study scope, assisting with horse event sample selection issues, and providing survey cover letters. Mr. Herman Ellison of the National Agricultural Statistics Service’s Richmond office provided unreported information from the 2006 Virginia Equine Survey Report that was important for conducting the impact analyses for horse operations. Former Virginia Racing Commission Victor Harrison provided useful information about Virginia’s pari-mutuel horse racing industry. Darrell Wood, Director of Marketing at Colonial Downs, and David Lermond, Fiscal Officer at the Virginia Racing Commission, furnished vital financial, employment and tax revenue data needed to estimate the economic impact of Virginia horse racing.

Professor Thomas Guterbock, Jim Ellis, Kathy Coker, David Shreve, and John Lee Holmes of the Center for Survey Research at the Cooper Center coordinated all aspects of the survey work required for the study. Jim Ellis developed the survey design and also wrote the survey methodology section of this study (Appendix A.3). Several other persons at the Cooper Center provided assistance. Professor John Knapp consulted on important design issues at the beginning of the study and provided comments and edits on drafts of the

final study. Steve Kulp and Dave Borszich provided assistance in preparing the study document. Naushad Parpia assisted with survey follow-up and data entry.

Any errors or omissions remain the responsibility of the author

Terance J. Rephann, Ph.D.
Regional Economist
Center for Economic and Policy Studies
Weldon Cooper Center for Public Service
University of Virginia

Charlottesville, Virginia
March 2011

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EXECUTIVE SUMMARY

Virginia's horse industry encompasses a variety of activities from breeding, training and boarding to recreational pursuits such as racing, showing and other competitions. Over the past several decades, the intensity, scale and scope of these activities have increased rapidly in Virginia. Horse ownership has become more popular and venues offering opportunities for racing, showing and trail riding have spread across the commonwealth. As a result, the horse industry has come to play a more visible role not only in agriculture but tourism and recreation as well. The spending in these sectors, in turn, supports numerous other industries.

This study examines the economic impact of Virginia's horse industry using input-output analysis, a research tool that allows one to quantify the impact of an economic activity or expenditure in a region. For Virginia's horse industry, the spending associated with horse owners, commercial horse operations, out-of-state show and race participants, and horse event spectators constitutes the direct contribution to the state's economy. Linkages with other industries in Virginia's supply chain mean that this spending has further stimulative effects that result from the purchases of goods and services and payments to employees. The horse industry expenditures cause a "ripple effect" or "multiplier effect" that results when money is re-spent in an economy.

The study uses an industry standard input-output model called IMPLAN (IMPact analysis for PLANning) to generate customized impact analyses for the commonwealth of Virginia and each of its localities. Input data for the impact analyses were drawn from surveys of horse owners and operations and surveys of participants and spectators at horse shows, competitions, and pari-mutuel facilities. Other sources of information were surveys of horse show competition sponsors and data collected from Colonial Downs and the Virginia Racing Commission.

Statewide economic impact results are disaggregated into three categories: (1) expenditures on horse maintenance and support by horse owners and operations, (2) expenditures on horse shows and competitions, and (3) expenditures associated with pari-mutuel racing

activities licensed by the Virginia Racing Commission. The economic effects from these expenditures are measured using several different economic metrics, including employment, sales, value-added, labor income and tax revenue.

Among the key findings of the study are the following:

- The Virginia horse industry had a total economic impact of 16,091 jobs in 2010. The labor income impact was \$502.4 million. The value-added impact (which includes labor income, property income such as interest, rent and profits, and indirect business taxes, and is directly comparable to gross domestic product) was \$669.8 million. The total sales impact (which includes intermediate sales as well as sales for final demand) was \$1.2 billion.
- The Virginia horse industry accounted for \$65.3 million in total state and local taxes in 2010. State taxes are estimated at \$37.5 million. Of this total, the largest portion was from the individual income tax (\$18.5 million), followed by the sales and use tax (\$9.2 million). Other taxes (e.g., the corporate income tax, the motor vehicle fuels tax) amounted to \$7.9 million. State pari-mutuel racing license revenues were \$1.9 million. Local government taxes are estimated at \$27.8 million. The largest category was "other taxes" (\$20.9 million) of which real property taxes form the largest part. The local option sales and use tax and the meals tax each brought in more than \$2 million. Local pari-mutuel revenues were \$911.1 thousand.
- The impacts of the Virginia horse industry were felt in various sectors of the economy. The largest effects in terms of employment were in the agriculture and services sectors. Also experiencing large economic effects were trade and construction. The direct effects of industry purchases were dominant in agriculture (which includes farming as well as agricultural support services such as farriers and groomers) and construction. Service and retail sector impacts reflect the direct effects of industry spending as well as indirect and induced effects.

- The expenditures of Virginia horse owners and operations accounted for 12,685 jobs, \$410.1 million in labor income, \$526.1 million in value-added, and \$926.3 million in total sales. The tourism-related expenditures of in-state residents and total expenditures (both horse-related and tourism related) of out-of-state residents accounted for 2,294 jobs, \$59.3 million in labor income, \$92.6 million in value-added, and \$172.6 million in total sales. Pari-mutuel racing activities had an economic impact of 1,112 jobs, \$32.9 million in labor income, \$51.1 million in value-added, and \$103.2 million in total sales.
- The economic effects of Virginia's horse industry can be felt throughout the commonwealth. However, the largest regional concentration of economic impacts is in Northern Virginia. Indeed, Fauquier and Loudon counties each had over 800 jobs attributable to the horse industry. The largest employment impact in a single locality, however, is found in Rockbridge County (including the cities of Lexington and Buena Vista) where an estimated 1,331 jobs are stimulated. This impact reflects the important role of the Virginia Horse Center, other equine shows and competitions held in the county, and a relatively large inventory of 3,700 horses. New Kent County, home to the Colonial Downs racetrack, which directly employs nearly 400 people during the Thoroughbred racing season, is another significant economic activity center with a total employment impact of 789.
- The estimated attendance at Virginia horse shows and competitions during 2010 was 934,000. Attendees were participants, members of participants' travel parties or spectators. Nearly 46 percent of horse show and competition attendees were drawn from the locality in which the event was held. Another 40 percent came from elsewhere in Virginia. Fourteen percent were out-of-state residents.
- Attendance at Colonial Downs during the Thoroughbred and harness seasons was 74,000. Of that total, an estimated 9.9 percent resided locally, 79.5 percent came from elsewhere in the state, and 10.6 percent from out of state. For the eight off track betting (OTB) locations where tallies were available, 325,000 attended. Of this total, 32.6 percent resided in the city or county where the OTB was located, 45.3 percent resided elsewhere in the state, and 22.1 percent came from out of state.
- The in-state expenditures of horse event attendees varied widely based on the type of event they attended (i.e., horse show and competition, pari-mutuel race, OTB), whether they were in-state or out of state residents and whether they were participants or spectators. Out-of-state show and competition participant parties spent on average \$2,983 per event while in-state parties spent \$1,590. Out-of-state show and competition spectator parties spent on average \$891 while in-state parties spent \$181. Non-wager spending of out of state Colonial Downs patrons was \$413 and in-state spending was \$95. Non-wager spending of out of state OTB patrons was \$264 while in-state spending was \$49.
- The input-output analysis was not able to capture all of the economic effects of Virginia's horse industry. For example, it did not examine the full effects of equine-related agri-tourism and trail riding. However, studies conducted for other states show that they can be a significant source of spending and economic activity. Moreover, the study does not consider the wider social economic benefits and costs of horse ownership. For example, information collected for the study suggests that the Virginia horse industry is helping to offset the decline in the number of farms and helping to preserve over 1,000 miles of open space.

INTRODUCTION

In the last two decades Virginia's horse industry has grown to play an increasingly more visible role in Virginia's farm economy. While annual sales of Virginia's crops and livestock have remained largely stagnant (Rephann 2008), the sales, inventory and total value of horses in Virginia have grown rapidly. However, it would be a mistake to restrict an economic analysis of horses to an examination of their agricultural roles. They are multifaceted creatures and play various roles in the economy: they are therapeutic aids, sports competitors and entertainers, police/rescue mounts, and more. Consequently, the horse industry is economically varied as well. It affects not only the farm sector, but the household, tourism and recreation sectors. The spending of these sectors, in turn, supports numerous other industries.

This study mainly updates a previous study of the horse industry, *2001-2002 Study of the Economic Impact of the Equine Industry in Virginia*, conducted by the Wessex Group eight years ago. Similar to that study, this one uses an input-output analysis tool to estimate the impact of the horse industry on Virginia's economy. Like that study, it also divides the total economic impact into three categories: (1) effects due to the expenditures of horse operations (e.g., horse owners, farms, breeders, boarding facilities), (2) effects attributable to expenditures on horse shows and competitions, and (3) effects traceable to the expenditures attached to pari-mutuel racing activities licensed by the Virginia Racing Commission. However, unlike that study, this one produces entirely new estimates for the effects of the industry on state and local tax revenues. Moreover, effects for employment, income, output and local tax revenues are presented for Virginia counties and independent cities.

The Virginia horse industry has increased in size since the 2001-2002 period because of expansion in two of

the three components of economic effect. The Virginia horse population is larger and more is being spent by horse operations. In addition, the Virginia show and competition calendar has expanded and offers a variety of events throughout the commonwealth. The Virginia racing industry, which is the smallest of the three components, saw significant growth until 2007 but experienced a contraction in attendance and wagering since then because of competitive pressures and the effects of the recent recession on consumer spending.

The study is divided into several sections. The first section describes the history, development and current status of Virginia's horse industry based on current and historical data available from sources such as agriculture censuses, prior horse economic impact surveys, Virginia Racing Commission reports, and other sources. The second section defines the horse industry, describes the economic methodology and the IMPLAN software tool used for the analysis. The third section presents information on horse industry direct expenditures used as input data for the analysis. The fourth section provides the results of the economic analysis. The results are presented in aggregate as well as by source. In addition, economic activity is estimated at both the industry and locality levels. The fifth section discusses other economic benefits and costs of the horse industry that are not captured in the economic analysis. Additional technical details about methodologies and sampling techniques used in the study are provided in the appendices. Finally, a glossary of economic modeling and horse industry terminology used in the study is provided for those unfamiliar with the lexicon of these fields.

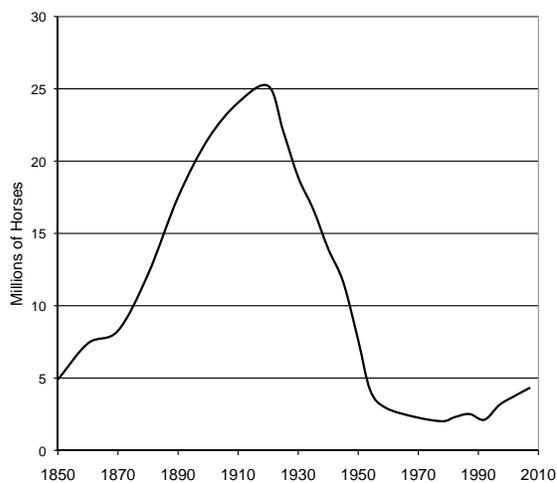
SECTION 1 VIRGINIA'S HORSE INDUSTRY

History, Population and Development

Throughout much of its history, horses have played a vital role in Virginia's growth and development. Horses arrived with the settlers at Jamestown (Campbell 2010). Like elsewhere in America, they were the primary means of transportation and provided much of the energy for farm and industrial production. They were crucial for moving soldiers, materiel and artillery in times of war. They were also used for racing and recreation. From 1840 to 1910 they grew in number. However, widespread mechanization made possible by the invention of the electric motor, telephone and automobile gradually made them redundant and their number dwindled in Virginia and throughout the nation (Campbell 2010).

In the past three decades, after years of decline, U.S. and Virginia horse populations have rebounded, stimulated mainly by the increasing interest in horses for use in recreational activities and sport (Gerena 2005). This growth parallels broader national increases in disposable income and consumer expenditures on recreation and leisure activities. **Figure 1.1** shows that the farm-based horse population more than doubled from a low

Figure 1.1 United States Farm-based Horse Population, 1850-2007



Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2006, 2009)

point of just over 2 million to 4.3 million between 1978 and 2007. Although federal government statistical agencies, such as the U.S. Department of Agriculture (USDA), do not provide regular estimates of the non-farm horse population, information assembled from periodic National Agricultural Statistics Service (NASS) reports and surveys conducted for national horse associations such as the American Quarter Horse Association and the American Horse Council suggests that the non-farm population is increasing even more rapidly than the farm-based population (see **Table 1.1**). The most recent estimate for the entire U.S. horse population is provided by an American Horse Council study (Deloitte Consulting 2005), which places it at 9.2 million.

It seems likely that this growth continued until at least relatively recently. A 2009 survey showed that respondents were more likely to indicate that they owned, leased and/or managed a larger number of horses compared to three years earlier than those respondents who indicated the reverse (American Horse Publications 2010). On the other hand, respondents were also more likely to indicate that they would reduce the number of horses they had two years hence than they were to indicate that they would increase the number. These results are consistent with growing evidence that the unwanted and abandoned horse problem is increasing, in large part due to the downturn in the national economy (Unwanted Horse Coalition 2009).

Virginia is an important player in the growing national horse industry. It ranks twelfth in number of horses according to estimates made for the American Horse Council (see **Table 1.2**). On the other hand, it ranks fifteenth for farm-based horses according to the 2007 Census of Agriculture, reflecting the greater importance of horses in ranching and farming activities in larger agricultural states in the Midwest and West.

Virginia's horse industry has grown to play an increasingly prominent role in Virginia's farm economy. While annual price-adjusted sales of Virginia's crops and livestock have remained largely stagnant over the

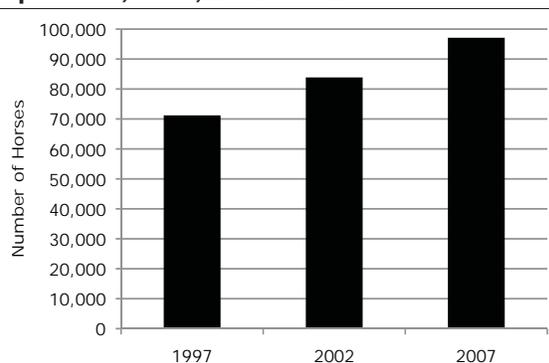
Table 1.1 United States Horse Population Estimates, Selected Years

Year	Source	Estimate (Millions)	Population Covered
1986	American Horse Council	5.25	All horses
1986	American Veterinary Medical Association	6.60	“Pet” horses only
1991	American Veterinary Medical Association	4.90	“Pet” horses only
1996	American Horse Council	6.90	All horses
1996	American Veterinary Medical Association	4.00	“Pet” horses only
1997	USDA Agriculture Census	3.02	On-farm horses only
1998	USDA-NASS	5.25	All horses
1999	USDA-NASS	5.35	All horses
2001	American Veterinary Medical Association	5.10	“Pet” horses only
2002	USDA Agriculture Census	3.64	On-farm horses only
2005	American Horse Council/Deloitte Consulting	9.20	All horses
2007	USDA Agriculture Census	4.30	On-farm horses
2007	USDA Business Plan	5.80	All horses
2007	American Veterinary Medical Association	7.30	“Pet” horses only

Sources: Freeborn (2009), U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2006), and American Veterinary Medical Association (2007)

last two decades (Rephann 2008), the farm inventory, total value, and sales of horses in Virginia have grown. Virginia’s farm-based horse population advanced from 71,201 in 1997 to 97,112 ten years later, a growth of 36 percent (see **Figure 1.2**). Farm-based horse sales made up almost 4 percent of agricultural cash receipts in 2004 compared to less than 1 percent in the 1960s and early 1970s, ranking them ninth highest among major categories of livestock, poultry and crops (see

Figure 1.2 Virginia Farm-based Horse Population, 1997, 2002 and 2007



Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2004, 2009)

Table 1.3) in 2004, the last year disclosed estimates are available.¹

Focusing on farm-based horses is too restrictive. Most of Virginia’s farm population lives off farm. Estimates of Virginia’s total horse population vary widely because of different sampling sizes and methodologies. However, the most recent survey conducted by the Richmond field office of the National Agricultural Statistics Service estimates that there are approximately 215,000 horses in the state (see **Table 1.4**), more than twice the number of the farm-based population estimate (U.S. Department of Agriculture, National Agricultural Statistics Service, 2008). Estimates available from the American Horse Council place the population somewhat larger, 239,102 in 2003 (Deloitte Consulting 2005), but the sampling method used was less rigorous.

Virginia’s horses have varied uses and represent many breeds. Almost half of Virginia horses are used for pleasure/trail riding (see **Figure 1.3**). This result is similar to results of the American Horse Council study

¹ Computations based on data from U.S. Department of Agriculture, Economics Research Service Farm Income Data Files <http://www.ers.usda.gov/data/farmincome/finfidmu.htm>

Table 1.2 State Horse Populations and Rankings, All Horses and Farm-Based Horses, 2005 and 2007

State	All Horses, 2005 ^a		Farm-Based Horses, 2007 ^b	
	Number	Rank	Number	Rank
Alabama	148,152	30	97,952	14
Alaska	11,449	47	2,330	50
Arizona	177,124	23	70,770	31
Arkansas	168,014	24	86,631	22
California	698,345	2	187,874	2
Colorado	255,503	10	123,995	11
Connecticut	51,968	41	11,938	45
Delaware	11,083	48	4,070	48
District of Columbia	33	51	0	51
Florida	500,124	3	126,858	7
Georgia	179,512	20	85,658	23
Hawaii	8,037	49	6,807	47
Idaho	158,458	27	77,800	27
Illinois	192,524	18	83,878	25
Indiana	202,986	15	85,546	24
Iowa	199,220	17	76,197	28
Kansas	178,651	21	94,356	16
Kentucky	320,173	5	187,316	3
Louisiana	164,305	26	65,292	33
Maine	37,854	43	12,564	44
Maryland	152,930	28	31,868	39
Massachusetts	37,529	44	21,572	41
Michigan	234,477	13	105,572	13
Minnesota	182,229	19	93,841	18
Mississippi	113,063	35	72,343	29
Missouri	281,255	7	161,150	5
Montana	129,997	32	109,635	12
Nebraska	150,891	29	68,386	32
Nevada	51,619	42	18,805	42
New Hampshire	14,681	46	10,603	46
New Jersey	82,982	39	31,332	40
New Mexico	147,181	31	55,505	35
New York	201,906	16	87,823	20
North Carolina	256,269	8	86,923	21
North Dakota	59,391	40	45,560	37
Ohio	306,898	6	125,812	9
Oklahoma	326,134	4	178,887	4
Oregon	167,928	25	94,191	17
Pennsylvania	255,763	9	126,094	8
Rhode Island	3,509	50	3,582	49
South Carolina	94,773	37	47,833	36
South Dakota	120,878	33	72,007	30
Tennessee	206,668	14	160,353	6
Texas	978,822	1	499,617	1
Utah	120,183	34	61,723	34
Vermont	24,540	45	14,233	43
Virginia	239,102	12	97,112	15
Washington	249,964	11	93,532	19
West Virginia	89,880	38	40,423	38
Wisconsin	178,636	22	125,763	10
Wyoming	99,257	36	82,721	26
United States	9,222,850		4,312,633	

a Deloitte Consulting (2005).

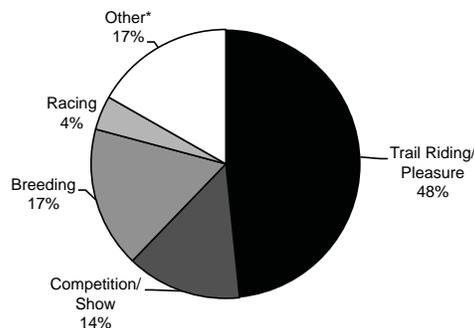
b U.S. Department of Agriculture, National Agricultural Statistics Service (2009).

Table 1.3. Virginia Farm Commodity Cash Receipts, 2004

Commodity	Cash Receipts (\$ Thousands)
Broilers and farm chickens	591,501
Cattle and calves	317,677
Milk, wholesale	308,417
Greenhouse/nursery	234,880
Turkeys	175,890
Soybeans	126,456
Tobacco	112,920
Corn	103,230
Horses/mules	102,400
Tomatoes	95,931
Chicken eggs	69,703
Hogs	67,599
Misc. vegetables	48,173
Fruits/nuts	47,663
Hay	44,264
Other poultry	37,400
Aquaculture	35,924
Other livestock, sheep, lambs, honey, and wool	34,446
Wheat	33,731
Cotton	31,975
Peanuts	21,632
All other crops	8,298
Sheep and lambs	2,956

Source: U.S. Department of Agriculture, Economic Research Service (2010)

Figure 1.3 Virginia Horses by Primary Use, 2006



Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2008).

* "Other" category uses include hunting, working, driving, training, dressage, police/rescue, and all other uses.

(Deloitte Consulting 2005), which shows that 42 percent of horses are used recreationally rather than for competitive, work or breeding purposes. Virginia's two most popular horse breeds, the American Quarter Horse and the Thoroughbred (see **Table 1.5**), are also the most popular U.S. breeds (Deloitte Consulting 2005). These breeds have a long connection to Virginia. The Quarter Horse was bred in Virginia and the first Thoroughbreds were imported to America through Jamestown. The respective ranks of these breeds reversed from the 2001 Virginia Equine Survey Report (U.S. Department of Agriculture, National Agricultural Statistics Service 2002), however, because of a large increase in the Quarter Horse and concomitant drop in the Thoroughbred populations. Both breeds are popular choices for racing as well as competitive horse events. The Tennessee Walker and Arabian are other important Virginia breeds.

Table 1.4 Virginia Horse Population Estimates, Various Sources, Selected Years

Year	Source	Estimate	Population Covered
1995	Wessex Group (1996)	225,400	All horses
1997	USDA, NASS (2004)	71,201	On-farm horses only
1998	USDA, NASS (1999)	145,000	All horses
1999	USDA, NASS (1999)	150,000	All horses
2001	USDA, NASS (2002)	170,000	All horses
2002	USDA, NASS (2004)	83,871	On-farm horses only
2003	American Horse Council/Deloitte (2005)	239,102	All horses
2006	USDA, NASS (2008)	215,000	All horses
2007	USDA, NASS (2009)	97,112	On-farm horses only

Table 1.5 Virginia Horse Population by Breed, 2006

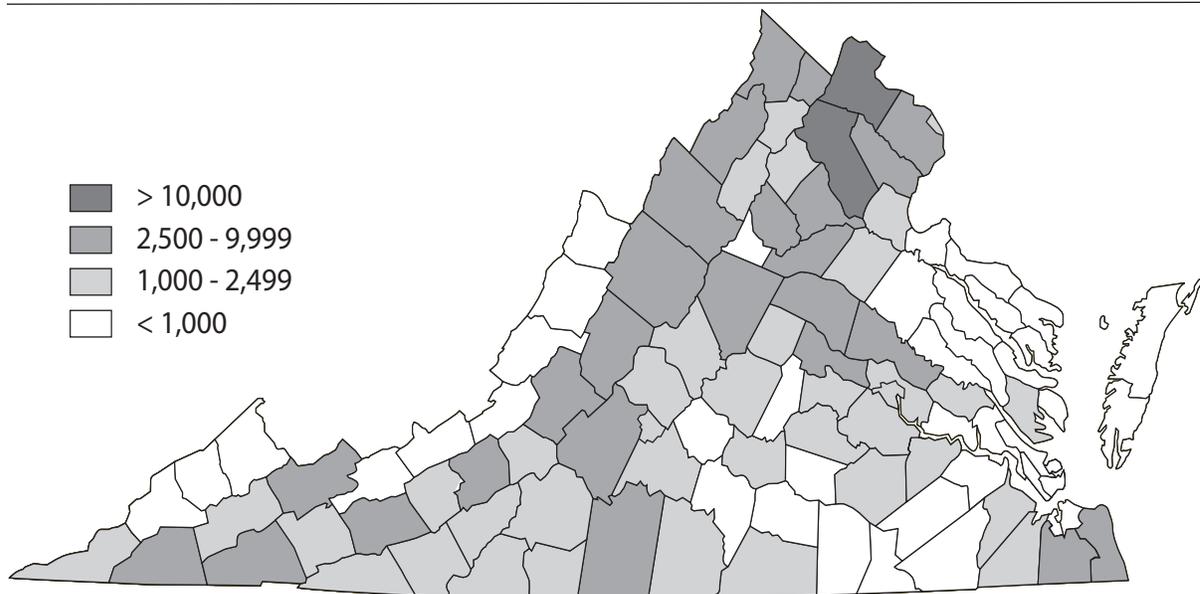
Breed	Number	Percent of Total
American Saddlebred	7,300	3.4
Appaloosa	9,400	4.4
Arabian and Anglo- Arabian	13,200	6.1
Belgian	3,000	1.4
Hanoverian	2,200	1.0
Miniature horses	5,800	2.7
Morgan	2,800	1.3
Paint/Pinto	10,900	5.1
Paso Fino	1,400	0.7
Pecheron	2,700	1.3
Quarter Horse	49,000	22.8
Standardbred	4,000	1.9
Tennessee Walker	15,500	7.2
Thoroughbred	30,900	14.4
Mules, donkeys	13,400	6.2
Ponies	13,800	6.4
Other equine	29,700	13.8
Total	215,000	100.0

Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2008)

Horses can be found in every Virginia county and some of the larger independent cities. However, greater concentrations are found in urban and suburban counties, particularly in Northern Virginia (see **Figure 1.4**). This geographical location pattern is quite different from other livestock such as cattle, hogs and sheep, which tend to be located in rural areas (Kaneene et al. 1997). A comparison of 2001 and 2006 data suggests that the horse population is migrating further away from growing suburban areas because of land development pressures.

Virginia's horse industry is supported by a rich horse tradition, an excellent horse industry infrastructure of facilities and services, and an agreeable climate (Gerena 2005). However, its continued growth and development depends on five factors: (1) availability of affordable undeveloped land, (2) maintenance of an agricultural infrastructure that provides the materials, services and facilities needed for breeding, training, stabling, feeding and caring for horses, (3) a healthy pari-mutuel racing industry, (4) quality show and competition facilities and venues such as the Virginia Horse Center, Commonwealth Park, and Great Meadows Event Park, and (5) an active calendar of shows, competitions, and other equestrian events. The economic impact of the industry will largely be determined by the continued popularity of horse

Figure 1.4 Virginia Horse Population by Locality, 2006



Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2008)

ownership and the strength and tourism drawing power of recreational pursuits such as horse racing, showing and other equestrian activities. Each of these topics is examined briefly below.

Horse Operations

According to the most recent information available (U.S. Department of Agriculture, National Agricultural Statistics Service 2008), counting both households and businesses, there were 41,000 horse operations in 2006, a substantial 41 percent increase from 29,000 reported for 2001 (U. S. Department of Agriculture, National Agricultural Statistics Service 2002). These operations had over \$780 million in horse-related expenditures in 2006. This amount was a significant increase over baseline levels reported in 2001, mainly because of a 26 percent estimated growth in the overall horse population, from 170,000 to 215,000 horses. In addition, the estimated average expenditure per equine increased nearly 9 percent from \$3,354 to \$3,642 measured in 2006 dollars².

Typically, there are large differences in average horse expenditure depending on the horse breed and use. Horses used for racing, in particular, and less so, for showing/competitions, incur more expenses for transportation to and from races and competitions (Deloitte Consulting 2005; Broadway et al. 1994) and for stabling at races and shows. But, they also require more spending on training and upkeep due to the stresses, injuries and demands of competitive sports and showing and the need for specialized tack and equipment. Changes in the composition of horse breeds and horse uses, therefore, have implications for horse spending. Results from the Virginia equine surveys suggest that racing uses have decreased significantly from 12,600 to 8,800 from 2001 to 2006, reflecting partly the migration of the Thoroughbred population to states offering more competitive breeding incentives (Bahrapour 2009). Showing uses, however, have remained relatively stable, increasing slightly from 29,100 to 29,700 over the same period. Virginia horse operations spending would likely have been significantly higher without the Thoroughbred population attrition.

² The 2001 price adjustment was based on IMPLAN deflators by commodity and expense category assignments to commodities described further in Section 3.

Four years have elapsed since the last Virginia horse inventory. Horse operations expenditures may have changed since then because of changes in the total horse population and its composition. Moreover, expenditure patterns may have shifted due to the effects of the 2007-2009 economic recession and increases in feed costs. However, as will be argued in the next section, evidence suggests that these changes probably did not cause a reduction in statewide horse spending.

The expenditures of horse operations are not only significant in and of themselves. They also support other industries, including Virginia's farm economy through the purchase of local agribusiness products such as hay for feed and wood shavings for bedding, and they have multiplicative effects on the economy, an issue that will be explored in other sections of the study

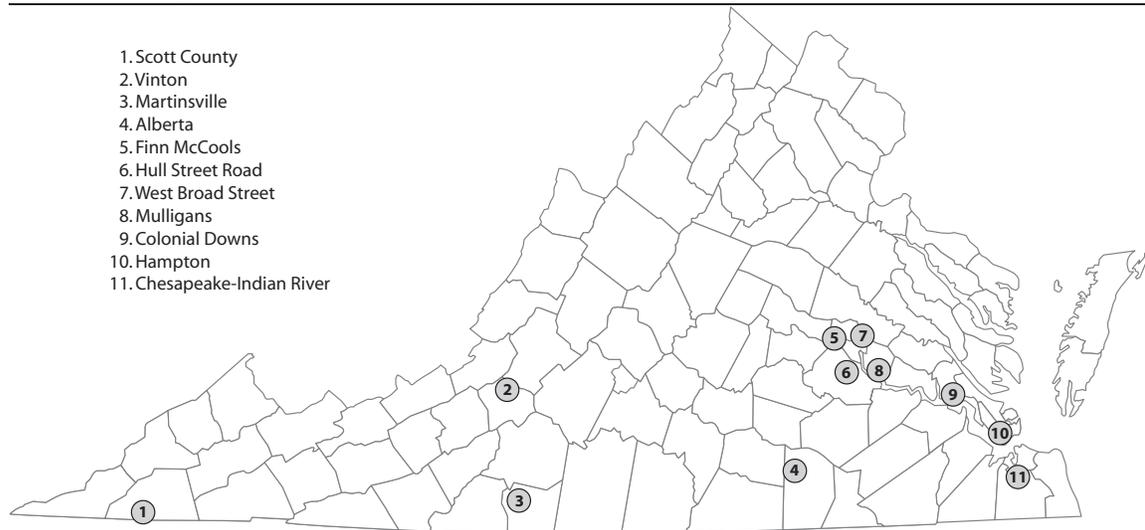
Horse Racing

Virginia was the center of American racing during Colonial days. It had lost that dominance by the end of the 1800s and much of the Thoroughbred industry had migrated to Kentucky (Johnson and Crookshanks 2008). It wasn't until the General Assembly legalized pari-mutuel gambling in 1996, established the Virginia Racing Commission as regulatory authority, and authorized the Colonial Downs racetrack, that the winds began to change.

Colonial Downs, located in New Kent County in the Peninsula, is privately owned by Jacobs Entertainment. It has the nation's premier grass turf racing track as well as a 1.25-mile dirt track. Colonial Downs features Thoroughbred racing during June to mid-August and Standardbred (harness racing) from mid-September to early November. It also hosts a number of other horse events such as the Strawberry Hills Steeplechase Race and non-horse events such as tournaments, festivals and concerts during the year. Simulcast wagering is offered at ten off-track betting (OTB) facilities located throughout much of southern half of Virginia, including four in the Richmond area, two in the Hampton Roads region, two in the Southwest, and two in Southside (see **Figure 1.5**). These OTBs account for the bulk of state pari-mutuel wagers.

One measure of the Virginia racing industry's overall economic health is the total amount of money

Figure 1.5 Virginia Pari-mutuel Racing and OTB Facilities

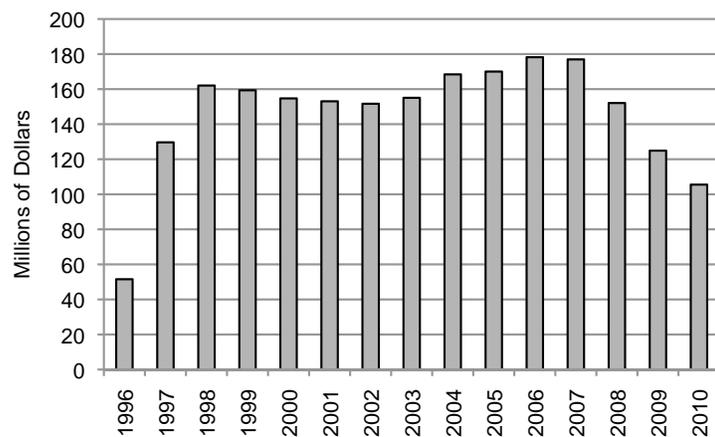


wagered. Virginia’s racing wagers initially grew with the opening and maturation of the Colonial Downs track, expansion in state off-track betting opportunities, interstate simulcast (live horse race video feeds of horse races around the nation and world), and the addition of telephone and computer account wagering (see **Figure 1.6**). However, like any sporting and recreational product, demand for pari-mutuel wagering overall and at individual locations depends not only on the location, quality and price (i.e., betting odds) of the product, but the proximity, price and quality of recreational substitutes and the disposable personal income

levels of consumers (Ali and Thalheimer 1997; Thalheimer and Ali 1995).

Developments in the gaming industry have had a huge impact on pari-mutuel racing throughout the country. Stand-alone pari-mutuel facilities find themselves rapidly losing market share to casino gambling, Internet gambling, and racinos (Cummings Associates 2004). For Virginia, competition from neighboring states is intense and escalating. West Virginia and Pennsylvania have legalized slot machines at track and off-track locations. Maryland is in the process of licensing them. And, Kentucky is currently considering slots legislation (Tuna and Scheck 2010). The recent deep recession has also affected racing revenues, and indeed, all gambling revenues, as hard-pressed consumers cut back on their discretionary spending (Dadayan and Ward 2009). As a result, Virginia pari-mutuel wagering has been particularly hard hit and has plummeted to levels in price-adjusted dollars last seen in the first two years of Colonial Downs’ operation in 1996 and 1997.

Figure 1.6 Virginia Pari-mutuel Wagering in 2010 Constant Dollars 1996-2010



Source: Virginia Racing Commission (2010)

Horse racing is important to the state economy for several reasons. First, it helps to support Virginia’s tourism industry, providing a major attraction

for the Tidewater region and directly employing over 300 full-time and part-time workers at the facility itself during the Thoroughbred racing season. Second, the racetrack also attracts out-of-state racehorse participants who pay for local services such as trainers, jockeys and grooms, and other costs associated with the race stay. Third, racetrack and OTBs help to retain in-state bettors who would otherwise gamble in out-of-state venues. Fourth, since a portion of the wagers is withheld for local and state taxes, the industry helps support public expenditures. In addition, portions are allotted to the Virginia Breeders Fund, the Virginia-Maryland Regional College of Veterinary Medicine, the Virginia Equine Center Foundation, and the Virginia Horse Industry Board, which help support horse breeding activities in the state and the horse industry in general. Lastly, a portions of the wager pool is used for horse winner purses and prizes.

Shows, Competitions, and Other Events

Virginia hosts some of the nation's most venerable equestrian events such as the Upperville Colt and Horse Show (the oldest hunter and jumper show which started in 1853), the Strawberry Hill Races (a steeplechase race begun in 1895), and the Warrenton Pony Show (established in 1920). The commonwealth has an active annual calendar of horse shows, competitions, and other horse related events such as clinics, auctions, trail rides, and polo games. Some of the shows attract national attention and riders from across the United States and the world.

Horse shows are judged competitions in which awards are made for the conformation, disposition, or performance of the horse or for skill exhibited by the rider. They are usually categorized by region, discipline or breed. Many shows are open to different breeds or feature varied disciplines. However, some are restricted to particular breeds or emphasize a specific type of competition. Usually shows are divided into classes in which similar types of horses and rider skill levels compete in a given activity. Shows and competitions may be either sanctioned or unsanctioned. Sanctioning may result from local, state or national organizations. In many instances, local horse clubs are regional affiliates of state and/or national organizations. For

instance, the United States Dressage Association has a group member organization, the Virginia Dressage Association, which in turn has eight Virginia chapters (Central, Northeast, Charlottesville, Northern, Shenandoah, Fredericksburg, Southwest and Southeast). The presence and quality of sanctioning has been found to be a key determinant of show participation levels (Stowe and Burdine 2009).

An exact enumeration of horse events is difficult to obtain because a comprehensive state show calendar does not exist. Lists of events must be assembled piecemeal from leading equestrian publications, national, regional and local horse clubs and associations, and the schedules listed by individual facilities. Moreover, the list must be revised based on cancellations and rescheduled activities. Using definitions and methodology explained in greater detail in Appendix A.1, it was determined that there were at least 1,193 horse shows and activities during 2010.

These events were categorized in various ways to help create a profile of Virginia's show and competitions. Horse events were categorized in terms of the expected geographical origin of participants with events being identified as having national, regional, state or local draws. Local events were characterized as drawing participants mainly from the locality where the event occurs or localities contiguous to the event locality. State events drew primarily from within Virginia. Regional events likely drew from within the state as well as adjoining states, while national events draw even farther afield. Events were also coded for the dates and locations. Lastly, events were also classified by major discipline. Virginia shows and competitions feature a wide variety of disciplines including those recognized and sanctioned by major horse associations such as the United States Equestrian Federation, the United States Dressage Association, the American Quarter Horse Association, etc. An exact taxonomy is not possible since events may combine disciplines in different ways. To simplify matters events were designated as falling into four general categories based on descriptive information and programs for the events. These categories included hunter-jumper shows, dressage competitions (which encompassed eventing, horse trials and combined tests), western riding events,

Figure 1.7 Virginia Horse Shows and Competitions by Locality, 2010



Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

and a catch-all category called “other” which included multi-discipline shows, fun shows, steeplechase races, vaulting, jousting, Gymkhana (a mounted game), etc.

Not surprisingly, the vast majority (995 or 84.5 percent) of Virginia events draw primarily from their local areas while 111 (9.3 percent) have a statewide focus, and the remaining 69 events (5.8 percent) draw significant numbers of participants from outside the state. Most (53.6 percent) of the high-level events are hosted by the Virginia Horse Center. Sixty-nine of Virginia’s counties and independent cities hosted at least one event. However, events are also fairly geographi-

cally clustered in certain regions. The Northern and Central regions account for the vast majority of events (see **Figure 1.7**) and the Southside region the least. The main venues for Western Region competitions are the Virginia Horse Center in Lexington (which hosted 83 events) and the Green Hill Park Equestrian Center in Salem (which hosted 18 events). **Table 1.6** lists the top ten venues by number of events. At the top is the Virginia Horse Center followed by Frying Pan Farm Park in Herndon and Morven Park in Leesburg.

Given the physical constraints on outdoor competitions during the winter months, the Virginia show and

Table 1.6 Virginia Top Ten Horse Show and Competition Venues by Number of Events, 2010

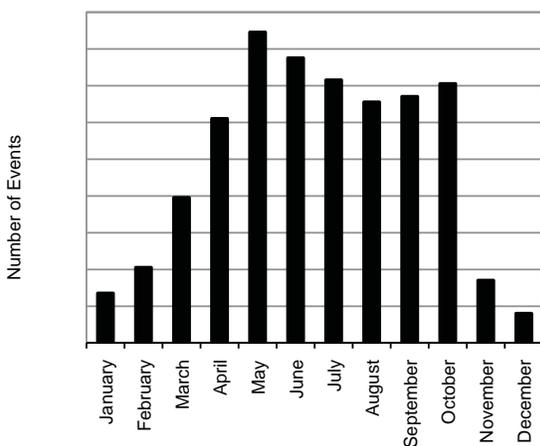
Venue	City or Town	Number of Events
Virginia Horse Center	Lexington	83
Frying Pan Park	Herndon	42
Morven Park	Leesburg	36
Deep Run Hunt Club	Manakin-Sabot	27
Kelly’s Ford Equestrian Center	Remington	26
Sandstone Farm	Millwood	24
Fox Chase Farm	Middleburg	22
East Coast Equestrian Training Center	Virginia Beach	19
Green Hill Park Equestrian Center	Salem	18
Hazelwild Farm	Fredericksburg	18

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

competition season occurs mainly in the late spring, summer, and early fall (see **Figure 1.8**). May is the busiest month, while December sees the least activity. It is unsurprising that most competitions occur on weekends when many people are off work. The average length of a show/competition is 1.3 days. However, this result varies widely based on the audience for the show. National shows are on average 3.3 days; regional events are 2.7 days, state events are 1.9 days, and local shows are only 1.1 days.

