

Technical Report
Orange County Agricultural
Economic Development Strategy

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SECTION 1: INTRODUCTION

1.1 HISTORY

In 1996, Orange County adopted an agricultural and farmland protection plan, becoming the first county to adopt such a plan in the State. The Orange County Agricultural and Farmland Protection Board (AFPB) developed the plan with the assistance of Cornell Cooperative Extension.

The plan makes several broad recommendations in the areas of land use, government policy/regulations, education and agricultural economic development. The number one recommendation of the plan was the creation of a new staff position charged with promoting agricultural and agribusiness development throughout the County. Within six months of the endorsement of the plan, the county legislature and county executive established the position and hired an Agricultural Economic Development (AED) Director. It was the first AED staff position established in the State as a direct outcome of the agricultural and farmland protection planning process. Other counties have created similar positions following Orange County's lead.

The plan has resulted in many accomplishments over the past seven years. At this point, however, it needs to be revised and expanded beyond its current scope of broad recommendations. A detailed AED Action Plan would provide the board and the AED Director with clear direction and specific strategies which would enable them to effectively address critical issues facing agriculture in Orange County. The AED Action Plan would assess the needs and identify specific strategies, programs and action projects that will best encourage agricultural economic development and foster the protection of the County's most strategic farmland. The board would rely on experts in the areas of farmland protection and agricultural development to help develop the AED Action Plan.

1.2 PURPOSE

The purpose of this project is to analyze and understand the foundations of Orange County's agricultural economy and to develop recommendations for structural economic development programming that will enhance the future of local agriculture. In addition, the project team examined the business development needs of local farms and agribusinesses. Expected outcomes of this process include:

- Improved on-farm profitability.
- Enhanced agribusiness infrastructure.
- Improved understanding of agriculture as a key economic engine.
- Heightened awareness of agriculture as an important community asset.
- Enhanced market access for local agricultural products.
- Increased value-added production activity.
- Engaged public and elected officials in the future of agriculture.

The project output is intended to inform long-term policy formation in support of agriculture while providing a specific short-term work plan to guide local programs and agencies regarding specific agricultural economic development initiatives.

1.3 METHODOLOGY

The objective of this study is to determine the extent to which Orange County's existing and future agricultural industry can be served by directed economic development and land-use policies and programs and to make recommendations to the County as to the most appropriate tools and methods to capture such opportunities.

To accomplish this, the ACDS study team gathered published data on the market area to assess current conditions and reaffirmed this data by interviewing 79 farmers, agribusinesses, entrepreneurs, service providers, public officials, and community leaders. Interviewees were selected initially from lists provided by members of the Agriculture and Farmland Protection Board. Additional interviewees were selected from contacts provided by those interviewed.

The resulting assessment of the local business and community environments is used to identify opportunities for focused economic and business development efforts and the need for additional land-use planning. In support of this analysis, the study team analyzed recent success stories of communities with similar economic, business development, and land use programs designed to leverage agricultural industries for broader economic development improvements.

1.4 STUDY AREA

At the outset of this project, the primary study area, the geographically defined area from which interviewees were selected and data collected, included all of Orange County.

Figure 1: Orange County Market Area



1.5 REVIEW OF AGRICULTURAL ECONOMIC CONDITIONS

Historically, dairy farms and feed production to support the dairy industry had comprised a significant portion of Orange County's agricultural industry. However, with the change in federal dairy policies in the 1980s and the emergence of corporate-sized dairies in the West in the 1990s, family-sized dairy farms in the Eastern states faced a rough economic climate. Orange County, N.Y. was not immune. From 1985 to 2000, dairy cow numbers in the County were cut in half. In addition, the amount of hay and corn acreage dropped dramatically during this same time period.

Despite the decline in the dairy sector, Orange County's agriculture has adapted to national and local economic forces. At a local level, Orange County has experienced significant growth in population – 31 percent in the last 20 years. Such growth can contribute to higher land and labor costs for farmers, but also can lead to opportunities such as the production of high value crops that are costly or difficult to transport and desired by suburban and urban consumers. As a result, local vegetable, nursery, and greenhouse producers find they may have a comparative advantage.

Key Findings of Study

1. Orange County's farm economy produced \$108 million in output value in 2000, which generated an additional \$59 million in related economic activity within other sectors of the local economy.
2. In the last 15 years, growth in Orange County's vegetable and greenhouse/nursery sectors have more than offset the declines experienced in the dairy and feed sectors. Cash receipts for vegetables produced in Orange County were up 52 percent from 1987 to 2000, while cash receipts for the sale of greenhouse and nursery crops more than doubled during this time period.
3. The vegetable sector is the largest segment of the farm economy and accounts for nearly 40 percent of Orange County's agricultural output. However, there have been significant swings in this sector's output in the last decade, suggesting some instability.
4. Few farms with relatively high sales provide most of Orange County's agricultural economic activity. In 1997, the largest 30 percent of the farms accounted for 86 percent of the County's agricultural output.
5. After trending higher for much of the 1980s, farm profitability in Orange County fluctuated widely in the 1990s. These variations likely reflected changes in the vegetable sector over the same period.
6. Growth in vegetable production and the greenhouse/nursery sector have been matched by an increase in Orange County's wholesale trade and, in the case of vegetables, food processing. The decline in the dairy sector caused similar losses in the number of farm supply stores, dairy manufacturers, and dairy wholesalers in Orange County.

Land Use Patterns

Forestland and water comprise more than two-thirds of the land area in Orange County. The remaining acres are either developed (8.5 percent of the land) or open-space grasslands and crops (21.1 percent). This high density of residential and industrial development impacts the County's agricultural sector in two ways. First, the demand for residential and industrial development drives up real estate prices, forcing land out of lower value agricultural uses, such as traditional field crops and livestock enterprises. In addition, the development of residential and industrial areas stimulates the demand for greenhouse and nursery products, as well as vegetable crops. These crops tend to have higher returns per acre, but are also costly to transport. Hence, production close to urban areas is essential.

Farm Characteristics

The number of farms in Orange County fell by 17 percent from 1987 to 2001, with most of the decline occurring from 1987 to 1997. At the same time, land in farms fell by 20 percent. Based on data from the New York Agricultural Statistics Service for 2001, the most recent year available, there were 730 farms in Orange County that covered nearly 95,000 acres or 18 percent of the total area in Orange County.

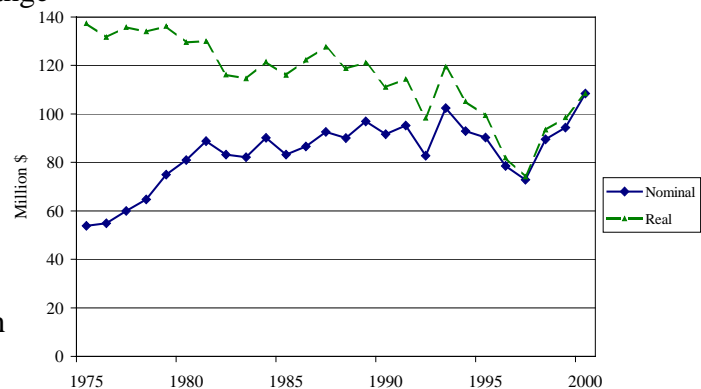
Farm size, as measured by average acreage per farm, declined modestly from 135 acres per farm to 129 acres per farm from 1987 to 2001. Although national farming trends show farms growing larger, the shift of Orange County's agriculture from dairy to vegetables and greenhouse/nursery crops would explain why farm sizes have remained nearly constant over the last 15 years, as these crops are more labor intensive and less land intensive.

Even though Orange County farms are relatively small in terms of acreage, a significant proportion of these farms post high sales figures. For 1997, 30 percent of Orange County's farms had gross sales of more than \$100,000, up from only 25 percent in 1987. These large farms accounted for 30 percent of all farms in Orange County, but nearly 86 percent of the County's agricultural output in 1997. There are just as many farms with sales of less than \$10,000 but this group of farms shrunk from 33 percent of all farms in 1987 to 30 percent by 1997.

Agricultural Commodity Output

For much of the 1980s and early 1990s, Orange County's agricultural output value tended higher in nominal dollars from 80 to 100 million dollars per year, although in inflation-adjusted dollars, the County's farm output value fell slightly. Much of the growth in the nominal value of agricultural output occurred in the crop sector, where expansion in vegetables and greenhouse/nursery crops, helped more than offset declines in the County's dairy sector.

Figure 2. Value of Farm Marketings for Orange County, NY: Nominal and Real 2000 Dollars 1975 to 2000



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System*.

While the 1980s were times of reasonable growth in Orange County's output, the 1990s marked a time of significant ups and downs. From 1992 to 1997, agricultural output declined by 25 percent, but has since rebounded to \$108 million by 2000. This swing in Orange County's agricultural output in the 1990s was largely driven by changes in the crop sector, and especially vegetable output.

Although there has been significant growth in Orange County's agricultural output, this expansion has been largely confined to two commodity groups: vegetables and greenhouse/nursery products. Along with dairy and orchard crops, these four commodity groups comprised 92 percent of the County's agricultural output in 2000. The greenhouse/nursery sector saw the largest expansion from 1987 to 2000, where output value doubled over this time period. Vegetables, while expanding less in percentage terms, boosted output value by nearly \$15 million dollars from 1987 to 2000. On a smaller scale, the output of orchard crops expanded as well, although much of the expansion came in the late 1980s and early 1990s.

Table 1.1: Value of Sales by Primary Commodities for Orange County, NY: 1987 to 2000

Commodity	1987*	2000**	1987 to 2000 % Change
	<i>Million \$</i>		
Orchard Crops	\$5.7	\$6.9	21%
Greenhouse/Nursery	\$7.6	\$15.3	101%
Dairy	\$21.2	\$21.3	0%
Vegetables	\$27.7	\$42.2	52%

* Source: U.S. Census of Agriculture, 1987.

** Source: New York Agricultural Statistics Service, 2000.

The only major commodity with no growth since 1987 was the dairy sector, which showed no change in output value from 1987 to 2000. However, this sector declined significantly in the early 1990s, as a result of lower federal milk price supports and the Dairy Herd Termination program. Field crops, like hay and corn, fell substantially in reaction to the decline in the County's dairy industry during the last 20 years.

Dry onions represent the most significant vegetable crop, accounting for 60 percent of all vegetable acreage. However, acreage of dry onions fell 10 percent from 1987 to 1997. In addition, acreage in lettuce production, the second most significant crop, fell by 63 percent over this same time period. There was no primary vegetable crop that farmers seemed to shift into during this time period. Instead, farmers grew a broader mix of crops, expanding acreage in cabbage, cucumbers, eggplant, pumpkins, squash, sweet corn, and tomatoes.

Like the vegetable sector, the greenhouse and nursery industry saw higher sales. This expansion came from nearly twice as many farms growing greenhouse/nursery products from 1987 to 1997, as well as a 123 percent increase in production under glass or protection. This growth in sales

occurred largely in bedding/garden plants and potted flowers. The combined sales of these crops grew 242 percent from 1987 to 1997, while production under glass area grew 123 percent. Thus, Orange County's producers either improved production efficiency or shifted to higher-valued crops over this time period. The other major greenhouse/nursery crop in Orange County is sod. Sales of sod increased somewhat from 1987 to 1997, after falling substantially in 1992.

While Orange County's crop sector has several growth areas, its livestock sector is mostly in decline. The number of farms producing livestock or dairy products fell by 30 percent across most major livestock sectors, although the inventory of livestock fell mostly by 20 percent from 1987 to 1997.

Table 1.2: Livestock Farms and Inventory for Orange County, NY: 1987 to 1997

Item	1987	1992	1997	1987 to 1997 % Change	1987	1992	1997	1987 to 1997 % Change
	----- Number of Farms -----				----- Number of Head-----			
Dairy	187	145	125	-33%	12,145	10,328	9,525	-22%
Cattle	113	92	96	-15%	9,731	8,641	8,262	-15%
Sheep	37	36	24	-35%	1,196	2,086	973	-19%
Horses	196	127	135	-31%	3,038	1,960	2,295	-24%

Source: U.S. Census of Agriculture, 1987, 1992, and 1997.

Even though the dairy farm sector saw fewer farms and fewer dairy cows, the value of dairy output held reasonably constant from 1987 to 1997. This was due to increased productivity, as well as higher nominal prices in 1997 as compared to 1987. Since 1997, farm-level milk prices have been extremely volatile and low as milk production expanded in the Western states. This trend is likely to continue and will lead to more losses in Orange County's dairy sector, which still represents nearly 20 percent of the County's agricultural output.

Sharper losses occurred in the cattle and horse sectors from 1987 to 1997. Both sectors had 30 percent losses in the number of farms. However, the value of horse sales dropped by 76 percent from 1987 to 1997, while cattle sales fell only 39 percent.

Farm Costs and Returns

As the agricultural sector shifted toward vegetable crops as well as greenhouse and nursery products, production expenses in the County shifted as well. Most notable was the increased expenditures on seeds, bulbs, plants, and trees, which accounted for a 42 percent increase from 1987 to 1997.

Table 1.3: Farm Production Expenses for Orange County, NY: 1987 to 1997

Item	1987	1992	1997	1987 to 1997 % Change
	-----Million \$-----			
Agricultural Chemicals	\$3.33	\$2.96	\$3.68	11%
Energy, Electricity	\$1.86	\$1.86	\$1.85	-1%
Energy, Petroleum Products	\$2.57	\$2.74	\$2.50	-3%
Feed for Livestock	\$7.47	\$7.12	\$8.10	8%
Fertilizer	\$2.21	\$1.92	\$2.10	-5%
Labor, Contract	\$1.30	\$0.97	\$0.68	-48%
Labor, Hired	\$11.74	\$13.49	\$12.00	2%
Livestock Purchased	\$2.58	\$2.51	\$1.49	-42%
Repairs and Maintenance	\$3.91	\$3.96	\$4.18	7%
Seeds, Bulbs, Plants and Trees	\$1.75	\$2.53	\$2.49	42%
Taxes, Property	\$2.66	\$3.70	\$3.26	23%
Other	\$14.75	\$12.88	\$12.41	-16%
TOTAL	\$56.13	\$56.64	\$54.74	-2%

Source: U.S. Census of Agriculture, 1987, 1992, and 1997.

