

Wayne County Agricultural Development Plan

ACDS, LLC - www.acds-llc.com



Table of Contents

Executive Summary	1
Introduction/Background.....	2
Data and Methods	3
Current Conditions.....	3
Wayne County	3
Delaware Valley Region	4
Larger Region	4
Climate Change Influences	5
Future State Vision.....	8
Local and Regional Agricultural Economy	9
Farm Trends.....	9
Land in Farms.....	9
Farm Costs and Returns	10
Land Tenure	10
Farm Transition Indicators.....	11
Agricultural Commodity Output.....	13
Key Production Industries	15
Economic Contribution of the Agricultural Supply Chain in Wayne County.....	16
Decline in Agricultural, Wholesale, and Retail Industries.....	21
Agricultural Services.....	22
Competitive Assessment.....	23
Strengths	24
Tourism and Recreation Industries	24
Young and Beginning Farmers	26
Core of Dairy Farms	28
Forestry Products Industry	30
Mixed.....	32
Market Access.....	32
Innovation and Entrepreneurship.....	34
Financing Capital.....	35
Development Patterns	37
Agronomic Growing Conditions.....	39

Weaknesses.....	43
Regional Cooperation.....	43
Infrastructure.....	44
Labor Availability.....	46
Ag Service and Supply Networks.....	48
Economic Development Opportunities	50
Agribusiness Cluster Evaluation	54
Specialty Online Grocery.....	55
Specialty Dairy	57
Meat and Poultry Products	60
Wood Products	63
Craft Beverages.....	66
Recommendations.....	69
Cornerstone 1: Develop an Entrepreneurial Culture.....	69
Recommendations	69
Cornerstone 2: Empower Local Investment in Entrepreneurs and Critical Business Cluster Needs.....	70
Recommendations	70
Cornerstone 3: Create an Innovative and Adaptive Future Workforce	71
Recommendations:.....	71
Cornerstone 4: Modernize Infrastructure to Encourage Greater Private Investment.....	72
Recommendations	73
Cornerstone 5: Lead Regional Target Industry Development Projects.....	74
Recommendations	74
Implementation.....	76
Developing Long-Term Support and Funding	77
Updating the Plan	78

Executive Summary

Agriculture is an important aspect of Wayne County's economic life and its importance is expected to grow over the next several decades and a major contributor to job creation, wealth building, and tax base. A renewed interest in agriculture among youthful entrepreneurs is expected to fuel this growth while traditional sectors such as the dairy and beef industries transition into a new era of consumer-led development. These trends were recognized by the Wayne Tomorrow Agriculture Committee and the Wayne Economic Development Corporation who, with the support of the Wayne County Commission, hired ACDS, LLC to assess the county's agriculture and create an Agricultural Development Plan. This plan and its recommendations are the results of that analysis.



Wayne County finds itself in a unique position among rural counties in northeastern Pennsylvania and central New York. Unlike its peers, Wayne County's current demography and economy are largely stable. The population has not decreased a great deal in the last 10 years, and its median income, while lower than the national average, supports a lifestyle in a county with lower than average costs. The county has a robust tourism industry that nearly doubles the county's summertime population and connects the county to urban centers from Baltimore to New Haven. A large number of overnight camps draw many students and counselors for the summer season who develop a lifelong connection to the county and its unique agricultural setting.

Even though the overall economy is stable, agriculture has been challenged by the nationwide decline in the dairy industry. Farms in Wayne County operate with very low-profit margins and have seen expenses increase while revenues decrease. Poor economic performance means that new farmers are scarce as is evidenced by the increasing age of county farm operators.

While the agriculture industry is in a less than optimal position, the county has strengths on which it can build to leverage improvement for the sector. These advantages include its tourism and recreation industries that draw high-income guests to the county, an emerging cohort of interested young and beginning farmers, a core of dairy farmers who are

passionate about changing their industry, and an underutilized base of forest products. However, to fully realize improvement, key issues will have to be overcome. These issues include limited access to outside markets, an aversion to the risk necessary entrepreneurial growth, a limited labor pool, inadequate regional cooperation, and aging infrastructure.

A better future for agriculture and the county as a whole will include a vibrant and diverse farming sector and a greater acceptance of entrepreneurial activity. It will include more opportunities for business ownership, work, and community engagement. Working from the existing strengths to move the county toward an improved future means development on several levels. The project team has broken them down into five cornerstones:

1. Develop an entrepreneurial culture.
2. Improve access to capital resources.
3. Create an innovative and adaptive future workforce.
4. Modernize infrastructure to encourage greater private investment.
5. Lead regional target industry development projects.

Combining these general economic development recommendations with the strengths present within Wayne County, the community can move forward focusing on particular sectors to develop clusters that will support agriculture and the wider economy. The five industries that present current opportunities are online grocery, specialty dairy products, meat, and poultry products, wood products, and craft beverages.

Successful outcomes from this plan begin with the development of an annual work plan that targets three to five initiatives per year. Maintaining the overarching vision while working toward specific goals will lead to positive change. Some immediate projects that are ongoing include a feasibility study for a dairy processing facility, a business plan for a financing authority focused on entrepreneurs, and work at the Wayne Memorial Hospital and Geisinger Health System to develop a food as medicine program. Furthermore, work groups have been convened around each of the cornerstones to develop additional goals and projects that will lead to an improved outlook for agriculture and Wayne County as a whole.

Introduction/Background

Wayne's agricultural sector has played—and continues to play—a vital role in the county's workforce and character. Wayne is a regional leader in the tourism and agritourism industries, in particular, generating seasonal revenue and visibility that sets Wayne apart from other counties in the area. Furthermore, its dedication to preserving and promoting agriculture through 4-H, Future Farmers of America, a dedicated agriculture curriculum in its high school, and general community support maintains the importance and relevance of the sector in the county.

A rapidly changing economy is impacting the efficiency and profitability of the agricultural sector and thus that of the entire county. Wayne's agricultural sector has struggled with efficient production, meeting the needs of its future workforce, and leveraging the county's many assets to be effective and profitable, ultimately contributing to declining farm productivity.

To address these issues, the Wayne County Commission, based on recommendations from the Agriculture Workgroup of its Wayne Tomorrow initiative agreed to the necessity of an Agricultural Development Plan. The county secured a \$50,000 grant from the Appalachian Regional Commission to fund the Plan, which was matched by the county's Board of Commissioners. ACDS was awarded the contract through the Wayne Economic Development Corporation. The ensuing report will dovetail with a broader economic study, including integrating plans for workforce development. This report includes statistical findings; interview results from community stakeholders and residents, and recommendations; and strategies for improving the overall economy by embracing innovation and workforce preparedness concerning agriculture.

Data and Methods

Gathering data for this plan involved assessing data from public and private sources as well as interviewing local farmers, business owners, members of county government and others. In all, more than fifty one-on-one interviews and four focus groups were conducted. Additional information was gathered when project team members joined in with meetings of Wayne Tomorrow and other county and regional groups.

This study uses several data sources to examine the agricultural supply chain, human capital capacity, economy, consumer spending and demand, and population demographics. These include:

- Government sources: Census Business Patterns, USDA NASS Census of Agriculture, USDA ERS Food Availability Data System
- Proprietary sources: ESRI Business Analyst, Dun & Bradstreet Hoovers, IMPLAN
- Existing research and literature related to the food system

From the project team's interviews, interactions with the community, and outreach, one thing that is absolutely evident is that in Wayne County, community is vital. Residents care about each other, about their community, and about agriculture. This community-centric approach is what will ensure the success of agriculture in Wayne, and what sets Wayne apart from its regional counterparts.

Current Conditions

Wayne County

Wayne County is a largely rural county in eastern Pennsylvania with about 52,000 residents. It borders New York on its north and east sides. The population is largely rural and stable, having shrunk less than 1% since 2010. Population is predicted to be stable through 2022. Median household income is \$52,972, about 89% of the US average. The median home value, at \$200,000 is about 90% of US average.

The cost of living in the county is also lower than the national average. For example, spending on food in the county tends to be lower than the national average as well. Residents spend \$4,421 per year—about 12% less—on eating at home and \$2,681 per year—20% less—on eating out. Residents spend about \$146 million annually on food. Visitors to the county spend an additional \$31 million. However, about \$30 million of total

food expenditures are spent outside the county, reflecting significant leakage from county retailers.

Wayne County's economy is strongly supported by tourism that brings in visitors from the metropolitan statistical areas of New York and Philadelphia. The structure of tourism is unique in that it is driven by students and counselors from 30 overnight camps that operate throughout the summer. Additionally, there are a large number of second-home owners who visit occasionally throughout the year, leaving about one-third of county residences unoccupied by residents. The structure of the economy means that about 21% of local employees work in accommodation and restaurant jobs, more than twice the national average. Employment outside the tourism sector is varied. The other sector that employs a large number of people is health care. Only 2.1% work in agriculture and farming, and about 4.3% are unemployed, according to ESRI estimates for 2018.

Delaware Valley Region

In the six counties contiguous to Wayne—Broome, Delaware and Sullivan Counties in New York and Susquehanna, Lackawanna and Pike Counties in Pennsylvania—the economic picture is largely similar, even slightly worse. These counties add an additional 492,776 residents, and the median income (\$51,962) and home values (\$172,988) are lower. Regional unemployment is higher at 5.8%. Tourism is not as important, as reflected in the fact that only 8.8% of employees work in accommodation and food service, less than half of the Wayne County percentage.

Household spending is similar between Wayne County and the other counties in the region. Total food spending for the region, minus Wayne County, is about \$1.2 billion. That equals about \$7,220 per year per household on food at home and out. This total is slightly lower than that of Wayne County. Though spending is, on average, lower, retailers in Wayne's surrounding counties benefit from its food spending. Data indicate that these counties' citizens stay within their borders to shop and even draw in a small number, likely many from Wayne County, to shop.

Larger Region

Wayne's small population, lower than average food spending, and the region's sufficient grocery supply make it unlikely that a market for farm goods will be found locally or regionally. However, the fact that it is barely 120 miles from New York City and 150 miles from Philadelphia, provide an advantage that few other agricultural counties can match. Its location puts it within 150 miles of almost 40 million people who have higher than average incomes and spend more than average on food, both in and out of the home. Additionally, residents of northern New Jersey, New York City and eastern Connecticut are frequent visitors to the county as tourists. Some own second homes in the southern part of the county, near Lake Wallenpaupack, while others bring their children every summer for the overnight camps that dot the county. This population provides additional ties for Wayne County to nearby metropolitan areas.

In the following sections, this report will examine the agriculture economy, its dependent industries and Wayne's strengths, weaknesses, threats and opportunities. It will then

review recommendations developed by ACDS and the Agriculture Workgroup as well as implementation strategies.

Climate Change Influences

While the true impacts of global climate change on agriculture in Pennsylvania remain in question, well established climatic trends indicate that there may be significant impacts on agriculture in varied ways. These could include changes in land use patterns, adoption of new energy systems, changes to transportation systems, amendments to crop and livestock productions systems, changes in management techniques, and water supply management. Based on various university and intergovernmental reports, and input from farmers the following key trends will likely have the most significant impact on agricultural operations:

1. Increased incidence of storms yielding 2 or more inches of rain in a 24-hour period¹
 - a. More localized flooding causing:
 - i. Periodic shutdown of key market infrastructure within the floodplain
 - ii. Relocation of floodplain developments onto well-drained upland soils
 - iii. Increased flooding of fields exposing plants to hydric conditions
 - iv. Changes of road design standards to accommodate greater water movement that may be incompatible with moving farm equipment
 - v. Relocation of roads and bridges from low-lying areas putting pressure on adjacent farmland

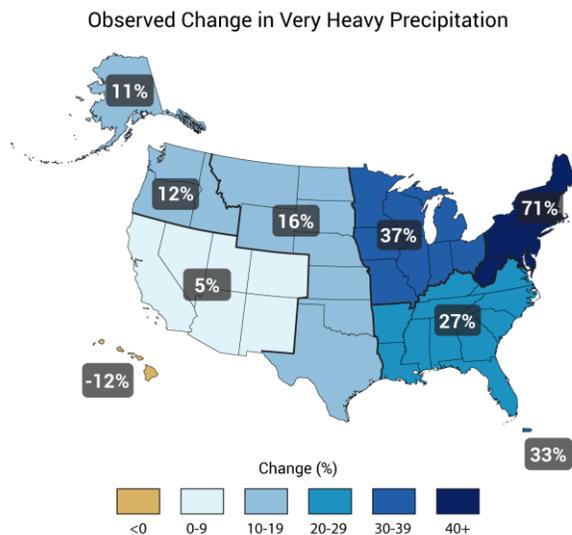


FIGURE 1 - PERCENT INCREASES IN THE AMOUNT OF PRECIPITATION FALLING IN VERY HEAVY EVENTS (DEFINED AS THE HEAVIEST 1% OF ALL DAILY EVENTS) FROM 1958 TO 2012 FOR EACH REGION OF THE CONTINENTAL UNITED STATES.

¹ Wolfe, David W., "Climate Change Impacts on Northeast Agriculture: Overview", 2012, Cornell University.
NYSERDA, "Responding to Climate Change in New York, Technical Report", 2011.

- b. New infrastructure to accommodate higher storm frequency:
 - i. Redesign of water features and manure lagoons to manage volume stress
 - ii. Improvement of existing roadway ditches and culverts to expand capacity which may effectively decrease road widths and cause more field flooding in low lying areas
 - iii. Increased stormwater impoundment capacity adjacent to developed areas and other impervious surfaces placing additional demand on farmland
 - iv. Water quality concerns in surface water impoundments and reservoirs
 - v. Design wireless broadband systems to perform in high precipitation/high humidity environments
- c. Adaptation of cropping systems
 - i. Change in disease and insect pressure
 - ii. Changing crop varieties
 - iii. Updating in-field infrastructure for managing water
- 2. Increased incidence of heat waves and seasonal drought²
- 3. Increases in average temperatures are expected to continue with wide-ranging effects that will impact systems in different ways.³
 - a. Cropping systems will be affected by:
 - i. Higher heat stress during critical times in crop development cycles causing shifts in crop mix, risk profiles, output volume, crop quality, and production costs.
 - 1. Perennial crops such as orchards may no longer be economically sustainable
 - 2. Current varieties of field crops may need to be replaced with more heat tolerant varieties
 - 3. Water demand for crops will increase due to higher biomass production related to the CO2 fertilization effect
 - ii. Pest and disease pressures will increase from,
 - 1. New pests and diseases
 - 2. Increased number of breeding generations
 - 3. More overwintering events
 - iii. Weed pressure increases from,
 - 1. New invasive weed species
 - 2. Earlier weed pressure
 - iv. Opportunities may arise to adopt new crops and new cropping systems that were not previously climatically supported.
 - v. Longer seasons may allow for greater use of forages for animal production due to increases in biomass production.

² Ibid.

³ Ibid.

- b. Livestock systems may face the most significant challenges from temperature increases.
 - i. Dairy industry is expected to experience significant production declines due to heat stress with relief from:
 1. Upgrading facilities to add animal cooling options
 2. Increasing the capacity of watering systems
 3. Adaptation of animal genetics
 4. Increased attention to animal health from increased disease incidence
 - ii. Beef cattle are not expected to be as profoundly impacted as dairy due to their higher thermal heat index, but will require:
 1. Improved attention to animal health as disease pressure increases
 2. Increased capacity of watering systems.
 - iii. Poultry may be a more viable commercial livestock operation given its higher thermal heat index.
- c. Climate change in Wayne County may impact many other systems that are important to agriculture. These include:
 - i. Transportation systems
 1. Rail, which is important for commodity transportation, is expected to have a greater level of system delays and failures to accompany line relocations due to rising water levels.
 2. Roads and bridge redesign and relocations are likely to accommodate flooding and the movement of large stormwater volumes.
 - ii. Water systems
 1. Stabilization of supplies for potable and non-potable uses will be critical and require investments in both surface and groundwater resources
 2. Protection of water quality will require significant investments to limit the effects of runoff from surface sources and overrun of wastewater facilities into public waterways.
 - iii. Energy systems
 1. Renewable energy systems used for district-level heating and electricity production will become more important creating greater opportunities for commercial biomass.
 2. Energy consumption on farms will increase and may require onsite energy solutions to meet demand for new energy uses such as animal cooling systems and irrigation.

Successfully navigating climate change in agriculture will take a concerted effort across agencies, institutions, and the industry. Problems associated with system-wide challenges, such as water management will require carefully crafted, community-wide actions and

better real-time information on localized weather conditions and on-farm production impacts. Locally this means interdisciplinary groups could meet to discuss system level investments and policies in water management, transportation systems, distributed energy use, localized research needs, and proactive education and extension efforts to raise the general level of understanding of the issues associated with climate change.

Many of the effects of climate change that we see today, such as the increased incidence of storm events and increasing average temperature, will require that individual farms make strategic business decisions to manage production risks, invest in new infrastructure, diversify operations, and be more engaged in providing data to climate researchers.

Future State Vision

Wayne County will be home to a vibrant and diverse agricultural industry known for the strength and ingenuity of its local entrepreneurs. It will capitalize on its strengths in tourism, dairy, and forestry using innovative approaches to traditional markets.

Agriculture will provide viable career paths to both current and incoming workforce

participants. It will be an industry that develops and attracts the next generation of farmers, industry leaders, and entrepreneurs. Agriculture will continue to engage younger generations that seek opportunities for employment in Wayne so that they can raise their families and build futures in their hometown.

The county's agricultural industry will be firmly rooted in the both the economy and community as its growth yields new opportunities for inclusive involvement and engagement in all of the county's communities. Agriculture will provide a range of benefits to these communities through wage and employment growth, expanded recreational opportunities, increased learning opportunities, and improved local infrastructure. All of this will be accomplished through community and industry engagement that bolsters core industries such as livestock and dairy, while embracing an emerging culture of entrepreneurship in developing business clusters. Wayne's embrace of entrepreneurship will be embedded in all aspects of the value chain, which will open new doors to emerging markets, products, and financing opportunities.

Wayne will be a regional leader in economic development, tourism, agriculture, and entrepreneurship. It will leverage its location and tourism industries by supplying product to niche markets. The county will be commended for its creative cross-sector partnerships in health, technology, energy, and education that jointly stimulate not only Wayne's economy, but the region as a whole.