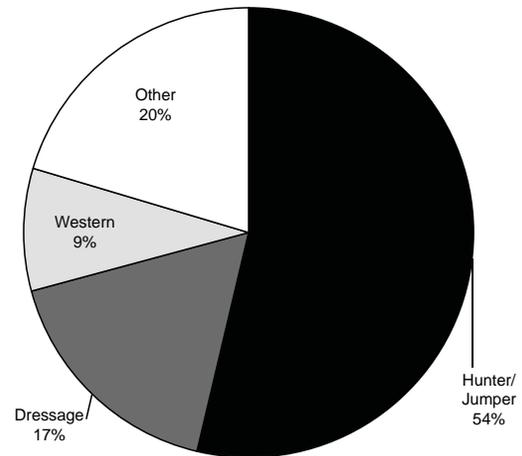
Virginia's horse event character reflects its colonial era beginnings with English disciplines being the most popular events. Hunter/jumper shows are the most common events followed by dressage (see **Figure 1.9**). Nine percent of the shows are western themed shows (e.g., cutting, reining, barrel racing). The remainder are breed shows, mixed theme shows, pleasure/fun events, or races and mounted games. If one restricts the event list to national, regional, and state level shows like those covered by a recent USDA study of horse events held in six states, it is clear that Virginia's show profile more resembles eastern states like New York than Texas or Colorado where western riding events are more common (U.S. Department of Agriculture, Animal and Plant Health Inspection Service 2007).

Figure 1.8 Virginia Horse Shows and Competitions by Month, 2010



Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Figure 1.9 Virginia Horse Shows and Competitions by Discipline, 2010



Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

The state and local economic impact of races, shows and competitions varies with their size, length and attendance characteristics. Higher attendance translates into more dollars spent locally on food, equipment and services. Multi-day activities require overnight stays that involve lodging expenses. Participants are expected to spend more than spectators because they incur higher costs associated with show entry fees, horse transportation, care and stabling. These impact components themselves may be influenced by other event characteristics. The type of the event in large part determines attendance characteristics and length of stay. For example, rodeos and steeplechase races attract far more spectators than participants, while local hunter/jumper shows involve mainly the horse show participants themselves. Some events require a commitment of several days by their very nature. For instance, eventing typically involves competitions spread out over several days. Event quality as indicated by sanctioning by a national organization can be expected to affect both the event size and length of stay of its participants. Such events will draw from a wider geographical radius than locally sponsored unsanctioned events. Greater travel distances increase the likelihood of overnight stays that result in more money spent in the state and in the local community on lodging, meals and other goods and services.

SECTION 2 METHODOLOGY

This section lays out important elements of the research design used to generate estimates for the economic impact of the horse industry. A proper definition of the horse industry is a prerequisite for undertaking the study. Also, a description of the economic model used to generate the impact estimates is provided.

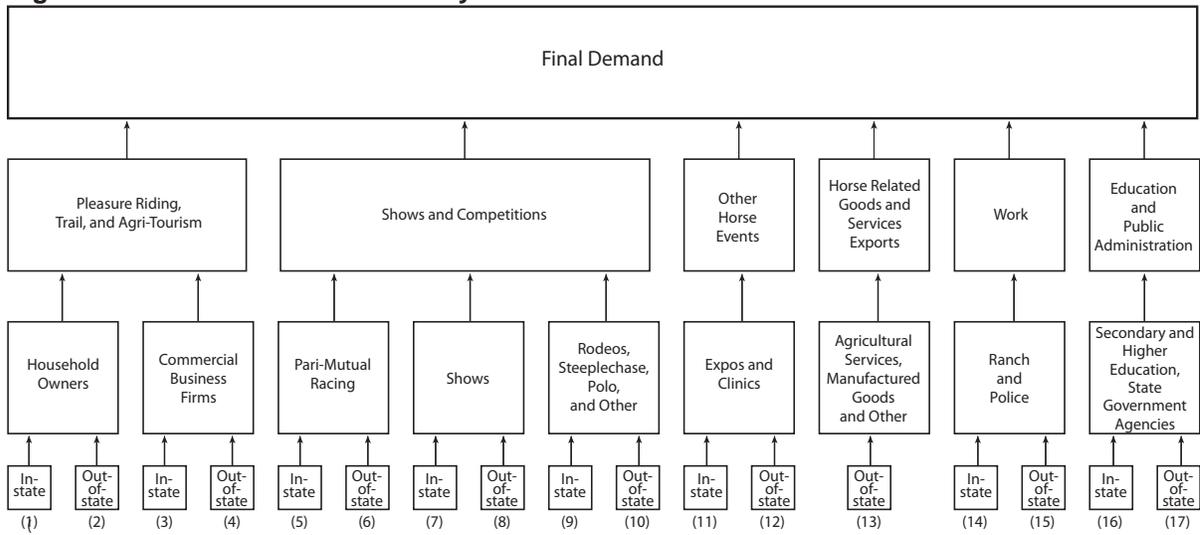
Defining the Horse Industry

This study defines the “horse industry” as consisting of activities involved in maintaining and supporting horses and activities associated with recreational and entertainment uses of horses. Most horse owners value horses beyond their income producing value as evidenced by studies that show that owners incur significant net operating losses on average (Deloitte Consulting 2005; Swinker et al. 2003; Gamrat and Sauer 2000). Therefore, expenditures will be used as basis for estimating economic impact rather than horse related sales. See **Figure 2.1**, which shows the sources of horse industry direct expenditures for each horse-related activity included in the definition used for this study. This definition includes resident household horse owners and Virginia commercial business expenditures used in supporting horses for pleasure

riding, showing, racing and work. The final demand categories are shown in the bottom two rows of boxes in the figure. They are (1), (3), (5), (7), (9) and (14). These expenditures include items such as feeding, stabling, veterinarian services, transportation, training and registration fees for shows and competitions. The definition also includes the expenditures of both in-state and out-of-state visitors who are not direct participants in horse events but are involved primarily as spectators [(5), (6), (7), (8), (9) and (10)].

There are several categories of income producing activities that are not captured by using this definition. For instance, no attempt is made to capture the economic impact of the out-of-state sales, called exports, of horse related businesses (13). Because of the relatively large size of Virginia’s horse industry, it may attract a number of horse businesses such as horse trailer manufacturers, tack and clothing manufacturers, fencing contractors, animal health product manufacturing and feed milling, specialized veterinarian services, and event management services. For instance, Virginia Tech’s Marion Dupont Scott Equine Medical Center in Leesburg provides advanced veterinary

Figure 2.1 Sources of Horse Industry Final Demand



Source: Based on figure from Beattie et al. (2001)

specialty care to patients throughout the eastern seaboard. The export of these goods and services is not counted. Attendance at expos and clinics ((11) and (12)) is not captured. Since the study focuses on shows, competitions, and races, the tourism expenditures associated with non-competitive pleasure riding and driving activities are not counted (2). Tourism expenditures associated with dude ranch style vacations, child horse camps, renaissance festivals, zoos, civil war reenactments, and state parks or private resorts where horses are stabled, are not considered (4). In addition, the study does not capture the economic impact of horse-related public administration such as staffing for the Virginia Racing Commission or management, science and recreation/health programs at higher education institutions and private boarding schools [(16) and (17)].¹ Finally, although many of the horse facilities were constructed expressly for horse events, they also often host a variety of other entertainment options (e.g., concerts, festivals, automobile shows, other sports). The economic impacts of these other activities are not included.

Like most studies of this type, this one is called an economic impact study. From a technical standpoint the phrase “economic contribution” or “economic footprint” would better describe results of the analysis undertaken (Watson et al. 2007). An “economic contribution” analysis traces the gross economic activity that results from a given expenditure. It does not consider whether the expenditure used to generate the economic activity might have been used elsewhere in the economy to generate economic activity and gauge the comparative effect of that alternative activity. For instance, horse owners could elect to replace their horse spending with spending on recreational motorboats. In that instance, the re-directed spending would also stimulate the economy through the purchases of equipment, gasoline and other goods and services. An “economic impact” analysis, in contrast, attempts to measure the net economic activity that results. There are two sources of economic impact--the attraction of new expenditures into the region that otherwise would

1 State government agencies include staff at the Virginia Racing Commission and Virginia Department of Agriculture and Consumer Services who regulate various aspects of the horse industry and conceivably could be included in an impact study. However, their impacts are likely to be small and were not considered.

not have been made and the retention of expenditures that would otherwise leave the region. As an example of the former, tourists from outside of the region represent new spending that generates new economic activity. As an example of the latter, if Virginia’s horse infrastructure such as show venues and horse veterinary care services did not exist, thousands of horse owners would make their horse-related expenditures outside the region and some might choose to entirely re-locate to states where such services were available. These expenditures are retained in the economy because of a healthy horse industry infrastructure.²

Input-Output Analysis

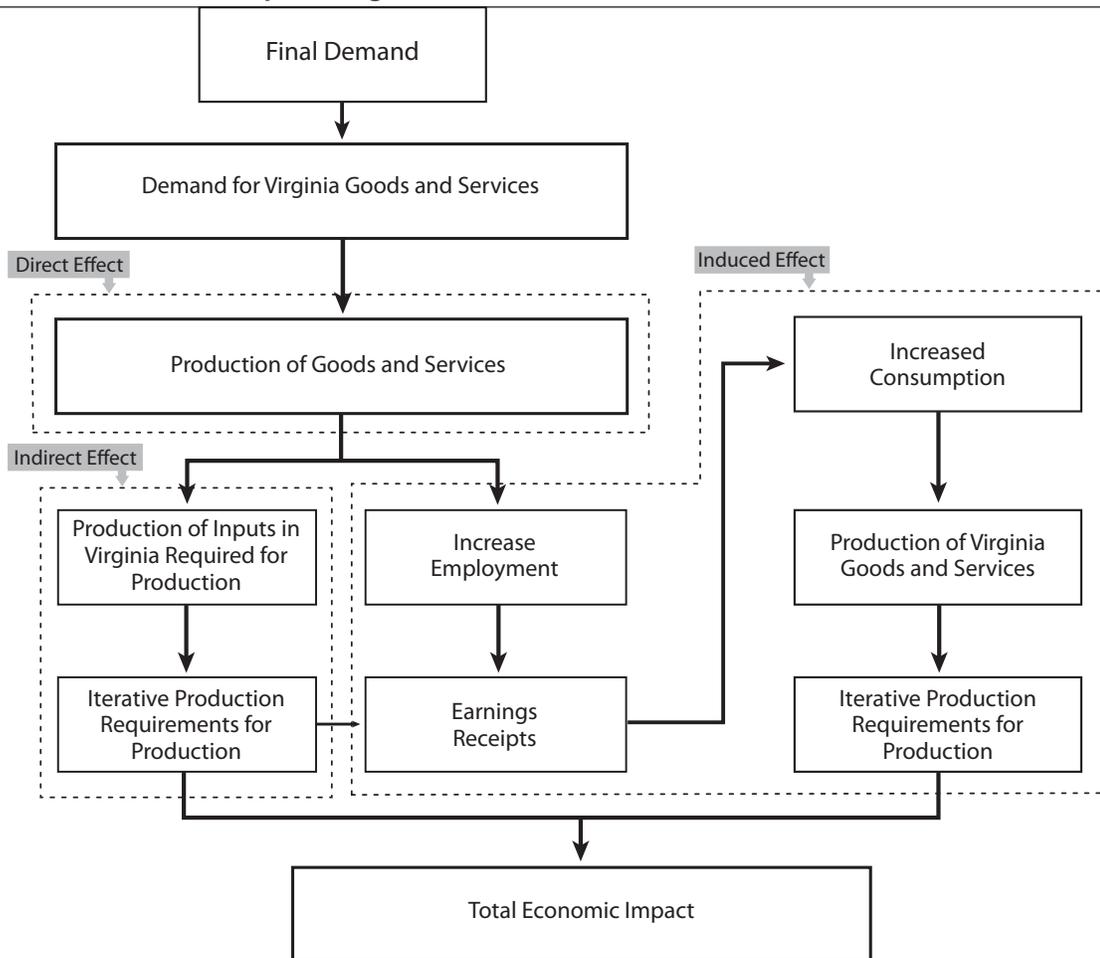
Numerous economic impact studies of the horse industry conducted for other states (Menard et al. 2010; Hughes et al.; Whiting, Molnar and McCall 2006; Beattie et al. 2001) as well as earlier studies of Virginia’s horse industry (Lawrence et al. 1997, the Wessex Group 1996, 2003) and of individual Virginia venues such as the Virginia Horse Center (Knapp 2005; Knapp and Barchers 2001a) have relied on input-output analysis. Input-output analysis is a standard tool in regional economics that was developed by Wassily Leontief, a Nobel Prize winner in economics. It is based on models constructed from an input-output table that shows flows of purchases and sales among sectors of the economy. Economic impacts are derived by mathematically manipulating the table.

An input-output model can represent the total impact of new spending as consisting of three parts, a “direct effect,” “an indirect effect,” and an “induced effect” (see **Figure 2.2**).³ The “direct effect” consists of the injection of economic activity or expenditure into the region. For example, the expenditures of horse operations, the expenditures made by horse show facilities, and participant and visitor expenditures would all count as direct expenditures. However, only the portion of the expenditure made in the state or local economy is counted as a direct expenditure. Expenditures

2 The state of West Virginia offers a picture of how Virginia’s horse industry might look without its existing horse industry infrastructure such as facilities for shows and competitions, veterinary services, etc. Hughes et al. describe relatively weak inter-industry linkages and other challenges the state faces because of gaps in services and facilities in the state.

3 This discussion refers to a particular type of input-output table called a Social-Accounting Matrix in which institutions such as households are included in the table.

Figure 2.2 Economic Impact Diagram



made on out-of-state products and services are not counted. Moreover, in the case of retail and wholesale consumer purchases, only the amount of expenditure on locally retained retail and wholesale margins and retail and wholesale inputs actually produced within the state are included. This direct expenditure then causes a “ripple effect” on the regional economy when money is re-spent. For example, state businesses provide supplies and services to the horse industry such as bedding and feed, veterinarian services, utilities and insurance. These businesses spend a portion of their sales revenues on their supplies and services from other local and state firms who, in turn, purchase a portion of their supplies and services from other local and

state firms. This cascading sequence of spending continues until the subsequent rounds of spending dissipate due to leakages in the form of taxes, savings, and spending outside the state or region. The cumulative effect of these cascading rounds of inter-industry purchases is referred to as the “indirect effect.” The final component of total is that portion attributable to the spending of households. That is to say, businesses pay households for their labor services. These households then purchase goods and services from local and state firms who in turn purchase a portion of their labor and material inputs from other local and state firms, and so forth. Again leakages occur at each round due to taxes, savings, and purchases of goods and services outside

of the region or state. The “induced effect,” is the sum of all impacts associated with household purchases.

The impact analysis for this study used IMPLAN, a model that has been used in many economic impact studies, including studies of the regional economic impacts of the horse industry in Virginia and other states. IMPLAN (IMpact analysis for PLANning) is an industry standard input-output model. The model uses the most current available national and regional economic data from several federal government agencies to update and regionally customize an older national table (in this case, the 2002 United States Benchmark Table). The result is a 440 sector input-output table that is customized for the particular region of study. Since this study involved both a statewide and local analyses, the tables were customized for Virginia and each of its localities.

Impacts are evaluated within IMPLAN using five different measures: (a) total sales or total industrial output (TIO), (b) labor income, (b) value-added, (c) employment, and (d) tax revenues. Total sales or industry output is the total value of industry production during a period. It measures sales of intermediate inputs for use in production as well as sales of products to final consumers. Value added is a subset of total industrial output. It reflects only sales to final consumers and

therefore avoids the double counting that occurs when intermediate inputs are included. It is the most commonly used measure of economic activity. Value-added is the concept behind gross domestic product (GDP) and can be compared to the GDP numbers provided by the Bureau of Economic Analysis for states and metropolitan areas. It can also be represented as total factor income plus indirect business taxes. Employment is measured in terms of person-years of employment. A person-year of employment is a job of one year in duration. Employment includes full-time and part-time workers as well as the self-employed and is measured by place of work. Although tax revenue estimates are available from IMPLAN, we used a more customized approach using exact tax rates and appropriate tax bases to improve accuracy. The computations rely on current tax information from Virginia and its localities from *Virginia Local Tax Rates, 2009* (Knapp, Shobe, and Kulp 2010) and *Comparative Report of Local Government Revenues and Expenditures* (Auditor of Public Accounts 2009, 2010). The methodology used is explained in further detail in Appendix A.1.

Statewide impact results will be presented as well as estimates of local impacts for counties and independent cities. Lastly, state and local tax revenue impacts will be estimated.

SECTION 3

HORSE INDUSTRY EXPENDITURES

This section describes sources of data for estimating direct expenditures in the horse industry. The direct expenditures of the various components of the horse industry are needed to estimate the total economic impact. These direct expenditures are generated by horse operations such as farms, breeding facilities, and boarding facilities, by the expenditures of pari-mutuel race facilities and spectators, and by the expenditures of horse show and competition providers, spectators, and out-of-state participants. Data on the direct expenditures of the horse industry were obtained from three sources: (a) horse owners and operations expenditures reported in the *2006 Virginia Equine Survey Report*, (b) characteristics of horse event participants and attendees collected from surveys of horse event managers, horse event attendees and Colonial Downs, and (c) expenses of participants and patrons at races or events collected from surveys of horse event attendees. Each of these sources is explained in more detail below.

Horse Operations Expenditures

This study makes use of expenditure data for horse operations and equine population figures reported in the *2006 Virginia Equine Survey Report* compiled by the Richmond Office of the National Agricultural Statistics Service. The survey population included Virginia horse owners, horse farms, breeding facilities, boarding facilities, and other horse-related private and commercial operations that have horses. The NASS equine survey has been conducted twice in Virginia with the first in 2001. Similar surveys have been conducted in a handful of other states. The survey is based on a three-phase multiple area frame sample design that produces state equine inventory estimates with a relatively small degree of statistical error. The expenditure estimates are disaggregated into categories that are easily amenable to regional economic impact modeling.

Since expenditures are expressed in terms of 2006 prices, it was necessary to revise them to reflect 2010 price levels. Each category of expenditure is inflated to 2010 price levels using IMPLAN commodity

deflators.¹ This adjustment corrects for price increases in items such as feed and bedding, which have fluctuated widely since the survey. However, it will not capture changes in horse expenditures due to cyclical factors, such as deferment of discretionary purchases of tack and equipment. The implicit assumption of using the 2006 expenditure data is that the horse population and composition and amount of real dollar expenditures did not change over the period 2006-2010. If, in fact, the horse population continued to grow over the period, as seems to be supported by results from a recent national survey of horse owners (American Horse Publications 2010), economic impact estimates will tend to understate the economic impact.

The assumption made here is that any likely increase in the horse population over the period 2006-2010 was offset by decreases in average horse expenditure because of the lingering effects of the recent recession on horse-owner purchase decisions. Therefore, the 2006 horse expenditures adjusted for inflation serve as a reasonable basis for computing horse operations impacts.

Table 3.1 provides a breakdown of expenditures of Virginia horse operations in terms of 2010 prices. The largest category of expenditure was for purchase and upkeep of horses. Within this category, some of the outlays are agricultural, such as the most costly expense, feed and bedding (\$540 per horse) which is required for any horse. Some expenses, such as paid and contracted labor expenses (\$373), are also important but are likely associated with larger breeding and stabling enterprises.

Virginia Horse Event Characteristics

Data on event attendance characteristics and financial aspects of hosting a show or competition were obtained from a formal survey of a sample of horse event

¹ These deflators are based on Bureau of Economic Analysis sectoral deflators and projected deflators based on implicit output deflators derived from the Bureau of Labor Statistics growth model (Minnesota Implan Group (MIG), Inc.). http://www.implan.com/V4/index.php?option=com_multicategories&view=article&id=656:656&Itemid=10

Table 3.1 Virginia Horse Operations Expenditures, 2010

Expenditure	Total Expenditure	Average per Operation	Average per Horse
Purchases and upkeep			
Feed and bedding	\$116,019,108	\$2,830	\$540
Equipment purchases	\$97,925,384	\$2,388	\$455
Horse purchases	\$72,831,744	\$1,776	\$339
Veterinarian/health	\$69,519,456	\$1,696	\$323
Boarding	\$45,424,532	\$1,108	\$211
Training fees	\$44,546,252	\$1,086	\$207
Farrier services	\$40,906,896	\$998	\$190
Taxes	\$39,149,716	\$955	\$182
Maintenance repair expenses	\$41,272,960	\$1,007	\$192
Breeding fees	\$26,490,690	\$646	\$123
Insurance premiums	\$18,406,824	\$449	\$86
Tack	\$16,174,441	\$394	\$75
Utilities	\$12,784,672	\$312	\$59
Rent and lease expenditures	\$13,077,504	\$319	\$61
Grooming supplies	\$11,280,790	\$275	\$52
Horse related activities			
Travel and lodging	\$23,167,997	\$565	\$108
Advertising expenses	\$4,699,315	\$115	\$22
Professional fees	\$4,536,664	\$111	\$21
Miscellaneous expenses	\$7,408,176	\$181	\$34
Labor and capital improvements			
Capital improvements	\$87,149,952	\$2,126	\$405
Paid labor	\$71,889,656	\$1,753	\$334
Other contracted labor expenses	\$8,330,441	\$203	\$39
Total	\$872,993,169	\$21,293	\$4,060

Source: National Agricultural Statistics Service (2008) and deflators from IMPLAN

managers drawn from a sample. To develop a sampling frame for the event manager survey, a comprehensive listing of events held in the state during calendar year 2010 was constructed.² The manner in which this list was assembled is explained further in **Appendix A.2**. One hundred and fifty events were randomly selected from the list for survey using a stratified sampling

² The event inventory gradually increased throughout the year as more event calendars were released. The initial event inventory available in July for sampling horse events for on-site visits was 952. The event inventory constructed by October for sampling horse event sponsors was 1,099. The final event inventory used for weighting purposes here was 1,193.

methodology described in **Appendix A.3**. The survey involved an initial mail survey, a post-card reminder for non-responders, a second mailing of the original survey for non-responders, and a telephone follow-up for non-responders. The survey instruments and cover letters are provided in **Appendix A.4**. The survey instrument was developed by drawing on show manager surveys used by the Wessex Group (2003) and Deloitte Consulting (2005). The survey asked for event attendance and for expenditures and revenues by major category. Completed surveys were received for 42 events. After accounting for cancellations, the adjusted response rate was 29 percent.

Table 3.2 Virginia Event Manager Revenues and Operating Expenses, 2010

Item	Amount	Share
Revenues		
Admissions, parking and programs	\$1,657,627	6.7%
Sponsors and advertising	\$5,250,921	21.0%
Entry, registration and showing fees	\$12,805,910	51.3%
Stall rentals	\$3,941,880	15.8%
Concessions and vending	\$1,022,508	4.1%
Other revenue	\$279,181	1.1%
Total	\$24,958,027	100.0%
Expenses		
Cash prizes, trophies and awards	\$5,193,409	29.1%
Maintenance of facilities	\$1,284,886	7.2%
Rental of equipment, vehicle and facility	\$5,055,282	28.3%
Salaries, wages and benefits paid	\$4,422,377	24.7%
Donations to charity	\$702,315	3.9%
Other expenses	\$1,218,266	6.8%
Total	\$17,876,535	100.0%

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Weighted survey results indicate that the horse shows and competitions generated approximately \$25 million in total revenue (see **Table 3.2**). Over half of this total was derived from entry, registration and showing fees. Sponsors and advertising was the second largest category, accounting for 21 percent of the total, followed by stall rentals at 16 percent. Equine event expenses totaled approximately \$17.9 million. Cash prizes, trophies and awards were the largest expense item at 29 percent of total followed by rental of equipment and facilities (28 percent), and salaries and wages (25 percent). Equine events also produced estimated donations of over \$700 thousand. The vast majority of show and competition revenues were retained within Vir-

ginia and much of it in the localities where the event was hosted. All of the event managers reported being residents of Virginia and nearly 80 percent lived in the locality where the event was hosted (see **Table 3.3**). Thirty-five percent of the estimated 5,207 employees and 32 percent of the estimated 2,782 vendors were residents of the locality in which the event was hosted while 76 percent and 68 percent, respectively, were residents of Virginia.

Estimates for horse show and competition attendance were made on the basis of horse event manager surveys weighted by event size categories. **Table 3.4** shows estimates of horse show and competition attendance. An estimated duplicated headcount of 938,871 attended Virginia horse show and competitions during 2010. The term “duplicated” is used because many attendees included in this count may have been at more than one event.

Of the headcount, 131,417 were show and competition participants. An additional 367,422 were members of the participant travel party. An estimated 440,032

Table 3.3 Residency Characteristics of Managers, Vendors and Employees at Virginia Horse Events, 2010

Residence	Percentage by Place of Residence		
	Managers	Employees	Vendors
In-county	79.6%	35.4%	32.4%
Other in-state	20.4%	40.8%	35.3%
Out-of-state	0.0%	23.8%	32.3%

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Table 3.4 Virginia Horse Show and Competition Attendance Estimates, 2010

Category/Type	Number
Attendees	
In-county	428,287
Other in-state	379,554
Out-of-state	131,031
Total	938,871
Employees	5,207
Vendors	2,782

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

individuals attended as event spectators. Of this number, 182,654 people (42 percent) attended steeplechase

racers. Nearly 46 percent of attendees were drawn from the locality in which the event was held. Another 40 percent came from elsewhere in Virginia. Fourteen percent were out-of-state residents.

Attendance for Colonial Downs and each OTB facility was obtained from Colonial Downs (see **Table 3.5**). No attendance figures are available for the two new off-track betting parlors, which are located in private restaurants and opened in mid-2010. Finns McCooles in Henrico County opened in May and Mulligans in Richmond City opened in August. Gateway racing attendance at Colonial Downs during the Thoroughbred and Harness seasons was 74,272. Of this total, an estimated 9.9 percent resided locally, 79.5 percent from elsewhere in the state, and 10.6

Table 3.5 Virginia Pari-mutuel Racing and OTB Attendance, 2010

Racing/OTB Facility	Locality	Attendance, 2010
Colonial Downs (Thoroughbred and Harness seasons)	New Kent County	74,272
In-county		7,353
Other in-state		59,046
Out-of-state		7,873
Off Track Betting (OTB)	Various Locations	325,222
In-county		106,022
Other in-state		147,326
Out-of-state		71,874
Alberta	Brunswick County	15,442
Chesapeake Indian	Chesapeake City	71,909
Hampton	Hampton City	61,231
Finns McCooles	Henrico County	N/A
Martinsville	Martinsville City	21,679
Mulligans	Richmond City	N/A
Richmond Broad	Henrico County	75,218
Richmond Hull	Richmond City	40,662
Scott	Scott County	13,637
Vinton	Roanoke County	25,444

Source: Colonial Downs and Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Table 3.6 Virginia Horse Event Interview Schedule, 2010

Event	Location	Number of Interviews	Date of Interviews
Showday National	Commonwealth Park, Culpeper	74	July 9
Arabian Horse Association Region 15	Virginia Horse Center, Lexington	161	July 10
Thoroughbred Race Day	Colonial Downs, New Kent	100	July 21
AA Horse Show—Deep Run	Deep Run Hunt Club, Manakin-Sabot	42	July 25
Eastern Shore Rural Health	In Remembrance Farm, Nassawadox	21	July 31
Lexington National Horse Show “AA”	Virginia Horse Center, Lexington	122	August 15
Dressage at Foxcroft	Foxcroft School, Middleburg	43	August 22
Martinsville OTB Simulcast Racing	Martinsville	33	October 8
Richmond OTB Simulcast Racing	Richmond	53	September 3
Summerplace Farm Horse Show	Summerplace Farm, The Plains	54	September 11
Virginia Beach Horse Show Association Show	East Coast Equestrian Center, Virginia Beach	39	October 3
Harness Season Race	Colonial Downs, New Kent	65	October 9
Total		808	

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

percent from out-of-state. For the eight OTB locations where tallies were available, 325,222 attended. Of this total, 32.6 percent resided in the county where the OTB was located, 45.3 percent resided elsewhere in the state, and 22.1 percent came from out-of-state.

Participant, Bettor, and Spectator Expenditures

Information on attendance characteristics and spending patterns was obtained from surveys of horse event attendees conducted by on-site interviewers at eight randomly sampled horse shows and competitions and four pari-mutuel events (see **Table 3.6**). Patrons and participants were interviewed at a thoroughbred racing event during the summer and a harness racing event during the fall. The events were selected to be representative of the racing schedule, which is split into two distinct seasons. In addition, patrons at two off-track betting facilities were surveyed. One of the locations selected for interviews (Richmond OTB) was an interior location while the other was closer to the North Carolina border (Martinsville OTB). The show and competition list was based on a stratified sample selected along the dimensions of the four major categories of discipline (i.e., hunter/jumper, dressage, western and other), expected size of event, and location (i.e., southern, western, northern and eastern).

Specific details on the sampling method are described in **Appendix A.3**.

The survey instruments (see **Appendix A.5**) were developed based on an attendee survey instrument used in the previous Virginia horse industry study (Wessex Group 2003) and visitor instruments used in a study of the economic impact of the Virginia Horse Center (Knapp and Barchers 2001a) and Monticello (Knapp and Barchers 2001b). The survey asked respondents to identify their reason for attending the event (e.g., spectator, rider or owner, trainer, staff), residency zip, length of stay, size of travel group, expenditures made by location, and demographics. The surveys resulted in 808 completions. Five hundred and fifty seven completions were obtained from horse show and competition visitors and 251 were received from pari-mutuel race activity visitors. The following analysis of results focuses on two groups of respondents most pertinent to estimating visitor expenditures: riders/owners (active participants) and spectators.

The attendance, demographics and spending patterns of racetrack, OTB, and horse show and competition patrons differ in several significant ways. Over four-fifths of Colonial Downs and horse show and competition visitors were visiting the area expressly to attend

the event, while three-fifths were there to visit the OTB (see **Table 3.7**). In addition, rider/participants made up a large share (one-third) of attendees at horse show and competitions. Horse show and competition attendees were more likely to be younger, female, and college educated than pari-mutuel attendees. They were also more likely to have resided out-of-state. Almost one in three OTB attendees were residents in the county in which the OTB was located.

Travel parties characteristics, visitation lengths, and travel expenditure patterns for horse show/competition and pari-mutuel attendees are detailed in Tables 3.8-3.10. Travel parties for in-state and out-of-state spectators were similar at slightly larger than 3 people per party. As shown in **Table 3.8**, Colonial Downs spectators from in-state were generally “day trippers” who travelled to the area for the races. An analysis of ZIP code data indicates that 68.1 percent were drawn from the Richmond Metropolitan Statistical Area. Their largest category of expenditure was wagers followed by food and drink. Total average non-wager

spending was \$94. Excluding wagers, 71 percent of their expenditures were made at the track, 23 percent in the New Kent area, and 6 percent elsewhere in the state. Out-of-state residents expected to spend 5.4 days in Virginia. Because they stayed more than one night, they tended to spend much more on accommodations, entertainment, and food and drink for a total of \$413 non-wagering spending. Eighteen percent of the spending was at the track, 54 percent in the New Kent area and 29 percent elsewhere in the state. Colonial Downs participants had much larger expenditures because of higher average stays and expenses associated with horse care and stabling. In-state participants reported non-wager spending slightly more (\$6,175) than out-of-state participants (\$5,444).

Off-track betting parlor visitors generally reported higher wagers but smaller parties, shorter stays, and much lower non-wager spending (see **Table 3.9**). The typical in-state patron was a resident of the local region and had a travel party of 1.5 people. Average non-wager spending was \$49 of which 64 percent was at the OTB,

Table 3.7 Virginia Horse Event Attendance Characteristics, 2010

Item	Category	Percentage		
		Colonial Downs	OTB	Show/Competition
Visiting for event?	Yes	81.5	59.3	81.1
	No	18.5	40.7	8.9
Reasons for attendance:	Participant	7.8	0.0	66.8
	Spectator	92.2	100.0	33.2
Age:	Under 25	3.9	1.2	9.1
	25-44	23.3	28.4	29.9
	45-64	53.5	50.6	54.5
	65 or older	19.4	19.8	6.5
Education:	Some High School	0.0	0.0	4.1
	High School	11.7	25.6	9.5
	Some College	28.9	42.3	22.2
	Bachelor's Degree	30.5	17.9	35.8
	Graduate Degree	28.9	14.1	28.4
Gender:	Male	59.4	81.9	20.6
	Female	40.6	18.1	79.4
Residence:	In-county	9.9	32.6	16.4
	In-state, out-of-county	79.5	45.3	50.4
	Out-of-state	10.6	22.1	33.2

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Table 3.8 Colonial Downs Respondent Travel and Expenditure Characteristics, 2010

Expenditure	In-State Residents		Out-of-State Residents	
	Participants (n=7)	Spectators (n=128)	Participants (n=5)	Spectators (n=11)
Tourist expenditures				
Wagers	\$887	\$103	\$120	\$34
Spectator admission fees, parking, and program	\$0	\$25	\$0	\$7
Food and drink	\$244	\$34	\$980	\$60
Lodging	\$0	\$3	\$1,160	\$78
Entertainment	\$0	\$7	\$680	\$151
Gifts, souvenirs, clothing, etc.	\$24	\$5	\$300	\$61
Travel	\$114	\$14	\$680	\$47
Car Rental	\$0	\$2	\$0	\$9
Other	\$1	\$4	\$0	\$0
Participant expenditures				
Entry, registration, showing fees	\$79	N/A	\$340	N/A
Stall or boarding fees	\$214	N/A	\$0	N/A
Feed and bedding	\$2,414	N/A	\$430	N/A
Horse care services	\$2,257	N/A	\$484	N/A
Tack and horse supplies	\$764	N/A	\$190	N/A
Other horse-related expenses	\$0	N/A	\$0	N/A
Horse transport	\$64	N/A	\$200	N/A
Total	\$7,062	\$197	\$5,564	\$447
Exhibit				
Average number in travel party	3.9	3.2	2.8	3.1
Average number of days	20.3	0.8	48.8	5.4

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

N/A = Not applicable.

n = Number in sample.

17 percent in the local area, and 19 percent elsewhere in the state. The average out-of-state resident patron had a travel party of 1.6 and had an expected stay of 3.6 days. Average non-wagers spending was \$264. The largest category of spending was lodging (\$100), followed by entertainment (\$51) and food-and-drink (\$50). Twenty-eight percent of non-wager spending was at the OTB, 38 percent in the local area, and the remaining 34 percent elsewhere in the state.

Horse show and competition attendees reported the highest spending levels of the three types of venues surveyed (see **Table 3.10**). In-state spectators had an average travel party of 2.8 people, stayed overnight for a 1.3 average day stay, and spent \$181 dollars. Fifty-two percent was spent at the event, 42 percent in the area, and the remaining 6 percent elsewhere in the state. Out-of-state spectators stayed much longer (3.2 days) and had slightly larger travel parties (3.3). Their

average travel expenses were \$891 with the largest expense item being lodging (\$353). Forty nine percent of total expenses were incurred at the event, while 37 percent occurred outside the event, and the remainder (14 percent) elsewhere in the state. Once again, participant expenses were much higher because of costs associated with horse transportation and care. In-state participants had an average party size of 3.8 and had a planned stay of 2.8 days. In-state participants spent an average of \$1,590 with the bulk of this (64 percent) being on horse related expenses. Seventy-seven percent was spent on site, 16 percent in the area, and 7 percent elsewhere in the state. Out-of-state participants had slightly larger party sizes (3.9), much longer stays (5.2) and spent nearly twice as much (\$3,106). A slightly smaller percentage of expenditures (59 percent) was horse related. Sixty-nine percent of expenditures were made at the event, 25 percent in the area, and 6 percent elsewhere in the state.

Table 3.9 Virginia OTB Respondent Travel and Expenditure Characteristics, 2010

Expenditure	In-State Residents		Out-of-State Residents	
	(n=64)		(n=19)	
Wagers	\$153		\$276	
Spectator admission fees, parking and program	\$14		\$8	
Food and drink	\$13		\$50	
Lodging	\$0		\$100	
Entertainment	\$8		\$51	
Gifts, souvenirs, clothing, etc.	\$9		\$0	
Travel	\$4		\$34	
Other	\$1		\$21	
Total	\$202		\$540	
Exhibit				
Average number in travel party	1.53		1.58	
Average number of days	1.09		3.63	

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service
n = Number in sample.

Table 3.10 Virginia Horse Show and Competition Respondent Travel and Expenditure Characteristics, 2010

Expense Category	In-State Residents		Out-of-State Residents	
	Participants (n=151)	Spectators (n=93)	Participants (n=93)	Spectators (n=28)
Tourist expenditures				
Spectator admission fees, parking, and program	N/A	\$11	N/A	\$15
Food and drink	\$178	\$56	\$357	\$234
Lodging	\$232	\$50	\$527	\$353
Entertainment	\$18	\$6	\$37	\$18
Gifts, souvenirs, clothing, etc.	\$52	\$25	\$142	\$77
Travel	\$70	\$24	\$186	\$106
Car Rental	\$0	\$1	\$22	\$20
Other	\$22	\$8	\$6	\$68
Participant expenditures				
Entry, registration, showing fees	\$469	N/A	\$878	N/A
Stall or boarding fees	\$177	N/A	\$262	N/A
Feed and bedding	\$66	N/A	\$120	N/A
Horse care services	\$105	N/A	\$153	N/A
Tack and horse supplies	\$63	N/A	\$156	N/A
Horse Transport	\$52	N/A	\$33	N/A
Other horse-relates expenses	\$86	N/A	\$78	N/A
Total	\$1,590	\$181	\$2,983	\$891
Exhibit				
Average number in travel party	3.8	2.8	3.9	3.3
Average number of days	2.8	1.3	5.2	3.2

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service
n = Number in sample.
N/A = Not applicable.

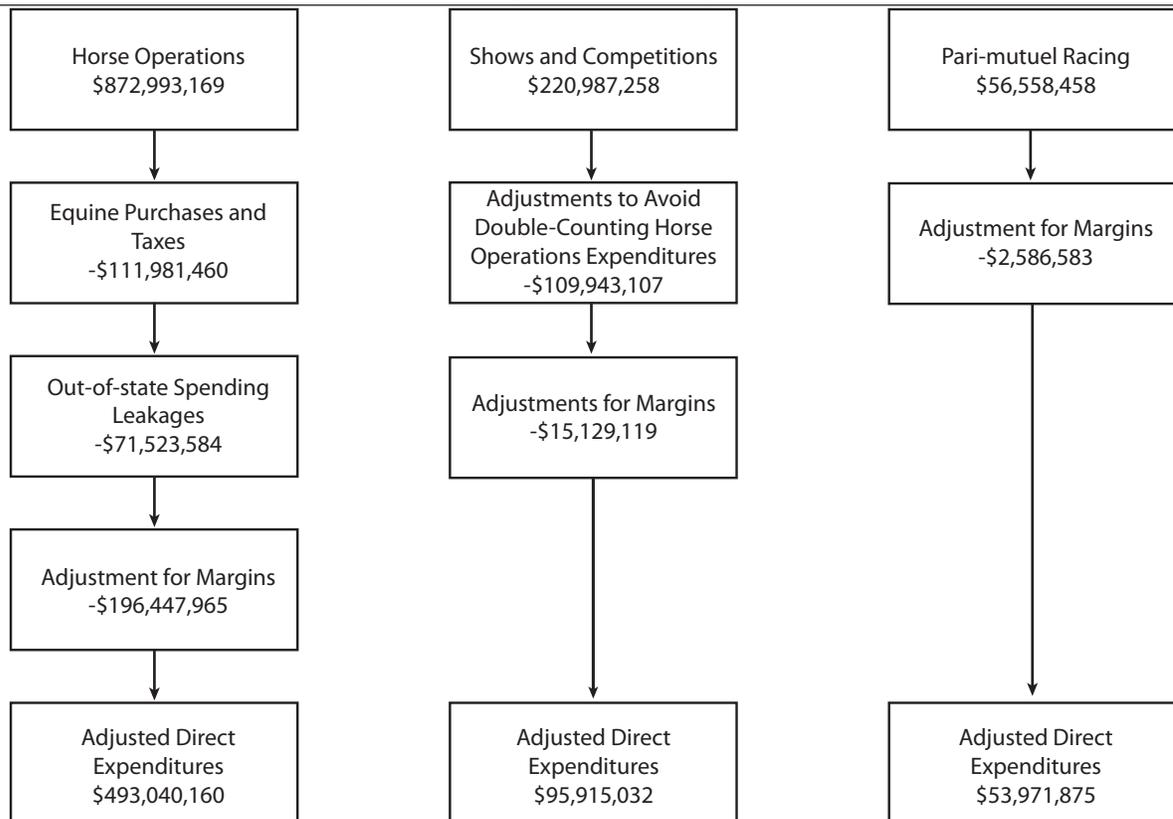
Direct Expenditures

Direct expenditures on the horse industry were constructed using information compiled from the surveys described above. **Figure 3.1** summarizes the methodology for each component of the industry. It also shows how adjustments were made at each stage to avoid double counting, to remove out-of-state spending leakages, and to adjust for margins. Unlike the treatment other sectors in an input-output analysis, retail trade, wholesale trade, and transportation expenditures in an input-output analysis are based on purchase prices rather than production prices. Therefore, margining is done to convert purchase prices to production prices. This involves re-assigning most of the expenditures to the producing industries and retaining

only a portion (the “margin”) for retail trade, wholesale trade, or transportation.