Increases were prevalent in most other major categories, but in smaller magnitudes. The exception was a relatively large drop in contract labor expenditures, which fell by 48 percent. Hired labor, the largest component in farm production expenses, increased by only 2 percent from 1987 to 1997, and even declined from 1992 to 1997 by nearly 12 percent.

Although total farm expenditures fell by 2 percent from 1987 to 1997, farm sales were also down in the aggregate over this same period, leading to 17 percent lower farm net-returns. However, average net returns per farm did manage to increase by 4 percent from 1987 to 1997. Even so, profitability of Orange County farms did not seem to improve overall. For example, in 1987, 60 percent of Orange County's farms had net gains, but by 1997 only 50 percent of the farms had net gains. The farms that were profitable, however, increased profitability by 35 percent from 1987 to 1997. Since average losses for farms with net losses also increased over this time period, the few farms that were profitable fueled the growth in the County's farm net-returns.

Table 1.4: Farm Net>Returns for Orange County, NY: 1987 to 1997

Item	1987	1992	1997	1987 to 1997 % Change
Total Farm Net Returns	\$15.5 Million	\$17.1 Million	\$12.8 Million	-17%
Net>Returns per Farm	\$19,583	\$26,598	\$20,346	4%
Farms with Net Gains (%)	60%	58%	50%	-18%
Net>Returns per Farm with Net Gains	\$40,866	\$53,819	\$55,337	35%
Farms with Net Losses (%)	40%	42%	50%	25%
Net-Losses per Farm with Net Losses	\$12,782	\$11,532	\$14,091	10%

Source: U.S. Census of Agriculture, 1987, 1992, and 1997.

Even though farm net-returns increased substantially, this doesn't necessarily mean that all farms experienced improved profitability. Indeed, when looking at the proportion of farms that were profitable from 1987 to 1997, there were fewer profitable farms in 1997 than in 1987. In 1987, 60 percent of the farms posted net gains, but only 50 percent had net gains by 1997. However, those farms that were profitable had average returns that grew substantially over this period. For those farms with net gains, average net returns per farm were \$40,866 in 1987, but grew to \$55,337 per farm by 1997.

However, since 1997 was a point of significantly lower sales in the vegetable sector, these may not be reflective of trends in farm profitability, but instead represent the outcome of a particularly poor crop year. More recent data suggested farm net returns accelerated in recent years. From 1997 to 2000, farm income grew from \$12,500 per farm to nearly \$58,000 per farm by 2000, and surpassed non-farm per-capita income in Orange County by a substantial margin.

Economic Impact of Orange County's Agricultural Sector

Quantifying the economic impact of Orange County's agricultural sector is an important tool for allocating investment resources, whether from the public or private sector. There are two common methods for measuring the economic impact of any sector of the economy.

The first is a direct measure of a sector's economic importance by examining the value of output from the sector. This represents the price of the sector's output multiplied by the quantity produced by that sector of the economy. For the four principle farm commodities in Orange County, the output value was \$62.1 million in 1997, accounting for 89 percent of the County's \$69.8 million farm output. In 1997, the vegetable and dairy sectors were of equal value, just over \$20 million dollars per industry. However, this only measures the direct value of a sector's importance.

Since economic output does not happen in a vacuum, analysts often use output multipliers as a secondary measure of economic activity. Goods, services, and labor from within the economy are used to produce output. This output is usually further transformed by other sectors of the economy, stimulating more business activity. Thus, a second measure of economic impact is an

output multiplier for a sector, which quantifies the sum total of these upstream and downstream effects.

Based on the output multipliers for Orange County's farm commodities, every \$1 increase in total farm output led to an additional 55 cents in economic activity in other sectors of the local economy. Thus, the direct output of Orange County's agricultural sector was \$69.8 million, but an additional \$38.4 million was generated in other sectors of the local economy, based on 1997 data. Using the latest data from 2000 for the aggregate farm sector, output value was \$108.4 million, which generated another \$59.6 million in other sectors.

Agricultural Service, Wholesale, and Retail Sectors

As the previous section illustrated, there are important economic linkages between the farm sector and other sectors of the local economy. As certain parts of Orange County's farm sector grew, others declined. This had important implications for input suppliers and agricultural service firms, as well as wholesale and retail trade. In this section, we explore the growth in agricultural service firms, farm input suppliers, and the wholesale and retail sectors of Orange County's economy directly related to the farm sector.

Service-related firms consist of agricultural support services (e.g., crop consultants, animal production support), veterinary services, and farm supplies. The number of firms providing agricultural support services declined by 45 percent from 1993 to 2000. However, a more precipitous drop occurred in farm supply firms, falling from 20 firms in 1993 to only 8 firms by 2000. Veterinary services increased slightly from 1993 to 2000. However, this may have been driven more from non-farm pet services and less from the agricultural sector since livestock numbers declined over this time period.

Food manufacturing activity in Orange County reflected the trends experienced at the farm level. Dairy manufacturing fell from 5 firms in 1993 to only 1 firm by 2000. On the other hand, the number of fruit and vegetable manufacturers increased by 60 percent over this same time period.

In addition, the wholesale trade sector increased for fresh fruit and vegetables, with the number of firms increasing from 6 in 1993 to 10 by 2000. In addition, firms specializing in the wholesaling of flower and nursery stock increased from 3 firms to 8 firms.

Table 1.5: Agricultural Industry Sector Firms, Employment and Payroll for Orange County, NY: 1993 and 2000

Sector	1993			2000			% Change 1993 to 2000		
	Firms	Employees	Payroll	Firms	Employees	Payroll	Firms	Employees	Payroll
			(\$1,000)			(\$1,000)			(\$1,000)
SERVICES									
Agricultural Support	20	82	1,262	11	**	**	-45%	**	**
Veterinary	28	154	3,375	29	271	6,522	4%	76%	93%
Farm Supplies	20	214	4,367	8	85	1,622	-60%	-60%	-63%
MANUFACTURING									
Dairy Products	5	**	**	1	**	**	-80%	**	**
Fruit and Vegetable	5	35	171	8	19	278	60%	-46%	63%
WHOLESALE									
Dairy Products	9	100	3,932	7	84	4,587	-22%	-16%	17%
Flower and Nursery Stock	3	**	**	8	92	3,160	167%	**	**
Fresh Fruit and Vegetable	6	**	**	10	107	3,210	67%	**	**
Farm Product Raw Material	2	**	**	3	**	**	50%	**	**
RETAIL									
Nursery and Garden Centers	16	79	1,764	12	101	1,694	-25%	28%	-4%
Landscaping	80	273	3,155	106	265	5,854	33%	-3%	86%
Fruit and Vegetable Markets	5	35	171	8	19	278	60%	-46%	63%

Source: U.S. Census Bureau. County Business Patterns, 1993 and 2000.

** Data withheld by Census Bureau to avoid disclosing individual firms.

SECTION 2: MARKET SUMMARY

The market summary section of this report is intended to synthesize on-the-ground observations of the study team, results of personal interviews and review of public sector data.

2.1 SWOT ANALYSIS

SWOT analysis is a tool used by strategic planners and marketers to assess the competitive environment of a region, industry, business, or product. It is a very simple technique that focuses on the Strengths, Weaknesses, Opportunities, and Threats (SWOT) facing Orange County agriculture by asking the following questions:

1. What are the advantages of engaging in production agriculture in Orange County?
2. What unique local conditions support the agricultural industry?
3. What do Orange County farmers do well?
4. What do Orange County farmers do poorly?
5. What can be improved in Orange County agriculture?
6. What are key regional/industrial trends?
7. What are the options and obstacles facing Orange County farmers?
8. How does Orange County agriculture fit within the regional context?

For the Orange County Agricultural Economic Development Strategy, the strengths, weakness, opportunities, and threats were assessed for the agricultural industry overall to include production agriculture as well as agricultural support industries. The SWOT criteria identified are drawn directly from the study team’s interviews with the agricultural industry within the County. As such, this analysis should be considered an industry self-assessment. (See Appendix 2 for a more complete SWOT analysis.)

TABLE 2.1: SWOT Analysis Matrix

INTERNAL FACTORS	
Strengths	Weaknesses
Market Access	High Land Costs
Location	High Development Pressure
Agricultural Diversification	Diminishing Agricultural Infrastructure
Operator Characteristics	Integration with General Economy
Distribution Infrastructure	Inter- & Intra- Agency/Industry Conflict
NIMBY’ism	Regulation/Policy – County & Town
Engaged Public Sector	Understanding of Land-use Issues
Strength in Key Sub-Sectors	Concept of Next Generation
Availability of Workforce	Land Ownership and Tenure
BREA Potential/Business Relocation Trends	Leadership Development
AFPB Program History	Impermanence Syndrome
Agriculture District	High Tax Burden

EXTERNAL FACTORS	
Opportunities	Threats
New Market Development (Regional)	Development Patterns/Pressure
Business Retention, Expansion, Attraction Planning	Regional Competitiveness
Regionalism	International Trade
Value-Added Products and Services	Limited Capital Investment
Agri-tourism Development	Loss of Critical Mass
Management Skills Development	Loss of Agricultural Infrastructure
Labor Force Development	Labor Availability
Public Outreach and Marketing	Inter-jurisdictional Competition
Farm Transition Programming	State & County Fiscal Conditions
Coordinated Inter-jurisdictional Planning	Regulations and Policy

2.2 MARKET SEGMENT SUMMARY

Dairy

The dairy industry is the largest component of New York's agricultural economy accounting for more than 50% of the State's agricultural output at \$1.86 billion. New York is currently ranked as the third largest producer of dairy products in the United States.

Orange County's dairy is a significant agricultural sector and while significant, represents approximately 20% of the County's overall agricultural output, a proportion that has been steadily declining since the late 1980's. Despite losing a significant proportion of its dairy operations between 1987 and 1997, Orange County has been able to maintain both the level of production and income at a relatively stable level.

Table 2.2: Dairy Farms for Orange County, NY: 1987 to 1997

Item	1987	1992	1997	1987 to 1997 % Change
Number of Dairy Farms	187	145	125	-33%
Number of Milk Cows	12,145	10,328	9,525	-22%
Total Value of Milk Sold	\$21.2 Million	\$20.4 Million	\$20.2 Million	-5%

Source: U.S. Census of Agriculture, 1987, 1992, and 1997.

In order to understand the potential impact of an economic development strategy on the local dairy industry, it is important to understand the trends that are impacting the industry at the national and local levels.

National

- Milk production per cow is up 18% over the last ten years.
- Dairy farms are becoming larger and more capital intensive. Farms with more than 500 cows represent 3% of dairy farms and 40% of national production.¹
- Dairy prices have been depressed for an extended period of time.
- Dairy production is shifting south and west in the United States, specifically to Idaho, California, and New Mexico.
- Dairy cooperatives are becoming larger and more concentrated.
- Dairy processing and distribution are becoming more concentrated under the market leadership of Dean Foods.
- A new dairy support program (MILC) came into effect in 2002 and is expected to provide needed financial support for small dairies.
- Alternative dairy products such as goat, sheep, and soy analogs are growing in market share.

¹ <http://usda.mannlib.cornell.edu/reports/nassr/livestock/dairy-herd/specda02.txt>

Local

- Relative to national standards, the region has a high proportion of small-scale producers (milking on average less than 100 head).
- The area has a large number of independent producers serving bottlers such as Farmland Industries and Boice Dairy.
- Orange County dairy farmers, formed as a small local cooperative, have been aggressively pursuing higher value market outlets.
- Several dairies are exploring opportunities in on-farm bottling and cheese manufacturing.
- Significant dairy expansion amidst current growth pressure seems unlikely.
- Milk production per cow expanded at a slower rate than national and statewide trends.
- Local dairy infrastructure, such as milking system sales and service and rendering, is diminishing or unavailable.
- The dairy sector suffers from highest level of “Impermanence Syndrome” which leads to limited capital investment in the industry.
- A significant amount of dairy support land, such as hay and corn ground, is leased by producers and highly fragmented under diverse ownership.
- Few dairy farms feel they have a next generation to take over farm operations.

Given the maturity of Orange’s dairy industry, the lack of a next generation, limited access to input infrastructure, increased consolidation in processing, and a high level of impermanence, it is likely that the existing industry will continue its gradual decline as farmers retire and land/herds go out of production. This may have a significant potential impact on the continued use of Orange County’s farmed uplands as dairies are heavy users of support ground for the production of hay, corn, and small grains. As some operations exit, however, this may free expansion capacity for the handful of local operations that may have an interest in expanding. The decline in this industry is likely to hit “mid-sized” family farms (milking 100 to 500 head) the hardest. Orange’s small-scale dairy producers (milking under 100 head) and large operations are more likely to demonstrate stability over the next decade.

Orange County’s dairy farmers are most likely to benefit from economic development efforts that support public education (especially as it relates to neighbor relations), policy advocacy for renewing the Northeast Dairy Compact, and increasing the number of dairy processing/marketing options in the region. From a business support perspective, dairy operators may benefit significantly from assistance with on-farm innovation grant applications and business planning that assists farmers in critically analyzing on-farm processing opportunities such as bottling, ice cream manufacturing, and cheese processing.

Fruit and Vegetable Production

The produce industry, for both fresh market and processed fruits and vegetables, consistently places New York in the top ten production areas in the nation (6th in 2002 for fresh vegetable production with \$291.2 million in output). Orange County is a major contributor to New York's produce industry accounting for \$50.1 million in fruit and vegetable output in 2000, which was 9% of New York's total fresh and processing market that year. Based on planted acres, Orange County leads the State in onion production. Orange County produces just over one-third of the State's onion crop helping to keep the State's title as a national top-ten onion producer.

Table 2.3: Value of Sales by Primary Commodities for Orange County, NY: 1987 to 2000.

Commodity	1987*	2000**	1987 to 2000 % Change
	<i>Million \$</i>		
Orchard Crops	\$5.7	\$6.9	21%
Vegetables	\$27.7	\$42.2	52%

* Source: U.S. Census of Agriculture, 1987.

** Source: New York Agricultural Statistics Service, 2000.

In order to understand the potential impact of an agricultural economic development strategy on the local produce industry, it is important to understand the trends that are impacting the industry at the national and local levels.

