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# Local Food Market Analysis

**A STUDY OF THE MARKET POTENTIAL FOR LOCAL FOODS IN THE UPPER MINNESOTA VALLEY RDC AREA**

Authored by Ryan Pesch



Photo by Kristi Link Fernholz

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# Local Food Market

A STUDY OF THE MARKET POTENTIAL FOR LOCAL FOODS IN THE UPPER MINNESOTA VALLEY RDC AREA

March 20, 2017

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## SUMMARY: REGIONAL MARKET POTENTIAL FOR LOCAL FOODS AT 5 PERCENT MARKET SHARE

In the Upper Minnesota Valley region, farms sell \$654,000 of agricultural products direct to consumers, and residents in the five-county area spend more than an estimated \$90 million on food. This means current local food sales are less than 0.5 percent of total household spending.

Given this percentage, modeling the market potential of food sales within the region as a 5 percent market share across select outlets and products is an ambitious, yet obtainable, goal.

**Potential meat sales for home consumption are nearly double the market potential of fresh fruits and vegetables.**

Table 1 shows resident spending estimates across market channels and product categories for the entire region and at a 5 percent market share. Details for each of these estimates are included in this report.

**Table 1: Total spending and 5 percent market share by outlet**

	<b>Total spending in region</b>	<b>5 percent market share</b>
<b>Total food at home</b>	\$68,706,225	\$3,435,311
Meats	\$15,654,164	\$782,708
Fresh fruits and vegetables	\$8,654,469	\$432,723
Grocery stores	\$38,351,972	\$1,419,023
Meats at grocery	\$5,399,958	\$199,798
Fresh fruits and vegetables	\$4,429,653	\$163,897
Specialty food stores (butchers, bakeries)	\$1,605,236	\$59,394
<b>Total food away from home</b>	\$24,539,551	\$1,226,978
Full-service restaurants	\$3,748,549	\$187,427
Schools	\$204,372	\$10,219
Healthcare	\$335,855	\$16,793

Food purchased for consumption at home would net local producers almost three times the sales as food purchased away from home (e.g., restaurants, schools, and other food service facilities) (Table 1). This is due, in part, to the amount of sales leaking outside the region and the amount of total dining sales used to purchase food (see “Focus: Full-Service Restaurants” section). Grocery stores, on the other hand, spend a greater amount on food for every dollar in sales (Roerink et al., 2014); that is, 74 cents of every retail dollar is spent on food purchases.

## **The region would need 27 acres of fruit and vegetables to meet 5 percent of demand.**

The food availability and disappearance database from the United States Department of Agriculture (USDA) provides per capita consumption figures for a wide range of foods. Extension used these figures to estimate the supply necessary to fill 5 percent of food needs in the region. This supply includes:

- 61,000 broilers for chicken
- 313 head of beef
- 27 acres of mixed fruit and vegetable production
- 2,500 hogs

This aggregate demand for food is based on national consumption patterns and is not limited to, or broken out by, outlet (e.g., food purchased for consumption at home or away from home). Fruits and vegetables are limited to fresh market—meaning they're not processed. Since the database provides consumption for a wide range of foods, the USDA's calculations are helpful in generating estimates of crop or livestock production. Extension calculated the supply needed for meats and produce, based on the population of the region and a 5 percent market share (see Appendix 1).

## **BACKGROUND**

During the past decade, there has been significant interest in developing local food systems. Increasing consumer demand for farm products is driven by the belief that local food production systems are more sustainable, healthy, and supportive of local economies. Local food sales through direct markets have grown tremendously—annual direct-market sales increased from \$511 million in 1997 to \$1.2 billion in 2007 (Martinez et al., 2010)—and the number of farmers markets has increased to nearly 8,000 nationwide (USDA AMS, 2017). Additionally, more than 5,200 school districts in the U.S. source food from local farmers, ranchers, and food businesses (USDA Farm to School Census, 2015).

The five counties of the Upper Minnesota Valley region have a long history of engaging in local food development and, in many respects, led Minnesota well before the local food movement became mainstream. The development of the Pride of the Prairie collaborative in 2000 is a visible and successful effort to collaboratively market local foods regionally. Considering the rural nature of the region, this organizing effort by farmers and organizations is all the more noteworthy.

In light of past efforts and the general conversation about what is next for local foods in the region, the Upper Minnesota Valley Regional Development Commission (UMRVRDC) partnered with the Southwest Regional Sustainable Development Partnership and University of Minnesota Extension to explore opportunities and next steps. Kristi Fernholz of the Upper Minnesota Valley Regional Development Commission and David Fluegel of the Southwest Regional Sustainable Development Partnership assembled a project team to organize the effort that included representatives of the Statewide Health Improvement Program (SHIP) and Extension.

## **METHODOLOGY**

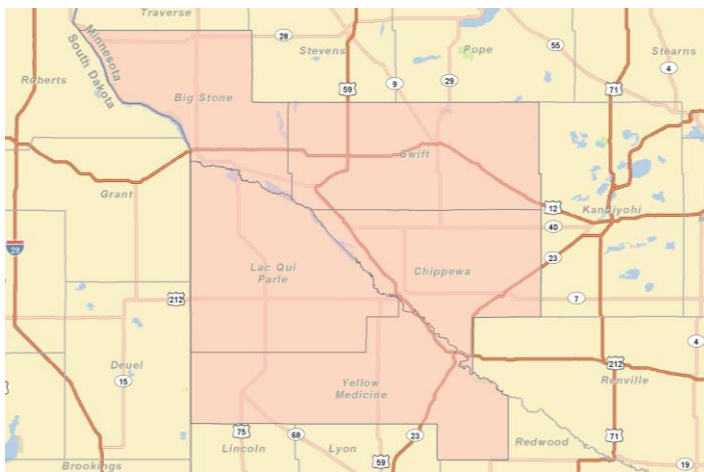
For this analysis, secondary data was primarily used to estimate the size of the food market in the region. The three main datasets informing the analysis include:

1. Sales tax statistics from the Minnesota Department of Revenue

2. Consumer Expenditure Survey (CEX) data from the U.S. Bureau of Labor Statistics
3. Population and demographic estimates from the U.S. Census Bureau
4. Food availability and disappearance dataset from the USDA's Economic Research Service (ERS)

Extension obtained the CEX and Census Bureau figures through ESRI's business analyst software, a GIS mapping program that retrieves demographic and business data for specific geographic areas (see Appendix 4 for full reports on the region).

**Figure 1: Five-county study area**



Extension combined and analyzed the data to estimate a reasonable amount of food spending within the five-county RDC region (Figure 1). Estimates also covered a series of market outlets. For example, Extension used sales tax data to measure how many resident food purchases left the region and then used that information to adjust consumer expenditure estimates of spending. These estimates only reflected purchases made in the region, and this report provides the sources and explanations used by Extension to arrive at its market estimates.

## CURRENT LOCAL FOOD SALES BY FARMS IN THE REGION

Census of Agriculture data from the National Agricultural Statistical Services (NASS) provides reliable and detailed information about the state of agriculture in the United States. Census of Agriculture statistics are created from surveys sent to all American farm operators (identified as selling more than \$1,000 in agriculture-related production). For purposes of examining the local food market, figures regarding direct sales to consumers are an important indicator of current supply or activity in the region.

**Ninety-two farms sold \$654,000 of food direct to customers in 2012, more than doubling 2007 sales.**

The value of goods sold and the number of farms selling direct to consumers has grown between 2007 and 2012, the two years in which the most recent Census of Agriculture datasets are available (Table 2). It is important to note, however, that while these are sales by farms in the region, not all sales are from *residents* of the region; that is, the data measures current supply rather than demand. For example, Easy Bean Farm operates a CSA in the study area, yet many of its customers live in communities outside the region, such as Morris or the Twin Cities.