Local and Regional Agricultural Economy

Farm Trends

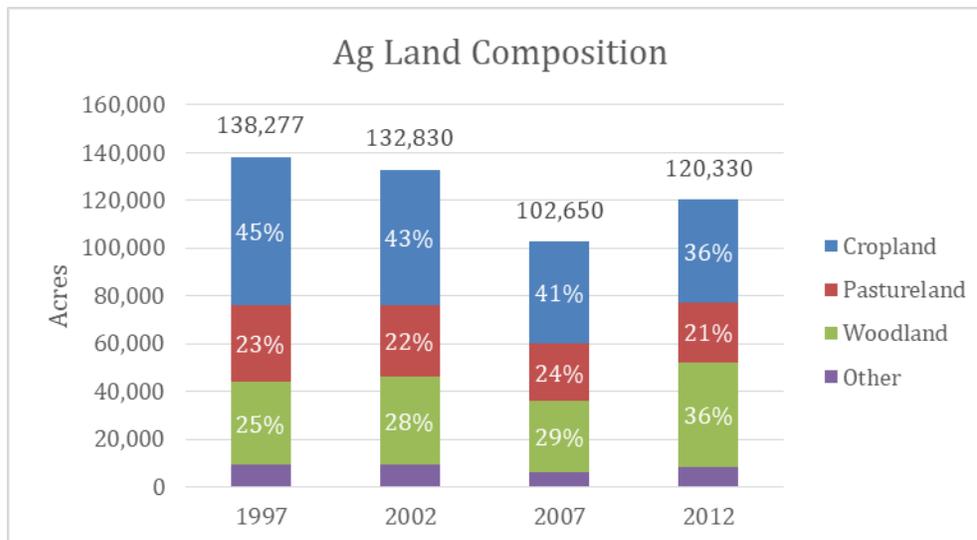
Land in Farms

The amount farmland is an important indicator of the health and viability of the agricultural industry. It is a fundamental asset necessary for its existence. Without sufficient agricultural land, the food supply chain and economy at large would become less resilient.

About 24% of Wayne County's 480,640 acres is in farmland, a number which has been stable between 2002 and 2012. Farmland acreage declined only slightly from 113,167 acres to 112,998 acres during this period. Despite this stability, the number of fallowed acres has increased, indicating less intensive use of the land base.

Despite the slight decline, the number of farms in Wayne County increased by 8% or 50 additional farms, most of which are smaller in acreage. During this period, both the average acres per farm and median farm acreage declined slightly. The number of farms between 10 to 49 acres also increased by 47%, the most of any farm acreage category in absolute and percentage terms. 2017 Census of Agriculture data can help determine whether farmland acreage will continue to decline and if farms will become smaller in Wayne County.

Understanding the composition of agricultural land is also useful for gauging agricultural land-use patterns. For Wayne County, agricultural land is increasingly being used for woodland. Woodland includes woodlots, timber tracts, deforested tracts with young growth, or land with potential for wood products and woodland pasture. It also includes maple production, but not Christmas tree production or short-rotation woody crops. Woodland acreage increased by 14% between 2002 and 2012, while the amount of cropland declined by 1%. This trend is consistent with a pattern of agricultural land abandonment on active farm operations.



Source: USDA Census of Agriculture

Farm Costs and Returns

Farm profitability is another important factor to examine. Farming is a challenging and low-margin business. Most Wayne County farms are finding it difficult to be profitable. Net cash farm income data reveals that there are a significant number of farms with losses or low profits. In 2012, the average net income was \$6,414, which is significantly lower than the Pennsylvania average of \$29,593.

Furthermore, 59% of farms had losses in 2012. On average, the operators of these farms lost \$10,742. Meanwhile, operators of farms with gains earned about \$30,454. Ultimately, this is driven by declines in farm revenues and skyrocketing costs. Between 2002 and 2012, farm revenues declined 3% while expenses increased by 63%.

	2002	2007	2012
Avg. Net Income per Farm (\$)	5,326	9,490	6,414
Expenses per Farm (\$)	25,591	42,961	41,858
Total Farm Revenues (\$1,000)	1,310	1,816	1,274
Total Farm Expenses (\$1,000)	16,916	25,906	29,761

Source: USDA Census of Agriculture

	2002	2007	2012
Farms with Gains	225	254	293
Farms with Losses	436	349	418
% Farms with Gains	34%	42%	41%
% Farms with Losses	66%	58%	59%

Source: USDA Census of Agriculture

Land Tenure

Land tenure refers to farm ownership: owned farmland versus rented farmland. It measures how much control farm operators have over their agricultural properties. Most farm operators in Wayne County operated only the land they own. The number of farms owned by the farm operator has also increased between 2002 and 2012 by 15%. Non-owner operators represent a small

percentage of the principal operators, and the amount of land they operate has declined by 39%. About one-third of the farm acreage is farmed by part owners. These principal operators farm on both land they own and rented land. The low number of tenanted acres,



while consistent with the trend in land fallowing, is not consistent with trends at the state and national levels where nearly 24% and 38% of all farmland is rented, respectively.

FARM TENURE CHARACTERISTICS

	2002	2007	2012
Total Farms	661	603	711
Total Farm Acres	113,167	92,939	112,998
Full Owner - farms	71%	73%	76%
Full Owner - acres	57%	56%	64%
Part Owner - farms	24%	25%	21%
Part Owner - acres	38%	42%	33%
Tenant - farms	5%	2%	4%
Tenant - acres	5%	2%	3%

Source: USDA Census of Agriculture

Farm Transition Indicators

Farmers are the other fundamental asset necessary for a healthy and viable agricultural sector. They provide the agricultural knowledge and labor necessary to produce crops, livestock, and to provide services. Unfortunately, this important segment of the labor force is at risk of severe declines across the country. Thus, it is critical to assess farmer demographics and potential for farm transition.

There are five major farm transition indicators: the number of farmers, age, farm experience, days worked off-farm and primary occupation.

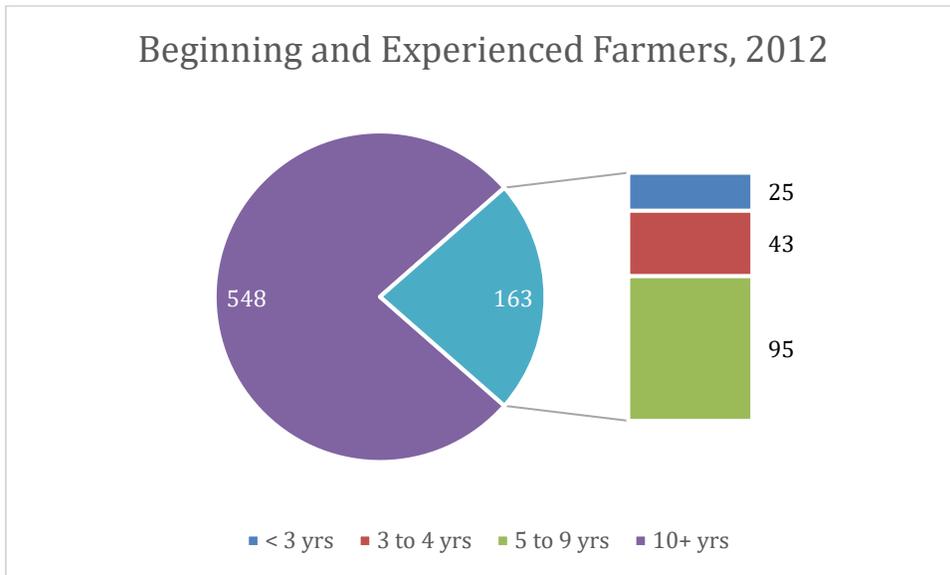
In Wayne County, there has been a slight increase in the number of farmers between 2002 and 2012; 8% increase in principal operators and a 17% increase for all operators. During this same time, however, the farm population is also aging. The average age rose from 55.5 in 2002 to 59.4 in 2012. The number of farmers older than 55 increased by 40% during this period, while those younger than 55 declined by 26%. However, there is potential for a new generation of farmers. The number of farmers under 35 increased by 29%.

Farm experience is also useful for determining the knowledge base and transition potential. In 2012, 23% of the principal operators were beginning farmers. Beginning farmers are those who have operated on a farm for fewer than ten years. In Wayne County, 58% of beginning farmers have between 5 to 9 years of experience. The number of beginning farmers also increased during this period by 20%.

Still, Wayne County risks of losing a majority of experienced farmers due to aging and retirement. Nonetheless, the beginning farmer population is well distributed in terms of experience and has great potential for growth.

The number of operators that work off-farm can quickly reveal farm profitability and how likely people will want to remain in farming. Unfortunately, most farmers in Wayne County have to work off-farm. In 2012, 60% of principal operators worked off-farm, with 57% of them working at another job for more than two-thirds of the year.

Perceptions of primary occupation are closely related to off-farm work. In 2012, 50% of the principal operators considered farming to be the primary occupation, a significant increase from 36% in 2002.

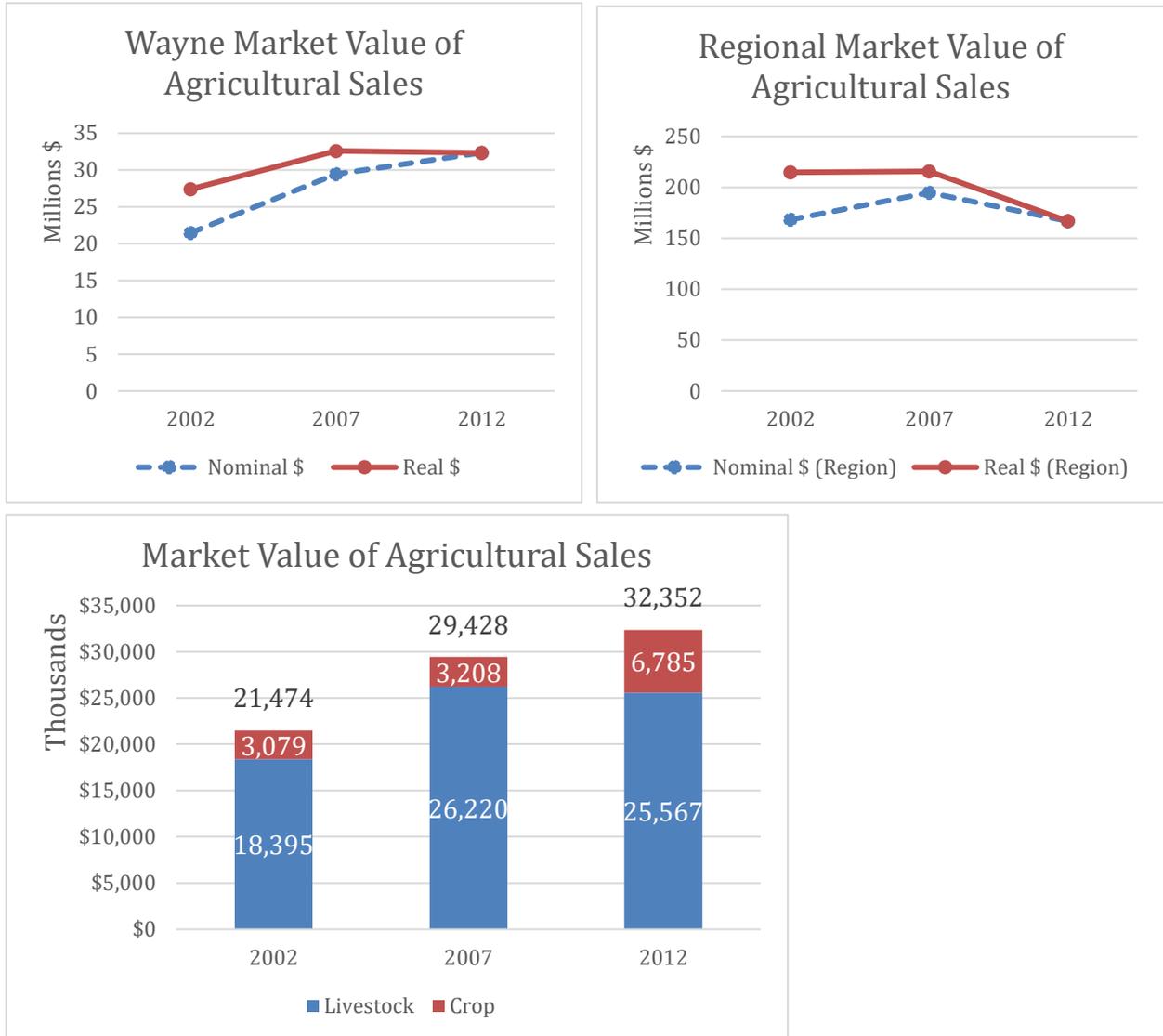


Source: *USDA Census of Agriculture*



Agricultural Commodity Output

Commodity output as measured by the total market value of agricultural sales increased in Wayne County from \$27.4 million in 2002 to \$32.4 million in 2012 (in inflation-adjusted dollars). While most of the growth was in livestock sales, crop sales are becoming a greater share of total output. When compared to trends in the region, agricultural output in Wayne County grew while sales declined in the region.



Source: USDA Census of Agriculture

By value, the top five commodities in the county are dairy, hay, vegetables, floriculture, and sod. In general, sales of the top 10 commodities are well distributed across the region. The most significant exceptions are poultry and hogs. Most of the poultry is raised outside of the county, while half of the hogs raised in the region are within the county.

It is also important to note declines in the dairy sector. Dairy is the dominant commodity in the county, but sales have continued to decline over the years. The increase in commodity output is driven primarily by growth in hay, produce, floriculture, sod, and poultry sales.

TOP 10 COMMODITIES IN WAYNE COUNTY, 2012

Commodity	Sales (\$1,000)	Region Share
Milk from cows	14,979	20%
Other crops and hay	4,649	24%
Vegetables	558	13%
Floriculture	480	20%
Sod	460	29%
Fruits, tree nuts, and berries	347	25%
Poultry and eggs	273	2%
Other animals and other animal products	198	35%
Hogs and pigs	139	50%
Sheep, goats, wool, mohair, and milk	120	15%

Source: USDA Census of Agriculture

TOP 10 COMMODITIES IN THE REGION, 2012

Commodity	Sales (\$1,000)
Milk from cows	75,889
Cattle and calves	20,896
Other crops and hay	19,701
Poultry and eggs	12,854
Vegetables	4,404
Grains, oilseeds, dry beans, and dry peas	4,326
Horses, ponies, mules, burros, and donkeys	3,188
Floriculture	2,356
Sod	1,564
Fruits, tree nuts, and berries	1,388

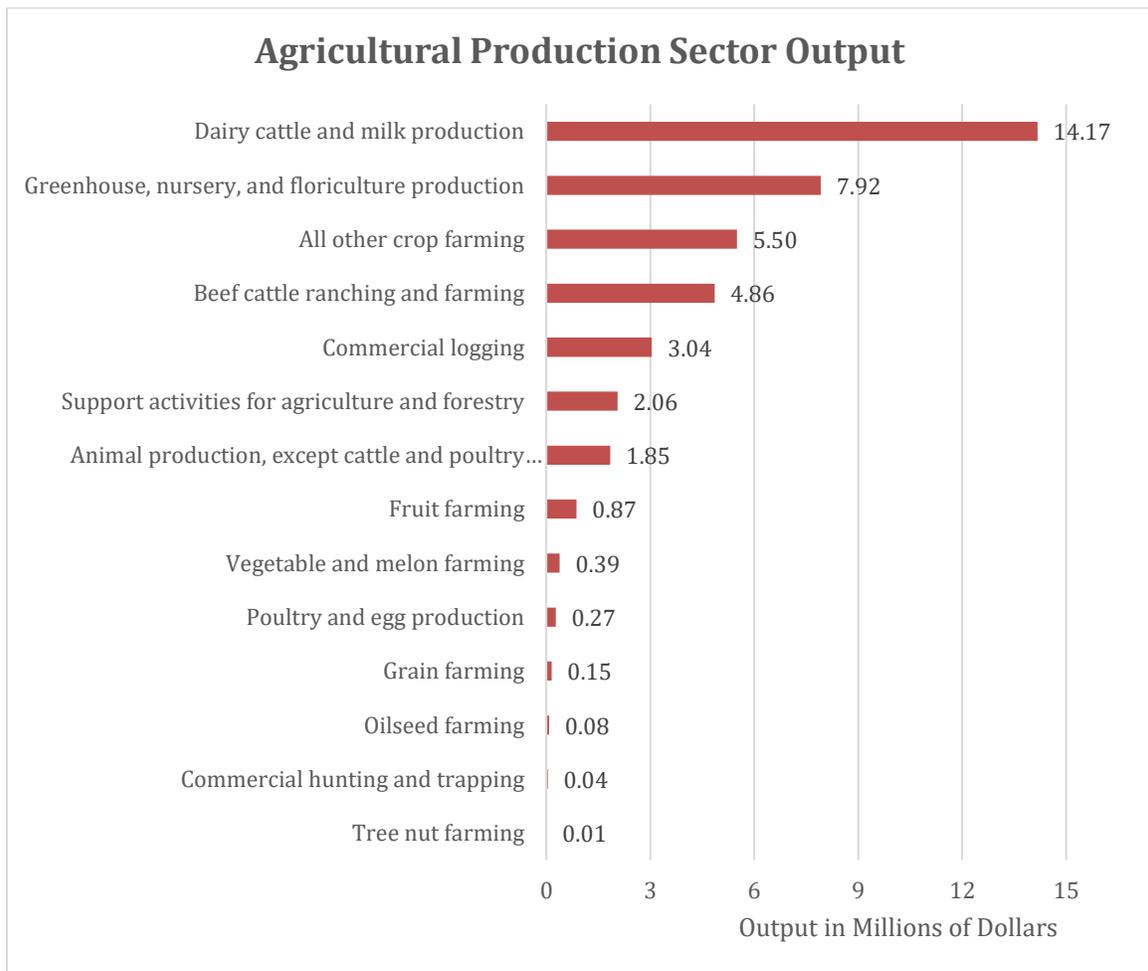
Source: USDA Census of Agriculture

Key Production Industries

The economic contribution analysis confirms data from the Census of Agriculture and shows that the following industries contribute the most in output or sales in the local economy: dairy; greenhouse, nursery, and floriculture; all other crop farming; and beef cattle.

The data also confirms that many farms in the county are diversified. The economic analysis shows that businesses engaged in All Other Crop Farming generated about \$5.50 million in sales. Most of these farms are likely raising hay and forage. However, many are also likely to be growing a combination of crops and are not focused on raising a specific crop.

Besides crop and livestock production, the data shows that the county has relatively significant activity from the forestry and wood manufacturing-related industries. For instance, commercial logging generated \$3.04 million in sales.



Source: IMPLAN 2016

Economic Contribution of the Agricultural Supply Chain in Wayne County

Wayne County is home to very few upstream and downstream industries in the agriculture and food value chain. Yet, these industries have a significant influence on the overall economy when viewed collectively with direct farm output. In 2016, agriculture contributed \$151.6 million to Wayne County’s economy. The agricultural industry also contributed 1,386 jobs (FTE), \$31.2 million in wages, and \$11.2 million in Federal and State taxes.

IMPACT SUMMARY

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	1,123	\$21,076,300	\$33,358,965	\$117,189,100
Indirect Effect	141	\$5,868,282	\$9,594,611	\$19,841,061
Induced Effect	122	\$4,303,429	\$7,993,994	\$14,553,298
Total Effect	1,386	\$31,248,011	\$50,947,570	\$151,583,459

Source: IMPLAN 2016

In particular, the agricultural production sectors contributed the most labor compared to that of agricultural processing and manufacturing sectors. Those sectors represented 58.4% of labor, 27.0% of wages, and 27.2% of output. Among all of the agricultural sectors the dairy, livestock, and forestry-related industries contribute the most to the local economy. Processing of forest products, however, had the largest output contribution in related primary manufacturing. Building economic development strategies around these core industries will allow the economy to leverage areas with existing, or emergent, specialization.