National

- Production of fruits and vegetables is becoming concentrated, either directly or through producer alliances, in the hands of large grower-shippers.
- International produce sourcing is growing in importance as a component of grower-shipper produce movements.
- Distribution and marketing tasks, such as inventory management, demand forecasting, category management, and productivity analysis are being forced down the distribution chain to the grower/shipper.²
- Produce sales increasingly rely on Electronic Data Interchange (EDI) as a key component of vendor managed inventory services.
- Value-added fresh produce will account for 25% of produce department sales by 2004, up from 10-15% today. Cut fruits and vegetables will account for much of that growth.³
- Top five lettuce/salad processors maintain a 91% market share.

² "Supply Chain Management in the Produce Industry," produced by Produce Marketing Assn. and Cornell University in 2001.

³ "Fresh Forward," The Packer, Vance Publishing Corporation, 1999.

- Consumer demand for labor saving produce items is growing annually with fresh cut/prepackaged salads representing 10% of produce sales (\$12 billion annually).
- Direct buying is expected to account for up to 75% of all retail and foodservice produce purchases by decade's end.⁴ Much of this will occur under contract.
- In 2004, the top ten supermarket chains are predicted to have a market share of 55% to 70% of the U.S. market.
- Produce origin is becoming a more important issue in the retail sale of produce with nearly 90% of all consumers expressing an interest in country of origin labeling.⁵

Local

- Regional vegetable production is anchored by Orange's "Black Dirt" regions which provide a relatively stable base of production and one that is not heavily threatened by development pressure.
- Produce production is dominated by the highly competitive dry onion deal.
- Labor force, while adequate, remains a significant source of concern for produce operations.
- Relative to national standards, the region has a high proportion of small-scale producers (average less than 100 acres).
- Vegetable producers rely heavily on local and regional grower-shippers to move wholesale production.
- Produce operations are slowly diversifying into a broad range of commodities as well as increased use of direct marketing outlets.
- Fruit production is highly dispersed across the County.
- Fruit production, as well as some vegetable production, occurs largely on upland which increases land conversion pressure.
- Fruit industry is dominated by apple production.
- Fruit producers are diversifying marketing channels to become more direct market and value-added in focus.
- Growth in wineries is outpacing growth in local grape stock.
- Both fruit and vegetable producers lack immediate access to concentrated secondary markets such as food processors.
- The number of wholesale market outlets in the region is diminishing.
- Competition from producers outside of the region is significant and growing.

Orange County has historically been a wholesale producer of fruits and vegetables for the New York City market, as well as other key northeast and mid-Atlantic markets. Because of this focus, producer interest in developing economic development responses to agriculture tend to be wholesale oriented. Most farmers interviewed, while clearly recognizing the regional trends toward greater direct marketing, feel that production from Orange County's highly productive muck soils, if converted to direct market production, can only glut the region's farmers' markets, roadside stands, and direct market wholesale channels. Furthermore, many farmers find that increasing crop diversification on-the-

⁴ Ibid.

⁵ Fresh Trends 2002.

farm beyond a few key crops can decrease production and marketing efficiency. The primary issues facing most local farmers is access to today's rapidly changing wholesale and distribution environments. In this light, economic development programming should seek to increase localized marketing partnerships, enhance value-added product development, encourage increased production efficiency, and improve collaborative production and marketing services.

It is also important to note, that Orange County has a small, but growing core of produce farmers that are engaged in direct market and agritourism efforts. Such efforts include greater use of New York City's Greenmarkets, on-farm retailing, pick your own operations, roadside stands, value-added processing (notably wine and spirits production), and a healthy system of local farmers' markets. During interviews, these operations indicated a high degree of satisfaction with these market outlets and felt that they benefited from close proximity to large population bases in the Northeast. These direct market farmers were also quick to note that this type of marketing brought with it new challenges. Farms were now engaged in what they saw as multiple businesses including production of multiple agricultural products (up to 100 in some cases), logistic support, retailing, tourism, and manufacturing. Each of these new "business" lines required additional skills and training that in some cases were not available on the farm. As a result, some felt that business development support such as marketing training, cooperative advertising, retail skills development, and analysis of alternative income opportunities would be valuable to future growth.

Greenhouse/Nursery

The nursery and greenhouse industry in New York is rising quickly through the ranks of the State's most important industry sectors. As of the 1997 Census of Agriculture, New York State was producing approximately \$290,772,000 in output, placing it among the nation's top ten nursery and greenhouse producers.

Orange County, like other Hudson Valley counties, is experiencing a significant increase in agricultural activity in the nursery and greenhouse sector. Major components of this growth can be found in such subsectors as bedding plants, nursery stock, and sod. Nursery and greenhouse producers, unlike those in other sectors, are distributed between upland farms and the "Black Dirt" regions. Due to the high level of regional development pressure, Orange County finds itself as a favorite relocation target for producers escaping areas such as northern New Jersey, Westchester County, and other areas with rapidly increasing land values.

Table 2.4: Greenhouse/Nursery Production for Orange County, NY: 1987 to 1997

Item	1987	1992	1997	1987 to 1997 % Change
Number of Farms	54	75	104	93%
Production Area under Glass or Protection (sq. feet)	597,979	916,864	1,334,465	123%
Production in the Open (acres)	1,549	986	1,760	14%
Value of Sales (million)	\$7.62	\$8.85	\$15.03	97%

Source: U.S. Census of Agriculture, 1987, 1992, and 1997.

Key trends of note in the local greenhouse and nursery industry include the following:

- The industry is highly diverse ranging from field production of Christmas trees to specialty floriculture production.
- Coordination among the industry's divergent operations is poor. The nursery and greenhouse sector does not have a strong local voice as do other sectors.
- Unlike its regional counterparts in Westchester County, the local industry is not as well integrated with regional landscape architects, installers, and designers.
- The industry is dispersed throughout the County and can be found in a variety of settings from urban to rural.
- The sector tends to be highly compatible with residential uses.
- The increase in overall nursery and greenhouse sales supports the sustainability of the entire sector.
- The industry generally relies on small nursery centers and retail/wholesale yard trade as prime market outlets.

- Local operations do not demonstrate the same level of innovation as can be found in Westchester and Suffolk County operations.
- The nursery and greenhouse industry has strong local and regional service and supply networks.

Given its current growth rates, the nursery and greenhouse industry is likely to surpass the output of the dairy industry in the 2002 Agricultural Census. New entrants to this sector are likely to continue both as relocations from other regional jurisdictions as well as new business starts-ups from within the County. While the nursery and greenhouse sector is making up for agricultural output lost to the dairy industry, it is not likely that this industry will play as significant a land use role. In fact past development trends indicate that much of the new production space will enter the market under cover, producing high value relative to its land cover. Such operations are also heavy seasonal employers. This indicates that developing new enterprises in this industry will be capital intensive and require sophisticated planning and development in order to be competitive in the New York metro market. Because of this, the nursery and greenhouse industry is likely to be a strong user of business development and finance programs. Furthermore, this sector is also likely to benefit from workforce development such as job/life skill training, English as a second language programs, improvements in public transportation, and affordable housing.

Equine

The equine industry remains one of the most poorly understood and poorly measured of New York State's agricultural industries. The primary contributing factor is the difficulty in defining an industry that straddles agriculture and recreation. However, it is largely understood that New York's equine industry is a critical driver of economic activity in the State as well as in Orange County. This fact is especially true given Orange's storied history in the Standardbred industry.

Orange County's horse industry is very much like that of New York State. In terms of diversity, the industry includes wide ranging subsectors in breeding, training, boarding, showing, trials, organized hunts, trail riding, racing, performance, and pleasure. As one would guess, these sectors tend to be highly divergent in their interests, trends, and patterns, and indeed attract very different stakeholder groups. Because of this, the industry tends to be disaggregated and unorganized. Developing a statistical picture of the industry is a serious challenge since USDA does not generally report equine statistics and New York State's recent efforts to profile the industry through a statewide survey received poor results. The following are reported about Orange County's and Southeast⁶ New York's equine industry in the 2000 New York State Equine Study:

- Horse farms in the Southeast region have an average value of land and improvements of \$8,700 per acre versus an average of \$3,819 per acre for all Orange County farms.
- Nearly 50% of horse operations in the Southeast region classify themselves as non-commercial and non-farm operations. The next highest concentration of operations are self-classified as commercial boarding and training followed by active farms and commercial breeding.
- Orange County has the highest horse inventory in the Southeast region and the fourth highest horse inventory in the State.
- Orange County has the eighth highest valued equine inventory in the State and the fourth highest in the region.
- Horse inventory in the region and County fell between 1998 and 2000 by 29% and 23% respectively.
- The value of equine inventory in the region and County rose by 78% and 16% respectively.
- Preceding use of most equine operations in the Southeastern region was most often a horse farm (39%) or a non-agricultural use (26%). Only 24% were crop or livestock farms.

Despite strong fundamentals in equine value and on-farm investments, the horse industry is considered by many insiders to be stagnant or declining. Growth within sectors such as boarding and commercial horse operations is assumed to be coincidental with a reduction in backyard equine impoundments. This assertion is certainly supported by the decline in

⁶ Southeast New York, as defined by the 2000 New York Equine Study, includes Columbia, Delaware, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.

horse numbers in both the County and the region. However, maintaining the equine industry is a critical for the health of agriculture, if for no other reason than its strong linkages to agricultural support land (e.g., hay production ground) and agricultural infrastructure such as feed dealers, animal nutritionists, large animal vets, and tractor dealerships. Other important characteristics, though not easily quantified, are the equine industries' significant impact on tourism and recreational opportunities, positive quality of life attributes, and land-use/viewshed impacts.

Supporting the horse industry through economic and business development programming in Orange County will prove challenging. Given the part-time and avocational nature of most operations and the divergent interests of the many constituencies within the equine industry, it is difficult to pinpoint specific opportunities for enhancement. Several common themes generated throughout the interview process did involve work force development, the need to expand trail access, as well as the shortage of public event space. Though not specifically mentioned, services such as animal health training/mentoring, pasture management, business management for boarding operations, and nutrient management will be important to offer to this industry.

Livestock

Livestock is another important sector in New York Agriculture contributing approximately \$2 billion in annual sales. A contributor to this is New York's large dairy industry that provides a supply of replacement heifers, bull calves, herd culls, and other livestock to local and regional markets. Orange County, however, does not support a significant livestock industry, an industry that contributes only 1% of the County's annual agricultural output.

The local industry, though small, is made up of several components. The first is dairy related livestock sales driven by the dairy replacement business. The second is the production of beef cattle (replacements, feeders, stockers). The final, and smallest, sector is the growing number of small rumen and alternative livestock producers who typically produce for personal consumption, freezer trade, or ethnic markets.

As with other sectors, understanding key trends in the industry will help to define the role of incubation relative to the local industry.

National

- Marketing and processing is dominated by three large firms with high industry concentration within and across species.
- Marketing system has moved away from carcass meat and toward boxed meats.
- Producer cooperatives and small businesses around the country have been successful in developing niche oriented premium and certified meat products.
- Small meat packers and slaughter plants are declining nationwide.
- Food safety concerns dominate the meat industry and strongly influence the consumers' perception of the industry.
- Value-added and ready-to-eat meat products represent the fastest growing market segments.
- Young families, ethnic, and health conscious consumers are driving new product development.
- Slotting fees, the practice of charging food companies for shelf space in retail establishments, is becoming common for meat products.

Local

- Regional efforts to develop livestock cooperatives and slaughter plants are underway to increase marketing and kill potential.
- Consolidation and closings have functionally reduced the number of regional livestock markets, slaughter facilities, and packing houses to near zero.
- Farm operations are increasing small rumen herds in response to increased demand for goat and lamb products.
- Certification programs, including producer self-certification, of organic, grass fed, heritage breed, and natural meat products are becoming more prominent in the region especially among small producers.
- Infrastructure limitations in both input and output industries make competitive production difficult.

- Industry activity is in part driven by tax considerations.

Based on interviews and project team experience, the opportunity to support the livestock industry will have the most significant and meaningful impact on the dairy industry and should therefore focus on improvements in local infrastructure. This is especially true in relationship to marketing infrastructure such as buying stations, auction markets, and slaughterhouses. Given the number of studies/project underway to expand kill capacity in the region as well as the over-capacity in nearby slaughter plant, developing a local kill plant should not be a key priority. Small livestock producers, such as those in small rumen and alternative livestock, could also benefit from business development services such as market development, management training, and technical assistance services.

SECTION 3: ANALYSIS OF LOCAL CONDITIONS

The following analysis reviews a series of local conditions that may have a significant impact on the success of an Agricultural Economic Development Strategy in Orange County, New York and is based largely on a review of public data sources.

3.1 ENVIRONMENTAL ASSETS

By its very nature, agriculture is an industry that relies on accessible and high quality environmental assets such as soil and water. In fact, these inputs to agricultural production are necessary components for developing and supporting a healthy agricultural industry.

Soils

Soil quality is of primary importance in assessing agricultural productivity and represents an asset that remains relatively fixed over time. Orange County has a wide range of soil qualities and conditions, anchored by the highly productive muck lands or “Black Dirt” found in the Towns of Warwick, Waywayanda, Minisink, Goshen, and Chester.

Orange County is a large county of just over 522,000 acres of which 224,000 acres achieve a USDA land capacity classification of I through III which are considered prime and productive soils. Of these soils, approximately 10,000 are found as muck soils in the “Black Dirt” regions. These “Black Dirt” soils are highly productive and suitable for production of a wide variety of vegetable and field crops. Within the “Black Dirt” regions, these soils are found in large contiguous blocks, and since these soils support little development potential, they will likely remain highly suitable for farming into the foreseeable future. Approximately 4,000 additional muck acres can be improved through drainage to achieve similar productivity capacity. Access to other soils with high land evaluation scores are scattered throughout the upland portions of Orange County, but are primarily concentrated in upland valleys and throughout the Wallkill River Valley. Based on data provided by County Planning and interviewees, these upland soils are the most prone to development.

Topography

Because of Orange’s relatively challenged topography, many of its low gradient slopes and best soils are under high development pressure. Remaining parcels, especially those not in active agriculture, have the challenge of steep slopes and poor soils.