**Table 2: Value and number of farms that sold food direct to consumers (Census of Agriculture, 2012 and 2007)**

<i>Counties</i>	2012		2007	
	<i>No. of Farms</i>	<i>Value</i>	<i>No. of Farms</i>	<i>Value</i>
Big Stone County	15	\$97,000	9	\$40,000
Chippewa County	20	\$302,000	17	\$81,000
Lac qui Parle County	23	\$81,000	13	\$47,000
Swift County	13	\$59,000	23	\$78,000
Yellow Medicine County	21	\$115,000	19	\$61,000
<b>Total Region</b>	<b>92</b>	<b>\$654,000</b>	<b>81</b>	<b>\$307,000</b>

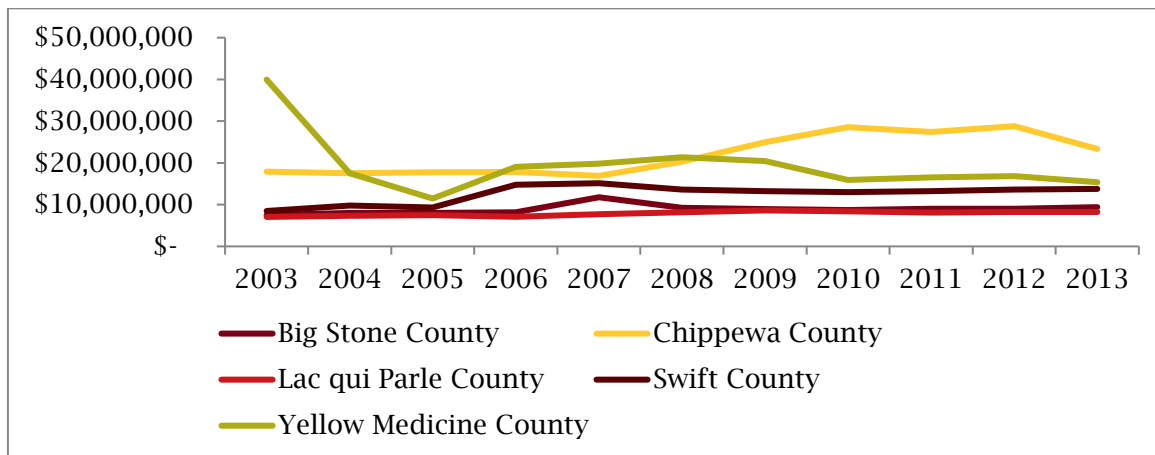
The Pride of the Prairie local foods guide is a fairly comprehensive directory of farms that sell food direct to consumers in West Central Minnesota, although it only lists 19 of the 92 farms. From research conducted in Renville County, however, it is apparent that a large portion of sales direct to consumer are purchased directly off the farm (Pesch, 2012). These sales may be from the same producers who also sell at public venues, such as farmers markets or CSAs, and would be most likely to list themselves in the local foods guide. The remainder of operations do not formally advertise that they sell products to consumers.

**CURRENT FOOD AND LIQUOR SALES IN THE REGION**

Sales tax statistics provide one of the most complete and accurate indications of food supply and demand in the Upper Minnesota Valley region. Based on data from 2003 to 2013, total sales in the grocery category (which also includes liquor stores and specialty food stores like bakeries and meat lockers) remained relatively stable over the past 10 years (Figure 2). An exception to this stability is Chippewa County, which saw a significant increase in sales from 2007 to 2010 and a commensurate increase in the number of stores.

**Sales in the grocery and liquor category remain stable.**

**Figure 2: Grocery and liquor store gross sales from 2003 to 2013 (Source: Minnesota Department of Revenue)**





Extension measured the level of resident sales retention in the region by calculating pull factors for both the region itself and counties within the region. A pull factor is a measurement of a community's retail pulling strength, or the portion of local sales retained. Extension calculated pull factors for this report by dividing the taxable sales per capita for a county or region by the taxable sales per capita in Minnesota. These figures were based on sales tax statistics reported by the Minnesota Department of Revenue. A pull factor larger than 1.0 indicates a community is pulling in sales or traffic from outside the area, and a pull factor of less than 1.0 signals sales are leaving the community.

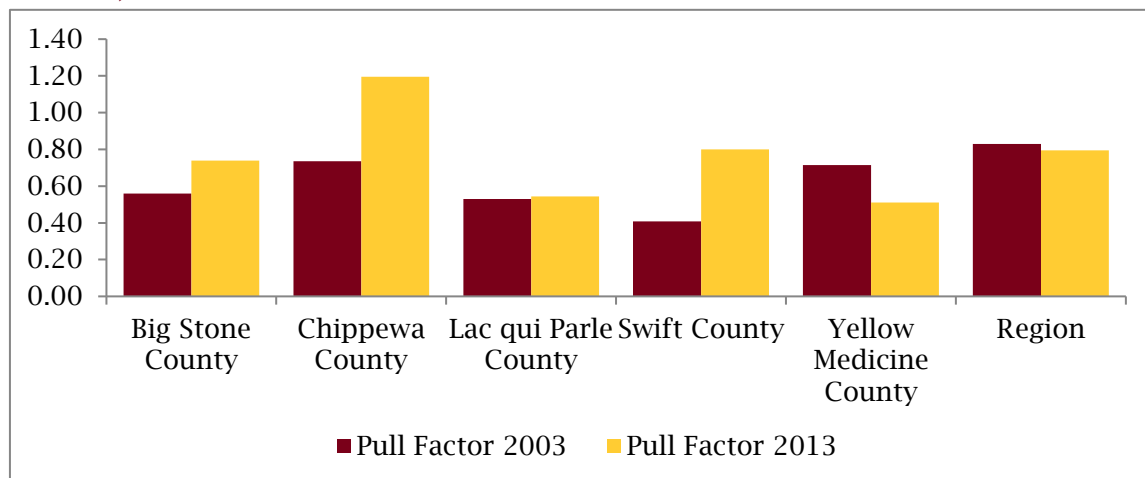
**Nearly 80% of sales in the grocery category remain in the region.**

**Table 3: Grocery and liquor store sales tax statistics (Source: Minnesota Department of Revenue)**

Counties	2013 Gross Sales (721)	No. of firms	2013 Population	Sales per capita	Pull Factor
Big Stone	\$9,426,940	9	5,114	\$1,843	0.74
Chippewa	\$23,350,560	15	12,099	\$1,930	1.20
Lac qui Parle	\$8,223,542	10	7,006	\$1,174	0.54
Swift	\$13,758,841	9	9,543	\$1,442	0.80
Yellow Medicine	\$15,354,172	13	10,115	\$1,518	0.51
<b>Region Total</b>	<b>\$70,114,055</b>	<b>56</b>	<b>43,877</b>	<b>\$1,598</b>	<b>0.79</b>

The five-county study area has a pull factor of 0.79, so about one-fifth of sales in the grocery category are leaving the region. Pull factors range from 0.51 in Yellow Medicine County to 1.20 in Chippewa (Table 3). Overall, pull factors have increased from 2003 to 2013 (Figure 3).

**Figure 3: Pull factors in grocery and liquor store category (Source: Minnesota Department of Revenue)**



### Estimates of food sales by outlet

One of the best measures of American household spending is the Consumer Expenditure Survey (CEX). This survey by the Bureau of Labor Statistics details household spending across many categories and subcategories from motor oil to gifts (see Appendix 4 for a full CEX report). Since the

purpose of this report is to identify the size of the food market in the region, Extension combined CEX spending data with national data from the USDA to break down household spending by outlet and food purchase location.

**More than \$20 million in food at home sales leave the region.**

Based on consumer demographics in the region, ESRI calculated that \$88 million is spent on food at home. This number was determined by the Consumer Expenditure Survey. To tailor this measure by outlet, Extension broke CEX data down according to spending by outlet (ERS, food expenditures dataset). The figures were then adjusted based on spending patterns from sales tax data. For example, supermarkets account for 65 percent of food sales at home (\$57 million), but since the region has a grocery pull factor of 0.79, Extension lowered this sales estimate to \$45 million. Working across all outlets in this manner, Extension estimated about \$20 million of food at home sales are purchased outside the region (Table 4).

**Table 4: Purchases of food at home by outlet, based on CEX figures and adjusted by pull factors (Source: ESRI)**

<i>Food at home by outlet</i>	<i>Percent of sales</i>	<i>Estimates of sales at outlet</i>	<i>Pull factor adjustments</i>	<i>Adjusted estimate</i>	<i>Assumption for adjustment</i>
Supermarkets	64.9	\$57,336,170	0.79	\$45,295,575	Grocery pull factor
Convenience stores	2.3	\$2,031,944	0.96	\$1,950,667	Gasoline station pull factor
Other grocery	0.2	\$176,691	0.79	\$139,586	Grocery pull factor
Specialty food stores	2.3	\$2,031,944	0.79	\$1,605,236	Grocery pull factor
Warehouse clubs and supercenters	16.5	\$14,576,992	0.64	\$9,329,275	Retail pull factor
Mass merchandisers	0.5	\$441,727	0.64	\$282,705	Retail pull factor
Other stores	4.9	\$4,328,925	0.64	\$2,770,512	Retail pull factor
Home delivered, mail order	2.4	\$2,120,290	1.00	\$2,120,290	No adjustment
Farmers, processors, wholesalers, and other	5.9	\$5,212,379	1.00	\$5,212,379	No adjustment
Farmers only (2.6% of subcategory)			1.00	\$135,522	No adjustment
<b>Total</b>		<b>\$88,257,064</b>		<b>\$68,706,225</b>	

**Current purchasing patterns provide few sales to farmers.**

Farmers only made 2.6 percent of sales in the category “Farmers, processors, wholesalers, and others.” According to USDS’s ERS statistics, direct-to-consumer sales were \$1.31 billion in 2012 (the

most recent Census of Agriculture), but after including the above category, sales reached \$49.7 billion (Low et al., 2015).

