



GREATER PHILADELPHIA

FOOD SYSTEM STUDY

the FOOD *and* FARMING ALMANAC

PART 3: Agricultural Resources &

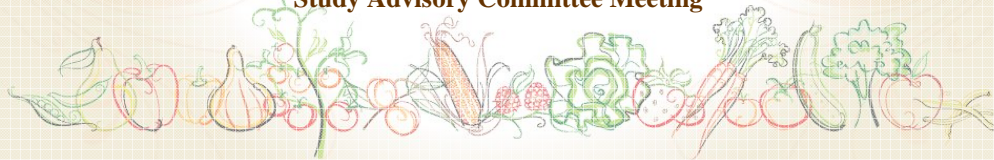
PART 4: The Food Economy

March, 31, 2009

Study Advisory Committee Meeting



Delaware Valley
Regional Planning
Commission

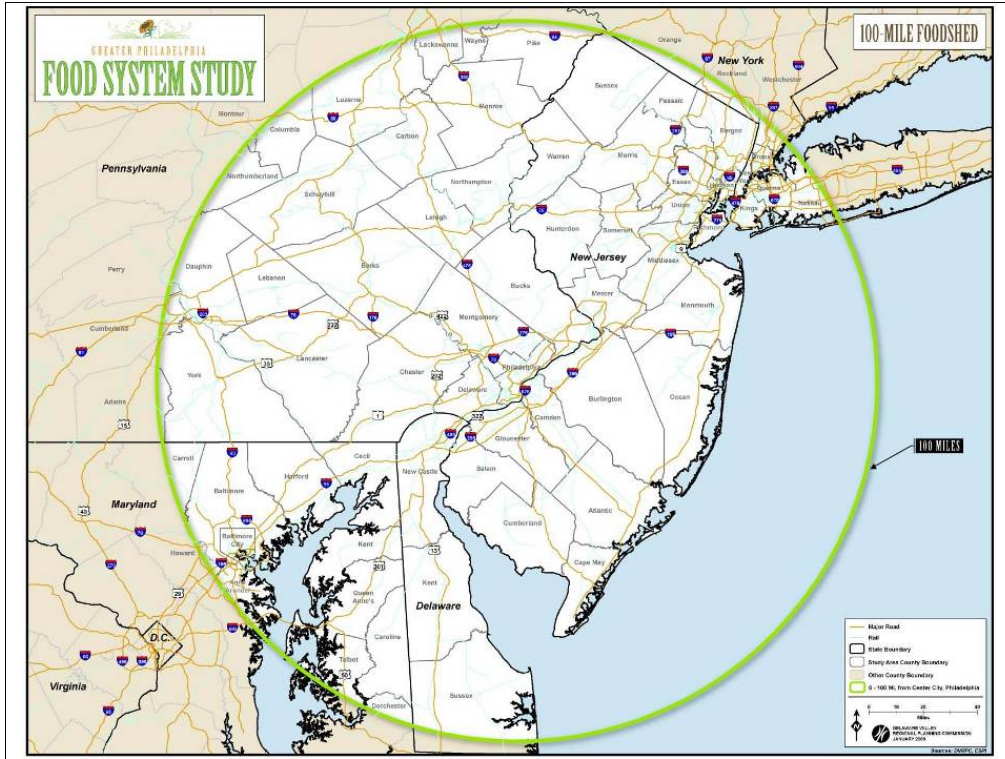


OVERVIEW of DVRPC



- ☞ Philadelphia's Metropolitan Planning Organization (MPO), created in 1965
- ☞ Interstate, intercounty, and intercity agency
- ☞ Prioritize transportation funding
- ☞ 2 States, 9 Counties, 353 Municipalities
- ☞ Responsible for the region's **Long Range Plan** and Air Quality
- ☞ Strong "Home-Rule" control of land use





FY09 SCOPE OF WORK



- ❧ *Part 1: Food Policy Network Analysis*
- ❧ *Part 2: Food Freight Analysis*
- ❧ *Part 3: Agricultural Resources Assessment*
- ❧ *Part 4: The Food Economy*

**PART 1:
PERCEPTIONS & OPINIONS**

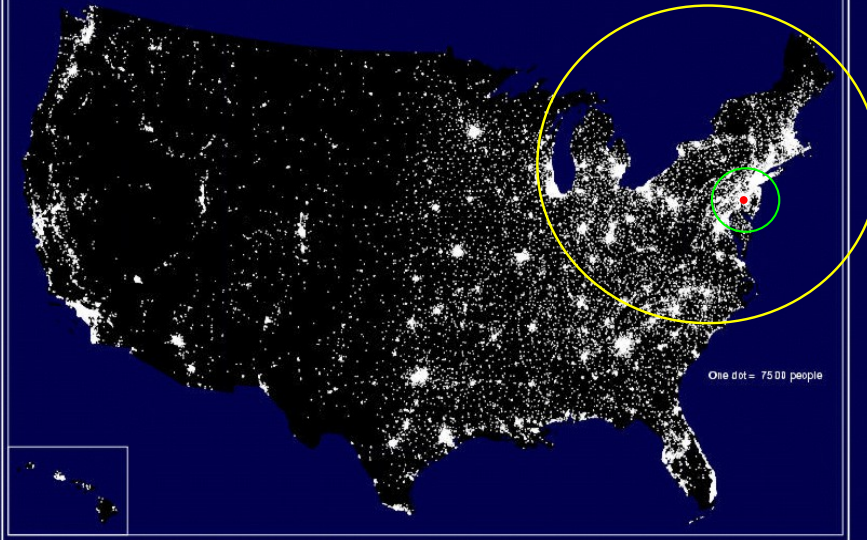


- ❧ *Identify stakeholders*
- ❧ *Interview stakeholders*
- ❧ *Inventory the work of area organizations*
- ❧ *Collect Recommendations and Best Management Practices*



ADVANTAGE: Proximity

2000 POPULATION DISTRIBUTION IN THE UNITED STATES

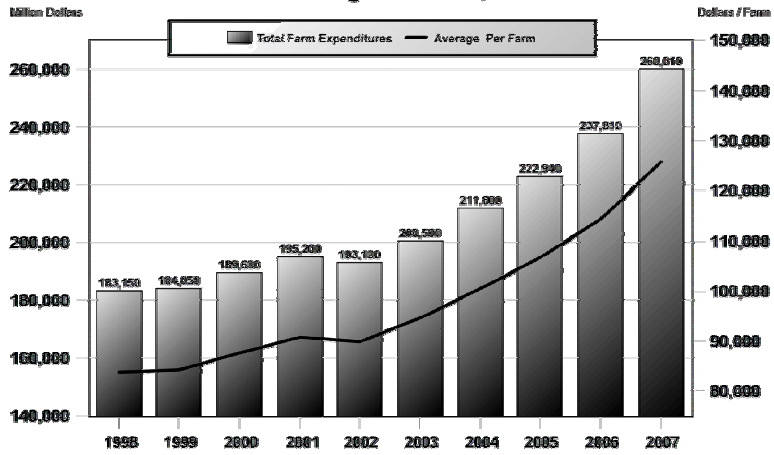


Prepared by Geography Division U.S. Department of Commerce Economic and Statistics Administration U.S. Census Bureau

Source: U.S. Census Bureau 2000

CHALLENGE: Rising Costs

U.S. Farm Production Expenditures Total and Average Per Farm, 1998 - 2007

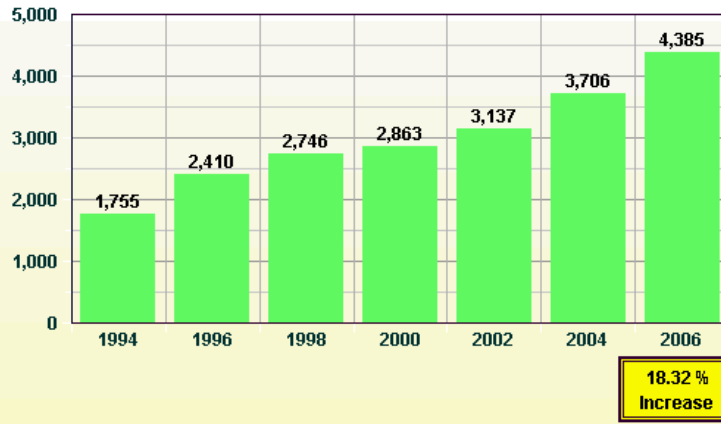


Source: USDA/ERS Agricultural Income Report, 2007

CHANGE: Local, Sustainable, Direct, and Niche Markets



Number of Operating Farmers Markets

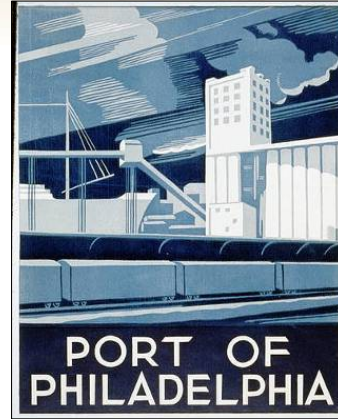


Source: USDA Agricultural Marketing Service

**PART 2:
FOOD DISTRIBUTION**

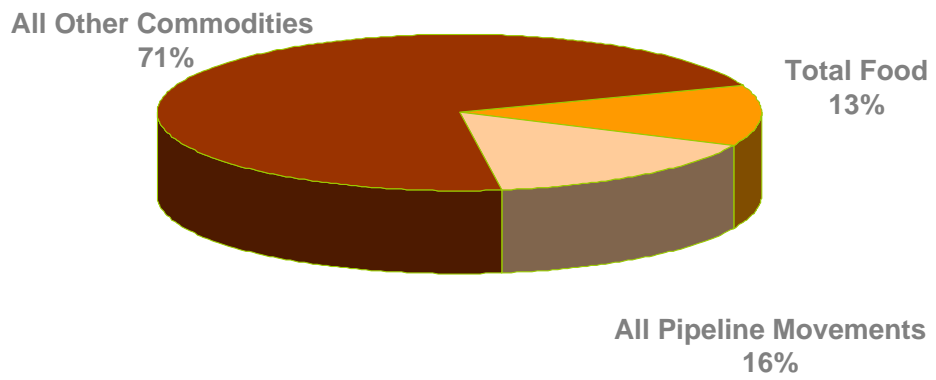
- ❧ *Food is a “high turnover” commodity*
- ❧ *How do goods move through the region?*
- ❧ *Freight Analysis Framework*
 - ❧ *Origins and Destinations of food*
- ❧ *Supply chain case studies*

GREATER PHILADELPHIA
FOOD SYSTEM STUDY

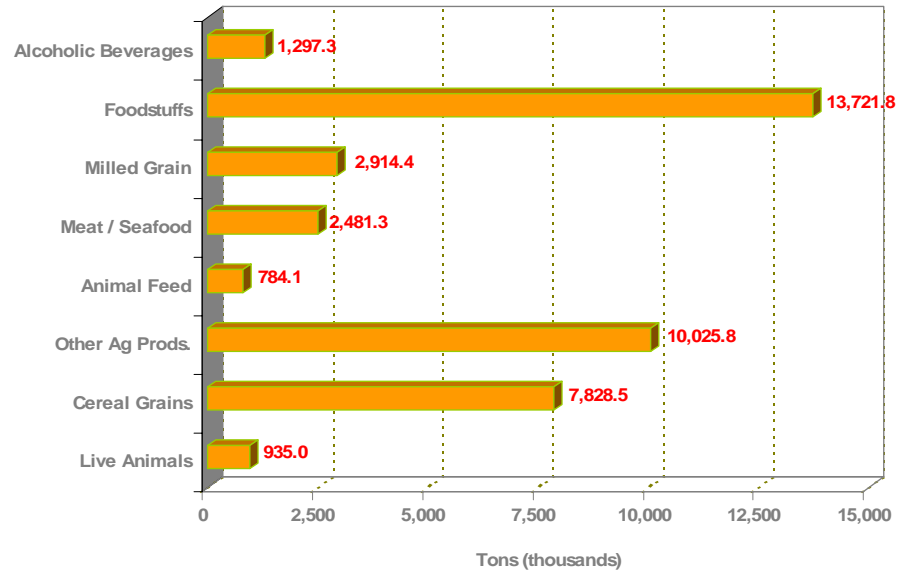


FOOD FREIGHT COMPARED TO OTHER COMMODITIES

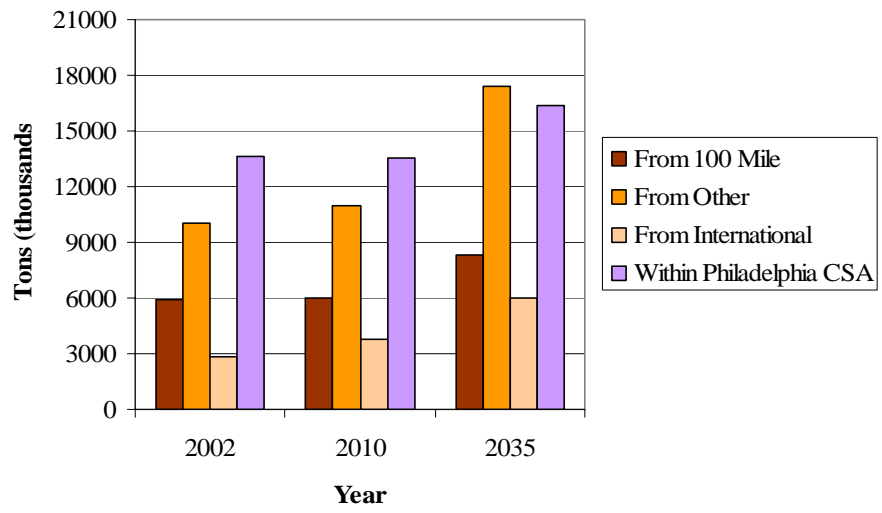
2002 Total Weight of Movements



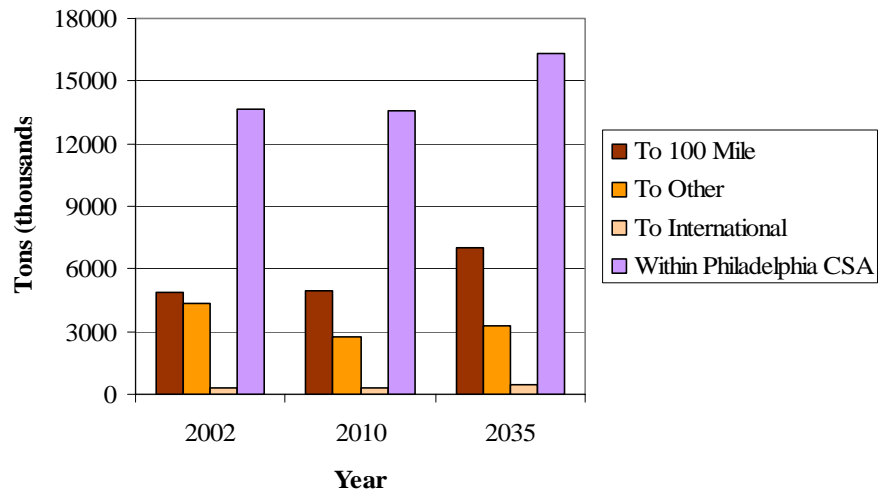
FOOD BY COMMODITY TYPE: 2002 Weight



ORIGINS OF FOOD (Leg of a trip)