Water Resources

Given the presence of the “Black Dirt” regions, water is an obvious defining feature of Orange County and Orange County agriculture. This factor is only enhanced by

Orange's western and eastern boundaries that are made up of the Hudson and Delaware Rivers.

Despite the apparent abundance of these surface water resources, Orange County is demonstrating that its system of local aquifers, which supply most potable and irrigation water, are at least locally challenged. Several areas in the County have recently suffered from chronic water shortages during extended drought. As development continues, problems such as low well pressure and saltwater intrusion⁷ are likely to continue. Based on interviews with farmers and public officials, this condition may restrain agricultural use of ground water while other resources are developed. If the County is to successfully attract support industries for agriculture such as food processing, or even continue the development of sectors such as produce and nursery/greenhouse, this issue must become a centerpiece.

3.2 INFRASTRUCTURE

A basic requirement of agricultural industry development is the capacity of the community to support its needs for infrastructure. Key elements of agricultural infrastructure include marketing infrastructure, service and supply networks, public utilities, energy, telecommunications, and transportation. The study team assessed the following key elements of local infrastructure from both a perceptual and physical standpoint, in order for a jurisdiction to be competitive in today's market place.

Marketing Infrastructure

Farmers in Orange County have access to a world class marketing infrastructure at both the wholesale and retail levels. Due to the County being geographically centered in the New York, Northern New Jersey, and Connecticut mega market, local farmers have access to nearly any type of marketing outlet desirable.

As Table 3.1 demonstrates, the market area is duly served by a range of wholesale and secondary marketing options. Farmers selling into the New York market area sell into a well defined and highly competitive market system. This is a market system with one of the highest concentrations of wholesale food distribution firms in the United States including Hunt's Point, the nation's largest terminal market, as well as the Bronx and Brooklyn Farmers' Markets and the Fulton Fish market. However, the area is only modestly served by livestock marketing and processing opportunities with no local livestock or horse auctions (most sales are by private treaty) and few meat packing and processing options.

⁷ Salt water intrusion is becoming an issue in wells impacted by winter road clearing operations along the interstate highway system.

**Table 3.1: of Wholesale Food Businesses,
4th Quarter 2002**

Description	SIC Code	NYC, CMSA # of Firms	Orange County # of Firms	% of Metro NY Total
Food Manufacturing				
Food Manufacturing (Excludes Sugar Processing, Beverages, Seafood and Ice)	Parts of 20	727	40	5.5%
Dairy Product Manufacturing	2021, 2022, 2023, 2024, 2026	95	3	3.2%
Meat and Poultry Packing Plants	2011, 2013, 2015	18	3	16.7%
Vegetable Processing (canned, frozen, preserved, and fresh cut)	2033, 2034, 2035, 2037, 2099	45	4	8.9%
Food Wholesaling				
Groceries	5141	824	22	2.7%
Packaged Frozen Foods	5142	63	3	4.8%
Meats and Meat Products	5147	263	12	4.6%
Fresh Fruit and Vegetables	5148	296	25	8.4%
Other Food Wholesalers	5143-5146 and 5149	1,470	81	5.5%

Source: Dun and Bradstreet, I-Market.

Note: NYC, CMSA represents the New York City Consolidated Metropolitan Statistical Area as Defined by U.S. Census Bureau.

The “Black Dirt” regions of Orange County are supported by a full range of onion repackers, wholesalers, and grower shippers including large players in the onion “deal” such as Cavallero’s and Gurda’s. Several operations run year round, repacking produce from other vegetable deals around the United States and overseas.

In addition to the above wholesale marketing options, Orange County farmers have an equally impressive regional farmers’ market system anchored by the New York City’s 25 Greenmarkets and Orange County’s own system of 10 farmers’ markets. Collectively, these year-round and seasonal markets serve approximately 600 varieties of fruits, vegetables, and farm products to a consuming population of approximately 8 million individuals. These markets are enhanced by 19 local roadside markets in Orange County, a New York Thruway market in Plattekill, and an active Chef’s Collaborative program in New York City that purchases products directly from local farms.

Based on results of in-person interviews, several areas of need were commonly addressed relative to Orange County’s marketing infrastructure. First, dairy farmers were quick to point out the need for additional manufacturing capacity in the region that might create direct demand for local production or provide plant balancing opportunities. Produce growers similarly expressed interest in attracting or developing fresh/minimal processing opportunities targeting the regional market. Finally, livestock and dairy producers noted a fundamental need for additional livestock processing capacity as the current regional system of qualified operations is considered to be over-capacity. However, most farmers

concede that the County does not have sufficient livestock production to support a slaughter and processing facility on its own.

Service and Supply Networks

Despite having a relatively robust agricultural industry, Orange County has seen significant decline in the local and regional service and supply network. This is particularly true for the dairy and vegetable industries where local services such as crop, veterinary, and dairy equipment services are limited to a single source of supply. Looking across the broader region, the picture for agriculture is not significantly different with just a handful of agricultural implement dealers servicing the eight county Hudson Valley region of Columbia, Greene, Ulster, Dutchess, Orange, Rockland, Putnam, and Westchester Counties.

**Table 3.2: Inventory of Service and Supply Businesses,
2nd Quarter 2002**

Description	SIC Code	NYC, CMSA # of Firms	Orange County # of Firms	Hudson Valley # of Firms
Crop Services (Soil Prep, Crop Protection, Custom Harvesting)	0711, 0721, 0722, 0723	22	9	33
Livestock Services (Large Animal Veterinary, Breeding, and Equine Services such as Boarding and Training)	0741, 0742, 0751, Parts of 0752	561	123	584
Farm Labor Contractors	0761	7	0	1
Farm Management and Horticulture Consultants	0762, Parts of 0781	15	4	17
Farm Machinery and Equipment (includes Irrigation, Hydroponics, Greenhouses, Dairy Equipment)	Parts of 5083	38	10	30
Grain Marketing	5153	16	0	8
Livestock Marketing	5154	4	3	10
Farm Inputs (includes Livestock, Nursery, and Greenhouse Supplies)	5191, Parts of 5193	186	29	133

Source: Dun and Bradstreet, I-Market.

The general concern raised by this condition is that general agricultural infrastructure is rapidly deteriorating as suburban sprawl reduces critical mass in many of the Hudson Valley’s key production sectors. As these input industries decline, it will become ever more challenging for the remaining production operations to obtain competitively priced inputs/services. Many farmers, through the course of interviews, expressed a concern that service quality may also drop as the infrastructure fails.

Public Utilities

Access to affordable and reliable water and sewer is a primary infrastructure need for any type of development, whether it is agricultural or commercial in nature. Limitations to these utilities, real or perceived, can be a limiting factor in a region’s agricultural economic growth especially as it relates to downstream industries such as food processing.

Access to water and sewer infrastructure within the market area, especially in key transportation corridors such as the I-87/I-84 intersection, is regarded as supportive of industrial development especially for food manufacturing. This is supported by the concentration of manufacturers, including food manufacturers/bottlers in the region.

Strategic centralized inter-municipal connections to water and sewer systems for residential and commercial uses should be provided where management of “Smart Growth” development may be exceeding local water supply and infrastructure capacity. Such developments may be supportive of new industrial developments related to food and agriculture. Of course, the counterpoint to the supportive nature of these developments is the potential for increased development pressure in places that now have natural limitations based on water supply.

Energy

Many applications in agriculture and agribusiness are energy intensive and require reliable, high quality electricity supplies. This is particularly true in dairy production where issues of power quality and condition can seriously impact animal productivity. Generally, energy resources are widely available, reliable, and of sufficient quality to support industry development of both the production sector as well as upstream and downstream industries.

Telecommunications

Modern industry requires increasing amounts of bandwidth to support the critical flow of data. For those farms and agribusinesses that rely on the telecommunications systems for systems control, sales, and data transfer, these systems must also provide a high degree of reliability and in some cases redundancy. Orange County’s infrastructure varies widely within the County. Many farms operate on dial-up service and do not have access to broad band services. Within major transportation corridors and population centers, a wide variety of services are available. Cellular coverage can be spotty due to terrain issues and limited tower coverage.

Transportation

Agriculture is an export oriented business that relies heavily on an efficient transportation network. This is increasingly true in Orange County given that county farms rely more and more on outside service and supply networks for time sensitive inputs to production.

For the purposes of supporting agriculture and agribusiness, the ground transportation system in Orange is solid. The County is bisected by two interstate highways with I-84 providing east-west access and I-87 providing north-south access. Route 17, which runs through Orange, is planned for an upgrade to interstate status (I-86) and will complete a “Transportation Triangle” with I-84 and I-87. This network of three interconnected interstate highways combined with Orange County’s strategic location on the eastern seaboard gives it a unique opportunity to capitalize on agriculturally related industry

development, attraction, and retention. As well, they provide access for those in the region wishing to reach Orange's agricultural tourism events, wineries, roadside stands, and other related functions.

Transportation systems must also be accommodating to farmers and agribusinesses who are engaged in production agriculture. Roads that are designed to carry high speed freight and commuter transportation traffic are rarely conducive to conveying slow moving agricultural traffic between operations. Orange County's network of state, county, and town roads provide this accessibility. However, the local road system provides a challenge to farmers who need to transport equipment and trucks because of heavy traffic volume, low/no shoulders, narrow lane widths, and limited visibility. The result of mixing these traffic uses, as well as, on the road recreation (e.g., bicycling) has a higher incident of accidents.

For those farms requiring freight transport, the region supports a wide variety of competitive options including air, rail, barge, sea freight, and over-the-road options.

3.3 HUMAN CAPITAL

Production agriculture, as well as upstream and downstream industries, requires human capital as an essential production input. This holds true at all levels of employment from unskilled labor to technical professionals and management. Some of the key factors impacting agricultural human capital are investigated below.

Workforce Composition

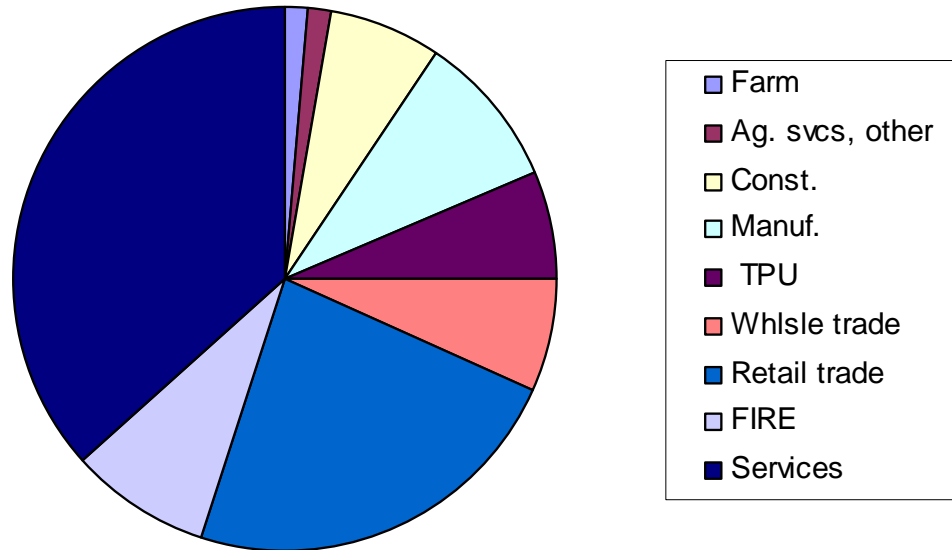
As a proportion of its overall workforce, agriculture is a large employer of skilled and semi-skilled labor favoring laborers with at least a minimum background in agriculture. As workforce requirements tend to be highly seasonal and manual in nature, one would expect to see a highly mobile regional workforce in areas that support large agricultural industry sectors.

Orange County's current workforce composition, though relatively stable, shows signs that it is transitioning from traditional, labor oriented positions in manufacturing, farming, and warehousing to a broader employment base including business services, professional services, and healthcare. Because of this, it is likely that the skills desired by farmers such as prior experience in agriculture, understanding of machinery and equipment, and CDL drivers licenses are less available now than a decade ago. As the demographics of the area change with the current influx of new residents, this trend is likely to continue.

It is also expected, that that the new influx of residents will likely increase underemployment, as "trailing spouses" with professional training enter the local job market. Long term, this condition is likely to attract a greater level of technical and professional employers. In addition to these factors, Orange County also has a large number of employees engaged in public sector positions and retail trade positions,

accounting for 34% of the total work force. Small, but important subsets of the private sector workforce include trade workers in wholesale trade, transportation and distribution, manufacturing, and accommodations.

Figure 3.1: Orange County Private Sector Workforce Distribution, 2001



Availability

The current agricultural workforce of 1,735 wage and salary earners is nearly unchanged since 1991 when there were 1,753 reported employees in agriculture. Today, that population equals approximately 1.34% of the private sector workforce and approximately 1.07% of the total workforce. This proportion changed little over the last decade, declining only by .2%. This level of stability in the workforce indicates that a ready labor force is available to farmers, or that the total agricultural workforce is capped at approximately 1,700 to 1,800 workers locally. Based on interview results, it is likely that the near continual growth in Orange County’s Hispanic workforce provides a constant and renewed source of labor.

Training and Educational Attainment

Given agriculture’s diminishing share of Orange County’s economy, accessing specialized workforce training can be a challenge. This is true at all levels of employment from non-skilled labor through management. Cornell Cooperative Extension, both locally and regionally, as well as certain industry associations, do offer courses and seminars to bridge this gap. It was indicated that these courses are not always well attended and that course scheduling in some cases made broad attendance difficult. As the local workforce continues to develop skills outside of agriculture, it will

become more important to address this issue. This is particularly true in light of expected trends in farm entrepreneurship whereby entirely new entrants to farming will likely enter the market with few production and management skills. In some cases, these individuals will only speak English as a second language.

Quality and Cost

Overall, farmers seem pleased with the overall quality of the workforce as well as the prevailing wage rate of approximately \$8.50 to \$12.00 per hour⁸. Farmers generally considered the quality of the workforce to be high, but concerns over language skills, agricultural background, and life skills (particularly as they relate to the local youth labor force) were not uncommon. Furthermore, retired farmers provide a solid and well qualified part-time workforce.