### Estimate of food sales by product

Since the primary focus of this report is the market for foods that can be both raised and sold in the study region, Extension broke down the figures about food at home from national Consumer Expenditure Survey (CEX) data. This breakdown was done by product categories most likely to garner farms sales, namely meats and fresh fruits and vegetables. Many of the other product categories require additional processing, as well as a local supply chain, such as processed vegetables and cereals. Approximately \$15.5 million is spent in the region on meats and nearly \$9 million on fresh fruits and vegetables across all outlets (Table 5; see Appendix 2 for calculations for all products).

**Table 5: Detailed CEX data based on Midwest spending pattern (Source: ERS, Table 1800)**

Product	Average Spending Midwest	Percent of Food at Home Spending	Adjusted RDC Food at Home Spending	5% of sales to local growers
Meats, poultry, fish, and eggs	\$946	22.8%	\$15,654,164	\$782,708
Beef	\$302	7.3%	\$4,997,418	\$249,871
Pork	\$173	4.2%	\$2,862,759	\$143,138
Other meats	\$134	3.2%	\$2,217,397	\$110,870
Poultry	\$166	4.0%	\$2,746,925	\$137,346
Fish and seafood	\$113	2.7%	\$1,869,895	\$93,495
Eggs	\$58	1.4%	\$959,769	\$47,988
Fresh fruits and vegetables				
Fresh fruits	\$286	6.9%	\$4,732,654	\$236,633
Fresh vegetables	\$237	5.7%	\$3,921,815	\$196,091

### Local farmers would make \$1.2 million in sales if residents purchased 5 percent of their meats and fresh fruits and vegetables direct from local operators.

The purchasing power of households in the region is significant, and even a minor change in their food purchases to include more local sources would greatly increase local food operator sales. If residents transferred 5 percent of their purchases directly to local operators, current sales would at least double (see Table 1). This would result in \$433,000 in fresh fruit and vegetable sales and \$783,000 in meat sales.

To give a perspective of scale, \$433,000 in mixed vegetable sales translates to 44 acres of production at a benchmark of \$9,900 in sales per acre. This is based on recent Extension research on mixed vegetable operations (Pesch & Tuck, 2015). Management practices and the mix of foods grown would greatly affect the production and potential sales per acre.

## Focus: supermarkets

Businesses in the region that sell food for home consumption include some subcategories, which is an important distinction when considering the size of the local food market. The following four subcategories are present in the region:

- (1) 17 supermarkets (NAICS 4451)
- (2) 6 meat markets or lockers (NAICS 4452)
- (3) 17 liquor stores (NAICS 4453)
- (4) 1 supercenter or warehouse store (NAICS 45291)

Removing liquor stores as a subcategory is important since fresh product is not sold at these businesses. Assuming the distribution of sales in the grocery category is the same in the region as in the state (in which supermarkets account for 54.7 percent of sales in the 445 NAICS category, specialty foods 5.8 percent, and liquor 39.5 percent), Extension calculated the sales for each subcategory. By these calculations, the food-selling establishments in the grocery and specialty food categories garnered over \$42 million in sales in 2013, according to state sales tax data (Table 6).

**Table 6: Estimates of food sales in the grocery category based on sales tax data (Source: Minnesota Department of Revenue, 2013)**

<i>Counties</i>	<i>2013 Gross Sales (NAICS 445)</i>	<i>Grocery Sales Estimate</i>	<i>Specialty Food Estimate</i>	<i>Liquor Sales Estimate</i>
Big Stone County	\$9,426,940.00	\$5,156,480	\$543,813	\$3,726,646
Chippewa County	\$23,350,560.00	\$12,772,618	\$1,347,028	\$9,230,915
Lac qui Parle County	\$8,223,542.00	\$4,498,229	\$474,393	\$3,250,921
Swift County	\$13,758,841.00	\$7,526,004	\$793,709	\$5,439,128
Yellow Medicine County	\$15,354,172.00	\$8,398,641	\$885,739	\$6,069,792
<b>Region Total</b>	<b>\$70,114,055.00</b>	<b>\$38,351,972</b>	<b>\$4,044,681</b>	<b>\$27,717,402</b>

According to USDA statistics, a significant amount of grocery sales occur at warehouse stores or supercenters. State sales tax statistics also show that, overall, the region retains 64 percent of its total retail spending. Knowing this, an assumption can be made about how much the region retains in the general merchandise category. And based on this assumption, it can be estimated that the region's single Walmart supercenter brings in approximately \$9.3 million in grocery sales (Table 3). This is a conservative measurement, however, considering the size and average sales per square foot of the average Walmart. The Montevideo store is approximately 135,000 square feet, and the average sales per square foot at a Walmart supercenter is \$423 with 56 percent coming from grocery sales (Bowman, 2015).

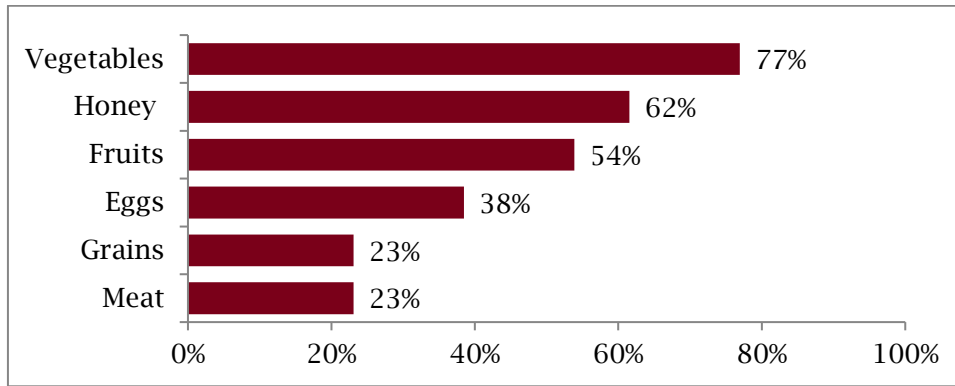
**A majority of grocery stores in the region report buying fruits and vegetables from local farmers.**

In 2015, the Regional Sustainable Development Partnership (RSDP) conducted a statewide rural grocery survey of 175 store owners, which included questions about local food purchases and

barriers to sourcing from farm operators. Based on responses from 13 grocery store operators in the five-county region (RSDP, 2016), insights were revealed about the current view of local foods.

As of 2015, eight respondents had collaborated with farmers to supply their stores. The most common type of locally-grown food purchased was vegetables, although local vegetables made up less than 10 percent of total produce sales, save one respondent who purchased between 11 and 20 percent of his produce from local farm operators (Figure 4).

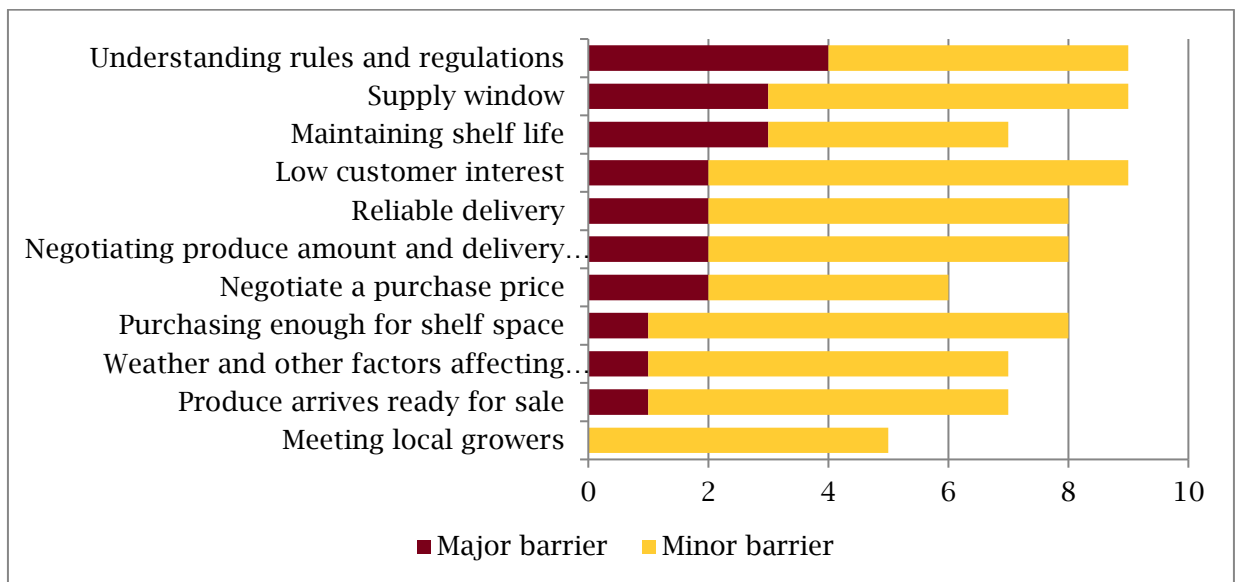
**Figure 4: Types of food purchased direct from farmers by percent of respondents (n=13)**



**Negotiating a price and reliable delivery are top barriers to the purchase of local foods.**

Grocery operators responded to two questions about barriers to purchasing fresh produce from local growers. The first question asked participants to rank a series of possible barriers as no barrier, minor barrier, or major barrier (Figure 5). Rules and regulations, supply window, and maintaining shelf life were identified as the three biggest barriers.