Figure 3.1 shows that the starting point for estimating the impact of horse operations was information from the NASS equine survey on total horse owner expenditures which is equivalent to \$873 million in terms of 2010 dollars. Adjustments were made to exclude taxes. Also horse purchases were excluded because in-state purchases would already be reflected in horse operations expenditures for maintenance and support of the horses sold. Next, the purchases of out-of-state goods and services were computed based on unpublished Virginia equine survey data obtained by agreement with NASS. Lastly, retail trade, wholesale

Figure 3.1 Horse Industry Study Methodology for Estimating Direct Expenditures by Component



trade, and transportation expenditures were margined. The result of these adjustments was an adjusted direct expenditure of \$493 million, which was entered into the IMPLAN model.

For estimating show and competition direct expenditures, attendance information from the horse event sponsor surveys was combined with participant and spectator expenditure information from the horse event attendance surveys to estimate total direct expenditures of \$221 million. Since the NASS Equine Survey of horse operations already includes horse-related expenditures on horse shows and other activities, only those expenditures made by in-state horse owners on selected other “tourist” expenses likely not considered by respondents to that survey were included (e.g., entertainment, gifts) in order to minimize the possibility of double counting. That means that all other expenditures (i.e., expenditures of all spectators, and horse and non-horse related expenditures of out-of-state resident participants) were counted. Next adjustments were made for margins. These adjustments resulted in a total adjusted direct expenditure of \$95.9 million, which was entered into the IMPLAN model.

For estimating pari-mutuel racing direct expenditures, attendance and operations information from Colonial Downs was combined with expenditure data from the horse race and off-track betting parlor attendance surveys. Colonial Downs furnished employment and payroll information, which was used to estimate annual direct sales of \$43.5 million for the Colonial Downs Racetrack (included in IMPLAN sector 403 “Spectator Sports”) and OTBs (included in IMPLAN sector 409 “Amusement parks, arcades, and gambling industries”). Pari-mutuel racing patron direct expenditures outside the racetrack and OTBs were estimated at \$13.1 million. This was revised downward to \$10.5 million after margining. Therefore, total adjusted

direct expenditures were estimated to be \$54 million, which was entered into IMPLAN.

The expenditure categories used in the NASS and Cooper Center surveys were fairly broadly defined. In order to assign the expenditures to representative IMPLAN sectors (e.g., equipment purchases were divided into agricultural and automotive equipment categories), information from Virginia Cooperative Extension (Eberly 2008) and University of Kentucky Cooperative Extension equine budgets (Burdine and Coleman 2006) was used. Additional expenditure categories were assigned using weights based on IMPLAN data and professional judgment as well.

Estimates of direct expenditures were also made for localities in order to estimate economic impacts at this finer geographical level. These estimates were based on revised direct expenditure estimates. Two major adjustments were made to the methodology described above. First, the NASS equine survey contains only estimates of out-of-state purchases. But, from the vantage point of a locality, all out-of-locality spending should be counted as expenditure leakages. In a survey of Texas horse owners, Gibbs, Moyer, and Martin (1997) find that approximately 60 percent horse-related spending occurs in the county where the owner resides. In contrast, a Montgomery County, Maryland study (Montgomery Soil Conservation District 2004) finds that 78 percent of spending occurs in the county where the owner resides. By multiplying the Virginia in-state horse expenditures by a factor of 75 percent, one obtains an in-locality expenditure of approximately 68 percent, which is an in-county expenditure percentage value between the values found in the two studies. Therefore, this adjustment factor was used to transform the statewide expenditures to locality expenditures. Second, all out-of-county horse participant horse-related expenditures are counted as injections of spending into the locality.

SECTION 4 ECONOMIC IMPACT RESULTS

Total Economic and Fiscal Impacts

Table 4.1 shows the total economic impacts of the Virginia horse industry, which reflects the combined effects of direct, indirect, and induced spending. The industry is a significant source of commonwealth economic

Table 4.1 Virginia Total, Direct, Indirect and Induced Impacts of Horse Industry, 2010

Impact	Employment	Labor Income	Value-added	Total Sales
Direct	12,098	\$323,567,325	\$347,346,016	\$642,927,067
Indirect	1,288	\$66,090,711	\$108,945,789	\$198,293,499
Induced	2,705	\$112,752,202	\$213,529,230	\$360,795,434
Total	16,091	\$502,410,239	\$669,821,036	\$1,202,016,001

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

activity, accounting for 16,091 jobs in 2010. The labor income impact was \$502.4 million. The value-added impact (which includes labor income, property income such as interest, rent and profits, and indirect business taxes) is \$669.8 million. The value-added figure is directly comparable to gross domestic product. The total sales impact (which includes intermediate sales as well as sales for final demand) is \$1.202 billion.

Table 4.2 Impact of Horse Industry on State and Local Taxes, 2010

Tax Source	Impact
State taxes	
Sales and use tax, 4% rate	\$9,156,020
Individual income tax	\$18,538,938
Pari-mutuel wagering revenue	\$1,866,956
Other state taxes (corporate income, motor fuels, etc.)	\$7,903,888
Total	\$37,465,802
Local taxes	
Local option sales and use tax, 1% rate	\$2,289,005
Meals tax	\$2,233,027
Lodgings tax	\$1,495,075
Pari-mutuel wagering revenue	\$911,104
Other local taxes (property, business license, etc.)	\$20,898,416
Total	\$27,826,627
Total state and local taxes	\$65,292,429

Sources: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service and the Virginia Racing Commission

Table 4.2 shows the fiscal impacts of the Virginia horse industry. Further details about the methodology and calculations are provided in Appendix A.1. According to these estimates, the Virginia horse industry accounted for \$65.3 million in total state and local taxes in 2010. State taxes are estimated at \$37.5 million. Of

this total, the largest portion is from the individual income tax (\$18.5 million) followed by the sales and use tax (\$9.2 million). Other taxes (e.g., corporate income taxes, motor fuels) amount to \$7.9 million. Pari-mutuel racing license revenues were \$1.9 million. Local government taxes are estimated at \$27.8 million. The largest category is “other taxes” (\$20.9 million) of which real property taxes form the largest part. The local options sales and use tax and meals tax each brought in more than \$2 million dollars. Pari-mutuel revenues were \$911 thousand.

The impacts of the Virginia horse industry were felt in various sectors of the economy (see **Table 4.3** and **Figure 4.1**). The largest effects in terms of employment were in the agriculture and service sectors. Also experiencing large economic effects were trade and construction. The direct effects of industry purchases were dominant in agriculture (which includes farming as well as agricultural support services such as farriers and groomers) and construction. Services and retail sector impacts reflect the direct effects of industry spending as well as indirect and induced effects.

Economic Impact by Industry Component

Table 4.4 presents the economic impact of the Virginia horse industry for each major component—horse operations, shows and competition, and pari-mutuel racing. The largest component of impact is related to the expenditures of

Table 4.3 Virginia Total Impact of Horse Industry by Major Sector, Employment, Labor Income, Value-added, and Sales, 2010

	Employment	Labor Income	Value-added	Sales
Agriculture	7,119	\$152,177,873	\$124,698,014	\$205,089,477
Mining	5	\$571,933	\$1,174,364	\$1,981,100
Construction	1,146	\$65,208,628	\$68,849,726	\$129,891,060
Manufacturing	70	\$4,216,756	\$7,449,496	\$34,017,800
TIPU ^a	260	\$19,644,809	\$40,816,134	\$79,373,165
Trade	1,524	\$54,501,233	\$88,732,713	\$138,482,866
Service	5,890	\$200,761,742	\$332,358,495	\$599,947,480
Government	77	\$5,327,265	\$5,742,094	\$13,233,053
Total	16,091	\$502,410,239	\$669,821,036	\$1,202,016,001

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

^a Transportation, Information, and Public Utilities

Virginia horse owners. As described in the previous section, this component includes the expenditures of Virginia owners on horse-related expenses but does not include associated tourism expenditures of in-state residents and expenditures of out-of-state visitors related to shows and competitions. In addition, this component does not include the expenditures of the state's pari-mutuel facilities or pari-mutuel visitor spending outside of the racetrack and OTBs.

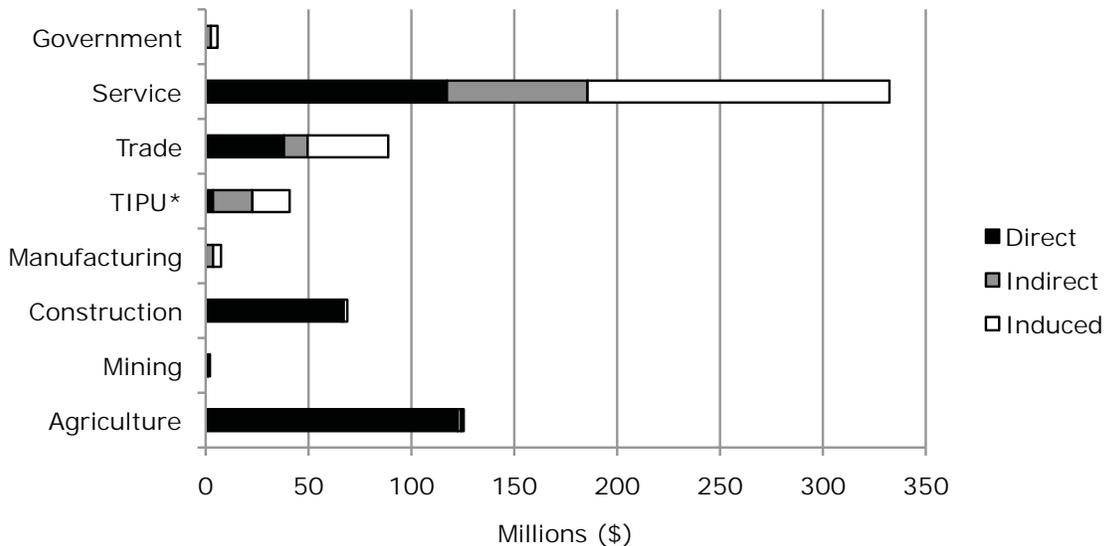
activities have an economic impact of 1,112 jobs, \$32.9 million in labor income, \$51.1 million in value-added, and \$103.2 million in total sales.

The pari-mutuel economic impact can be further disaggregated. For instance, of the total employment impact, 632 jobs are directly related to Colonial Downs and the 10 regional OTB operations. Another 285 jobs represent the indirect and induced jobs impacts of the

As shown in **Table 4.4**, horse operations account for 12,685 jobs, \$410.1 million in labor income, \$526.1 million in value-added, and \$926.3 million in total sales. Shows and competitions account for 2,294 jobs, \$59.3 million in labor income, \$92.6 million in value-added, and \$172.6 million in total sales.

Pari-mutuel racing

Figure 4.1 Distribution of Virginia Direct, Indirect, and Induced Value-added Impacts by Sector, 2010



Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

* Transportation, information, and public utilities

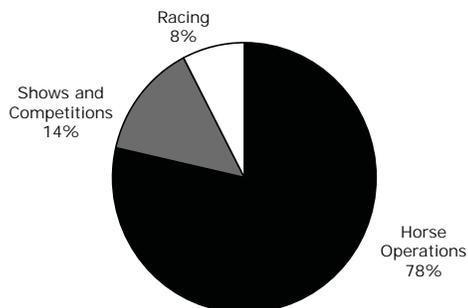
Table 4.4 Virginia Total, Direct, Indirect, and Induced Impacts of Horse Industry by Component, 2010

Component	Employment	Labor Income	Value-added	Total Sales
Horse operations				
Direct	9,572	\$271,980,160	\$274,890,100	\$493,040,160
Indirect	844	\$43,598,692	\$72,159,660	\$130,624,128
Induced	2,269	\$94,568,840	\$179,096,100	\$302,613,984
Total	12,685	\$410,147,692	\$526,145,860	\$926,278,272
Shows and competitions				
Direct	1,756	\$35,023,928	\$49,045,340	\$95,915,032
Indirect	258	\$12,609,251	\$21,396,830	\$39,227,388
Induced	280	\$11,692,139	\$22,141,650	\$37,412,448
Total	2,294	\$59,325,318	\$92,583,820	\$172,554,868
Pari-mutuel racing				
Direct	770	\$16,563,237	\$23,410,576	\$53,971,875
Indirect	186	\$9,882,768	\$15,389,299	\$28,441,983
Induced	156	\$6,491,223	\$12,291,480	\$20,769,002
Total	1,112	\$32,937,229	\$51,091,356	\$103,182,861
Total				
Direct	12,098	\$323,567,325	\$347,346,016	\$642,927,067
Indirect	1,288	\$66,090,711	\$108,945,789	\$198,293,499
Induced	2,705	\$112,752,202	\$213,529,230	\$360,795,434
Total	16,091	\$502,410,239	\$669,821,036	\$1,202,016,001

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

pari-mutuel operations. The residual employment impact of 195 is due to the direct, indirect and induced impacts of tourism-related expenditures outside the racetracks and OTBs.

Figure 4.2 Distribution of Value-added Impacts by Component, 2010



Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Figure 4.2 illustrates the component distribution of value-added impacts. Value-added is a preferable measure of the contribution of the industry to the economy because it measures the addition to output (unlike labor income which measures only payments to labor) but avoids the double counting of the value of intermediate inputs that occurs in using a measure such as total sales. Seventy-eight percent of value-added is related to Virginia horse operations, 14 percent to shows and competitions, and 8 percent to racing.

Impact by Locality

Impacts were estimated for each of Virginia’s localities using a Bureau of Economic Analysis locality geographical classification. The employment impacts are illustrated in **Figure 4.3**. **Table 4.5** provides total economic impacts for employment, value-added, total sales, and local taxes. The cumulative impacts do not add up to the statewide totals because only those horse

Figure 4.3 Total Employment Impact of Virginia Horse Industry by Locality, 2010



Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

Table 4.5 Economic and Fiscal Impacts of Virginia Horse Industry by Locality, 2010

Locality	Employment	Value-added	Total Sales	Tax Revenue
Accomack	34	\$817,911	\$1,502,206	\$25,046
Albemarle and Charlottesville City	538	\$18,760,123	\$31,810,840	\$842,330
Alexandria	0	\$0	\$0	\$0
Alleghany and Covington City	27	\$778,347	\$1,329,334	\$32,809
Amelia	74	\$1,652,745	\$3,082,717	\$55,896
Amherst	85	\$2,181,002	\$3,814,781	\$86,620
Appomattox	43	\$818,019	\$1,571,807	\$30,547
Arlington	0	\$0	\$0	\$0
Augusta and cities of Staunton and Waynesboro	293	\$8,968,285	\$15,749,054	\$303,879
Bath	17	\$490,662	\$833,577	\$18,801
Bedford and Bedford City	398	\$8,903,747	\$16,501,721	\$388,398
Bland	24	\$627,222	\$1,058,419	\$17,041
Botetourt	115	\$3,671,648	\$6,210,707	\$133,429
Brunswick	72	\$2,052,792	\$4,634,522	\$93,029
Buchanan	9	\$226,758	\$384,441	\$10,346
Buckingham	60	\$1,305,672	\$2,426,744	\$55,859
Campbell and Lynchburg City	129	\$3,862,234	\$6,759,149	\$107,138
Caroline	53	\$1,269,574	\$2,252,493	\$69,354
Carroll and Galax City	110	\$2,917,963	\$5,198,827	\$101,359
Charles City	16	\$397,052	\$655,463	\$19,433
Charlotte	45	\$1,059,896	\$1,981,262	\$35,040
Chesapeake	271	\$10,384,889	\$19,828,197	\$761,173
Chesterfield	133	\$5,010,665	\$8,639,431	\$235,805

Table 4.5 Economic and Fiscal Impacts of Virginia Horse Industry by Locality, 2010 (continued)

Locality	Employment	Value-added	Total Sales	Tax Revenue
Clarke	336	\$12,239,654	\$20,451,415	\$608,963
Craig	23	\$487,903	\$921,799	\$19,429
Culpeper	716	\$20,815,563	\$38,201,164	\$1,108,299
Cumberland	24	\$674,074	\$1,144,873	\$29,122
Dickenson	8	\$214,917	\$349,368	\$13,274
Dinwiddie and cities of Colonial Heights and Petersburg	99	\$3,040,618	\$5,263,866	\$113,916
Essex	18	\$530,367	\$920,322	\$23,490
Fairfax and cities of Fairfax and Falls Church	469	\$15,131,534	\$26,329,507	\$639,952
Fauquier	883	\$31,727,017	\$53,676,492	\$2,113,116
Floyd	82	\$1,930,414	\$3,712,840	\$89,317
Fluvanna	123	\$2,900,832	\$5,028,750	\$199,397
Franklin	78	\$2,766,679	\$4,665,405	\$145,635
Frederick and Winchester City	166	\$4,879,448	\$8,499,769	\$170,381
Giles	52	\$1,334,663	\$2,390,490	\$40,198
Gloucester	52	\$1,478,779	\$2,618,640	\$79,606
Goochland	176	\$5,546,389	\$9,408,643	\$136,065
Grayson	90	\$1,932,530	\$3,507,851	\$83,094
Greene	40	\$1,034,962	\$1,856,229	\$73,473
Greensville and Emporia City	21	\$494,023	\$919,381	\$12,596
Halifax	73	\$2,005,006	\$3,544,862	\$63,013
Hampton	71	\$2,861,311	\$6,759,426	\$226,709
Hanover	284	\$10,190,591	\$16,507,758	\$499,306
Henrico	272	\$11,331,069	\$21,571,176	\$468,647
Henry and Martinsville City	134	\$4,196,213	\$9,282,779	\$148,282
Highland	21	\$398,343	\$733,501	\$14,877
Isle of Wight	122	\$3,651,587	\$6,579,048	\$208,852
James City and Williamsburg City	78	\$2,159,517	\$3,780,792	\$103,044
King and Queen	47	\$1,250,362	\$2,275,105	\$44,124
King George	41	\$1,088,537	\$1,974,875	\$20,767
King William	36	\$1,415,642	\$2,324,279	\$85,353
Lancaster	20	\$604,653	\$1,059,483	\$24,495
Lee	119	\$2,494,776	\$4,805,263	\$66,616
Loudoun	1,079	\$44,154,154	\$70,425,051	\$2,890,422
Louisa	120	\$4,054,413	\$6,767,457	\$126,219
Lunenburg	30	\$747,648	\$1,379,426	\$19,471
Madison	118	\$3,473,030	\$6,048,513	\$179,637
Mathews	10	\$243,861	\$462,945	\$13,288
Mecklenburg	79	\$2,155,361	\$3,868,232	\$67,097
Middlesex	52	\$1,111,543	\$2,070,962	\$55,769
Montgomery and Radford City	176	\$5,644,695	\$9,632,158	\$168,642
Nelson	59	\$1,407,876	\$2,564,696	\$100,259
New Kent	789	\$12,516,968	\$28,185,674	\$1,523,460
Newport News	4	\$106,265	\$196,266	\$7,802
Norfolk	0	\$0	\$0	\$0
Northampton	16	\$349,208	\$669,118	\$16,870
Northumberland	17	\$405,177	\$713,501	\$30,819
Nottoway	44	\$1,148,853	\$1,996,753	\$24,574
Orange	268	\$10,104,815	\$16,518,479	\$511,381
Page	112	\$3,131,298	\$5,646,799	\$173,073

Table 4.5 Economic and Fiscal Impacts of Virginia Horse Industry by Locality, 2010 (continued)

Locality	Employment	Value-added	Total Sales	Tax Revenue
Patrick	71	\$1,487,690	\$2,952,954	\$46,085
Pittsylvania and Danville City	157	\$4,482,258	\$7,941,972	\$126,027
Portsmouth	0	\$0	\$0	\$0
Powhatan	131	\$3,535,446	\$6,234,218	\$239,512
Prince Edward	55	\$1,754,669	\$2,959,336	\$52,826
Prince George and Hopewell City	71	\$2,258,655	\$3,840,836	\$55,911
Prince William and cities of Manassas and Manassas Park	326	\$11,951,779	\$20,495,436	\$874,803
Pulaski	81	\$2,085,216	\$3,779,403	\$82,522
Rappahannock	77	\$2,009,578	\$3,591,170	\$140,467
Richmond	7	\$165,757	\$285,319	\$4,210
Richmond City	86	\$4,809,012	\$10,074,460	\$240,662
Roanoke City	0	\$0	\$0	\$0
Roanoke and Salem City	214	\$6,751,268	\$13,494,112	\$336,651
Rockbridge and cities of Buena Vista and Lexington	1,331	\$33,562,214	\$61,461,773	\$2,321,764
Rockingham and Harrisonburg City	227	\$7,063,090	\$12,383,572	\$212,930
Russell	126	\$3,143,611	\$5,697,273	\$95,830
Scott	223	\$5,570,792	\$11,580,569	\$193,472
Shenandoah	139	\$3,784,927	\$6,830,609	\$150,335
Smyth	125	\$2,995,373	\$5,497,319	\$72,200
Southampton and Franklin City	42	\$1,164,519	\$2,127,793	\$61,362
Spotsylvania and Fredericksburg City	269	\$7,995,271	\$14,649,210	\$465,615
Stafford	46	\$1,590,239	\$2,642,361	\$87,340
Suffolk	128	\$4,093,292	\$7,165,322	\$317,715
Surry	7	\$216,719	\$352,846	\$3,228
Sussex	43	\$985,263	\$1,800,069	\$33,540
Tazewell	146	\$4,221,922	\$7,276,023	\$109,456
Virginia Beach	242	\$6,521,318	\$12,078,179	\$380,933
Warren	81	\$2,483,244	\$4,299,750	\$114,495
Washington and Bristol City	332	\$9,227,883	\$16,252,099	\$236,737
Westmoreland	8	\$175,501	\$312,542	\$12,276
Wise and Norton City	25	\$937,941	\$1,556,506	\$23,965
Wythe	117	\$3,131,091	\$5,480,909	\$99,936
York and Poquoson City	77	\$2,582,523	\$4,419,750	\$132,936
Total	15,299	\$462,458,405	\$823,950,563	\$24,331,263

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service

industry expenditures that can be assigned by locality are counted as direct expenditures. Figure 4.3 shows that the largest concentration of economic impacts is in Northern Virginia. Indeed, Fauquier and Loudon counties each have over 800 jobs attributable to the horse industry. The largest employment impact, however, is found in Rockbridge County (including the cities of Lexington and Buena Vista) where an estimated 1,331

jobs are stimulated. This impact reflects the important role of the Virginia Horse Center, other horse shows and competitions held in the county, and a relatively large inventory of 3,700 horses. New Kent County, home to the Colonial Downs racetrack, which directly employs over 300 people during the Thoroughbred racing season, is another significant economic activity center with a total economic impact of 789 jobs.

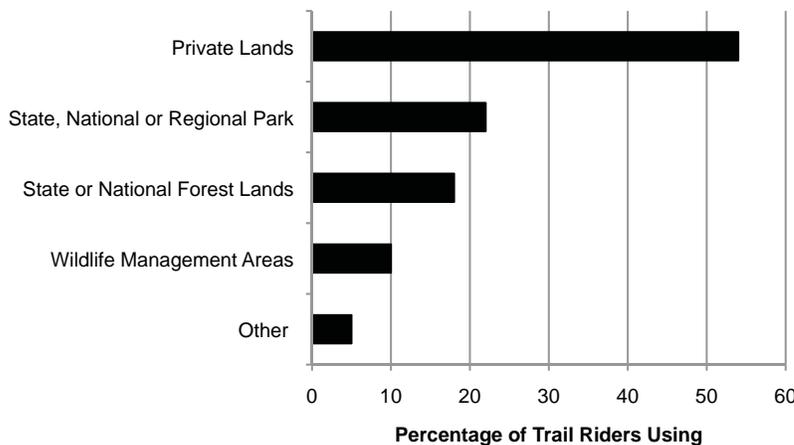
SECTION 5 OTHER FINDINGS

The Virginia horse industry provides additional benefits and some costs that are not captured in the previous discussion, which only examined how flows of certain horse-related expenditures affect the economy. For instance, the economic impacts attributable to expenditures of out-of-state residents who visit Virginia for non-competitive pleasure and trail riding are not included, nor are the economic impacts of horse-related higher education programs. In addition, the impact estimates provided are not able to capture the wider social benefits and costs of horse-related activities and open-space preservation. However, some estimates of the magnitude of the contribution of these other activities are available from other studies. These impacts and social benefits and costs are discussed for the topics of trail and pleasure riding, the environment and rural economy, health/wellness, and higher education.

economic impacts of a portion of this important market—the expenditures of Virginia horse operations that cater to this market. Not included in the economic impact results are the horse tourism-related expenditures of resident and non-residents who do not own horses and the horse and tourism-related expenditures of out-of-state residents who bring their horses to Virginia for riding.

A survey of 822 Virginia resident horse owners conducted for the Virginia Horse Council (Kline and Aungier, 2008) suggests that the characteristics of trail riders are similar to horse show and competition participants. Approximately 88 percent are female and riders are concentrated in the middle-age bracket (72.2 percent are 41-60 years of age compared to 53.5 percent in the 45-64 age bracket for horse shows and competitions). Responders indicated that their usual

Figure 5.1 Virginia Horse Trail Riding Venues, 2006



Note: Total percentage exceeds 100 percent because respondents were allowed multiple responses.
Source: National Agricultural Statistics Service (2008)

Trail and Pleasure Riding

The most popular category of horse use in Virginia is recreational riding, including trail riding. Over 285 public access horse riding trails in the state support trail riding.¹ The previous analysis captures only the

¹ Virginia Horse Industry Board. <http://www.vhib.org/virginia-horse-country.html>

trail-riding trip was a day trip (65.1 percent) with the remainder (34.9 percent) responding that they took multi-day trips. Many trail riders also participate in horse shows and competitions like hunter/jumper (20.7 percent), dressage (20.3 percent), western pleasure (16.2 percent), and foxhunting (16 percent). Most trail-riding occurs on private lands according to the National Agricultural Statistics Service (see **Figure 5.1**). However, publicly owned lands are also popular venues. **Table 5.1** shows some of the most popular specific destinations according to Kline and Aungier (2008). Approximately

6 to 9 percent of visitors at the George Washington and Jefferson National Forests engage in horseback riding on trails, which was among the fastest growing outdoor recreation activities there (Overdevest and Cordell 2001a, b).

Table 5.1 Popular Virginia Trail Riding Venues, 2008

Venue	Number of Responses
National Battlefield Park, Manassas	114
Home	103
James River State Park	84
National Battlefield Park	80
Lake Anna State Park	68
Farm	62
Graves Mountain Trails, Syria	51
Private Property	51
Beaver Dam Park, Gloucester	46
Bull Run Regional Park	41
George Washington National Forest	39
Powhatan Wildlife Management Area	37

Source: Kline and Aungier (2008)

Nearly 80 percent of Virginia riders also indicated that they went on out-of-state riding trips. The reciprocal of this situation is that many out-of-state riders also visit Virginia, although a precise estimate is not available. Bordering states likely form an important part of visitorship. A survey of Kentucky trail riders found that trail riders travel an average of 66.36 miles one-way to arrive at their designated site which they visit 10.85 times per year and incur approximately \$105 in travel expenses one-way each time (Blackwell et al. 2009). A study of the Knott Country 2008 Trail Ride, situated in Eastern Kentucky, found that 16 percent of participants resided out-of-state and that average expenditures amounted to \$324.91 for a 3.5 day stay (Hackbert 2008). These expenditure estimates are much smaller than horse-related expenditures for horse shows and competitions. Still they have the potential to add up because of a relatively large number of participants. For instance, an economic impact study of horse camping in Southern Illinois found that 40 percent of respondents were from outside the region and that they accounted for \$16 million in economic impact for the region (Kim, Hallab, and Smith 2008).

Environment and the Rural Economy

Virginia's horse industry is an important buttress for Virginia's rural economy and helps preserve open spaces and maintain the state's rural character and histori-

cal heritage. The horse industry, which includes farms that can be found throughout the commonwealth, creates demand for agricultural crops that use farm open space, and supports networks of trails and open spaces areas for horseback riding. The horse industry benefits the rural economy through the injection of horse related expenditures and its associated multiplier effects. These economic impacts can help to counter rural economic decline and reduce regional inequalities. Many of the jobs associated with the horse industry are also entry-level jobs for new job entrants.

A series of statistics helps to demonstrate the magnitude of open space contributions. While Virginia farms decreased in number from 49,366 to 47,383 from 1997 to 2007 according to Census of Agriculture statistics, the number of farms with horses actually increased during the same period from 10,972 to 13,520, thereby helping to offset more severe decline (U.S. Department of Agriculture, National Agricultural Statistics Service 2004, 2009). The amount of open space acreage preserved by horse farms is also significant. At least two acres per horse are generally recommended for raising horses (Pleasant and Currin 2009) though local zoning requirements may vary. If one conservatively estimated that the minimum area was used by all horse owners and operations for the 215,000 Virginia horse inventory, it would account for at least 430,000 open space acres or 671 square miles. Horse owners also spend money on locally made agricultural products. For example, they spent an estimated \$99,648,000 on feed and bedding for horses in 2006 (U.S. Department of Agriculture, National Agricultural Statistics Service 2008). During the same year, Virginia farms harvested 1,240,000 acres of hay for a total production value of \$275,220,000 or a value of \$222 per planted acre. If one assumes that only half (or \$49,824,000) of the feed and bedding amount was spent on local hay and the other half on other non-local feeding supplies (e.g., mixed feed, salt and minerals), it would account for an additional 224,432 acres of Virginia agricultural land (\$49,824,000/\$222). The sum of the two acreages is 654,432 acres (1,023 square miles) statewide or 2.6 percent of Virginia's total land area of 39,594 square miles. This total does not count additional public and private land preserved as open space for riding and competitions.

According to Ready, Berger and Blomquist (1997), preserved horse farmland confers amenity benefits to non-farm dwellers. However, horse activity and operations may sometimes impose social costs as well. Horses are a type of livestock and therefore require best management practices used in other types of agriculture (e.g., manure management, off-stream watering with fencing) to minimize environmental impacts such as surface runoff and groundwater pollution. Surveys of horse operations conducted outside of Virginia indicate that some horse operations, particularly smaller and non-commercial ones, have not yet adopted best management practices (Montgomery County Soil Conservation District 2004; Swinker et al. 2003). Concerns have also been expressed about the environmental effects of intensive trail riding in ecologically sensitive areas (Broadway, et al. 1994). A paper by Duel (1999) describes other potential land use conflicts that can arise when residential areas and horse operations are in close proximity.

Health and Wellness

Horse activities provide many physical, psychological and other therapeutic benefits. In an era when obesity and the costs of obesity-related health problems continue to mount, equine activities contribute to improved fitness. Moreover, horse-related activities such as 4-H, pony clubs, and therapeutic riding can help build children's self-confidence and physical agility and teach responsibility and better citizenship. Some horse activities such as pari-mutuel gambling, however, may create social costs along with the benefits. For instance, problem or pathological gambling can lead to increased alcohol abuse, depression, bankruptcy, and crime (Thompson, Gazel and Rickman 1997). However, the structural characteristics of pari-mutuel betting with contests being decided at less frequent intervals than say, casino style gambling, may make it less addictive than alternative gambling forms (Griffiths 1999).

Higher Education

Several Virginia higher education institutions offer horse study programs and even more offer horse sports activities. These distinctive programs and activities are important for attracting out-of-state students and retaining in-state students who are interested in equine fields of study. Programs of higher education can have a significant economic impact on the Virginia economy through the expenditures made by students on tuition

and living expenses, the attraction of external grants, technology and business spinoffs that result from research and development activities, and the increased earnings and productivity of graduates (Rephann, Knapp and Shobe 2009).

Virginia Tech provides a diverse range of higher education equine activities. It offers an equine science program within the Department of Animal and Poultry Sciences that provides preparation for careers in the equine industry. Virginia Tech recently expanded program offerings to the Middleburg Agricultural Research and Extension (MARE) Center, a 420-acre facility in the heart of Northern Virginia's horse country. The Virginia-Maryland Regional College of Veterinary Medicine offers equine veterinary training and care at two facilities in Blacksburg and the Marion duPont Scott Equine Medical Center (EMC) in Leesburg. The DuPont Center is a leading national equine veterinary hospital and research facility with approximately 120 staff dedicated to equine health. In addition, Virginia Tech's Cooperative Extension Service provides horse industry support in the fields of animal agriculture and 4-H youth development as well as operating an agricultural experiment center in Middleburg that conducts cutting edge research and offers innovative equine science programming.

Several other colleges and universities within the state offer competitive credit equine programs. Virginia Intermont College, a private college located in Bristol, awards a bachelor in science in equine studies with concentrations in dressage, eventing and management. It graduated 26 students during the 2007-08 academic year. Another private college, Averett College in Danville, provides a bachelor's degree in equestrian studies. It enrolled 18 students and graduated 1 during the 2007-2008 academic year. Bridgewater College offers a minor in equine studies. Sweet Briar College offers a certificate.

Many of Virginia's remaining colleges and universities offer either individual classes, riding recreational riding programs or clubs for their students such as Hollins University in Roanoke County, James Madison University in Harrisonburg, Liberty University in Lynchburg, Lord Fairfax Community College in Northern Virginia, Lynchburg College, Randolph College in Lynchburg,

Radford University, the University of Richmond, the University of Virginia in Charlottesville, Washington and Lee University in Lexington, and the College of William and Mary in Williamsburg. Many college

teams riders compete in horse shows thorough regional competitions held through the Intercollegiate Horse Show Association (IHSA).

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APPENDIX A.1

State and Local Tax Computations

The methodology and the description below for computing state and local tax estimates draws heavily on Knapp and Barchers (2001a) for an economic impact study of the Virginia Horse Center. The state and local tax calculations mainly involve state and locality impact estimates derived from IMPLAN to represent tax base impacts (i.e., labor income, value-added and total sales). Estimated average effective tax rates are computed using information on baseline tax bases and tax revenues. Since tax bases are expressed in calendar years and revenues are expressed in fiscal years, tax revenues were computed as averages of the beginning year and end year values for each category of tax revenues. For example, calendar year 2008 revenues are computed based on average revenues for FY 2008 and FY 2009.¹ State and local pari-mutuel taxes are treated separately.

State Taxes

The state government sales and use tax estimates were based on IMPLAN total sales impacts for selected taxable industries (retail trade and selected services).² The total sales impact figure includes both the state and local sales taxes. Therefore, the sales tax was removed by multiplying total sales by 0.9524 [=1.00/1.05]. The 1.05 includes the state 4 percent rate and the local 1 percent rate. State sales tax revenue was calculated by multiplying the adjusted sales figure by the state sales tax rate of 4 percent.

State individual income tax collections were based on IMPLAN total labor income impacts. Tax year 2008 year revenue as a percentage of labor income was calculated as 3.69 percent. Labor income impacts in 2010 were multiplied by this rate.

Detailed information on tax bases for other tax categories such as corporate income and motor vehicle fuel consumption were not available from the study or model. Therefore, they were estimated using residual revenues (i.e., total tax collections minus state sales tax collections and individual income tax collections) as a percentage of GDP (gross domestic product) for 2008. Residual tax revenue impacts were calculated by applying this percentage (1.18 percent) to the total value-added impact, which is a measure equivalent to gross domestic product.

The state pari-mutuel licensure tax rate varies depending on such factors as (a) whether the wagering occurred at the racetrack or OTB, (b) whether the wagering was based on live horse racing conducted within the commonwealth or transmitted from elsewhere, and (c) whether the wagering occurred on win, place and show wagering, or exotic bets.³ The state license tax varies from a high of 2.75 percent of pari-mutuel pools on exotic bets based on live Virginia racing to a low of 0.75 percent on wagering at Virginia OTBs. Information on pari-mutuel state racing license tax revenues was obtained from the Virginia Racing Commission.

Local Taxes

Estimates for local taxes were made for statewide economic impacts as well as each locality. For statewide local tax revenue impacts, statewide average rates were used. However, specific local rates were used to estimate the local tax revenue impacts for each locality.

- 1 Information on the FY 2008 and FY 2009 state budgets was obtained from the Virginia Department of Taxation, Economic outlook and revenue forecast through FY 2012, November 23, 2009. Information on the FY 2009 and FY 2009 local budgets was obtained from the Auditor of Public Accounts, Comparative Report of Local Government Revenues and Expenditures, Year Ended June 30, _____. Reports for 2008 and 2009. Exhibits B and B-2.
- 2 They included all IMPLAN retail sectors (321-325 and 327-331), hotels and motels and accommodations (410-411), food services and drinking places (413), and automotive repair (414).
- 3 Code of Virginia §59.1-392 <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC5901000029000000000000>

Local option sales tax revenue impact was estimated by applying the local sales tax of 1 percent to total sales impacts for the same selected taxable retail and service sectors used in the state tax analysis above.

Local meals tax estimates were based on total restaurant sales impacts. For the aggregate local revenue estimates based on statewide impacts, the median local meals tax rate (4 percent) was used based on information from the 2009 Virginia Local Tax Rates Study. The median Virginia rate was applied to state restaurant sales impact to compute the aggregate meals tax revenue impact for localities. For each locality estimate, the individual locality state restaurant sales impacts were multiplied by the corresponding locality meals tax rate to obtain local meals tax revenue impacts. In some instances, these rates were zero because the locality does not employ a meals tax.

Local lodgings tax estimates were based on total hotel, motel and other accommodations sales impacts. For the aggregate local revenue estimates based on statewide impacts, the median local lodging tax rate (5 percent) was used based on information from the 2009 Virginia Local Tax Rates Study. The median Virginia rate was applied to the statewide lodgings sales impact estimate to compute the aggregate lodgings tax revenue impact for localities. The individual locality state lodgings sales impacts were multiplied by the corresponding locality lodgings tax rate to obtain local meals tax revenue impacts. In some instances, these rates were zero because the locality does not employ a lodgings tax.

Other local government tax revenues (e.g., property taxes, machinery and tools taxes) were estimated in the same manner as the state. Statewide aggregated other local government revenues were first calculated (e.g., total tax collections minus local options sales tax collections, restaurant sales taxes, and lodging taxes) as a percentage of state GDP in 2008. The statewide aggregated other government tax revenue impacts were calculated by applying the statewide percentage to the total value-added impact from IMPLAN to obtain other local government tax revenues on a state level. For individual localities, local government revenues were calculated as a percent of locality value-added for each locality.⁴ The locality's other government tax revenue impact was calculated by applying the locality's percentage to locality total value-added impact to obtain the locality's other local government revenues.

Local pari-mutuel licensure tax rates vary by facility. New Kent County receives one-quarter of Colonial Downs Handle plus one-quarter percent of each OTB's handle for Colonial Downs racing. The handle generated at each Virginia OTB facility on live horse racing within Virginia is subject to a local license tax of 0.25 percent. Virginia local pari-mutuel tax revenue for 2010 was obtained from the Virginia Racing Commission.

⁴ The locality value-added estimates were obtained from IMPLAN.