3.4 MARKET ACCESS

Orange County's immediate access to one of the world's largest and wealthiest markets gives it a comparative advantage in servicing retail and direct market oriented clients in metropolitan New York that partially offsets the high cost of living. Key characteristics of the market are identified below.

Demographic Characteristics

Eight percent of the United States population lives within the New York, North Jersey, and Connecticut consolidated metropolitan area making it the largest metropolitan market in the United States. Orange County is fortunate to be situated as an entry point, by virtue of both geographic proximity and transportation networks, to this market.

The New York metropolitan market supports one of the highest concentrations of wealth in the United States and with it one of the most discerning food markets in the world. In fact, the market area has within its borders 6 of the top 15 wealthiest counties in the United States including New York (Manhattan) (1); Fairfield, Connecticut (6); Somerset, New Jersey (7); Westchester, New York (10); Morris, New Jersey (11); Hunterdon, New Jersey (13); and Bergen County, New Jersey (15).⁹

In addition to its high overall household income, the market area supports a racially and ethnically diverse population that includes large Hispanic/Latino, Asian, African, East European, Mediterranean, Russian, and West Indian populations. In fact, of the 109 ancestries reported by the United States Census Bureau, the New York Metropolitan Market supports 10% or more of the national population of 57 nationalities. Orange County has a similarly diversified population. Hispanics/Latinos represent nearly 16% of the population with the black/African American and Asian populations representing

⁸ Hourly rates are based on in-county interviews.

⁹ Source: Bureau of Economic Analysis, 2002.

13.9% and 4.5% respectively. As Table 3.4 indicates, these groups also demonstrate high income characteristics within both Orange County and the broader market area.

Table 3.3: Percent of Population by Race for Selected Jurisdictions, 2000

Race	Orange	NYC, CMSA	New York State	United States
Not Hispanic or Latino	88%	82%	85%	87%
Hispanic or Latino Alone	12%	18%	15%	13%

Source: U.S. Census Bureau, 2000 Population Census.

Table 3.4: Median Income by Race in 1999 Dollars

Income by Race/Ethnicity	Orange	NYC, CMSA	New York State	United States
Population Average	\$52,058	\$50,795	\$43,393	\$41,994
White Alone, Not Hispanic or Latino	\$54,728	\$61,044	\$49,474	\$45,367
Hispanic or Latino Alone	\$45,107	\$33,163	\$30,499	\$33,676
Black or African American Alone	\$35,775	\$34,496	\$31,364	\$29,423
Asian Alone	\$61,377	\$54,548	\$45,402	\$51,908
Other	\$41,851	\$31,113	\$28,576	\$32,694

Source: U.S. Census Bureau, 2000 Population Census.

The combined levels of ethnic diversity and high income create a positive market environment for farmers and food marketers within the region. This is particularly true given the distinguishable differences in purchasing patterns among ethnic minorities. Particularly, Hispanic Americans, a very large population in Orange County¹⁰, tend to have discreet food purchasing patterns that may lead to marketing opportunities. Some characteristics of the Hispanic market segments include the following:

- The Hispanic market is the largest and fastest growing segment in the United States (13% of US population) and Orange County.
- Hispanic purchasing power is increasing dramatically (160% since 1990).
- 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 any other ethnic segments, averaging 4.7 visits per week. Overall, U.S. shoppers average 2.2 visits per week.
- Buyers tend to shop at specialty food stores more than other segments.
- Buyers tend to be highly price sensitive, and very aware of product quality.
- Shoppers highly 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.

¹⁰ The next largest minority group is African Americans who represent 9% of the population.

Given the agricultural industry’s proximity to such varied markets as NYC’s wealthy epicureans to the County’s large Hispanic population, regional farmers are faced with a wide variety of product and market development options. Developing a better understanding of such markets will be a critical component of industry development.

Wholesale Marketing Opportunities

As identified previously in Section 3.2, the market area is well supported by traditional wholesale marketing infrastructure. As described in Table 3.5, the market area also supports the potential for a broad range of direct market oriented wholesale opportunities such as direct sales to independent operators (e.g., restaurants, retailers, and health food stores).

Table 3.5: Inventory of Select Businesses in Market Area, 2nd Quarter 2002

Description	SIC Codes	NYC, CMSA # of Firms	Orange County # of Firms	Hudson Valley # of Firms
Fruit and Vegetable Oriented Establishments				
Restaurants (Ethnic, Independent, Health Food)	5812-01, Parts of 5812-05 & 5812-99	3,507	94	745
Fruit and Vegetable Markets	5431	680	18	146
Health Food and Gourmet Retailers	5499-01, Parts of 5499-99	760	40	218
Grocery Stores (Independents, Coops, and Small Chains)	5411-00, Parts of 5411-99	4,958	142	854
Meat Markets	5421-00 & 02	818	11	135
Nursery, Greenhouse, and Horticulture Oriented Establishments				
Landscapers (Installers & Designers)	Parts of 0781-01, 0781-02, 0782, 0783-01	1,355	246	1,588
Garden Centers (Primarily Independent)	5261-00, 5261-03	125	21	152
Florists	5992	1,307	74	448

Source: Dun and Bradstreet, I-Market.

Based on interviews with retailers, farmers, and members of the chefs’ collaborative, the opportunity for wholesale direct marketing will likely increase significantly for those farmers that are able to identify and accommodate the needs of specific markets such as the local Hispanic market previously discussed. However, it is the opinion of the project team and those interviewed, that this market opportunity is often misunderstood and poorly approached. Despite the existence of these opportunities, farmers must not forget that volume requirements are often low, distribution systems difficult to establish/maintain, and that direct market wholesale requires the type of active personal involvement typically found in retailing. As demand increases, it may create the opportunity for a local clearinghouse for regional products.

The greenhouse and nursery industry has a long established track record of direct market wholesale including strong yard trade with local landscapers as well as established relationships with regional retailers and garden centers.

3.5 FARM OWNERSHIP AND TENURE

In areas such as Orange County with high conversion pressure on the agricultural base, it is important to understand the structure of farm ownership, operator characteristics, and the critical drivers of farmland conversion.

Operator Characteristics

Orange County, counter to regional trends, is still a community of farmers. Given the industry’s heavy dependence on dairy, vegetable, and nursery/greenhouse production, this is not surprising. Much of this dependence on agriculture as a primary income source can, in fact, be linked to the substantial muck lands in the County. Based on interviews, the balance of farmers (those who derive primary income elsewhere) farm as a source of secondary income. The primary income of a spouse typically supports the farming venture. Hobby farming is not as prevalent as in nearby jurisdictions; however it is growing with urban encroachment. As this segment grows, it will be important to gauge its needs and issues, and integrate it within the broader agricultural support network.

An interesting and significant point raised during interviews about future full time farm operators is that they are likely to rise from the ranks of the current labor force. Many are expecting Hispanics and Asians to make up a large portion of the new farmers that are not intergenerational transfers. If this population does provide a significant influx of new farm operators/owners, it will be important to address capital access and training issues to facilitate the transfer.

Table 3.6: Selected Farm Operator Characteristics

Operator Characteristics	Orange County		Hudson Valley		New York State	
	Total	% Total	Total	% Total	Total	% Total
Total Farm (Number)	624	100%	2,365	100%	31,757	100%
Average Age	53.0		56.5		53.5	
Operator by age Group						
54 and Younger	348	56%	1,159	49%	17,357	55%
55 and Older	276	44%	1,206	51%	14,400	45%
Operator by Place of Residence						
On-Farm	470	75%	1,834	78%	26,320	83%
Off-Farm	118	19%	378	16%	3,849	12%
Principal Occupation						
Farming	435	70%	1,431	61%	18,426	58%
Other	189	30%	934	39%	13,331	42%
Operators by Gender						
Male	552	88%	2,054	87%	28,632	90%
Female	72	12%	311	13%	3,125	10%

Source: 1997 Census of Agriculture.

Other operator characteristics of note include Orange’s relatively low average age and high proportion of young farmers (56% under age 55). The fact that many farmers do not live on the farm is an indicator of high residential land values and the fact that much of the production land is in the hands of people other than the farmer.

Land Tenure

Orange County farmland is increasingly owned and controlled by non-farmers. This is clearly demonstrated in the 1997 federal statistics whereby 54% of local farms were fully owned by the farm operator, 31% were part owned by the operator, and 14% were tenanted only. This ratio is significantly higher than those for the region and State where nearly 60% of farms are owned by the operator. This situation, which seems to impact significantly on dairy producers, contributes to a sense of instability. With ownership split among family members, many of whom no longer farm, speculators, and others, farmers are never sure about their land base from year to year. This trend has important implications for on-farm investments in plant and capital equipment, as farmers are reluctant to make significant sunk cost investments in property that they do not control.

Farms in Orange County also seem more likely than their New York counterparts to be under corporate and partnership legal structures. This fact is significant for several reasons. First, the corporate form of ownership facilitates intergenerational transfer by reducing the estate tax burden on succeeding generations. Second, it is the experience of the study team that corporate farms are more likely to transfer management to a younger generation at an earlier stage than are sole proprietors. However, high corporate and partnership ownership of farms may also indicate the presence of speculative investors in agricultural lands.

Table 3.7: Selected Farm Tenure Characteristics

Tenure Characteristics	Orange County		Hudson Valley		New York State	
	Total	% Total	Total	% Total	Total	% Total
Total Farms (Number of)	624	100%	2,365	100%	31,757	100%
Total Farms (Acreage)	94,771		453,818		7,254,470	
Legal Structure						
Sole Proprietorship	473	76%	1,745	74%	26,855	85%
Partnership	69	11%	277	12%	3,153	10%
Corporation	79	13%	322	14%	1,568	5%
Other	3	0%	21	1%	181	1%
Type of Interest						
Full Owner (Farms)	334	54%	1,404	59%	19,170	60%
Full Owner (Acres)	26,600	28%	153,207	34%	2,782,516	38%
Part Owner (Farms)	194	31%	728	31%	10,742	34%
Part Owner (Acres)	51,609	54%	269,778	59%	4,126,147	57%
Tenant (Farms)	86	14%	233	10%	1,845	6%
Tenant (Acres)	16,562	17%	30,688	7%	345,807	5%

Source: 1997 Census of Agriculture.

Outside of the “Black Dirt” region, the study team found that rental rates are declining as fewer farmers compete for upland resources and as landowners seek to reduce the property tax burden through the preferential agricultural tax provisions. With nearly

12,000 acres of vacant, productive agricultural land in the County, it is unlikely that this condition will change in the near future.

Farm Conversion/Transition Characteristics

During the interview process, the concepts of expansion, business growth, and farm transition were frequently discussed and frequently answered with similar comments. Farm conversion and farm transition in the uplands are most commonly affected by the relatively high rate of residential growth. Farmers in these areas are very likely to feel that their operations will not be able to transition to the next generation because development value far exceeds the farm value of these properties. Furthermore, as land becomes fragmented and as agricultural operations come into conflict with new residential development, traditional farming becomes more difficult.

Table 3.8: Building Permits and Housing Construction Costs for Selected Jurisdictions, 2002

	Orange County		Dutchess County		Ulster County	
	2002	10-Year Growth Rate	2002	10-Year Growth Rate	2002	10-Year Growth Rate
Building Permits Issued	1,727	92%	909	15%	718	54%
Cost of Construction per Unit	\$152,561	69%	\$202,617	73%	\$179,549	89%

Source: U.S. Census Bureau, Construction Statistics Division.

Farm uses in the upland that are more compatible with agricultural uses such as market gardening, nursery and greenhouse production, and equine operations are thriving. It is uncommon to find a significant number of traditional farmers, or their family members, transitioning between operations such as dairy to greenhouse and nursery production. Most new operations are started by new entrants to the industry or by relocating businesses. It is also important to remember that traditional upland farming, unlike these new operations, requires a much larger land base for row crop production and pasture.

In the muck lands, which face almost no development pressure, conversion and transition issues are fundamentally different. Perhaps the biggest issue is successful intergenerational transfer. Intergenerational transfers and tax sales have caused a high degree of parcelization in the region resulting in a patchwork of ownership. As successive generations get out of farming, they sometimes retain residual control, through resource ownership, in the farm making on-farm investments, management decision making, and further generational transfer a challenge. A second issue in the “Black Dirt” is an expected wave of competing recreational uses for the “Black Dirt” regions, which cause land competition and promote incompatible uses.

3.6 PROFESSIONAL AND TECHNICAL BUSINESS SUPPORT

Interviews confirmed that professional and technical services are still available to farmers and agribusinesses throughout the region. These include specialized professional services, such as legal and accounting, and are familiar with agricultural operations. However, the network is diminishing as agriculture loses its prominence as an economic use.

Public Sector Service Providers

As with most New York communities, Cornell Cooperative Extension is the primary public sector service provider for the agricultural industry. Orange County has a large and sophisticated Cornell Cooperative Extension association that provides targeted services to nearly all industry sectors. For those services that are not available at the local extension office, a regional network is in place that taps expertise in surrounding counties. A good example of such a service is the orchard industry that is serviced through Ulster County. However, a growing number of producers are by-passing the county system and dealing directly with research specialists at Cornell, Penn State, and Rutgers. Reasons given for this included the greater specialized knowledge of University faculty and faster response time for over the phone information requests. In fact, many full-time producers complained that county agents seemed spread too thin in their duties, and were not always aware of current best practices in the industry. Many expressed an interest in a return to past extension practices of more farm drop-ins and delivered service.

Business development services for the region's many small farms are generally unsupported. This function would typically be handled by the Small Business Development Center (SBDC), SUNY campus, or Cornell Cooperative Extension office, however, farmers are poorly linked to these services. In fact, many farmers are unaware that the SBDC office at Stewart Airport is available to them. As agricultural operations continue to transition to new types of agriculture, and as a new entrants come into farming, it will be important to better integrate these services.

Private Sector Service Providers

Most farm operators rely on industry associations and other farmers as the primary source of technical service support. Additionally, but increasingly rare, support comes from field representatives of agricultural service providers. As the agricultural base shrinks while becoming more diversified, it will likely become more difficult for growers to receive this type of networked service. For specific technical issues within major commodities such as onions or nursery products, growers are able to access local consultants in the Hudson Valley, New England, New Jersey, and Western New York; however, these providers may not be available for immediate on-site consultation.