OUTPUT CONTRIBUTION

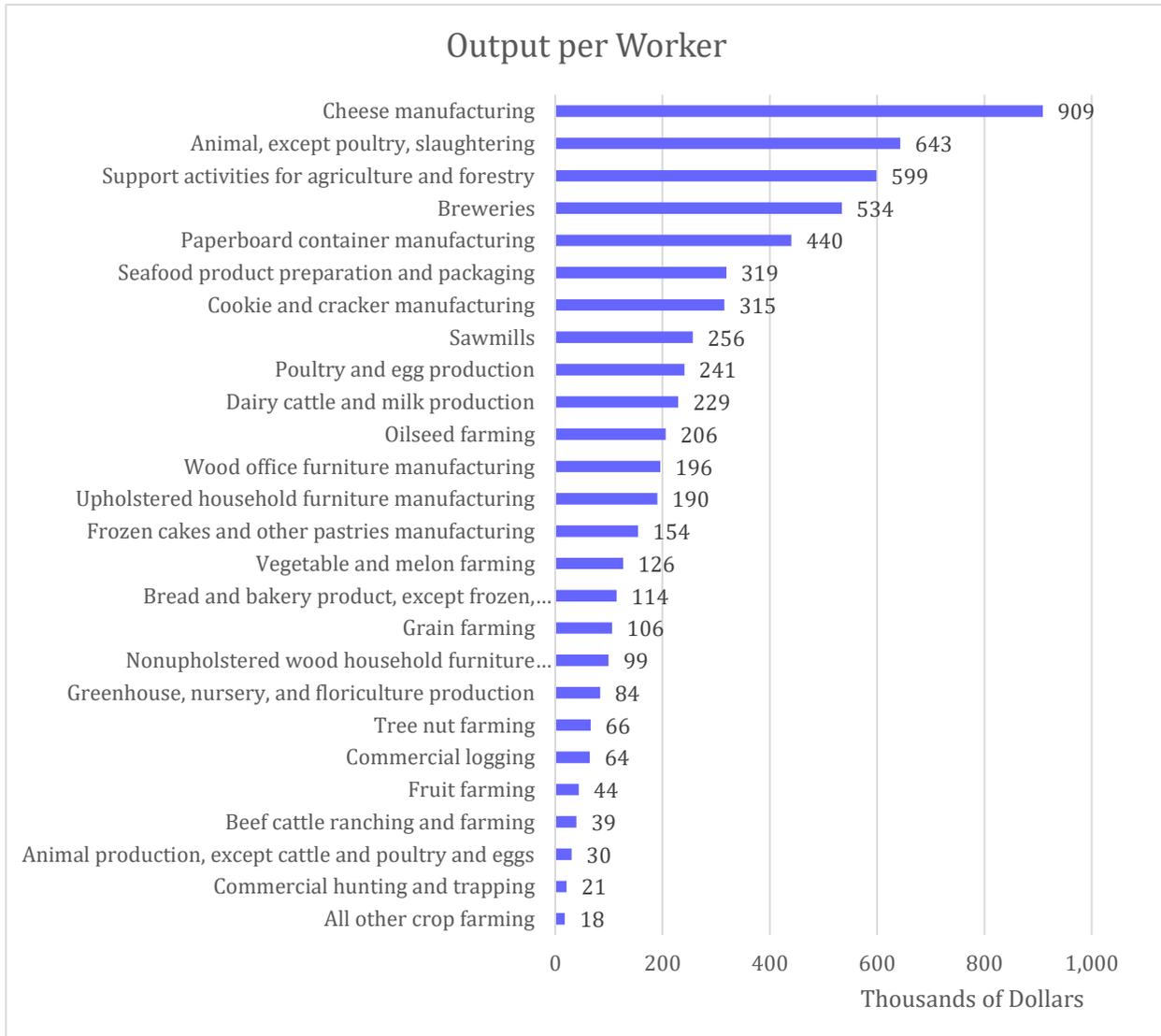
	Sector	Output millions of dollars
Agricultural and Forest Production	Oilseed farming	0.08
	Grain farming	0.15
	Vegetable and melon farming	0.39
	Fruit farming	0.87
	Tree nut farming	0.01
	Greenhouse, nursery, and floriculture production	7.92
	All other crop farming	5.50
	Beef cattle ranching and farming	4.86
	Dairy cattle and milk production	14.17
	Poultry and egg production	0.27
	Animal production, except cattle and poultry and eggs	1.85
	Commercial logging	3.04
	Commercial hunting and trapping	0.04
	Support activities for agriculture and forestry	2.06
	Total direct output	41.21
Primary Agricultural Processing	Cheese manufacturing	3.56
	Animal, except poultry, slaughtering	2.31
	Seafood product preparation and packaging	3.15
	Bread and bakery product, except frozen, manufacturing	4.26
	Frozen cakes and other pastries manufacturing	0.33
	Cookie and cracker manufacturing	8.99
	Breweries	3.75
	Sawmills	29.82
	Paperboard container manufacturing	0.30
	Upholstered household furniture manufacturing	6.33
	Non-upholstered wood household furniture manufacturing	0.90
Wood office furniture manufacturing	12.27	
Total direct output	75.98	
Total direct employment for the agricultural industry	117.19	

EMPLOYMENT CONTRIBUTION

	Sector	Employment (FTE)
Agricultural and Forest Production	Oilseed farming	0.41
	Grain farming	1.44
	Vegetable and melon farming	3.06
	Fruit farming	19.97
	Tree nut farming	0.11
	Greenhouse, nursery, and floriculture production	94.77
	All other crop farming	306.45
	Beef cattle ranching and farming	123.47
	Dairy cattle and milk production	61.78
	Poultry and egg production	1.12
	Animal production, except cattle and poultry and eggs	60.60
	Commercial logging	47.38
	Commercial hunting and trapping	1.91
	Support activities for agriculture and forestry	86.77
	Total direct employment	809.24
Primary Agricultural Processing	Cheese manufacturing	3.92
	Animal, except poultry, slaughtering	3.59
	Seafood product preparation and packaging	9.89
	Bread and bakery product, except frozen, manufacturing	37.27
	Frozen cakes and other pastries manufacturing	2.13
	Cookie and cracker manufacturing	28.53
	Breweries	7.01
	Sawmills	116.26
	Paperboard container manufacturing	0.69
	Upholstered household furniture manufacturing	33.28
	Non-upholstered wood household furniture manufacturing	9.02
	Wood office furniture manufacturing	62.62
	Total direct employment	314.23
	Total direct employment for the agricultural industry	1123.47

Source: IMPLAN 2016

Observing output per worker reveals which industries are the most intensive. In general, the processing, support, and manufacturing industries are more intensive compared to agricultural production industries. The following industries generated the most output with the fewest workers: cheese manufacturing, animal slaughtering, agricultural and forestry support, and breweries. Put differently, each employee contributes to a greater level of value for the economy. This efficiency provides support for targeting economic development activities toward high labor-productivity industries such as dairy, livestock, craft beverages, forest products, and food processing.



Source: IMPLAN 2016

WAGE CONTRIBUTION

	Sector	Wages thousands of dollars
Agricultural and Forest Production	Oilseed farming	8.9
	Grain farming	5.7
	Vegetable and melon farming	83.4
	Fruit farming	225.7
	Tree nut farming	2.3
	Greenhouse, nursery, and floriculture production	2,387.4
	All other crop farming	1,392.5
	Beef cattle ranching and farming	242.7
	Dairy cattle and milk production	1,114.0
	Poultry and egg production	20.4
	Animal production, except cattle and poultry and eggs	270.5
	Commercial logging	1,705.6
	Commercial hunting and trapping	-3.0
	Support activities for agriculture and forestry	986.1
	Total direct wages	8,442.3
Primary Agricultural Processing	Cheese manufacturing	131.7
	Animal, except poultry, slaughtering	90.1
	Seafood product preparation and packaging	389.1
	Bread and bakery product, except frozen, manufacturing	1,018.1
	Frozen cakes and other pastries manufacturing	59.2
	Cookie and cracker manufacturing	844.7
	Breweries	375.3
	Sawmills	5,252.6
	Paperboard container manufacturing	54.2
	Upholstered household furniture manufacturing	1,163.2
	Non-upholstered wood household furniture manufacturing	222.1
Wood office furniture manufacturing	3,033.7	
	Total direct wages	12,634.0
	Total direct employment for the agricultural industry	21,076.3

Source: IMPLAN 2016

The analysis shows that the following sectors contribute significantly to wages within the county:

- Sawmills
- Wood office furniture manufacturing
- Greenhouse, nursery, and floriculture production
- Commercial logging
- All other crop farming

If forestry and its related manufacturing sectors are ignored, the following sectors also contribute significantly towards wages: Dairy cattle and milk production; bread and bakery products, except frozen, and manufacturing.

The agriculture and forestry industries generated \$8.4 million in wages. The agricultural processing and manufacturing industries generated \$12.6 million in wages. Together, the agricultural industry contributed \$21.1 million in wages in 2016.

Decline in Agricultural, Wholesale, and Retail Industries

Outside of the core production and manufacturing sectors, the supply chain shows demonstrable weaknesses in logistics, warehousing, and retailing activities. The number of firms and jobs related to agriculture, wholesale, and retail industries in Wayne County have been declining between 2006 and 2015. For instance, agriculturally related industries experienced a 30% decline in firms. The number of firms in the wholesale and retail industries declined by 33% and 20% respectively. Jobs declined by 36% and 16% in the wholesale and retail industries respectively.

These industries are also declining in their contribution to Wayne County’s economic base. This weakening is revealed through relatively low job numbers and decreasing location coefficients. Location coefficients measure how concentrated an industry is within a geography relative to a larger geography.

In 2015, agricultural industries were about 1.5 times more concentrated in Wayne County compared to the six-county region; retail is about the same relative to the average, and wholesale is less concentrated. However, the data suggests that the following industries are becoming less concentrated.

FIRM LOCATION COEFFICIENTS FOR WAYNE COUNTY

Industry	2006	2015	% Change
Agriculture, forestry, fishing, and hunting	1.75	1.52	-13%
Wholesale trade	0.79	0.68	-14%
Retail trade	0.98	1.00	2%

Source: County Business Patterns

EMPLOYMENT LOCATION COEFFICIENTS FOR WAYNE COUNTY

Industry	2006	2015	% Change
Agriculture, forestry, fishing, and hunting	0.00	1.59	
Wholesale trade	0.71	0.45	-37%
Retail trade	1.30	1.14	-12%

Source: County Business Patterns

CHANGE IN FIRMS IN WAYNE COUNTY

Industry	2006	2015	% Change
Agriculture, forestry, fishing, and hunting	10	7	-30%
Manufacturing	67	49	-27%
Wholesale trade	48	32	-33%
Retail trade	268	214	-20%

Source: County Business Patterns

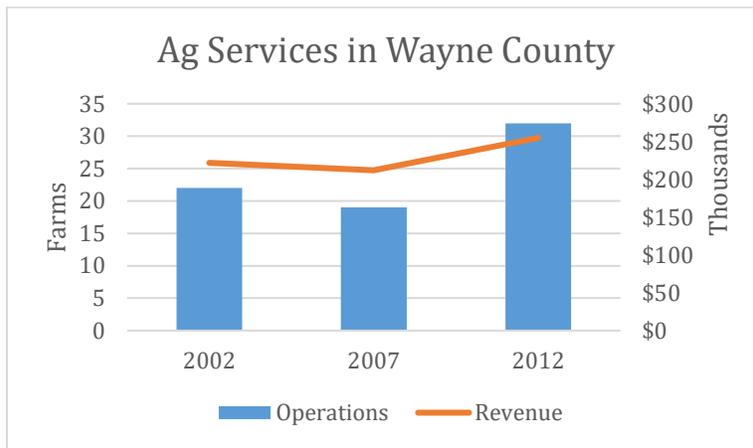
CHANGE IN FIRMS IN THE REGION

Industry	2006	2015	% Change
Agriculture, forestry, fishing and hunting	43	40	-7%
Manufacturing	496	455	-8%
Wholesale trade	458	410	-10%
Retail trade	2052	1860	-9%

Source: County Business Patterns

Agricultural Services

The number of farms providing agricultural services and custom work in the county are relatively few but showed a slight increase between 2002 and 2012. This change typically indicates that farms are increasing their level of use of specialized assets that are shared through outside service agreements. In 2012, these operations represented 5% of all farms. Also, the revenue generated by these services grew from \$212 thousand to \$255 thousand during the decade.



Source: USDA Census of Agriculture

Veterinary services are important for the region given the importance of the dairy and livestock industries. While veterinary services have increased in the region, Wayne County has lost some of these businesses between 2006 and 2015 and farmers indicate that the quality and availability of services can be problematic. The loss of dairy and livestock operations and declines in veterinary services influence each other which may be a concern for these industries over the long-run.

VETERINARY SERVICES IN WAYNE COUNTY AND THE REGION

	2006	2015
Wayne	7	4
Region	38	44

Source: County Business Patterns

Competitive Assessment

The competitive assessment is largely motivated by the primary data-gathering efforts of the project. To the best ability of the study team, the following analysis integrates the views and comments of the nearly 50 individuals who were interviewed as part of this process. Where possible and practical, the data gathered through the interview process was verified against independent sources.

This section of the report should be considered a regional “self-analysis” of current economic and community conditions. The competitive assessment briefly describes key conditions/elements affecting the ultimate success of the agricultural industry in the region. These conditions are then assessed as strengths, weaknesses, or mixed factors in terms of their **current** and **potential** contribution to the economic health of the industry as follows:

- Strengths are those factors that contribute to growth and stability of the agricultural economy as measured by profit-making opportunities at the farm level as well as the positive public benefits such as tax base enhancement, job creation, and quality-of-life improvement that accrue at the community level.
- Mixed results are those factors that have significant offsetting positive and negative qualities or are factors that may be indeterminate in their potential impact due to the unsettled transitional issues.
- Weaknesses are those factors that present challenges to the development of the agricultural industry or act as impediments to expanding the public benefits related to agriculture and related supply chain activities

A summary of these findings can be found below:

Strengths	Mixed	Weaknesses
Tourism and Recreation Industries	Market Access	Regional Cooperation
Young and Beginning Farmers	Entrepreneurship and Innovation	Local Infrastructure
Dairy Industry	Business Finance	Labor Market
Forest Products Industry	Development Patterns	Agricultural Service and Supply Industries
	Soils and Topography	

When reviewing this section, one should keep in mind that these conditions are only a snapshot in time. Because markets economies are highly dynamic, specific conditions may change without warning or notice.

Strengths

Tourism and Recreation Industries

What is it?

The tourism and recreation economy encompasses the people who travel to destinations away from home to have fun, sightsee, or relax. It also involves various sectors that provide services to tourists, including the transportation, hospitality, recreation, entertainment, food and beverage, retail, and agricultural sectors.

Why is it important?

Tourism creates jobs, improves wages, generates taxes, and drives exports. For many rural economies, tourism can help jumpstart economic activity. In rural areas such as Wayne, recreation and tourism activities often occur with working agricultural land as a scenic backdrop. Additionally, agricultural operations have increasingly expanded into tourism by using recreational on-farm activities to increase and diversify their revenue streams. Therefore, it is important to build a resilient and sustainable tourism economy that supports a wide variety of tourist activities in the region and to smooth out seasonal fluctuations.

Regional considerations

Wayne County has a strong appeal as a tourist and recreational destination due to its natural assets, rural setting, and proximity to large and wealthy urban centers. It has a significant number of second homes, gated communities, and summer camps. The large number of lakes and lakefront resort communities bring in a large seasonal influx of families that summer in the county. Additionally, each summer season sees approximately 28,000 youth and hundreds of camp personnel participating in the 30 summer camps spread across Wayne's rural landscape. Interviews with camp families indicate that participation engenders a strong, life-long commitment to Wayne County as a recreational destination.

Both on and off season, Wayne has a strong reputation among sportsman and outdoor enthusiasts. Wayne's waterways are known for world-class trout fishing and expansive public wildlife management areas make Wayne a popular destination for hunters and fishermen.

The periodic influx of population indicates largely untapped markets that businesses in Wayne can leverage to increase and diversify their on-farm revenue streams. Producers in Wayne are increasingly seeing the viability of agritourism in the county, which is home to 33% of the agritourism businesses in the region.

In 2015, Wayne County had about 163 establishments engaged in tourism activities. Most of these are related to the county's summer lake communities and youth camps. The seasonal influx provides the opportunity to expand the breadth of agriculturally related venues, such as craft beverages. This sector is growing across the nation, and Wayne

County is starting to gain traction with the support of the local community who patronize the county's five breweries and four wineries, which generated about \$406,200 in sales.⁴

Tourism Sector	Firms
Full-service restaurants	68
Recreational and vacation camps (except campgrounds)	26
Limited-service restaurants	25
Hotels (except casino hotels) and motels	8
RV (recreational vehicle) parks and campgrounds	7
Golf courses and country clubs	5
Snack and nonalcoholic beverage bars	5
Fitness and recreational sports centers	4
All other amusement and recreation industries	4
Bed-and-breakfast inns	3
Marinas	2
Cafeterias, grill buffets, and buffets	2
Convention and visitors' bureaus	1
Amusement arcades	1
Amusement and theme parks	1
Bowling centers	1

Source: County Business Patterns, 2015

AGRITOURISM OPERATIONS AND REVENUES

		2002	2007	2012
Wayne	Farms	9	9	20
	Revenue	17,000	114,000	72,000
Region	Farms	55	51	61
	Revenue	165,000	573,000	618,000

Source: USDA Census of Agriculture

⁴ D&B Hoovers, 2018

Young and Beginning Farmers

What is it?

Young and beginning farmers are needed to renew the agricultural industry by providing the next generation of farm operators. Having good farm transition potential means that there is interest among youth to pursue agricultural careers, a diversity of farming operations, and a balanced distribution of farm experience. In order for young and beginning farmers to effectively enter agriculture, there must be an interest amongst retiring farmers to transition land and assets to those entering the field.

Why is it important?

Without farmers, the county will not have farms. Farmers provide the agricultural knowledge and labor necessary to produce crops, livestock, and to provide services. These farm products drive the rest of the food supply chain. Instability or declines in farm labor and land can significantly disrupt the local economy and reduce food security.