DESTINATIONS OF FOOD (Leg of a trip)



PART 3: Agricultural Resources Assessment

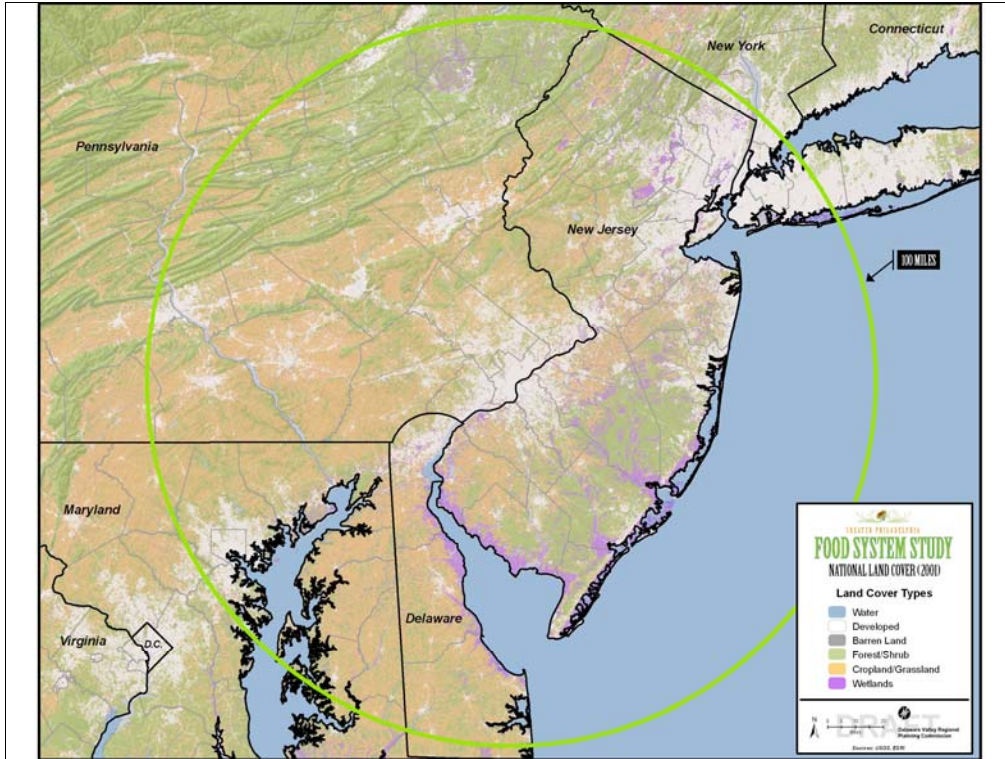
- **Agricultural Land Base**
- **Agriculture Industry**

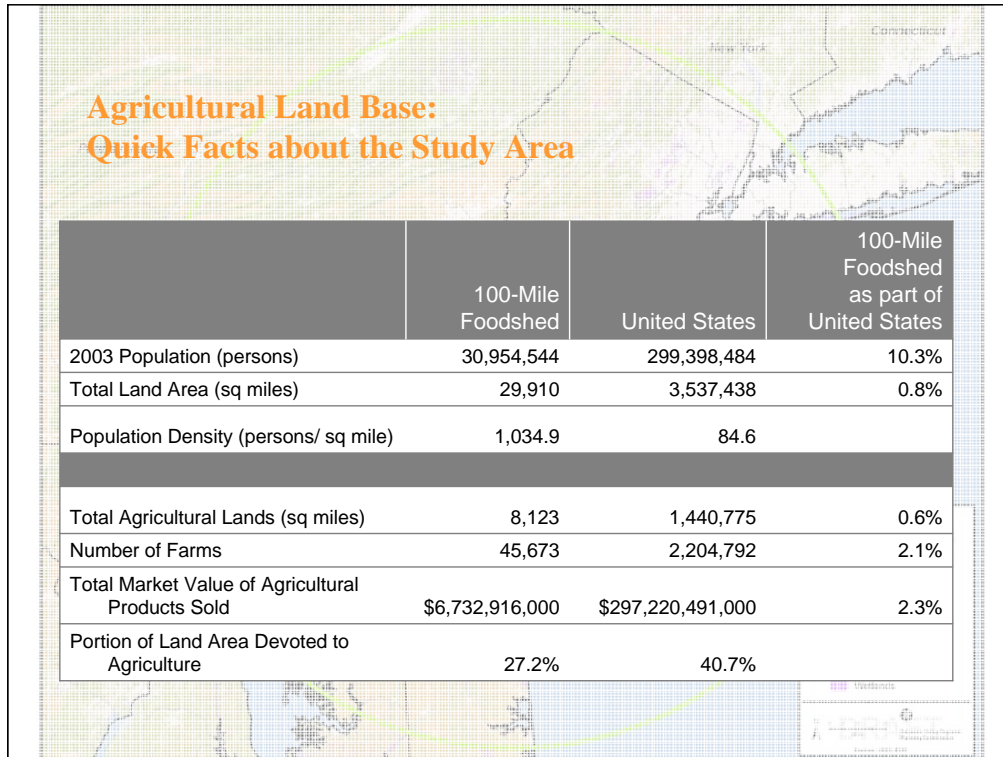


PART 3: Agricultural Resources Assessment

- **Agricultural Land Base**
- **Agriculture Industry**







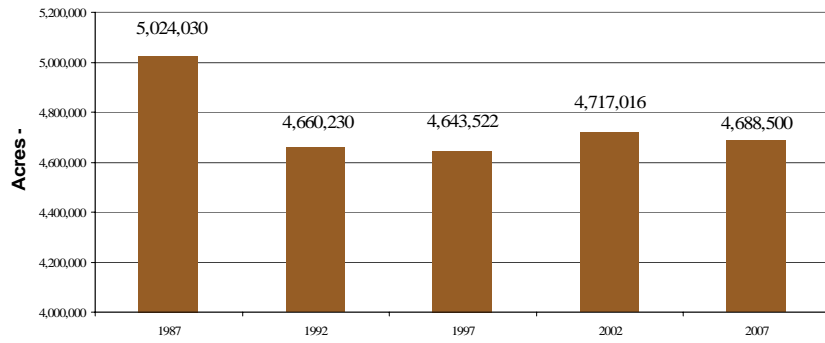
10% of the United States' population lives in the 100-Mile Foodshed
 The 100-Mile Foodshed has less than 1% of the nation's land area
 The 100-Mile Foodshed has a population density 12X greater than the nation's density.

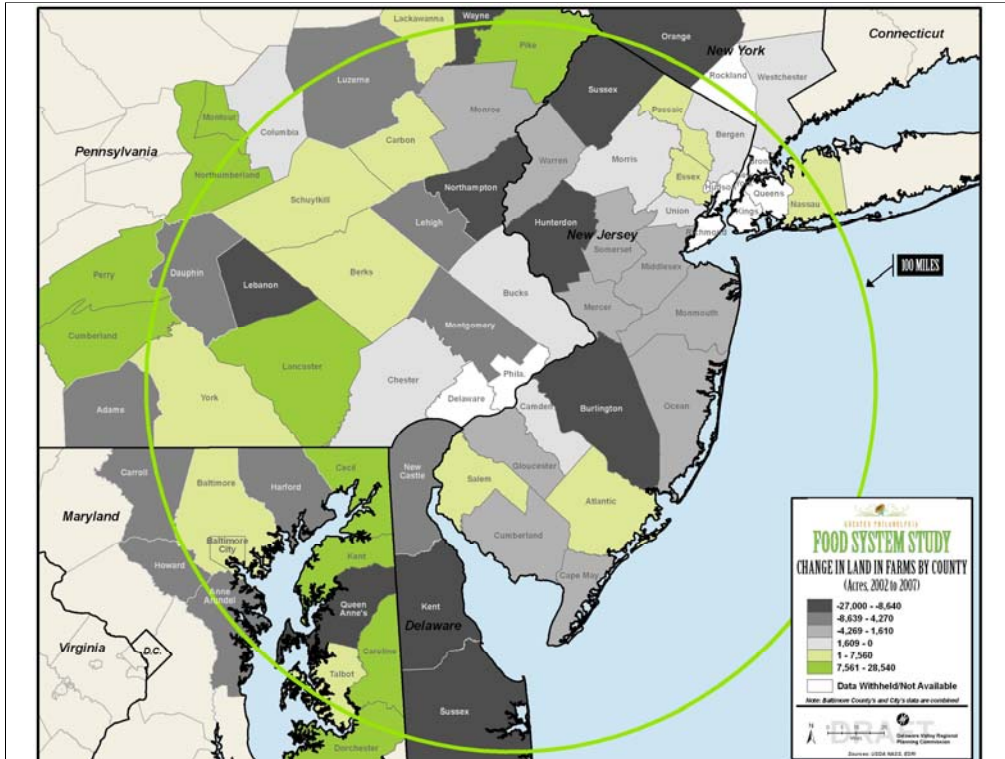
This is the most dense part of the United States.

Less than 1% of the United States' agricultural land is within the 100-Mile Foodshed

However, over 2% of the nation's farms are within the 100-Mile foodshed
 And over 2% of the nation's value of agricultural products is produced within the 100-Mile Foodshed

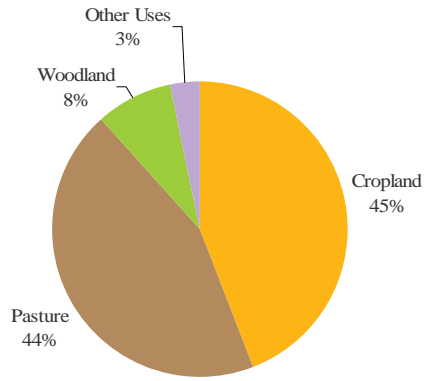
**Agricultural Land Base:
Total Land in Farms in the 100-Mile Foodshed**





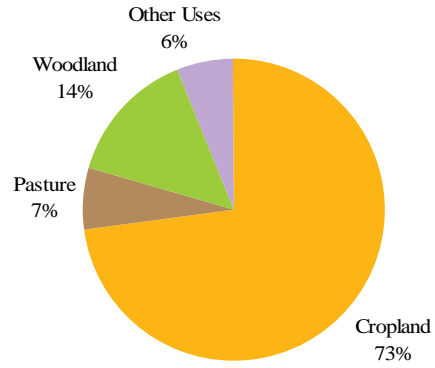
Agricultural Land Base: Types of Farmland