Because Orange County still has a strong agricultural core, many professional services such as veterinary, real estate, bookkeeping, accounting, and legal assistance remain available. One notable shortage is in work force services such as labor brokering.

3.7 FINANCIAL CAPITAL

Financial capital is an important component of any agricultural community providing support for the capital investments necessary to modernize operations and maintain competitive advantage.

Orange County is well served by sources of debt financing including all levels of traditional agricultural financing such as Pioneer Farm Credit and the Farm Service Agency. Local and regional banks are also active lenders in this market especially given the entry of non-traditional farmers and horse operations.

The greatest financing need in the region is for risk capital ranging from concept development funding through prototype development. As a greater number of laborers make the transition to farm ownership, it is likely that a lending program to assist with capital acquisition may be needed.

3.8 ECONOMIC DEVELOPMENT POLICIES AND PROGRAMS

In many communities across the United States, agriculture is not recognized as a locally important industry sector and is frequently omitted from economic development planning. Orange County is no exception, which is in large part due to omission rather than commission.

Regional Cooperation

As was noted earlier in the infrastructure analysis of Section 3.2, agriculture in Orange County as well as the entire mid-Hudson Valley is quickly becoming regionally integrated and will require regional cooperation to maintain competitiveness. In light of recent state and county resource limitations, it is becoming ever more important for regional entities to collaboratively develop policy and program responses to the economic development needs of agriculture.

The project team found little regional cooperation on specific economic development projects for agriculture. This is particularly true with government agencies that may effectively serve to attract or develop agricultural support industries to the region. In fact, the project team found four separate efforts to develop a livestock processing plant within the region, each with some element of public funding. Such efforts are duplicative and in some cases competitive. Farmers tend to be confused by what agencies are leading these efforts, and whose interests are being represented. Efforts to bridge this gap through the not-for-profit sector are underway at the Glynwood Center and the Hudson Valley Agriculture Partnership. As of yet, they have not had a significant impact on

economic development planning or programming and may serve as an additional source of confusion to those in the agriculture industry.

Business Retention, Expansion, and Attraction Planning

In order to keep local and regional agribusiness sound, it is important to be actively engaged in business retention, expansion, and attraction (BREA) efforts. For agribusiness, this often means providing services that keep the agricultural infrastructure sound and the local policy environment supportive. As with other elements of economic development planning, Orange County does not offer specific BREA programming that targets the agricultural industry. The Orange County Partnership and the Tourism Office are in a position to support limited BREA functions given their current involvement with the distribution and recreational industries respectively.

Orange County may also be facing a current and significant retention issues related to regulatory issues and agency relations. The study team frequently heard of examples whereby farmers and state, county, and local agencies were engaged in costly misinterpretations of regulations forcing farmers to amend either production practices and or make unnecessary capital improvements to the farm. In many economic development organizations, an ombudsman would have acted as an arbitrator in these situations as a means to retain the current economic base. Orange County has no such position.

Business Development Programs

Orange County does not have the strong track record of nurturing small businesses as do neighbors like Dutchess and Westchester Counties, and lacks the depth of resources to be found in these locations. However, Orange County does offer a variety of basic small business development programs that are equally applicable to farms as they are to other businesses. The programs are summarized below:

- **Small Business Services**
 - *Empire State Development Corporation* – Provides training, counseling, technical assistance, real estate services, loans, and grants to New York businesses and businesses locating in New York. Empire State Development Corporation programs apply to agricultural operations.
 - *Service Corps of Retired Executives (SCORE)* – Provides mentoring and counseling to all small businesses including weekly business seminars.
 - *New York State Small Business Development Center (SBDC)* – Provides counseling and mentoring at its Stewart Airport location.

- **Small Business Financing**
 - *The Hudson Valley Revolving Loan Fund (RLF)* - Loans up to 50% of an eligible project, up to a maximum of \$75,000. The highest priority is given to borrowers outside of normal lending channels and on projects requiring no more than \$4,000 in RLF dollars for each job created.

- *The New York Business Development Corporation (NYBDC)* - Provides long term financing to help small businesses across the State and is a privately owned financial organization funded by the banks. NYBDC works as a complement to conventional bank financing by providing term loans to companies that do not meet traditional financing requirements.
- **Small Business Workforce Development**
 - *Orange County Workforce Investment Board (WIB)* – Trains and matches displaced workers and prepares the local workforce with appropriate life and technical skills.

Tourism Support

Much like the Hudson Valley region, Orange County has a thriving tourism and hospitality industry anchored by cultural, natural, and transportation assets. Because of this, Orange County has a strong tourism office which works in concert with regional efforts to promote and attract tourists to the region. The office has a track record of working with the agricultural industry to develop marketing collateral and advertise events and agritourism attractions. In addition, tourism staff is available to work one-on-one with farms engaged in agritourism to discuss issues ranging from enterprise evaluation to marketing.

Transportation Issues

Orange County does not provide a strong voice for farmers in transportation advocacy. This is particularly an issue with regard to transporting agricultural equipment on state, county, and town roads. Farmers, especially in the “Black Dirt” region seem to have significant issues with transportation planning and highway enforcement.

3.9 STAKEHOLDER AND COMMUNITY SUPPORT

Stakeholder and community support for agriculture and farmland protection as well as agricultural economic development is high throughout the County due largely to two factors. First, the County remains a regionally and nationally recognized agricultural production area in large part because of its highly productive “Black Dirt” region. Second, the fast rate of development in the County has raised the awareness of agriculture’s critical contribution to local fiscal health and high quality of life. Both of the preceding factors are important to new and long-standing residents.

The project team discovered that while the interest in enhancing agriculture seems nearly universal, there are often wide gulfs between the interest of community/policy leaders and the agricultural industry. Much of the divisiveness seems driven by a fundamental lack of understanding of the tools and programs that are available to support agriculture, as well as occasional poor communications between and among the industry, communities, politicians, and agencies. Given the fact that local support will be

necessary to implement most economic development or land use policies, enhancing public support will be a critical element of success for the Agriculture and Farmland Protection Board to achieve.

3.10 LAND USE ISSUES

Land is the obvious prerequisite for any type of agricultural industry and must be evaluated as an important component of Orange County's agricultural land base. Unlike section 3.1 which looked at Orange County's asset base of soils, this section of the report examines functional access to those soil assets as well as competing uses for the assets such as residential development.

The Land Base for Agriculture

Orange County's prime agricultural soils fall into Classes I, II, and III for capability and comprise a total of 224,000 acres (Classes I-III of seven classes are considered prime). Thus, prime and productive soils account for 43% of all soils in the County. Most of the soils are deemed prime to fair for one or more of the following: flowers, vegetables, or fruit and tree fruit production. A map showing the geographical distribution of these prime soils can be found in Appendix 5. It is also generally understood that prime and productive soils are highly desirable for residential and commercial construction. In general, these soils appear to some degree in almost every town with large blocks in Warwick, Goshen, Waywayanda, Minisink, Montgomery, and Newburgh. Many of these towns are also under high development pressure.

A review of the Strategic Farmland Map in Appendix 5 as well as the table below clearly demonstrates that agricultural land is widely dispersed throughout the County. However, eight towns in central Orange County, a north-south corridor roughly bisected by the Wallkill River, account for 80% of the County's agricultural land or approximately 69,300 acres. This corridor, along with parts of the towns of Goshen and Chester, includes much of the County's prime "Black Dirt" or muck soils. This part of the County is developing quickly contributing to a 20% decline in farmed acres since the late 1980's.

Table 3.9: Agricultural Land Inventory by Type and Town Growth Rate

Town	Agricultural Classification							Total
	Livestock/ Poultry	Equine	Dairy	Orchard/ Vineyard	Truck Crops	Nursery/ Greenhse.	Gen Ag Land	
Blooming Grove	564	45	310	75	0	0	1,977	2,970
Chester	861	150	790	0	273	69	378	2,520
Cornwall	465	100	0	87	0	16	695	1,362
Crawford	1,485	765	2,303	0	0	0	586	5,139
Deerpark	0	0	342	0	86	0	37	465
Goshen	2,601	777	3,376	35	4,617	0	1,440	12,844
Greenville	1,249	0	1,389	0	0	0	511	3,150
Hamptonburgh	1,245	1,772	1,025	236	0	45	1,068	5,391
Highlands	0	0	0	0	0	0	0	0
Minisink	472	88	3,249	45	566	0	3,337	7,758
Monroe	89	0	0	0	0	0	0	89
Montgomery	3,374	681	2,055	332	264	54	2,399	9,160
Mount Hope	487	129	1,141	0	0	49	394	2,200
Newburgh	166	0	28	705	0	0	313	1,212
New Windsor	903	0	759	246	94	36	432	2,470
Tuxedo	0	0	0	0	0	0	0	0
Wallkill	2,899	253	2,527	0	177	108	627	6,591
Warwick	1,427	664	4,580	693	5,281	35	2,586	15,266
Wawayanda	683	258	1,552	418	2,942	98	1,179	7,129
Woodbury	157	0	0	0	26	19	0	201
Total Ag Land	19,129	5,680	25,427	2,871	14,326	528	17,957	85,917
Ag Land in High Growth Towns	15,591	4,715	18,460	2,704	9,057	512	12,449	63,488
% Ag Land in High Growth Towns	82%	83%	73%	94%	63%	97%	69%	74%

Sources: Orange County office of Real Property Services and Orange County Department of Planning.

Note: Agricultural classifications are based on Office of Real Property use codes. Codes have been aggregated.

Population in high growth towns is expected to grow at a rate higher than that of the County per Table 3.10.

Development Pressure

Orange County is currently undergoing a period of sustained growth that is expected to last through the next two to three decades. This condition is driven by several factors including overall high regional population growth, the radial growth pattern from the New York City in which Orange represents the outer ring of affordable single family residences, and the mature land-use state of its southern neighbors such as Rockland, Putnam, and Westchester Counties. The population growth rate in Orange is projected to increase through 2020, with the greatest absolute and relative growth occurring outside of Orange's incorporated cities. In fact, the growth rate of Orange County's towns is expected to be nearly double the growth rate of the County as a whole with only five towns experiencing growth rates equal to or less than the overall growth rate of the County.

Table 3.10: Population Growth Rates of Orange County Towns

	Actual			Projected			
	1990	2000	Change from Prior Period	2010	Change from Prior Period	2020	Change from Prior Period
Blooming Grove	16,673	17,351	4%	22,376	29%	28,855	29%
Chester	9,138	12,140	33%	14,593	20%	17,541	20%
Cornwall	11,270	12,307	9%	13,943	13%	15,797	13%
Crawford	6,394	7,875	23%	9,257	18%	10,881	18%
Deerpark	7,832	7,858	0%	8,483	8%	9,157	8%
Goshen	11,500	12,913	12%	14,302	11%	15,842	11%
Greenville	3,120	3,800	22%	4,539	19%	5,421	19%
Hamptonburgh	3,190	4,686	47%	5,456	16%	6,353	16%
Highlands	13,667	12,484	-9%	14,318	15%	16,422	15%
Minisink	2,981	3,585	20%	3,966	11%	4,388	11%
Monroe	23,035	31,407	36%	43,300	38%	59,697	38%
Montgomery	18,501	20,891	13%	23,976	15%	27,516	15%
Mount Hope	5,971	6,639	11%	7,892	19%	9,382	19%
Newburgh	24,058	27,568	15%	34,489	25%	43,148	25%
New Windsor	22,937	22,866	0%	30,099	32%	39,621	32%
Tuxedo	3,023	3,334	10%	3,572	7%	3,826	7%
Wallkill	23,016	24,659	7%	31,499	28%	40,237	28%
Warwick	27,193	30,764	13%	36,343	18%	42,934	18%
Wawayanda	5,518	6,273	14%	7,226	15%	8,324	15%
Woodbury	8,236	9,460	15%	11,529	22%	14,049	22%
Town Total	247,253	278,860	13%	341,158	22%	419,391	23%
Orange County	307,647	341,367	11%	386,215	13%	436,954	13%

Note: Town data excludes incorporated cities of Newburgh, Middletown, and Port Jervis.

Source: Orange County Planning Department

It should be noted that population projections are developed by a formula that considers birth and death rates, in and out migration trends, and historical growth. They do not take into account the actual zoned-but-unbuilt ‘capacity’ of a jurisdiction, nor the effect of environmental limitations to building on the remaining undeveloped land.

Much of the growth in population base is accommodated through single-family housing. In fact, 2002 permit data provided by the U.S. Census Bureau, indicates that single family building permits were issued at a rate of 265:1 over two family permits in Orange County’s towns. Based on interviews and surveys with town officials, much of the single family development is occurring on large lots of two acres or more meaning that nearly 1,000 acres of land is converted for every 500 new homes. In order to accommodate infrastructure improvements that accompany this growth, several towns such as Montgomery and Goshen have temporary moratoria on new subdivisions.

Table 3.11: Single Family Building Permits by Town

Towns	Agricultural Land	2002 Single Family Building Permits Issued	% of Town Permits Issued
Blooming Grove	2,970	26	4.39%
Chester	2,520	20	3.38%
Cornwall	1,362	30	5.07%
Crawford	5,139	39	6.59%
Deerpark	465	37	6.25%
Goshen	12,844	18	3.04%
Greenville	3,150	21	3.55%
Hamptonburgh	5,391	32	5.41%
Highlands	0	1	0.17%
Minisink	7,758	7	1.18%
Monroe	89	12	2.03%
Montgomery	9,160	33	5.57%
Mount Hope	2,200	20	3.38%
Newburgh	1,212	96	16.22%
New Windsor	2,470	45	7.60%
Tuxedo	0	5	0.84%
Wallkill	6,591	44	7.43%
Warwick	15,266	64	10.81%
Wawayanda	7,129	31	5.24%
Woodbury	201	11	1.86%
Town Total	85,917	592	100.00%
Orange County	86,765	1,727	

Note: Town Total excludes property within city borders.

Sources: Orange County Office of Real Property Services and U.S. Census Bureau, Construction Statistics Division.