Table. A.1 Horse Industry Fiscal Impact Derivation, 2010

Item	Amount (\$)
State government	
Sales and use tax (4%)	
Taxable sales--direct, indirect and induced	240,345,527
Adjusted taxable expenditures @ 0.95238095	228,900,501
Tax @ 4%	9,156,020
Individual income tax	
Labor income--direct, indirect and induced	502,410,239
Tax at 3.69%	18,538,938
Pari-mutuel wagering revenue	1,866,956
Other state taxes (corporation income, etc.)	
Value-added--direct, indirect and induced	669,821,036
Other state taxes per dollar of value added (1.18%)	7,903,888
Total state taxes	37,465,802
Local government^a	
Local options sales and use tax (1%)	
Taxable Sales--direct, indirect and induced	240,345,527
Adjusted taxable expenditures @ 0.95238095	228,900,501
Tax at 1%	2,289,005
Meals tax	
Sales of meals--direct, indirect and induced	60,849,992
Adjusted total sales on meals @ 0.91743119	55,825,681
Tax at 4%	2,233,027
Lodgings tax	
Sales of lodging--direct, indirect, and induced	32,891,645
Adjusted total sales on lodging @ 0.90909091	29,901,495
Tax @ 5%	1,495,075
Pari-mutuel wagering revenue	911,104
Other local taxes (property, BPOL, etc.)	
Value added	669,821,036
Other local taxes per dollar of value added (3.12%)	20,898,416
Total local taxes	27,826,627

Source: Center for Economic and Policy Studies, Weldon Cooper Center for Public Service, and Virginia Racing Commission.

a These are statewide estimates for local government. As previously noted, the methodology for individual local governments was different dependent on availability of data.

APPENDIX A.2

Horse Event Inventory

It is important to define what is meant by a show, race and competition for the purpose of constructing the sample. Sometimes the boundaries between show and non-show are blurry. For the purposes of this study, the most significant economic impacts were assumed to be associated with shows that were competitive (usually involving prizes and awards to the top contestants) and open to the general public. Pari-mutuel racing (Thoroughbred racing, Standardbred harness racing, and off-track betting) is excluded from this category of expenditures because it is covered under “pari-mutuel racing expenditures.” However, other types of races, including steeplechase and endurance rides are included.

The sample includes both sanctioned and unsanctioned shows. Shows could be of national, regional, state or local significance. Schooling shows, which involve judging and competition, are included but clinics and fix-a-test which are primarily instructional activities are not. Youth activities such as 4-H sponsored shows, pony club shows, high school rodeos and therapeutic show activities are included. Most adult games and competitions, including rodeos, barrel racing, Gymkhana and other mounted games are included. However, many local polo contests, hunter-pace and fox-hunts are not captured because participation is more of a social activity that is confined to the membership of local clubs. Trail rides are included if they are competitive or judged contests. The impacts of activities that draw primarily on local attendance should already be captured in the expenditures of horse operations. Sales, auctions and expos such as the annual Equine Extravaganza are not included.

The survey of horse show managers drew on comprehensive database of shows, venues, and managers assembled from multiple sources, including (1) event calendars for three leading Virginia horse industry magazines and websites, *Horse Talk*, *Virginia Equestrian*, and the *Virginia Horse Journal*, (2) event calendars for over 70 different national, state and regional horse event sanctioning organizations (e.g., Virginia Horse Show Association, the Virginia Steeplechase Association), and (3) event calendars posted at websites for horse farms that house stables were examined to see if any horse shows were held at the location. Using these sources, a total of 1,193 horse shows and competitions was identified.

APPENDIX A.3

Survey and Sampling Methodology

About the Survey

The 2010 Virginia Horse Industry Survey was conducted during the summer of 2010 by the Weldon Cooper Center for Public Service's Center for Survey Research (CSR) in cooperation with the Cooper Center's Center for Economics and Policy Studies (CEPS) and by the Virginia Horse Industry Board. The data collection for the project consisted of two phases. First, CSR visited 12 horse events of different types and solicited attendees to fill out surveys with their estimated expenditures and related data for that event. There were 809 completed questionnaires in this "attendee survey." Second, CSR randomly selected 150 horse events for the "manager" portion of the project. CSR mailed questionnaires to the 113 unique managers of these 150 events. The manager survey questionnaire asked for information about attendance, revenues and expenditures for the selected events. Information was collected for 42 events.

The samples were drawn from extensive lists of horse events and facilities compiled by CEPS. The attendee survey was customized into three slightly different versions to fit attendees at show events, pari-mutuel events, and off-track betting (OTB) events. It was administered on-site at the selected events by trained CSR staff. The manager survey mailing packets included a two-page questionnaire, a personalized cover letter explaining the survey request, a supporting letter from the Virginia Horse Industry Board, and a business reply mail envelope. For managers who had multiple events selected for the manager survey, additional survey questionnaires were included in the mailing packet. More details about methods, sampling, mailing dates, survey administration, and response rates are found below.

Survey Methodology

The protocol for the attendee surveys was adapted from CSR's prior experience with face-to-face intercept studies. CSR made advance contact with the on-site managers for the selected events to assess the likely size of the event and to get information about any logistical issues that might impact the data collection process. CSR sent from two to four interviewers per event including an on-site supervisor. The interviewing teams were equipped with name badges, folders, clipboards, questionnaires, CSR business reply envelopes for those who chose to return the surveys later by mail, pens and pencils, work logs, and carry bags.

The teams arrived near the start of the events and made an initial assessment of the best places to conduct the work. Interviewers were instructed to select every *n*th adult going by a particular spot if there was a large crowd passing by (the value of *n* was left to the interviewer to adapt to larger or smaller numbers of attendees) or to circulate among the attendees if the crowd was sparse. Ideally, interviewers would be able to keep two to three surveys going at the same time by handing out forms and clipboards to attendees and remaining close by to help if needed, then collect the completed forms. Most of the events had smaller numbers of attendees that allowed the interviewers to essentially saturate the event. Attendees who completed a survey were offered a lapel sticker to help interviewers avoid approaching those people in the future at that event, provide a sense of identity and participation in the survey, and publicize the survey to others at the event.

Interviewers had a suggested script for approaching the attendees, but they were allowed to vary their introductions to fit the situation. All interviewers received approximately two hours of training on the specifics of the study, and all were experienced in telephone survey interviewing techniques from prior experience at CSR. For the manager survey, the protocol was designed to take advantage of the proven principles of Dillman's Tailored

Design Method¹ to enhance response. The questionnaire was intended to be confidential but not anonymous, to allow follow-up with those who had not responded. Each questionnaire included a unique number assigned to the selected event for tracking purposes.

CEPS and CSR staff researched the sampled events to identify the event managers. Surveys were sent to event managers where possible. Surveys were sent to contacts at the facilities for events without good manager contact information.

As is usually done at CSR, modifications to the full Dillman protocol were made to control costs and avoid too many requests of the horse event managers. There was an initial mailing, a generic postcard thank-you/reminder to all managers, a second packet sent only to non-responders, and a telephone reminder call to the remaining non-responders. Early in the process, CSR individually prepared and sent e-mails with attached documents to some cases. This aspect of the protocol was dropped because there were no responses to those e-mails, and it was time-consuming. CSR did use this procedure to accommodate a few managers who specifically requested e-mails later in the project. Additional aspects of the full Dillman protocol such as registered letters to non-responders and personal visits were not part of this study.

The completed surveys from both phases of data collection and other returned mail from the manager survey were recorded in a tracking database. Data collection efforts at CSR were closed on January 4, 2011. The following tables (**Table A.3.1** and **Table A.3.2**) show the sequence of survey tasks.

Table A.3.1 Survey Production Tasks, 2010 Attendee Survey

Task	Event Type	Date
Showday National; Commonwealth Park; Culpeper	Hunter/jumper	July 9, 2010
Arabian Horse Association Region 15; Virginia Horse Center, Lexington	Breed	July 10, 2010
Colonial Downs, Thoroughbred Race Day; New Kent County	Pari-mutuel event	July 21, 2010
AA Horse Show - Deep Run; Deep Run Hunt Club, Manakin-Sabot	Breed/hunter	July 25, 2010
ESSCHSA; In Remembrance Farm; Nassawadox	Show	July 30-31, 2010
Lexington National Horse Show; Virginia Horse Center, Lexington	Hunter/jumper	August 15, 2010
Dressage at Foxcroft; Foxcroft School, Middleburg	Dressage	August 22, 2010
Richmond OTB; West Broad Street, Richmond	OTB	September 3, 2010
Summerplace Farm Horse Show; Summerplace Farm, The Plains	Hunter	September 11, 2010
East Coast Equestrian Center, Virginia Beach	Breed	October 2, 2010
Martinsville OTB; Martinsville	OTB	October 8, 2010
Colonial Downs, Harness Season; New Kent	Pari-mutuel event	October 9, 2010
Final dataset		November 5, 2010

Sample Design

Attendee Survey

The sample for the attendee survey comprised multiple parts. The budget for the project allowed for CSR staff to visit 12 events around the state, some being one-day trips and others involving overnight stays. Those 12 trips

¹ See Don A. Dillman, 2000. *Mail and Internet Surveys: The Tailored Design Method*. New York: John Wiley and Sons.

Table A.3.2 Survey Production Tasks, 2010 Manager Survey

Task	Date
First survey packets sent for pilot cases	September 24, 2010
Reminder post cards sent for pilot cases	October 20, 2010
Second survey packets sent for pilot cases	November 2, 2010
First survey packet sent for events with manager addresses	November 2, 2010
Reminder post cards sent for events with manager addresses	November 11, 2010
Second packet sent for events with manager addresses	November 18, 2010
First survey packet sent for events with only facility addresses	November 15, 2010
Reminder post cards sent for events with only facility addresses	November 22, 2010
Second packet sent for events with only facility addresses	November 30, 2010
Re-mailed packets on request from target	December 3, 2010
Re-mailed packet on request from target	December 15, 2010
Telephone reminder calls begin	November 18, 2010
Telephone reminder calls end	January 3, 2011
Close data collection	January 4, 2011
Final dataset	January 4, 2011

needed to be allocated to cover the range of event types across the state. In order to focus the data collection efforts, the sampling was limited to the 374 events on the CEPS event list that had starting dates in July, August or September.

Due to the importance of pari-mutuel events in the calculation of the economic impact of the horse industry, some of the 12 visits needed to be reserved for pari-mutuel events. There is only one pari-mutuel racing facility in Virginia – Colonial Downs in New Kent County. Colonial Downs runs a thoroughbred meet in the summer and a harness meet in the fall. One visit was allocated to each type of meet at Colonial Downs. There are several off-track betting (OTB) facilities in Virginia. To capture the range of impacts at OTB facilities, two visits were reserved for OTB facilities.

The remaining eight visits were allocated to horse shows and events around the state. There is a wide range of event types, sizes and locations that are likely to have different economic impacts. As with many other lists of organizations, businesses and events, there were a few fairly large events and many small events. In addition, events were more likely to be found in the central and northern parts of the state. A simple random sample of events would under-represent large events and events in the western and southeastern areas of Virginia. A sampling plan was developed to ensure broader representation from larger events and events outside the central and northern regions of the state.

Each event was assigned a likely measure of economic impact based on the product of the estimated number of horses at the event and the number of days for which the event lasted. The larger the product of these two terms, the greater the estimated economic impact of the event. This rough index of event size is too crude to inform actual economic impact modeling directly, but it was useful to ensure that the sampled events included both larger and smaller events. Each event was also assigned to a region of the state--Northern, Central, Southeastern or Western. Based on the different numbers of events in each region, the desire to have a minimum of two events per region on which to model economic impacts and the desire to have two extra events sampled to use in case the final research plan reduced the OTB and/or race track visits, there were two events selected from the Central,

Western and Southeastern regions and four events selected from the Northern region. In total, ten events were sampled. The two that were held in reserve were not needed because four trips were allocated to OTB and parimutuel events. One of the two events originally selected in the Central region refused to participate. A substitute event was rained out. A third event was selected in this size category but because at that point the schedule was limited, the third substitute was located in the Southeastern region rather than the Central region. The final realized allocation of the eight remaining events is shown in **Table A.3.3**.

Table A.3.3 Sample Design for 2010 Attendee Survey

Frame Description	Frame Size (# of Events)	Sample Size (# of Events)	Completed Surveys (Attendees)
Total events on the CEPS list with start dates in July, August or September	374	8	809
Northern region	155	3	173
Central region	111	1	42
Western region	56	2	283
Southeastern region	52	2	60

Within each region, events were selected using the principles of sampling with probability proportional to size (PPS). In this method, larger events had a greater chance of selection than did smaller events. This roughly balanced the fact that there were many more smaller events than larger events, and that staffing limits would create some maximum number of interviews that could be obtained even at events with attendees numbering in the thousands. A true PPS sampling design creates a two-stage probability sample in which all cases have equal probability of selection, thus avoiding increased statistical variance due to unequal measures of size. Because the attendee survey was not a probability sample, it was not a true PPS sample. But the principles of PPS helped to ensure a random selection method and the inclusion of attendees at larger events.

Overall, the relatively small number of events available to include in the attendee survey meant that this sample was created to maximize diversity across different event types and geography to support a good composite picture of the expenditures of attendees. It was not intended as proportional representation of different event types. Calculation of a response rate or a margin of error is not possible or appropriate with this sample.

Manager Survey

Unlike the attendee sample, the sample for the manager survey was designed as a probability sample. Because the survey would be based on retrospective reporting, the sampling frame could be expanded beyond the summer months used for scheduling the on-site visits for the attendee surveys. The manager sampling frame consisted of 952 events on the CEPS list with starting dates from January through September of 2010. In total, 150 events were sampled using a disproportionate stratified sampling scheme that ensured that enough events in each of four size categories would be included in the sample.

The size categories were assigned by CEPS to roughly characterize the geographical draw of the event based on judgment and knowledge of each event. The size categories, from smallest to largest, were local, statewide, regional and national. The sampling scheme is shown in **Table A.3.4**.

Questionnaire Design

The questionnaire was designed by CEPS and CSR, and was based on a prior questionnaire used in a horse study by CEPS and an intercept questionnaire used by CSR to query visitors to Monticello about travel expenses. Because the questionnaire was based on prior field-tested surveys, it was not piloted. The content of the attendee survey addressed the role of the attendee at the event and the attendee's event-related expenditures in several categories.

Table A.3.4. Sample Design for 2010 Manager Survey

Frame Description	Frame Size (# of Events)	Sample Size (# of Events)	Completed Surveys (# of Events)
Total events on the CEPS list with start dates from June through September	952	150	42
Local draw	801	50	18
Statewide draw	101	50	13
Regional draw	26	26	8
National draw	24	24	3

The topics covered by the questionnaire were:

- I. Event information (name, location, date)
- II. Type of participant (spectator, rider, owner, etc.) (The OTB survey eliminated this section.)
- III. Home location, travel distance, size of the respondent's travel party, time spent traveling
- IV. Expenses of the respondent's entire travel party in eight categories broken out by three categories of geographical proximity to the event. (The horse race attendee and OTB surveys added a ninth category for wagering.)
- V. If the respondent was a participant, the expenses of the participant for participating in the event in six categories broken out by three categories of geographical proximity to the event. (The OTB survey eliminated this section.)
- VI. Respondent demographics

The content of the manager survey was similar.

- I. Event information (name, location, date, sanctioning organization)
- II. Number of horses entered and people attending the event as spectators, broken out by three categories of geographical proximity to the event.
- III. Revenue for the event in six categories
- IV. Expenses for the event in nine categories
- V. Additional information about revenues from vendors, if applicable
- VI. Number of employees for the event
- VII. Respondent contact information

Response Rate

The response rate is calculated by dividing the number of completed questionnaires by the number of potential valid respondents in the sample. The attendee survey is by definition a non-probability convenience sample. It is not possible to calculate a response rate for that phase of the project. Anecdotal evidence from the interviewing crews indicates that at many events they were able to approach almost every attendee.

The manager survey was a probability sample. Therefore it is appropriate to calculate a response rate. However, the calculation is complicated by the fact that the sampling was performed at the level of events, but the same individual could have managed more than one of the sampled events. In fact, there were 113 unique individuals listed as the contact people for the 150 sampled events. Furthermore, some of the contact information was changed as CSR and CEPS received new information about which the survey request should be addressed to. Therefore, calculating a response rates among unique individual contacts is difficult. The numbers here are calculated at the level of events. The response rate or coverage rate for the 150 sampled events was 29 percent, after estimating the likely number of canceled events in line with *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys* (AAPOR, 2006). See **Table A.3.5**.

Table A.3.5. 2010 Manager Survey Response Rate

Events	Count	Response Rate	Qualified/ Reachable	Adjusted Count	Response Rate
		Overall			Adjusted
Complete	42	27.3%	28.8%	42	29.2%
Refusal	25	16.7%	17.1%	25	17.4%
Undeliverable mail	7	4.7%	4.8%	7	4.9%
Requested another survey, no completion	6	4.0%	4.1%	6	4.2%
New information received, no completion	25	16.7%	17.1%	25	17.4%
Event canceled (ineligible)	4	2.7%	--	--	--
Open status	41	27.3%	28.1%	39	27.1%
Total	150	100.0%	100.0%	144	100.0%

APPENDIX A.4
Event Managers Survey



WELDON COOPER
 CENTER FOR PUBLIC SERVICE
 University of Virginia



HORSE EVENT SURVEY

This survey is being conducted as part of a study to measure the impact of the horse industry on the economy of Virginia. The study is being sponsored by the Virginia Horse Industry Board (VHIB). Participation is voluntary, but your cooperation in this effort will be extremely valuable to the industry's future. The survey should take approximately 10 minutes to complete. **All information that you provide will be kept strictly confidential.** Thank you for your participation.

1. How many equids were registered for this event? Enter number: _____
 Please indicate:
 - a. Percent local (owner lived within 15 miles of event venue) _____ %
 - b. Percent non-local, but Virginia residence _____ %
 - c. Percent out-of-state (owner lived outside of Virginia) _____ %
 - Total 100 %

2. How many other people attended the event as spectators? Please count each person only once, even if they were there on several days: _____
 Please indicate:
 - a. Percent local (attendee lived within 15 miles of event venue) _____ %
 - b. Percent non-local, but Virginia residence _____ %
 - c. Percent non-state (attendee lived outside of Virginia) _____ %
 - Total 100 %

3. Please list any sanctioning organization(s) for the event: _____

4. Please indicate your revenue from this event from the following sources:
 - a. Admissions, parking and programs \$ _____
 - b. Sponsors and advertising \$ _____
 - c. Entry, registration, and showing fees \$ _____
 - d. Stall rentals \$ _____
 - e. Your income from concessions and vending \$ _____
 - f. Other revenue \$ _____
 (Please describe _____)

Please see reverse side for more questions

5. Please indicate your expenses for this event for the following categories:

Operating expenses

- a. Cash prizes, trophies, and awards \$ _____
 - b. Maintenance of facilities \$ _____
 - c. Rental of equipment, vehicle, and facility \$ _____
 - d. Salaries, wages and benefits paid \$ _____
 - e. Donations to charity \$ _____
 - f. Other expenses (e.g., office supplies, insurance) \$ _____
- (Please describe _____)

Taxes

- a. Federal taxes (e.g., payroll tax) \$ _____
- b. State taxes (e.g., sales tax) \$ _____
- c. Local taxes (e.g., admissions tax) \$ _____

6. What is your home zip code? _____

7. Did you have an area where vendors could sell and display?

- 1. Yes
- 2. No

8. How many vendors sold concessions or merchandise at the event? Enter number: _____

Please estimate:

- a. Percent local (live within 15 miles) _____ %
 - b. Percent non-local, but Virginia residence _____ %
 - c. Percent out-of-state _____ %
- Total 100 %

9. How many employees were on your payroll for the event? Enter number: _____

Please estimate:

- a. Percent local (live within 15 miles) _____ %
 - b. Percent non-local, but Virginia residence _____ %
 - c. Percent out-of-state _____ %
- Total 100%

10. Please complete the contact information below so that we may contact you if we have questions about your survey.

Name: _____
 Title: _____
 Address: _____
 E-mail: _____
 Phone: _____

Please check here if you would like a Virginia Horse Industry Impact Study summary report.

Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434)-982-4501. Fax (434) 982-5536. e-mail: trephann@virginia.edu.



APPENDIX A.5
Event Attendance Surveys



HORSE EVENT ATTENDANCE SURVEY

This survey is being conducted as part of a study to measure the impact of the horse industry on the economy of Virginia. The study is being sponsored by the Virginia Horse Industry Board (VHIB). Participation is voluntary, but your cooperation in this effort will be extremely valuable to the industry's future. The survey should take approximately 10 minutes to complete. **All information that you provide will be kept strictly confidential.** Thank you for your participation.

1. I participated as:
- Spectator
 - Horse Rider or Owner (Name of Horse(s) _____)
 - Horse Trainer (Name of Horse(s) _____)
 - Paid Staff/Management
 - Volunteer Staff
 - Other (please specify _____).

2. What is your home zip code? _____

3. Did you travel to this area specifically for this event?

- 1. Yes
- 2. No

4. How many people, including yourself, are in your immediate travel party? _____

5. If you are not a local resident, how many days will you stay:
 a. In the local area (defined as the area within 15 miles of the event)? _____

If you are not a Virginia resident, how many days will you stay:
 b. In Virginia but outside the local area? _____

6. Thinking about what you've spent so far and what you think you'll spend for the rest of your visit, what are **your travel party's total expected expenses** for this trip for the following categories (please count all your spending by cash, checks, credit or debit card. If you don't know for sure, give your best estimate rather than leaving it blank.)?

Category I	(1) At this event	(2) In the local area but outside the event	(3) In Virginia but out- side the local area on the way to and from this event
a. Spectator admission fees, parking, and program	\$ _____	_____	_____
b. Food and drink	\$ _____	\$ _____	\$ _____
c. Lodging (hotels, motels, campsites)	\$ _____	\$ _____	\$ _____
d. Entertainment	\$ _____	\$ _____	\$ _____
e. Gifts, souvenirs, clothing, etc.	\$ _____	\$ _____	\$ _____
f. Travel (gas, tolls, fares)	_____	\$ _____	\$ _____
g. Car rental	_____	\$ _____	\$ _____
h. Other (Please describe _____)	\$ _____	\$ _____	\$ _____

Please see reverse side for more questions

Horse show participant (rider, owner, or trainer) only:

Category II	(1) At this event	(2) In the local area but outside the event	(3) In Virginia but outside the local area on the way to and from this event
a. Entry, registration, showing fees	\$ _____		
b. Stall or boarding fees	\$ _____	\$ _____	\$ _____
c. Feed and bedding	\$ _____	\$ _____	\$ _____
d. Horse care services (e.g., farrier, veterinary, grooming)	\$ _____	\$ _____	\$ _____
e. Tack and horse supplies	\$ _____	\$ _____	\$ _____
f. Other, horse related expenses Please describe (_____)	\$ _____	\$ _____	\$ _____

7. If you paid someone to transport your horse to or from this event,

a. how much did it cost? \$ _____

b. Is the company located in Virginia?

1. Yes
2. No

c. Is the company located in the local area?

1. Yes
2. No

8. Age group:

1. Under 25 years old
2. 25-44 years old
3. 45-64 years old
4. 65 years old or older

9. Education level:

1. Some high school or less
2. High school graduate
3. Some college or trade school
4. Bachelor's degree
5. Some graduate or graduate degree

10. Gender:

1. Male
2. Female

Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434)-982-4501. Fax (434) 982-5536. e-mail: trephann@virginia.edu.





WELDON COOPER
 CENTER FOR PUBLIC SERVICE
 University of Virginia



HORSE RACE ATTENDANCE SURVEY

This survey is being conducted as part of a study to measure the impact of the horse industry on the economy of Virginia. The study is being sponsored by the Virginia Horse Industry Board (VHIB). Participation is voluntary, but your cooperation in this effort will be extremely valuable to the industry's future. The survey should take approximately 10 minutes to complete. All information that you provide will be kept strictly confidential. Thank you for your participation.

1. I participated as:
- Spectator
 - Horse Rider or Owner (Name of Horse(s) _____)
 - Horse Trainer (Name of Horse(s) _____)
 - Paid Staff/Management
 - Volunteer Staff
 - Other (please specify _____).

2. What is your home zip code? _____

3. Did you travel to this area specifically for the racing? 1. Yes 2. No

4. How many people, including yourself, are in your immediate travel party? _____

5. If you are not a local resident, how many days will you stay:
 a. In the local area (defined as the area within 15 miles of the race track)? _____

If you are not a Virginia resident, how many days will you stay:
 b. In Virginia but outside the local area? _____

6. Thinking about what you've spent so far and what you think you'll spend for the rest of your visit, what are **your travel party's total expected expenses** for this trip for the following categories (please count all your spending by cash, checks, credit or debit card. If you don't know for sure, give your best estimate rather than leaving it blank.)?

Category I	(1) At this track	(2) In the local area but outside the track	(3) In Virginia but outside the local area on the way to and from this track
a. Wagers	\$ _____		
b. Spectator admission fees, parking, and program	\$ _____		
c. Food and drink	\$ _____	\$ _____	\$ _____
d. Lodging (hotels, motels, campsites)		\$ _____	\$ _____
e. Entertainment	\$ _____	\$ _____	\$ _____
f. Gifts, souvenirs, clothing, etc.	\$ _____	\$ _____	\$ _____
g. Travel (gas, tolls, fares)		\$ _____	\$ _____
h. Car rental		\$ _____	\$ _____
i. Other (Please describe _____)	\$ _____	\$ _____	\$ _____

Please see reverse side for more questions

Horse show participant (rider, owner, or trainer) only:

Category II	(1) At this track	(2) In the local area but outside the track	(3) In Virginia but outside the local area on the way to and from this track
a. Entry, registration, showing fees	\$ _____		
b. Stall or boarding fees	\$ _____	\$ _____	\$ _____
c. Feed and bedding	\$ _____	\$ _____	\$ _____
d. Horse care services (e.g., farrier, veterinary, grooming)	\$ _____	\$ _____	\$ _____
e. Tack and horse supplies	\$ _____	\$ _____	\$ _____
f. Other, horse related expenses Please describe (_____)	\$ _____	\$ _____	\$ _____

7. If you paid someone to transport your horse to or from this race track,

a. how much did it cost? \$ _____

b. Is the company located in Virginia?

1. Yes
2. No

c. Is the company located in the local area?

1. Yes
2. No

8. Your age:

1. Under 25 years old
2. 25-44 years old
3. 45-64 years old
4. 65 years old or older

9. Your education:

1. Some high school or less
2. High school graduate
3. Some college or trade school
4. Bachelor's degree
5. Some graduate or graduate degree

10. Your gender:

1. Male
2. Female

Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434)-982-4501. Fax (434) 982-5536. e-mail: trephann@virginia.edu.





WELDON COOPER
CENTER FOR PUBLIC SERVICE
University of Virginia



OFF TRACK BETTING PARLOR ATTENDANCE SURVEY

This survey is being conducted as part of a study to measure the impact of the horse industry on the economy of Virginia. The study is being sponsored by the Virginia Horse Industry Board (VHIB). Participation is voluntary, but your cooperation in this effort will be extremely valuable to the industry's future. The survey should take approximately 10 minutes to complete. **All information that you provide will be kept strictly confidential.** Thank you for your participation.

1. What is your home zip code? _____
2. Did you travel to this area specifically to visit this off-track betting parlor (OTB)?
 1. Yes
 2. No
3. How many people, including yourself, are in your immediate travel party? _____
4. If you are not a local resident, how many days will you stay:
 - a. In the local area (defined as the area within 15 miles of the OTB)? _____

If you are not a Virginia resident, how many days will you stay:

 - b. In Virginia but outside the local area? _____
5. Thinking about what you've spent so far and what you think you'll spend for the rest of your visit, what are **your travel party's total expected expenses** for this trip for the following categories (please count all your spending by cash, checks, credit or debit card. If you don't know for sure, give your best estimate rather than leaving it blank.)?

Category I	(1) At this OTB	(2) In the local area but out- side the OTB	(3) In Virginia but outside the local area on the way to and from this OTB
a. Wagers	\$ _____		
b. Spectator admission fees, parking, and program	\$ _____		
c. Food and drink	\$ _____	\$ _____	\$ _____
d. Lodging (hotels, motels, campsites)		\$ _____	\$ _____
e. Entertainment	\$ _____	\$ _____	\$ _____
f. Gifts, souvenirs, clothing, etc.	\$ _____	\$ _____	\$ _____
g. Travel (gas, tolls, fares)		\$ _____	\$ _____
h. Car rental		\$ _____	\$ _____
i. Other (Please describe _____)	\$ _____	\$ _____	\$ _____

Please see reverse side for more questions

6. Age group:

1. Under 25 years old
2. 25-44 years old
3. 45-64 years old
4. 65 years old or older

7. Education level:

1. Some high school or less
2. High school graduate
3. Some college or trade school
4. Bachelor's degree
5. Some graduate or graduate degree

8. Gender:

1. Male
2. Female

Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434)-982-4501. Fax (434) 982-5536. e-mail: trephann@virginia.edu.



GLOSSARY OF TERMS

Breed. A relatively homogenous group of horses with distinguishing characteristics such as disposition, conformation, color or performance ability (e.g., gait, speed).

Combined test. A competition that features of any two of the three activities that are part of eventing: dressage, jumping or cross-country.

Cross country. A timed endurance competition in which horse and rider are judged on their jumping performance for obstacles erected through pastures and woods.

Cutting. A western competition in which the rider must separate a cow from a herd and keep it from returning to the herd.

Direct effects. Expenditures made by the horse industry on goods and services. These expenditures include the expenditures of horse operations, expenditures of participants and spectators at horse shows and competitions, and expenditures of participants, bettors and spectators at pari-mutuel effects. For example, \$100 spent by a horse owner on local hay would be a direct expenditure.

Dressage. An English competition in which horse and rider perform a series of increasingly complex maneuvers, including trots, lateral movements and circles in a ring without obstacles.

Driving. An activity involving horse drawn carriages, wagons or carts.

Endurance riding. A long distance race of typically 25, 50 or 100 miles in length in which horses are judged on speed and fitness.

English riding. A style of horseback riding derived from traditions of English hunting, training and competition. English disciplines include: hunting, jumping, cross-country and dressage.

Equine. Of or relating to horses, ponies, mules, donkeys or burros.

Eventing. A horse show that features dressage, jumping and cross-country. Each activity is scheduled on a different day. This practice is also known as three-day eventing.

Fix-a-test clinic. A judged dressage test in which student riders are provided instructional assistance and given an opportunity to repeat or “fix” previous errors.

Gymkhana. A mounted game that involves a series of timed equestrian contests such as barrel racing, pole bending, egg and spoon races, sack races and mounting/dismounting exercises.

Handle. The total amount wagered in a pari-mutuel activity.

Harness racing. A form of horse racing in which horses pull a driver in a two-wheeled cart.

Horse trial. A competition that features eventing activities (dressage, jumping, and cross-country) but is held in one day.

Hunter. An un-timed English competition in which horse and rider are evaluated for their “hunting” ability. The horse is judged on its disposition, appearance and its balance, rhythm, and movement through a course of obstacles no higher than four feet and three inches that are similar to what might be found in a hunting field, like gates, fences, and walls and hedges. The rider is judged for his/her appearance, style, and riding ability.

IMPLAN (IMPact analysis for PLANning). A personal computer-based regional economic modeling system for input-output analysis produced by MIG, Inc.

Indirect effects. The economic impact arising from the cumulative effects of inter-industry purchases. For example, state businesses provide supplies and services to the horse industry such as bedding and feed, veterinarian services, utilities and insurance. These businesses purchase a portion of their supplies and services from other local and state firms who, in turn, purchase a portion of their supplies and services from other local and state firms. This cascading sequence of spending continues until the subsequent rounds of spending dissipate. For example, farmers who produce hay must purchase string to bale the hay and string manufacturers must purchase the materials to produce the string, and so on.

Induced effects. The economic impact arising from the cumulative effects of household spending. This impact arises because businesses pay households for their labor services. These households then purchase goods and services from local and state firms who in turn purchase a portion of their labor and material inputs from other local and state firms, and so forth. For example, farmers will spend their farm income on goods and services provided by local businesses such as laundry and cleaning supplies. The supply retailer will in turn pay workers and purchase laundry and cleaning supplies from manufacturers, and so on.

Jumper. A timed English competition in which horse and rider are judged on their jumping performance for obstacles erected over a course. Jumpers feature wider and higher obstacles and more difficult turns, than hunters. Also known as stadium jumping.

Labor income. Income derived from employment. It is the sum of employee compensation and proprietor income.

Pari-mutuel. A form of betting in which the bettors divide the total amount of wagers minus a take-out portion for management and taxes based on the sums they wagered and their choice of winner.

Pleasure riding. A western or English competition on a flat course in which horses are judged on obedience, performance and style.

Purse. The total prize money awarded in a race.

Racino. A combination racetrack and casino, the latter of which usually offers only slots.

Reining. An western competition in which horse and rider perform a series of complex maneuvers, including circles, sliding stop, backups and spins in a ring without obstacles.

Rodeo. A western style competition that tests the ability and speed of riders in traditional cowboy skills including roping, barrel racing, steer wrestling, goat tying, bareback riding, bronco riding and bull riding.

Schooling show. A “practice” show for beginning riders and more advanced riders riding green horses.

Simulcasting. Live audio/visual feeds of horse races: inter-track wagers (ITW) and off-track betting (OTB).

Steeplechase. A form of competitive horse racing over a distance course in which a variety of natural and man-made obstacles are erected.

Take out. Portion of wager pool withheld for racetrack (commission), horse winners (purses), and state and local taxes.

Team penning. A timed western competition in which a team of three horses and riders must separate three cattle from a herd and direct them into a pen.

Total industry output/sales. The total value of goods and services produced in the economy for intermediate use (i.e., inputs to produce other inputs or goods for final demand) and final demand. This measure of output is much larger than gross domestic product/value-added.

Trail class. A western competition in which riders navigate an obstacle course designed to simulate a trail that would occur in the natural habitat. This is a judged trail ride.

Value added. The value of goods and services produced in the economy for final demand. Value-added is calculated by subtracting the values of intermediate purchases from the value of products sold for final demand. It is equivalent (minus capital depreciation expenses) to the sum of employee compensation, proprietary income, other property type income (e.g., rents, interest, dividends and undistributed profits) and indirect business taxes (i.e., sales and excise taxes). The value-added concept is measured by gross domestic product.

Vaulting. A judged competition in which participants perform gymnastic feats on the backs of horses.

Western riding. A style of horseback riding derived from traditions of western ranching and American cowboys. Western disciplines include: trail, reining, cutting and team penning.

REBDS – Fruit and Vegetable Industry Sector Meeting
December 9th, 2011 - Loudoun Extension Office Conference Room – Leesburg, VA

Strengths:

- Great market opportunities (support from State and County for marketing of local products)
- Virginia Tech Grape program – support staff including viticulturist and pathologist that spend time on helping growers understand spray programs and economics
- Current labor availability for grapes is good
- Some private support services such as Helena Chemical rep. Jim Mackenzie offer needed products and knowledge for
- People want to grow small acreages of fruit and vegetables

Weaknesses:

- Mammal pressure (Deer and raccoons)
- Chemical input for pest management due to climate – fruit rot issues etc
- Public perception of the word “organic” and production methods (misunderstood)
- Board of Supervisors/ Loudoun County staff not fully aware of the role of the support services like Extension and the science and technology of farming. How do agricultural support services function?
- Lack of statewide specialist support from Virginia Tech. No small fruit specialist, no specialty vegetable specialist, no Christmas Tree specialist etc.
- Growers have to work to find some agricultural suppliers like irrigation etc.
- Lack of a County comprehensive deer management plan
- High cost of living -> prohibitive to full time farmers
- Farmers in Loudoun tend to have significant off farm income (most fruit and vegetable producers are part time and small acreage)
- Developments with rural lots that are supposed to be used for agriculture are often unattractive due to HOA restrictions and other logistical issues. Could we make these rural lots more attractive to farmers?
- Rural character -> increased desire for non-farmers to live in Western Loudoun adds to development pressure
- Current distribution system is inefficient (or non-existent) – huge block to production if supplying market is too costly time and money wise
- Local government understanding of the difficulties that proposed regulations have on the ability for smaller businesses to be successful. Laws that can affect agribusiness or other rural entrepreneurs are being created by the wrong people. Those who have to survive and grow businesses should be key advisors. Location and zoning can significantly impair the ability to establish said food hub or community commercial kitchen and local governments can often dig in their heels.
- Finding someone who understands rural/ agricultural issues in Building and Development can be difficult. There should be a position dedicated to the specifics of agriculture or rural issues.

- Lack of sustainable energy options for producers
- Labor sources – reliability can be problematic (train workers who do not return etc.)
 - Immigration policy

Opportunities

- VT studying and helping growers implement some sustainable fruit practices
- Farm labor education (safety, plant culture, language issues (ESL) or Spanish training for growers)
- Reinforce how important current resources are to growers (Ag support services in County like Econ. Dev. , Extension and Soil and Water Conservation district)
- Input suppliers – sales opportunities for companies who would like to serve niche markets
- Establish growers associations
- Irrigation supplier could host a small scale drip irrigation education program
- Interface with private industry for program sponsorship, support or educational information
- Encourage more young farmers to start farming in Loudoun
- Zoning for subdivisions – mandatory rural business lot – could help with ideas on how to use these lots to establish more farming/ rural business opportunities
- Connect current producers looking to lease land with rural lots in developments – Can the County help on a more comprehensive basis with a land matching program and a searchable online database?
- Deer Fence Cost Share Program
- Distribution/ Food Hub with refrigeration/ storage capacity and Commercial Kitchen (this could be a private sector business opportunity)
- Indoor year round farmers market
- Finding and Educating labor sources – interface with local schools, home school programs, senior citizens etc.
- Mentoring from successful famers and business operators. How do we connect our growers/producers who have successfully started a small rural business with new people who need the guidance?
- Land use taxation excludes small acreage production. Can there be incentives for people to use smaller acreage lots under 5 acres for production?
- Forming growers association and working together so that small farms can support one another and save money by bundling order for supplies etc.
- Mentoring for business management – leveraging the skills from people’s “day jobs”. There are a lot of part time producers who have other abilities such as computer and IT, project management, accounting, construction etc. skills.

Threats:

- Deer- cannot expand production without significant costs for deer fence
- Loss of existing farm labor

- Perception of great success in agricultural sector in Loudoun - this could lead to budget cutbacks or reductions in services/ support. Land use taxation issues etc.
- Development pressure
- Loudoun's remaining rural character and open space is a great strength, that if slowly widdled away, may have a very negative effect on agritourism. Part of the allure is that beautiful scenery on the way to the farm - not just the farm itself.
- Food safety – contamination issues, traceability requirements for markets can be difficult for small farms
- Energy costs/ energy resources – need to improve sustainable energy options for production

Agriculture in Virginia Beach: Impact on the City Economy



Terance J. Rephann

January 2012

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CENTER FOR PUBLIC SERVICE**
University of Virginia

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**WELDON COOPER
CENTER FOR PUBLIC SERVICE**
University of Virginia

P.O. Box 400206
Charlottesville, VA 22904
(434) 982-5522 • FAX: (434) 982-5524 • TDD: (434) 982-HEAR
Website: www.coopercenter.org/

Richmond
700 E. Franklin Street, Suite 700
Richmond, VA 23219-2328
(804) 371-0202 • FAX: (804) 371-0234 • TDD: (804) 982-HEAR

Southwest
One College Avenue
Wise, VA 24293
(276) 328-0133 • FAX: (276) 328-0233 • TDD (540) 328-0191

Southside
1008 South Main Street
Danville, VA 24541-4088
(434) 791-5174 • (434) 791-5175 • FAX: (434) 791-5176

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INTRODUCTION

Virginia Beach is Virginia's largest city at 437,994 residents and to many visitors who flock to its beaches or visit family members in the military service it appears to be largely urbanized. Its most visible industries are hospitality and tourism supported by natural amenities such as an the longest pleasure beach in the world and numerous hotels, motels, and restaurants, and a defense industry anchored by military installations such as Oceana Naval Air Station, the Training Support Center, and Fort Story. Sometimes overlooked is that a significant portion of the city's 248 square mile land area, 44 square miles in total, consists of farmland and forestland (City of Virginia Beach 2009). This land base supports over 200 farms and farm-related businesses that contribute to the environment, quality of life, and economy of the city and the region.

The purpose of this study is to describe the agricultural sector in Virginia Beach and gauge the contribution that it makes to the city's economy. The agricultural economy has changed significantly in the last half-century in size and other characteristics. In 1969 farmland covered nearly 53,000 acres and employed approximately 1,000 workers, accounting for 1.5% of total city employment. Hogs/sows were the largest source of cash receipts. By 1997, farm acreage was under 30,000 and farms employed 191 people, but crops formed the bulk of sales. Virginia Beach's agriculture has stabilized since that time and directly employed over 200 people in 2009. Crops continue to be, by far, the largest source of revenue and direct sales to consumers of vegetables, fruits, and other commodity products from roadside stands and farmers markets have expanded rapidly. In 2008-2010, Virginia Beach's farms generated an estimated average \$23 million in output. \$1.3 million of this amount was sold directly to area consumers. The farm sector was also responsible for attracting over 280,000 agritourism visitors from inside and outside the city.