2007 Land in Farms



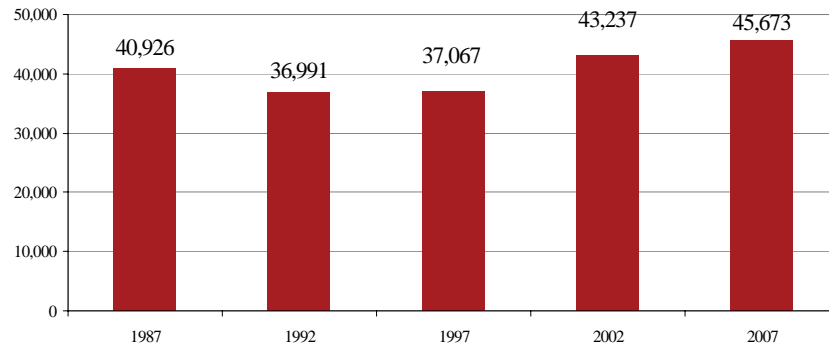
United States

2007 Land in Farms

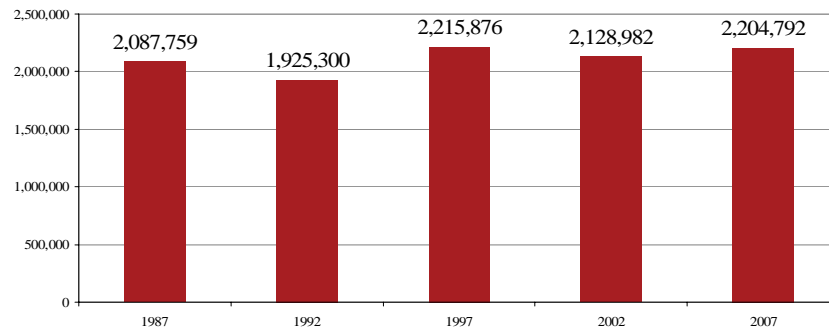


100-Mile Foodshed

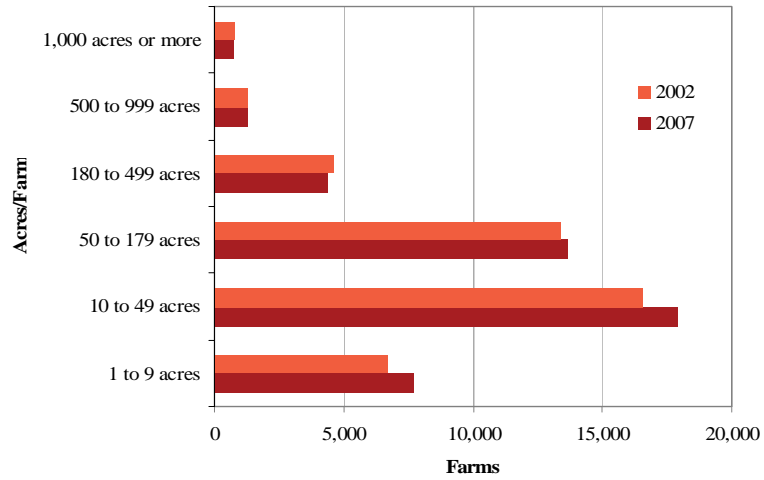
**Agricultural Land Base:
Number of Farms in the 100-Mile Foodshed**



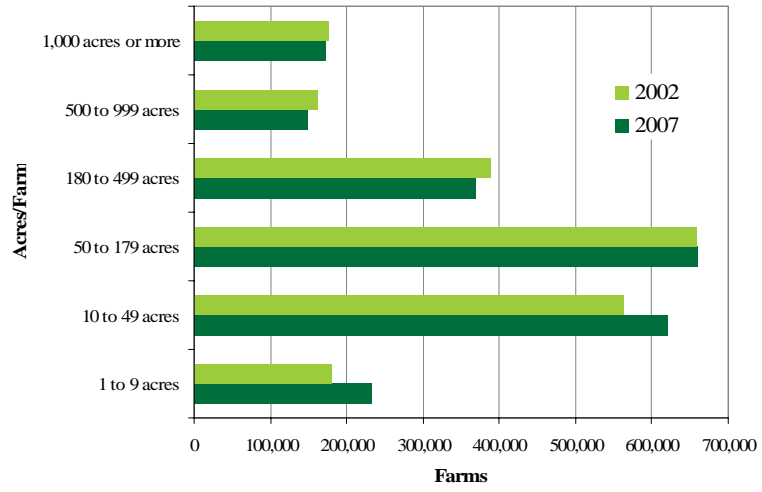
**Agricultural Land Base:
Number of Farms in the United States**



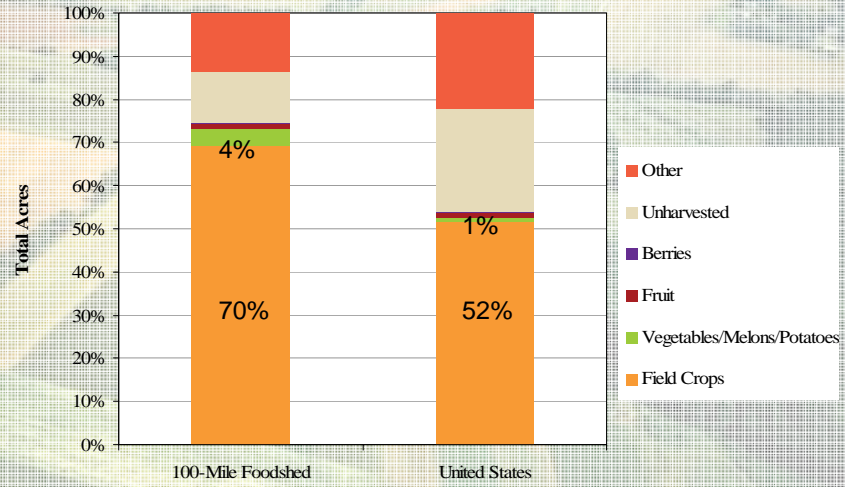
Agricultural Land Base: Farms by Size in the 100-Mile Foodshed



Agricultural Land Base: Farms by Size in the United States



Agricultural Land Base: Types of Crops on Cropland, 2007



PART 3: Agricultural Resources Assessment

- **Agricultural Land Base**
- **Agriculture Industry**

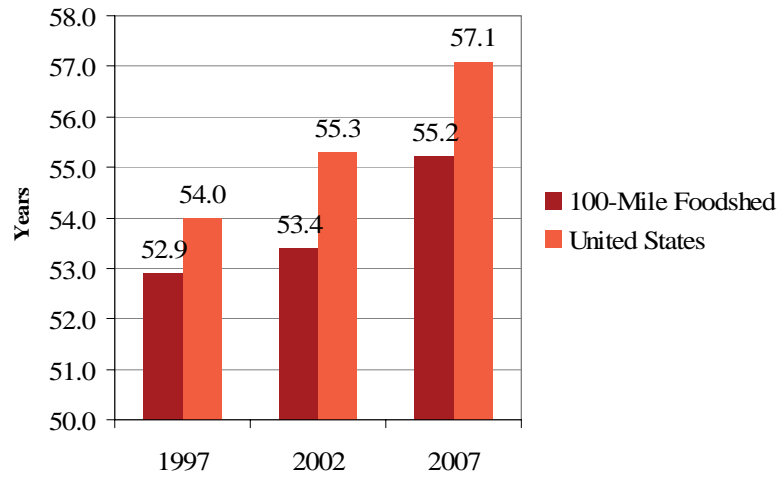


PART 3: Agricultural Resources Assessment

- **Agricultural Land Base**
- **Agriculture Industry**



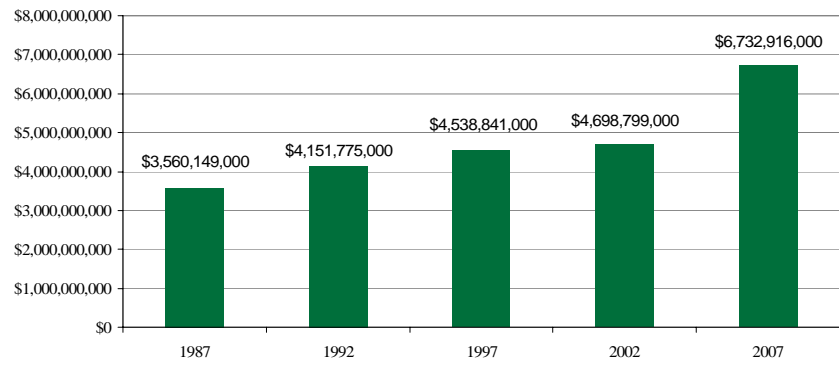
**Agriculture Industry:
Age of Principal Operators**



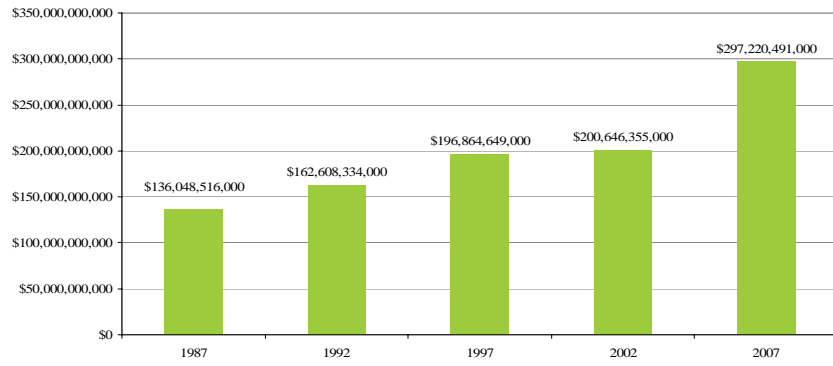
Agriculture Industry: Farm Labor

United States	2007	2002	% Change
Farms that hire labor (farms)	482,186	554,434	-13.0%
Farm labor (workers)	2,636,509	3,036,470	-13.2%
Payroll	\$21,877,661,000	\$18,568,446,000	17.8%
100-Mile Total	2007	2002	% Change
Farms that hire labor (farms)	10,786	11,837	-8.9%
Farm labor (workers)	73,242	76,988	-4.9%
Payroll	\$800,735,000	\$614,990,000	30.2%

**Agriculture Industry:
Market Value of Products Sold, 100-Mile Foodshed**

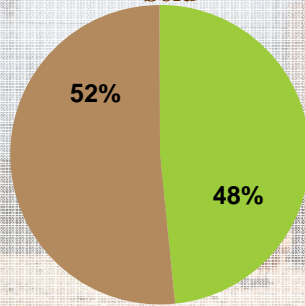


Agriculture Industry: Market Value of Products Sold, United States



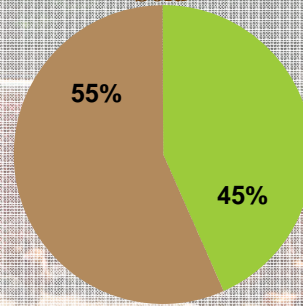
Agriculture Industry: Value of Livestock and Crop Sales

2007 Market Value of
Agricultural Products
Sold



United States

2007 Market Value of
Agricultural Products
Sold



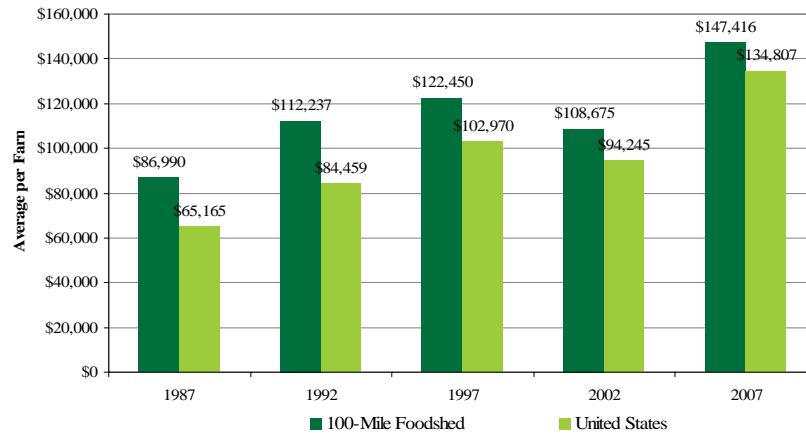
100-Mile Foodshed

- Value of crops including nursery and greenhouse
- Value of livestock, poultry, and their products

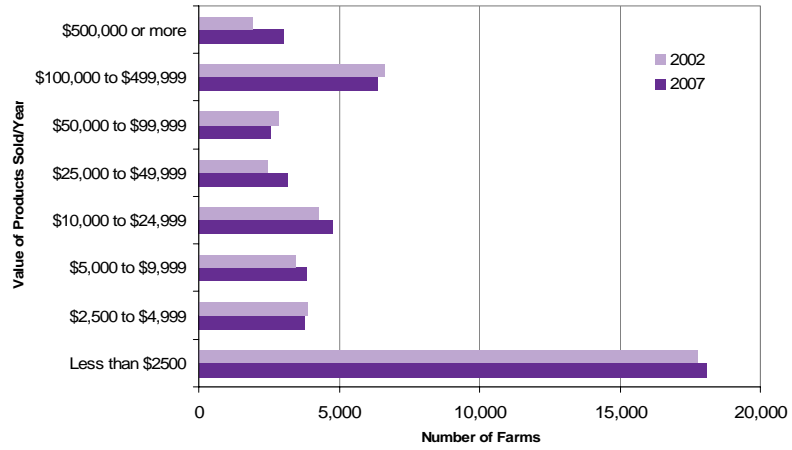
**Agriculture Industry:
Market Value of Products Sold, Top Counties in 100-Mile Foodshed**

	Number of Farms	Market value of agricultural products sold	% of 100-Mile Total Market Value	Rank in the US of 3,076 counties
1 Lancaster, PA	5,462	\$1,072,151,000	16%	18
2 Sussex, DE	1,374	\$848,942,000	13%	28
3 Chester, PA	1,733	\$553,290,000	8%	49
4 Berks, PA	1,980	\$367,840,000	5%	108
5 Lebanon, PA	1,193	\$257,097,000	4%	206
6 Adams, PA	1,289	\$216,994,000	3%	281
7 York, PA	2,370	\$212,634,000	3%	289
8 Kent, DE	825	\$188,390,000	3%	366
9 Caroline, MD	574	\$186,039,000	3%	372
10 Dorchester, MD	424	\$166,732,000	2%	455

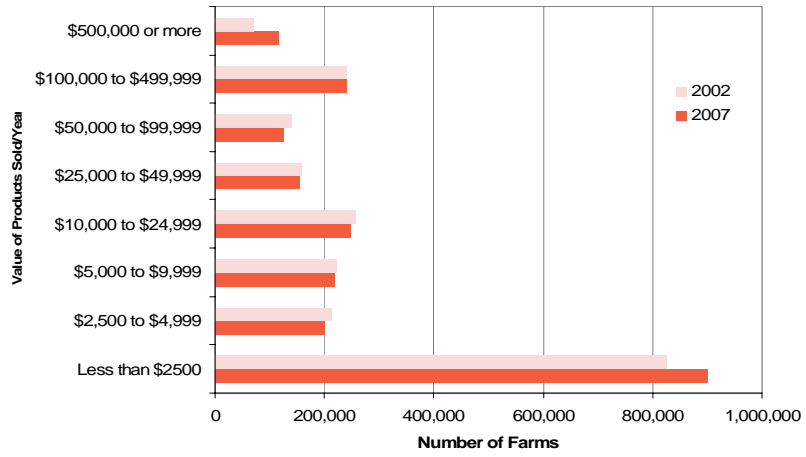
Agriculture Industry: Market Value of Products Sold, Average per Farm