**Figure 5: Ranking of barriers by number of respondents (n = 13)**



When asked to choose which barriers were most significant, negotiating a price and reliable delivery of produce when ripe were identified. Each of the four grocers who did not report having local farmers as suppliers reported different barriers as most significant, including negotiating price, reliable delivery, meeting local growers, and ‘other.’

## Grocery sales by department

One way to parse grocery sales even more is to consider each product category. In 2014, the National Grocer's Association published a study of its members that gave average benchmarks per department. Applying national benchmarks to Extension's estimate of spending at grocery stores in the region from sales tax data provides an estimate of total spending by department (see Appendix 3 for full report).

Focusing on the type of foods regional producers could sell to retailers, the areas of most interest are fresh produce and meats. Over \$9.8 million of food is sold in these two categories, and a goal of 5 percent of local food sales would translate to \$628,000 in local sales. At an average 26 percent gross margin for groceries (Roerink et al., 2014), regional producers would garner \$364,000 in sales (Table 7 and Appendix 3).

**Table 7: Supermarket sales by department, based on 2014 national benchmarks from National Grocer's Association (Source: FMI, 2015)**

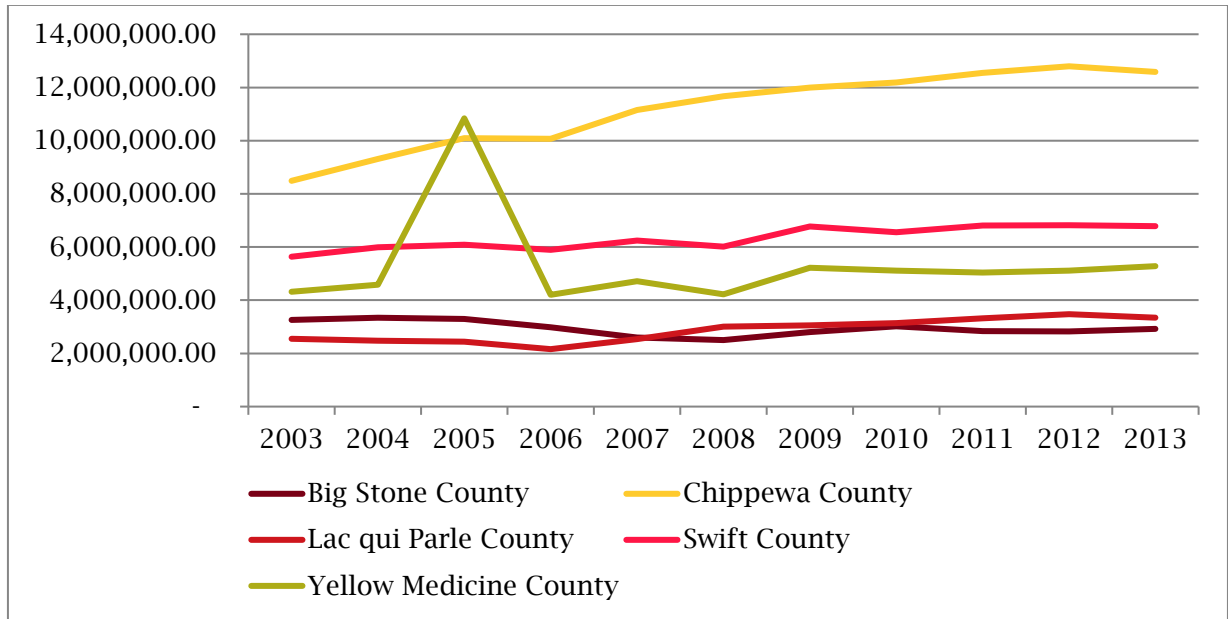
<i>Department</i>	<i>2014 Percent of Total Sales</i>	<i>Estimated Sales for Region</i>	<i>5 percent of Sales for Region</i>
<i>Meat/Fish/Poultry</i>	<i>14.1%</i>	<i>\$5,399,958</i>	<i>\$199,798</i>
<i>Produce</i>	<i>11.6%</i>	<i>\$4,429,653</i>	<i>\$163,897</i>

## FOOD PURCHASES AWAY FROM HOME

Food purchases for consumption away from home have grown as a percentage of total food sales over the past generation (Food Expenditure Series, ERS) and merit attention among those interested in the region's food sales. In an analysis similar to food at home purchases in the region, Extension examined food away from home sales through sales tax and CEX data.

Unlike grocery trends, food service in the region has grown weaker over the past 10 years. There are fewer businesses in this category in all counties, save Chippewa. While gross sales have increased in Chippewa, they remained flat in the other four counties (Figure 6). This lack of growth indicates residents are transitioning more of their sales out of the region. It could also show a change in consumption tastes in that residents spend less on food services than Minnesota as a whole.

**Figure 6: Food service gross sales by county (Source: MN Dept. of Rev.)**



**About half of food service sales leave the region.**

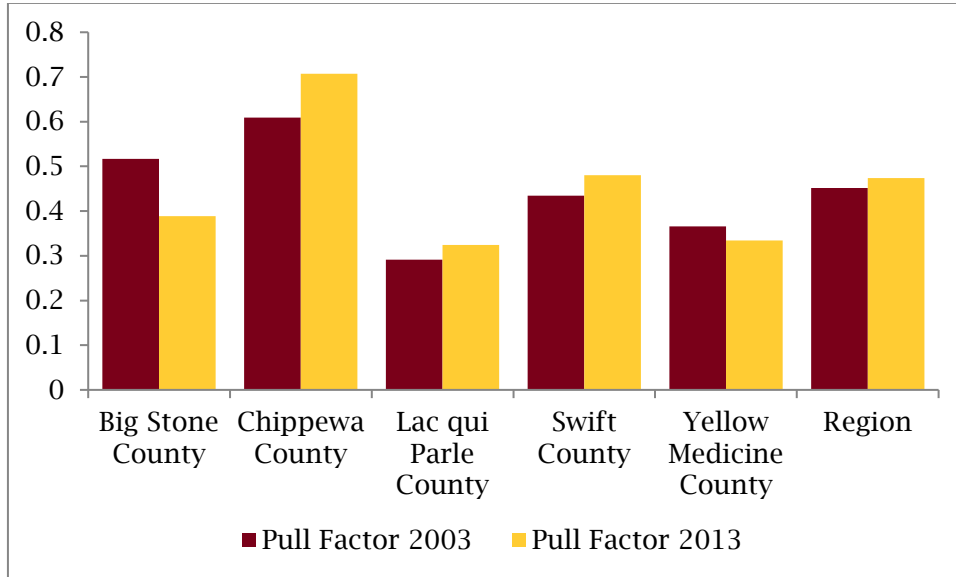
Extension calculated pull factors for the food service category the same way as for the grocery category, using taxable sales figures from the Minnesota Department of Revenue. This category of food service includes restaurants (both full service and limited service), as well as caterers and bars or drinking establishments.

Based on sales tax analysis alone, the region retains less of its food service sales than those in the grocery category with an overall pull factor of 0.47 (Table 8 and Figure 7). Pull factors range from 0.32 in Lac qui Parle to 0.70 in Chippewa County.

**Table 8: Food service sales tax statistics and pull factors (Source: Minnesota Department of Revenue)**

Counties	2013 Gross Sales (722)	No. of Establishments	2013 Population	2013 Gross Sales per capita	Pull Factor
Big Stone	\$2,924,256	15	5,114	\$572	0.38
Chippewa	\$12,587,669	37	12,099	\$1,040	0.70
Lac qui Parle	\$3,348,145	13	7,006	\$478	0.32
Swift	\$6,783,626	24	9,543	\$711	0.48
Yellow Medicine	\$5,277,597	20	10,115	\$522	0.33
Region	\$30,921,293	109	43,877	\$705	0.47
Minnesota	\$8,409,216,068	11,362	5,422,060	\$1,551	1.00

**Figure 7: Pull factors by county and region (Source: Minnesota Department of Revenue)**



**Focus: full-service restaurants**

Producers interested in selling food primarily focus on restaurants, especially full-service ones since they typically have greater flexibility in purchasing than limited-service restaurants (i.e., fast food restaurants).