This study takes a comprehensive approach to measuring the economic impact of agriculture. Not only does it gauge the economic impact of agriculture sales, but it looks at farm-related income derived from growing revenue sources such as

agritourism and value-added products. In addition, the expenditures of agritourism visitors attributable to farm and equine activities and agriculture-related events and activities such as the Pungo Strawberry festival are counted. The study also considers the contribution of expenditures on agricultural research and education, in particular the economic impact of the Hampton Roads Agricultural Research and Extension Center. These economic impacts are broken out by source so that the reader can evaluate the relative importance of each component. Finally, the study discusses other economic benefits that stem from Virginia Beach agriculture.

The study uses a methodology (input-output analysis) and a software tool (IMPLAN) that have been used often in agricultural impact analysis, including recent economic impact studies of Virginia's agricultural and forest industries (Rephann 2008) and Clarke County, Virginia's agriculture sector (Lamie, Benson, and Pease 2005). The methodology accounts not only for the direct spending attributable to agricultural and farm-related activity such as agritourism but for indirect spending attributable to linkages in the supply chain. As a result of these linkages, the original expenditures cause a "ripple effect" or "multiplier effect" when money is re-spent in the Virginia Beach economy. Input data for the analysis is drawn from a variety of sources, including original survey work of Virginia Beach farmers and horse facilities and the Virginia Beach Office of the Virginia Cooperative Extension Service.

The study is divided into four sections. The first section provides more complete background on the history, size, and composition of Virginia Beach's agriculture sector. The second section provides a definition of the agriculture sector used in the study, describes the economic impact methodology and introduces the IMPLAN software tool used for the analysis. The third section presents the results of the economic analysis. The results are reported in terms of employment, output (or sales), and value-added. Economic impacts are also broken by out component (i.e., commodity production, horse expenditures, agritourism, and education/research)

and are identified as direct (the sales attributable to agriculture, including commodities, agritourism, equine, and research and education), indirect (impacts attributable to purchases of local production inputs),

and induced (impacts attributable to additional worker household spending). The fourth section describes other economic benefits of agriculture in Virginia that are not captured by the economic impact analysis.

SECTION 1 VIRGINIA BEACH'S AGRICULTURE INDUSTRY

Virginia Beach can trace its agricultural heritage back to the Algonquian American Indian tribes who initially inhabited the region and cultivated maize, squash and beans to meet their dietary needs. English colonists made their first landing at Cape Henry in Virginia Beach on their way to establishing a permanent settlement at Jamestown where they introduced Old World plant and animal specials to the New World, including horses, barley, and wheat (Bailey 1910). During the colonial days and well into the 20th century, the region was still mainly rural and agriculture was the largest industry.

While the region was once all forests and farms, the rural area has been slowly pushed southward and westward with economic growth and the resulting residential, industrial and commercial development. As a result today's agricultural production region lies mainly in the southern section of the city in the Pungo and Blackwater neighborhoods. With the continued erosion of the rural land base, an urban growth boundary was established by the city in order to direct future development to areas of the city with the infrastructure best able to accommodate additional growth, including locations close to existing arterial highways and areas soon to be served by a Hampton Roads light rail system called The Tide. Rural preservation efforts have expanded south of the boundary in order to preserve environmental resources, protect scenic vistas important to sustainable tourism in the region such as Sandbridge, and promote continued agricultural production (City of Virginia Beach 2009).

Agriculture has historically played an important part in the city's economy. In 1929, the earliest year that income figures are available, the farm sector made up 36 percent of total Virginia Beach earnings (see **Figure 1.1**). Indeed, the sector could easily lay claim to being the largest industry in the city as late as 1940. The advent of World War II rapidly changed this situation, and the defense industry catapulted to first place, with federal military earnings alone accounting for 45 percent of total city earnings in

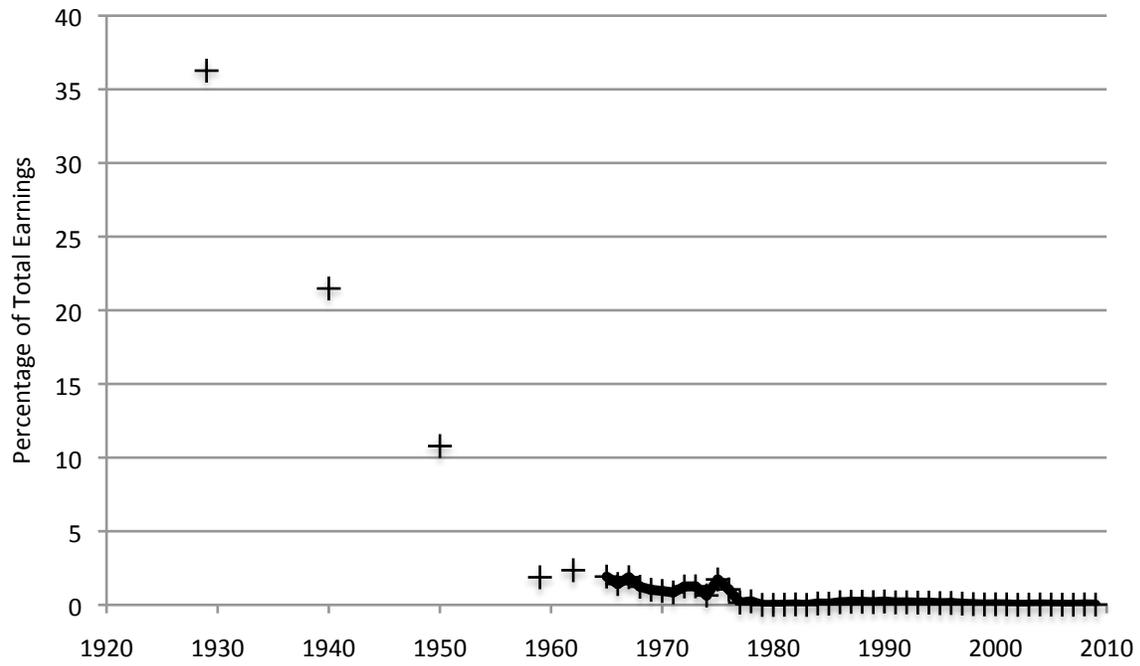
1950. As the economy modernized, farmland was rapidly converted to military, industrial, commercial, and residential land uses. **Figure 1.2** shows the changes in farm acreage over the 1978-2007 period. Farmland was nearly halved from 1978 to 2007, decreasing from 51,275 to 26,671 acres¹ based on *Census of Agriculture* data. Employment attrition in the agriculture sector has outpaced the loss in the farmland due in part to productivity improvements. Nearly 1,000 workers were employed directly by the farm sector in 1969 (see **Figure 1.3**). This decreased to fewer than 200 by 1997 before stabilizing above 200 over the next decade.

The characteristics of Virginia Beach's farm sector have changed markedly over the last several decades.² **Figure 1.4** shows that agricultural cash receipts are increasingly derived from crops rather than livestock. The city once had several large Concentrated Area Feed Operations (CAFOs). Most have since discontinued operations. In recent years, Virginia Beach's agriculture production value has increased in tandem with rising prices for commodity crops such as corn and soybeans (see **Figure 1.5**). According to Virginia Beach Cooperative Extension estimates, approximately 51 percent of agriculture production value is agronomic crops and 16 percent fruits and vegetables. Livestock accounts for 18 percent and other products make up the residual 15 percent. The relative importance of miscellaneous income attributable to sources such as agritourism, agricultural services, custom work, and rental income has also increased. **Table 1.1** shows Virginia Beach participation in farm-related value-added activities (the *Census of Agriculture* only recently introduced

1 The Virginia Beach Department of Agriculture estimates total current farm acreage as 28,731.

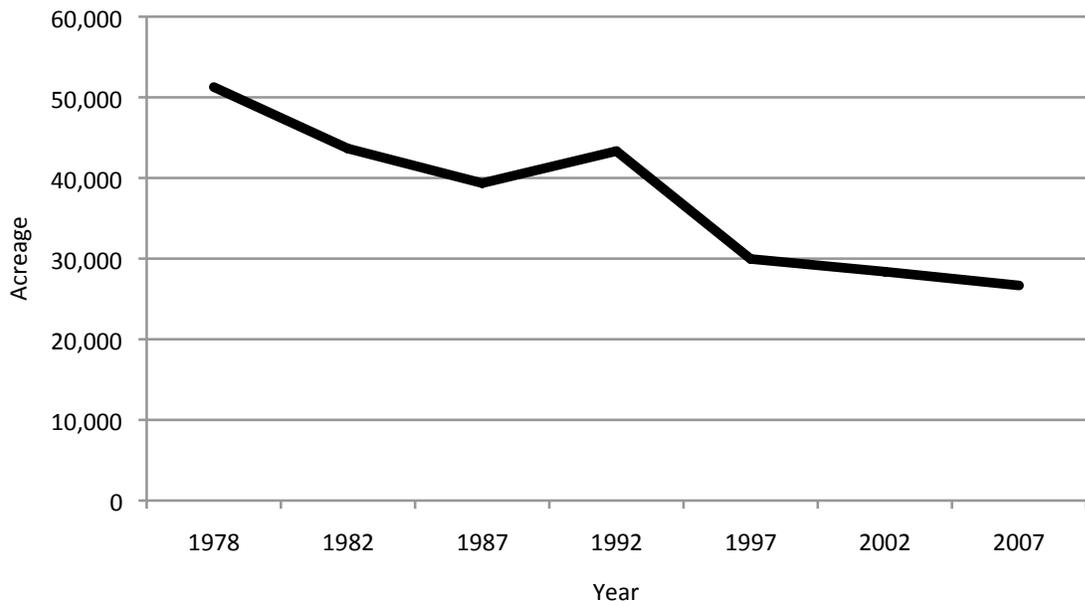
2 The U.S. Department of Agriculture defines a farm as any operation with \$1,000 or more of agricultural product sales or receiving \$1,000 or more in government payments during the year. Beginning in 2002, the U.S.D.A. expanded the definition to include places with imputed sales of \$1,000 or more based on a point system that awards points for crop acreage and head of livestock. For instance, places with five or more horses or 200 or more acres of pasture but not reporting \$1,000 or more in agricultural sales are defined as farms.

Figure 1.1 Virginia Beach Farm Earnings as Percentage of Total Earnings, 1929-2009



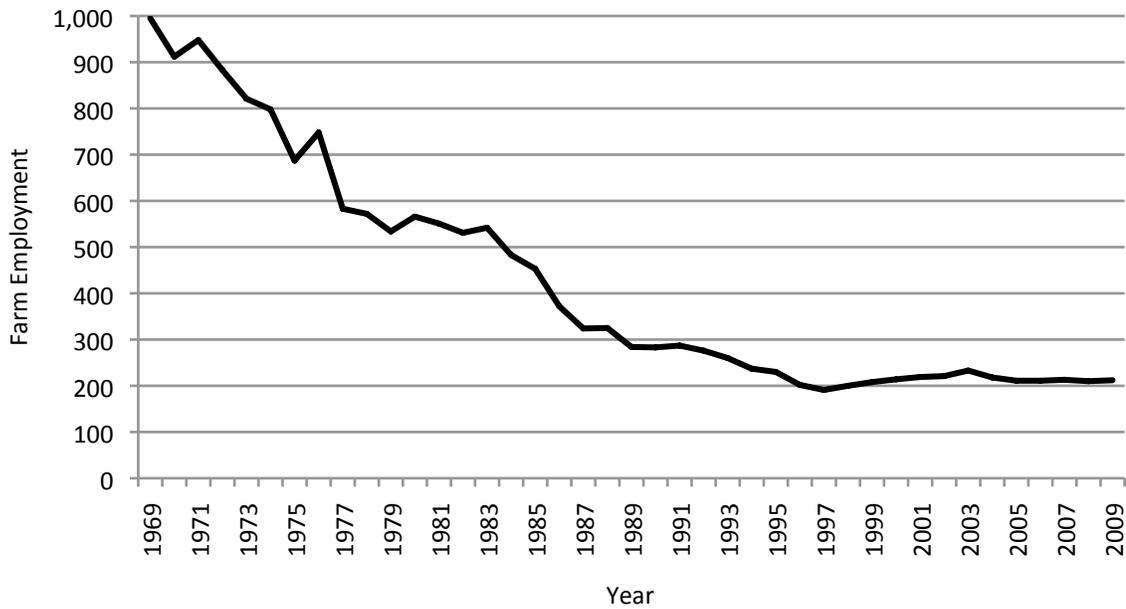
Source: Bureau of Economic Analysis

Figure 1.2 Virginia Beach Farm Acreage, 1978-2007



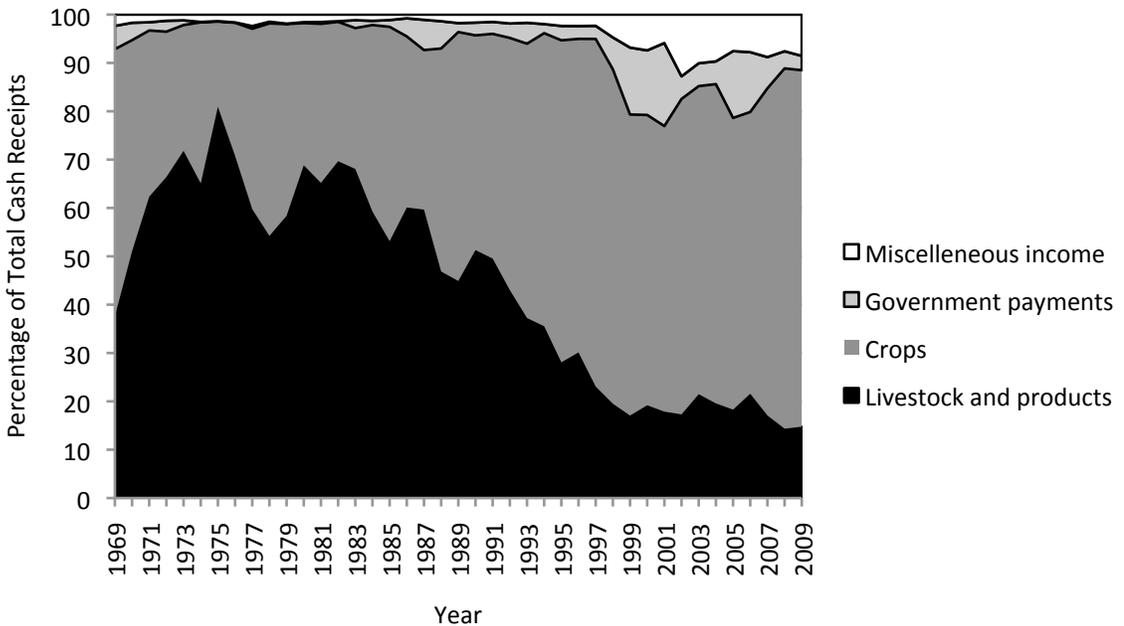
Source: U.S. Department of Agriculture, National Agricultural Statistics Service, various years

Figure 1.3 Virginia Beach Farm Employment, 1969-2009



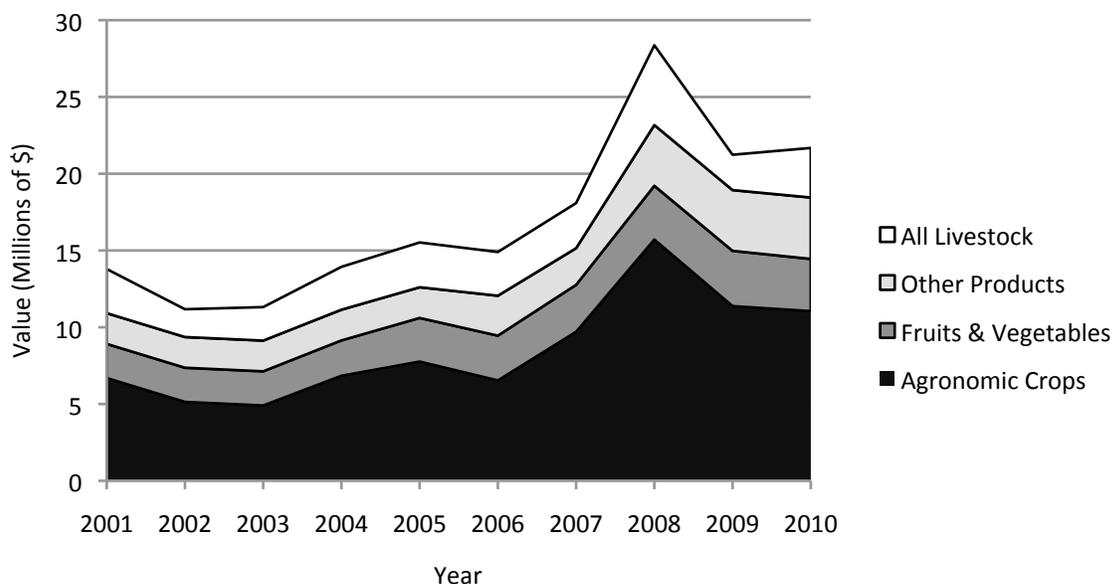
Source: Bureau of Economic Analysis, Regional Economic Information System

Figure 1.4 Virginia Beach Cash Receipts by Source, Percentage of Total, 1969-2009



Source: Bureau of Economic Analysis, Regional Economic Information System

Figure 1.5 Virginia Beach Agriculture Production Value by Commodity Group, 2001-2010



Source: Virginia Beach Office, Virginia Cooperative Extension Service

questions about activity in these areas). Direct sales to consumers more than doubled from 1997 to 2007. Virginia Beach farms and farmers are similar in many respects to those in other parts of Virginia. Farms are generally smaller than they were 30 years ago. A majority of farms in both Virginia and Virginia Beach currently have farm sales below \$5,000 (see **Figure 1.6**). However, Virginia Beach has proportionally more farms with sales above \$25,000. Farm operators are more likely to be employed off-farm part of the time and are aging. The average age of principal operators increased from 56 to 59 between 2002 and 2007. Approximately one-third of Virginia

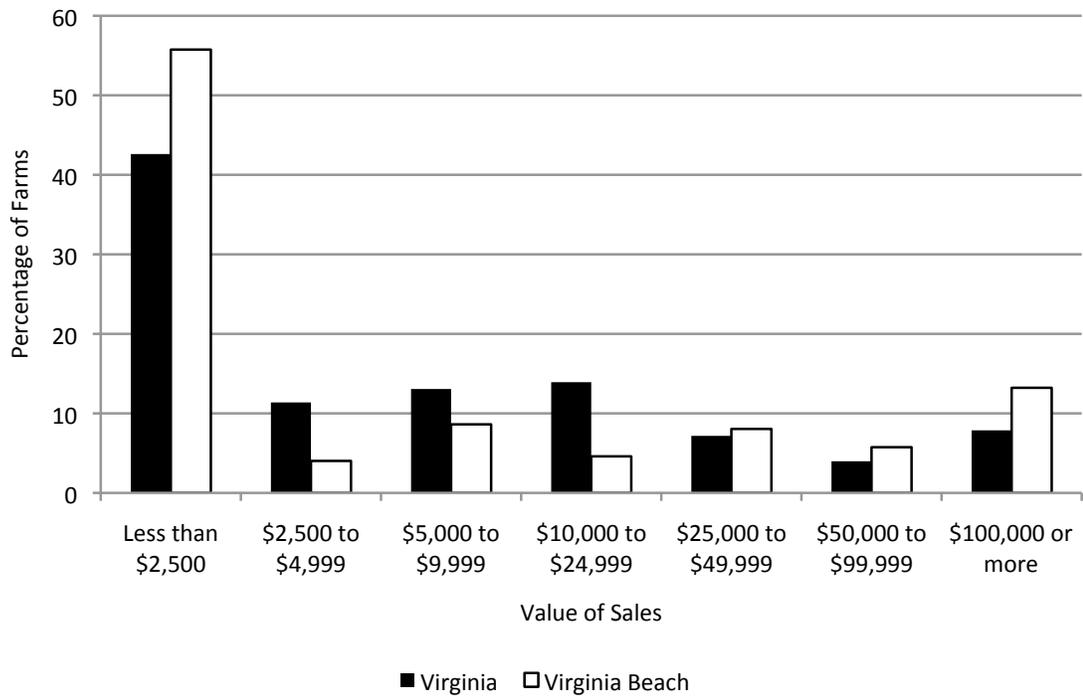
Beach farmers are retirement age (see **Figure 1.7**). Virginia Beach has a different agriculture production profile than the state at large (see **Figure 1.8**). Over two-thirds of Virginia’s farms are principally livestock and poultry operations, while over half of Virginia Beach farms are classified as crop producers. Consequently, approximately 80 percent of Virginia Beach farmland is used in cropland production compared to only 40 percent for Virginia (see **Figure 1.9**). Virginia Beach ranks high in the production of certain commodities. It is the largest strawberry producer in the state with crop sales in the range of \$750,000 to \$1,000,000 per year

Table 1.1 Value-Added Activities by Virginia Beach Farmers, 1997-2007

Item	1997	2002	2007
Number of farms that sell directly to consumers	27	22	31
Number of farms that marketed products through Community Supported Agriculture (CSA)	NA	NA	5
Value of agricultural products sold directly to consumers	\$219,000	\$285,000	\$725,000
Number of farms that offer agritourism and recreation services	NA	NA	4
Value of agritourism and recreational sales	NA	NA	\$147,000
Number of farms producing and selling value-added products	NA	NA	8

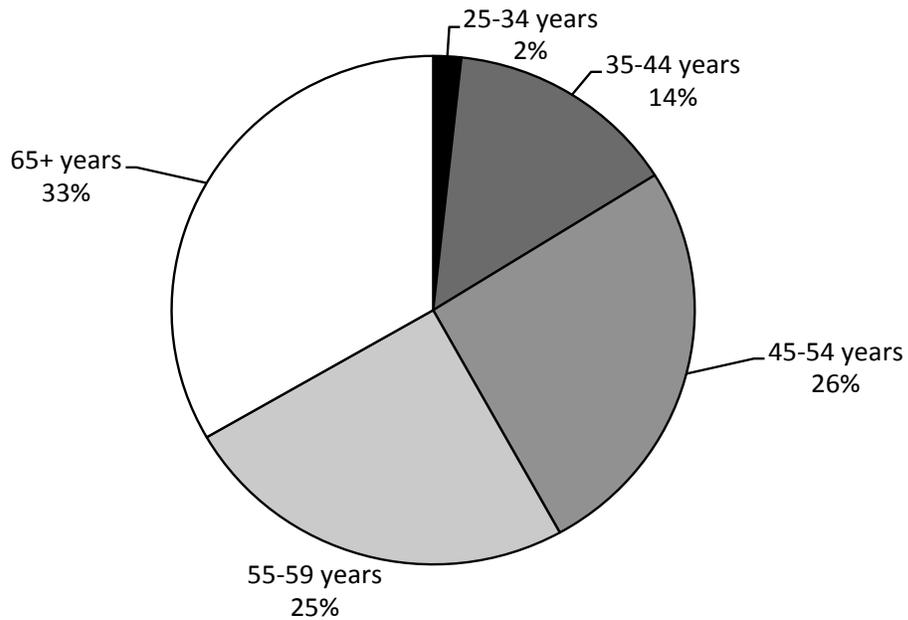
Source: U.S Department of Agriculture, National Agricultural Statistics Service (2009)
NA=Not available

Figure 1.6 Percentage of Farms by Value of Sales, Virginia and Virginia Beach, 2007



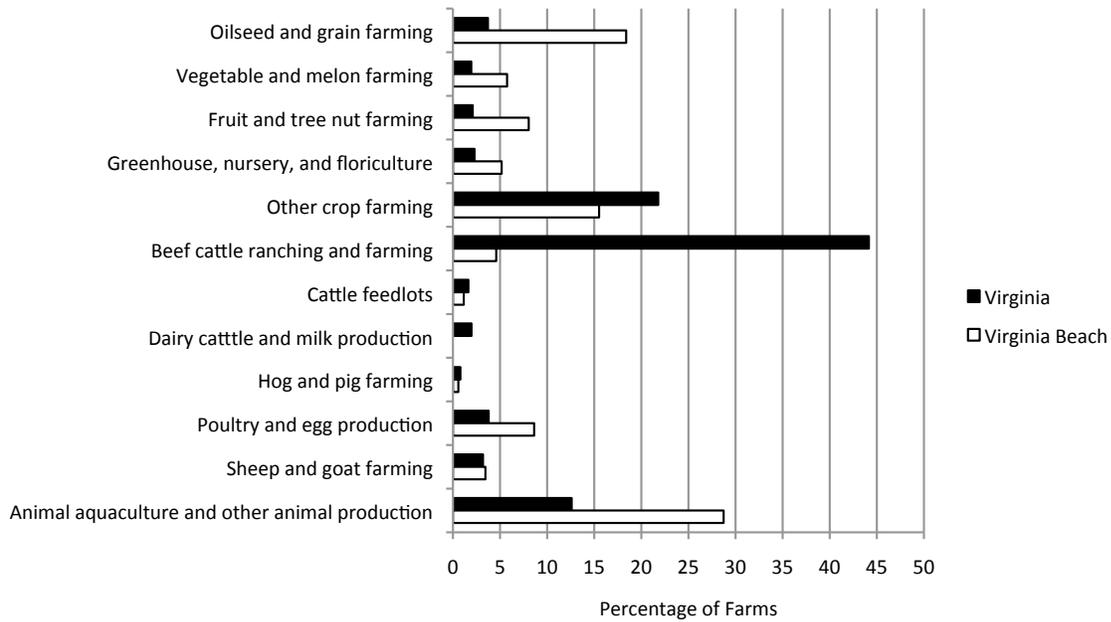
Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2009)

Figure 1.7 Virginia Beach Principal Farm Operator by Age, 2007



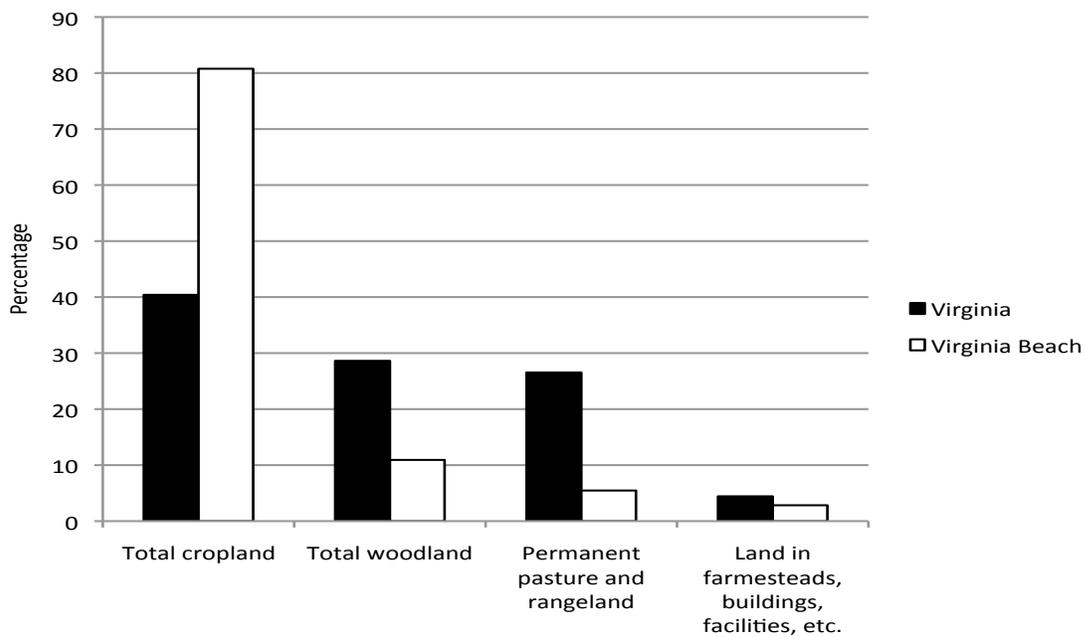
Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2009)

Figure 1.8 Percentage of Farms by North American Industrial Classification System, Virginia and Virginia Beach, 2007



Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2009)

Figure 1.9 Percentage of Farmland by Use, Virginia and Virginia Beach, 2007



Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2009)

(Virginia Beach Department of Agriculture 2011a). It ranks 16th in corn production over the last 13 years (Virginia Beach Department of Agriculture 2011b). Virginia Beach horse operations and households board the 24th highest population of equine (NASS 2008). Farmers markets, roadside stands, U-pick, and other direct-to-consumer sales venues form an important part of the product distribution network and help place Virginia Beach sixth highest among Virginia localities in terms of the product sales directly to consumers

In the last two decades, the community has made significant progress in preserving its remaining natural resource base, which is a necessary condition for maintaining current levels of agricultural activity. The City Comprehensive Plan is supportive of efforts to preserve the rural area for environmental and growth management reasons and recognizes the economic importance of agriculture as part of a diversified economy. The City operates a very successful land preservation program called the Agricultural Reserve Program (ARP) that funds easement acquisition through installment purchase agreements (IPA) which provides yearly tax-free interest payments and a lump sum principal payment at the end of 25 years. The ARP program preserved 8,832 acres over the period 1997 to 2011 and has the goal of preserving a total of 20,000 acres. In addition, the City has made strategic acquisitions of land in the Pungo neighborhood to alter the path of development in that region.

The city has also developed supportive programming to build new agricultural markets. The Virginia Beach Department of Agriculture has facilitated

the growth of local food markets by organizing and sponsoring farmers markets. The City now operates two farmers markets (see **Table 1.2**), Why not Wednesdays Farmers Market in City Center and the Virginia Beach Farmers Market. The City also sponsors an agritourism education program called *Live the Life Adventures* that introduces residents and tourists to fresh and value-added local food products. *Taste of the Market* provides food tours to local food venues and offers a mini-course on organic food production and its benefits. Farm to Table includes a guided tour of area farms and farm stands and opportunities to pick-your-own produce.

A number of private ventures have also formed around local food markets. Three other privately sponsored markets are held in the city, including Fresh on Fridays Farmers Market at the Jewish Community Center, Old Beach Farmers Market, and Red Mill Green Market. Over a dozen farms operate roadside stands, several farms offer U-pick opportunities, and five farms offer community supported agriculture (CSA) memberships. A local food hub was recently established by Coastal Farms, a coop program that aggregates food from dozens of Hampton Roads farms and delivers to selected locations around the region (Denckla Cobb 2011).

Private agritourism has flourished as well. The Pungo Strawberry Festival is held in the heart of the Pungo strawberry cultivation area and features a variety of entertainment, arts and craft booths, and agricultural exhibition and sales activities. The Festival was started in 1983 and has continued every year since, with proceeds going to local charitable organizations. It is held for two days on

Table 1.2 Virginia Beach Farmers Markets

Market	Location	Year Started	Size (# of Vendors)
Fresh on Fridays Farmers Market at the JCC	5000 Corporate Woods Drive	2010	7
Old Beach Farmers Market	620 19th Street @ Cypress Avenue	2009	10-12
Red Mill Green Market	2181 Upton Drive, Red Mill Commons Shopping Center	2010	10-15
Virginia Beach Farmers Market	3640 Dam Neck Road	1976	17
Why not Wednesdays Farmers Market	Commerce Street, Adjacent to The Sandler Center Outdoor Plaza	2010	10

Memorial Day weekend and has grown from around 50,000 visitors in 1983 to an estimated 170,000 visitors in 2010. A private company called Coastal Food Tours that expanded into the Hampton Roads region in 2010 operates food tours of Virginia Beach farmers markets and farms. The Virginia Beach area is also a major venue for Virginia's horse industry and features a range of equine activities, including

trailriding, horse shows, polo, and therapeutic riding. The area is served by at least five regional equine organizations including: Virginia Beach Horse Show Association, the Atlantic Saddle Club, the East Coast Horse Show Association, the Southeast Virginia Dressage Association, the Tidewater Horse Council, and the Southeastern Association of Trailriders.

SECTION 2 METHODOLOGY AND DATA

This study examines the economic impact of Virginia Beach agriculture using input-output analysis, a research tool that allows one to quantify the impact of an economic activity or expenditure in a region. For this study, Virginia Beach farm production and agriculture-related spending made on local goods and services are counted as direct injections into the Virginia Beach economy. Linkages with other industries in the city mean that this initial injection has further stimulative effects that result from the purchases of goods and services and payments to employees. The stimulus causes a “multiplier effect” that results when money is re-spent in the local economy. This study attempts to capture several important facets of the agriculture sector in Virginia Beach, including farm commodity sales, value-added product sales, agritourism visitation to area farms and festivals, the equine industry, and agricultural education and research. These varied sources of stimulus are converted into spending that occurs within Virginia Beach.

Like most studies of this type, this one is called an economic impact study. From a technical standpoint the phrase “economic contribution” or “economic footprint” would better describe results of the analysis (Watson et al. 2007). No distinction is made between sales to and expenditures made by local residents and sales to and expenditures made by non-residents. An “economic contribution” analysis traces the gross economic activity that results from a given expenditure. It does not consider whether the expenditure used to generate the economic activity might have been used elsewhere in the economy to generate economic activity and gauge the comparative effect of that alternative activity.

Input-Output Analysis

An input-output model can represent the total impact of spending as consisting of three parts, a “direct effect,” “an indirect effect,” and an “induced effect.” The “direct effect” consists of the injection of economic activity or expenditure into the region. For example, farm sales would count as direct

expenditures. This direct expenditure then causes a “ripple effect” on the regional economy when money is re-spent. For example, local businesses provide supplies and services to farms such as agricultural services, seed, fertilizer, and equipment. These businesses spend a portion of their sales revenues on their supplies and services from other local firms who, in turn, purchase a portion of their supplies and services from other local firms. This cascading sequence of spending continues until the subsequent rounds of spending dissipate due to leakages in the form of taxes, savings, and spending outside the city. The cumulative effect of these cascading rounds of inter-industry purchases is referred to as the “indirect effect.” The final component of the total is that portion attributable to the spending of households. That is to say, farms and businesses pay households for their labor services. These households then purchase goods and services from local firms who in turn purchase a portion of their labor and material inputs from other local and state firms, and so forth. Again leakages occur at each round due to taxes, savings, and purchases of goods and services outside of the region. The “induced effect,” is the sum of all impacts associated with household purchases.

The impact analysis for this study used IMPLAN, a model that has been used in many economic impact studies, including studies of the regional economic impacts of agriculture in other Virginia communities (Lamie, Benson, and Pease 2005). IMPLAN (IMpact analysis for PLANning) is an industry standard input-output model. The model uses the most current available national and regional economic data from several federal government agencies to update and regionally customize an older national table (in this case, the 2002 United States Benchmark Table). The result is a 440 sector input-output table that is customized for the particular region of study, in this case the City of Virginia Beach.¹

¹ This study uses SAM multipliers that are closed with respect to households. In order to avoid double counting of inputs, final demand sectors could not purchase inputs from the Virginia Beach agriculture sector. Double counting would occur if you include the impact as a direct effect and then count it as an indirect effect because it serves as an input to that sector.

Impacts are evaluated within IMPLAN using three different measures: (a) total sales or total industrial output (TIO), (b) value-added, and (c) employment. Total sales or industry output is the total value of industry production during a period. It measures sales of intermediate inputs for use in production as well as sales of products to final consumers. Value added is a subset of total industrial output. It reflects only sales to final consumers and therefore avoids the double counting that occurs when intermediate inputs are included. It is the most commonly used measure of economic activity. Value-added is the concept behind gross domestic product (GDP) and can be compared to the GDP numbers provided by the Bureau of Economic Analysis for states and metropolitan areas. It can also be represented as total factor income plus indirect business taxes. Employment is measured in terms of person-years of employment. A person-year of employment is a job of one year in duration. Employment includes full-time and part-time workers as well as the self-employed and is measured by place of work.

Virginia Beach Surveys

Surveys of the Virginia Beach farm community were conducted to gather current-up-to-date information that was not available from other sources. The information collected through the surveys served several purposes. First, it helped to corroborate information obtained from Virginia Cooperative Extension on the magnitude of Virginia Beach farm commodity values and their composition. Second, it provided up-to-date estimates of the size and composition of direct farm sales to consumers and information on the importance of various sales venues. The most recent estimates of direct sales are from the 2007 Census of Agriculture but the sizeable growth that is occurring in local food markets has made this information quickly outdated. Third, it provided estimates of the size and composition of value-added product sales. Fourth, it provided estimates on the number of farm visitors during the year and expenditures associated with agritourism

The surveys were administered during the months of August and September of 2011 by the Center for

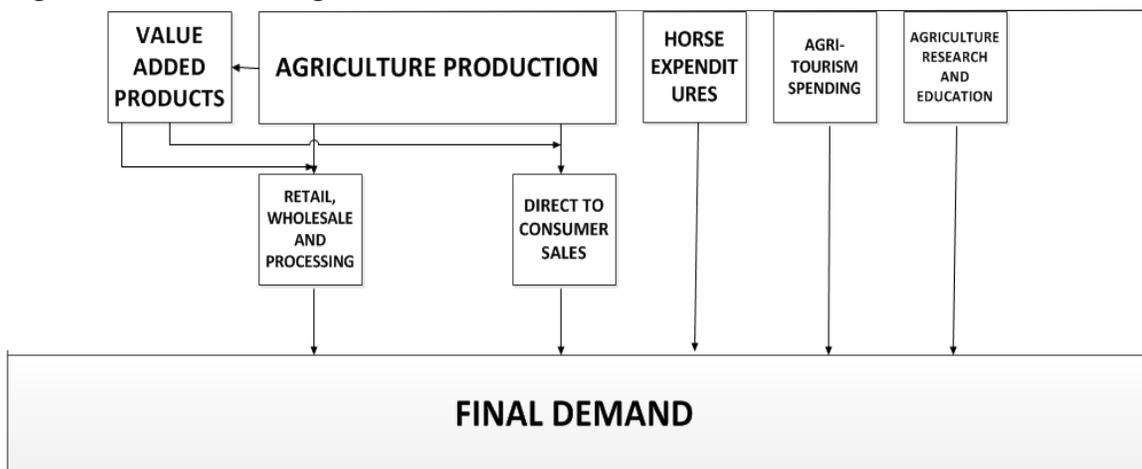
Economic and Policy Studies in cooperation with the Virginia Beach Department of Agriculture. Two questionnaires were administered (see **Appendix A.1** for copies of the survey instruments). The first questionnaire was directed at conventional farms and contained questions about farm characteristics, sales by commodity group, direct sales volume and features, value-added production, and agritourism activities. This survey customized to answer specific research questions pertaining to how the agriculture sector affects the Virginia Beach economy. Some questions with modification were drawn from other agribusiness surveys, including surveys of agritourism businesses (Schilling et al. 2006; Jensen et al. 2005) and farmers' markets participants (Miller 2005). A second questionnaire was sent to equine operations such as boarding, trail riding, training, and therapeutic riding facilities. This survey modeled one question on content from another equine survey (Groskreutz 2005). The survey questionnaire asked equine operations for information about selected features of their facilities and characteristics of agritourism visitors.

Two mailing lists were developed. The lists were drawn from mailing lists obtained from the Virginia Beach Department of Agriculture supplemented with records on horse event venues and facilities from Rephan (2010). One hundred and forty-nine addresses were assembled for the agriculture survey and 98 addresses for the horse facility survey.

The surveys were administered by mail. The survey mailing packets included a questionnaire, a personalized cover letter explaining the survey request, a supporting letter from the Virginia Beach Department of Agriculture, and a business reply mail envelope. A follow-up post card reminder was sent to non-completers ten days after the first mailing. Then a second survey packet was sent to non-completers seven days after the post-card mailing. Data collection efforts were finalized on October 19th.

Six farm survey replies indicated that they did not farm, and three horse facility contacts indicated that they had no horses. The adjusted response rate for the agriculture survey was 39 percent based on 56

Figure 2.1 Sources of Agriculture Sector Final Demand



responses from an adjusted sample of 143 farms. The adjusted response rate for the horse facility survey was 26 percent based on 25 responses from an adjusted sample of 95 horse facilities. Complete tabulations of surveys are presented in **Appendix A.2**.