The implications for agriculture are clear. Towns within the commuter corridors and adjacent to employment zones are experiencing high growth. Many of these towns such as Warwick and Montgomery (highlighted above) also have high concentrations of agricultural land. As development pressure builds, these prime agricultural areas become threatened as land values rise and incompatible residential uses are scattered throughout areas of formerly concentrated agricultural activity.

Several factors influence the rapid rates of land use conversion in Orange County:

- Close proximity to the New York City Metropolitan region;
- Significant transportation infrastructure including Interstates 84, 87 and soon to be renamed 86 (currently 17) and major state roads including 6, 17A, 17K, 94 and 211 as well as Stewart International Airport;
- Lower average home sale prices compared with Dutchess, Putnam, Rockland and Westchester Counties;
- Desirable amenities such as higher quality schools, lower crime rates, open space and rural character;
- Current events including intra-regional migration that is in part related to relocation decisions after the events of September 11, 2001 complemented by record low mortgage lending rates.

One of the effects of conversion of farmland to housing is the effect on the County and towns fiscal condition. In general, most residential housing does not generate as much revenue to a jurisdiction as it costs to provide all public services to it. Commercial development *and farmland* usually subsidize residential development to varying degrees. This makes farmland, even with a preferential tax assessment (or exemption), a net fiscal positive and in many cases a preferred land use.

Land Use Regulations

Most towns in Orange County are making an attempt to deal with rapid suburban development through some type of land use control policies. In many of towns with any significant agricultural industry presence, agriculture plays at least some role in balancing future land uses from a fiscal and economic perspective.

Most town planning, relative to Orange County's transition from a rural influence county to a suburban county, begins with the town comprehensive plan. Based on interviews with town officials, as well as the results of a short mail survey, many towns are in the process of updating their comprehensive plans and they are only now beginning to address agriculture within these plans. Of the 13 survey responses received by ACDS, only five towns were addressing agriculture through the existing plan.

Beyond the comprehensive plan, a handful of towns, mostly within the central agricultural corridor defined above, have proactive agricultural policies ranging from town level agricultural and farmland protection programs, cluster development, right-to-farm provisions, notification of new residents that they are moving into an agricultural production area, and business recruitment and attraction strategies.

Zoning is, by far, the most critical type of land use regulation to impact farming. Most Orange County towns currently set the lowest residential density of one dwelling per one acre (1:1) to one per four acres (1:4). With regulation of minimum residential lot size, zoning can set up housing densities that compromise the land base or, *if properly timed*, it can keep residential development sufficiently low to allow agriculture to continue. Current discussions underway in the several towns to reduce zoning density from current levels to one per four acres (1:4) or similar, are likely to be counter productive at this time as these densities tend to increase the rate of farmland conversion without significantly impacting the retention of farmland. As the study team discovered, efforts to change densities at this level are also likely to alienate farmers and turn them against other public policies that may have a positive impact on local farming operations. Another side effect of zoning is that choices made in zoning can drive up land values, making farm expansion impossible and selling the land for development irresistible.

SECTION 4: CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Agriculture in Orange County, New York is undergoing significant structural change as its agricultural base transitions from a pure wholesale commodity basis of dairy, tree fruit, and vegetable production to an economy based on the production of higher value crops, direct market oriented marketing, and agritourism. All of this is occurring at a time when Orange County is undergoing historically high population growth.

The challenge faced by Orange County is successfully managing this transition for the benefit of the agricultural industry, individual farms, and the community at large. In order to support agricultural industry cluster development that fits the current state of the industry, the County should consider a combination of structural economic development programs, such as business retention, expansion, and attraction programming related to primary production sectors; recruitment or internal development of secondary market opportunities; broad based work force development; and infrastructure planning, as well as business development programming that specifically addresses the needs of individual agricultural enterprises.

Based on analysis of empirical data and in-depth interviews conducted with industry leadership throughout Orange County, the project team has identified the need for mixed economic development and business development programming. Key project findings that support this outcome include the following:

1. Orange County agriculture is anchored by horticulture, vegetable, and dairy industry sectors that account for nearly 80% of agricultural economic output.
2. Among Orange County's many unique assets is the highest concentration of "muck" soils in New York State. These soils are highly suitable for vegetable agriculture and not generally considered developable which provides a solid, non-threatened base for the vegetable and horticultural industries.
3. The local agricultural industry has a wide array of marketing options ranging from New York City Green Markets to local vegetable repackers. By and large, producers are satisfied with the quality of these outlets, but are seeking greater access to value-added opportunities and are increasing the use of direct market wholesale and retail options.
4. Despite the strength of key agricultural sectors, Orange County may be losing a critical mass in key sectors such as dairy. This is demonstrated in the decline of important agricultural infrastructure.

5. Orange County’s general economy is thriving with strong growth in retail, services, and transportation/logistics oriented businesses. Much of this growth is predicated on Orange County’s strategic location on the eastern seaboard, its immediate access to the New York City market area, and its strong transportation infrastructure.
6. The local workforce is currently conducive to agriculture with a competitive supply of low skilled and semi-skilled labor. However, the seasonal timing of laborers entry into the market (much of the labor force returns to Latin America in the off-season) and poor language skills makes retention of labor an issue.
7. Increasing competition for land resources is driving up land values and the cost of holding land at a significant rate. This fact, especially when compounded by high property tax rates, makes the opportunity cost for agricultural operators to own and hold land excessive.
8. Due to myriad factors, including the above, intergenerational transfers of agricultural operations are becoming difficult. In fact, many farms are not sure from where the next generation of farmers will come. Based on recent trends, new entrants to farming in Orange County will likely be generated from “second career farmers/hobbyists” or the current agricultural labor base.
9. As the agricultural industry is maturing, much of the acreage farmed in Orange County will be fully or partially owned by non-farmers. This has important implications for program development because programs designed to exclusively address land ownership and land-use issues may not have the intended impacts on production agriculture, which is increasingly carried out by tenant farmers.
10. Despite strong stakeholder support for agriculture among most agricultural groups, environmentalists, and political jurisdictions, there are significant gaps in understanding among policy makers, regulators, farmers, and other agribusinesses. Misunderstandings include the proper policy responses to the needs of agriculture as well as the tools available.
11. The above is complicated by poor inter- and intra- industry and agency relationships. This state of affairs serves to confound the issues and may encourage key players to disengage from the policy process.
12. Public support for agriculture throughout the County seems high in large part due to a “last one in shuts the door mentality” among rural residents. This has strong potential implications for positive program support and funding.

Based on the above, as well as other analysis and findings presented throughout this report, the project team has assembled the following 10 recommendations.

4.2 ECONOMIC DEVELOPMENT RECOMMENDATIONS

Recommendations 1 through 6 address critical structural and industry-wide concerns that impact the long-term viability of agriculture in Orange County. These solutions are based on current economic needs and opportunities and seek outcomes that have a direct benefit to the community through such effects as industry stabilization, job creation, enhanced tax base, and improved quality of life.

RECOMMENDATION 1

Develop an Agribusiness Retention, Expansion, and Attraction Plan

Orange County is in a unique position to lead the region in the development of agribusiness input-output infrastructure. Based on current market conditions such as workforce composition, industrial development patterns, and access to primary east-west and north-south interstate systems, the County is ideally situated to develop value-added and distribution related agribusiness industry clusters. As well, Orange County may be well suited to capture high value production agricultural operations relocating from areas such as Long Island and Westchester County. One of the primary impediments to developing such opportunities is the lack of a coordinated, inter-agency effort to retain, attract, expand, and develop such clusters.

ACTIONS

- Develop a targeted marketing plan focusing on strategic advantages of Orange County:
 - Existing core of transportation and logistics businesses,
 - Strong agricultural production sectors,
 - Accessible infrastructure,
 - Positive environmental assets,
 - Available and qualified workforce, and
 - Supportive public sector.
- Assess existing incentives, economic development programs, and real-estate suitability for sectors outlined for recruitment and development.
- Identify key marketing partners and conduct outreach with generators of agribusiness deal flow:
 - Site location consultants and real estate brokers,
 - Business park developers,
 - Empire State Development,
 - Department of Agriculture and Markets,
 - Orange County Partnership,
 - Trade associations, and
 - Agricultural industry associations.
- Prepare marketing collateral and disseminate critical decision making information through direct mail, industry “ambassador” programs, brokers tours, etc.

- Develop a pilot program for streamlining and/or fast-tracking agribusiness development projects with towns within the key transportation corridors or key environmental assets.
- Integrate the Agribusiness Retention, Expansion, and Attraction Plan (BREA) within broader economic development initiatives at the town, County, and State levels.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board (AFPB) with assistance from industry associations, Cornell Cooperative Extension, Empire State Development, Orange County Partnership, Orange County IDA, and the New York Department of Agriculture and Markets.

BUDGET CONSIDERATIONS: The AFPB may consider allocating \$25,000 to engage an economic development or site location consultant to complete a target market study.¹¹ Information from the study will be used to identify key prospects as well as an information packet to be distributed to site location firms, industry executives, economic development officials, commercial/industrial property owners, and real-estate brokers. As a follow-on to this study, members of the AFPB, Empire State Development, and the Orange County Partnership may conduct a brokers' tour, visit key site location consultants, or conduct a direct mail campaign that would require out-year budget allocations.

ISSUE PRIORITY: The study team considers this recommendation to be of top priority for the Agricultural and Farmland Protection Board given the current state of commercial and industrial development within the area as well as recent trends in food business relocations and expansion in the Northeastern and Mid-Atlantic States.

FUNDING RESOURCES: Funding for this recommendation will likely require direct county allocation through the AFPB. Matching grants from various federal and state programs may be available such as USDA's Federal State Market Improvement Program, the Economic Development Administration, and USDA Rural Development.

¹¹ This study may also be completed by in-house staff and would require an allocation 150 – 200 hours.

RECOMMENDATION 2

Explore the Feasibility of an Agribusiness Park

Focusing on Orange County's comparative regional advantages in distribution, warehousing, and manufacturing, the prospect of successfully developing and filling an agribusiness park appears strong over the next five to ten years. Such a park could serve as a catalyst for the attraction and expansion of value-added agriculture and food industry development and, if properly administered, provide direct linkages to local and regional production agriculture.

ACTIONS

- Develop a scope of services and timeline for the completion of a feasibility analysis:
 - Market feasibility,
 - Financial feasibility,
 - Management and organizational issues,
 - Site assessment,
 - Preliminary engineering, and
 - Business and marketing plan.
- Seek funding support for feasibility analysis.
- Conduct exploratory meetings with regional business park developers.
- Integrate the Agribusiness Park concept within the Agribusiness Retention, Expansion, and Attraction Plan.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board with assistance from industry associations, Cornell Cooperative Extension, Empire State Development, Orange County Partnership, Orange County IDA, and the New York Department of Agriculture and Markets.

BUDGET CONSIDERATIONS: The AFPB may consider allocating \$25,000 to \$35,000 to match a federal grant of the same size. Follow-on funding will only be necessary if a positive market feasibility recommendation is made. Sufficient staffing must be allocated for concept development, grant writing, and project oversight.

ISSUE PRIORITY: Given the long development horizon for such a project and the expected potential of such a project, the study team considers this recommendation to be of high priority. Conduct of the feasibility analysis would ideally be contemporaneous with the development of a business retention, expansion, and attraction plan.

FUNDING RESOURCES: As with Recommendation 1, it is likely that a direct allocation from the County will be necessary to initiate this project. Matching grants from various federal and state programs may be available such as USDA's Federal State Market Improvement Program, the U.S. Economic Development Administration, USDA Rural Business Enterprise Grant Program, Orange County IDA, Grow New York Enterprise Program, and the State's Food and Agriculture Industry Development Projects Program.

RECOMMENDATION 3

Develop Education and Training Programs

As Orange County agriculture becomes a smaller element of both the County's land use and economy, it will become increasingly difficult to keep the interests of agriculture in the forefront of policy. Study team members found that keeping policy makers, agricultural industry leaders, and the general public informed and educated goes a long way toward developing better relations. In addition, the agricultural industry has common needs in workforce development, farm management, finance, and other issues that can be met through public training resources.

ACTIONS

- Conduct training and outreach relative to land use policy with a specific focus on agricultural land use planning and purchase of development rights programming.
 - Develop a policy makers' tour, to include key agricultural industry leadership, of areas with recognized and long-standing agricultural land-use such as Suffolk County, New York; Carroll County, Maryland; Lancaster, Pennsylvania; and Howard County, Maryland.
 - Hold periodic discussion sessions with town and municipal officials as well as agricultural industry leaders to discuss agricultural industry needs and policy impacts.
 - Conduct an economic development training session inviting agricultural industry leaders and county and town policy makers.
- Work with educational institutions at the post-secondary and continuing education level to develop flexible training modules for use by agricultural operations:
 - Language training for managers and workers,
 - Advanced farm management training,
 - Beginning farmer training, and
 - Other issue based training as necessary.
- Work with the public school system to integrate agricultural issues into primary and secondary schools' curricula and educational materials.
- Support the development of agricultural based continuing education training accredited for public school teachers.

IMPLEMENTATION RESPONSIBILITY: Action items under this recommendation require significant interagency cooperation with a range of potential task leaders. It is expected that overall leadership will be provided by the Agricultural and Farmland Protection Board and Cornell Cooperative Extension with assistance provided by agricultural industry associations, County Planning, the SUNY Orange County, Empire State Development, the New York Department of Agriculture and Markets, as well as other agencies.

BUDGET CONSIDERATIONS: Much of the workload encompassed within this recommendation will require dedicated staff time with a limited annual program budget

of \$3,000 to \$5,000 to facilitate specific task/program development. On-going programs and events should be conducted on a cost recovery basis.

ISSUE PRIORITY: Elements of this task represent long-term on-going efforts that will become more necessary as farm conversion continues. Therefore, the study team feels that this is a high priority issue that should initiate within the first 24 months of plan adoption.

FUNDING RESOURCES: Funding for this recommendation will require modest, but long-term county support. Various private and public grant resources are available to support specific programs such as USDA's SARE program. The Foundation Center should be consulted for specific private funding options.