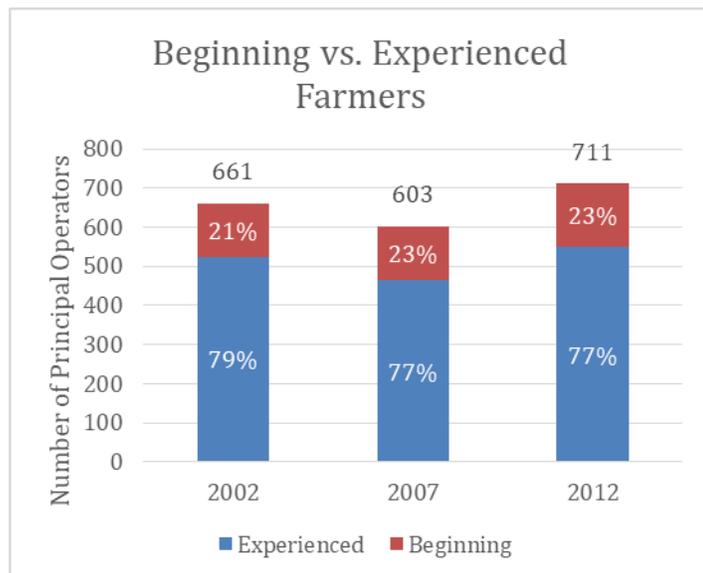
Regional considerations

Although producers are aging and are finding farm profitability to be increasingly elusive, there are very encouraging signs that Wayne has a younger generation that is interested in pursuing careers in agriculture. This starts with the recent success of the agricultural program at the Wayne Highlands School District, where more than 100 youth are enrolled in a newly created curriculum. When the school reopened an FFA chapter in 2017, it was met with incredible enthusiasm, both from students and the community. Students from the program actively participated in the public input portion of this plan where they indicated strong interest in remaining in Wayne County as agricultural entrepreneurs.

In addition to the students noted above, Wayne County also has a core group of robust agricultural entrepreneurs. These business owners often act independently in the creation and operation of their businesses but demonstrate cooperative tendencies. These cooperative tendencies show themselves in myriad ways such as the creation of the Lackawaxen Food Hub and participation in the largest county-based PASA association.

The Census of Agriculture supports the notion that Wayne is ahead of the curve in with regard to young and beginning farmers.

Wayne has seen an increase of 172 beginning farm operators between 2002 and 2012 (a 15% increase). Counter to the national trend of aging farmers in the US, 30% of the 50 new principal operators during this period were between



Source: USDA Census of Agriculture

25 and 34 years of age. There was also a 20% increase in beginning farmers during this period.

Even with these impressive statistics, there was a strong sense among young and beginning farmers that their efforts to build new businesses were not accepted. Improved acceptance of new business models and additional business management support were often cited as needs if the trend of attracting young and beginning farmers were to continue.



Core of Dairy Farms

What is it?

Wayne County has a strong core of dairy farmers who are passionate about their work and are finding ways to keep dairy farming viable, despite the overall challenging conditions in the industry. These farms form the backbone of the agricultural industry and represent the largest block of agricultural product sales, as well as large asset and land holdings.

Why is it important?

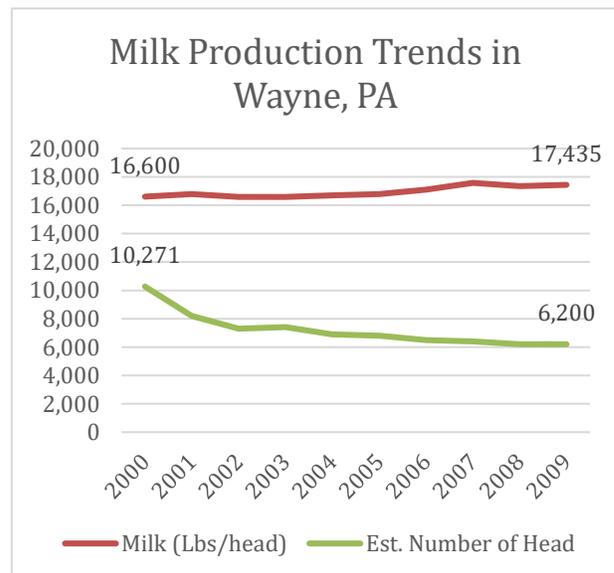
Because of the historic role of dairy in the county, the fortunes of the overall agricultural economy are tied closely to the success of this industry. The continued trend of declining milk demand and correspondingly low-pay price for milk put this industry in significant jeopardy of systemic failure. If dairy fails, all farms risk losing the critical support and service industries that depend on dairy's year-round demand. These service and supply networks include feed and seed dealers, transportation companies, livestock markets, crop production services, and tractor dealers.

Regional considerations

Wayne County is made up of many small independent dairy operations. Average herd sizes are quite small by both state and national standards. These small farms export most of the milk they produced in consolidate loads that get shipped to processors elsewhere. These milk receivers are large operations that exist as part of a large regional or national manufacturing and distribution system. Wayne County dairy production represents a very small portion of the milk entering the system and farmers have little influence on their place in the system.

To maintain competitiveness in this sector, Wayne County has seen the emergence of on-farm processing of milk, cheese, and other dairy products as a means to offset low dairy pricing and declining fluid milk markets. Successes in these efforts have encouraged farmers to engage in proactive and collaborative planning to look for a means to preserve the industry and its unique role in the local agricultural economy. These farmers believe that local action is critical for finding viable solutions to maintain or even grow the dairy industry in Wayne County.

The dairy industry is also important in a regional context. Dairy production and cheese manufacturing in the region generated about \$64 million in revenue and employ about 700 people.⁵ In Wayne County, it contributed close



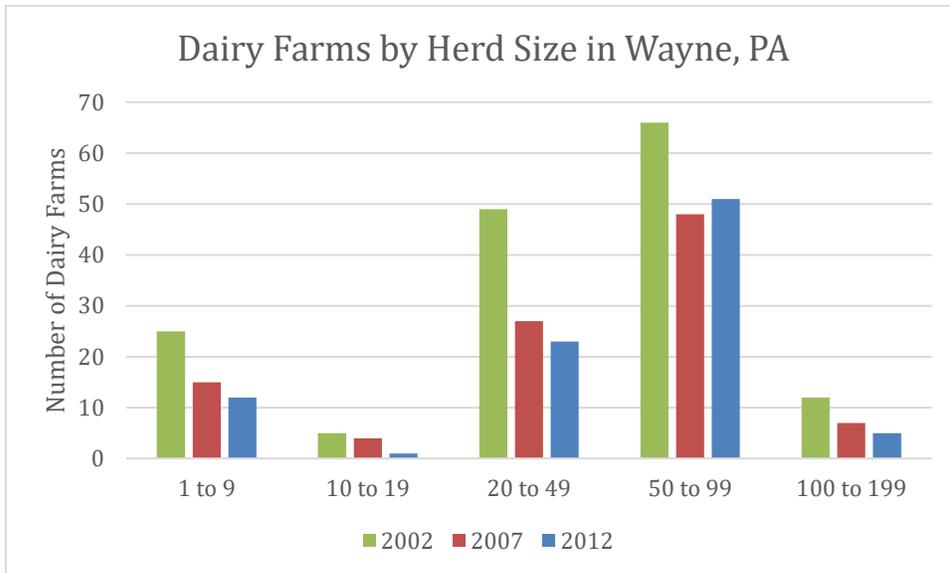
Source: USDA Census of Agriculture

⁵ D&B Hoovers, 2018

to \$18 million in economic output and 65 full-time equivalent jobs.⁶ Unfortunately, the number of dairy farms and dairy cows have declined in the county and the region during the last two decades. Today, Wayne County has about 40 dairy farms compared to about 191 in 1997. Similarly, the region saw a 47% decline in dairy cows between 1997 and 2012. Despite these declines, the remaining core of dairy farms still have contracts and are interested in finding new opportunities to remain profitable.

DAIRY FARMS AND DAIRY COWS IN WAYNE, PA

Year	Dairy Operations	Cow Inventory	Avg. Cows per Farm
1997	191	9,102	48
2002	157	7,541	48
2007	101	5,137	51
2012	92	4,822	52



Source: USDA Census of Agriculture

⁶ IMPLAN, 2016

Forestry Products Industry

What is it?

The forestry industry involves forest production, timber harvesting, logging, processing, and wood manufacturing sectors. Like the food and agriculture industries, it has very high multiplier effects and offers landowners a way to build value in their asset base.

Why is it important?

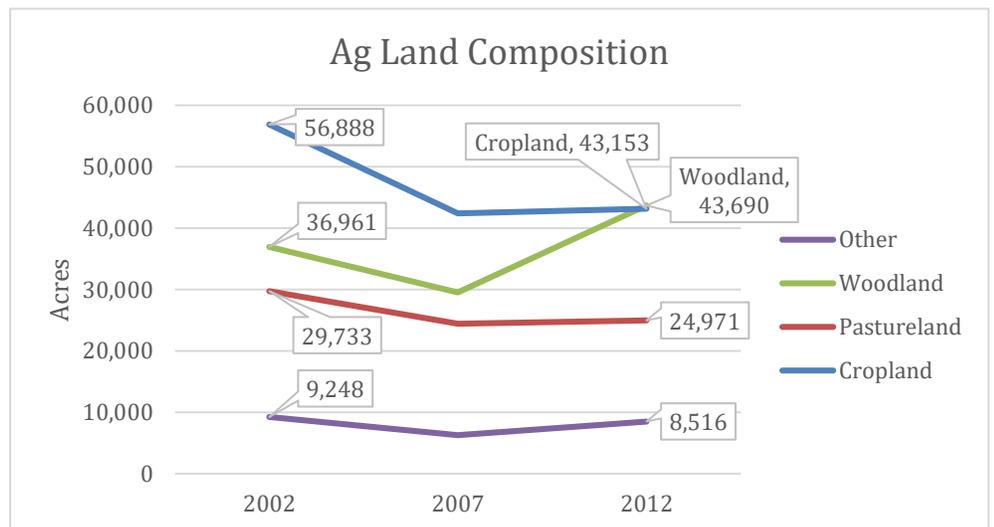
Most farms in Wayne County have large timber tracts of high-quality hardwoods. These timber tracts offer an important source of resource-derived income. These resources become important as a renewing source of farm income and as an asset that can be drawn upon in times when agricultural profitability is questionable. Maintaining a vibrant wood products value chain is critical to providing diversified on-farm income and that value is present only when the entire forest products industry is healthy.

Regional considerations

Forestland dominates the landscape in Wayne County. Much of the forestland in the county is also agricultural land. In 2012, 36% of agricultural land in the county was in woodland—a 14% increase from 2007—indicating an opportunity for diversifying income streams in the agricultural sector and taking full advantage of all on-farm resources.

Woodland represents about 34% of the agricultural land in the region. The forestry production and manufacturing sectors generated about \$175 million in revenue and employed 1,536 in 2018. The impact of these forestry industries also generated approximately \$52.7 million in output.

Many regions depend on both agriculture and forestry for a vibrant resource-based economy. Clearly, the county has significant forest resources that can be used to develop new markets and stimulate job creation. Further, the County has access to significant wood manufacturing and processing capacity within the region with 91 firms in the area belonging to those sectors.



Source: USDA Census of Agriculture

Sector	Firms
Timber Tract Operations	3
Logging	29
Sawmills	13
Veneer, Plywood, and Engineered Wood Product Manufacturing	4
Other Wood Product Manufacturing	20
Paperboard mills	1
Converted Paper Product Manufacturing	6
Sawmill, woodworking, and paper machinery manufacturing	1
Furniture and Related Product Manufacturing	15
<i>Source: Hoovers</i>	



Mixed

Market Access

What is it?

Market access refers to the ability to reach existing or potential marketplaces. For farms and agribusiness, market access assumes a fit between products and consumer demand and involves a system of connections from farm to consumer. An area with good market access has a diverse combination of market channels from retail to wholesale, and the networks to supply them.

Why is it important?

Markets provide liquidity, which is essential to the survival of any industry. Having close proximity to markets is not equivalent to having good market access. There needs to be an efficient supply chain to get farm products to consumers. The more effective the supply chain is in terms of costs and timeliness, the more competitive the products can be. This is even more important considering the perishable nature of most agricultural products.

Regional considerations

Wayne County is located in close proximity to three of the nation's largest and wealthiest consumer markets: New York City, Baltimore/DC, and Philadelphia. This means potential



access to tens of millions of consumers and an enormous number of wholesale and retail outlets. Furthermore, these markets have important market segments with particular food product demands that the current marketing infrastructure may not meet.

Of these, the New York Metropolitan Area offers the greatest opportunity. It is the largest consolidated consumer market in the U.S. with a population of 20.1 million and is the most ethnically and racially diverse. The Baltimore/DC Metropolitan Area is the fifth largest in the US with a population of nearly 8.5 million and one of the highest average household incomes. Finally, the Philadelphia Metropolitan Area is the eighth largest consumer market in the US with a population of more than 6 million.

Collectively, these three markets present a significant opportunity for development of various market channels: wholesale, farmers markets, community supported agriculture, agritourism, and food retail.

By collaboratively tailoring product to meet the demands of underserved and unsatisfied niche markets in these large metropolitan areas, Wayne producers have the ability to tap into these supply chain networks. Such markets include ethnic markets, such as kosher and halal processing; consumers looking to support small-scale agriculture and rural areas; and those who have second homes in Wayne County but largely live in these metropolitan areas, among others.

Craft beverages, meat, poultry, and dairy products are among the most notable areas for product and market development. Limits to processing and distribution infrastructure are primary limiting factors. Where attempts have been made to bridge these gaps, the ability to generate sufficient local supply has hampered growth. These issues must be addressed before market access can be considered a strength.

As a counterpoint to the large regional markets and their allure, the local product markets are much smaller. Servicing the year-round consumer requires attention to developing products that are suited to a small food budget. The local consumer, in fact, spends 88% of the national average on food consumed at home and 80% on food consumed away from home and consumes fewer organic and fresh-food items relative to their urban counterparts. As a result, businesses trying to build products for the local market must consider two disparate clienteles: 1.) the local year-round resident, and 2.) the seasonal tourist market.

Innovation and Entrepreneurship

What is it?

Innovation is the source of new ideas for products, services, and processes. Entrepreneurs are the risk-takers who build enterprises around such innovations.

Why is it important?

Consumer trends and market dynamics are changing rapidly, and production costs continue to rise. It is important for farmers and agricultural businesses to adapt to these changes to remain competitive. Thus, it requires cultivating and enhancing entrepreneurial skills. Programmatic efforts to incentivize startups and innovation are also critical to helping farms become successful. In areas where this culture of entrepreneurship is embraced, firms tend to be vibrant contributors to the local economy.

Regional considerations

There are two primary approaches to encouraging innovation and entrepreneurship. The first is to attract entrepreneurs from other places. The second is to develop entrepreneurs from within the community.

The county seems to draw in entrepreneurs of all ages due to its low costs of living, high quality of life, and close access to major urban center services. It has responded to this by working to develop an incubator hub—The Stourbridge Project—which will be critical for developing innovative businesses and helping retain a strong workforce base.

The county has an opportunity to develop its own entrepreneurs. Conversations with students and beginning farmers have yielded encouraging evidence of interest and pursuits in entrepreneurial activities. While there is plenty of interest, Wayne has not developed a culture that develops young talent and supports existing efforts. For example, Future Farmers of America students in Honesdale identified a lack of entrepreneurial and business curriculum in the classroom, and limited internship opportunities outside of the classroom as obstacles in their ability to create a future for themselves in Wayne, particularly in agriculture.

Without incentives for entrepreneurship and innovation, the county risks losing those who want to invest locally and start businesses. In order to successfully create and maintain jobs, Wayne may have to take a more structured and intentional approach to cultivating entrepreneurs. The Stourbridge Project is an excellent first step in this entrepreneurial direction.

While both attracting and developing entrepreneurs are important for strengthening the economy, the latter may be a more sustainable approach. It requires creating a culture of innovation. This type of culture welcomes new ideas and out-of-the-box thinking, and creates an environment that not only allows, but encourages risk taking, experimentation, and collaboration. Most importantly, an innovation-driven culture allows for failure.

The technical and interpersonal skills that are developed in an entrepreneurial environment can help leverage resources to more efficiently. For instance, a collaborative culture encourages farmers to work together to get products to larger markets, to increase their aggregate volume, and to diversify their product offerings and/or business models.

Financing Capital

What is it?

Financing capital includes the economic resources businesses and entrepreneurs need to start or operate their ventures. Typically, most businesses will look for debt capital, which includes loans from banks, individuals, venture capitalists or other investors. Grants and equity investments are also other financial instruments that businesses can pursue.

Why is it important?

Having access to financial capital is critical for encouraging business activity, particularly when an economy is trying to support innovative start-ups. Local investors and banks are especially important for helping support local entrepreneurs. While having these resources is critical, it is equally crucial to create awareness and platforms so people can easily access these opportunities.

Regional Considerations

With farm profitability at historically low levels, financing is difficult to come by even in communities like Wayne whose economies are built on agriculture and small business. This is particularly true for entrepreneurial ventures without a proven history or the resources to back loans. As a result, entrepreneurs are often left to fund start-up and early operations with personal credit lines such as credit cards and home equity loans that make the cost of capital too high to be sustainable.

With the risks of funding agricultural start-ups at a near historic high, it is not surprising that farmers, particularly young and beginning farmers cite capital as a critical need. Traditional lenders such as Farm Credit, agricultural service and supply dealers, the 26 commercial banks operating in Wayne⁷, and a few county programs that help local businesses access financial capital are working to make credit available but have regulatory limits to their ability to take risk. Because of this, Wayne County has existing programs (see table below) and the potential to offer new programs, that may augment access to private capital.

In addition to the county's programs, Pennsylvania provides a variety of financing programs to provide grants and loans to support businesses and economic development. Many of these require an intermediary lender to apply or administer funds. This is an area for WEDCO and WIDA to expand their financial services, and to assist businesses in applying for these resources.

Additionally, there are engaged investors representing the Slow Money programs in both New York City and Philadelphia who want to invest in the food and agricultural sectors within the county. This is an important opportunity for entrepreneurs and beginning farmers exploring financing options, but these networks will likely require training and underwriting support to effectively bridge lending and investment gaps.

⁷ County Business Patterns (CBP), 2015

AVAILABLE FINANCING PROGRAMS

Program	Purpose
<u>Alternative and Clean Energy Program (ACE)</u>	Can help support the agricultural and forestry industries to use waste for biofuels and bioenergy. If used to power steam generators, excess heat may help offset costs of greenhouses or other buildings.
<u>Multimodal Transportation Fund</u>	This program provides grants to encourage economic development and the development of better transportation. It has value for upgrading critical roads.
<u>Pennsylvania Capital Access Program (PennCAP)</u>	Agricultural projects can access up to \$500,000 in guaranteed loans through AgChoice Farm Credit for purchasing land, buildings, equipment, and working capital.
<u>Next Generation Farmer Loan Program</u>	The Wayne Industrial Development Authority (WIDA) can help farmers get access to loans up to \$520,000 to reduce interest rates for capital purchases, such as the purchase of farm land or agricultural machinery and equipment.
<u>First Industries Fund (FIF)</u>	This program offers loan guarantees targeted at the agriculture and tourism industries. WEDCO can help farmers get access to loans for land, building acquisition and construction, machinery and equipment purchases and upgrades, and working capital.
<u>Small Diverse Business Capital Access Program (SDBCA)</u>	This program helps agricultural businesses through low-interest loans and lines of credit. Businesses can use for land and building acquisitions; construction and renovation costs; machinery and equipment purchases; working capital and accounts receivable lines of credit.
<u>Wayne Economic Growth Fund</u>	This program awards small grants to support loan application fees. Grants have match and job creation requirements.