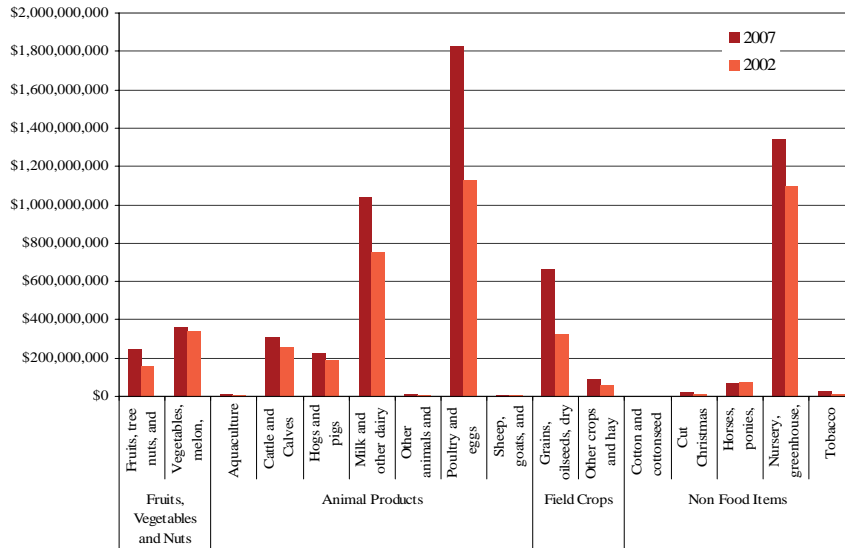
Agriculture Industry: Farms by Value of Sales, 100-Mile Foodshed



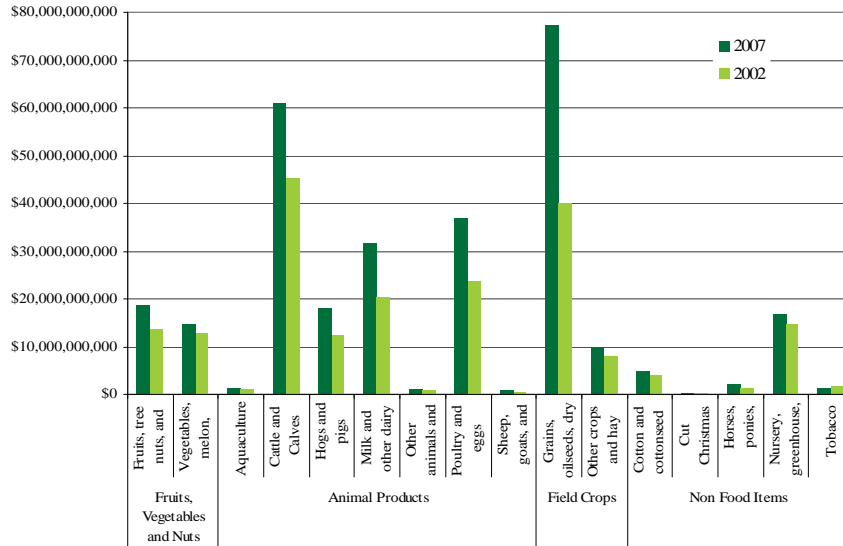
Agriculture Industry: Farms by Value of Sales, United States

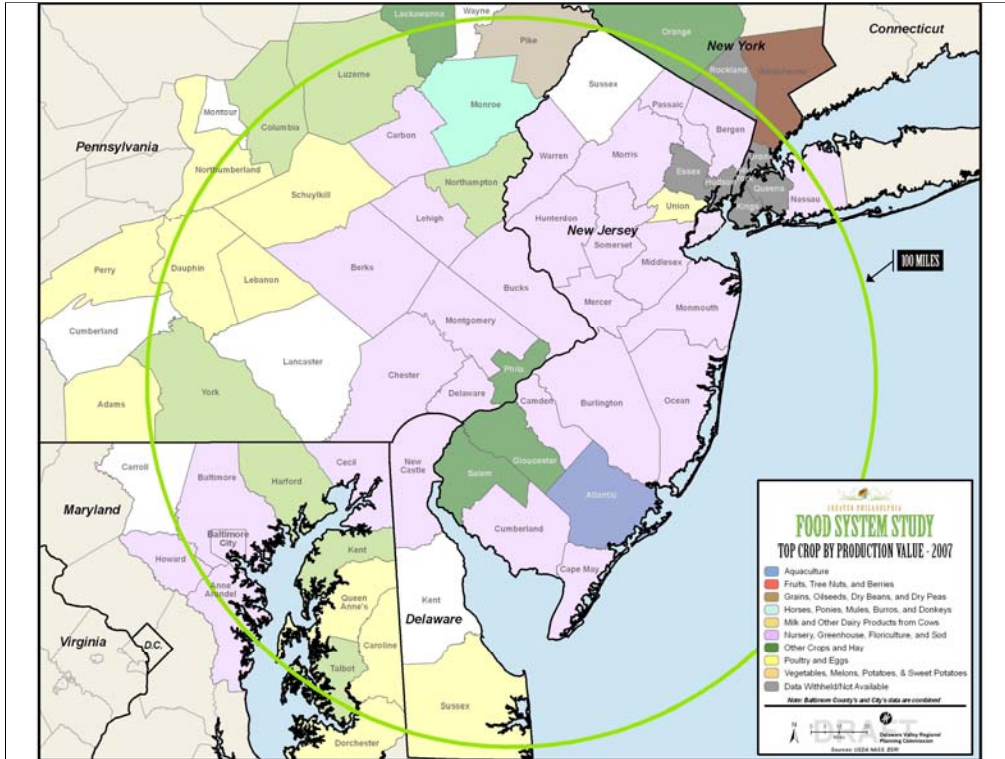


Agriculture Industry: Value of Sales by Commodity Group, 100-Mile Foodshed

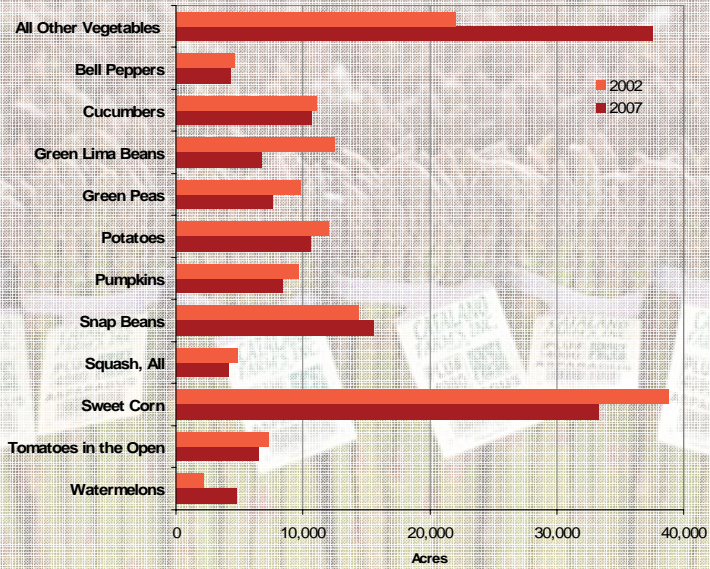


Agriculture Industry: Value of Sales by Commodity Group, United States

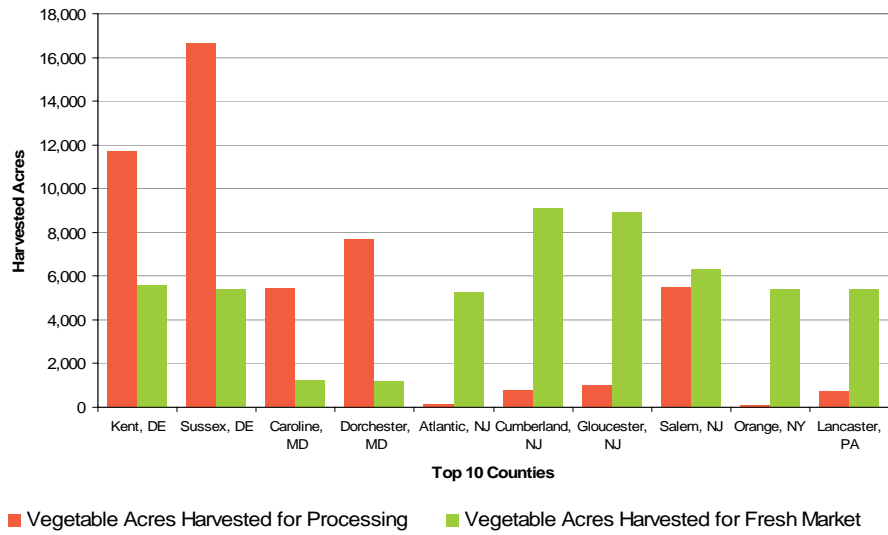




Agriculture Industry: Types of Vegetables in the 100-Mile Foodshed



**Agriculture Industry:
Vegetables Grown for Fresh Market or Processing in the
100-Mile Foodshed – Top Counties**



58% Fresh Market, 44% sold for processing in the 100-Mile Foodshed

Agriculture Industry: Types of Farm Practices – Direct Sales

Value of Agricultural Products Sold Directly to Consumer

	2007 Sales	% of All Farms Sales	2002 Sales	% Increase (2002 to 2007)
100-Mile Foodshed	\$95,408,000	1.4%	\$61,716,000	54.6%
United States	\$1,211,270,000	0.4%	\$812,204,000	49.1%

Most Direct Sales in 2007

County	Direct Sales as Part of Total Ag Sales
Lancaster, PA	
Orange, NY	
Bucks, PA	Mercer, NJ 17%
York, PA	Monroe, PA 15%
Hunterdon, NJ	Morris, NJ 11%
	Carbon, PA 11%
	Westchester, NY 10%

Biggest Increase (2002 - 2007)

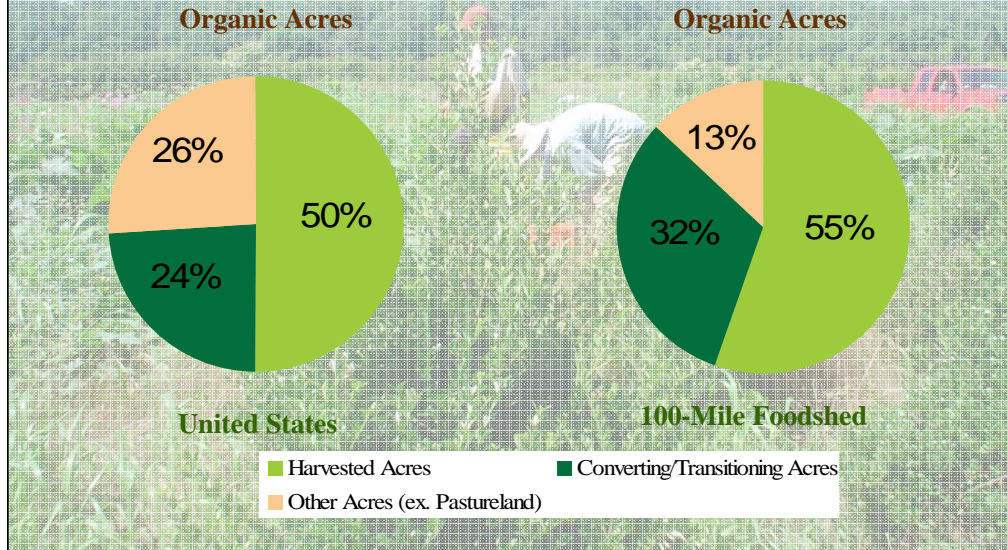
County	Biggest Decrease (2002 - 2007)
Atlantic, NJ	
Carbon, PA	
Caroline, MD	Burlington, NJ -70%
Mercer, NJ	New Castle, DE -52%
Monroe, PA	Cape May, NJ -41%
	Dauphin, PA -27%
	Howard, MD -13%

Agriculture Industry: Types of Farm Practices – CSAs

Top 10 States	CSA Farms	Top 10 Foodshed Counties	CSA Farms
California	953	Lancaster, PA	47
Texas	883	Carroll, MD	20
Kentucky	544	Chester, PA	20
Iowa	487	Baltimore, MD	19
Michigan	463	Berks, PA	18
Missouri	450	Bucks, PA	16
Washington	437	Cumberland, PA	15
Wisconsin	437	Hunterdon, NJ	12
Ohio	424	Warren, NJ	12
North Carolina	413	Sussex, NJ	11
Total United States	12,549	Total 100-Mile Foodshed	379

**The 100-Mile Foodshed has 2% of the country's farms
and 3% of the country's CSAs**

Agriculture Industry: Types of Farm Practices – Organic Production



More than 3% of all Organic Farms

CONCLUSIONS

- ❧ *Agriculture and other land uses (and different types of agriculture) compete for land*
- ❧ *A significant portion of farmers are transitioning over to higher value products*
- ❧ *There is potential for even more direct sales*
- ❧ *The 100-Mile Foodshed is slightly ahead of US agriculture's curve*

PART 4: The Food Economy

- **What We Eat**
- **How we spend our food dollars**
- **How important is food to the regional economy**