**Table 9: Purchases of food away from home by outlet based on CEX figures (Source: ESRI)**

<i>Food away from home</i>	<i>Percent (ERS data)</i>	<i>Estimate of sales (per CEX)</i>	<i>Food Service Pull Factor</i>	<i>Adjusted estimate</i>	<i>Assumption for Adjustment</i>
Full-service restaurants	54.2	\$26,585,454	0.47	\$12,495,163	Food service pull factor
Limited-service eating places	28.9	\$14,175,639	0.47	\$6,662,550	Food service pull factor
Hotels and motels	3	\$1,471,520	0.19	\$279,589	Accommodations pull factor
Schools and colleges	5.8	\$2,844,938	1.00	\$2,844,938	No adjustment
Stores, bars, and vending machines	3.4	\$1,667,722	0.47	\$783,829	Food service pull factor
Recreational places	3.2	\$1,569,621	0.47	\$737,722	Food service pull factor
Others, including military outlets	1.5	\$735,760	1.00	\$735,760	No adjustment
<b>Total</b>		<b>\$49,050,653</b>		<b>\$24,539,551</b>	

Adjusting Consumer Expenditure Survey data by the region’s food service pull factor, Extension estimates full-service restaurants account for \$12.5 million in food sales (based on USDA statistics



on sales by outlet from Food Expenditure Series, 2015). This amount is nearly twice the amount spent at limited-service restaurants (Table 9).

**Potential food sales at full-service restaurants are \$3.7 million.**

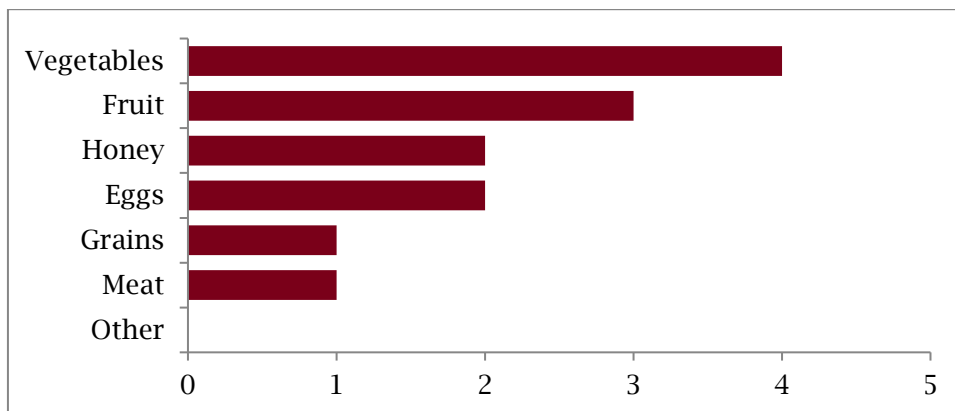
Food purchases account for about 30 percent of total food sales in full-service restaurants (Baker Tilly, 2014). Based on this benchmark, full-service restaurants purchase approximately \$3.7 million in food sales. Extension was unable to identify suitable research to parse this spending figure into useful product categories, such as fresh vegetables and meats. It is clear food purchases will vary significantly, based on the type and management of the restaurant.

**A small set of restaurants show tepid interest in purchasing local.**

In February 2017, the research team conducted an online survey nearly identical to the aforementioned grocery survey that included questions about local food purchases and barriers to sourcing from farm operators. The responses from 5 of the estimated 109 restaurant operators in the five-county region offer a narrow glimpse into the current view of local foods. Care should be taken not to overstate the findings with such a small sample.

Four of five respondents had collaborated with farmers to supply their restaurants. The most common type of locally-grown food purchased was vegetables followed by fruits (Figure 8). When asked to rank their interest in purchasing from farm operators on a scale of 1 to 10 (low to high), the average response was 4.8. When asked to rank the level of interest in local foods of their customers, the average response fell to 4.2.

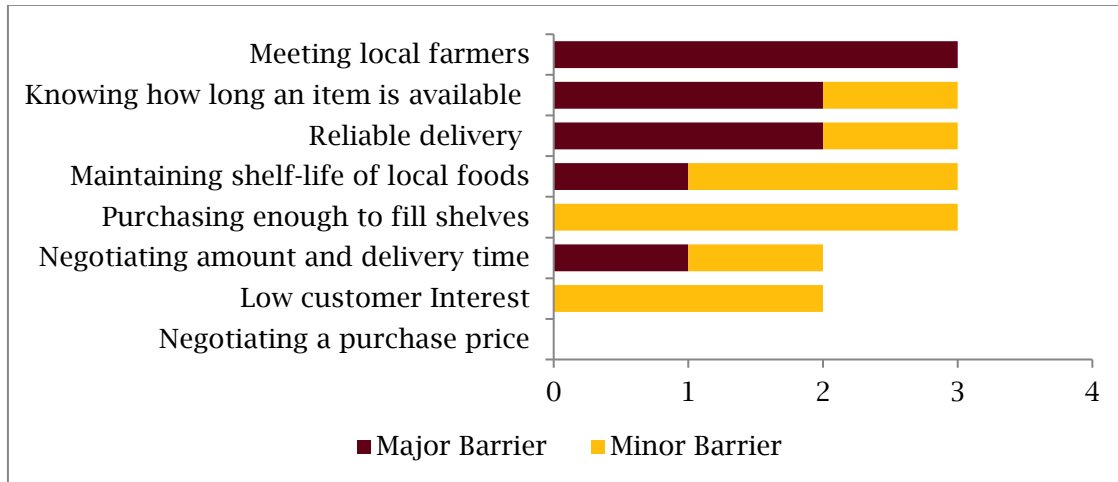
**Figure 8: Types of food purchased direct from farmers by number of respondents (n=5)**



**Reliable delivery and meeting farmers are top barriers to the purchase of local foods.**

Restaurant operators responded to two questions about barriers to purchasing fresh produce from local growers. The first question asked participants to rank a series of possible barriers as no barrier, minor barrier, or major barrier (Figure 9). Meeting local farmers, knowing how long an item is available, and reliable delivery were identified as the three biggest barriers.

**Figure 9: Ranking of barriers by number of respondents (n = 5)**



When asked to choose which barriers were most significant, two of the three who answered said reliable delivery.

**Focus: farm-to-institution**

Extension estimated the market potential for locally-raised foods at educational and healthcare institutions by extrapolating product estimates from research conducted in 2013-2014 with food service directors at each type of institution. Current estimates are prorated according to the total number of meals served at these institutions throughout the region. Survey research shows the average number of pounds served per meal for a range of commonly-sourced fresh fruits and vegetables, meats, and grains.

**According to 2015 farm-to-school census, five schools reported purchasing local food.**

Eight school districts from the region participated in the 2015 national farm-to-school census (Clinton-Graceville-Bearsley, Canby, Dawson-Boyd, Benson, LQP Valley, MACCRAY, Yellow Medicine East, and Kerkoven-Murdock-Sunburg).

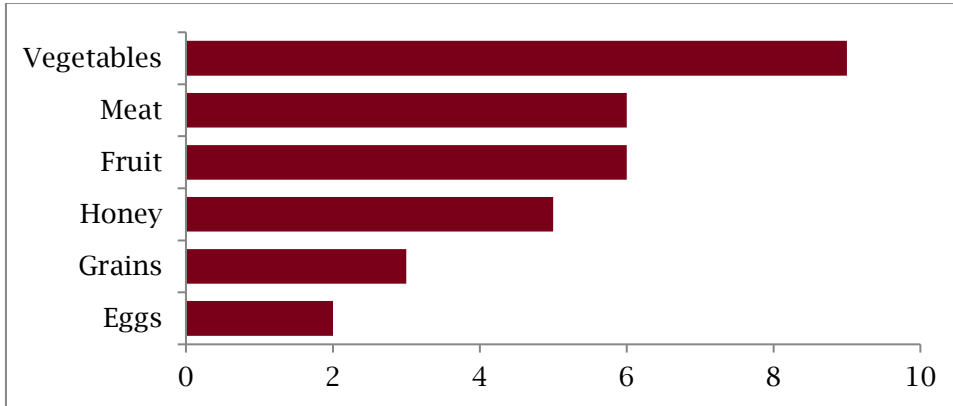
Five of the eight participating districts reported farm-to-school activities and purchased food from local growers. Four of the five active districts purchased a total of \$12,300 or 2.2 percent of their total food budget from local farmers. All five districts that reported purchasing local food indicated interest in purchasing more in the future.

**A recent local survey shows widespread local food purchases among schools.**

In February 2017, the research team conducted an online survey nearly identical to the aforementioned grocery survey that included questions about local food purchases and barriers to sourcing from farm operators. The responses from nine school districts and two healthcare facilities in the five-county region provide insights into their current view of local foods.

Ten of twelve respondents collaborated with farmers to supply some of their food needs (8 of 9 school districts that responded to the survey). The most common type of locally-grown food purchased was vegetables followed by fruits and meats (Figure 10). When asked to rank their interest in purchasing from farm operators on a scale of 1 to 10 (low to high), the average response was 7.3, significantly higher than both grocers and restaurant respondents. When asked to rank the level of customer interest in local foods, however, the average response fell to 4.9.