Virginia Beach Agriculture Definition and Final Demand Estimation

The definition of Virginia Beach agriculture used in this study encompasses farm sales, expenditures made by horse operations and households on horses, agritourist spending, and agricultural education and research expenditures made by the Hampton Roads Agricultural Research and Extension Center (see **Figure 2.1**). Agritourism stems from visits to farms for activities as varied as hunting, education, and horse shows as well as visits to major agricultural festivals such as the Pungo Strawberry Festival. Each of these components is modeled quite differently in IMPLAN and relies on different assumptions and data sources. **Table 2.1** shows how each of these components is mapped onto IMPLAN sectors. Agricultural commodity production forms the single largest category of final demand. This production is sold to wholesalers and processors, as well as directly to consumers. In addition, a portion is used on the farm in both production and consumption. Estimates of agricultural production value were obtained from the Virginia Beach Cooperative Extension Office, which makes annual estimates

of crop acreage, yields, and prices and livestock sales each year. The production values of these commodities were assigned to the corresponding IMPLAN sectors. Final demand resulting from value-added product sales was estimated and assigned to the food processing industry. In addition, grain elevator employment was included as a value-added wholesale and processing activity. It was estimated using ES202 records from the Virginia Employment Commission.

Horse operations and households owning horses are another important component of Virginia Beach agriculture. This component is treated differently from the farm sector. It encompasses all activities involved in maintaining and supporting horses. Most horse owners value horses beyond their income producing value as evidenced by studies that show that owners incur significant net operating losses on average (Deloitte Consulting 2005; Swinker et al. 2003; Gamrat and Sauer 2000). Therefore, expenditures on horses are used as the basis for estimating economic impact rather than horse sales. **Appendix A.3** shows expenditure data for calculating the economic impact of horse owner expenditures on support of horses. This expenditure data is based on information from the 2006 Virginia Equine Survey (U.S. Department of Agriculture, National Agricultural Statistics Service 2008) adjusted to 2010 prices (Rephann 2010). The Virginia Beach horse inventory is estimated

Table 2.1 Data Sources and IMPLAN Assignments by Component

Component	Data Sources	IMPLAN Assignment
Agricultural Commodity Production	Estimates of Virginia Beach agricultural production value from Virginia Cooperative Extension – Virginia Beach Office based on 3-year average of 2008-2010; employment and sales estimates for greenhouse and nursery sales obtained from IMPLAN.	IMPLAN Sectors 1 (oilseed farming), 2 (grain farming), 3 (vegetable and melon farming), 6 (greenhouse and nursery production), 10 (all other crop farming), and 15 (animal production, except cattle and poultry and eggs)
Value-added product sales	Virginia Beach Agriculture Survey	IMPLAN Sector 54 (fruit and vegetable canning and drying)
Grain Elevators	ES202 file from Virginia Employment Commission	IMPLAN Sector 340 (warehousing and storage)
Horse Expenditures ^a	National Agriculture Statistics Service 2006 Virginia Equine Survey expenditures adjusted to 2010 prices and 2006 Virginia Equine Survey estimated horse inventory	IMPLAN Sectors 10 (support activities for agriculture and forestry), 31 (electric power generation, transmission, and distribution), 33 (water, sewage and other treatment and delivery systems), 39 (maintenance and repair construction of nonresidential structures), 319 (wholesale trade), 320, 323, 326, 328, 331 (retail stores), 351 (telecommunications), 358 (insurance agencies, brokerages, and related activities), 360 (Real estate establishments), 362 (automotive equipment rental and leasing), 365 (commercial and industrial machinery and equipment rental and leasing), 367 (legal services), 368 (accounting, tax preparation, bookkeeping, and payroll services), 377 (advertising and related services), 379 (veterinary services), 404 (promoters of performing arts and sports), 411 (hotels and motels, 412 (other accommodations), 413 (food services and drinking places), and payroll (labor income change).
Agritourism spending	Visitor figures from Virginia Beach Agriculture Survey, Virginia Beach Equine Survey, Rephann (2010), and Pungo Strawberry Festival records. Visitor expenditure patterns from Rephann (2010)	IMPLAN Sectors 19 (support activities for agriculture and forestry), 323, 326-330 (retail stores), 335 (transport by truck), 362 (automotive equipment rental and leasing), 379 (veterinary services), 402 (performing arts companies), 403 (spectator sports companies), 404 (promoters of performing arts and sports), 405 (independent artists, writers, and performers), 406 (museums, historical sites, zoos, and parks), 407 (fitness and recreational sports centers), 408 (bowling centers), 409 (amusement parks, arcades, and gambling industries), 410 (other amusement and recreation industries), 411 (hotels and motels), 412 (other accommodations), 413 (food services and drinking places)
Agriculture Research and Education	Employment and expenditures from Hampton Roads Agricultural Research and Extension Center	IMPLAN Sector 432 Other state and local government enterprises

^a The exact procedure for mapping survey data to the IMPLAN categories using equine budget information and other information is explained on page 28 of Rephann (2010).

Table 2.2 Virginia Beach Agritourism Estimates, 2010

Source	Visitors
Pungo Strawberry Festival	170,000
Farm agritourism	118,477
Total	288,477

to be 2,600 horses based on the same source. In order to avoid double counting of agricultural demand included in the agricultural commodity production, horse-related expenditures on farm commodities, such as hay crops, are not included.

Agritourism is another major aspect of Virginia Beach agriculture. Agritourism was separated into farm visitors (e.g., hunting, tours, pumpkin patches, trail riding, horse shows) and Pungo Strawberry Festival attendees (see **Table 2.2**). Farm agritourism figures are estimated on the basis of questions from the Virginia Beach Agriculture Survey (See Question 12 in Appendix A.2 for the Agriculture Survey) and the Virginia Beach Horse Facility Survey (see Question 4 in Appendix A.2 for the Horse Facility Survey). Survey results from the former indicated 13,525 farm visitors while results from the latter indicated 98,210 visitors in the categories of horse leasing, lessons, camps, and festivals (33,210). An additional estimate of 6,742 of attendance at 42 horse show and competitions during 2010 was based on data used in Rephann (2010). Therefore, total farm agritourism was estimated at 118,477. These estimates are largely based on tabulations of partial survey data and are not extrapolated. Therefore, they should be viewed as conservative visitation estimates. Estimates from the Pungo Strawberry Festival organizers place attendance in 2010 at 170,000.

To estimate agritourism direct expenditures, visitor estimates are combined with expenditure patterns for agritourists. Estimates of total trip expenditures for Virginia Beach agritourists were not available. Therefore, expenditure patterns for Virginia horse event visitors from Rephann (2010) were assumed to be representative too of Virginia Beach agritourists.

Appendix A.4 shows visitor expenditures by place of residence for spectators and participants. According to survey responses, 99 percent of Virginia Beach farm agritourists are derived from the Hampton Roads region. Therefore, the local expenditure amount of \$23.32 spent per trip for local Virginia horse event spectators is applied to them. An expenditure amount of \$79.42 for non-local, in-state horse event spectators is assumed for the remaining 1 percent. The Strawberry Festival is assumed to draw a similar audience as the Neptune Festival, which is also held in Virginia Beach. The Neptune Festival is estimated to derive 96 percent of its visitors from the Hampton Roads Area and 4 percent from elsewhere.² Therefore, the same local and non-local expenditure patterns are applied to visitors from each group. According to results from the Virginia Beach Horse Facility survey, all horse activity visitors come from the Hampton Roads region. However, for horse shows and competitions, it is estimated that 65 percent of visitors are local and 35 percent are from elsewhere. Once again, the corresponding local and non-local expenditure patterns are applied to the visitation figures by residence.

Two additional adjustments were made for horse show and competition participants. Horse show participants have much higher per capita expenditures and more diffuse spending patterns due to the additional costs of transporting, feeding, and showing horses. First, to avoid double counting of farm commodity sales, purchases of Virginia Beach farm commodities such as hay by participants were excluded. Second, the show and competition expenditures of Virginia Beach based participants were excluded since their horse show and competition expenditures should already be reflected in equine expenditures covered by the Horse expenditures component.

The final component of final demand is the Hampton Roads Agricultural Research and Extension Center. For this component, employment and operational budget figures for 2010 were assigned to the IMPLAN sector “other state and local government enterprises.”

2 <http://www.neptunefestival.com/about-us/festival-facts>

Figure 2.2 Methodology for Estimating Direct Expenditures by Component

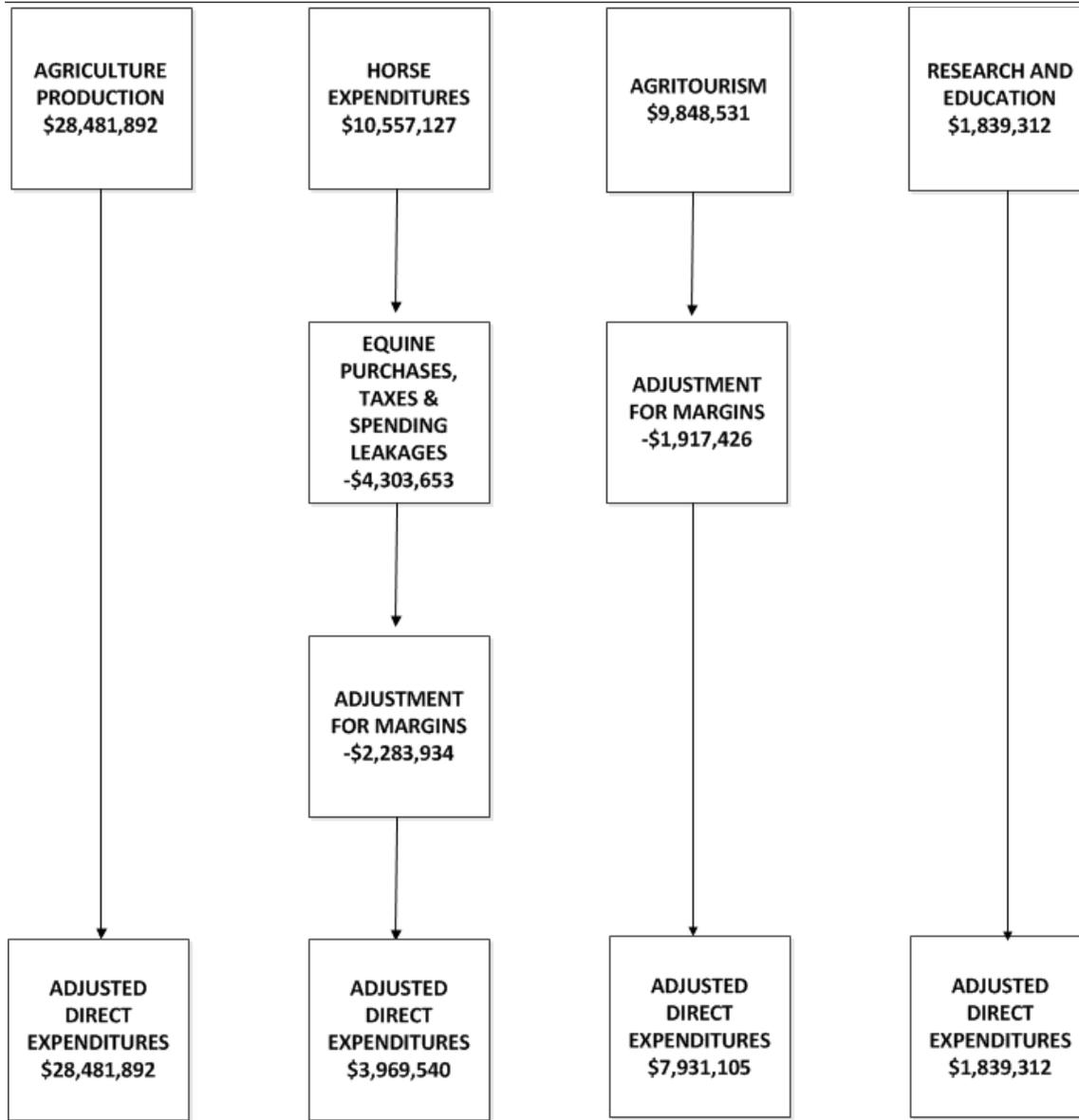


Figure 2.2 shows the sources of final demand for each component of the industry above and adjustments that were made to account to avoid double-counting, to subtract spending leakages and to adjust for margins. Spending leakages occur when direct spending occurs outside the Virginia Beach area. For instance, a local horse owner

may purchase tack items or accounting services outside city boundaries. Adjustment for margins makes adjustments to retail trade, wholesale trade, and transportation sector expenditures so that the expenditures reflect the portion of the purchase actually retained by area businesses.

SECTION 3 RESULTS

Table 3.1 shows the direct, indirect, induced, and total impacts of Virginia Beach agriculture disaggregated into its source components (i.e., agriculture commodity production, horse expenditures, agritourism, and education and research). The industry contributed \$42.2 million in total direct output, 663 jobs, and \$24.7 million in value-added. When the indirect and induced impacts resulting from cumulative expenditures made in the local economy are included, the industry accounted for nearly \$61 million in total

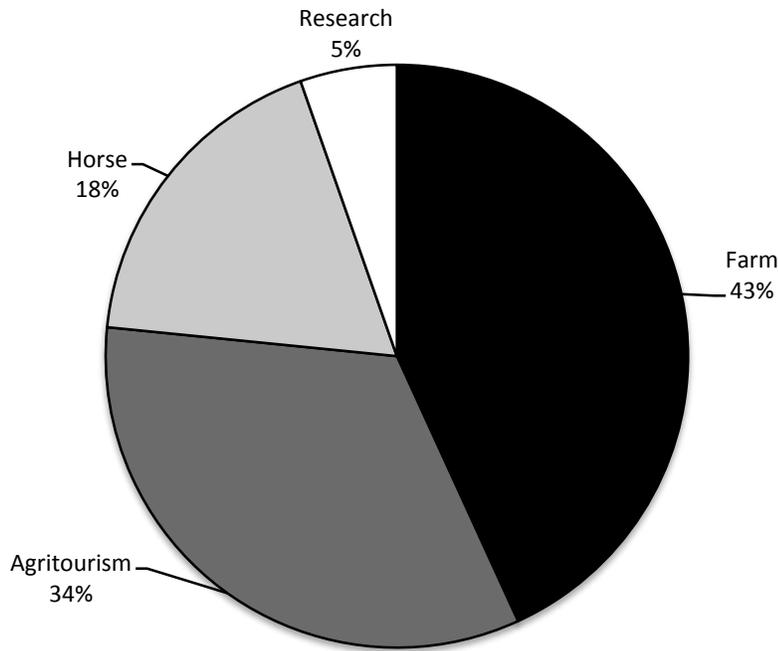
output, 820 jobs, and \$35.6 million in value-added.

The largest source of employment impact (43 percent) was farming (see **Figure 3.1**), followed by agritourism at 34 percent. Agritourism measures the visitor-related expenditures made by customers except for purchases of Virginia Beach agriculture commodities. The source of the third largest impact is the expenditures of Virginia Beach horse owners and operations on horse maintenance and support (18 percent). Research and education accounts

Table 3.1 Virginia Beach Agriculture Impacts by Source, Output, Employment, and Value-added, 2010

	Output (\$)	Employment	Value-added (\$)
Farming			
Direct	28,481,892	290	16,538,298
Indirect	3,889,067	27	2,534,702
Induced	4,278,459	37	2,529,731
Total	36,649,418	354	21,602,731
Horse Expenditures			
Direct	3,969,540	120	2,982,093
Indirect	738,923	6	410,642
Induced	2,487,604	22	1,470,690
Total	7,196,067	148	4,863,425
Agritourism			
Direct	7,931,105	221	4,111,353
Indirect	3,210,683	32	1,597,612
Induced	2,497,595	21	1,476,944
Total	13,639,383	274	7,185,909
Education and Research			
Direct	1,839,312	32	1,099,441
Indirect	662,721	5	364,208
Induced	819,858	7	485,029
Total	3,321,891	44	1,948,678
Total			
Direct	42,221,849	663	24,731,185
Indirect	8,501,394	70	4,907,164
Induced	10,083,516	87	5,962,394
Total	60,806,759	820	35,600,743

Figure 3.1 Percentage of Total Virginia Agriculture Employment Impacts by Source, 2010



for the residual 6 percent of the total impact

Table 3.2 shows the impacts that can be assigned to sales in local markets (e.g., road-side stands, farmers markets). This is not an additive component but a subset of the total direct expenditure impact as highlighted in **Figure 2.1** and reflects the importance the sales of fresh fruits and vegetables in Virginia Beach. Survey results indicate that over \$980,000 in sales of farm commodities were directly to consumers. When this result is extrapolated to all fruit and vegetables as a share of production, one obtains an estimate of \$1.332 million in such sales in Virginia Beach. This estimate is 84 percent higher than the \$725,000 value of direct

sales to consumers provided in the 2007 Census of Agriculture and indicative of continual rapid growth.¹ Results indicate that \$1.3 million in direct sales to consumers corresponds to 44 direct jobs and \$765 thousand value-added. After accounting for indirect and induced impacts, the total impact of local direct sales to consumers is 47 jobs, \$1.7 million in output, and \$964 thousand value-added.

The impacts of Virginia Beach agriculture are felt in numerous other sectors of the economy (see **Table**

¹ In all likelihood direct sales to consumers by Virginia Beach farms in 2010 is even higher because the Virginia Beach Agriculture Survey question 17 asked only about agricultural products sold “directly to Virginia Beach consumers” rather sales to all U.S. consumers as specified in the Census of Agriculture.

Table 3.2 Virginia Beach Agriculture Direct to Consumer Sales Economic Impacts, Output, Employment, and Value-added, 2010

	Output (\$)	Employment	Value-added (\$)
Direct	1,332,376	44	764,769
Indirect	156,715	1	99,943
Induced	167,315	2	98,864
Total	1,656,407	47	\$963,575

3.3 and Figure 3.2). The largest employment effects were in agriculture, forestry, fishing, and hunting, followed by arts, entertainment, and recreation, accommodation and food services, retail trade, transportation and warehousing, government, and construction, where direct impacts were dominant. These impacts reflect the combined role of traditional

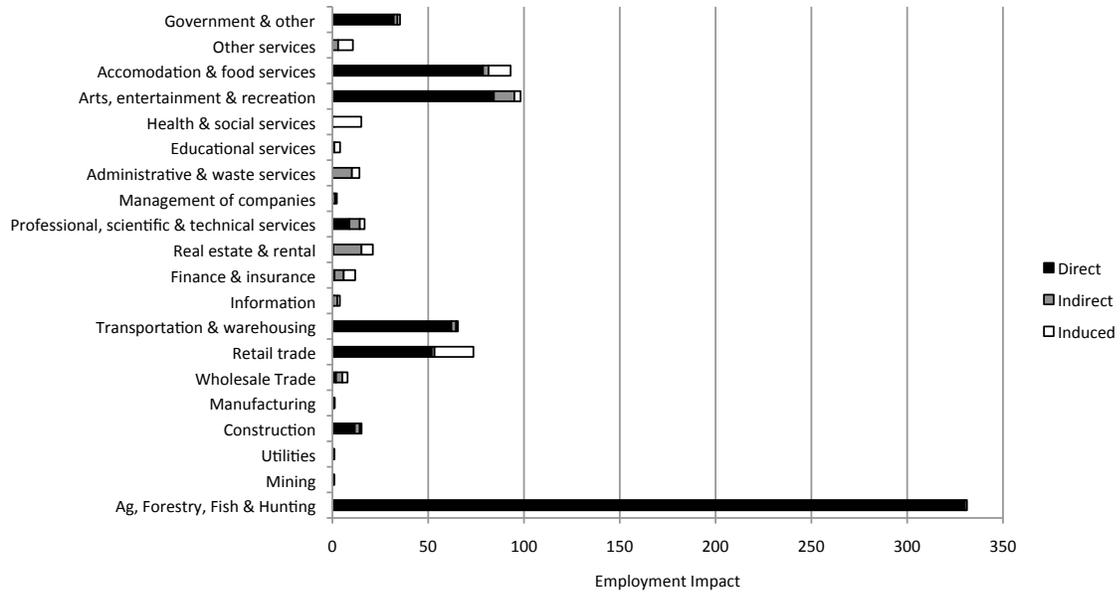
agriculture as well as the horse industry, agritourism, and agricultural research. In addition, Virginia Beach agriculture stimulated real estate, administrative and waste services, health and social services, and other sectors through the effects of interindustry purchases and subsequent rounds of spending.

Table 3.3 Total Impact of Virginia Beach Agriculture by Major Industry, Output, Employment, and Value-added, 2010

Industry	Output	Employment	Value-added
Total	60,606,759	820	35,600,743
Agriculture, forestry, fishing & hunting	25,116,568	331	13,595,675
Mining	1,335	0	798
Utilities	94,255	0	68,319
Construction	1,428,060	15	706,936
Manufacturing	123,659	1	30,563
Wholesale trade	1,094,436	8	896,541
Retail trade	2,625,227	74	3,211,602
Transportation & warehousing	5,433,731	65	4,227,052
Information	1,226,100	4	354,327
Finance & insurance	2,599,115	12	1,378,180
Real estate & rental	5,385,262	21	3,961,579
Professional, scientific & technical services	1,844,027	17	948,541
Management of companies	338,462	2	168,832
Administrative & waste services	749,292	14	462,125
Educational services	231,995	4	124,581
Health & social services	1,338,833	15	833,043
Arts, entertainment & recreation	2,733,567	98	402,708
Accommodation & food services	5,288,945	93	2,574,022
Other services	678,595	11	324,035
Government & other ¹	2,475,293	35	1,331,284

¹ Imputed rental payments for owner-occupied dwellings is captured in output and value-added impact^s.

Figure 3.2 Distribution of Virginia Beach Agriculture's Direct, Indirect, and Induced Employment Impacts by Industry



SECTION 4 OTHER ECONOMIC BENEFITS

This study was not able to capture all of the economic impacts and social benefits associated with Virginia Beach's agriculture sector. For instance, agricultural landscapes preserve numerous environmental amenities and the agriculture sector forms part of a diversified regional economic base that helps in some small measure to insulate the local economy from more volatile swings in economic activity. These other economic effects are briefly discussed for the areas of environment and quality of life, education and health, civic society and social capital, and other economic impacts.

Environment and Quality of Life

The preservation of Virginia Beach's agriculture and forested landscape provides important environmental services to the city and Hampton Roads region. These environmental benefits include improved water quality and flood control, air quality, conservation of wildlife habitat, and containment of urban sprawl. The more orderly development pattern resulting from open space preservation can help lower the costs associated with development such as the provision of public utilities and reduce the costs associated with urbanization such as pollution and traffic congestion. Lastly, farmland protection helps to preserve the scenic beauty of the region, sustain agrarian and historic landscapes, and maintain a sense of place. There is substantial evidence that farmland confers amenity benefits to non-farm dwellers that results in higher property values (Ready, Berger and Blomquist 1997).

Health and Education

A vibrant local farm sector can promote healthy living and education in a variety of ways. Local food production can improve local food security and the availability of fresh, nutritious and high quality farm products to the city (Denckla Cobb 2011). Agricultural opens spaces also provide a more accessible venue for outdoor recreation and agritourism education.

Virginia Beach's agriculture sector provides a number of learning, experiential and recreational opportunities that promote educational, physical, psychological and other therapeutic benefits for children. For example, the EQUI-KIDS riding program enlists over 200 volunteers and 18 horses to provide therapeutic services to thousands of children with mental, physical, emotional, and learning disabilities each year.¹ Such programs are known to build children's self-confidence and physical agility and teach responsibility (De Pauw 1996). The Virginia Beach 4-H program, which provides educational and recreational activities to area young people and offers 14 different clubs, had an enrollment of 5,178 youth in 2010 supported by 602 adult volunteers. Studies suggest that 4-H has a positive impact on participants including better performance in school, development of leadership skills, and better self-esteem (Kress). Much of the money raised for program activities is undertaken by the youths themselves including shows and sales and auctions of agricultural products and livestock that netted an average of \$152 thousand per year over the period 2009-2011.

Civic Society and Social Capital

Many agriculture-related organizations and activities in Virginia Beach help build community spirit, generate volunteer services, and raise funds for worthy charitable causes. For instance, the 2010 Pungo Strawberry festival raised over \$48,000 for 78 local charities in 2010. Such festivals also promote community development by building "community pride, sense of place, or identity, volunteerism, and the general benefit of pulling people together" (Marcouiller 1995). They form a part of an overall tourism effort and build interest in other area venues or help create a critical mass of activities to attract and retain tourists. Another notable program is Virginia Cooperative Extension's Master Gardner Program, which provides specialized training to avid gardeners who in turn provide volunteer education

¹ More information is available at the Equikids website: <http://www.equikids.org/>

and service to the community. In 2010, 236 active Master Gardeners donated 24,793 hours of volunteer labor towards 24 gardening and landscaping projects in Virginia Beach.² The estimated economic value of these volunteer hours is \$340,259.³ The Virginia Farm Bureau is the major sponsor of the Virginia Beach Amphitheatre that will host numerous nationally recognized musical artists in 2011.

Other Economic Effects

The study excluded some economic impacts that might reasonably be associated with Virginia Beach agriculture. For example, the rapidly growing “green industry” has areas of intersection with commercial agriculture. It produces horticultural plants and turf grass-related inputs, landscape and horticultural services, golf course and sport facility turf grass maintenance services, and retail/wholesale trade and distribution of horticultural products such as garden centers and florists (Hughes and Hinson 2000). Greenhouse and nursery and Christmas tree production is included in the Virginia Beach agriculture impact estimates, but the bulk of other sales is not.⁴ It is important

2 Virginia Beach Master Gardeners website: <http://www.vbmg.org/>

3 This estimate was made by assessing the value of voluntary labor at 73 percent of the value of compensation for an average hourly wage earner (\$18.80) in the Virginia-Beach-Norfolk-News, VA-NC metropolitan area using July 2010 figures available from the U.S. Department of Labor, Bureau of Labor Statistics (2010). The 73 percent weighting factor is suggested by Brown (1999) to translate volunteer time into a recipient-oriented measure of value.

4 According to the 2007 Virginia Green Industry Survey (Virginia Department of Agriculture and Consumer Services 2010) survey, only 29 percent of green industry sales consist

to note that excluded parts of the Green Industry are big employers. The landscaping sector alone employed 977 workers in Virginia Beach in 2010 (Virginia Employment Commission 2011).

Although this study included the effects of direct sales of local agricultural products to consumers in venues such as farmers markets and roadside stands, it did not include the impact of such activities on nearby venues such as other merchandisers and other businesses due to the increased customer traffic. Farmers markets draw increased customer flow to conventional shopping areas because of the wide variety of vendors, unique types of products available, and recreational and entertainment offerings. Some studies estimate the sales that occur at nearby businesses at equal or more than the farmer market sales (Hughes et al 2008).

Virginia Beaches agriculture sector also helps to diversify the local economy. Such economic diversification can have a countercyclical employment effect. For instance, during the recent recession, the agricultural economy has been buoyed by high commodity prices due to increased international demand for fuel, food, and fiber. While Virginia Beach employment decreased by over 13,000 over the period 2007-2009, the farm sector remained a steady source of employment.

of plant and Christmas tree sales. This figure includes retail trade as well as commercial nurseries and greenhouses. The remainder consists of landscape design and installation, wholesale distribution, grounds maintenance, and other activities and

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APPENDIX A.1
Survey Instruments

VIRGINIA BEACH AGRICULTURE SURVEY

This survey is being conducted as part of a study to measure the economic impact of agriculture in Virginia Beach. The study is being sponsored by the City of Virginia Beach Department of Agriculture. Participation is voluntary, but your cooperation in this effort will be valuable to the industry and City's future. The survey should take approximately 10 minutes to complete. **All information that you provide will be kept strictly confidential.** Thank you for your participation.

A. YOUR FARM'S CHARACTERISTICS

1. How many acres did your farm own or rent/lease to/from others in 2010 in Virginia Beach?

- a. Own _____
- b. Rent/lease from others _____
- c. Rent/lease to others _____

2. How many acres of crops did your farm harvest in during 2010?

Acres

- a. Oilseed crops (e.g. soybeans) _____
- b. Grains _____
- c. Vegetables and melons _____
- d. Tree nuts _____
- e. Fruit _____
- f. Greenhouse and nursery _____
(include short rotation woody crops and Christmas trees)
- g. Timber and firewood _____
- h. Other crops (please describe _____) _____

3. How many livestock/poultry did your farm sell during 2010?

Number

- a. Cattle _____
- b. Poultry and eggs _____
- c. Hogs/Swine _____
- d. Horses _____
- e. Other livestock (please describe _____) _____

4. Do you produce value-added products on your farm? (Check all that apply)

- a. Processed fruits, vegetables, berries, meats or dairy products (e.g. jams, cheese, jerky)
- b. Dried or arranged herbs and flowers (e.g., teas, floral arrangements)
- c. Baked goods
- d. Other value-added products (e.g., soaps, candles) (Please describe _____)

B. YOUR FARM'S INVOLVEMENT IN LOCAL FOOD MARKETS

5. Did you sell any farm commodities or value added products directly to consumers for human consumption or direct to retail in 2010? (Check the appropriate answer)

- a. Yes
- b. No

IF you answered "YES," please complete the remaining part of this section. Otherwise, please move to the next section (Section "C").

6. Which direct to consumer/retail methods did you use to sell your farm products or value added products in 2010? (Check all that apply)

- a. Farmer's markets
- b. Pick-your-own
- c. On-farm or roadside stand
- d. Subscription service or Community Supported Agriculture
- e. Flea markets
- f. Natural food stores
- g. Conventional supermarkets or grocery stores
- h. Restaurants or caterers
- i. Institutions (e.g., hospitals, schools)
- j. Other (please describe _____)

7. If you sold at a market during 2010, which venue(s) did you use? (Check all that apply)

- a. Fresh on Fridays Farmers Market at the JCC
- b. Old Beach Farmers Market
- c. Red Mill Green Market
- d. Virginia Beach Farmers Market
- e. Why not Wednesdays Farmers Market
- f. Markets outside of Virginia Beach
- g. Other (please describe _____)

8. How many times did you sell at markets during 2010?

Total visits on weekdays _____
 Total visits on weekends _____

9. What products did you sell directly to consumers or directly to retail? (Check all that apply)

- a. Vegetables
- b. Fruits and nuts
- c. Dairy and eggs
- d. Meat
- e. Live plants
- f. Herbs and flowers
- g. Value-added products
- h. Other (please describe _____)

C. YOUR FARM'S INVOLVEMENT IN AGRITOURISM

10. Did you receive visitors on your farm for tourism or recreation in 2010? (Check the appropriate answer)
- a. Yes
 - b. No

IF you answered "YES," please complete the remaining part of this section. Otherwise, please move to the next (section "D").

11. What types of agritourism attractions are offered on your farm? (Please check all that apply).
- a. Horseback riding
 - b. Festivals, events, and shows (e.g., harvest festival, music festival, horse show)
 - c. Farm/farm products related festivals or fairs
 - d. On-farm tour
 - e. Pumpkin patch
 - f. Corn maze
 - g. Field rides (e.g., wagon, tractor or hayrides)
 - h. Petting zoos or farm animal displays
 - i. Cultural or historic exhibits (e.g., museums, antiques)
 - j. On-farm bed and breakfast
 - k. On-farm fee fishing
 - l. On-farm fee hunting
 - m. On-farm camping
 - n. On-farm restaurant/eating establishment
 - o. Other (please describe _____)

12. How many people visited your farm for tourism, education or recreation in 2010? _____ %
- Please estimate:
- a. Percentage of visitors who were residents of Virginia Beach _____
 - b. Percentage of visitors who reside in Hampton Roads area but outside of Virginia Beach _____
 - c. Percentage of visitors who reside within state but outside of Hampton Roads _____
 - d. Percentage of visitors who reside outside of Virginia _____

13. Did you charge a fee for any of the agritourism activities offered on your farm? (Check the single best answer)
- a. No, all of the activities are free of charge
 - b. Yes, some of the activities are offered for a fee
 - c. Yes, all of the activities are offered for a fee

14. What is the average amount spent per agritourism visitor during a typical visit in 2010?
- a. Admission or user fees \$ _____
 - b. Purchasing farm products (e.g., pick your own, farm stand) \$ _____
 - c. Concession food and drink or non-food items \$ _____
 - d. Other (please describe _____) \$ _____

15. How many years have you offered agritourism activities on your farm? _____

D. INFORMATION ABOUT YOUR FARM'S SALES AND EMPLOYMENT

16. Please report the gross value of agricultural products sold by your farm in 2010. Exclude value-added products (e.g., jams, cheese, floral arrangements, soap)

a. Oilseed crops (e.g. soybeans)	\$ _____
b. Grains	\$ _____
c. Vegetables and melons	\$ _____
d. Tree nuts	\$ _____
e. Fruit	\$ _____
f. Greenhouse and nursery (include short rotation woody crops and Christmas trees)	\$ _____
g. Timber and firewood	\$ _____
h. Other crops (please describe _____)	\$ _____
i. Cattle	\$ _____
j. Poultry and eggs	\$ _____
k. Hogs/Swine	\$ _____
l. Horses	\$ _____
m. Other livestock (please describe _____)	\$ _____
Total	\$ _____

17. Estimate the gross value of agricultural products sold directly to Virginia Beach consumers for human consumption by your farm in 2010. Include sales from roadside stands, farmers markets, pick your own, etc. Exclude value-added products (e.g., jams, cheese, floral arrangements, soap)
\$ _____

18. Estimate the gross value of agricultural products sold directly to Virginia Beach retail by your farm in 2010. Include sales to food stores, supermarkets, restaurants, hospitals, schools, etc. Exclude value-added products (e.g., jams, cheese, floral arrangements, soap) \$ _____

19. Estimate the gross value of value-added products (e.g., jams, cheese, floral arrangements, soap) sold in 2010.
\$ _____

20. Estimate the gross value of agri-tourism and recreational products and services sold by your farm in 2010. Please do not include sales of agricultural products or value-added products. \$ _____

21. What impact did government sponsored local food initiatives such as (a) Buy Fresh, Buy Local, (b) Taste of the Market, and (c) Virginia Beach organized farmers markets (i.e., Virginia Beach Farmers Market, Why not Wednesdays Farmers Market) have on your sales in 2010? (Please provide your best estimate)
\$ _____ Estimated increase in sales (if no change in sales, please indicate 0)

22. Estimate your farm-related income in 2010 from other sources (e.g., agricultural program payments, payments received for renting/leasing farmland, animal boarding, crop and livestock insurance payments, customwork and other agricultural services) \$ _____

23. Do you plan to begin, expand, decrease, or discontinue direct to consumer or direct to retail sales in the next five years?

- a. Begin
- b. Expand
- c. Decrease
- d. Discontinue
- e. None of the above

24. Do you plan to begin, expand, decrease, or discontinue agri-tourism or recreation services at your farm in the next five years?

- a. Begin
- b. Expand
- c. Decrease
- d. Discontinue
- e. None of the above

25. How many people (including yourself) were employed on your farm in 2010?

Number

- a. Full-time year-round _____
- b. Full-time seasonal _____
- c. Part-time year round _____
- d. Part-time seasonal _____

26. Is there anything else that you would like to tell us about your farm operation, involvement in local food markets, or agritourism activities?

Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434)-982-4501. Fax (434) 982-4501. e-mail: trephann@virginia.edu.

VIRGINIA BEACH HORSE FACILITY SURVEY

This survey is being conducted as part of a study to measure the economic impact of agriculture in Virginia Beach. The study is being sponsored by the City of Virginia Beach Department of Agriculture. Participation is voluntary, but your cooperation in this effort will be valuable to the industry and City's future. The survey should take approximately 10 minutes to complete. **All information that you provide will be kept strictly confidential.** Thank you for your participation.

1. Which of the following best describes your horse operation? (Please check all that apply.)

- a. Boarding facility
- b. Riding center
- c. Therapeutic center
- d. Working farm
- e. Other (please describe _____)

2. How many acres did your horse operation own or rent/lease from/to others in 2010 in Virginia Beach?

- a. Own _____
- b. Rent/lease from others _____
- c. Rent/lease to others _____

3. How many years have you offered horse-related services or activities at your farm/facility? _____

4. How many visitors/customers did your horse operation have in 2010 for each of the following categories?

	Total	% Virginia Beach Customers	% Other Hampton Roads Customers
a. Horse-leasing/rental	_____	_____	_____
b. Horse-boarding	_____	_____	_____
c. Lessons	_____	_____	_____
d. Training	_____	_____	_____
e. Horse shows and competitions	_____	_____	_____
f. Camps	_____	_____	_____
g. Festivals, fairs, expos or emporiums	_____	_____	_____
h. Other (Please describe _____)	_____	_____	_____

5. What types of amenities do you offer at your facility? (Please check all that apply)

- | | |
|---|---|
| a. Pasture space for horses <input type="checkbox"/> | k. Gift shop <input type="checkbox"/> |
| b. Outdoor arena <input type="checkbox"/> | l. On-site tack shop <input type="checkbox"/> |
| c. Covered arena <input type="checkbox"/> | m. Barn/stalls <input type="checkbox"/> |
| d. Indoor arena <input type="checkbox"/> | n. Camping area <input type="checkbox"/> |
| e. Jumps <input type="checkbox"/> | o. Picnic area/grills <input type="checkbox"/> |
| f. Trails <input type="checkbox"/> | p. Bed and breakfast/Inn <input type="checkbox"/> |
| g. On-site veterinary services <input type="checkbox"/> | q. Changing/locker-room facilities <input type="checkbox"/> |
| h. Horse grooming facilities <input type="checkbox"/> | s. Shower facilities <input type="checkbox"/> |
| i. Feed and hay <input type="checkbox"/> | t. Toilet facilities <input type="checkbox"/> |
| j. Snack shop/restaurant <input type="checkbox"/> | u. Guided tours <input type="checkbox"/> |
| | v. Other (please describe _____) |

6. If your facility hosted horse shows and competitions in 2010, how many events did you host? _____

7. Please estimate the total number of horses at your operation in 2010 that you . . .

- a. Owned _____
- b. Boarded _____
- c. Sold _____

8. How many people (including yourself) were employed by your operation in 2010?

- a. Full-time year-round _____
- b. Full-time seasonal _____
- c. Part-time year round _____
- d. Part-time seasonal _____

9. Do you plan to expand, decrease, or discontinue or expand horse-related services or activities in the next five years? (Check the single best answer)

- a. Begin
- b. Expand
- c. Decrease
- d. Discontinue
- e. None of the above

10. Is there anything else that you would like to tell us about your horse operation?

Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434) 982-4501, Fax (434) 982-5536. E-mail: trephann@virginia.edu

APPENDIX A.2 Survey Results

Agriculture Survey

Question 1. How many acres did your farm own or rent/lease to/from others in 2010 in Virginia Beach?

	Total Acreage
Own	5,438
Rent/lease from others	12,067
Rent/lease to others	1,126

Size of operation by farm acreage

	# of farms	% of total respondents
Lease to others only	9	16.07
1-9 acres	5	8.93
10-49 acres	10	17.86
50-179 acres	19	33.93
180-499 acres	7	12.50
500-999 acres	1	1.79
1,000 acres or more	5	8.93
Total	56	

Question 2. How many acres of crops did your farm harvest during 2010?

	Acreage
Oilseed crops (e.g., soybeans)	9,846
Grains	7,598
Vegetables and melons	316
Tree nuts	4
Fruit	39
Greenhouse and nursery	15
Timber and firewood	5
Other crops	179

Question 3. How many livestock/poultry did your farm sell during 2010?

	Livestock
Cattle	100
Poultry and eggs	680
Hogs/swine	18,400
Horses	6
Other livestock	84

Question 4. Do you produce value-added products on your farm?

	# of farms
Processed fruits, vegetables, berries, meats or dairy products	5
Dried or arranged herbs and flowers	1
Baked goods	3
Other value-added products	3
Producing any value-added products	7

Question 5. Did you sell any farm commodities or value added products directly to consumers for human consumption or direct to retail in 2010?

	# of farms	% of Total
Yes	22	39.29
No	27	50.00
NA/No Response	6	10.71
Total	56	100.00

Question 6. Which direct to consumer/retail methods did you use to sell your farm products or value added products in 2010?

	# of farms
Farmer's markets	12
Pick-your-own	12
On-farm or roadside stand	14
Subscription service or Community Supported Agriculture	3
Flea markets	2
Natural food stores	1
Conventional supermarkets or grocery stores	1
Restaurants or caterers	6
Institutions (e.g., hospitals, schools)	1
Other	3

Question 7. If you sold at a market during 2010, which venue(s) did you use?