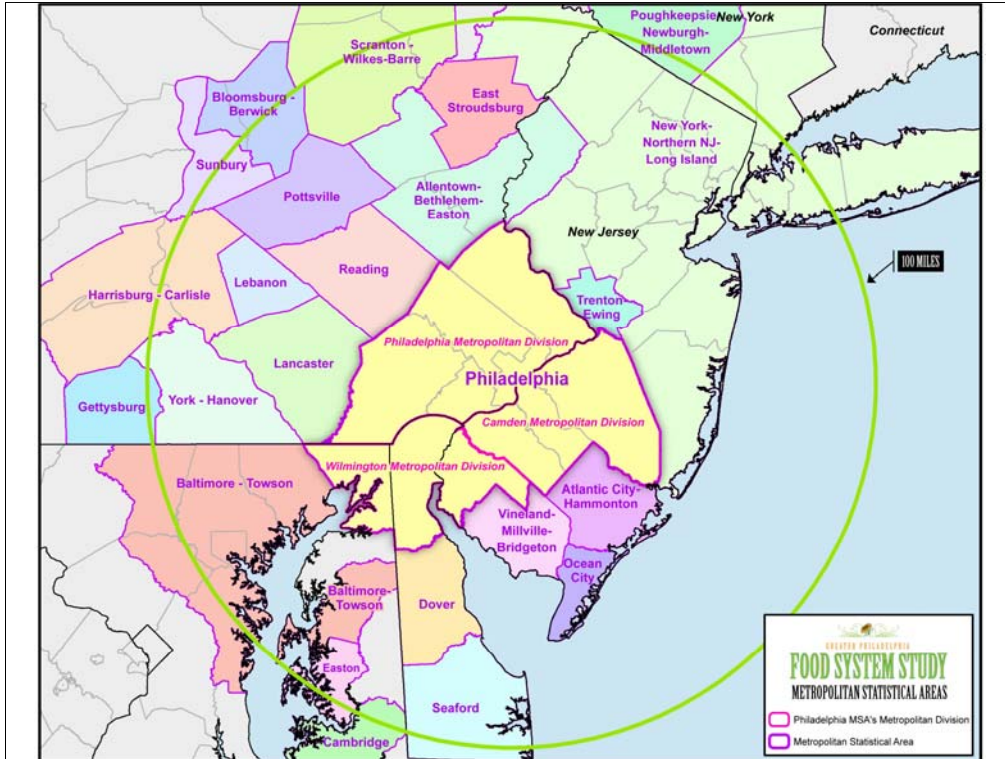


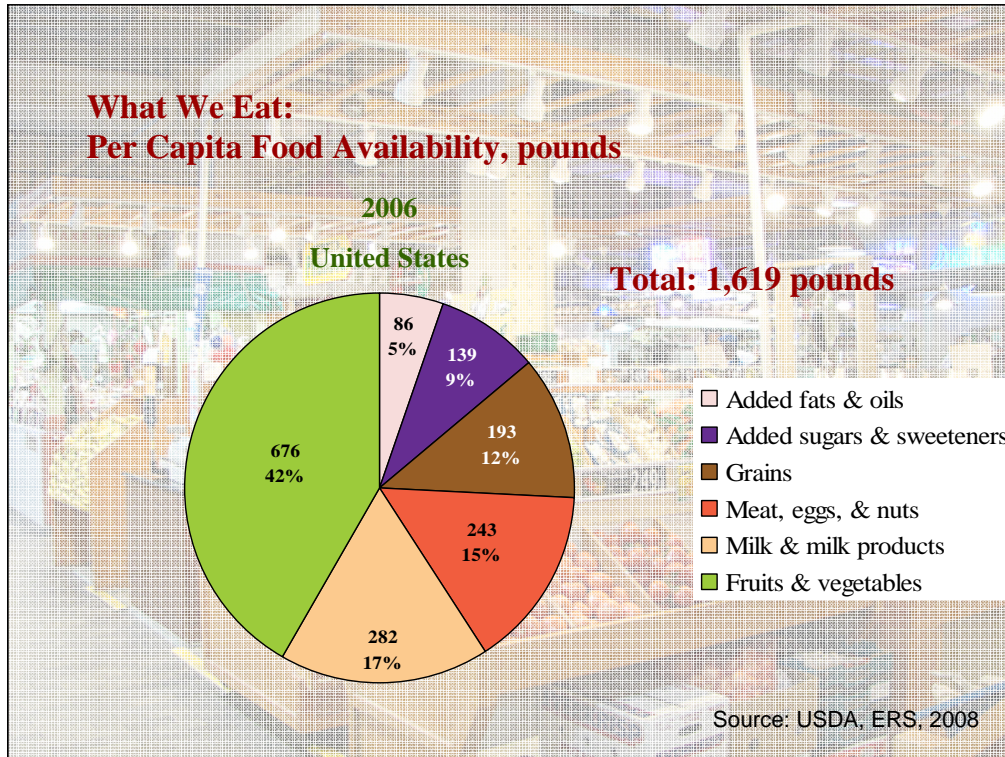
Although the agricultural analysis looked at the 100-mile foodshed, our focus for the food economy is more narrow and we are primarily looking at the Philadelphia Metropolitan Statistical Area (or MSA). However, when data is not available on the MSA level, we will look at the three states of Pennsylvania, New Jersey, and Delaware.

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- **How we spend our food dollars**
- **How important is food to the regional economy**

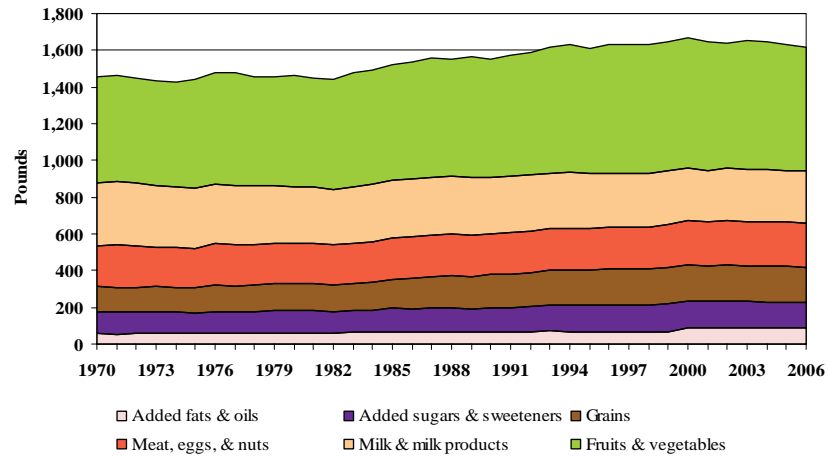




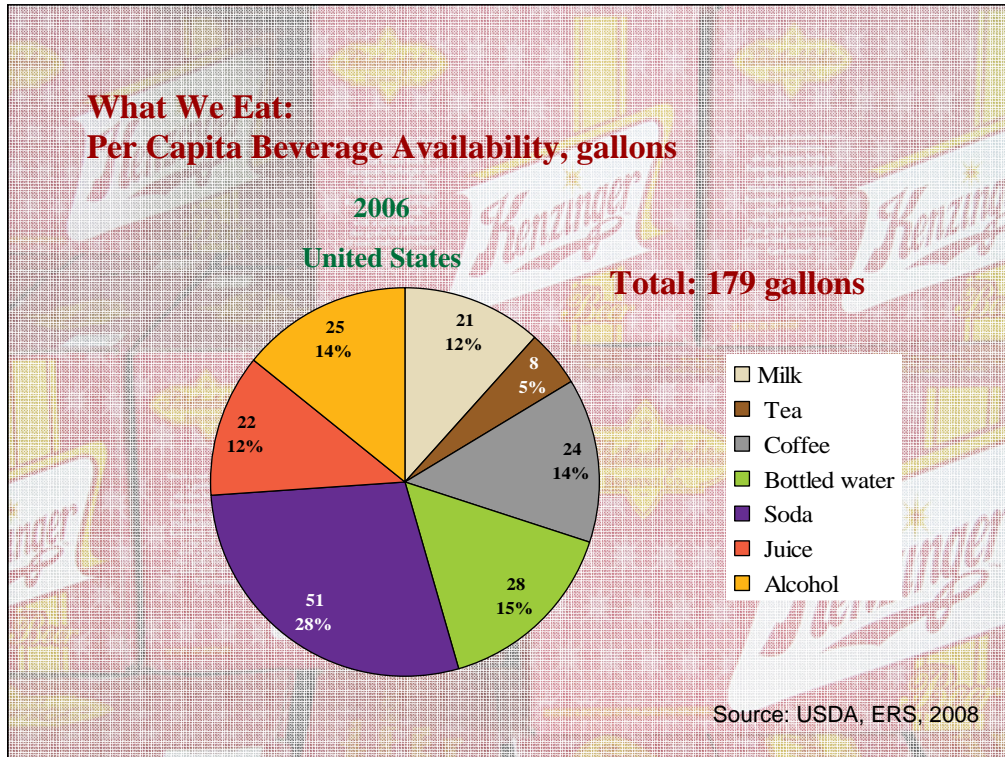


Data on food consumption is only available on the national level, and it's measured by food availability, which is used as a proxy for actual food consumption. In 2006, the average American ate 1,619 pounds of food a year. The largest type of food in terms of weight was fruits and vegetables at 676 pounds, followed by milk and milk products.

What We Eat: Food Consumption Trends

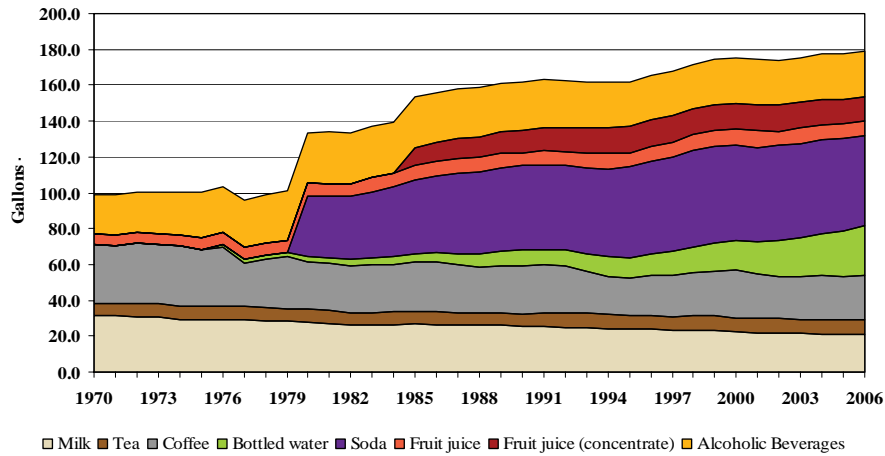


Americans ate more pounds of nearly every category of food in 2006 than they did in 1970 (which is the earliest year we have complete information for). In particular, the amount of added fats & oils increased by more than half during this period. However, Americans consumed 18% less milk & milk products in 2006 than they did in 1970. Again, though, this measures the availability of food and not necessarily actual consumption.



Turning now to beverages, in 2006, the average American drank 179 gallons of beverages per year, not including tap water. The largest category of beverages was carbonated soft drinks, or soda, at 51 gallons per year, followed by bottled water at 28 gallons.

What We Eat: Beverage Consumption Trends

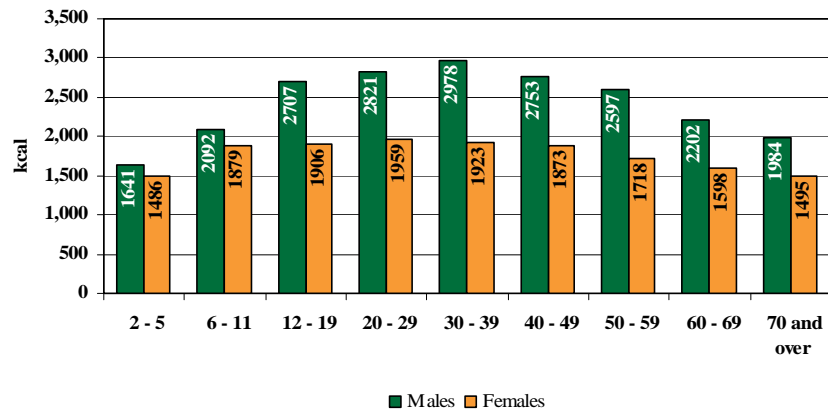


Source: USDA, ERS, 2008

Beverage consumption trends from 1970 to 2006 have changed more dramatically than food trends because of new types of beverages that started being tracked within this time period. In 1970, Americans on average drank 99 gallons of beverages, which increased to 179 gallons in 2006 (again, excluding tap water). The consumption of soda wasn't tracked until 1980 and it increased from 34 gallons to 51 gallons per capita. Bottled water consumption increased from less than 2 gallons in 1976 to nearly 28 gallons in 2006.

What We Eat: Caloric Intake by Age Group

2005 – 2006, United States

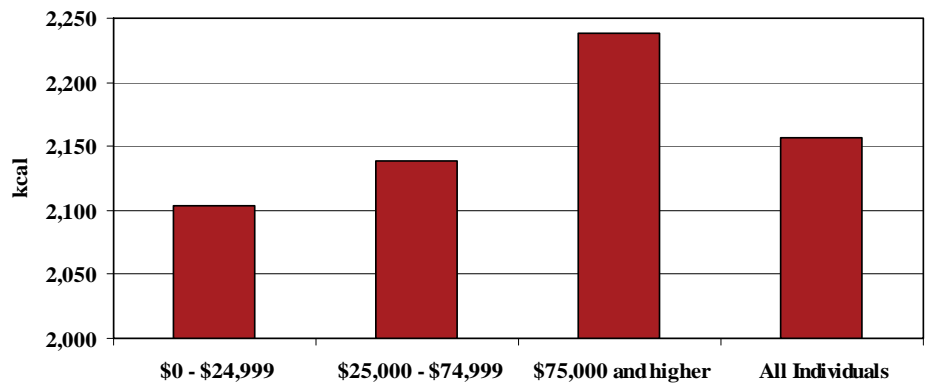


Source: USDA, ARS, 2008

Turning to the nutrients we receive from our food and beverage consumption, the average American consumes 2,157 calories per day. Caloric intake is greatest for women in their twenties, and men in their thirties.