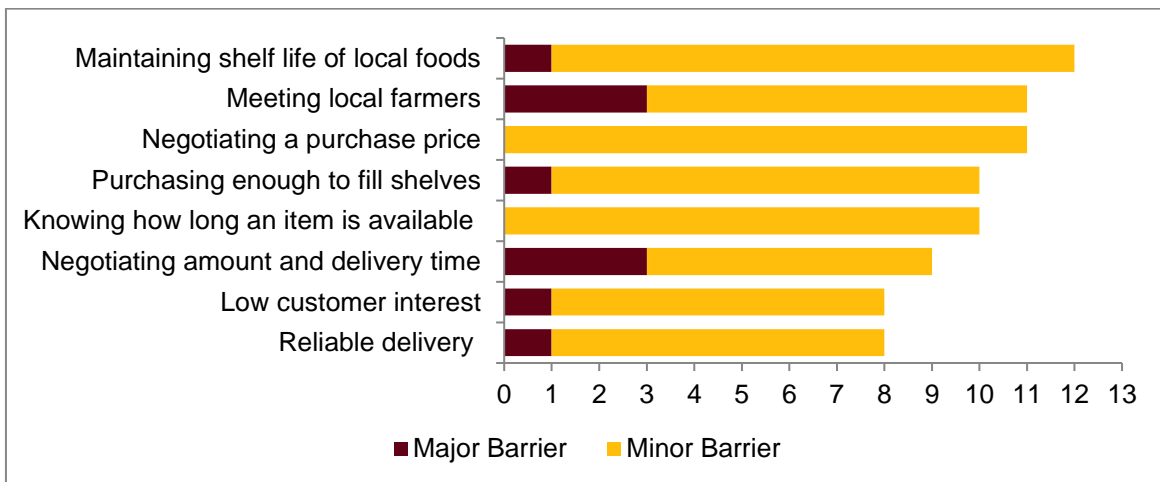
**Figure 10: Types of food purchased direct from farmers by number of respondents (n=12)**



**Meeting local farmers and maintaining shelf life are top barriers to the purchase of local foods.**

Food service directors responded to two questions about barriers to purchasing fresh produce from local growers. The first question asked participants to rank a series of possible barriers as no barrier, minor barrier, or major barrier (Figure 11). Maintaining shelf life, meeting local farmers, and negotiating a price were identified as the three biggest barriers, although negotiating amount and delivery was ranked as a major barrier by three respondents.

**Figure 11: Ranking of barriers by number of respondents (n=12)**



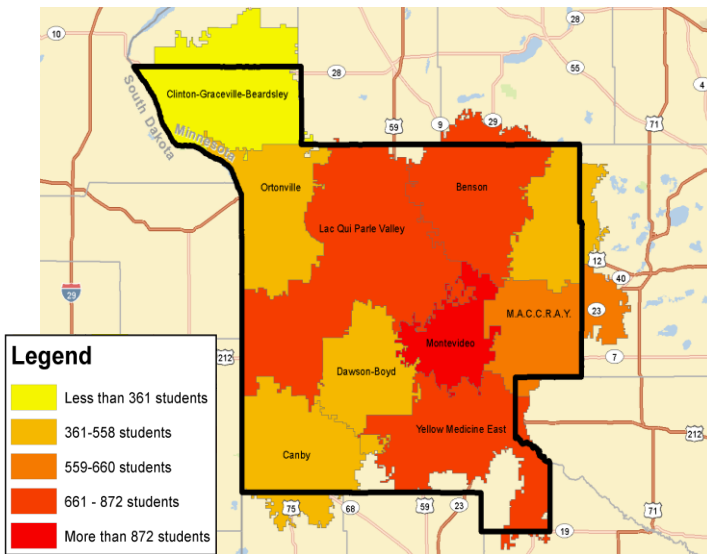
When asked to choose which barriers were most significant, no single answer garnered a clear majority of respondents. Barriers with multiple responses were meeting local growers (three responses), low customer interest (two responses), and maintaining shelf life (two responses).

**Schools in the region serve an estimated 7,306 meals daily.**

To obtain the number of meals served daily at educational institutions in the five-county region, the institutions were identified through Minnesota Department of Education’s *Organization Reference Glossary*, or MDE-ORG. Daily meals were then quantified at the institutions (mostly schools) through numbers supplied by survey respondents and estimates of average daily attendance (membership) at the non-responding educational facilities.

Estimating meals based on average daily attendance, Extension approximated that 7,306 were served

**Figure 12: School districts present in the region**



daily at 10 school districts (Figure 12). This was determined by using average daily membership figures from MDE's *Data Reports and Analytics* page (see References for website address). From previous survey research, Extension calculated that an average of 1.06 meals is served per enrolled student, based on the attendance figures from MDE. Although schools serve breakfast and lunch, not all students participate and some elect to eat off campus or at home; therefore, the average of 1.06 meals per enrolled student is not surprising.

**Healthcare facilities in the region serve an estimated 3,783 meals daily across 39 facilities.**

Extension used a process similar to the one used for educational facilities to estimate the total number of meals served daily at regional healthcare facilities.

The Minnesota Department of Health's *Health Care Facility and Provider Database* (see References for website address) was used to identify the full range of healthcare facilities in the five-county region, including hospitals and long-term care facilities.

Extension researched healthcare facilities online to identify the size of their establishment by units and number of residents, as well as to determine whether they served meals. The listing [www.MinnesotaHelp.info](http://www.MinnesotaHelp.info) was used as the primary online information source; the website is a listing of public information targeted toward users of senior and social services. An estimate of meals served for each institution was created, based on the assumption of three meals per day per resident, unless otherwise noted. It was discovered that many facilities do not serve meals or have their meals prepared by a nearby healthcare facility, which is a common practice among small assisted living facilities. The total number of daily meals identified through this process was 3,783 at 39 facilities.

**Estimating regional product demand**

To estimate the amount of food purchased annually, it was assumed that respondents bought a monthly mix and amount consistent with survey responses in Northwest and West Central Minnesota. This is a reasonable assumption, as participating food service directors anecdotally mentioned their monthly fresh produce and other food purchases are fairly consistent across seasons.

Applying the purchasing profile to the region, it is assumed the sample of survey respondents is representative of all institutional facilities in the five-county region. In doing so, it is also assumed other facilities purchase foods in the same proportion; for example, it was assumed 93 percent of all facilities purchase fresh lettuce—the same percentage as Extension survey respondents.

Additionally, it assumed all facilities purchase the same average volume of food by meal as Extension’s respondents.

**Healthcare represents a larger potential market than schools.**

Estimating food purchases for an entire year greatly overemphasizes the size of the institutional market potential for local growers. This is because of fruit and vegetable growing conditions in Northwest Minnesota. To account for this, estimates were made based on two scenarios for growing seasons. First, a standard Northwest Minnesota growing season was used based on when a fruit or vegetable is typically available for sale. This assumes production of a field-grown fruit or vegetable without any season-extending technology or methods. It also assumes other food products are available year-round, such as meat and whole grains. Second, a reasonable extended growing season was used through readily available technologies and methods for growing fruits and vegetables over an extended season or for storing crops for future sale.

**Scenario 1: Standard fruit and vegetable growing season**

The standard growing season in Northwest Minnesota is relatively short compared to other parts of the nation—generally about four to five months from June to October. This is when field-grown produce is available, excluding produce grown hydroponically or through some other kind of non-soil-based growing technique.

Using retail pricing from USDA statistics for the produce listed (USDA Agricultural Marketing Services, 2016) below, market potential was estimated not only in volume but also dollar value. Average retail price data is derived from national supermarket price checks and represents reasonable benchmarks for an analysis such as this; certainly, local market conditions may vary significantly between growers and buyers.

One major finding when comparing healthcare and school respondents is that healthcare facilities represent a larger potential market than educational institutions under both the standard and extended-season scenarios. This is especially evident when comparing the total months available (Tables 10, 11, and 12). Although K-12 schools serve more meals daily, healthcare facilities are open year-round and purchase a wider variety of fresh foods.