	# of farms
Fresh on Fridays Farmers Market at the JCC	3
Old Beach Farmers Market	2
Red Mill Green Market	3
Virginia Beach Farmers Market	7
Why not Wednesdays Farmers Market	3
Markets outside of Virginia Beach	4
Other	3

Question 8. How many times did you sell at markets during 2010?

(Number of responding farms was 10)

	Total	Mean
Total visits on weekdays	84	8.4
Total visits on weekends	135	15.0

Question 9. What products did you sell directly to consumers or directly to retail?

	# of farms
Vegetables	13
Fruits and nuts	14
Dairy and eggs	2
Meat	2
Live plants	6
Herbs and flowers	6
Value-added products	5

Question 10. Did you receive visitors on your farm for tourism or recreation in 2010?

	# of farms	% of total
Yes	8	12.96
No	41	74.07
NA/No response	7	12.96
Total	56	100.00

Question 11. What types of agritourism attractions are offered on your farm?

	# of farms
Horseback riding	0
Festivals, events, and shows	1
Farm/farm products related festivals or fairs	2
On-farm tour	6
Pumpkin patch	2
Corn maze	0
Field rides	2
Petting zoos or farm animal displays	3
Cultural or historic exhibits	1
On-farm bed and breakfast	0
On-farm fee fishing	0
On-farm fee hunting	2
On-farm camping	0
On-farm restaurant/eating establishment	0
Other	4

Question 12. How many people visited your farm for tourism, education or recreation in 2010? (N=6)

(Number of responding farms was 7)

Total number of visitors	103,525
% of visitors who were residents of Virginia Beach	38
% of visitors who reside in Hampton Roads area	61
% of visitors from elsewhere	1

Question 13. Did you charge a fee for any of the agritourism activities offered on your farm?

	# of Farms
No, all of the activities are free of charge	4
Yes, some of the activities are offered for a fee	5
Yes, all of the activities are offered for a fee	1
Total	10

Question 14. What is the average amount spent per agritourism visitor during a typical visit in 2010?

(Number of responding farms was 5)

	Average
Admission or user fees	\$12
Purchasing farm products	\$7.7
Concession food and drink or non-food items	\$0
Other	\$33

Question 15. How many years have you offered agritourism activities on your farm?

	# of Farms offering agritourism
1-4 years	1
5-9 years	2
10-19 years	2
20+ years	3
NA/No response	2
Total	10

Question 16. Please report the gross value of agricultural products sold by your farm in 2010.

(Number of responding farms was 37)

Oilseed crops	\$3,102,845
Grains	\$3,838,788
Vegetables and melons	\$2,344,625
Tree nuts	\$10,000
Fruit	\$155,825
Greenhouse and nursery	\$10,000
Timber and firewood	\$6,000
Other crops	\$9,200
Cattle	\$46,900
Poultry and eggs	\$11,100
Hogs/swine	\$2,462,000
Horses	\$0
Other livestock	\$2,800
Total Sales	\$12,000,083

Questions #17-20 Estimate the gross value of agricultural products by your farm in 2010

Sold directly to Virginia Beach consumers for human consumption	\$979,865
Sold directly to Virginia Beach retail	\$130,000
Sales of value-added products	\$17,000
Sales of agritourism and recreational products and services	\$12,700

Question 21. What impact did government sponsored local food initiatives such as (a) Buy Fresh, Buy Local, (b) Taste of the Market, and (c) Virginia Beach organized farmers markets have on your sales in 2010?

\$32,100

Question 22. Estimate your farm-related income in 2010 from other sources:

\$607,571

Question 23. Do you plan to begin, expand, decrease, or discontinue direct to consumer or direct to retail sales in the next five years?

	#	% of total
Begin	0	0
Expand	13	23.21
Decrease	4	7.41
Discontinue	1	1.79
None of the above	25	44.64
NA/No Response	13	23.21
Total	56	100.00

Question 24. Do you plan to begin, expand, decrease, or discontinue agritourism or recreation services at your farm in the next five years?

	#	% of total
Begin	0	0
Expand	9	16.07
Decrease	0	0
Discontinue	0	0
None of the above	31	55.56
NA/No Response	16	28.57
Total	56	100.00

Question 25. How many people (including yourself) were employed on your farm in 2010?

(Number of responding farms was 29)

	# Employed
Full-time year round	59
Full-time seasonal	18
Part-time year round	13
Part-time seasonal	58
Total	148

Horse Facility Survey

Question 1. Which of the following best describes your horse operation?

(Number of respondents was 25)

	#
Boarding facility	16
Riding center	5
Therapeutic center	0
Working farm	5
Other	7

Question 2. How many acres did your horse operation own or rent/lease from/to others in 2010 in Virginia Beach?

	Total acreage
Own	403
Rent/lease from other	54
Rent/lease to others	0

Question 3. How many years have you offered horse-related services or activities at your farm/facility?

	#
1-4 years	5
5-9 years	3
10-19 years	7
20+ years	5
NA/No response	5

Question 4. How many visitors/customers did your horse operation have in 2010 for each of the following categories?

	#	% Virginia Beach	% Hampton Roads
Horse leasing/rental	93	94	6
Horse-boarding	126	86	14
Lessons	2,821	73	27
Training	845	80	20
Horse shows and competitions	604	NA	NA
Camps	294	98	2
Festivals, fairs, expos or emporiums	30,002	77	23
Other	27	100	0

NA=Estimate not available

Question 5. What types of amenities do you offer at your facility?

	#
Pasture space for horses	20
Outdoor arena	16
Covered arena	1
Indoor arena	4
Jumps	11
Trails	5
On-state veterinary services	3
Horse grooming facilities	10
Feed and hay	15
Snack shop/restaurant	0
Gift shop	2
On-site tack shop	1
Barn/stalls	18
Camping area	1
Picnic area/grills	3
Bed and breakfast/Inn	0
Changing/locker-room facilities	7
Shower facilities	3
Toilet facilities	11
Guided tours	2
Other	1

Question 6. If your facility hosted horse shows and competitions in 2010, how many events did you host?

	#
0 events	11
1-4 events	1
5-9 events	1
10+ events	1
NA/No response	11
Total	25

Question 7. Please estimate the total number of horses at your operation in 2010 that you . . .

	#
Owned	188
Boarded	125
Sold	22

Question 8. How many people (including yourself) were employed by your operation in 2010?

	#
Full-time year round	56
Full-time seasonal	7
Part-time year round	10
Part-time seasonal	146
Total	219

Question 9. Do you plan to expand, decrease, or discontinue or expand horse-related services or activities in the next five years?

	#	% of Total
Begin	1	4
Expand	13	52
Decrease	2	8
Discontinue	1	4
None of the above	5	20
NA/No response	3	12
Total	25	100

APPENDIX A.3

Horse Maintenance Expenditures

Table A.3 Virginia Horse Operations Expenditures, 2010

Expenditure	Average per Horse (\$)
Purchases and upkeep	
Feed and bedding	\$540
Equipment purchases	\$455
Horse purchases	\$339
Veterinarian/health	\$323
Boarding	\$211
Training fees	\$207
Farrier services	\$190
Taxes	\$182
Maintenance repair expenses	\$192
Breeding fees	\$123
Insurance premiums	\$86
Tack	\$75
Utilities	\$59
Rent and lease expenditures	\$61
Grooming supplies	\$52
Horse related activities	
Travel and lodging	\$108
Advertising expenses	\$22
Professional fees	\$21
Miscellaneous expenses	\$34
Labor and capital improvements	
Capital improvements	\$405
Paid labor	\$334
Other contracted labor expenses	\$39
Total	\$4,060

Source: National Agricultural Statistics Service (2008) and Rephann (2010)

APPENDIX A.4 Agritourism Visitor Expenditures

Table A.4.1 Horse Show and Competition Participant and Spectator Average Travel and Expenditure Patterns in Local Area, 2010

Expense Category	In-County Residents		Other In-State Residents		Out-of-State Residents	
	Participants	Spectators	Participants	Spectators	Participants	Spectators
Tourist expenditures						
Spectator admission fees, parking, and program	N/A	\$4.67				
N/A	\$13.81	N/A	\$15			
Food and drink	\$50.87	\$11.18	\$196.38	\$75.27	\$343.99	\$226.25
Lodging	\$0	\$0	\$284.29	\$73.95	\$505.53	\$343.72
Entertainment	\$23.33	\$0	\$14.36	\$8.41	\$37.16	\$16.43
Gifts, souvenirs, clothing, etc.	\$23	\$4	\$52.35	\$34.28	\$138.56	\$76.87
Travel	\$22.50	\$3.47	\$52.17	\$20.33	\$103.19	\$81.07
Car Rental	\$0.33	\$0	\$0.36	\$0.40	\$13.98	\$3.57
Other	\$7.03	\$0	\$25.17	\$12.22	\$6.37	\$14.64
Participant expenditures						
Entry, registration, showing fees	\$282.37	N/A	\$515.45	N/A	\$878.3	N/A
Stall or boarding fees	\$74.17	N/A	\$192.01	N/A	\$254.2	N/A
Feed and bedding	\$23.17	N/A	\$75.73	N/A	\$116.94	N/A
Horse care services	\$26.67	N/A	\$117.98	N/A	\$152.90	N/A
Tack and horse supplies	\$16.33	N/A	\$68.80	N/A	\$151.77	N/A
Horse Transport	\$11.50	N/A	\$10.83	N/A	\$11.51	N/A
Other horse-relates expenses	\$13.5	N/A	\$102.02	N/A	\$78.44	N/A
Average spending per travel group	\$574.77	N/A	\$1,707.90	\$238.67	\$2,792.84	\$777.65
Exhibit						
Average number in travel party	3.8	2.4	3.8	3.0	3.9	3.3

Source: Rephann (2010)

N/A=Not applicable

**REBDS – Horticulture (Ornamental/ Christmas Tree) Industry Sector Meeting
December 5th, 2011 - Loudoun Extension Office Conference Room – Leesburg, VA**

Strengths:

- Consumer Trends for locally grown, native plants and low spray products
- County marketing/ promotion – product guide, Christmas Tree brochure, and Farm tours
- Strong County support for growers – economic development and Extension programs
- Larger population (more people to buy products) and greater demand
- Population’s disposable income (high income levels for surround area)
- Loudoun’s reputation as an agritainment/ agritourism destination is well known in region
- Greater demand for farm products (esp. Christmas trees) than supply (applies to pretty much all crops discussed)
- Ability to grow a variety of trees due to excellent climate, soils (prime farmland), water availability and knowledge of growers
- Long history of Christmas tree production in County (considered best in DC region)
- Marketing opportunities – garden centers are underserved quality products (including local nursery stock), locally grown trees are adapted to growing conditions here in the area and transplant more successfully, locally grown trees have a competitive advantage due to reduced freight costs, creative production techniques such as air root pruning containers etc. offer lightweight, howeowner-plantable trees.

Weaknesses

- Lack of garden centers that carry local products
- Liability issues with on Farm visitors (insurance etc expenses)
- Dependable market consistency
- Not enough growers (Christmas Trees, Cut Flowers, and Nursery Stock)
- In Christmas trees – Frazier fir marketing and our inability to grow Frazier firs
- Decline in grower numbers and amount of land in production (29 christmas tree growers in Loudoun at peak of industry – now there are only 14 x-mas tree growers in Loudoun)
- Farm accessibility (road repair etc can be problematic)
- Land Costs
- Market establishment (time and effort for market management such as farmers markets)
- Long term establishment of certain crops (nursery crops...Christmas trees can take 6-10 years)
- Establishing market venues (locations for sales etc.)
- Lack of understanding of agricultural production by non-farmers (some neighbor issues as well)
- Leasing land – upfront costs of establishment, long term lease agreements, infrastructure etc.
- Under reporting of actual production – USDA census misses small, specialty crop producers, data whether County, Local or State may not reflect actual production
- Deer Damage – severe and expensive to manage
- Variable weather e.g. drought, or excessive rainfall can impact tree production and seedling survivability
- Ornamental tree production requires marketing to establish demand to allow farm numbers to expand
- A lack of understanding in Building and Development regarding rural/ agricultural issues – could there be one person in B&D that specializes in agricultural issues that all requests for information and services can be directed to? There is a rural team in Economic Development – there should be a rural team in B&D.

Opportunities

- Preservation of prime farmland
- Exotic Christmas tree species (learning more and educating farmers on possible trees that would grow well on their sites and have market appeal to compete with Frazier firs)\
- Farmers Co-op/ new Farm markets to work together to market products
- Connecting farmers to available land
- Herbaceous perennial production
- More Christmas Tree production
- Social media/ internet usage to promote products and connect to consumers
- Establish or reinvigorate growers associations – get growers to work together to promote, cooperatively market, lobby when needed, mentor new growers etc.
- Public education – understanding agriculture
 - Get started farming or encourage/ connect young people to work on farms

Threats

- Reduced budgets/ cutting support positions i.e. Economic Development, Extension, Soil and Water etc.
- Labor availability
- VDOT
 - Roadside signs
 - Road maintenance
 - Spray drift
- Introduced pests (brown marmorated stinkbugs, Asian long horned beetle, emerald ash borer)
- Deer
- Water availability
- Public understanding of agriculture
 - Complaints
 - Negative neighbor relations
- Social Media – bad reviews whether true or untrue
- Residential development
- Destruction/ Development of prime agricultural soils
- County Zoning ordinances
 - Greenhouse coverage
 - Definition of “Commercial” entity vs. Agricultural

Suggestions for expanding the industry:

- Develop Marketing program specific to horticulture producers
- Create Horticultural Producers Association (i.e. merge Christmas trees/floral products)
- Conduct 2 meetings per year (Annual meeting for election of officers + field trip)
- Conduct public information/ educational programs explaining the benefits/ difficulties of entering the business
- Staff or consultant support for “social media” push during sales period (Spring/Fall for nursery trees and other plants and Christmas for Christmas related products)
- Staff connected mentoring program (with existing growers) to get new growers started

REBDS-Conservation/Preservation Sector

Introduction

“Thomas Jefferson would surely deplore our tendency to ignore the importance of country things. Always worried about the corrupting influence of large cities, Jefferson held an almost mystical political conviction that the republic he helped found would be sustained in the long run by cohesive communities of yeoman farmers. ‘The small landholders,’ he wrote, ‘are the chosen people of God...whose breasts he has made his peculiar deposit for substantial and genuine virtue.’”¹

Citizens of rural areas should fight for managed growth policies that acknowledge the varied economic benefits of a rural economy, respect nature’s limits, exhibit support for the human environment built by earlier generations, demonstrate the sustainability of wise farmland management and its compatibility with a tourism and outdoor recreation economy that is dependent on conservation of open spaces, preservation of significant historic sites, and public access to the rural landscapes.

To date Loudoun County, Virginia has shown through its comprehensive plan that it generally understands these values, but Loudoun also faces enormous pressure to turn away from a rural economy in its western quadrants, and give in to rapid development that would serve the regional growth economy to the detriment of the County’s current quality of life.

This Strategy seeks to clearly demonstrate the essential nature of rural western Loudoun County to our regional uniqueness, and to justify land use policies that sustain rural agriculture, promote compatible businesses, preserve open space landscapes, and protect our historic sites, outdoor recreation parks, and tourism destinations.

Summary of Findings

As part of the Rural Economy Business Development Strategy (REBDS), two Strategic Planning Sessions were held on Dec 14th and Dec 15th 2011 with Loudoun Conservation/Preservation Stakeholders (see Appendix A for list of attendees). The purpose was to gather feedback from members regarding how they do business in Loudoun County and what they specifically need from the county to be successful.

We posed a series of questions to the stakeholders to determine the current strengths and weaknesses of the sector, and provide recommendations to improve conservation / preservation for inclusion in the long-term REBDS.

A follow-up stakeholder meeting was held on February 8, 2010 to discuss the findings of the initial meetings and provide additional input and analysis of these issues. The results of this meeting were then reviewed by members of the REDC (conservation, education, recreation) and Rural Economic Development on Feb 22, 2010 to identify the most important issues that affect the Sector and outline recommendations for the REBDS.

¹ “Saving America’s Countryside: A Guide to Rural Conservation,” Samuel N. Stokes, et al 1989 John Hopkins University Press

Input from our stakeholders suggest that conservation/preservation and a healthy rural economy are dependent upon one another. As a result, we identified two major focus areas: **(1) Open Space Preservation, and (2) Rural Ag Business Development.** Within these categories we identified a number of strengths, weaknesses and opportunities that are summarized below and on the attached flow chart (Appendix B).

Open Space / Preservation

Strengths

Large inventory of protected lands.

- Existing large contiguous rural area
- Agricultural and Forestal District Designations
- Permanent Conservation Easements
- Low Cost of Services

Public Access to open spaces

- Unpaved county roads
- VDOT abandoned roads

Ecosystem services

- Permanent Conservation Easements

- Water Quality

- Removal of sediment and nutrient pollution by vegetated buffers
- Prevention of flooding by preservation of floodplains without impermeable surfaces

- Retention of water in the county's ground water by improving infiltration

- Wildlife Habitat

- Open Space

- Aesthetic value

- Sense of place

- Green Corridors

- Air purification by vegetation, especially trees

- Carbon sequestration by vegetation and soils

Historic Places / Landmarks

- Journey Through Hallowed Ground

- Mosby Heritage

- Historic Districts

- Private / Non-Profit Areas

Recreation / Tourism

- W&OD Trail

- Proximity to Appalachian Trail

- Proximity to Potomac River

Ag Land Available for Farming
Existing Large Contiguous Area
Agricultural and Forestal Districts

Weaknesses

Lack of Strategic Plan

Inadequate plan for parks/open space/trails
Lack of County owned overnight camping facilities
Appropriate purchase of land for 'use'
Continued loss of land to residential development

Zoning

Insufficient zoning regulations in sensitive areas
Building regulations that increase impervious surfaces
Inappropriate development/businesses
Continued loss of land to residential development
Alternative Septic system ordinances
Conflicts between rural commercial and conservation/preservation practices

Residential Development

5 acre cluster in NW LoCo (increase in housing market)
Continued loss of land to residential development
Alternative Septic system ordinances

Land Uses / Costs

Property transfers (lack of information/hurdles in process)
TDR/PDR-need for education
Open space tax rate (higher than AG rate)
High cost of land
Inability to measure the value of ecosystems services?
Lack of information on estate planning/succession planning

Transportation / Infrastructure

Development of 15N Gateway
Outer beltway-placement
Road widening/expansion

Education / Outreach

Communication between industry and elected officials
Inability to measure the value of ecosystems services
Conflicts between rural commercial and conservation/preservation practices
Disconnect between East & West (perception west is for wealthy landowners)

Opportunities

Develop an education strategy and create a clearinghouse for Conservation / Preservation information (coordination with Education Sector). Create information centers around the county promoting recreation / historic places etc. Foster relationship between East and West through education and outreach.

Develop and implement plan for parks/open space/trails (Equine) including the formation of a Park Authority. Maximize preservation / use of county owned parks / open space.

Market County as an outdoor recreation venue through DED and Parks/Rec and other county sponsored events

Implement Piedmont Farm Link Program to connect retiring and beginning farmers.

Improve Incentives (Land Use / Open Space) to preserve prime farmlands

Improve Strength of Scenic Byways Designation as a land protection mechanism.

Work with under-represented populations to promote Loudoun's Diverse Heritage.

Rural Ag Business Development

Strengths

Cost Avoidance

- Low cost of services

- PEC study on economic value of open space uses

Increase Commercial Tax Base

- Rural support services-income/tax generation

Value-Added Services

- Strong ag sectors (ie berry growers, vineyards, specialty products)

- PEC study on economic value of open space uses

Weaknesses

Lack of Strategic Plan

- Appropriate purchase of land for 'use'

Zoning

- Start up barriers (zoning/planning) to small businesses

Land Uses / Costs

- Open space tax rate (higher than AG rate)
- Property transfers (lack of information/hurdles in process)
- TDR/PDR-need for education

Ag Land Available for Development

- High cost of land
- Aging Farmers

Education / Outreach

- Communication between industry and elected officials
- Conflicts between rural commercial and conservation/preservation practices
- Disconnect between East and West (west is for wealthy landowners)

Opportunities

Develop temporary use permits to encourage / support more start up opportunities
Encourage adaptive re-use, for example conversion of barns for business purposes.

Develop non-traditional incubator services for rural businesses.

Piedmont Farm Link

Value / Preserve Prime Farmland.

Foster relationship between East and West through education and outreach.

Note that we are awaiting input/feedback from recreational users (bike shops, river users, hiking clubs), and historic preservation groups, and any new recommendations will be added to our final sector report.

Conclusions

To summarize, there is intrinsic value associated with rural Loudoun that gives the County its uniqueness. We can identify those conservation / preservation attributes that contribute to this Loudoun experience, such as (1) rural / open spaces; (2) outdoor opportunities; and (3) historic / cultural resources. Just as important are those opportunities that are available to support and maintain rural / agricultural businesses. As pressure to develop land increases in the County, we need to find ways to quantify these intrinsic values, as well as the minimum acreage needed to sustain the rural economy and character. It may not be possible to come up with definitive answers, however, the REBDS can provide the necessary tools to maintain our rural culture, sustain our rural economy and make Loudoun a role model for environmentally sound, economically efficient development.

APPENDIX A

List of Stakeholders

APPENDIX B

Flowchart

FINAL REPORT—RURAL BASED BUSINESSES

Committee Members

Warren Howell, Chair—Member, Rural Economic Development Strategy Commission and Owner, Alder School Berries

Marisol Fernandini-Gaffney—Owner, Toats Organic Cookie Co.

Chris Hatch—Owner, Dunlop Mill Farm and President, Loudoun Valley HomeGrown Markets Cooperative

William Leigh—future rural business owner

Ellen Polishuk—Owner, Potomac Vegetable Farm & Agricultural Consultant

Terri Rosenthal—Head Designer/ Co-Owner of Carasan Designs LLC

Johnny Stanford—Owner, Stanford Excavating Co

Proceedings

The Rural Based Businesses Committee held three meetings during November and December 2011. Its members were owners/operators of a small but wide-ranging group of rural businesses. Two owned fruit/vegetable farms, one was an excavating/site development company, another made organic cookies, another used to design and make high-fashion clothes, and still another was casting about, looking for the right niche to tuck into. The common thread connecting them was rural business location. They were all self-contained, self-reliant and self-motivated individuals. They all wanted to fly on their own wings to whatever business destination they chose.

The initial meeting of the committee was a get-to-know-you session. All the members in attendance shared their ideas about how their personal farm and farming in general in Loudoun would look in ten years' time. All foresaw some mix of bright skies and dark clouds for rural business but they were unanimous in their belief that the future for farming here is strong.

SWOT Analysis—Part I

The second meeting started the SWOT analysis process, specifically, the Strengths and Weaknesses of rural based business as seen and experienced by the committee members. The **strengths** fell into several categories:

Market Demographics—Large and growing population, wealthy, well-educated and young. In fact Loudoun County is a leader in major national economic indicators, two of which are household income and population growth rate. The metro area to which consumer-oriented rural businesses can sell is large and welcoming. Whatever a rural based business can

produce, it can sell readily and profitably. This is truly a privileged outlet for rural business products and services.

Strong entrepreneurialism—Loudoun is ground zero in the United States for cottage industries and small businesses. As traditional dairying and commodity agriculture receded in Loudoun starting in the 1960's with the development of Dulles Airport, a growing federal government presence and expansion of information technology and modern communications, it yielded to many small home-based businesses and small-scale farm operations. Indeed, the absolute number of farms—primarily small and horse-oriented—has grown in recent decades. These receive strong local support from the Small Business Development Center, the Leesburg Incubator Facility, the Economic Development Commission, the Rural Economic Development Council and other community economic resources.

Local Government Support—For more than ten years rural businesses have received targeted assistance from county government and state government agencies. Much of this support has taken the form of boot-strap assistance, leading farmers and rural businesses to organize and strengthen themselves to advance their own economic interests. The number of farm producers and farm-oriented groups and associations has risen dramatically over the last ten years.

When it comes to having strengths in its local rural economy, Loudoun County is second to none.

The **weaknesses** that the rural based businesses committee saw were specific obstacles to progress and growth, some of which appeared almost self-inflicted. They were structural, governmental, sociological and political in nature.

In terms of **structure**, Loudoun County is an expensive place to do business, the local farm labor force is minimal at best, life is fast-paced, farmland has to compete with housing and other high return enterprises and local climate and soils are not optimal for direct-market farming.

Weaknesses that are **governmental** in nature were, not surprisingly, the strongest held and bitterest complaints the committee members had. They spoke of their own conflicts and clashes with local government regulations, plus many others their friends and neighbors had experienced. Of particular note were clashes between the Zoning Administrator's Office and rural business people regarding interpretation and enforcement of the Revised Zoning Ordinance that took effect in 2003. This Ordinance was touted as a pro rural business instrument but in the eyes of many farmers, it fell far short of ideal in actual implementation. To make matters worse, even when lawmakers recognize the flaws of the Ordinance, the process of correcting them is agonizingly slow and low in priority.

The **sociological** part of the weaknesses picture consists of what is called the "East-West split." In short, it's the citified populous East of Loudoun County on one side and the slower-paced, rural West on the other. While the two sides have many interests in common, it seems their conflicting views on how the county government can improve their lives drive wedges between

them and make life difficult for all. At times, this split has flared into open discussion of the western part of the county “seceding” from Loudoun and forming a new political entity, “Catoctin” county.

The **political** weaknesses relate to the non-farming part of the County having most of the votes, most of the governing supervisors, most of the growth priorities and most of the big business interests. Farmers believe they get the short end of the stick in policy decisions and that the politicians—the county supervisors and their appointed officials—ignore their concerns.

SWOT Analysis—Part II

The second part of the SWOT analysis covered Opportunities and Threats in the rural economy. The committee members saw the following **Opportunities**.

Available Land—Many rural landowners are unwilling or unable to farm their land; many would simply like to lease their property to others who would farm it for their own financial gain and enable the landowner to derive the benefit of property tax deferral (land use tax assessment system). The number of small rural properties of 5 to 20 acres rose dramatically in the 1990’s and early 2000’s and the owners of such properties discovered that farming or maintaining them was a lot of hard expensive work and they were not interested in it. An agency that could link such individuals with those who do not have land but do have an interest in farming would be helpful in this scenario. Besides this category of available land, the county has tens of thousands of acres in larger rural properties under conservation easement that also could be brought into production. If the amount of land available for production were put into serious farm operations, total farm output in Loudoun would soar.

Unmet market demand—local consumers and grocery stores want to buy local produce but often cannot find it on the terms they want. What would satisfy this demand is larger scale fruit and vegetable operations that could provide large volumes of foodstuffs.

Subdividing large rural properties into smaller parcels—Land subdivision has been going on in Loudoun since the 1960’s and has not ended yet. The pace of land subdivision was fast over the last 30 years, and came to a halt, probably temporary, in the mid-2000’s. Much of this produced urban-fringe sprawl, with many 3000-5000 square foot houses on ten-acre lots. The opportunity in this scenario would be taking the land out of lawn and putting it into fruit and vegetable production.

New production sectors—The Loudoun County winery sector dates from 1984. In this short time of existence, it has grown spectacularly. The winery owners have invested many millions in buying land, installing vineyards, building wine-making facilities and promoting their products and the industry. The county government responded enthusiastically to this unexpected growth—which served county fiscal purposes by curbing population growth and associated government expenses—by directing its Department of Economic Development rural staff to dedicate large amounts of time and resources to the wine industry. The committee members suggest that similar benefits could be achieved if the county government were to direct its staff

to provide similar services other emerging agricultural sectors such as fruits and vegetables and the equine industry.

Threats

The final piece of the SWOT analysis consists of the threats to the development of the rural economy in general and rural based businesses specifically.

Exorbitant county fees for new rural businesses—In 2009 Loudoun County adopted business development fee structure based on its calculations of how much it cost the county government in staff time to process and review the paperwork for a new business. The fees were shockingly high for even the simplest of reviews, e.g., \$2,300 for a rural site plan or \$8,215 for a minor special exception. For decades such fees were nominal and rural businesses came to expect much lower costs. The new rural business owner runs into these new expenses like walking into a plate glass door. It's a rude entry.

Less public assistance to farm operations—As the cost of running Loudoun County has risen dramatically with population growth and new school construction, rural business owners fear they will receive ever-smaller public resources for their wants and needs. Twenty years ago, county officials tossed around the idea of building a public farmers market building or pavilion. Today there is no such talk.

Elimination of Land Use Tax System—This is the mother of all threats to Loudoun farmers, whether large or small, new or old, organic or conventional. Nothing spells the doom of farming in Loudoun more than this. The threat surfaces from time to time and sure enough, it has been heard with the installation of the latest Board of Supervisors.

Encroachment of Modern Life—"Fairfax now stops at Leesburg;" "Big Box " stores in western Loudoun; heavy commuter traffic barring movement of farm equipment over rural roads.

Renewal of residential construction in western Loudoun—Residential construction has been at a standstill in western Loudoun for the past 5 years. When the house construction economy recovers, many rural business owners fear that former farm properties slated for development will get built up, thus taking away land now in agricultural production. This would hit the cattle and commodity sectors particularly hard.

Conclusion

The strengths, weaknesses, opportunities and threats associated with rural based businesses will show many redundancies with those of wineries, fruit and produce farms, service businesses and others. The committee tried to focus of strictly business issues and in so doing, it came down hard on the county's heavy-impact regulatory body, the Office of Zoning Administrator, for its unwillingness to be flexible in interpretation of zoning regulations. The zoning office argues it has no flexibility in its mandate, that is, it has to enforce the ordinance in accordance with the Office of County Attorney's determinations and with state law. Most business owners scoff at these words and say there has to be flexibility if there's going to be a

rural economy. They also say that without a rural economy, Loudoun will cease being the attractive place its has been for centuries.

Banking/Finance Sector

Strengths

- Interest rates are at historic lows
- Numerous lending institutions in the County
- \$\$ to lend – deposits are high at local banks
- Loudoun’s economy outpaces the rest of the nation during this turbulent time
- Large population of highly educated/high income residents
- Favorable socio-economic factors
- Off Farm income is high
- Diverse types of lending institutions from Small Community Banks, to large financial institutions to lenders that specialize in Agricultural finance
- Dependable sources of credit (FCV)
- Lenders are available that specialize in/understand conservation easements

Weaknesses

- Communication – need for better communication of underwriting guidelines between lenders and borrowers – especially as related to Farm income/ acreage and structures (Many times people get through the process only to find they are not eligible for a loan because of acreage, farm income or farm structures)
- Expertise – Understanding of ag lending is limited to a few local lenders
- New markets (wineries, farmers markets, produce, direct markets) add another element of risk => not just production risk anymore – also marketing of products. Some business are selling goods and services now rather than just commodities/more complex
- Hot Markets ? In recent past the attraction to hot markets (residential/commercial real estate) created a willingness on the part of lenders, realtors and the public to compromise underwriting guidelines and push the envelope on values, etc. Predecessor to the current economic downturn.
- Government Regulations => restrictions placed on government related programs (such as Fannie Mae loans) has limited the ability for small farm and lifestyle farm landowners to receive financing except from limited sources.
- Criticisms => People don’t understand GSE’s and the difference between them
Perception is “Bank’s only want to lend to people that don’t need the money”
Banks are criticized because they are cash rich from government programs and deposits but won’t lend money. Then they are also criticized because they made “bad loans”.
- Public feels that the “big banks” are at fault for the economy when there are multiple factors at play such as deregulation, encouragement from the government to make subprime loans, etc.
- External Road blocks – Government decisions =>Pendulum has swung back to tight credit policy/limited programs available/limited funding – FSA/Farmer Mac etc.
- Significant changes => We are in the middle of major changes in regulations and compliance requirements which will impact the way the industry does business and will ultimately affect the consumer

- Technology => more and more the public wants on-line/immediate access to information/less personal touch
- Lack of understanding of amount of money needed to run an ag business profitably
- Misconception that ag related niche markets are profitable in general. In many cases they start as a hobby and are sustained by off farm income. To go from hobby supported by outside income, to a profitable business venture that can support itself (and the individuals running it) is a BIG step.

Opportunities

- There is a need for alternative financing options other than commercial banks, etc for (start up) businesses that show adequate repayment ability and liquidity.
- Stricter adherence to underwriting guidelines has directed financing requests to niche related service providers such as Farm Credit & Community Banks. There is a true need now for financial institutions that understand farming and production risk.
- Lenders will need to have the skill to understand production risk and the risks associated with Small Businesses as these rural businesses grow and develop
- Trends =>
 - Healthy lifestyles/know your farmer/organic food has created new markets that can be targeted by smaller scale ag related businesses – people are willing to pay more for these products
 - Highly Educated/High Income population creates more demand for these types of products
 - Technology/info on the go – financial providers & farmers must get up to date or get left behind
 - “Hot Markets” should be closely evaluated on a case by case basis. In many cases most are supplemented by strong off farm income.
- The current Governor desires to preserve 400,000 acres of land during his tenure through use of Conservation Easements. There is a need for financial institutions, Realtors, land owners and the general public to better understand the pros and cons of this method of preserving land.

Threats

- Loss of Farm land.
- Cost of land and inputs are high therefore yield and margins must be high in order to remain viable. Surrounding counties have the advantage of lower cost land and lower cost inputs. Thus we must capitalize on markets that require proximity to metropolitan area to be viable and markets that sustain high margins. Another consideration is ag business that supplements the cost of property ownership – ie renting land to farmers for crops or hay which qualifies property owner for land use; OR hobby businesses that can break even or be slightly profitable as supplemental income for a family.
- If Farm Credit were to lose it’s GSE status this could threaten primary Ag Lender’s ability to obtain funding.
- Obstacles – several banks have “bad” loans on the books that are making it difficult for them to be profitable.

Aspirations

- Strong viable ag community
- Profitable business relationships
- Profitable margins with capital available for industry segments

Results

- # of sustained customers that are able to survive
- # of acres of land preserved in open space
- Strong retained earnings for lending institutions.

Loudoun County Rural Economic Development Council
Rural Economy Business Development Strategy
Tourism Business Sector Report
March 2012

Committee Members

Ellen Goldberg, Chair – Owner of Briar Patch Bed & Breakfast Inn, Middleburg
Spencer Ault – Owner, Stone Manor Bed & Breakfast, Lovettsville
Pamela Baldwin – Owner, Weatherlea Farm & Vineyard, Lovettsville
Jean Brown – Owner, Oakland Green Farm Bed & Breakfast
Patricia Daly – Dodona Manor
Tracy Gillespie – Aldie Mill
Kym Grove – Harpers Ferry Adventure Center (formerly BTI Whitewater)
Maria Guerra – Owner, Raspberry Plain, Leesburg
Steve Hines – Owner, Marketing Resource Management, Aldie
Carol Hodgson – Owner, Lindenhall Farm, Lovettsville
T. Destry Jarvis – Owner, Outdoor Recreation & Park Services, Hamilton
Patrick Kaler – President & CEO, Visit Loudoun
Dot Shetterly – Silverbrook Farm Bed & Breakfast, Purcellville
Andrea McGimsey – Executive Director, Oatlands, Leesburg
Georjan Overman – Owner, Ivy Hall Bed & Breakfast, Hamilton
Cindy Pearson – Economic Development Coordinator, Town of Middleburg
Ron Rust – Owner, Thomas Birkby House, Leesburg
Rosanna Smith – Owner, Bella Villa Shop, Aldie
Tom Stokes – Plum Grove Cyclery, Leesburg
David Weinschel – Owner, Celebrations Catering & Whitehall Manor, Bluemont
Judith Wodynski – Morven Park, Leesburg
Suzi Worsham – Owner, Riverside on the Potomac
Kate Zurschmeide – Owner, Great Country Farms & Bluemont Vineyard

Overview

The Tourism Business Sector committee met for three meetings in October, November, & January. We also did email surveys of event sites, B&Bs, and other businesses in our sector to enhance the SWOT analysis, to try to quantify the economic impact of events in Western Loudoun, and to gain examples of regulatory hurdles. At our first meeting, we determined that our sector would represent the following segments of the tourism industry in Western Loudoun (as other segments such as wineries, restaurants, & equine are covered by other groups):

Lodging (e.g., B&Bs/inns)
Private event sites (e.g., host weddings, parties, & other social events)
Public event sites (e.g., host fairs, festivals, marathons, winery events open to the public)
Historic sites
Recreation (e.g., golf, whitewater rafting, cycling)
Shops in towns
Transportation (e.g., winery tours, transportation to/from events)

One thing that was clear from the outset is that our segment benefits greatly from having a well-funded organization (Visit Loudoun) focused on marketing the tourism industry and from having a collaborative attitude among industry participants. These are key factors to the continued success of the tourism industry in the next 5-10 years.

SWOT Analysis of the Tourism Sector

Strengths

- **Location** – Probably our best selling points are our rural setting near a large city (Washington, DC) that is a tourism destination in its own right and our having an international airport. This can enable us to market Loudoun as a beautiful place to serve as a base for the leisure traveler to use to visit the entire DC area.
- **The diversity & authenticity of our tourism assets** – We are probably the only county in the DC area that can boast having such diverse tourism assets as wineries, farms, restaurants serving local food & drink, historic sites, museums, equine events, fairs & festivals, parks & trails, whitewater rafting, shops in small towns, country roads with beautiful scenery, an active arts scene, and soon its own minor league baseball team. The authenticity of our tourism assets is evidenced by such things as having working farms, wineries that grow their own grapes & make their own wine, an active equestrian industry, and historic sites where important historic events took place.
- **Active tourist office & collaborative industry** – As mentioned above, probably the most important contributor to the success of the tourism industry in Loudoun County is our well-funded tourism arm – Visit Loudoun. This organization is an industry leader and has won numerous awards for its creativity in using its website and social media to promote the tourism sector. They also do a good job of bringing the industry together on a regular basis (through such programs as Visit Loudoun University & familiarization tours) to foster collaboration. Partnerships have been forming among the industry players and include such examples as Farm-to-Fork Loudoun, the Loudoun Bed & Breakfast Guild’s annual open house day, and the spring & fall farm tours.
- **Substantial economic impact from the tourism industry in Loudoun County** – Visit Loudoun in its Annual Report for 2011 estimates that tourism in Loudoun County generated direct visitor spending of \$1.4 billion, an increase of 6.9% from the previous year. When a visitor comes to Loudoun County, they spend money and don’t require public services such as schools, fire & rescue, libraries, transportation and all the myriad of services required by a growing population.
- **Becoming known as a destination for events** – Western Loudoun in particular is developing a reputation as a destination for such private events as weddings, parties, fundraisers, meetings and public events such as fairs & festivals in towns and events at wineries. Appendix A provides some data on the wedding industry in Loudoun County. According to the www.WeddingReport.com, there were about 875 weddings in Loudoun County in 2011 with an average cost per wedding of about \$30,600 and a total market value of \$26.2 million, up from less than 800 weddings with a total market value of \$21.5 million in 2008. The \$30,600 spent per wedding went to such Loudoun-based wedding vendors as event sites, hotels/B&Bs/inns, caterers, cake makers, restaurants for rehearsal dinners, florists, photographers/videographers, bridal shops, jewelry stores, event planners, DJs/bands/musicians, equipment rental

companies, officiants, transportation companies, makeup & hair professionals, & stationary/invitation vendors.

- When we attempted to survey Loudoun event sites directly (asking for such things as the number of events, the number of attendees at events, the revenue from events), we were met with resistance and reluctance to divulge this information. As will be noted below, this is in part due to each property interpreting the current guidelines and many fearing reprisals if their interpretation is found to be incorrect.

Weaknesses

- **Signage** – Signage is important to foster self exploration of our area by the leisure traveler. We recognize that this is a weakness that has already been identified and that is being worked on. We encourage implementation to the street and business level as soon as possible. As evidenced by the purchase of the State TODS signs, many businesses have demonstrated a willingness to pay for signage if reasonable pricing options are made available.
- **Transportation** – One area of weakness in particular is lack of public transportation, especially during events. During some of the larger fairs & festivals, there are traffic jams & parking issues that could potentially be alleviated by offering public transportation from commuter parking lots (especially once the metro is built). Currently, the cost for using sheriffs to direct traffic during some of these events is becoming prohibitively expensive.
- **Regulatory issues** – A number of industry participants, particularly B&Bs/inns and event sites, have experienced such regulatory issues as lack of coordination within & between county departments, conflicting interpretations of regulations within & between county departments, and the high costs to implement certain regulations. In particular, two areas of regulations -- B&Bs and event sites -- were sited as needing review. There clearly is demand for these services (as evidenced by the data from Visit Loudoun and in Appendix A). What is happening, however, is that existing ordinances on events are causing some sites currently doing events to operate “under the radar,” while others who want to get into the business and operate in conformance with regulations are foregoing the opportunity due to the uncertainty and potential cost of complying with current ordinances, causing a “chilling effect.”
- **Lack of night life** – One of the weaknesses we noted is that there are few options for evening activities other than eating in restaurants. This is changing as we develop the arts and sports activities.
- **Need more recreational activities** – Another area of weakness noted is the need for more recreational activities such as more water activities, hiking trails, more sports fields, and outdoor concert venues.