RECOMMENDATION 4

Create an Outreach and Public Relations Program

As with the prior recommendation, Orange County agriculture will continue to lose its voice as other economic and land uses prevail in the County. This assertion was supported during the project team's interview process which found a growing disconnect between agriculture and the general population. Keeping the public positively informed about the importance of agriculture as an economic, environmental, and land use will be crucial to public understanding of the industry and ultimately public support of agricultural uses. Furthermore, an informed citizenry that understands and accepts the industrial nature of agriculture will make better neighbors and better consumers.

ACTIONS

- Identify key audiences/stakeholder groups that impact agriculture.
- Develop important message statements to deliver to above audiences.
- Produce collateral material and programming to outreach to various audiences:
 - Print material,
 - Media kit,
 - Television and radio programming,
 - Website, and
 - Special events.
- Create an agricultural speakers' bureau to carry the "message" to important community and civic groups through periodic public speaking engagements.
- Work with the public school system and youth programs such as 4-H and youth equine activities, to integrate the "message" of agriculture within the primary school system and youth training events.
- Produce a periodic editorial from the Agriculture and Farmland Protection Board to be published in local periodicals.
- Develop farm tours to support the "message" of agriculture as well as topical "on-farm" issues.
- Maintain the Orange County agricultural marketing brochure that lists local retail farms and nurseries, local farmers' markets, agritourism venues, and provides other useful consumer information such as production seasons and local map/driving directions.
- Enhance the public relations network and partnerships with other agencies that have an active public outreach program.
- Foster greater agribusiness participation in cooperative advertising and marketing campaigns.

IMPLEMENTATION RESPONSIBILITY: Action items under this recommendation require significant interagency cooperation with a range of potential task leaders. It is expected that overall leadership will be provided by the Agricultural and Farmland Protection Board and Cornell Cooperative Extension with assistance provided by County

Planning, agricultural industry associations, Orange County Partnership, Orange County Tourism, the New York Department of Agriculture and Markets, as well as other agencies.

BUDGET CONSIDERATIONS: Much of the workload encompassed within this recommendation will require dedicated staff time with a limited annual program budget of \$5,000 to \$10,000 to facilitate specific task/program development. Specific project budgets will vary annually and may qualify for grant funding.

ISSUE PRIORITY: The study team feels that this is a moderate priority issue that should initiate within the first 24 months of plan adoption.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs. Additional funding support should be sought from private sector sources such as Pioneer Farm Credit, industry associations, Farm Bureau, and foundations. Grant funding for specific programs may be available, but program priorities for many funding agencies changes from year to year.

RECOMMENDATION 5

Monitor Local and Regional Agricultural Economic and Business Development Programs

Economic development and marketing initiatives with an agricultural focus are being undertaken at all levels of government through Orange County and the Hudson Valley. As well, several regional, foundation funded efforts are underway to support the economic fundamentals of agriculture. To avoid confusion and redundancy, the study team highly recommends that the AFPB closely monitor these efforts, and where practical, support or integrate programs that dovetail with the action items incorporated in this plan.

ACTIONS

- Meet with representatives of economic and business development organizations to begin network building, introduce agricultural industry needs, and ascertain program details.
- Solicit the input and involvement of local farmers and agribusiness in local and regional development efforts such as the New York City farmers' market feasibility study, development of regional agritourism outreach, Sullivan County's efforts to explore and develop mobile processing capacity, and others.
- Encourage greater farmer participation on boards and committees such as the Hudson Valley Agricultural Partnership, Economic Development and Chambers of Commerce at the local, County, and State level.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board with assistance from industry associations, Cornell Cooperative Extension, Empire State Development, Orange County Partnership, Orange County IDA, and the New York Department of Agriculture and Markets.

BUDGET CONSIDERATIONS: Action items within this recommendation will require a limited administrative budget for local travel as well as a staff allocation.

ISSUE PRIORITY: The study team feels that this is a moderate priority issue, however, it is recommended that staff effort be dedicated in the near-term.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs.

RECOMMENDATION 6

Develop a Regulatory and Policy Action Program

The stated policy of New York State, Orange County and many of its towns and municipalities is to be supportive of agriculture and attendant industries. Yet, many policies and regulatory enforcement actions have inadvertent negative impacts on the industry. Addressing this issue in a non-confrontational manner, as early in the process as possible, can reduce these impacts.

ACTIONS

- Support expanded education and training programs (see Recommendation 3).
- Develop an on-going ombudsman function to support the regulatory, infrastructure, and program needs of individual farmers and industry clusters.
- Conduct periodic workshops with agricultural leadership, county staff and town/municipal officials to review and update policies making them more “farm friendly”.
- Work with the Department of Transportation and State Police on agricultural transportation issues.
- Conduct outreach with realtors to increase the understanding of Right-to-Farm protections and agricultural district responsibilities.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board with assistance from industry associations, Cornell Cooperative Extension, Empire State Development, Orange County Partnership, Orange County Planning, the New York Department of Agriculture and Markets, and other agencies as necessary.

BUDGET CONSIDERATIONS: Action items within this recommendation will require a limited administrative budget for local travel as well as a staff allocation.

ISSUE PRIORITY: The study team feels that this is a high priority issue that should be implemented in the near term.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs.

4.3 BUSINESS DEVELOPMENT RECOMMENDATIONS

Recommendations 7 through 9 relate to improving conditions specific to the health and well being of local agricultural enterprises through training, business planning, network development, mentoring, finance, research and development support, and similar services. These recommendations are offered with an understanding that the overall health of the agricultural industry is intricately tied to the financial health of the underlying enterprises.

RECOMMENDATION 7

Support Entrepreneurship and On-Farm Skills Development

The success of any industry is incumbent on the success of the businesses and entrepreneurs that control the assets, take the risks, and make the markets. Agriculture in Orange County is no exception and its long-term success will have as much to do with the savvy and skills of its agricultural entrepreneurs and farm managers as it does with market fundamentals. Enhancing the skills and business networks of these and future entrepreneurs has a significant positive impact on the future of agriculture in Orange County.

ACTIONS

- Develop a pilot program to package a professional and technical service network made up of private sector expertise and built on the model of a virtual business incubator.
- Implement, in cooperation with regional partners and Cornell University, the Nxlevel agricultural entrepreneurship or similar program.
- Develop a service corps of mentors and counselors with specific professional or technical expertise to provide direct service to agricultural entrepreneurs and to work with the County SBDC and SCORE programs.
- Facilitate the development of formal “masterminding” roundtables of farmers, agribusinesses, and other related industries that may benefit from periodic meetings to discuss business and management issues, market development, and other relevant topics.
- Conduct quarterly brown bag lunches for farmers that focus on networking and the topical discussion of important issues such as farm management, farm transition planning, marketing, timber management, real estate, policy/regulations, and other relevant topics.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board with assistance from industry associations, private businesses, higher education institutions, Cornell Cooperative Extension, Empire State Development, Orange County Partnership, Orange County Planning, the New York Department of Agriculture and Markets, and other agencies as necessary.

BUDGET CONSIDERATIONS: Action items within this recommendation, exclusive of the pilot professional/technical service recommendation, will require a limited administrative budget and staff allocation.

Designing and implementing a well qualified service network may take significantly more resources. At least \$25,000 should be allocated for the first program year followed by approximately \$10,000 to \$15,000 thereafter to operate and maintain the network.

ISSUE PRIORITY: The study team feels that this is a high priority issue that should be implemented in the near term. Development of the service network, however, is likely to take a significant time commitment, and the AFPB may choose to delay its implementation until sufficient staff time can be devoted to this project.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs. On-going programs, such as brown bag lunches, should be conducted on a cost recovery basis. Development of the pilot services network may be an attractive project for national or regional foundations.

RECOMMENDATION 8

Support Broadened Access to Capital

Access to capital, and the attendant technical and professional networks that accompany it, are essential to the growth and development of an entrepreneurial community. The agricultural industry in Orange County, and indeed the region, is no exception. Despite the active entrepreneurship evident in the agricultural industry, and the presence of wealthy individuals throughout the region, little risk, or patient, capital seems to be available to the industry.

ACTIONS

- Collaborate with regional efforts to develop sources of “risk” and “patient” capital such as an agricultural angel capital network.
- Work with existing business finance programs to enhance agribusiness participation.
- Assist farmers with match requirements for agribusiness development, value-added, and innovation oriented grants.
- Examine the use of an affirmative agricultural use covenant¹² (5, 10, or 20 year) to provide financial flexibility to farm owners and planning flexibility for towns and the County (See Appendix 8).
 - Pricing of covenants should be studied closely but may follow one of the following models:
 - Price may reflect property tax burden of holding the land.
 - Price may reflect a net present value of the purchase of development rights easement.
 - Covenants may be considered as part of the landowner match for purchase of development rights (PDR) programming.
 - Covenant may include a right of first refusal for purchase of the property for subsequent resale for an agricultural use.
- Develop a revolving loan program such as Carroll County, Maryland’s “Critical Farms” program that bridges the funding gap between farm purchase and enrollment in a PDR program by making a loan of up to 75% of the easement value. (Refer to Appendix 3).

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board with assistance from industry associations, Orange County Planning, town officials, and the New York Department of Agriculture and Markets.

BUDGET CONSIDERATIONS: Action items within this recommendation run a wide gamut of budget needs ranging from staff participation in regional planning efforts and network development to financing program development and operations.

¹² Affirmative covenant would require that farmers place a temporary easement on their property with an affirmative agriculture production clause in exchange for a formula payment.

If the AFPB is to proceed with the examination of an agricultural use covenant, it is recommended that an additional \$50,000 be sought for professional support services. Determining the level of capitalization for a bridge loan fund is best done in conjunction with planning the level and timing of funding for local, regional, and county purchase of development rights programs.

ISSUE PRIORITY: The study team feels that developing alternative finance programs is a high priority issue that should be implemented in the near term.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs. Grant funding should be sought from the New York Department of Agriculture and Markets to further explore the development of a model term easement program. Funds for a bridge loan program may be available through various federal and foundation sources such as USDA Rural Development.

RECOMMENDATION 9

Support Agricultural Leadership Development

The long-term success of agriculture within Orange County will be directly impacted by the quality of the industry's existing and emerging leadership. Given leadership vacuums at key agricultural agencies as well as the rifts evident between and among industry groups, this is an issue that must be addressed. Agriculture needs to present itself as a cohesive and coordinated industry with a clear focus on its future.

ACTIONS

- Encourage greater farmer participation in local, regional, and statewide leadership development programs.
- Introduce board training and conflict resolution training to existing agricultural organizations and agencies.
- Enhance inter-industry communications through formal networking events between farmers and agribusinesses.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board with assistance from industry associations, Cornell Cooperative Extension, Orange County farm Bureau, Orange County Planning, town officials, and other agencies as necessary.

BUDGET CONSIDERATIONS: Action items within this recommendation will require a limited administrative budget and staff allocation. Approximately \$2,500 should be allocated for conflict resolution training for program staff.

ISSUE PRIORITY: The study team feels that this is a top priority issue that should be implemented immediately.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs.

4.4 LAND USE RECOMMENDATIONS

RECOMMENDATION 10

Support Farm Friendly Land Use Policies and Programs

Land use policy rarely treats agriculture as anything but a holding pattern for residential development and thereby frequently encourages the co-mingling of residences with this important economic use. Often these uses prove to be incompatible and the resulting change in regulations is frequently counter to the economic interests of agriculture. In fact, the long-term survival of agriculture may hinge on managing this inter-relationship as growth pressure mounts in Orange County.

ACTIONS

- Improve interjurisdictional planning efforts to avoid unintended cross-jurisdictional effects such as development spillover, orphaned water and sewer improvements, etc.
- Improve coordination in the development of regionally significant infrastructure improvements and review compatibility of current infrastructure plans in relation to their potential impact on the agricultural industry.
- Support the development and funding of a county purchase of development rights program to maintain balance of protected farmland within core production areas. (See Appendix 4 for details.)
- Reach out to the towns during the agricultural district renewal process to inform them about the Agricultural Economic Development Strategy as well as the benefits and requirements of the Agricultural District Law. Let the towns know how the Plan can positively impact businesses within their jurisdiction and how program elements may help them improve local processes and policies.
- Develop a mailing list of all district landowners and notify them (perhaps with a newsletter) of their district status, to gather information about the current district properties, to educate landowners about agricultural exemption eligibility and business development opportunities available to them, and to build a constituency to support the district should it ever face a significant challenge at review time. This is particularly important in Orange County where 16% of farmed acres are tenanted.
- Enhance the statewide “Farm Link” program to reflect regionally significant trends such as the entry of non-traditional populations into farming.
- Examine alternative funding sources and financing structures for county and local purchase of development rights programs including the use of innovative program structures such as installment purchase agreements (See Appendix 7).
- Support the requirement of buffers and other site design measures as strategies for reducing farmer/non-farm neighbor conflicts.

IMPLEMENTATION RESPONSIBILITY: Agriculture and Farmland Protection Board, Orange County Planning, Cornell Cooperative Extension.

BUDGET CONSIDERATIONS: Action items within this recommendation will require a limited administrative budget and staff allocation. Approximately \$8,500 should be allocated for outreach activities. The costs of examining alternative funding and financing structures for PDR should be integrated within the open space plan.

ISSUE PRIORITY: The study team feels that this is a top priority issue that should be implemented immediately.

FUNDING RESOURCES: County funding should be allocated to cover basic program costs.

4.5 PROGRAMMATIC CONSIDERATIONS

In order to implement the recommendations encompassed in Sections 4.2 through 4.4, it will be necessary for the Agriculture and Farmland Protection Board (AFPB) to have access to dedicated staff support provided through a position with a partner agency such as the Planning Department. The annual work plan for this full-time employee should be developed by the AFPB. As well, the AFPB should be charged with evaluating employee performance vis-à-vis attainment of strategic objectives and progress toward completing elements of the work plan on an annual basis. It is expected that the AFPB would require approximately \$95,000 in annual county budget support to operate basic elements of the program. Grant support and supplemental budget requests will be used to round out program resource needs.

It is also important to note that implementation of an Agricultural Economic Development Strategy is not unlike launching any other business or program. The process will take time and resources and outcomes will not be immediate. Early and sustained commitment from members of the AFPB is a minimum requirement for successful implementation. Keeping stakeholders engaged in the process during this period will be one of the greatest challenges facing the AFPB and any staff it may engage.