**Table 10: Educational market potential scenario for standard West Central Minnesota growing season (n=10)**

<b>Product:</b>	<b>Total months available*</b>	<b>Lbs. of food</b>	<b>Average retail price</b>	<b>Market potential</b>
<i>Beans</i>	2.5	169	\$1.47	\$249
<i>Broccoli</i>	4	1,755	\$1.55	\$2,720
<i>Cabbage</i>	4	248	\$0.81	\$202
<i>Carrots</i>	4	3,372	\$0.85	\$2,866
<i>Cauliflower</i>	4	830	\$1.10	\$913
<i>Cucumbers</i>	2.5	419	\$0.67	\$280
<i>Tomatoes</i>	2.5	496	\$1.30	\$643
<i>Peppers</i>	2.5	112	\$1.41	\$157
<i>Lettuce</i>	4	2,642	\$1.33	\$3,501
<i>Potatoes</i>	3	919	\$0.89	\$819
<i>Onions</i>	3	172	\$0.68	\$117
<i>Radishes</i>	4.5	163	\$1.00	\$163

<i>Summer Squash</i>	2.5	4	\$1.29	\$6
<i>Winter Squash</i>	2	2	\$0.94	\$2
<i>Apples</i>	2	4,911	\$1.35	\$6,635
<i>Melons</i>	2	378	\$0.56	\$212
<i>Strawberries</i>	1	-	\$2.36	\$0
<i>Wild Rice</i>	9	14	\$6.69	\$91
<i>Oatmeal</i>	9	53	\$2.72	\$144
<i>Dried Beans</i>	9	11	\$2.19	\$25
<i>Chicken</i>	9	19,881	\$1.48	\$29,425
<i>Ground Beef</i>	9	29,281	\$3.19	\$93,407
<i>Hot Dogs</i>	9	5,153	\$3.19	\$16,437
<b>Total Purchases</b>		<b>70,986</b>		<b>\$159,014</b>

**Table 11: Healthcare market potential scenario for standard West Central Minnesota growing season (n=39)**

<b>Product:</b>	<b>Total months available</b>	<b>Lbs. of food</b>	<b>Average retail price</b>	<b>Market potential</b>
<i>Beans</i>	2.5	1,042	\$1.47	\$1,532
<i>Broccoli</i>	4	1,968	\$1.55	\$3,050
<i>Cabbage</i>	4	2,211	\$0.81	\$1,799
<i>Carrots</i>	4	3,855	\$0.85	\$3,277
<i>Cauliflower</i>	4	865	\$1.10	\$952
<i>Cucumbers</i>	2.5	1,526	\$0.67	\$1,023
<i>Tomatoes</i>	2.5	3,097	\$1.30	\$4,015
<i>Peppers</i>	2.5	792	\$1.41	\$1,116
<i>Lettuce</i>	4	5,674	\$1.33	\$7,518
<i>Potatoes</i>	3	14,013	\$0.89	\$12,495
<i>Onions</i>	3	2,656	\$0.68	\$1,806
<i>Radishes</i>	4.5	468	\$1.00	\$468
<i>Summer Squash</i>	2.5	688	\$1.29	\$884
<i>Winter Squash</i>	2	423	\$0.94	\$398
<i>Apples</i>	2	2,225	\$1.35	\$3,006
<i>Melons</i>	2	5,169	\$0.56	\$2,895
<i>Strawberries</i>	1	1,056	\$2.36	\$2,493
<i>Wild Rice</i>	12	1,040	\$6.69	\$6,960
<i>Oatmeal</i>	12	8,517	\$2.72	\$23,168
<i>Dried Beans</i>	12	2,700	\$2.19	\$5,914
<i>Chicken</i>	12	25,491	\$1.48	\$37,727
<i>Ground Beef</i>	12	38,590	\$3.19	\$123,103
<i>Hot Dogs</i>	12	9,691	\$3.19	\$30,914
<b>Total Purchases</b>		<b>133,759</b>		<b>\$276,511</b>

## Scenario 2: Extended fruit and vegetable season

Over the past decade, growers and researchers have concentrated significant effort on developing season-extension techniques as demand for local produce increases and growers work to maintain consistent supply (Coleman, 2009). New and rediscovered technologies, such as high and low tunnels and cold frames and post-harvest storage facilities, are being deployed to lengthen the produce season, even in a northern climate like Minnesota.

For this study, University of Minnesota Extension based the length of the extended season on reasonable produce availability for growers using the aforementioned technologies. It was also based on information from correspondence with USDA resources and University of Minnesota faculty and researchers. Cindy Tong, a post-harvest handling specialist with the University's horticulture department, provided resources on storage capabilities, including USDA Handbook 66, *The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks*, and "Minnesota Foods in Season" on Extension's Farm to School website (<http://www.extension.umn.edu/food/farm-to-school/>). Steve Poppe, a horticulture scientist with the West Central Minnesota Research and Outreach Center, estimated strawberry availability based on first-year trials with day-neutral strawberry production near Morris, Minnesota (day-neutral plants produce fruit throughout the growing season).

In the extended season scenario, both the amount of fruits and vegetables, and their market potential in terms of dollars, almost doubles when compared to the standard Northwest Minnesota growing season (Table 13). Although most products (tomatoes, for example) increase their growing season by only a month under the extended scenario, the season for some high-volume products more than doubles. This has a significant impact on the total market potential and pounds of produce per season.

This impact applies to potatoes, onions, and strawberries. Each of these crops is in high demand among food service directors. In terms of availability under the extended scenario, onions and potatoes increase from three to nine months under ideal storage conditions. Strawberries are also in great demand, and day-neutral varieties grown in low tunnels during the extended season promise a four-month picking season.

**Table 12: Educational market potential scenario for extended season (n=10)**

<b>Product:</b>	<b>Total Months Available*</b>	<b>Lbs. of Produce</b>	<b>Average Retail Price</b>	<b>Market Potential</b>
<i>Beans</i>	4	339	\$1.47	\$498
<i>Broccoli</i>	6	2,632	\$1.55	\$4,080
<i>Cabbage</i>	7	497	\$0.81	\$404
<i>Carrots</i>	9	11,801	\$0.85	\$10,031
<i>Cauliflower</i>	6	1,246	\$1.10	\$1,370
<i>Cucumbers</i>	4	837	\$0.67	\$561
<i>Tomatoes</i>	4	991	\$1.30	\$1,286
<i>Peppers</i>	4	223	\$1.41	\$315
<i>Lettuce</i>	6	7,927	\$1.33	\$10,504
<i>Potatoes</i>	9	6,432	\$0.89	\$5,735
<i>Onions</i>	9	1,205	\$0.68	\$819
<i>Radishes</i>	8	544	\$1.00	\$544
<i>Summer Squash</i>	4	9	\$1.29	\$12
<i>Winter Squash</i>	5	6	\$0.94	\$5

<i>Apples</i>	5	19,645	\$1.35	\$26,541
<i>Melons</i>	3	756	\$0.56	\$424
<i>Strawberries</i>	4	727	\$2.36	\$1,717
<i>Wild Rice</i>	9	14	\$6.69	\$91
<i>Oatmeal</i>	9	53	\$2.72	\$144
<i>Dried Beans</i>	9	11	\$2.19	\$25
<i>Chicken</i>	9	19,881	\$1.48	\$29,425
<i>Ground Beef</i>	9	29,281	\$3.19	\$93,407
<i>Hot Dogs</i>	9	5,153	\$3.19	\$16,437
<b>Total Purchases</b>		110,211		\$204,372

**Table 13: Healthcare market potential scenario for extended West Central Minnesota growing season (n=39)**

<b>Product:</b>	<b>Total Months Available</b>	<b>Lbs. of Produce</b>	<b>Average Retail Price</b>	<b>Market Potential</b>
<i>Beans</i>	4	1,667	\$1.47	\$2,451
<i>Broccoli</i>	6	2,952	\$1.55	\$4,576
<i>Cabbage</i>	7	3,870	\$0.81	\$3,147
<i>Carrots</i>	9	8,675	\$0.85	\$7,374
<i>Cauliflower</i>	6	1,298	\$1.10	\$1,428
<i>Cucumbers</i>	4	2,442	\$0.67	\$1,636
<i>Tomatoes</i>	4	4,955	\$1.30	\$6,425
<i>Peppers</i>	4	1,266	\$1.41	\$1,786
<i>Lettuce</i>	6	8,511	\$1.33	\$11,277
<i>Potatoes</i>	9	42,040	\$0.89	\$37,486
<i>Onions</i>	9	7,968	\$0.68	\$5,418
<i>Radishes</i>	8	832	\$1.00	\$832
<i>Summer Squash</i>	4	1,100	\$1.29	\$1,414
<i>Winter Squash</i>	5	1,057	\$0.94	\$995
<i>Apples</i>	5	5,563	\$1.35	\$7,515
<i>Melons</i>	3	7,754	\$0.56	\$4,342
<i>Strawberries</i>	4	4,225	\$2.36	\$9,970
<i>Wild Rice</i>	12	1,040	\$6.69	\$6,960
<i>Oatmeal</i>	12	8,517	\$2.72	\$23,168
<i>Dried Beans</i>	12	2,700	\$2.19	\$5,914
<i>Chicken</i>	12	25,491	\$1.48	\$37,727
<i>Ground Beef</i>	12	38,590	\$3.19	\$123,103
<i>Hot Dogs</i>	12	9,691	\$3.19	\$30,914
<b>Total Purchases</b>		<b>192,204</b>		<b>\$335,855</b>