Development Patterns

What are they?

Development patterns refer to the interplay among competing land uses with a focus on the impact on agricultural uses. Disaggregate, low-density development caused by second-home residential development is the specific issue of concern to Wayne County agriculture today. Specifically, these are residences that are not primary residences and only occupied for portion of the year. Usually, these are used as vacation homes, but can also be visited on a regular basis for work or personal reasons. Today, the growth of second homes reflects society's desire for leisure and mobility.

Why are they important?

Agriculture and residential development do not always make good neighbors, particularly when animal agriculture is the largest sector. The noises, odors, and round-the-clock operations are often in conflict with the quiet enjoyment standards most people expect at their residences.

Understanding the roles and impacts of second homes is important for economic development. Second homes can stimulate a rural economy through added employment, expenditures, taxes, and tourism activity.⁸ In particular, second homes contribute toward maintaining employment and local services without being a significant tax burden on the host community.

However, second homes can also add to municipal costs through infrastructure needs, raise property values beyond sustainable levels for a locality, and prevent farm expansion. Thus, the impact of second homes will depend on the local community and second-home characteristics.

Regional Considerations

One out of three homes in Wayne County are used for seasonal, recreational, and occasional use. Other counties in the region also demonstrate high levels of vacant homes for those uses. This condition indicates a more permanent presence of second homes used specifically for vacation and temporary means.

This seasonal fluctuation suggests that the region may not be suitable for hotels. Having data on the demand for hospitality services can help determine how much of it can be met during the peak season through hotels and alternative options such as short-term rentals. However, there may be opportunities for other tourist destinations that require lodging, such as ski resorts. A search on the short-term private rental site, Airbnb, generated more than 300 results in Wayne County, PA.

At the same time, the second homes create seasonal and weekly demand for local food, beverages, and agricultural products. Interviews reveal that Wayne County's population doubles during the summer, when many people participate in the summer camps in the region, and the lakes offer the best recreational opportunities. Despite a higher level of

⁸ Hoogendoorn and Visser, "The Role of Second Homes in Local Economic Development in Five Small South African Towns."

spending, most travelers are spending locally on food. This gap indicates an opportunity to develop products and brands that target these transient consumers and their need for convenience, quality, and selection. It may also offer a means to capture tens of millions of dollars in transient spending. As an added benefit, development of a successful local brand may be easily transferred back to the visitors' home communities in New York and New Jersey.

While second homes present great potential, the transient nature of this market will require a nuanced approach to product development and delivery. Wayne County lacks the supporting infrastructure, product development activity, and collaborative marketing initiatives required to tap into this latent market. Surrounding counties also lack in these efforts, so taking a more regional approach will likely be more effective in capturing this demand.

HOUSING OCCUPANCY AND VACANCY STATUS IN THE REGION

		Total Housing	% Occupied	% Vacant	% Seasonal, Recreational, & Occasional
PA	State Total	5,592,175	89%	11%	3%
	Wayne	31,158	60%	40%	33%
	Lackawanna	49,645	56%	44%	32%
	Pike	97,449	87%	13%	3%
	Susquehanna	38,506	55%	45%	39%
NY	Delaware	23,001	76%	24%	17%
	Sullivan	31,874	60%	40%	33%
<i>Source: American Factfinder</i>					

Agronomic Growing Conditions

What is it?

Agronomic growing conditions is the combination of climate, weather, soils, topographical, and other environmental factors that influence crop production.

Why is it important?

Understanding the growing condition of a region is important for identifying ideal crops, suitable agricultural land uses, and strategies to manage farmland. It also sets the stage for research and development of plant breeds and best practices with regards to irrigation, soil fertility, weed control, etc.

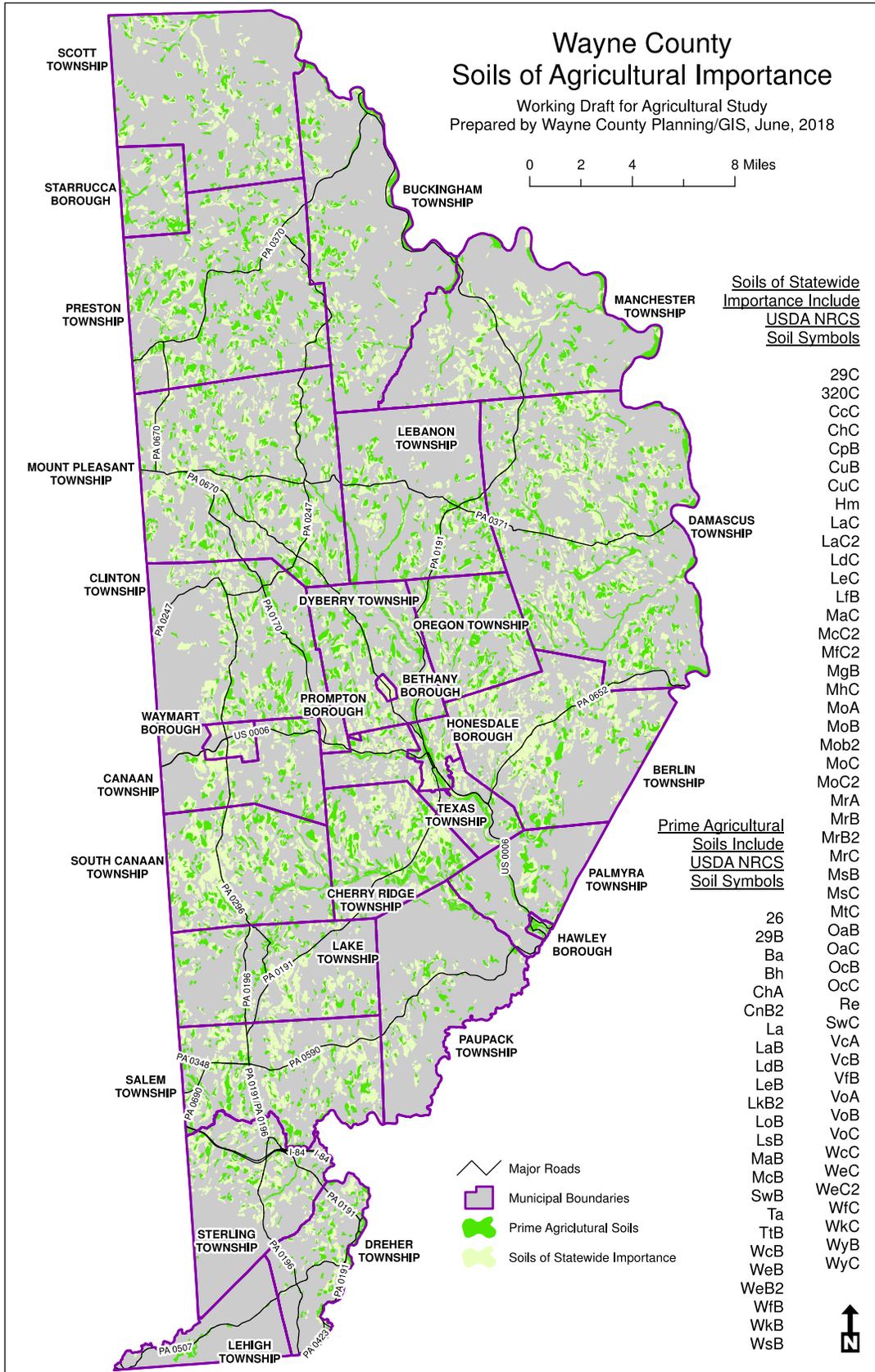
Regional Considerations

Wayne County experiences wet and humid weather with extremes in heat and cold. The prominent soil series are heavy, high in clay content, and are generally unsuitable for the efficient production of many agronomic crops such as small grains, corn, and oilseeds. Because the soils are shallow and often have underlying hardpan, freezing and frost heaving can also be a problem for permanently established forage crops, such as alfalfa. These conditions combine to make the production of row crops and certain forages inefficient. This limits the types of cash and cover crops that can be grown in Wayne.

Most of the soil is best suited for hay, trees, and other perennials. Unsurprisingly, hay production is one of the top agronomic commodities by sales and acreage in the county. Furthermore, Wayne has 1,600 acres of corn silage and corn feed. For many in the dairy industry, the cost of land improvements, such as the installation of drain tile, is not cost-effective, when feed input costs are low. Because of this, land is being fallowed at an increasing rate.

Due to the above limits, Wayne County has developed a livestock industry that is built to maximize the forage and hay crops that the land excels at producing. While most of the animal agriculture is bovine, there is interest among young farmers and livestock buyers in increased goat and sheep production for both dairy and meat uses. These animal types can thrive in pasture environments where grasses are mixed with the woody perennials that are becoming prevalent in fallowed crop fields.

Beyond agronomic crops, horticultural crops are similarly challenged by soils and climate. Generally, the county does not have significant fruit or vegetable production, but there are notable pockets of highly productive fruit and vegetable operations. These operations are often found on the County's small pockets of Prime farmland, where they operate in well-drained bottom ground or have adapted cultural practices that are better suited to the local conditions. In fact, this type of operation seems to be expanding in the county with an eye toward a greater level of specialty crop production.



SELECT TOP CROPS BY ACREAGE, 2012

	Acres
Forage	35,395
Corn Silage	1,336
Corn for Feed	271
Cut Christmas Tree	247
Vegetables	207
Orchard	134
Sorghum Silage	46
Oat	16
Potato	14

CROP ACREAGE

	2002	2007	2012	% Change
Fruit Acres	154	135	137	-11%
Vegetables Acres	75	115	196	161%
Grains Acres	514	186	287	-44%

FRUITS

	2002	2007	2012	% Change
Apple Acres	131	104	94	-28%
Cherry Acres	3	1	2	-33%
Grape Acres	6	11	16	167%
Peach Acres	4	6	1	-75%
Pear Acres	3	2	12	300%
Blueberry Acres	7	9	11	57%
Cantaloupe Acres	0	1	1	0%
Watermelon Acres	0	1	0	-100%

VEGETABLES

	2002	2007	2012	% Change
Sweet Corn Acres	45	53	79	76%
Pumpkin Acres	18	24	51	183%
Tomato Acres	7	9	16	129%
Potato Acres	0	10	14	40%
Snap Beans Acres	0	2	11	450%
Chile Peppers Acres	0	1	5	400%
Squash Acres	4	8	4	0%
Bell Peppers Acres	1	2	4	300%
Summer Squash Acres	0	3	3	0%
Kale Acres	0	0	2	

GRAINS

	2002	2007	2012	% Change
Corn Acres	472	186	271	-43%
Oat Acres	42	0	16	-62%

Source: USDA Census of Agriculture



Weaknesses

Regional Cooperation

What is it?

Regional cooperation is the capacity of stakeholders, agencies, and government entities in a geographical region to work together for mutual benefit. A key component of regional cooperation is the coordination between stakeholders along the value chain. Coordination involves communication and action among the various human and social resources to accomplish goals and objectives.

Why is it important?

The agricultural sectors in Wayne County are relatively small in production, resources, and sales. The scale of these industries is also small even when including those in adjacent counties. At the same time, many growers and suppliers recognize that New York City and Philadelphia present enormous market opportunities. Due to the limited scales of production, it is important to pool resources at the regional level to more efficiently solve value-chain obstacles and reach larger markets. Producers and counties will benefit from working together, rather than competing against each other.

Regional Considerations

There is minimal coordination within the county and among adjacent counties. Lack of coordination among farmers makes it more difficult to access larger markets, especially when most farms raising table crops have small acreage. Poor cross-border coordination also leads to duplicative efforts and projects that do not sufficiently meet the needs of the growers. For example, during the course of this project, there were no fewer than four county-based feasibility studies related to the creation of a livestock processing plant and two related to dairy processing. None of the counties involved in supporting these projects have the production capacity to support the possible manufacturing business concepts. But a collaborative, multi-county approach may have yielded different results.

Developing a framework for resource sharing and communication is essential to designing initiatives that reach defined goals set by growers. Such a platform must be designed to support both local and regional efforts in agribusiness development and business development. Other rural regions of the US have dealt with this by resource sharing through existing organizations, such as Northern California's 3CORE (<http://www.3coreedc.org>) and New York's Hudson Valley Agribusiness Development Corporation (www.hvadc.org).

During interviews, there was a general agreement that regional cooperation, particularly between Sullivan County, NY and Wayne County could be mutually beneficial. These counties have very similar agricultural economies and community structures. They largely rely on the same agricultural service and supply dealers and have similar seasonal economies. To date, the structures do not exist to support significant collaboration and the historic pattern of resource sharing at the agency level has declined.

Infrastructure

What is it?

Infrastructure involves all of the physical and organizational structures and facilities required for society and businesses to operate. It includes buildings, transportation, communication networks, energy, waste management, and water supplies. All are essential for economic development. And while infrastructure provides significant benefits, its costs are dispersed across many users. Thus, its public good nature necessitates funding from taxpayer dollars.

Why is it important?

Infrastructure provides the backbone for providing public goods, and other goods and services. Government, communities, and businesses benefit every day from using them. However, today there is an emphasis on significantly improving transportation, communication, information technology, and energy infrastructure. These include paved roads, power grids, broadband, and cellular networks.

Counties that have extensive broadband access have led to more businesses in rural areas, and are associated with lower unemployment for rural residents.⁹ Businesses across all industries will benefit from improved infrastructure to support and improve efficiency and effectiveness. It will also likely encourage the creation of additional businesses that were unable to operate prior due to a lack of basic infrastructure.

Regional Considerations

Wayne County can benefit from improved transportation and communications infrastructure. Many roads in the county are narrow and unpaved, making all-season access a challenge. Poor road signage and limited access to Interstate highways prevent robust tourism development. With the additional complication of patchy cellular coverage, it is difficult for tourists unfamiliar with the area to navigate the area. Navigational challenges have efficiency implications for companies dealing with transportation logistics within the food supply chain, particularly when attempting to capitalize on the nearby metropolitan markets.

Like many other rural counties, Wayne County also has poor broadband access. This lack severely impacts all businesses. Farmers, in particular, cannot quickly access online auctions or precision monitoring, thus barring them from utilizing all tools at their disposal to improve their operations. Currently, only 493 of 711 farms have internet service and only 170 of these are in broadband connections. Such a deficiency of coverage negatively impacts direct market farms and farms that must have EDI connections with transportation companies in a significant manner.

Cellular service is similarly limited in the county. There are currently large areas of the county where there is no cellular service. This impacts a range of communication and

⁹ Whitacre, Gallardo, and Stover, "Broadband's Contribution to Economic Growth in Rural Areas"; Kim and Orazem, "Broadband Internet and New Firm Location Decisions in Rural Areas."

navigational needs from broadband access to cell-based navigation and has impacts that go well beyond production agriculture.

Wayne County also lacks sufficient aggregation, distribution, and processing infrastructure. The absence of facilities that aggregate and process food prevents small farms from accessing larger markets. Sophisticated distribution and logistics are also absent. The lack of collaborative frameworks prevents current businesses from expanding and may prevent future businesses from being created within the county.

Labor Availability

What is it?

Labor availability accounts for the population that is eligible for the labor force. Generally, this includes the employed and unemployed population, except for retired persons, students, those taking care of children or other family members, and others who are neither working nor seeking work.

Why is it important?

Labor availability trends across time, geography, and specific skill sets are all critical for assessing the health of the economy and developing strategies to create job opportunities. For many rural communities, loss of a young and talented workforce is a big issue. Because the agricultural sector has been severely impacted by an aging farmer population and a decline in the labor force, labor availability is particularly important for the agricultural industry.

In addition to the declining number of farmers, there is also a lack of job opportunities to create and maintain a workforce skilled in various trades and vocations. In many cases, people migrate to more urban areas to pursue work. While many individuals are available for jobs, every industry requires personnel with specific skill sets. In agriculture, there is a need for a labor force experienced in animal husbandry, plumbing, mechanics, veterinary science, and other skills that support crop and animal production.

Regional Considerations

The county workforce is comprised of approximately 25,000 workers and has a low unemployment rate of approximately 4.3%. Despite the low unemployment rate, interviews indicated a high level of underemployment and seasonal employment, leaving room for growth and development in the quality of jobs found in the county. Given the shortage of “quality” jobs, it is understood that technical, professional, and white-collar workers either leave the area or commute out of Wayne for employment.

The above conditions hold true for agriculture, as well. Brain drain and insufficient agricultural workforce are threats to the local economy. Many residents have moved out of the county for training and education. Once residents leave, they often stay out of the county through their years of primary employment. Interviews with youth indicate that many would like to remain in the county after graduation, but they feel that the opportunities to find sound employment or start a business are too limiting.

According to farmers, those left in the workforce and available for seasonal work lack basic work and life skills. Poor work performance and high turnover were cited as reasons that some farms were reducing the scale of operations as a means to reduce the workforce risks on business performance. Specific deficiencies were noted in well-trained large animal vets, farm managers, field workers, butchers, welders, mechanics, equipment operators and other technicians. In the absence of attractive opportunities within the county, the agricultural employment base will decline. The lack of labor was also cited in supporting services. When combined with the overall labor situation, workforce conditions must

change significantly for any business in the food and agriculture supply chain to remain viable in the long-term.

2017 Civilian Population 16+ in Labor Force	Wayne	Region
Civilian Employed	95.7%	94.2%
Civilian Unemployed (Unemployment Rate)	4.3%	5.8%

2017 Employed Population 16+ by Occupation	Wayne	Region
Total	25,077	228,777
White Collar	52.9%	55.6%
Management/Business/Financial	11.7%	11.3%
Professional	17.4%	20.3%
Sales	9.8%	9.9%
Administrative Support	14.1%	14.0%
Services	19.3%	19.7%
Blue Collar	27.8%	24.7%
Farming/Forestry/Fishing	0.7%	0.6%
Construction/Extraction	7.9%	6.0%
Installation/Maintenance/Repair	4.7%	3.9%
Production	5.2%	6.2%
Transportation/Material Moving	9.3%	8.0%

Source: ESRI, Business Analyst Online, 2018

Ag Service and Supply Networks

What is it?

Service and supply networks represent the input, output, and auxiliary industries that support production agriculture. These businesses help form a healthy agricultural economy. The networks vary by industry but are an essential component for any agricultural sector. Some examples include agricultural financing, feed suppliers, food processing, sales and service of equipment, veterinary services, and other manufacturers.

Why is it important?