Opportunities

- **What we have to offer is in demand & must be preserved** – Some of the trends in tourism include the desire to stay closer to home for leisure travel, agri-tourism, eco-tourism, family travel, and people searching for meaningful experiences. Our tourism assets fit well with these trends. It is important that we preserve our rural tourism assets to meet this demand.
- **Eliminate regulatory hurdles & encourage rural tourism businesses** – As noted above, we recommend a review of current regulations for B&Bs and for event sites to deal with the existing uncertainty and prohibitive cost issues. In addition, we recommend appointing an advocate/ombudsman assigned to each major rural industry segment within the Department of Economic Development to help shepherd through new/expansion permitting applications. At a minimum, we recommend having an online way to help a business to navigate through the county permitting process (using checklists to prevent different interpretations from different county staff).
- **Transportation – create a weekend tourism shuttle service** – One idea that we discussed was to offer a weekend tourism shuttle service that would pick up people at commuter parking lots (and eventually metro parking lots) and take them to major events and to major tourism sites. This would help alleviate traffic/parking issues at large events and prevent drinking & driving while visiting local wineries.
- **Develop educational opportunities and programs in schools for the hospitality industry** – Engaging the younger generation in serving our growing hospitality industry in Loudoun County is an important goal. Efforts should be made to foster programs & internships through the schools to learn about and support the hospitality industry.

Threats

- **Suburban sprawl** – It is important that we maintain the diversity of our tourism assets – one of our greatest strengths. Suburban sprawl could threaten this and lead to a decline in Western Loudoun County being viewed as a destination for leisure travel.
- **Bad economy** – Economic problems could threaten the funding of Visit Loudoun (which is largely funded with revenue from the transient occupancy tax resulting from “heads in beds” at hotels and B&Bs/inns) and spending at rural businesses.
- **Unwelcoming attitude of some residents** – Some in our group noted that some Western Loudoun residents have an “unwelcoming” attitude toward outside visitors. This will likely change over time as some of the “old guard” who may be resentful of “civilization” encroaching get replaced with younger, more tolerant residents.
- **Unsupportive elected officials** – There is always the threat that elected officials could change the rules/regulations in such a way as to make rural tourism less of a priority.

RESULTS:

- **What are the results that will tell us we've achieved our preferred future?**
 - **Financial results** – Increased transient occupancy tax (TOT) dollars (heads in beds), increased sales taxes from rural tourism businesses, and increased visitation at public & private events.
 - **Non-financial results** – Preservation of open land or land used for rural business & pleasure. This can only be achieved if we give the landowners in Western Loudoun who want to preserve the land the opportunity to make money (if they so desire).

Appendix A

Weddings in Loudoun County & US

Year	# of Weddings Loudoun	# of Weddings US	Avg. Spending Loudoun	Avg. Spending US	Market Value Loudoun
2008	798	2.16 million	\$27,512	\$24,110	\$21,586,191
2009	826	2.08 million	\$25,119	\$22,060	\$20,399,707
2010	848	2.10 million	\$30,163	\$26,540	\$25,099,200
2011	873	NA	\$30,638	\$25,630	\$26,238,270
2012est.	896	NA	\$31,201	NA	\$27,423,332
2013est.	919	NA	\$31,768	NA	\$28,642,375
2014est.	944	NA	\$32,350	NA	\$29,962,065

The 2010 US average was 141 guests.

The 2010 average in Loudoun County is estimated between 161 and 171 guests.

Source: www.TheWeddingReport.com

The Wedding Report Methodology

Collection of Data

Our data is collected and aggregated from different sources into proprietary market estimates. Our primary source for number of weddings comes from Federal, State and local government offices. Our primary source of wedding cost and other data comes from proprietary surveys to those getting married and businesses that serve them.

All survey data is collected from random anonymous participants in electronic form using [WISN \(Wedding Industry Survey Network\)](#). Surveys use both multiple choice and open ended questions. Over 63,000 survey samples have been collected in the past 7 years. The most current cost calculations are derived from 11,200 surveys samples collected in 2011.

We use additional data from the CDC, Census Bureau, Department of Labor, and Easy Analytic Software, Inc., as part of the estimating and forecasting process. This breadth and depth of data gives you a more complete picture of the wedding market.

Number of Weddings

The foundation for number of weddings is derived from wedding licenses registered at the State and County levels. US and State level numbers are actuals to year published by the CDC. All other markets use proprietary models to arrive at forecasts and estimates.

Our models attempt to account for weddings that travel into a market and weddings that originate from a market. Estimated weddings do not take into account current natural disasters.

Spending (Wedding Cost)

We currently collect data on over 60 products and services through pre-wedding, post-wedding, and business surveys. This serves as the base for all spending data. Using the base results at US, Regional, State and local levels, we apply proprietary models to calculate estimated spending and demand for each item, for each market. The model for spending takes into account couples that travel into and originate from a market. It also takes into account the economic and social factors of each market. Spending and demand estimates do not take into account current natural disasters.

We take a bottom up approach to "Average Wedding Cost". The total "Average Cost" is calculated using "Weighted Demand Average (WDA)," which is; average spent times demand equals the weighted demand average. Sum of weighted demand averages equals the average cost. Using WDA instead of a summed average gives a better calculation, because it takes into account all items that couples purchase.

Additional Items

All other items are calculated from survey data except where noted.

Work in Progress

This research is a work in progress. New data is continuously collected, aggregating, re-evaluating, and field tested to improve its reliability and accuracy.

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www.TheWeddingReport.com

Wedding Products and Services Tracked

All items listed below are included in average wedding cost.

Attire & Accessories

Dress Accessories	Includes Tiara, Combs, Hair Pins, Garter, Shoes, Jewelry, ect.
Headpiece and/or Veil	
Tuxedo/suit/other Accessories	Includes Cuff links, Cummerbund, Tie, Pocket Square, Shoes, Jewelry, etc.
Tuxedo/suit/other Rent/purchase	Tuxedo (purchased or rented), suit (purchased or rented), or other attire options for groom only.
Wedding Dress/es	

Beauty & Spa

Hair Service	Per person
Makeup Service	Per person
Manicure & Pedicure	Per person

Entertainment

DJ	
Live Band	
Musician/s, Soloist, or Ensemble	

Flowers & Decorations

Boutonnieres, Corsages	Includes all purchased
Bridal Bouquet	
Bridesmaid Bouquets	Includes all purchased
Ceremony Decorations	
Ceremony Flower	

Arrangements
Flower Girl Flowers Includes all purchased
Flower Petals
Reception Decorations
Reception Flower
Arrangements
Reception Table
Centerpieces

Gifts & Favors

Gift/s for Attendants Per person
Gift/s for Parents Per parent
Tips (for all services) Total tips for all services
Wedding Favors

Invitations

Ceremony Programs
Engagement
Announcements
Guest Book
Invitations & Reply
Cards
Postage
Reception Menus
Save the Date Cards
Table Name and
Escort/Place Cards
Thank You Cards

Jewelry

Engagement Ring
Wedding Bands

Photography & Video

Digital or Photo cd/dvd
Engagement Session
Prints and/or
Enlargements
Traditional Leather
Bound Album
Wedding Photographer
Wedding Videographer

Planner/Consultant

A La Carte Services
Day of Coordinator
For Getting Started
Full Service
Month of Direction

Transportation

Limo Rental
Other Transportation Includes Shuttles, Antique Car, Horse & Carriage,
Etc.

Venue, Catering & Rentals

Ceremony Accessories Includes Aisle Runner, Ring Pillow or Box, Unity
Candle, Etc. not flowers or decorations
Ceremony Location
Ceremony Officiator Includes JP, Officiant, Ordained Friend or Family,
Pastor, Minister, Priest, Etc.
Hotel Room for After
Reception
Reception Accessories Includes Toasting Flutes, Cake Topper, Serving Set,
Etc. not flowers or decorations
Reception Bar Service
Reception Food Service
Reception Location
Reception Rentals Includes lighting, tent, tables, chairs, photo booth,
etc.
Rehearsal Dinner
Wedding Cake/dessert

Types of Event Sites in Loudoun County

- **Municipal Sites**
 - Partially funded by the tax base
 - Examples: Algonkian Regional Park, Brambleton Regional Park

- **Semi-Private Sites**
 - Predominantly funded by a non-profit organization
 - Examples: Oatlands, Morven Park, Dodona Manor

- **Private Sites**
 - Predominantly funded by revenue from sales
 - Examples:
 - Historic residences such as Whitehall Manor, Raspberry Plain, Briar Patch Bed & Breakfast Inn
 - Wineries such as Bluemont Vineyard, Sunset Hills Vineyard, Hillsborough Vineyard
 - Farms such as Patowmack Farm, Oakland Green Farm, Weatherlea Farm
 - Country clubs such as 1757 Golf Club & Raspberry Falls

Traditional Agriculture Sector

Strengths

Demand for products (especially hay and straw)
Diversity of area population
Demand for locally grown products (grass-fed animals for meat, all natural grains and forage)
Commodity prices are good (historical high values)
Institutional knowledge of farmers (willingness to share)
Close proximity to markets
Production of local products verses transporting food miles
Conservation easements
Well educated farm population
Low rental rates for leasing land
High income level of county population
Growing demand from institutions and restaurants
Commodity markets for livestock and grain – close by
Agriculture infrastructure
Good roads
Soils and climate
More young people are wanting to live the rural life and be involved in ag
Equine is strong; need lots of services
Plenty of people have financial capability; investment capability; high income area
Moving away fm land intensive ag to profitable ag on less land that is expertise based
High Level of education of new ag proprietors
Average age of farmers in Loudoun is going down.
Good soil and natural resources; usually plenty of water.
Support staff – Economic Development, VCE, Soil & Water
Farm Heritage Museum
General public recognition through media about local food
Land Use Taxation
Limited liability Insurance Legislation
Buy Fresh Buy Local publication
Diversification and yield of crops
Availability of top genetics in livestock
Attitude of farmers – adoptability to change

The traditional agriculture sector has many strengths - with the greatest asset of market demand for what we grow (grain, forages, cattle and sheep). Large scale operations of animal feeding have discontinued and been replaced with pasture based operations (cow/calf verses feedlots). Numbers of farms have increased, but acreage per farm has decreased. Land ownership and stewardship, coupled with the Land-Use taxation program, continue to be the basis of support for sustaining traditional agriculture in Loudoun County.

Weaknesses

Traffic

Cost of maintaining farm (labor, machinery, infrastructure, input commodities)
Public lacks knowledge about ag terms which creates fear
Change of Zoning ordinance
Gov't regulations (federal, state, and local)
Lack of Ag infrastructure and Ag related services
Lack of vertically integrated processing capabilities.
Lack of knowledgeable and affordable labor
Lack of marketing skills for direct marketing
Lack of communication and networking (computers and social media skills)
Loss of tax credits for easements
Input costs going up: feed, fuel, fertilizer
New Housing in Ag areas
Availability of land to rent
Increasing wildlife damages to crops (deer and geese)
Dogs and coyote damages to livestock
Lack of vet services
Budget cuts to agriculture support staff and programs
Lack of voting power and industry representation
Chesapeake Bay TMDL's
Uncertainty of environmental issues and regulations (Resource Protection Areas)
Size of farms (small parcels)
Vocational training for adults and school
Off farm income and investments needed to sustain operations
Farm infrastructure declining (fences, fertility, barns, water systems, etc.)
Not passing the farm to next generation (younger generation not interested)
General public lack of knowledge of agriculture practices (weaning calves, machinery on roads)
Lack of custom farm services
Availability and cost of insurance
Government taking land through eminent domain
Farm ponds failing from sediment
Lack of respect for property – trespassing, hunting, gates left open, littering
Fence laws

Opportunities

Expanding Agritourism

To expand local food production for increasing population
More cooperative marketing of commodities (local and regional)
To share more info about AG with general public
Produce vegetables and livestock for diverse ethnic population
Custom farm services
Acreage is available
Many 10 acre lots available
Making quality equine hay
Use land for biofuel production
Greater use of technology
For local ag groups to go to SB for Ag Ed support
Educate SB about today's new Loudoun Ag; AITC etc.
Provide no cost ag materials to school through AITC
Continue to support 4-H program

Threats

Loss of Land Use Taxation
Change of Zoning ordinance
Loss of AG support staff and programs
Gov't regulations
Aging population of large scale farmers
Loss of Alternative septic systems.
Loss of tax credits for easements
Rising input cost : feed, fuel, fertilizer
New Housing in Ag areas
Budget cuts
Lack of Voting Power
National economy
More approved housing developments (30,000 already approved)
Estate taxes
Weather patterns
Agriculture financial lending
Social pressures on farm families

Aspirations

Sustain the "way of life" to produce food and fiber
Sustain the rural sector "quality of life"
Maintain historical barns and properties
Increase local support and recognition to sustain the agriculture industry
To be good stewards of the land
Build relationships with other sectors on a local and regional basis
Better define "what is agriculture", and develop new industries

Results

Number of farms
Acres of farm land (or agricultural zoning)
Number of parcels in Land Use (and designation of parcels – ag, hort. Forestry, open space)
Annual revenue generated
Acreage transitioned into a new use of agriculture

REBDS – Wine/Grape Sector Report

Date: March 8, 2012

Sector Lead: Mark Fedor, North Gate Vineyard, Purcellville, VA

Strengths

- **Loudoun County has highest concentration of wineries in Virginia** – Provides a strong draw for tourists to visit Loudoun. They may stay longer or return often to visit different wineries. Having a concentration of wineries also can be a draw for value-added services/business for the wine industry.
- **Location: Close proximity to Washington DC** – Provides access to a large retail and wholesale local population. Also provides access to the many tourists who visit the Washington DC area each year to visit the museums and monuments.
- **Close proximity to ideal demographic** – The suburban areas around Washington DC are consistently ranked as having the highest median income in the country. The Washington DC area has also ranked at the top in terms of wine consumption per capita in the US.
- **Quality wine and grape production** – Loudoun is becoming known for its high quality wine and grape production. Loudoun wines have done consistently well in national and international wine competitions. Loudoun wines have received numerous positive press in wine blogs nationwide. Loudoun grapes are in demand in other wineries around Virginia.
- **Developing signature events in Loudoun** – There are a growing number of signature events which are drawing outside people into Loudoun County which could provide an opportunity to draw more people to the wineries in Loudoun. For example, Destination Races, Waterford Fair, Bluemont Fair, Loudoun Grown Expo, etc.
- **Diversity of grape varieties and wines being made** – The wine industry in Loudoun (and Virginia) is not limited to one or two varieties of grapes and wines. The diversity has allowed for innovation and experimentation which has provided an interesting and refreshing atmosphere among wine enthusiasts. Loudoun wineries also produce quality wines from fruit other than grapes. This provides an opportunity for other agricultural sectors in Loudoun to provide fruit for Loudoun wine production.
- **Economic, marketing, business development support at a State and County level** – The current Governor’s administration has created an atmosphere to incentivize the creation and growth of Farm Wineries within the State. Visit Loudoun has promoted the wine industry within Loudoun County very effectively. This includes:
 - Allocation of the VA wine liter tax to be used for marketing and development of the wine industry.
 - Availability of a 25% tax credit (for 2011) to winery and vineyard owners for investments made in assets to expand wine production or acreage of grapes planted.
 - Business development trips made outside the U.S. by the Virginia Governor to promote Virginia products have included the Virginia wine industry, specifically a set of wineries from Loudoun.

- The Loudoun County Touring Guide has been produced by Visit Loudoun for the past 7 years which highlights the Loudoun Wine Trail and all of the wineries in the county.
- Visit Loudoun has arranged high-profile visits to Loudoun wineries from visitors which raise the awareness level of the Loudoun wine/grape industry.
- **Educational opportunities and technical support for county Winemakers and Grape Growers** – Through Virginia Tech, Virginia Wine Board, and through the local extension office, there have been an increasing amount of educational opportunities which only strengthens the potential for high quality wine and grape products which can be developed in Loudoun County.
- **Formal Organization of Loudoun Wineries and Loudoun Wine Growers** – Through the Loudoun Wineries Association (LWA) and Loudoun Wine Growers Association (LWGA), there is a vehicle which can foster collaboration amongst the participants in the wine industry in Loudoun. These organizations have become reference models for other wine regions in Virginia.
- **Level of current regulations and beneficial regulations**- Virginia Farm Wineries are viewed as agricultural entities and fall under the regulations for agricultural businesses. This includes wine tasting room and wine production buildings, the ability to sell wine at Farmer’s markets and remote events, and perform self-distribution via the VWDC.
- **Known Brand – DC’s Wine Country**: This has been a brand that has been advertised by Visit Loudoun for a number of years now and it provides a foundation for future marketing efforts.

Weaknesses

- **Impediment to growth and expansion of the wine industry at the County regulatory agency level** – The attitude of regulatory agencies to the wine industry at the county level has not been at a cooperative, productive, or beneficial level in order to encourage growth of the industry. There is a lack of a problem solving, customer service attitude when dealing with various county regulatory agencies on the topics of winery building expansion, zoning, septic, well-water issues, site selection for vineyards, etc.
- **Labor availability and viable housing for labor** – As the industry continues to grow, year-round and seasonal workers will need to increase. Affordable housing near wine growing and wine production areas for year-round and seasonal workers will be needed to support and attract workers.
- **Lack of industry reporting metrics at the County level** – There is no instrumentation and there are no mechanisms in place to capture relevant wine/grape industry reporting metrics. Now and in the future, it will be a necessity to show the County Board of Supervisors how the wine industry is impacting the County’s economy and growth. The wine industry itself should be able to make the business case for the wine industry to the County Board of Supervisors.
- **Lack of education and understanding of “Value-added agriculture”** – There has been a shift in the County from commodity based agriculture to value-added agriculture where refined products are created from the commodity agricultural products and then sold directly/indirectly to retail customers. It is not understood by the County how rules and regulations need to be modified or tailored to handle this paradigm shift in agricultural business.

- **No educational opportunities for County youth in farming wine grapes** – At the high school level within the County, there is no opportunity for the youth of the County to be educated in wine grape production and have the ability to be better informed to make a decision as to whether they wish to pursue a career in the wine industry.
- **Ability of agricultural products in other sectors to provide services to wine industry** – The wine tasting rooms of Loudoun County wineries provide retail opportunities for local products from other sectors. Specifically, local breads, meats, cheeses, and other local food products can be offered at wine tasting rooms. It has been a challenge to get local producers to provide the consistent quantity, packaging size needed, and variety needed in winery tasting rooms.
- **Potential for lack of cooperation among wineries as industry grows** – As more wineries are created, it may be difficult to get all of the wineries to work together in order to move the industry forward on the political, economic, and operational fronts.
- **Shortage of Loudoun County grown grapes to support wine industry** – The growth of wine production and consumer purchasing of Loudoun wines could outpace the availability of grapes needed to produce the wine that is needed within the County. The result would be that Loudoun wineries would need to look elsewhere in the state for wine grapes.

Opportunities

- **Expand and attract into the Washington DC market and surrounding areas** – Work closer with Destination DC and other like organizations within the surrounding areas. Become part of the tourism draw in DC. Spend a week in DC and by default, you spend a day or two of that week in DC's Wine Country (Loudoun County). Utilize and market the brand name.
- **Vineyard and Wine Production Labor** – Organized efforts around labor could be supported as follows:
 - Formal apprenticeship programs that include the County youth
 - Develop a formal labor sharing program which includes housing
 - Potential for bringing back formal agricultural programs to County High Schools
- **Increase the number of planted acres of grapes in the County** - Provide incentives, education, and opportunities to turn unproductive land that is ideal for grape growing into producing vineyards.
 - Educate landowners who want to grow grapes
 - Long term leases for land to produce grapes when landowner does not want to grow the grapes themselves.
 - Survey varietal needs of County wineries
 - Additional extension office resource documents may be needed
- **Cooperation with other agricultural sector and non-agricultural sectors** – Creative participation in each other's businesses:
 - Incentives for local businesses to carry local wine
 - Selling local products in wine tasting rooms
 - Joint participation on community philanthropic activities
 - Enhance existing events by partnering

- Develop a critical mass of complementary businesses like restaurants and the Bed and Breakfast facilities.
- **Create a positive working relationship between the wine industry and County Regulatory Agencies** – Foster a “can-do”, collaborative relationship in order to continue to grow the wine industry for the good of Loudoun County.
 - Understand the State Laws applicable to the wine industry at the County level
 - Provide consistent answers between County regulatory agencies
- **Measure current snapshot of Loudoun County wine/grape industry** – Measure existing value of wine/grape industry to use as a baseline to gauge the vitality and impact of the industry in Loudoun on a yearly basis.
- **Attract support and service companies for wine/grape industry to Loudoun County** – As the Loudoun wine/grape industry grows, it will be easier to attract other businesses which support the wine industry to re-locate or open up an east-coast based office in Loudoun.
 - For existing businesses, Loudoun could serve as an east coast distribution hub for winery/grape support product suppliers to serve Virginia, Maryland, and North Carolina. This would lessen shipping charges and lead times for Loudoun wineries to receive products needed for wine and grape production.
 - Develop a list of national sector business support services
 - Loudoun DED could start promoting/attracting these businesses
- **Develop educational opportunities and programs for wine/grape industry** – Starting in schools and going all the way to continuing adult education, provide formal programs to train a sustainable workforce for the wine/grape industry. Educating the youth of the County will ensure that resources exist for wineries and vineyards to develop succession plans so the wine/grape industry has long term viability to the County.

Threats

- **Loudoun County not following State code** – If the County ignores current State and Federal laws and regulations pertaining to Farm Wineries in lieu of its own laws, that will hinder growth and vitality if the wine/grape industry in the County.
- **Change in Land-Use policies and incentives** – This could deter land from being used for new vineyards.
- **Changes to current State regulations** – Any move to a more restrictive regulatory environment at the State level will hinder growth of the wine/grape industry in the County.
- **Increase in residential development** – This would reduce the available land for grape production and vineyard establishment.
- **Shift away from a Board of Supervisors that are supportive of Rural Economic Development** – Lack of support at the County Supervisor level would be a negative impact to the wine/grape industry in the County.

Loudoun County Rural Strategy Young Farmer Industry Sector report

The Young Farmer (YF) sector of Loudoun's rural economy is simultaneously the most important and the most enigmatic of all the sectors defined by the Rural Strategy. We chose to define our sector as any person who is participating in some element of the agricultural rural economy; be they farming, starting a locally-sourced bakery, starting a winery, or any other local business. We never truly set an age limit as part of our definition, instead agreeing that the term 'young' was nice and ambiguous.

Using the SWOT analysis, our work divided into four different parts: strengths, weaknesses, trends and ideas/requests.

Strengths

First and foremost, we agreed that our very existence was a good thing. While admitting that we may not be very well known throughout the county, there is a strong core of young, passionate individuals who are doing good things and want to see the county flourish. It was agreed later that we need to make our presence known to wider circles, and reach out to other YF who may be just starting their enterprise and are not part of this nascent network.

The second, easily identifiable strength of the YF is the marketing potential of any and all products that we produce. This is of course because of our proximity to the DC metro area, which allows producers to charge a premium for their goods. Cooperation with other local industries (namely wineries) has been helpful for many YF, and everyone agreed that Loudoun's strong tourism office has helped us capture some of those tourism dollars.

Other strengths mentioned were our knowledgeable county support offices like extension and economic development, as well as the county's Land Use program.

Weaknesses

The resounding weakness that the YF face is the cost of land in the county. This hurdle is so great, that we agreed that it is not feasible for an aspiring young farmer to come to Loudoun County and buy land to start a farm or farm-based business. This will require the county and the YF to be innovative in the way that we connect young farmers with useable land. Apprenticeships, continuing family businesses and long-term leases are all mechanisms that allow young and engaged people to get access to the land they need, but each of these mechanisms as they exist in the county currently can be improved upon.

A corollary weakness to the cost of land issue is the disconnect that exists between non-farming landowners and YF who want to farm. To reiterate; connecting these two groups will be important if agriculture is to remain in Loudoun.

Another concern was the residential/agricultural disconnect which threatens many farmers. Several incidents of official complaints by county residents over legitimate farming activities were mentioned, and these incidents threaten to drive away current or would-be YF.

Two additional weaknesses were identified. One was the lack of a YF political voice at all levels of government, which exists because conventional farming organisations which currently speak for farmers are often not in line with many YF ideology and political concerns. The second was that the county's emphasis on agritourism leaves support for production agriculture somewhat lacking.

Trends

It was revealing to see what trends each participant came up with, and also to see that some had no answer for what a 10-year trend might be. The ones we identified are what follows.

- Unquestionably, usable land will continue to disappear.
- Land prices will continue to rise.
- As the county permits more suburban residential construction, there will be more clashes between residential and agricultural activities – especially in transition areas.
- Micro-dairy/raw milk operations will increase.
- Vegetable producers will be forced to diversify, as traditional opportunities – such as direct market sales – become overfull.
- Wineries/vineyards will continue to grow.
- Competition from other counties and states will increase, as cheaper land prices draw YF away from Loudoun.

Requests/Ideas

After most of the above points had been made, the question was posed: if you had one request for the county, what would it be? In some instances, policy ideas were actually more general wishes for the county. Below are the responses:

- Keep Land Use.
- Official market analysis of intra-county demand opportunities, such as the school system, restaurants and conference centers.
- Fund the Purchase of Development Rights program.
- Incentivize developers to consider agricultural uses of the land
 - Promote cluster zoning, where houses are built on smaller parcels and the remaining land is put into agricultural production.
 - Promote larger parcel sizes to allow legitimate agricultural activities on newly built houses.
- Group health insurance.
- Prioritize good farmland for agriculture/deprioritize it for development.
- Distribute an informational brochure on rural economy/agriculture in Loudoun with each home sale or even with real-estate information, to better acquaint residents with the importance of Loudoun's agricultural activity.
- Improve Land Use: increase tax savings, or decrease minimum acreage on a case-by-case basis.
- 1% flat transfer tax on property sales to fund a land trust/micro-loan program.
- Establish a county-specific farmlink program to connect available land/interested landowners with potential farmers.
- Increase synthesis within the rural economy: local hay and equine, local malt/barley and microbrewing, local wheat and milling, equine trail-riding and vineyards.

Conclusion

The optimism that each YF has for their own effort is clear, and this is promising. However, there seems to be two important facts to highlight with regard to the future of YF in Loudoun.

First, a de-emphasis on the rural economy – whether through a weakened Land Use program or serious suburban residential development or increased small farm regulations – will make farming

in the manners that many YF currently do much more difficult and could threaten their existence entirely. The county should, at a minimum, maintain the infrastructures that are currently in place to help YF, and of course improvement in any of these areas can only help.

Second, to increase the YF presence in Loudoun, serious innovation will be necessary. The standard model of buying a farm and starting a business is largely impossible in our county, and this necessitates an emphasis on alternative approaches. Agricultural incubators, long-term leases, lease-to-own plans, food/farm institutes, micro-farm strategies – these are but a few possibilities. Insofar as some alternative methods are untested or have some financial risk, the county should do everything it can to support these enterprises. Not only will this help YF and agriculture in Loudoun, but it will position the county as a leader in these sorts of innovations and give us a well of knowledge which we can then export to other regions.

The YF are a huge component of Loudoun's vibrant and active rural economy. The importance of the rural economy to the county should be clear, and it should be supported at every possible turn.

The Rural Economy Business Development Strategy

CASE STUDY: LOCAL ROOTS MARKET

Overview: Local Roots in Wooster, Ohio is a producer-consumer cooperative marketplace. Wooster, the county seat, is a rural community in Wayne County, Ohio. Large agribusiness industries such as Smuckers, Smith Dairy, and Certified Angus Beef Marketing have traditionally dominated the agricultural economy. More recently, there has been a growing trend in specialty crop production by small family farms and/or first generation farmers. The focus of these operations is on organic fruits and vegetables.

Local Roots provides a year-round marketplace for locally produced produce, meats, cheeses, baked goods, arts and crafts. They have a strict set of guidelines that defines local products by the way they are produced, not necessarily their distance from the marketplace. Producers deliver their products and sell them on consignment. A staff of members of the co-op operates the storefront so that the farmer does not need to be present. In 2010, the market's first year, they sold nearly \$300,000 worth of local products from nearly 100 producers. The most any one vendor sold was approximately \$15,000.

Organization: Local Roots has adopted a very unique cooperative model, which provides them both supplier and customer buy-in. Their marketplace is organized as a producer-consumer for profit cooperative. Suppliers must be members to sell at the co-op; consumers do not need to be members to purchase, but they do receive access to special events and the community room. When the co-op turns a profit, the members receive a distribution of the profits.

Organization: Quick Facts

- Legal Structure: Producer-Consumer For Profit Cooperative
- Membership: \$50 per producer, \$50 per consumer, 5 hrs volunteer time
- Involvement: 135 producers, 558 consumer members
- Governance: market manager, 9 member board with 3 year terms

The entity is operated daily by a market manager. Her role is to organize volunteer labor, address production and product issues, and operate the marketplace during its stated hours. She answers to a nine-member board of directors. Each director is elected from the general membership for a three year term. The elections are staggered so that only three members are elected each year. The board officially votes only on issues such as lending, building matters, and purchases over \$500.

The organization currently has 558 consumer members and 135 producer members. Because each producer is entitled to space in the marketplace, the market manager does limit the producer membership. The market manager strives to have a large selection of products and multiple choices for the customer; however, too many of the same product would mean that no one receives adequate sales. There is currently a producer waiting list. There is no ceiling on the total number of consumers permitted to join. Memberships are \$50 per year or a person can offer 5 hours of volunteer time and forgo the membership fee. Over 90% of members choose to pay the \$50 instead of volunteer time.

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Operations: Local Roots is a retail food establishment inspected and approved by the Wayne County Department of Health. The storefront includes refrigerated displays for refrigerated meats, cheeses, and fluid dairy; freezer displays for meats; and dry display space produce, baked goods, arts and crafts. The producers set their own price. The

Operations: Quick Facts

- Revenue Model: 10% sales commission, rental of space, membership fees
- Pricing: producer sets price
- Labor: salaried market manager and volunteer staff:
- Sales: produce is largest category. Market sales near \$300k for 2010.

market collects 10% on the sale of each item to cover their costs; refrigerated and frozen shelf space is rented at \$8 per shelf (approximately 2 square feet). Additional revenue is derived from rental of the community room and (in the future) use of the community kitchen.

The marketplace is open Wednesday thru Saturday, 11:00 am to 7:00 pm, to both members and the general public. The market offers its shoppers the convenience of paying

by cash, check, credit card, or EBT. The Market sees approximately 400 to 500 customers per week with approximately 30% of them being members. About 30% of the customers are regulars, shopping weekly or multiple times per week. The average sale is \$16 and there are approximately 2,000 transactions in a month. The sales are broken down by category as follows: produce, 30%; meats, 20%, bakery 20%. Other smaller categories, such as eggs and milk, make up the remaining sales. The smallest category is non-food items, which account for 3% of sales but take up approximately 40% of the sales floor space.

The market manager and a team of volunteers operate the marketplace. The market manager believes that only 2.5 people would be required for the operation of the marketplace and administrative tasks. However, it currently operates with about 250 hours of volunteer labor per week. These volunteers help customers, work the deli counter, stock the shelves, run the registers, clean and do repairs. A large amount of volunteer help is used to make improvements to the facility.

On market days, the producers deliver their products to the Market before 11:00 am. Volunteers help them unload their vehicles, unpack the food items, and place them on the shelves. Products are organized by category (meats, cheeses, fruits, vegetables, etc.), not by producer. Each producer is identified on the signage near the product.

Some farmers simply drop their boxes and leave; others stay and arrange their inventory as they like it. Volunteers make signs to identify the products and their price. All products are given a unique SKU. This SKU is used at checkout to identify the producer, the price, and the product. A report is run from the cash-register software and farmers are paid every 14 days.

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On average, products “turn” every two days and the producer must bring a fresh supply. There is some spoilage, which is the responsibility of the producer. No estimate is available on the percent of products that spoil. All unsold items may be taken back by the farmers or are donated to a local food pantry. More recently, one of the local institutions, The College of Wooster, has been buying excess produce for use in the cafeteria. The marketplace does not currently have an estimate for wholesale sales volume.

In its first twelve months, the marketplace had gross sales of \$298,000. Currently, the highest monthly sales topped out at just over \$30,000. With the current membership levels, approximately \$40,000 per month is the break-even point at which the organization can pay its utilities, insurance, market manager salary, and operating expenses out of the transaction fee and membership fees.

Establishment Costs/Funding: Local Roots was established almost entirely off of community support and volunteer labor. They are a for-profit entity and not eligible for many grants and they are not interested in foundation money. Their mission is to be self-sustaining through operations and memberships.

Their building is an 8,600 square foot facility approximately 100 yards from the main street (Liberty Street) in downtown Wooster. The building is owned by Wayne County. The organization has a 5 year lease on the building at \$2,000 per month. The first 24 months are rent free; after that, any improvements that are made to the facility can be deducted from future rent. Currently, Local Roots has invested \$19,000 into the facility; that number is for materials and labor was volunteer based. The lessor does not receive any ownership or a distribution of profits from the entity. All maintenance is the responsibility of Local Roots.

Establishment: Quick Facts

- Building: owned by the County, creative lease where the value of improvements are deducted from future lease payments
- Heavy dependence on donations and volunteer labor
- Creative financing plan utilizing membership fees and member loans
- Startup under \$35,000

All professional help, such as accounting, legal, technology, and graphic design, were donated by members of the co-op. This significantly reduced the establishment costs. The used, retail display units were donated by a local grocery store. The commercial refrigerators, freezers, and deli counter were purchased with a Specialty Crop Block Grant. That Grant was for \$60,000 and it paid for equipment purchases and the market manager’s salary.

Most of the establishment costs were covered in the form of volunteer support and from membership fees. Additionally, six loans totaling \$12,000 were made to the organization by founding members. These loans earn 5% interest and are due in full within 5 years.

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Initially, \$10,400 in membership fees were raised before opening the marketplace. The establishment as a whole – including build out, display cases, and professional help – cost the organization under \$35,000 in cash (again, not counting the invaluable support of volunteers).

Summary: Pros/Cons: The producer-consumer cooperative model does a very good job of involving the community in their food system and building an alternative retail outlet for artisan, small scale producers. Most importantly, they were able to create such a venue very quickly with very little upfront investment. In their opinion, they would have “lost steam” had they pursued government grants and foundation money, both process driven and highly competitive funding sources.

The downside to the marketplace is its dependence on volunteer labor. This requires a dedicated and well connected initial membership base. These market enthusiasts/advocates must see a return for their time and energy or they will cease to participate in the activities of the market. Such a return may simply be social enjoyment for some and for others it may be a competitive streak in which they personally feel as if they are on a team. This team is an underdog and they are extremely motivated to win.

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CASE STUDY: HUDSON VALLEY AGRIBUSINESS DEVELOPMENT CORPORATION

Overview: The Hudson Valley Agribusiness Development Corporation (HVADC) was formed in 2006 to promote balanced, market-based solutions that leads to enhanced agricultural entrepreneurship, rural economic growth, and community enhancement within its member Counties of Washington, Columbia, Ulster, Dutchess, Orange, and Sullivan.

HVADC is uniquely positioned in the Hudson Valley to enhance the viability of agribusiness given its flexible program design, focus on individual business development activities, and broad membership. Its members include the Counties outlined above, as well as local financial institutions, farmland protection boards, philanthropies, and individuals, all look to HVADC to create and enhance agriculturally related economic activity that creates jobs, increases investment, and promotes the integration of agriculture within the broader economy.

Services: HVADC's menu of services are carefully designed to promote the Hudson Valley as an attractive, viable region for agriculture while fostering growth and development in the agricultural sector through a creative program or marketing, promotion and the provision and coordination of financial and other resources. Specific services offered include:

- Agricultural Development Support for Communities
- Agribusiness Technical and Professional Services
- Agribusiness Incubation
- Project Planning and Development Services
- Capital Access Services and Programs

While these services are all well defined on HVADC's website (www.hvadc.org), they are perhaps best understood through brief case descriptions:

Farm To Table Co-Packers – HVADC, in cooperation with Ulster County IDA, assisted Farm-to-Table Co-packers (FTC) with the development of their processing facilities in Kingston New York. Project assistance included the development of grant and loan documentation to support the fit out of the company's new facilities using private, State, and Federal funds. HVADC also created a purchase-leaseback financing program for FTC to install an "Individual Quick Freeze" line (IQF). The IQF line has been used extensively by local farmers to process high quality frozen vegetables and fruits for use in winter sales.

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FTC is currently working with farmers in the Black Dirt region of Orange County to develop a branded line of IQF vegetables for the wholesale trade. HVADC has also entered into a license agreement with FTC to provide facilities and technical assistance to HVADC's incubator clients within FTC facilities. HVADC is currently working with FTC to redesign the IQF line to increase line efficiency to allow for greater throughput at lower per unit costs.

Through the support of HVADC, FTC has created 30 new jobs and invested nearly \$1.8 million dollars in its new operations.

Regional Wholesale Food Distributor – HVADC raised funds to facilitate the relocation of a family owned food distribution business and the adaptive re-use of its former facilities. Portions of former facilities were of interest to several local entrepreneurs and the Town for their adaptive re-use potential as a center for local food processing and distribution. HVADC completed the adaptive re-use study for the facility and subsequently created a re-development strategy that links the needs of the Town's, farmers and food industry with this unique opportunity and created a business case for further investment in the site.

After its move, this firm began handling a larger volume of local foods destined for institutional clients, which were already clients of the firm. This dramatically extended the ability of local farmers, particularly those with frozen, preserved, or shelf-stable products to access a market that had been closed to them. HVADC was instrumental in negotiating these terms.

Local Ocean Aquaculture Farm – HVADC assisted Local Ocean in navigating a complicated policy environment in the development of its one-of-a-kind indoor marine aquaculture farm. HVADC also assisted the company in raising over \$5 million in public funding support to match nearly \$20 million in private investment.

Local Ocean is a project designed to establish a first of its kind indoor, commercial marine fishing farm in the US, based on a unique technology developed at the Hebrew University in Israel. The Israeli and American partners intend to adapt the Israeli-developed technology to the local US market needs to include expansion of its existing pilot plant in Hudson, New York, the addition of a workforce training program, creation of research and development program with Cornell University and Columbia-Greene Community College, as well as the development of a feed milling operation. The expected outcome is to prove full commercial scale viability of the patented Sustainable Aquaculture System, a unique fish-farming system that

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is highly efficient in water and energy use and makes Hudson, New York the headquarters of North American operations.

Local Ocean introduces a new form of technology led economic development to the region that is environmentally friendly and easily integrated into the region's decommissioned industrial facilities. Local Ocean also provides job creation benefits by creating 53 jobs at its facility with an average expected salary of \$42,300.

Operations: HVADC has been able to support approximately 50 agricultural and rural businesses with just two staff members and an annual budget of approximately \$250,000. Much of HVADC's budget is provided by its member Counties, local philanthropists, banks, service providers, service fees, and leveraged grant funds. Beyond its own operating expenses, the largest elements of HVADC's budget are professional and technical service fees, which are paid to pre-qualified, subject area experts.

Contracted subject area experts provide the backbone of the HVADC services package and allow the organization to cover both a broader and deeper range of service requirements without the overhead of a large permanent staff. The service network includes professional from across the United States with a range in expertise from bio-fuels to genetics and marketing.

Clients of HVADC access the service network by completing an application, submitting a business plan, and consenting to an interview by program staff. These processes are used to screen for clients who will be able to take full advantage of the service system. With the exception of a few services, all clients pay a portion of the fees charged by the professional and technical network providers. For those unable to pay, there is a means test that allows for HVADC to pay all costs. HVADC is also exploring the use of equity and royalty agreements in lieu of fees.

Summary: Pros/Cons: Over the last seven years, HVADC has proven that its system can be used to provide cost effective business development programming. The key to this success lies in lean management and tightly controlled use of a high-quality professional network. However, it has also proven difficult to keep quality deals flowing into the system, given the small, six-county service area that it supports. HVADC has also faced challenges keeping its member counties involved as both deal flow generators and as funders.