What We Eat: Caloric Intake by Income Group

2005 – 2006, United States

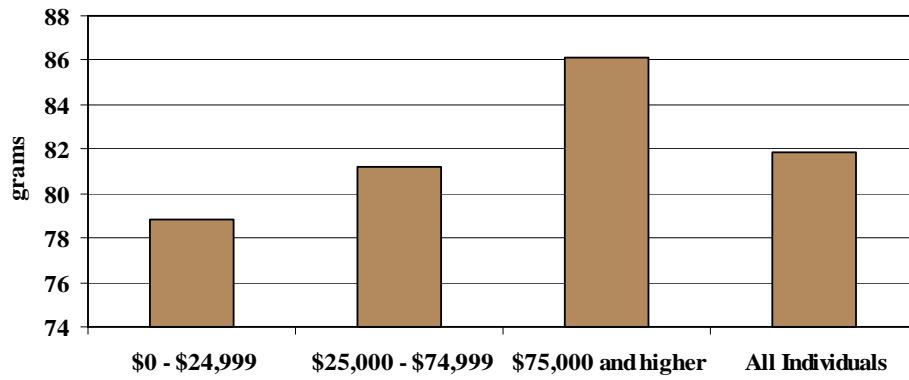


Source: USDA, ARS, 2008

As household income increases, so does the average daily intake of most nutrients, such as calories...

**What We Eat:
Fat Intake by Income Group**

2005 – 2006, United States

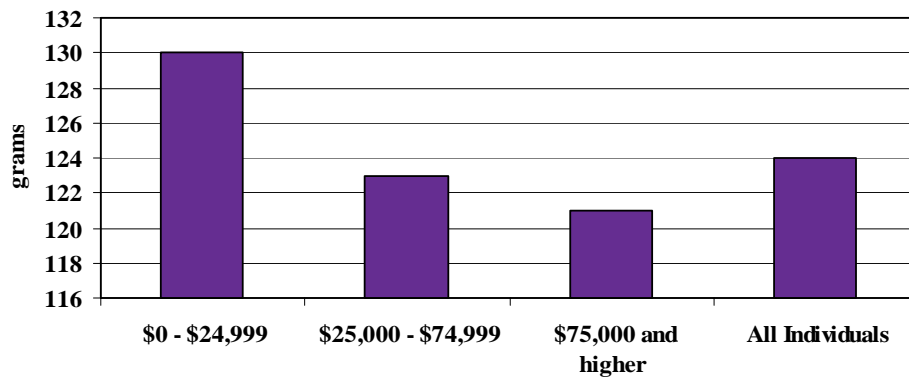


Source: USDA, ARS, 2008

... and grams of fat.

**What We Eat:
Sugar Intake by Income Group**

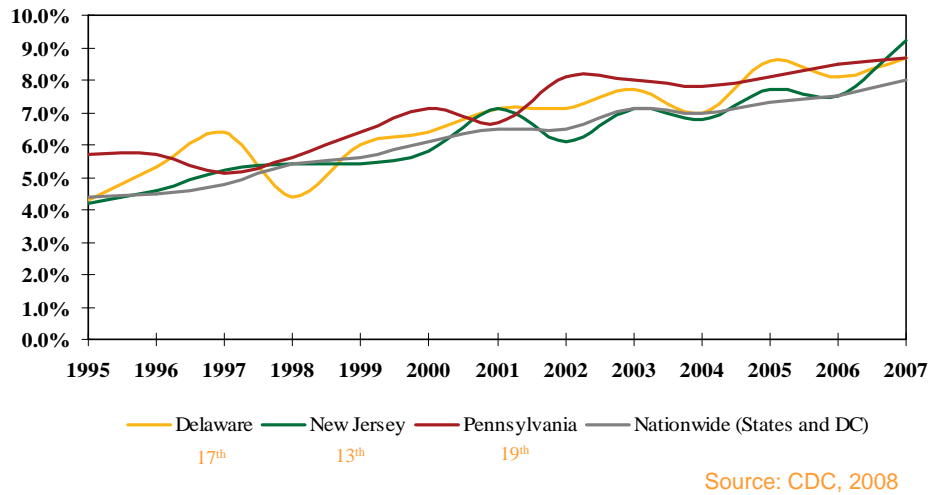
2005 – 2006, United States



Source: USDA, ARS, 2008

The opposite is true for the intake of sugar, which decreases as income increases.

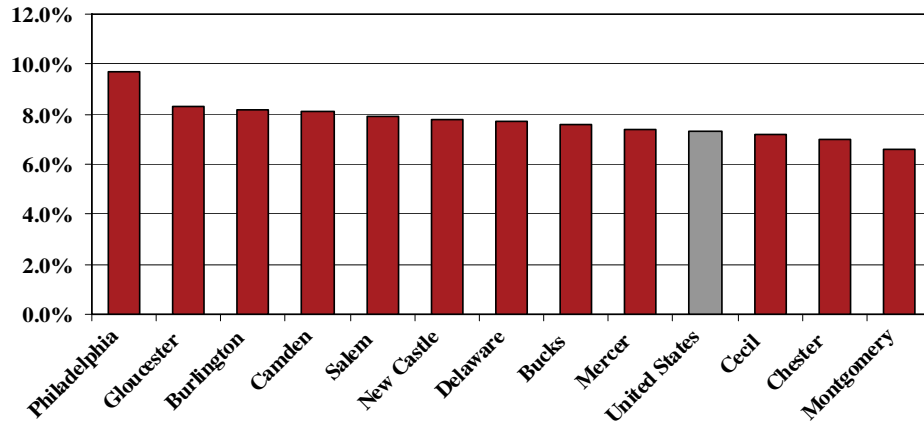
What We Eat: Diabetes



Turning now to some health trends, the three states of Delaware, New Jersey, and Pennsylvania have generally had a higher percentage of people with diabetes than the national average. In 2007, New Jersey, Delaware, and Pennsylvania ranked 13th, 17th, and 19th nationwide for the percentage of the population with diabetes.

What We Eat: Diabetes

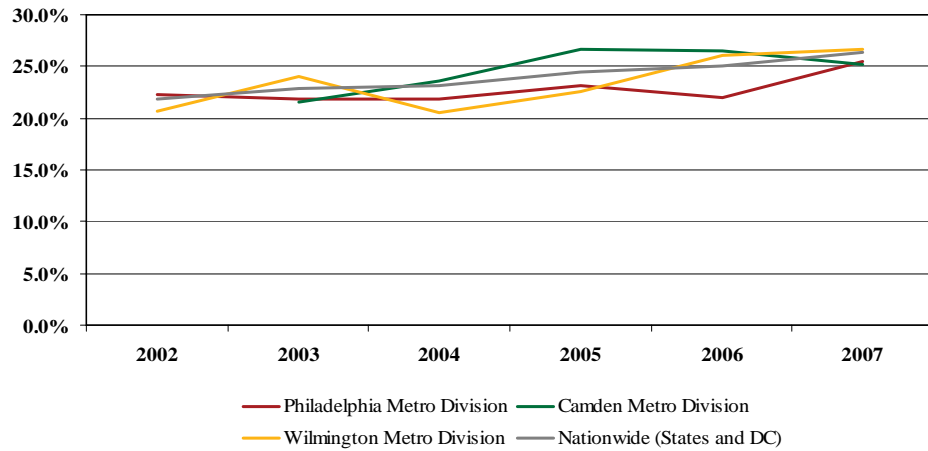
2005, Ages 20+



Source: CDC, 2009

The counties of the Philadelphia MSA also have a higher incidence of diabetes than the national average. In Philadelphia County alone, 9.7% of adults ages 20 and up had diabetes in 2005.

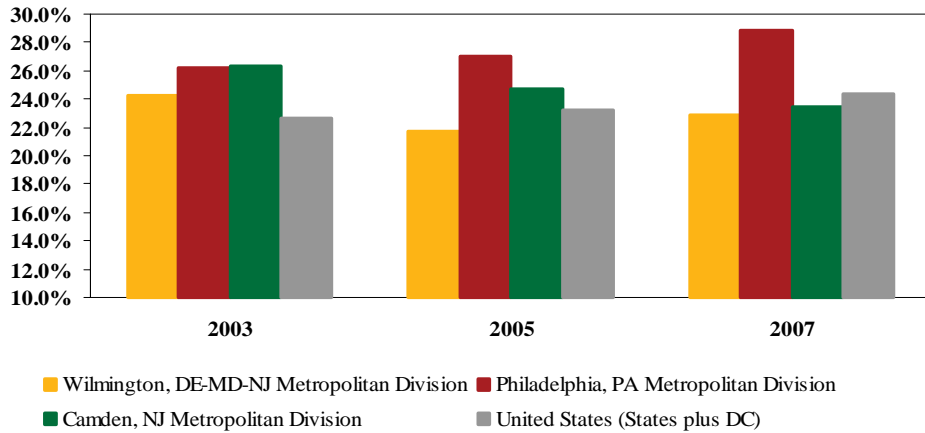
What We Eat: Obesity



Source: CDC, 2008

In terms of obesity, as measured by having a Body Mass Index (BMI) of over 30, the rate of obesity in the three metropolitan divisions of the Philadelphia MSA was close to the national average of about 26% in 2007. And so although Philadelphia's been called one of the fattest cities, we're actually at or slightly below the national average for obesity.

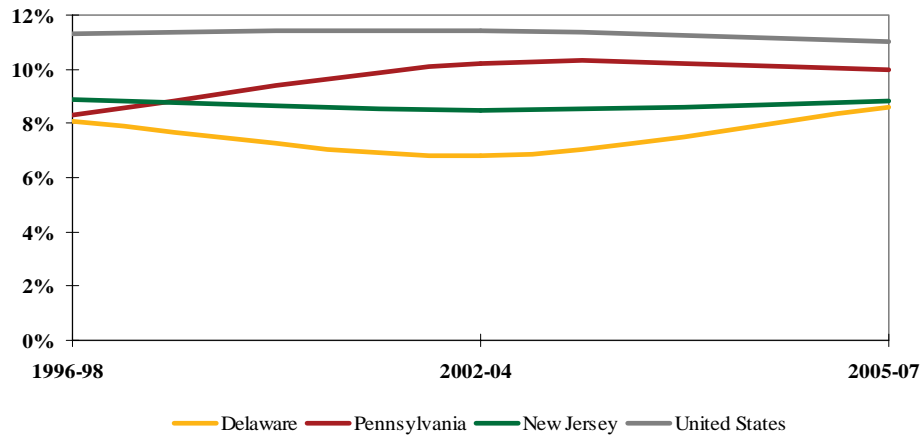
**What We Eat:
Adults Consuming 5 or more Fruits and Vegetables a day**



Source: CDC, 2008

Nationwide, the percentage of adults eating the recommended daily intake of five servings of fruits and vegetables has increased gradually over the past few years and was over 24% in 2007. Within the Philadelphia MSA, the Philadelphia Metropolitan Division has long surpassed the national average and has been increasing at a higher rate. On the other hand, the percentage of adults eating enough fruits and vegetables in both the Camden and Wilmington Metropolitan Divisions decreased during this time period and were both lower than the national average in 2007.

What We Eat: Households Reporting Food Insecurity

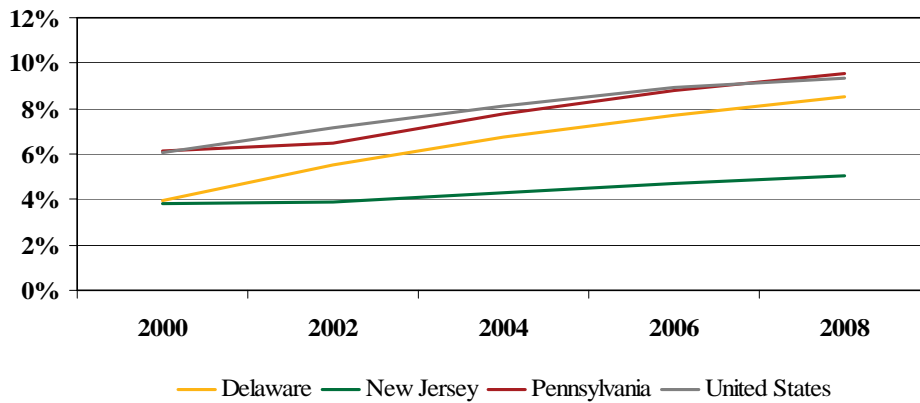


Source: USDA 2008

Food insecure households are those that are uncertain of having, or are unable to acquire, enough food to meet the needs of all their members because they had insufficient money or other resources for food. Over the past ten years, food insecurity has been lower in the tri-state area than in the nation as a whole. However, this equals nearly 800,000 people in the three states who were food insecure between 2005 and 2007.