Production agriculture relies on a network of inputs and services and product markets to thrive. Unfortunately, much of the infrastructure and services are specialized by industry and require a regional critical mass to be viable. As agricultural production diminishes, so does the infrastructure that supports it. As infrastructure diminishes, farmers are often forced to go farther to obtain basic inputs and services, or the area may end up with only one, non-competitive provider. Either scenario reduces competitiveness, increases costs of doing business, and can make production agricultural economically unfeasible or unsustainable.

While specialized equipment, supplies, and infrastructure may become harder to acquire, the internet offers opportunities for general agricultural supplies. Today, many farmers can buy row cover, seeds, fertilizer, irrigation tools, and other basic supplies online.

Regional Considerations

Wayne County faces significant challenges regarding access to inputs and services. Support services, equipment dealers, and farm supply stores are declining. In fact, many farmers in the county indicated that service and supply options were becoming limited to one or two providers within a category. As a result, options for inputs as crucial as feed and seed supplies are becoming costlier and must be purchased with longer advanced notice.

While total agricultural support and supply services in the region increased slightly, much of the increase was for lawn-and-garden-scale operations. In fact, Wayne County has lost about 25% of these businesses between 2006 and 2015. The most important of these include veterinarians, farm machinery and equipment dealers.

Unfortunately, the county lacks farm equipment dealerships specialized for agriculture. Instead, many of the farm-supply and equipment retailers and wholesalers have shifted to selling products for homeowners. It appears that dealerships believe low farm profitability makes selling expensive farm equipment an unprofitable business decision. Furthermore, equipment dealerships cannot find enough skilled mechanics and welders to replace those who are retiring. The same holds true for individual service dealers, who are aging out.

Though the area boasts a large number of veterinarians, farmers cite a decline in availability particularly during crucial seasons when birthing problems occur. The local large-animal veterinary practice shortage is particularly acute in the dairy industry where timely care is essential care. The decline is attributed to the economics of large-animal veterinary services which forces many veterinarians to take on small-animal practices to be sustainable. Encouraging more livestock operations may stave off the decline by increasing

demand and providing plentiful work opportunities for veterinarians, provided the operations can sustain the cost of their services.

Services such as custom farm services, crop preparation and post-harvest handling are also difficult to find. The lack of these services hits small and resource-limited farmers the hardest. It was frequently suggested that a resource-sharing platform would help to leverage assets more efficiently and reduce the impact of this condition.

NUMBER OF FIRMS IN RELATED AG SUPPORT AND SUPPLY SECTORS

	Region		Wayne	
	2006	2015	2006	2015
SERVICES				
Agricultural Support	6	6	2	1
Veterinary	38	44	7	4
MANUFACTURING				
Fruit and Vegetable	1	2	0	0
Livestock	16	12	1	1
Dairy	6	9	0	1
WHOLESALE				
Farm Supplies & Raw Materials	3	5	0	0
Farm Equipment & Machinery	15	10	5	2
RETAIL				
Nursery/Garden Centers	36	36	9	9

Source: County Business Patterns

Economic Development Opportunities

Leveraging the assets of Wayne County and the surrounding region to create sustainable economic growth may be best served by embracing a strategy known as Industry Cluster Development. Industry Cluster Development uses a systems development approach, to strengthen core industries in which the county has a comparative advantage over its competitors. Within this framework, economic development officials work with partners in the public and private sectors to ensure that the local economy has sufficient specialization to achieve economies of scale and scope, even within small rural communities.

Where successful in its application, studies have demonstrated that rural manufacturing and technology-based clusters have positive impacts on the tax base, wages, and job creation.¹⁰ They may also serve as an anchor for additional, related industry development that can add stability, vitality, and robustness to the local economy.

Understanding how rural economic clusters can function is exemplified by the northern California wine industry centered around Napa County. Nearly 100 years ago, the area was a poor rural community with little grape or wine production. By engaging in active cluster development this region has become an internationally recognized center for activity that is home to thousands of grape growers, hundreds wine manufacturers, product development laboratories, viticulture and oenology training programs, as well as related marketing, advertising, and manufacturing of products such as packaging materials, casks, and process controls.

Industry cluster development is not new. In the early 1990s two prominent economists, Michael Porter and Paul Krugman, introduced a new theory of comparative advantage in economic development that has radically transformed the way many rural and urban areas establish sustainable economic competitiveness. This economic development theory is known as Industry Cluster Development. It states that economic activities in successful modern economies are embedded within a supportive social structure and may result in increased productivity, drive innovation, and spur entrepreneurial small-business activities. The more interrelationships that can be engendered in a cluster, the stronger and more sustainable a cluster will become, yielding greater returns to the community in terms of jobs, investment, tax base, and wealth creation.

Why Is Cluster Development Important?

Target industry development within vertically integrated clusters is critically important to successful agricultural economic development. Because of the food system's strong linkages to the economy, every dollar in sales generated by a food manufacturer in the state, an additional \$2.17 in value is created in the economy, and for every dollar in sales generated at the farm, an additional dollar in value is created in downstream industries.

The social and systemic nature of cluster development means that its success lies in balancing the competitive nature of firms within an industry by demonstrating the benefits

¹⁰ <https://pdfs.semanticscholar.org/0ec2/424269027502eb3c018cf6601b1398978161.pdf>
<https://www.usda.gov/media/blog/2017/09/12/manufacturing-relatively-more-important-rural-economy-urban-economy>

of integration and collaboration both vertically and horizontally. The benefits must be evident at the firm level as well as the community and regional level in order to be sustainable. These constructive relationships manifest themselves in very different ways from community to community. Some common benefits that must be present by level include the following.

- Firm-level benefits
 - Access to markets that are not reachable by an individual firm
 - Pooling of intellectual and physical assets that allow high-speed response to market change
 - Rapid access to specialized capital
- Community-level benefits
 - Sustainable growth in the tax base
 - High return on targeted economic development investments
 - Supportive business development policies
- Economy-wide benefits
 - Enhanced human capital skills
 - Improved “know-how” networks
 - Improvement of service and supply infrastructure

Where governments and industries collaborate, this specialized and networked approach to development builds competitive advantages where they may not have previously existed.

Even though clusters may form on their own, they do not last indefinitely. Networks require nurturing, well-planned support, research, supportive policies, and infrastructure enhancements. Public institutions play a role in attracting, supporting, and retaining clusters through:

- Supportive public policy,
- Coordinated network development,
- Small and mid-sized enterprise support,
- Human capital development,
- Infrastructure investment, and
- Investment in sectoral research and development.

Clusters themselves consist of multiple industry and non-industry players. These players are often characterized as:

- Core businesses—These businesses are the centerpiece of the clustered economy and are responsible for generating the economic activities and bringing new dollars into the cluster or region. In many clusters, core businesses are value-added processors of some type such as manufacturers.
- Support businesses—These businesses are essential to the function of the cluster but are only involved in the cluster because of their relationship to core businesses. These firms include specialized service providers or distributors that service the core and derive their income from the cluster.

- Transformative businesses—These businesses and individuals are often seen as change agents that push innovation and efficiency gains in the industry that help to maintain internal and external competitiveness. These businesses are often creative in nature, though focused on marketing, product development, research, technology adoption, and intellectual property creation.
- Soft infrastructure—This is the community-based infrastructure that supports the cluster including schools, universities, incubators, business networks, community finance programs, trade associations, government agencies, and other local services dedicated to support the needs of the cluster. In highly effective clusters, the community is fully engaged in supporting all levels of cluster development.
- Hard infrastructure—This is the physical infrastructure that industries require for their basic functions such as water, sewer, energy, highways, ports, rail, and broadband internet. Hard infrastructure must be maintained at a competitive level to both attract and maintain a cluster.

While the cluster development scheme has been well understood for several decades now, only recently has it been applied to agribusiness clusters, making this fresh territory for local governments interested in leveraging agricultural production and related manufacturing businesses. Based on research recently conducted by Cornell University, cluster development in agribusiness may be a very wise investment of community resources. For every dollar in sales generated by a food manufacturer in the state, an additional \$2.17 in value is created in the economy, and for every dollar in sales generated at the farm, an additional dollar in value is created in downstream industries. This ranks food manufacturing and agriculture among the most integrated industries in the economy.

When employed in the context of rural economies, the cluster-industry approach is often best employed at a regional level where assets can be marshaled at the appropriate scale to be effective. Successfully maximizing individual community returns when approaching regional development activities relies heavily on an honest evaluation of the jurisdiction's strengths and weaknesses as well as a solid basis for interjurisdictional cooperation that clearly outlines roles, responsibilities, and benefits of regional partners.

Stages of Business Growth

Cluster development requires supporting all businesses, from start-up ventures to mature, well-established firms or even businesses that are in the process of closing. For the purposes of this study and any subsequent economic and business development activities, the stages of business growth are divided into 4 primary stages with the development activities focused on two of the four, stages 1 and 3. These stages are defined in the table below. While cluster development activities must monitor and support all stages of growth, Stages 1 and 3 are the most important for robust cluster development. The type and level of support will vary by industry.

Business Development Stage				
	Stage 1	Stage 2	Stage 3	Stage 4
Scale of Business	<p>1. Seed – Concept development and product testing</p> <p>2. Startup – Operations start, model adjusted, management systems begin to form</p> <p>3. Early growth – model still emerging, fast growth in place, fundraising on operational changes are fundamental to success</p>	<p>1. Established – low- or no-growth companies with established markets and products that are looking to protect market share</p>	<p>1. Expansion – firms looking to increase market share, expand products, and open new markets.</p> <p>2. Established – well developed product lines and brands. Growing through acquisition and product line expansion</p>	<p>1. Exiting – firms at the end of the life cycle</p>
Business Needs	<p>Market research, development planning, product innovation, branding, finance, personnel, operations, and logistics</p>	<p>Cost management and regulatory advocacy support</p>	<p>Relocation and expansion support that allows quick market reaction; workforce readiness programs and investment tax support; peer networking; logistics and supply chain support</p>	<p>Workforce and real estate transition; debt workouts</p>
Community benefit	<p>Investment, jobs, wealth creation</p>	<p>Stable job base that supports vertical integration in supply chain</p>	<p>Large stable tax and employment base. Strong investment in human capital</p>	<p>Impact on the community is often negative</p>
Intensity and duration of support	<p>High-intensity support for 6 to 36 months</p>	<p>Low-intensity support includes periodic outreach and market protection activities often with a regulatory focus</p>	<p>High- to moderate-intensity during relocation and expansion.</p>	<p>High-intensity support to help transition workforce when closing or to support merger or acquisition</p>
Fit with Cluster Development Theory	<p>Renewing source of businesses around which capital and human resources are developed are essential for cluster development</p>	<p>Not crucial to cluster development but provide a solid base of jobs and experience that anchors upstream and downstream industries</p>	<p>Crucial to establishing longevity in the cluster by supporting upstream and downstream development and anchoring service and support industries; also critical in building human capital</p>	<p>Provides asset base in the community and helps to support service and supply networks</p>

The following section of the report highlights specific needs by sector.

Agribusiness Cluster Evaluation

Providing effective assistance or incentive to any industry requires, among other factors, correctly identifying the needs (and potential community benefits) of that specific industry at each stage of a sector's growth—from start-up to mature business. This section reviews specific industry sectors, which are the target of this report, with emphasis on local conditions and opportunities.

Many of the opportunities highlighted for entrepreneurial growth fit well within a cluster development model. The opportunities highlighted below are expected to be in growth-related industries both nationally and regionally, with much of that growth driven by innovation through entrepreneurial activity. The data provided is a snapshot of the industry data and is offered to highlight key opportunities at this time.

The focus industries are:

1. Online Grocery
2. Specialty Dairy Products
3. Meat and Poultry Products
4. Wood Products
5. Craft Beverages

These industry opportunities are described in further detail in the following pages.

Specialty Online Grocery

Industry Snapshot

While not represented by an official NAICS Code, the online grocery segment is rapidly expanding in both rural and urban areas across the United States. The segment includes firms who market foods exclusively through the internet and utilize non-traditional delivery methods to reach the customer. Generally, these firms do not have any retail infrastructure.

As of the beginning of 2016, there were an estimated 2,500 online grocers operating domestically. These firms generated more than \$12 billion in sales with an expected annual growth rate of more than 10% and annual profits of more than \$400 million. The industry has several well-known brands including PeaPod, Amazon Fresh, Blue Apron, and HelloFresh, but none of these firms has been able to achieve a market share larger than 6.5% in any single market area.

The greatest share of industry sales comes from regional firms with strong affiliations with regional supply chains. In fact, many of the firms in this sector differentiate themselves by having exclusively local or specialty supply chains that cannot be mimicked by the large grocery chains.

Like the general food retail industry, this sector has a highly diverse product mix made up of fresh foods such as fruits, vegetables, and meats; processed goods such as cereal grains, dry goods, and spices; beverages; and nonfood items. Offering such diversity means that these firms must have access to a highly diversified supply chain. Because of this, representative firms are often found in urban centers or near large logistics centers.

Online grocers are significantly different than standard retailers in their product delivery methods. The largest firms in the industry generally deliver products directly to their customers either through their own vehicle fleets (Peapod & Fresh Direct), contract delivery (Hungry Harvest & Amazon Fresh), or third-party carriers such as FedEx (HelloFresh & Blue Apron). Because of product segregation and temperature management issues, food and beverage products require specialized packing materials.

The sector is new and emerging with new entrants and dropouts announced on a near-weekly basis. Much is to be learned about the model and its



impact on the food industry. Despite its unsettled nature, one thing is certain: Most people in the food industry expect that this sector will continue to grow and anticipate annual rates at or near 10% for the next five to 10 years, making it a prime target for attraction and development. Despite this growth, **Business Insider** projects that only 15% of households will adapt to being online food purchasers for their normal shopping needs.

Local Context

The northeastern United States, including Pennsylvania, is the largest user of online grocery services in the US, purchasing more than 10% of all grocery items sold through this supply chain. Wayne County as a market is served by very few of these online options. The Lackawaxen Food Hub is a seasonal provider of perishable items. The only other outlets of this nature offered in the region come from major national and international players that use third-party logistics such as HelloFresh and Blue Apron. Based on interviews in the community, the largest user of online grocery services in the county are likely seasonal visitors with vacation homes who are accustomed to using such services given their wide availability in nearby urban centers.

With the recent announcements by Geisinger Health System and Wayne Memorial Health System regarding the introduction of community health and nutrition programs utilizing food-based prescriptions, the development of local online grocery options that focus on making healthy foods viable for local entrepreneurs. Significant investment in agriculture, processing, packing, distribution, and technology is expected as an outgrowth of these efforts.

Cluster Formation

If **Business Insider** predictions are accurate and 15% of households adapt to online food purchasing, then locating in close proximity to large consumer markets in an area with strong logistics systems and existing food distribution assets will be essential to start-up and emerging growth firms. Being close to large urban population centers in New York, North Jersey, and Philadelphia, Wayne County is well placed to support new venture formation as well as business attraction and expansion in this market.

Firms in this sector require business development support, which is available in the region, but may require innovative thinking on the part of service agencies. Much of the technical and professional support requirements are met by existing programs but will require augmentation to support entrepreneurship. Competitive jurisdictions, such as the Hudson Valley and Catskills Region in New York have spent the last ten years developing entrepreneurial support systems such as the Hudson Valley Agribusiness Development Corporation's Incubator Without Walls and the Farm and Food Business Accelerator programs. These initiatives have supported a number of viable Hudson Valley-based online grocers such as Hudson Valley Harvest and Field Goods. Support requirements include:

- Access to nimble, start-up capital networks,

High Quality and Kosher Dairy

Efforts in Wayne and surrounding counties are revealing gaps in the supply of high-quality kosher dairy products. Work is underway to develop processing capacity to make these products. Such a business will support local dairies willing to undergo certification.

- Strong local food purchasing networks,
- Access to distribution and logistics support,
- Flex-warehousing options with rapid expansion opportunity,
- Package design and manufacturing support,
- A technologically savvy workforce with app development and Enterprise Resource Planning (ERP) experience, and
- Third-party logistics companies to support just-in-time processing models.

Many of these components exist in Wayne County and surrounding micropolitan communities of Wilkes-Barre and Scranton but have not been organized to market to this disparate group of operators.

Cost Basis and Competition

A solid understanding of the cost basis of this industry and the underlying issues of financial sustainability is still emerging as research grows in the sector. It is generally understood that the industry produces an 8% profit margin, which is up significantly from a 2% profit margin in 2010. Swift growth in some markets has attributed to this increase in margins, and many in the industry expect the profit rate to fall as competition increases. The largest components of costs are labor, packing materials, and food, which collectively account for 76% of revenue. This leaves a very thin operating margin that is not substantially different than other retail food segments. Because of this, the future of the industry will hinge largely on the adoption of internet grocery shopping in target segments outside of those who currently engage in the practice.

The recent announcement by two health systems of their interest in creating food as medicine programs opens the door for farmers and logistics providers to create last-mile delivery options that may function in a dual role capacity. The first role would be to serve as a year-round supplier of healthy foods to the county's permanent residents. The second role would be as a provider of fresh and prepared local foods to seasonal residents under a brand that supports full monetization of this customer base.

Wayne County's Role in Cluster Development

A lack of adequate road infrastructure, including paved roads and signage, prevents Wayne from capitalizing on their proximity to major markets in New York, northern New Jersey, and Philadelphia. Furthermore, Wayne's significant transportation shortcomings severely impact lower-income residents from consistently accessing fresh food. Once these transportation issues are addressed, Wayne will be in a unique position to tap into nearby micropolitan and metropolitan markets with local meat, dairy, other food products, and other non-food agricultural products. The influx of seasonal and weekend residents visiting Wayne as a vacation spot could opt into a local delivery service, both in Wayne and at home in the aforementioned metro and micropolitan regions.

Specialty Dairy

Industry Snapshot

Large consumer products companies, like Dean Foods—whose products overwhelm the retail dairy case with commodity products—dominate the dairy industry. This \$112-billion industry is segmented into five primary sectors: cheese, fluid milk-based products, dry and

evaporated products, ice cream, and butter. While each of these segments has some specialty element, the cheese, fluid products, and ice cream segments have the greatest participation by specialist firms and show the highest growth potential.

Dairy consumption in the United States has undergone enormous structural change driven by demographic, cultural, and dietary trends. Many of the products that provided the foundation of the industry, such as whole milk and ice cream, have seen dramatic declines in sales, while health-related and premium segments, particularly in yogurt and cheese have picked up the transitional volume. Over the last five years, industry sales have declined nearly 1% annually as industry mergers and acquisitions have been seeking efficiency gains in the face of change. As a result, there has been a consolidation in large commodity production plants, many of which are in the Great Lakes and western United States regions.

The transitional pressures on the commodity sectors have opened opportunities for small and emerging growth companies, with the result being an annual increase of 1.5% in establishments operating in the sector. The growth in the specialty sectors is found in cheeses, ice cream, and fluid products, which include milk, yogurt, whey, and other cultured milk products. The northeastern United States and Great Lakes have seen the largest growth in these firms. These areas have also developed a national reputation for quality and value.

The most important buying segments for the specialty dairy are foodservice operators, supermarkets, grocery stores, wholesalers, and specialty retailers. The importance of the buyer segments is changing to match the consolidation and growth changes mentioned previously. Large dairy wholesale operations are being replaced through a process known as *wholesale bypass* as large commodity operators like Dairy Farmers of America (DFA) and Dean Foods contract directly with large institutional buyers and supermarkets, thereby cutting out the wholesale segment. A reduction in the importance of the wholesale sector means that such firms are clamoring for relevance in specialty lines to keep customers in food service, restaurants, grocery stores, and specialty retailers. This is providing new market access opportunities for small firms.

Local Context

Milk and milk products (NAICS 31151 & 31152) present a unique development opportunity for Wayne County as evidenced by the number of small on-farm dairy operations that exist to service the local and regional marketplace for ice cream, cheese, pasteurized milk, and raw milk. These firms are complemented by several large regional processing facilities that create markets for the county's dairy farmers. Firms like WAWA in Moosic take advantage of the positive logistics infrastructure in the region and its proximity to large retail and institutional buyers. Proximity to high-value consumer markets in the New York area as well as New England is an essential element of the sector's competitiveness.

The region currently boasts equally strong growth and indicators. The counties immediately surrounding Wayne are home to nine dairy firms. These firms are distributed across a wide range of sales values, with the smallest having sales of less than \$200,000 and the largest having sales well over \$100 million. Not included in these statistics are three start-up operations arising to fill market niches in cheese, yogurt, and fluid milk. Expanding

these efforts through cooperative and complementary economic development activities offers important growth opportunities for the industry.

Despite the fluid demand created by these industries and positive entrepreneurial culture, dairy farmers are concerned that the core processing industries need to be enhanced to fortify and strengthen the production cluster and improve dairy prognosis. Without active entrepreneurship in this area, there is a strong sense that a large number of producers will cease operations.

Cluster Formation

The dairy industry historically has not demonstrated strong clustering effects outside of the cheese manufacturing industry, unless clustering was driven by the handling requirements of raw or finished products. Recent efforts to promote clustering in Vermont, Oregon, Idaho, Colorado, and Nevada, however, demonstrate that concerted efforts to build value-added capacity around existing or emerging farm-level milk production can be successful.

Pennsylvania and nearby areas in New York have seen cluster formation around cheese and yogurt manufacturing. Specialty markets, including Hispanic and



kosher dairy products are seeing cluster development in nearby New York and New Jersey jurisdictions as entrepreneurs there try to capitalize on these underserved community needs. Pennsylvania has seen significant growth in on-farm raw milk bottling, particularly in border areas of the state where adjacent jurisdictions restrict the sale of raw milk. The growth in interest in fluid raw milk has spurred an additional interest in processed raw milk products like cheeses and other cultured products.

If Wayne County is to build on the lessons learned from prior dairy-related cluster development, its focused economic development efforts should begin with supporting and retaining existing dairy businesses while building specialized infrastructure and programs to support emerging growth firms to include:

- Development focused on secure niche demographics such as the Central American demographic in the NY-NJ metropolitan area,
- Product development and testing capabilities for cultured and fluid products,
- Capital access programs to build specialized production assets,

- Market research support to assist producers in identifying and characterizing niche market opportunities,
- Distribution and logistics planning support,
- Tourism promotion around the sector's unique assets, and
- Workforce development specific to industry needs.

Cost Basis and Competition

Effective employment of resources is critical in an industry that has a net profit margin of just 3%. There are wide variations in economies of scale from large to small operations in the dairy industry as larger firms are more capable of leveraging the benefits of labor, procurement systems, logistics, capital, and technology.

The largest share of costs in the industry comes from ingredient purchases (69% of revenue) and labor (6.3% of revenue). Marketing costs represent less than 0.1% of revenue across the industry, though large firms may allocate ten times this to brand-building efforts as a means to protect market share. Because of its generally low returns, most players in the industry carry relatively high levels of debt to leverage equity returns. Start-up firms will find it difficult to reach this kind of leverage ratio therefore limiting competitiveness. Incubator facilities would help address the issue and help start-ups to be competitive.

Wayne County's Role in Cluster Development

An increasingly impressive agritourism industry in Wayne County is a direct result of the seasonal and temporary visitors Wayne hosts. In order to effectively capitalize on the business opportunities presented by these visitors, Wayne can expand its production of ice cream and cheese products to service seasonal visitors. These products can be marketed directly to consumers, sold in retail locations, and on-site agritourism. Additionally, Wayne can capitalize on the opportunity to service the influx of summer camps demanding kosher products by developing kosher dairy manufacturing processes. This process begins with a feasibility analysis for the construction of a new dairy plant designed in the model of Tillamook Creamery's tourist-oriented plant in Oregon.

Meat and Poultry Products

Industry Snapshot

Meat and poultry processing (NAICS 31161) is the segment of the industry that slaughters, processes, and provides additional value-added and distribution services. The industry produces \$223 billion in sales with expected annual growth of just 0.5%. The industry has a high level of concentration in the top four firms, who represent nearly 36% of total industry output.

As firms have gotten larger and more concentrated, there has been a steady decline in product offerings, particularly in fresh consumer products such as case meat, cured meats, and sausages. Given the industry's consolidation and level of capital intensity, it has seen robust technology adoption in an effort to replace labor as a major component of production. Standardization is a by-product of this technology adoption, and it is creating an ever-larger opportunity for small processors to step into the void created for custom processing. An interview with a large broadline distributor revealed that procuring a

specialty-butchered item could require many weeks' notice and "extraordinarily" large minimum purchase quantities.

As a result of the restriction in specialty supply, the decline in the number of processors that began in the 1990s began to reverse itself shortly after the recession of 2008. This is a trend that is expected to continue for at least the next five years, as new, custom operators enter the market. Many of these entrants will be focused on serving specialized markets for ethnic specialties, high-margin consumer goods, and quality oriented nutritional products.

Local Context

Wayne County presents an interesting case for development of the meat products industry given the sustained growth in small beef cattle operations and an increased interest in raising small ruminants for ethnic meat markets. Furthermore, the county boasts excellent production characteristics for the delivery of grass-raised and grass-finished meats, which are currently in high demand.

The county and region currently support a large number of small-scale, state-inspected processors but has very limited options for USDA processing. The 14 firms operating regionally include five poultry plants, eight red-meat plants, and one rendering facility. Some of these firms are quite large, employing up to 350 people with revenues of over \$6 million. The majority, however, tend to be quite small. The animal processing facilities in the region employ a median of eight employees, and their median revenue is \$1.25 million.

Given the limited capacity and high reliance on state-level inspections, there are real limits to growth in the sector due to manufacturing and marketing restrictions. Because of these restraints, several efforts are underway to create additional USDA processing capacity for beef, lamb, goat, and poultry. Without a true meat distributor in the region, additional capacity in processing must be accompanied by the development of a sales and distribution infrastructure, particularly to access certain ethnic and cultural markets.

Cluster Formation

The meat and meat products industry is bifurcated. First, firms tend to be either rural or urban in nature, with slaughter and cutting operations favoring rural locations in proximity to agricultural production. Marketing and value-added processing are more often urban-centered. Similarly, national firms tend to operate large technical facilities that operate at very high efficiency while many of the local industry's value-added processors tend to be smaller and operate inefficiently in flex real estate environments. Where clusters exist, they are built around assets such as feedlots, skilled workforce, specialized distribution networks, or around market opportunities such as specialized or ritual processing.

Wagyu Beef:

Already ongoing is an effort by a local business man to develop higher value livestock. He is working to establish a Wagyu beef supply chain for restaurants on Long Island that could benefit from cluster formation.

Wayne County is fortunate to have many positive cluster attributes such as strong local and regional production and feed infrastructure combined with specialized distribution networks and off-take markets for by-products like fats, offal, and hides. These factors, combined with the availability of inexpensive real estate, make the attraction or

development of a value-added meatpacking cluster a possibility. Land-use code changes and community acceptance of the industry are in question, but the project team feels that operations such as meal portioning, smokehouses, aging, case-meat preparation, and sausage making could all be housed in the area and provide valuable new markets for farm products for both local consumption and export to nearby urban centers.

Wayne should consider focusing on development of local entrepreneurial talent as well as recruitment of growth-oriented entrepreneurial firms that relocate from nearby metropolitan areas such as Boston, New York, and Philadelphia.

Given the above, the project team suggests the economic development efforts focus on recruitment of meatpacking and related businesses to the region with a particular emphasis on:

- Workforce development, particularly in skilled labor positions;
- Site certification for animal handling and meat processing use;
- Utility assessments to ensure access to adequate water and sanitary sewerage; and
- Municipal codes that allow meatpacking uses.

Cost Basis and Competition

The livestock processing sector produces relatively modest net revenue of 3.4%. Net returns have been slow to recover after the 2008 recession but began to make gains as firm numbers grew and new products began to reach the market.

The two largest cost drivers in the industry are raw inputs (70% of revenue) and labor (8% of revenue). For those firms in the pure commodity business, it is essential to manage all operating costs and to maximize the use of both labor and raw materials. Even modest gains in efficiencies in these areas can have a significant effect on the bottom line. As noted earlier, this type of standardization is thought to be reducing some marketing efficiencies and is, in part, responsible for emerging opportunities for small, agile firms.

Constant cost pressures at all levels of the industry mean that there are no substitutes for efficiency and solid market intelligence. Improved market intelligence, when translated to new product innovations, will drive the success of small firms in this sector.



Wayne County's Role in Cluster Development

With strong interest amongst farmers and regional players, Wayne County has enormous potential in its livestock sector. Like with dairy, its influx of seasonal visitors with specific dietary needs, such as kosher meat, presents a great opportunity for Wayne to expand its livestock production and processing. Wayne's proximity to major markets would help smooth out fluctuations in production. Wayne should collaborate with regional partners also engaged in livestock management, production, and processing in order to produce appropriate volumes to meet the demands of larger market areas efficiently. This collaboration should begin with enhancing key processing and logistics infrastructure as well as new product-development activities.

Wood Products

Industry Snapshot

For the purposes of this memorandum, the wood products industry is narrowly defined to that segment of the industry that is the first receiver of forest products defined to include loggers, timber harvesters, and sawmills (NAICS Codes 1133, 1132, and 3211). These businesses are the primary buyers of standing timber and have the strongest direct correlation to woodlot management. These industries, however, rely on secondary manufacturers and the building trades to provide the liquidity for making timber purchases. Key purchasing industries, like those found in the list below will be discussed as the key drivers of wood product demand. These sectors include a wide range of products and processing types such as:

- Construction trades,
- Manufacturing of furnishings and home accessories,
- Cabinetry,
- Boxes and pallets,
- Engineered structural components,
- Wood flour,
- Paper and paperboard manufacturing,
- Prefabricated structures,
- Paneling and flooring, and
- Biofuels

The core industry functions of timber harvest, management, and sawmilling accounted for more than \$40 billion in sales in 2016. The industry is riding a five-year growth trend that saw annual value increases of more than 3%. Over the next five-year period, a slowing of building trades and higher dollar exchange rate will likely cool value growth to approximately 2%. Localized demand fueled by new construction starts in the Northeast and Mid-Atlantic is expected to keep these regions growing at a rate in excess of the national average.

The core industry segment is made up of small firms with a specialization in product or timber processing type. While large firms such as Georgia Pacific have been aggressively acquiring market share by purchasing regional mills, the Northeast has largely avoided this trend, with Pennsylvania and New York accounting for 12% of the national total of sawmills in the US. According to industry experts, the high-quality hardwoods found in the northern

Appalachian Mountains provide the anchor for the forest products industry since hardwood forest stands of this quality are difficult to find elsewhere in the US.

With the advent of forestry practice certification programs, such as the Forest Stewardship Council's Harvest and Management Certification program, the industry has renewed its image as an environmentally friendly, renewable resource. This has had the effect of encouraging better management of forests while improving the view of wood products as a competitor to masonry, concrete, and steel, which is further augmenting demand.

Local Context

Wayne County farms contain more than 43,000 acres of woodland, making woodlots the largest land-use activity on local farms. Surrounding counties share similar farm profiles meaning that a healthy wood-product markets are essential to the overall economic performance of the farms. The value of these forest resources is predicated on having well managed forest stock, a competitive base of buyers (loggers), and local mills to process the timber.

Fortunately, Wayne is situated in an area with significant industry infrastructure due to the high quality of the standing timber stock. The region boasts 18 logging companies and approximately 20 primary manufacturing companies including 18 sawmills. The county and the region, however, lack significant downstream activity in the sector, particularly in areas that are innovative and entrepreneurial. This means the benefits of further processing accrue to other communities.

Downstream industry demand drives the harvest and primary manufacturing sectors. Entrepreneurial activity in secondary manufacturing firms such as cabinetry and furniture making add important revenue streams and create demand that adds value to the standing timber. The absence of these firms and related research and development activities therefore hampers industry development in the region.

Cluster Formation

Wayne County has exceptional standing timber quality. Better utilization of the standing-timber industry will be driven by increasing the demand for the prevailing timber stock. The county has a standing inventory of mixed quality hardwood and softwood stands that are suitable for end uses that range from pulp and fuelwood to cooperage and cabinetry. Improving the value of timber stands means finding outlets for this range of timber types, beginning with low-grade timber resources.

The Pennsylvania State Forest Action Plan sets forth the program of work to coordinate and improve activities that increase the utilization of wood products. This plan, and the industry associations and agencies that support it, are critical in developing entrepreneurial responses in the wood-products market and building-assistance programs that effectively engage in a cluster formation strategy. Beginning with the assumption that finding markets for low-grade timber is the greatest challenge for landowners, building markets for biofuels to use as feed stock for combined heat and power (CHP) projects, district heating, and micro-grids seems a natural starting point. This could be followed by expanding secondary processing activities like tight and slack cooperage in support of other industries such as horticulture (slack), brewing (tight), winemaking (tight) and distilling (tight) appropriate for the scale of the local industry.

Supporting further development of wood products sector will involve an integrated, multi-agency approach to economic development that begins with a regional forest-products inventory and market evaluation followed by targeted recruitment of firms that bring the right resource demands to the marketplace. This effort should be coordinated with the Pennsylvania State Forest Action Plan to ensure that recruitment activities will effectively improve the value of local forest stands.

Smaller, entrepreneurial project development can be effectively undertaken to expand activities in industries where small entrepreneurial firms thrive, such as cooperage, cabinet making, millwork, specialty displays and accessories, veneer export, and custom wooden packaging. Additional opportunities exist in emerging innovation clusters driven by university and private industry research such as cross-laminated timber (CLT) and thermally modified wood. Services required to support entrepreneurship include:

- Generalized business counseling;
- Landowner counseling on timber management;
- Increasing the number of third-party certified woodlots;
- Capital access programs to build specialized production assets;
- Increased funding for innovative research;
- Distribution and logistics planning support; and
- Workforce development specific to industry needs.

Cost Basis and Competition

The primary wood products industry operators have profit margins of 4.7% that have just recently recovered from the extended economic downturn that lasted through 2012. The industry has suffered from deferred maintenance and low technology adoption during this period meaning that many remaining firms are heavily reinvesting in plant and equipment to modernize and increase processing efficiency. With almost 60% of revenue contributed to log acquisition, even modest efficiency gains can have significant long-term effects on profits. Firms failing to make the necessary investments are not likely to survive. Firms in innovation clusters like CLT and thermally-modified woods find it similarly difficult to finance growth because of the novel nature of the products, unproven domestic markets, and entrepreneurial composition of the firms.

With largely undifferentiated products, the primary industry is increasingly turning to using the advantages provided by third-party certification such as the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI) to generate Leadership in Energy and Environmental Design (LEED) points to attract buyers. To maximize points, the wood products must come from a fully certified supply chain starting with woodlot management. Other methods for small mills to be competitive are through supply contracts with end users and timber suppliers. These contracts are often tied to particular performance standards and product customization including the use of aforementioned third-party certifications.

Wayne County's Role in Cluster Development

With rapid technology advances pushing development in the forest products industry, Wayne is well positioned to take a leadership role in advancing the knowledge base about these opportunities. This role may start with sponsoring a regional workshop on wood

products innovation in collaboration with USDA's Forest Products Lab and the various forestry and engineering schools in the multi-state region. In addition, Wayne may lead an effort to organize short courses with consulting foresters on the value of managing woodlots as a means to improve asset value and long-term cash flow options.

Craft Beverages

Industry Snapshot

Craft beverage firms come from three primary industry segments; brewing (NAICS 31212), distilling (NAICS 31214), and winemaking (NAICS 31213). While large integrated firms like Diageo, Constellation Brands, and AB InBev typically dominate these segments, segment growth has come almost exclusively from the craft segments. For example, the brewing industry saw overall enterprise, employment and revenue growth from 2015 to 2016 increase by 9.1%, 5.0%, and 5.7% respectively while the craft segment grew by 9.5%, 11.2%, and 13.5% in the same period. Craft brewing firms continued to take local market from traditional brand powerhouses and remain fixture in most market regions of the US. The craft sector includes nearly 13% of total national market share while representing 91% of the establishments and 44% of total industry employment.

Annual growth rates for the craft beverage segment have exceeded 17% during four of the last five years. The craft beverage sector is expected to outpace overall industry growth nearly fourfold over the next decade. While many new firms are expected to enter the market, the largest growth in market share will come from the relocation and expansion of regionally known brands into areas like the Northeast and MidAtlantic where they are proportionately underrepresented in both sales and firm numbers.

Relocation and expansion efforts follow many trends including access to infrastructure, a positive regulatory climate, good highway access, strong regional distributor networks, coarse grain access, proximity to markets with high disposable income, and a ready workforce. Key competitive factors such as the water, energy, tax incentives, pad-ready sites, and wholesaler/distributor access are the most significant relocation issues.

While growth projections are overwhelmingly positive, all sectors are not expected to be equally robust. The largest opportunities are expected for small firms and young firms with aggressive growth plans for product lines such as beer, hard cider, whiskey, cordials, vodka, and wine.

Local Context

While much of the nation was experiencing rapid growth in the craft beverage industry, Wayne County and the surrounding jurisdictions experienced a much slower and less robust pace of growth. Wayne and surrounding counties are home to 18 craft beverage firms including 10 wineries, five breweries, and two distilleries but few significant distribution and marketing firms. These firms are all small entrepreneurial companies with the largest firm employing 10 workers and the highest sales by a firm in 2017 was approximately \$500,000. The average firm is much smaller, with just three employees and \$150,000 in sales.

Despite modest employment and sales performance, the project team encountered numerous farmers with a strong interest in entering the industry as a beverage maker,

ingredient producer, or some combination of the two. The promise of continued double-digit growth in this market makes it an appealing option as a business start-up. To truly build a craft beverage cluster, entrepreneurial support and economic development efforts must be combined to develop a robust and integrated local supply chain. Doing so helps to capture more of the economic value of the cluster and keep businesses local once they move into the rapid growth phase. This is a concern for cluster development both locally and regionally.