What We Eat: Population Using SNAP (Food Stamps)

DE, NJ, PA: 1.7 M

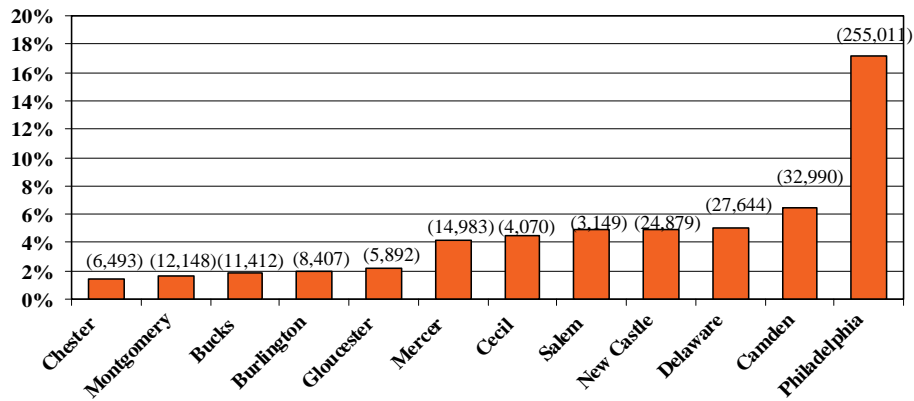


Source: US Census Bureau, USDA FNS, 2009

An estimated one in five Americans participates in at least one USDA food and nutrition assistance program at some point during the year. One of the largest of these programs is Food Stamps, officially known as the Supplemental Nutrition Assistance Program, or SNAP. Between 2000 and 2008, participation in SNAP increased in the tri-state area, following the national trend. In the three states in 2008, over 1.7 million people (over 800,000 households) participated in SNAP. New Jersey was far below average, with just about 5% of the population using food stamps.

**What We Eat:
County Population (%) Using Food Stamps, 2002**

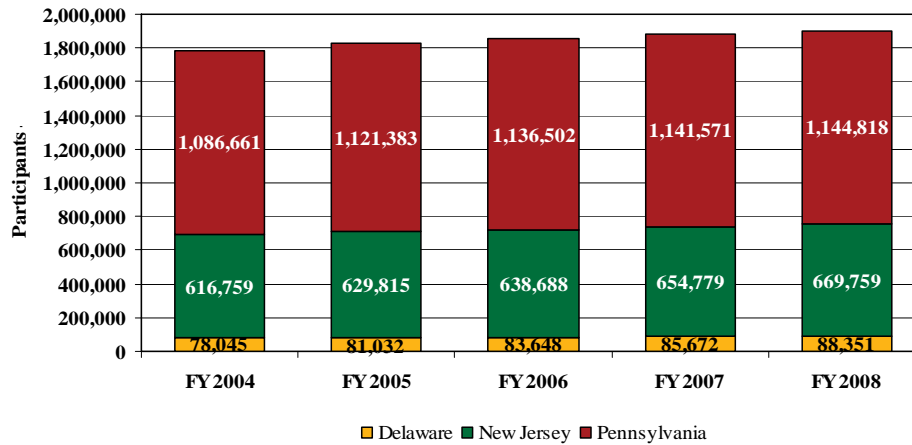
Total: 409,080



Source: US Census Bureau 2002, USDA ERS, 2003

In the Philadelphia MSA (plus Mercer), over 409,000 people participated in SNAP in 2002. Within the MSA, the county with the highest percentage of its population using food stamps was Philadelphia, with over 17% using food stamps, followed by Camden County with 6.5%. This data is from 2002, however, and I'm sure many in this room would attest that these numbers have increased greatly over the past few years.

What We Eat: National School Lunch Program Participants



Source: USDA FNS, 2009

The largest USDA nutrition assistance program is the National School Lunch Program, which provides low-cost or free lunches to eligible students. In the three states, about 1.9 million students participated in the National School Lunch Program in 2008, and participation has steadily increased over the past few years.

PART 4: The Food Economy

- **What We Eat**
- **How we spend our food dollars**
- **How important is food to the regional economy**

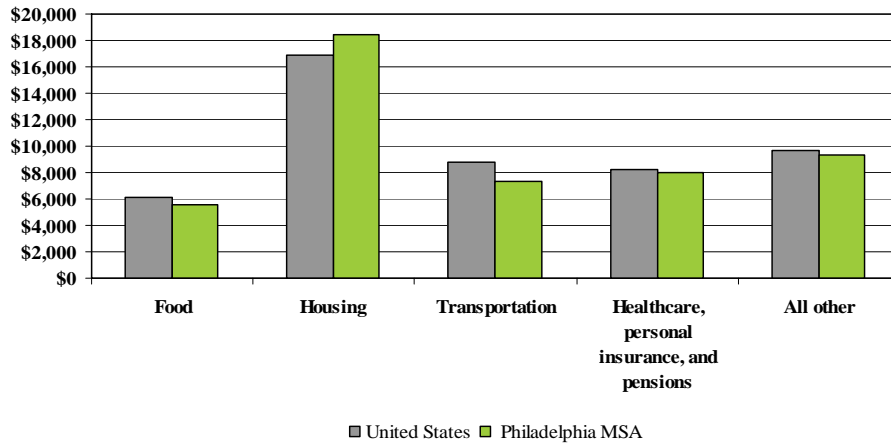


PART 4: The Food Economy

- **What We Eat**
 - **How we spend our food dollars**
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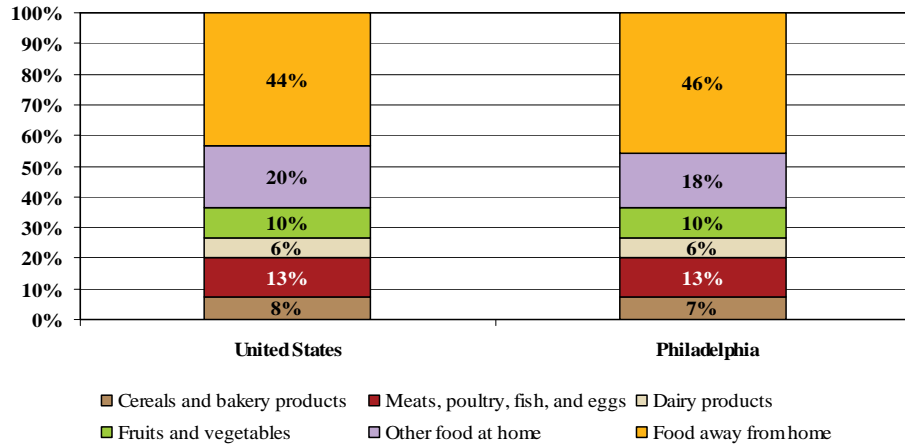
How We Spend Our Food Dollars: Household Expenditures, 2006



Source: BLS 2008

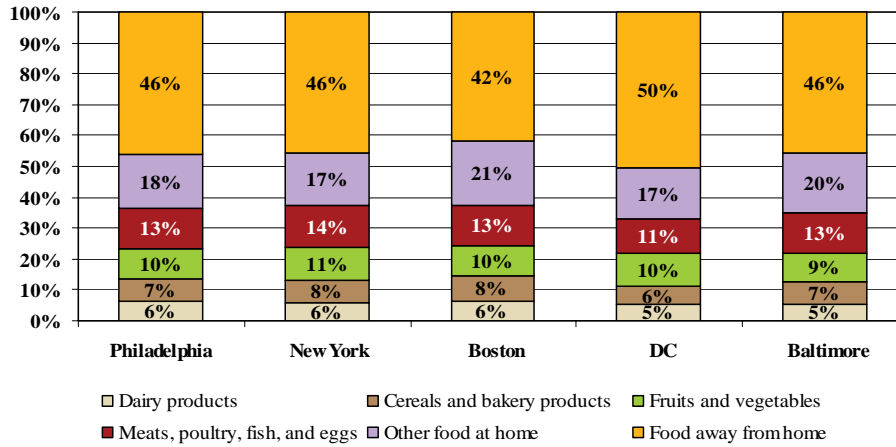
This chart compares household expenditures of the United States to the Philadelphia MSA, shown in green. The Philadelphia MSA spends more on housing than the national average, although it spends less on food, transportation, healthcare, and other expenditures.

How We Spend Our Food Dollars: Food Expenditures per Household, 2006



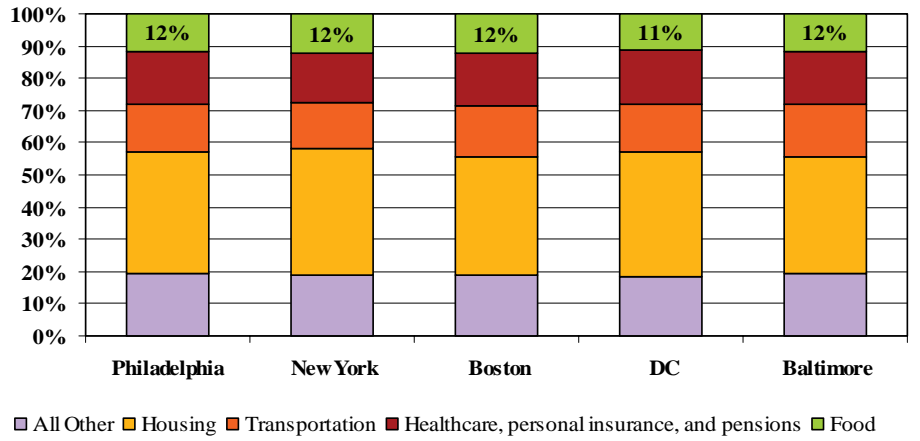
Within food expenditures, the Philadelphia MSA spends roughly the same percentage on different types of food as the national average, although it spends less on “other food at home” and more on “food away from home.”

How We Spend Our Food Dollars: Food Expenditures per Household by MSAs, 2006



The major Northeastern MSAs of Philadelphia, New York, Boston, Washington, DC, and Baltimore all spend roughly the same percentages on the different types of food expenditures. Washington, DC, spends the highest percentage on food away from home, New York spends the highest percentage on meat, and Boston spends the highest percentage on other food at home. Philadelphia comes somewhere in the middle in every category.

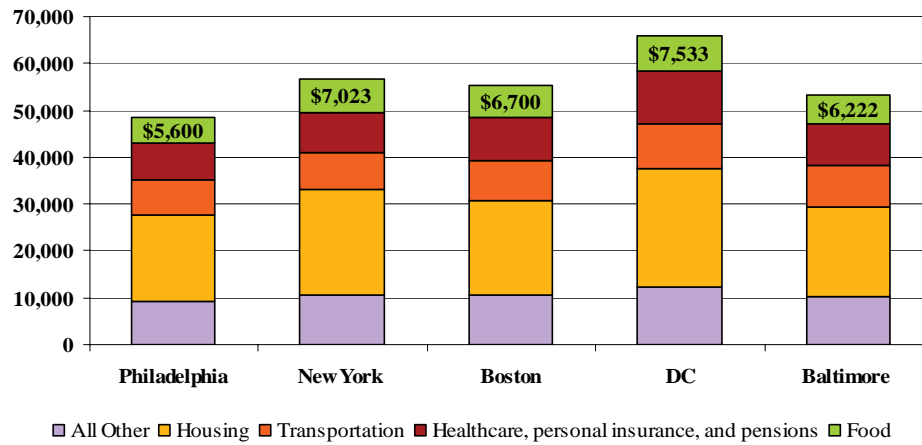
How We Spend Our Food Dollars: Household Expenditures by MSAs, 2006



Source: BLS 2008

The Philadelphia MSA spends approximately 12% of its total annual expenditures on food, equal to the national average and all major northeastern MSAs.

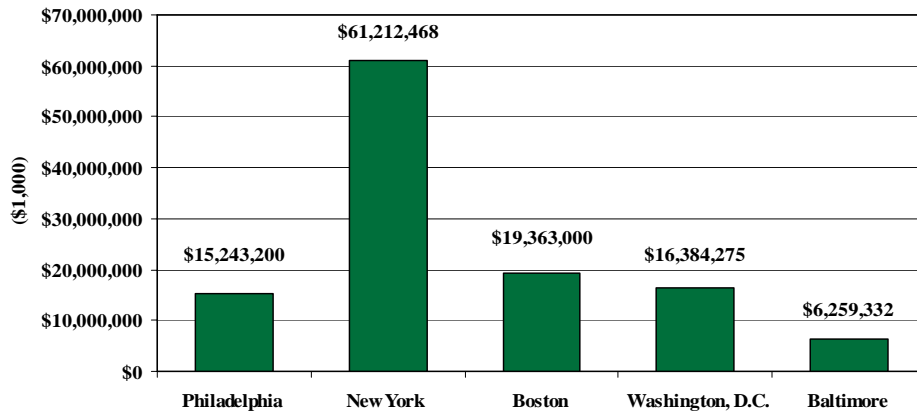
How We Spend Our Food Dollars: Food Dollars per Household by MSAs, 2006



Source: BLS 2008

Although the percentage of food expenditures is roughly the same, the actual amount of expenditures varies greatly due to differences in income and cost of living. Philadelphia has a lower cost of living and a lower average household income than all other major Northeastern MSAs.

How We Spend Our Food Dollars: Total Food Dollars per MSA, 2006-2007



Source: BLS 2008

The total food dollars spent in each MSA is equal to the annual household expenditures times the total number of households per MSA. With its 2.7 million households, the Philadelphia MSA generates over \$15 billion food dollars. The New York MSA, with its 8.7 million households, generates over \$61 billion food dollars.

PART 4: The Food Economy

- **What We Eat**
- **How we spend our food dollars**
- **How important is food to the regional economy**



PART 4: The Food Economy

- **What We Eat**
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The Food Economy Sectors



- ☞ *Fishing, hunting, trapping, and ag. support*
- ☞ *Warehousing and storage (refrigerated, farm product)*
- ☞ *Food and beverage manufacturing*
- ☞ *Wholesale trade (grocery, farm product, farm supplies, beverage)*
- ☞ *Food & beverage stores*
- ☞ *Eating and drinking places*

To measure the impact of the food economy on the overall economy of the region, we identified these six food-related sectors measured by the US Census Bureau in their Economic Census and annual business surveys. The six sectors include... Within these six sectors are 13 sub-sectors, and these make up the food economy that we will be looking at in the following slides.