Supporting Cluster Formation

Despite its aggressive growth characteristics and solid economic performance since 2010, the craft beverage industry has not been a centerpiece of business retention, expansion, and attraction efforts outside of a few unique communities. Furthermore, the industry has largely been ignored in food-sector incubation and accelerator programs despite having many of the favorable characteristics that support aggregated capital and program development support efforts.

If Wayne County were to pursue the craft beverage sector as part of a targeted economic development effort, it would distinguish itself among the many competitive choices for places to start and grow a craft beverage business. In so doing, it would build upon an existing cluster that is currently demonstrating industry and firm level growth and is supported by private research and development activities at the processor and non-governmental organization levels.

The craft beverage industry also provides solid opportunities for value chain development. It offers agricultural production and raw commodity handling opportunities for grain farmers, hops producers, orchards, and other specialty products producers who are seeking means to diversify farm product marketing at scale appropriate levels.



If the county were to support cluster development, it should target its efforts on the following:

- High-quality and abundant water resources;
- Enhancing local and regional supply-chain development;
- Asset deployment for start-up and emerging growth firms;
- Product development and testing capabilities;

- Business attraction and retention efforts for processors, ingredient providers, and marketing firms;
- Tourism promotion around the sector’s unique assets; and
- Workforce development specific to industry needs.

Industry Cost Basis and Competitiveness

The craft beverage industry is one of the most capital-intensive on a labor unit basis outside of technology manufacturing. This capital intensity creates a moderate barrier to entry that makes it difficult for the hobby producer to take the next step in business development without graduated support programs. This makes workforce development programs of paramount importance in both attraction and retention efforts.

Perhaps one of the largest advantages of industry clustering is management of overhead costs. The largest components of these costs are ingredients (40%), wages (21%), facility costs (6.5%), marketing (5.5%), and depreciation (4.5%). Building a cluster structured to reduce—or manage the variability—of these costs is therefore critical. It would begin with access to ingredients and inventory management, which can be managed cooperatively through specialized industrial buying clubs for the benefit of the cluster that require specialized financing. Currently, small distillers and brewers purchase most ingredients at near retail prices, causing costs to run approximately 2% higher than large beverage manufacturers. The overall effect, with pricing differentials built in, is that craft manufacturers often operate at a 1% to 2% negative profit differential over traditional manufacturers. The advantage of clustering will allow aggregated firms to better manage these costs and increase their competitive positioning.

Wayne County’s Role in Cluster Development

Given the size and diversity of Wayne County’s tourism economy, it stands to benefit from the development of the craft beverage industry in several ways. The project team expects that the primary benefits will be derived from processing and distribution activities with secondary benefits accruing to input producers who integrate agricultural entertainment activities. Growth, however, will be limited if the region does not address input supply and workforce training. Expansion of the aggregation activities described under the “Online Grocery” cluster may be useful in addressing the input supply issues and can logically be based in Wayne County. Workforce development is most likely to be successful when integrated into post-secondary adult education curricula.

Recommendations

In order to move the aforementioned clusters forward, Wayne County should be prepared to support and invest in the infrastructure, finance, and entrepreneurial culture that it will take to move the ball forward. As noted in the previous section of the report, this entails understanding the needs of the target sectors and working with private industry to ensure that development efforts are fulsome and complete. This section of the report focuses on the general cornerstone strategies required to achieve success.

The programming necessary for cluster growth requires a unique focus on building strong social networks, such as the creation of entrepreneurial culture, development of human resources, advancement of intellectual capital, and the creation of service and support networks. These principles are represented in the cornerstone recommendations to boost/support/bolster Wayne County's economic development capacity/success described below.

Cornerstone 1: Develop an Entrepreneurial Culture

Disruptive technologies, shifting cultures, and entrepreneurs are intertwined in influencing the future economy. Each has the power to create opportunities, make traditions obsolete, and catalyze change. Today, communities are racing to be adaptive and competitive for tomorrow's economy. Doing so requires creating a healthy entrepreneurial culture.

Wayne County is in a unique position to create an entrepreneurial culture built around agriculture, food, forest products, and related industries. This type of culture welcomes new ideas and out-of-the-box thinking and embraces risk-taking, experimentation, collaboration, and information-sharing. Most importantly, this culture allows for failure, which is critical for encouraging startups.

Currently, the county has entrepreneurial interest, untapped markets, and an active tourism and seasonal economy that are uniquely suited to supporting the individual and collective interests of entrepreneurs and small businesses. To date, these assets have not been fully leveraged.

Entrepreneurs report that the community, as a general rule, does not endorse risk-taking and innovation in traditional sectors. Because of this, the county lacks robust programmatic efforts addressing entrepreneurial development. For example, there are few early-stage financing options that support business activities with uncertain risk profiles. Improving financing opportunities is especially critical for agricultural businesses, most of which face high risks from external factors and low returns.

Recommendations

- Develop curricula to engage youth and adults in entrepreneurship and innovation
 - Business and management fundamentals
 - Creative process
 - Entrepreneurship action
- Create active year-round, on-the-job active learning opportunities within the agriculture, food, and related industries
 - Internships

- Externships
- Shadowing
- Create a food and agriculture learning lab with a focus on emerging fields identified in the cluster strategy as well as nationally significant growth in fields
 - Hydroponics
 - Agricultural and environmental technology
 - Food science and culinary arts
- Enhance The Stourbridge Project's brand
 - Incubator/accelerator program
 - Mentor/protégé network
 - One-on-one services
- Support concept and product development activities

Cornerstone 2: Empower Local Investment in Entrepreneurs and Critical Business Cluster Needs

According to research conducted by the Ewing Marion Kaufman Foundation and the Federal Reserve Bank's Center for the Study of Rural America, rural communities will increasingly rely on private entrepreneurs to rebuild local economies. These entrepreneurs will, in turn, depend on the community for access to the capital required to meet the unique needs of their businesses. For most communities, little effort has been undertaken to bridge this gap.

The reason for this gap is simple. Most rural communities lack the financial savvy to accommodate the specialized needs of non-traditional, high-growth businesses. Though widely available in urban areas, low demand for such financial services means that rural entrepreneurs are often left without the resource, access, or training needed to access the most appropriate financial tools needed to ensure success. Instead, rural entrepreneurs are often forced to use unsecured personal credit tools such as home equity lines of credit and credit cards to finance growth and operations. Without the proper tools and training in place, high growth entrepreneurial companies will often leave the community or fail under the burden of high credit costs.

Beyond private capital needs, clustered growth requires significant investment in infrastructure and capacity building. Efforts such as training of bankers and investors in using tools such as venture banking, private activity bonds, crowdfunding, and other non-traditional funding are critical to preparing investors, lenders, borrowers, and business partners for success. Some initial steps to improve capital access can be taken in collaboration with other industries.

Recommendations

- Provide technical assistance to improve financial literacy at the owner-operator level
- Work with existing lenders to expand sources for working capital
- Develop a certified lending organization: CDFI and CDVC
- Create a program to train angel investors
- Develop a peer-lending-based microloan program
- Employ entrepreneurial capital

- Engage social investors in the creation of a resource-based-industries focused loan program
- Work with the Pennsylvania Department of Agriculture to expand the use of private activity bonds to finance on-farm entrepreneurial activities

Cornerstone 3: Create an Innovative and Adaptive Future Workforce

The future of Wayne County is in the hands of its youth. Young people want to build families and futures in Wayne, but often do not have the opportunities that would allow many of them to stay. Wayne’s future leaders must be forward-thinking, collaborative, and creative in order for the region’s future to be substantially different from its present.

Wayne should be preparing its residents—its students, in particular—to be part of a productive, effective, and efficient workforce. Developing a prepared, talented, and dependable workforce can set Wayne apart from its neighbors and help with attracting and securing business activities in the region. Creating a workforce of skilled, professional, and adaptable workers who are passionate, innovative, and creative problem-solvers will set Wayne County’s workforce apart from competitors



The current and future students in Wayne County will be the future innovators, employees, employers, and most importantly, leaders and decision-makers that will mold the future of Wayne. The leaders of tomorrow must be able to respond to Wayne’s shortcomings effectively and efficiently. Wayne should position itself to have the most ready, adaptable, and effective workforce for food, agriculture,

and other supply-chain industries to make itself more attractive to firms looking to expand or relocate to the region.

Having elements of collaboration, entrepreneurship, and skill-building in traditional educational settings will help create a cultural shift that embraces innovation. These elements should also be introduced in the wider community through classes, workshops, town halls, discussions, and demonstrations. Creating a community that embraces growth, development, innovation, and nontraditional approaches is essential for Wayne’s youngest residents to have a successful, economically viable future in their hometown.

Recommendations:

- Develop a young- and beginning-farmer development program that embraces national best practices.
 - Collaborates with private and public sector partners

- Develops internal and external clients
- Addresses a broad range of commodity and product sectors
- Is vertically integrated
- Leverages local and national expertise
- Supports farm transition
- Increase adoption of best management practices in cluster industries
 - Production practices
 - Regulatory compliance
 - Labor and employment practices
- Create and implement curricula that focus on life-skills development
 - Interpersonal and intrapersonal skills that will allow individuals to comfortably interact with customers and co-workers,
 - Punctuality, and
 - Basic reading and math to pass competency tests.
- Train a well-educated workforce that is competent in a wide variety of activities
 - Machinery maintenance and operation,
 - Mathematics for feed formulations, inventory management, and customer interaction
 - Passing industry competency tests, such as from Dell, TPC Training, and other industry-specific skill sets, and
 - Food safety regulation, certification, and compliance.
- Encourage collaborative and participatory activities and approaches to problem-solving in schools, government, and community settings.
- Provide technical support to businesses and government agencies to enable understanding of regulations and compliance.
- Implement curricula to support workforce skills development in cluster industries
 - Core occupations (production workers)
 - Support occupations (logistics workers)
 - Transformative occupations (research and development professionals)
- Encourage adoption of collaborative and participatory activities to problem-solving
- Reinforce basic skills and work competency (ACT WorkKeys)
 - Life skills
 - Work skills
 - Basic math and English competency

Cornerstone 4: Modernize Infrastructure to Encourage Greater Private Investment

Wayne County's small population, large area, hilly geography, and limited capital budgets have yielded subpar infrastructure in much of the county. Many rural roads are unpaved and remain without road signs. In large parts of the county, wired, high-speed internet and even cell signal are inaccessible. Developing businesses that interact with the economy of the future requires improvements in both the physical and digital infrastructure for the county to be truly competitive in attracting or growing businesses.

Road improvements will impact a number of areas significant to the economy. Farms, especially dairies, move goods and equipment frequently to and from processors, to other markets and between properties. Tourists flock to the county, especially during the summers, to visit lakes and drop children at local camps. Many of these drivers from

outside the county have little knowledge of local roads, minimal access to cellular-tower-based travel guidance, and none of the nuanced local understanding of road conditions. Such issues make it difficult for visitors and service providers to physically access farms and other county locations as well as farms and businesses to access outside markets.

Lack of high-quality communications systems such as wired internet access and high-speed cellular broadband is also an impediment to rural businesses and farms gaining entry to markets. Internet access is a necessity in the modern economy. Improved internet access would enable additional opportunities to market goods, enable equipment sharing, and develop partnerships with businesses outside the county, and improve visitor experience, among other things.

Additional infrastructure issues, such as the capacity of water and wastewater treatment facilities are issues that may impact the county on a case-by-case basis.

Recommendations

- Improve broadband access
 - Increase broadband coverage through wired and wireless infrastructure development
 - Achieve internet reach to 95% of farms
- Increase countywide cellular coverage
 - Seek co-investment opportunities with public and private sectors
 - Short-wave tower upgrades
 - Power distribution system installation and upgrades
 - Pipeline distribution system installation and upgrades
 - Encourage investment in 5G systems that operate effectively in rural, high precipitation environments to increase broadband access
- Develop a list of critical road improvements in partnership with the Department of Transportation and townships with a focus on:
 - Signage
 - Road names
 - Directional signs
 - Detour routing
 - Road and shoulder improvements
 - Broaden shoulders
 - Improve safety for moving farm equipment
 - Increase accessibility for recreational use
 - Increase ditches and water impoundments
 - Provide a means for rapid repairs to critical throughways
- Review road design standards with a focus on
 - Road width
 - Shoulder stability
 - Speed
 - Water management
- Improve local and state road planning and design initiatives to fully incorporate interests and needs of agriculture
- Encourage greater use of community-scale alternative energy projects

- Study and publish fuel availability maps
 - Solar
 - Wind
 - Wood and waste
- Work with townships to develop design standards that encourage use of alternative energy projects in residential, industrial, and commercial development
 - Combined heat and power projects
 - Power generation
 - Local distribution
- Encourage creative solutions for wastewater recycling and disposal
 - Community septic
 - Biological filtration
 - Greywater recovery

Cornerstone 5: Lead Regional Target Industry Development Projects

Economic development success at the community level is often difficult, particularly within small rural communities. With relatively small budgets, communities must make hard decisions about spending on infrastructure development, marketing, workforce training, and other programs to differentiate themselves from their neighboring jurisdictions. This often means competing rather than partnering with neighboring jurisdictions.

Regional cooperation in developing the target industry segments identified in this report will greatly enhance Wayne’s success. For outside businesses, it provides a “single-door” approach to accessing the region. For Wayne County, regionalism allows the sharing of overhead costs while strengthening the local economy. Wayne can focus the use of development dollars building on its core strengths while investing in the programs and infrastructure that best suit the desired future outcome.

Wayne is already well-positioned to be a leader in the region through the work of Wayne Tomorrow, and its engagement and enthusiasm for the continuation of agriculture as a key player in the regional economy. Furthermore, cooperation will allow Northeast Pennsylvania to best leverage and capitalize its location to access the major metropolitan markets.

Recommendations

- Champion the creation of a regional body to support cluster lead development
 - Organized as:
 - Public-private partnership
 - Multi-county/multi-state
 - Modeled after Ben Franklin Technology Partners
 - Operations will include
 - Marketing the unique cultural and business assets of the region
 - Increasing internal and external competitiveness
 - Supporting business creation
 - Attracting new businesses

- Supporting infrastructure development
 - Enhancing financial and human capital development
- Support creation of “Centers of Excellence” in target clusters to:
 - Set cluster goals and objectives
 - Establish development benchmarks
 - Achieve economies of scale in workforce development, logistics, and intellectual infrastructure
 - Create and expand accredited certificate, professional, and technical education programs through regional cooperation
 - Support applied research in cluster industry areas
- Identify market-ready assets
 - Cluster certified sites
 - Cluster critical infrastructure
 - Explore adaptive re-use opportunities

Implementation

Successful outcomes from this plan will begin with the development of an annual work plan that targets development of three to five key initiatives per year that can be properly staffed and resourced by the Wayne Tomorrow Agriculture Committee, WEDCO, and other partnering entities. Each annual work plan should have an eye toward the overarching vision of this report with successful implementation leading toward positive changes in the community as well as increased business development and profit opportunities for local farmers.

With these factors in mind, the following chart demonstrates our suggestions for implementation in terms of near future to distant future; ranking is based on speed to action, relative costs, and expected impact and/or importance in “setting the stage” for future development.

Short-Term

- Support existing and imminent entrepreneurial activity
 - Dairy processing feasibility study
 - Livestock market development support
- Design and implement young and beginning farmer program
 - Land access programs
 - Mentor-protégé
 - Supply chain internships
 - Asset sharing
- Create a business plan for a cluster focused business development and financing program following best practice models such as Coastal Enterprises, Inc and the Hudson Valley Agribusiness Development Corporation
- Create a new venture funding program
 - Hold an investor conference
 - Submit loan fund development grant applications for technical assistance
 - Integrate funding efforts with other WEDCO initiatives
 - Support creation of peer-lending microloan platform
- Initiate infrastructure planning

Mid-term

- Create a regional cluster industry center
- Identify centers of excellence and required programming
- Apply for Resource Based Industries, Community Development Financial Institution technical assistance
- Perform critical infrastructure upgrades
- Conduct code review for alternative energy and wastewater treatment
- Create a youth entrepreneurship academy
- Support regional implementation of workforce training initiatives
- Develop a learning lab program in concert with farm-to-school activities
- Conduct plan review

Long-Term

- Create a regional structure for managing targeted industry development
- Establish formal entrepreneurial funding opportunities.
- Develop centers of excellence
- Update the plan

Short-term projects are those that should begin within the next 18 months; medium-term projects should begin within 19–36 months; and long-term projects are those that should take shape after 36 months. This list does not make any statement about the expected useful life of the programs.

Developing Long-Term Support and Funding

Success in protecting agricultural resources requires long-term support and funding at the township, county, state, and national levels. Given the large fiscal requirements for programs like creating loan and venture funds, the county must rely on outside funding support. Typically, this funding would be supported through state and county grants and match programs, as well as on non-traditional sources of funding and partnerships to implement its programmatic intent. Funding support is expected from the following:

- USDA – Value Added Producer Grant
- USDA – Rural Business Development Grant Program
- USDA – Local Food Promotion Program Grant
- USDA – Wood Innovation Grants
- USDA/EPA – Local Foods, Local Places Grant
- USDA – Sustainable Agriculture Research and Education Grant
- USDA Telecommunications Loan and Grant Programs
 - Community Connect Grants
 - Rural Broadband Access Loan and Loan Guarantee
 - Telecommunications Infrastructure Loans and Guarantees
 - Distance Learning and Telemedicine Grants
 - E-Connectivity Pilot
- USDOT FHA – Recreational Trails Program
- PDA/DCED – Pennsylvania Dairy Investment Program
- PACE – Sustainable Energy Fund
- PA DEP – Small Business Advantage Grant
- PA First Fund
- PADA – Agricultural Research
- Dirt Capital Partners
- Equity Trust
- WEDCO – Match funding for grants

Because funding and support must be sought on a project-by-project basis, it will require significant investment in grant writing and relationship building. Early investments in these areas will be crucial to program success.

Updating the Plan

Both the vision and strategy represented in this report are based on long-held community interests as well as the current economic realities of the agricultural industry. Over time, these conditions are likely to change in unexpected ways, which will necessitate amendments and updates to this plan.

Developing a process to accommodate change while keeping the plan relevant will be critical to the success of local and regional agricultural economic development efforts. The Wayne Tomorrow Agriculture Committee should prepare and carry out an annual work plan. At a minimum, the work plan will include specific actions to be taken, a budget note, staffing requirements, and other information, as needed. The committee should also conduct periodic listening sessions with industry leaders to ensure that the plan remains relevant to the industry and the community.

The chart below summarizes the update process. It is imperative that the Agriculture Committee spend time establishing a thorough set of process guidelines. For example, there may be standard processes for collecting and reviewing the data, then determining the critical data points at which actions are required. Similarly, a set of policies and processes will be necessary for the farmer-led reviews and the work plan format. Finally, there must be an effective way to implement and evaluate the success of the work plan. This may require the development of memoranda of understanding with project partners to ensure that these partners are committed to their roles in the success of the work plan.