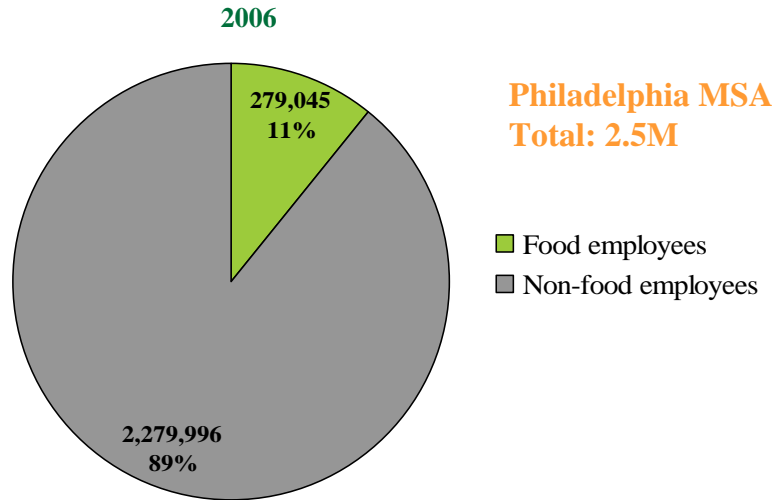
The Food Economy Sectors



- ☞ *Fishing, hunting, trapping, and ag. support*
- ☞ *Warehousing and storage*
- ☞ *Food and beverage manufacturing*
- ☞ *Wholesale trade*
- ☞ *Food & beverage stores*
- ☞ *Eating and drinking places*
- ☞ *Agricultural production*
- ☞ *Transportation*

Agricultural production and transportation are also key factors in the food economy, but are not included in the following analysis. And this is because agricultural production, which we just heard about from Alison, is measured by the USDA and is not included in the Census Bureau data. Also, transportation is not included because we're not able to distinguish between food and non-food transportation in the data. So if we combine the first six food economy sectors...

**How Important is Food to the Regional Economy:
Total Non-Farm Jobs**

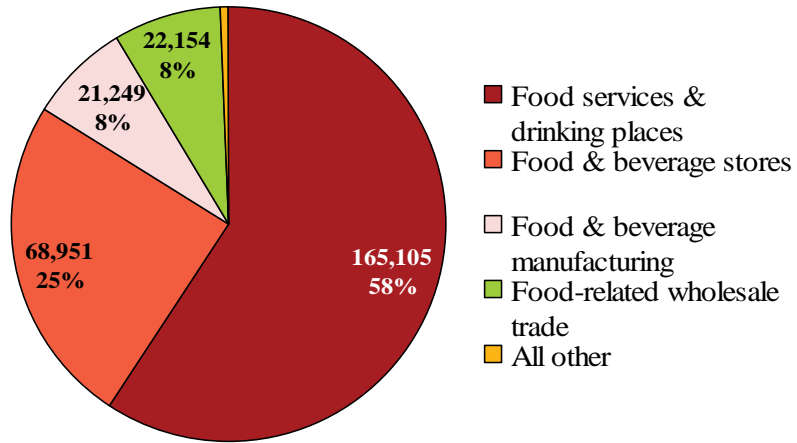


Source: US Census Bureau 2006

...they equaled 11% of all jobs in the Philadelphia MSA in 2006. And again, this is a very conservative estimate considering that agricultural production, food transportation, and other sectors like food science are not included due to limitations in the Census Bureau data. Now we're going to look a little more closely at these 279,000 jobs in the food economy.

How Important is Food to the Regional Economy: Total Food-Sector Jobs

2006

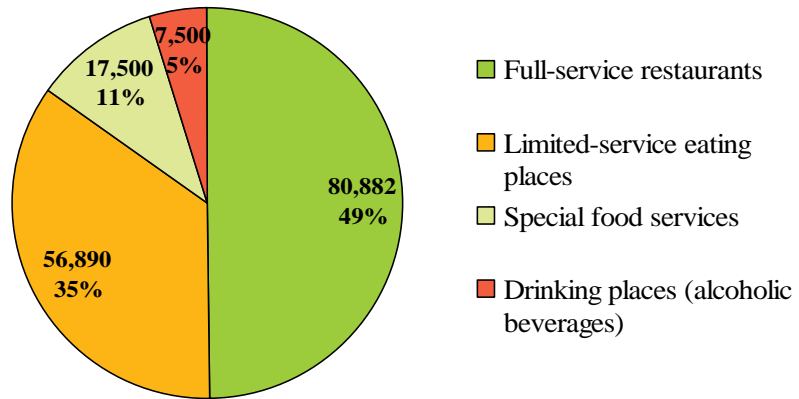


Source: US Census Bureau 2006

Of those employees in the food economy, over half work in food services and drinking places like bars and restaurants. Another quarter work in food and beverage stores.

**How Important is Food to the Regional Economy:
Food Services & Drinking Places Employees, Philadelphia
MSA**

2006

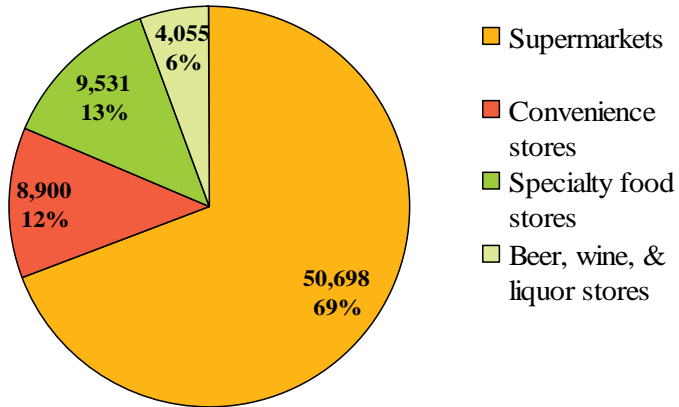


Source: US Census Bureau 2006

About half of the jobs in food services and drinking places are at full-service restaurants, and 35% are at limited-service eating places like cafes or fast-food.

**How Important is Food to the Regional Economy:
Food & Beverage Store Employees in Philadelphia MSA**

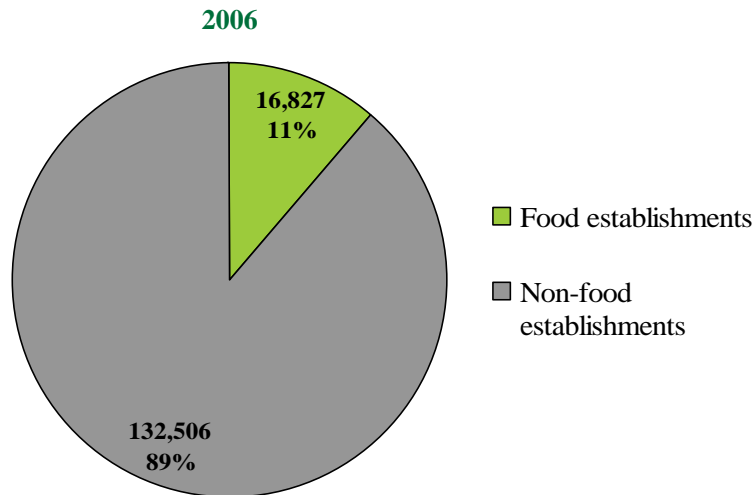
2006



Source: US Census Bureau 2006

Most employees at food and beverage stores work at supermarkets, followed by specialty food stores and convenience stores.

How Important is Food to the Regional Economy: Total Non-Farm Establishments

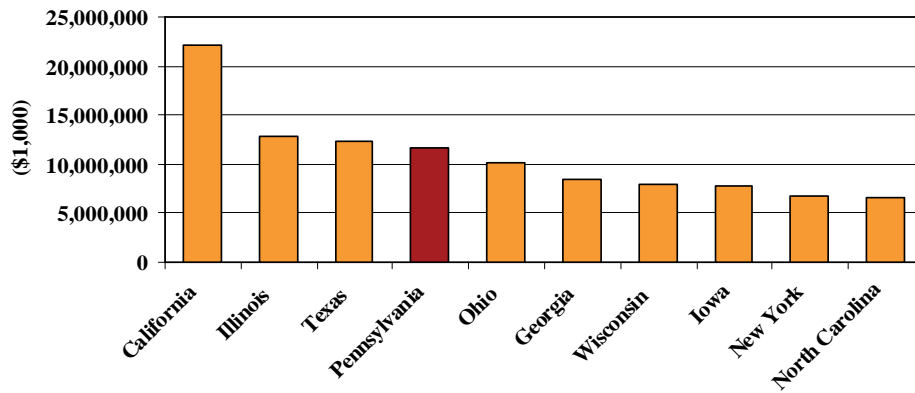


Source: US Census Bureau 2006

Looking at the number of establishments now, those six food economy sectors made up 11% of all establishments in the Philadelphia MSA in 2006, the same percentage as jobs. And within those nearly 17,000 establishments, the breakdown between different sectors was very similar to that of employees, with food services and drinking places having the most number of establishments, followed by food and beverage stores.

How Important is Food to the Regional Economy: Pennsylvania is a Strong Food Manufacturing State

Food Manufacturing Value Added (\$1,000), 2002



Source: US Census Bureau 2002

Taking a closer look at just food manufacturing, we found that Pennsylvania has a very strong food manufacturing base. In terms of value added, which is the total sales value minus the cost of production, Pennsylvania is fourth in the United States, after the major food manufacturing states of California, Illinois, and Texas. And although New York state has more food manufacturing establishments, Pennsylvania actually produces more value.

How Important is Food to the Regional Economy: The Agricultural Industry and Food Expenditures

100-Mile Foodshed

2007 Total Sales of Agricultural
Products

\$6,732,916,000

Philadelphia MSA + Mercer County

2006-2007 Total Household
Expenditures on Food and Alcohol

\$16,438,100,000

Source: BLS 2008, USDA 2007

Over \$16 billion was spend on food and alcohol in the Philadelphia MSA annually in 2006-2007. Half, over \$8 billion was spent on food at home.

CONCLUSIONS

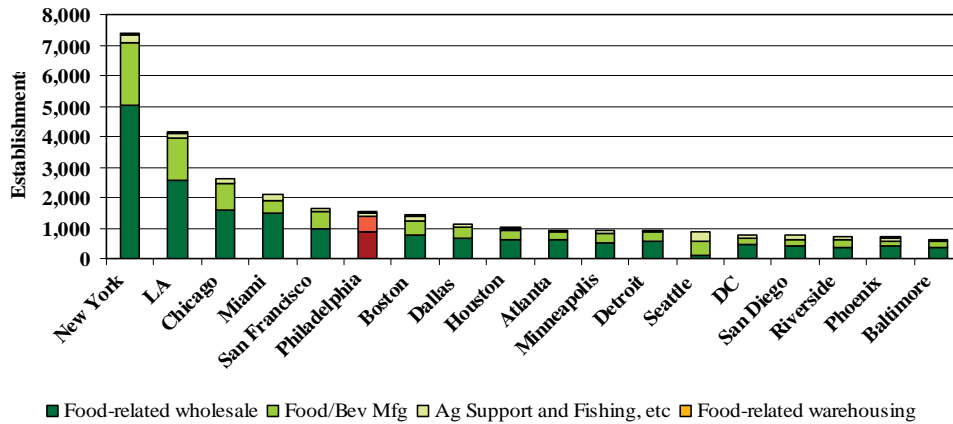


- ❧ *Greater Philadelphia has less buying power than other MSAs in the Northeast*
- ❧ *Pennsylvania has a strong food manufacturing base*
- ❧ *The Food Economy is dependent on population and place*

Some of our conclusions regarding the food economy are that Greater Philadelphia has less buying power than other MSAs in the Northeast due to its lower average household income and lower cost of living. On the upside, Pennsylvania has a strong food manufacturing base which produced over \$12 billion in value added. Lastly, we found that the food economy is highly dependent on population and place.

The Food Economy is Dependent on Population and Place

Non-Retail Food Economy, 2006



Source: US Census Bureau 2006

This is illustrated here, which shows the number of establishments of the non-retail side of the food economy after taking out food and beverage stores and eating and drinking places. The Philadelphia MSA comes in sixth out of all MSAs in the country, after Miami and San Francisco. Those two MSAs have more food-related wholesalers than Philadelphia, not only because they have ocean-side ports unlike Philadelphia, but also because Florida and California are two of the biggest agricultural states.

NEXT STEPS

NEXT STEPS

☞ *Sub-committee of larger SAC; commit to review document, provide feedback, and help form conclusions*

☞ *Part 3 Readers (April/May)*

☞ *Part 4 Readers (May/June)*

Study published August 2009

PLAN FOR SUSTAINABLE FOOD SYSTEM



SCOPE OF WORK:

- ☞ Envision a sustainable food system*
- ☞ Choose indicators that measure sustainability*
- ☞ Create a Plan with recommendations to shift those indicators towards sustainability*
- ☞ Measure the region's progress*

Commence work July 2009

NEXT STEPS

- ❧ *Next Study Advisory Committee meeting on Thursday, 7/30 (TENTATIVE)*
- ❧ *What did we learn from the study?*
- ❧ *Where do we want to go from here?*
- ❧ *How do we move forward?*

QUESTIONS

**ONE MINUTE
REPORTS**

THANK YOU!

FOR MORE INFORMATION

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