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## APPENDIX 1: DEMAND AND SUPPLY OF FOOD AT 5 PERCENT MARKET SHARE

Source: Food Availability and Disappearance Dataset, USDA

	Demand (lbs.)	Supply Needed	Unit	Supply by Acres
<b>Meat (carcass)</b>				
Beef	143,086	313	Head	
Veal	871	7	Head	
Pork	110,659	2,470	Head	
Lamb	2,496	16	Head	
Chicken	187,855	60,593	Head	
Turkey	38,455	2,359	Head	
<b>Eggs (shell)</b>				
Shell Eggs (count per capita)	373,457	31,121	Dozen	
<b>Vegetables</b>				
Asparagus	2,518	84	Crates	0.63
Bell peppers	14,882	531	Bushels	0.74
Broccoli	13,266	577	Cases	1.11
Brussels sprouts	665	27	Cases	0.06
Cabbage	18,888	378	Crates	0.47
Carrots	19,714	394	Bushels	0.49
Cauliflower	3,820	153	Cases	0.25
Celery	14,039	234	Cases	0.23
Collard greens	1,250	69	Bushels	0.08
Cucumbers	13,888	253	Bushels	0.69
Eggplant	2,107	64	Bushels	0.14
Escarole/endive	504	20	Bushels	0.03
Garlic	6,501	217	Cases	0.43
Kale	845	34	Bushels	0.06
Lettuce: Head	44,573	1,114	Cases	1.49
Lettuce: Romaine and leaf	33,292	832	Cases	0.95
Lima beans	61	2	Bushels	0.03
Mushrooms (fresh)	5,680			
Mustard greens	975	54	Bushels	0.07
Onions	47,745	955	Sacks	0.95
Potatoes	86,318	863	Cases	2.16
Pumpkin	11,323			0.28
Radishes	1,151	96	Cases	0.16
Snap beans	4,812	160	Bushels	1.20
Spinach	4,484	179	Bushels	0.30
Squash	9,826	218	Bushels	0.33
Sweet corn	20,110	402	Bushels	2.01
Sweet-potatoes	11,457	286	Cases	1.15
Tomatoes	44,671	2,234	Flats	1.65
Turnip greens	947	53	Bushels	0.06
<b>Fruits</b>				
Apples	36,169	904	Bushels	1.81

Blueberries	1,259	466	Cases	0.16
Cantaloupe	21,678	723	Cases	1.08
Grapes	17,643	802	Flats	2.21
Honeydew	4,452	148	Cases	0.22
Raspberries	890	148	Flats	0.18
Strawberries	14,177	1,181	Flats	1.18
Watermelon	35,748	421	Cases	1.79

## APPENDIX 2: DETAILED FOOD PRODUCT SPENDING IN REGION BASED ON MIDWEST SPENDING PATTERNS FROM CEX

Source: Bureau of Labor Statistics, Consumer Expenditure Survey, Table 1800

Item	Average Midwest Spending	Percent of Food at Home	Adjusted RDC Food at Home Spending
Number of consumer units	27,674	19,015	
<i>Food at home</i>	\$4,152		\$68,706,225
Cereals and bakery products	\$533	12.8%	\$8,819,947
Cereals and cereal products	\$175	4.2%	\$2,895,855
Bakery products	\$358	8.6%	\$5,924,092
Meats, poultry, fish, and eggs	\$946	22.8%	\$15,654,164
<b>Beef</b>	\$302	7.3%	\$4,997,418
<b>Pork</b>	\$173	4.2%	\$2,862,759
<b>Other meats</b>	<b>\$134</b>	<b>3.2%</b>	<b>\$2,217,397</b>
<b>Poultry</b>	<b>\$166</b>	<b>4.0%</b>	<b>\$2,746,925</b>
Fish and seafood	\$113	2.7%	\$1,869,895
<b>Eggs</b>	<b>\$58</b>	<b>1.4%</b>	<b>\$959,769</b>
Dairy products	\$439	10.6%	\$7,264,459
Fresh milk and cream	\$143	3.4%	\$2,366,327
Other dairy products	\$296	7.1%	\$4,898,132
Fruits and vegetables	\$757	18.2%	\$12,526,641
<b>Fresh fruits</b>	<b>\$286</b>	<b>6.9%</b>	<b>\$4,732,654</b>
<b>Fresh vegetables</b>	<b>\$237</b>	<b>5.7%</b>	<b>\$3,921,815</b>
Processed fruits	\$102	2.5%	\$1,687,870
Processed vegetables	\$131	3.2%	\$2,167,754
Other food at home	\$1,478	35.6%	\$24,457,563
Sugar and other sweets	\$155	3.7%	\$2,564,900
Fats and oils	\$108	2.6%	\$1,787,156
Miscellaneous foods	\$797	19.2%	\$13,188,550
Nonalcoholic beverages	\$367	8.8%	\$6,073,021
Food prepared by consumer unit on out-of-town trips	\$51	1.2%	\$843,935

### APPENDIX 3: FULL REPORT OF GROCERY SALES BY DEPARTMENT

<i>Departments</i>	<i>*2014 Percent of Total Sales</i>	<i>Estimated Sales for Region</i>
<b>Grocery</b>	<b>34.60</b>	\$13,269,782
Alcoholic Beverages	4.4	\$1,687,487
Dry Grocery (Food)	24.26	\$9,304,188
Dry Grocery (Non Food)	6.00	\$2,301,118
General Merchandise	4.36	\$1,672,146
Health and Beauty Care	3.04	\$1,165,900
Pharmacy	3.08	\$1,181,241
Perishables	53.67	\$20,583,503
<b>Meat/Fish/Poultry</b>	<b>14.08</b>	<b>\$5,399,958</b>
Service Deli	3.69	\$1,415,188
Deli/Self Service	1.31	\$502,411
Floral	0.17	\$65,198
<b>Produce</b>	<b>11.55</b>	<b>\$4,429,653</b>
Baked Goods	3.00	\$1,150,559
In-Store Bakery	2.08	\$797,721
Dairy	9.08	\$3,482,359
Frozen Foods	6.21	\$2,381,657
Packaged Meats	2.52	\$966,470
<b>Grand Total</b>		<b>\$38,351,972</b>
Source: Progressive Grocer's Annual Consumer Expenditures Study (CES): 63rd Annual CES, September 2011, pp. 36-42;		
68th Annual CES, July 2015, pp. 62-64.		
* Note: percentages derived by FMI from category sales figures and grand total figure published by Progressive Grocer. Percentages may not justify due to rounding.		
Key Industry Facts – Prepared by FMI Information Service, September 2015		

# APPENDIX 4: FULL CONSUMER EXPENDITURE REPORT

Source: ESRI using consumer expenditure survey data from Bureau of Labor Statistics



## Retail Goods and Services Expenditures

5 Counties  
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Top Tapestry Segments	Percent	Demographic Summary	2016	2021
Prairie Living (6D)	41.8%	Population	44,440	43,659
Heartland Communities (6F)	31.8%	Households	19,015	18,738
Small Town Simplicity (12C)	8.3%	Families	12,228	12,005
Midlife Constants (5E)	7.5%	Median Age	46.1	46.5
Traditional Living (12B)	2.8%	Median Household Income	\$50,317	\$53,977
		Spending Potential Index	Average Amount Spent	Total
<b>Apparel and Services</b>		80	\$1,619.47	\$30,794,287
Men's		78	\$313.39	\$5,959,100
Women's		84	\$578.11	\$10,992,698
Children's		80	\$256.61	\$4,879,493
Footwear		81	\$348.49	\$6,626,538
Watches & Jewelry		77	\$79.37	\$1,509,141
Apparel Products and Services (1)		60	\$43.51	\$827,317
<b>Computer</b>				
Computers and Hardware for Home Use		71	\$122.32	\$2,325,850
Portable Memory		78	\$3.65	\$69,364
Computer Software		70	\$9.00	\$171,222
Computer Accessories		77	\$13.71	\$260,728
<b>Entertainment &amp; Recreation</b>		89	\$2,605.66	\$49,546,616
Fees and Admissions		60	\$347.83	\$6,614,076
Membership Fees for Clubs (2)		62	\$118.98	\$2,262,469
Fees for Participant Sports, excl. Trips		56	\$49.87	\$948,231
Tickets to Theatre/Operas/Concerts		64	\$33.67	\$640,221
Tickets to Movies/Museums/Parks		63	\$41.55	\$790,003
Admission to Sporting Events, excl. Trips		67	\$35.96	\$683,740
Fees for Recreational Lessons		55	\$67.52	\$1,283,984
Dating Services		42	\$0.29	\$5,428
TV/Video/Audio		92	\$1,112.00	\$21,144,586
Cable and Satellite Television Services		96	\$860.19	\$16,356,470
Televisions		77	\$85.10	\$1,618,234
Satellite Dishes		114	\$1.67	\$31,797
VCRs, Video Cameras, and DVD Players		81	\$6.55	\$124,603
Miscellaneous Video Equipment		84	\$6.43	\$122,353
Video Cassettes and DVDs		94	\$17.41	\$331,081
Video Game Hardware/Accessories		87	\$22.38	\$425,568
Video Game Software		85	\$11.69	\$222,366
Streaming/Downloaded Video		82	\$14.86	\$282,511
Rental of Video Cassettes and DVDs		87	\$14.22	\$270,331
Installation of Televisions		59	\$0.54	\$10,207
Audio (3)		83	\$67.84	\$1,289,998
Rental and Repair of TV/Radio/Sound Equipment		79	\$3.11	\$59,067
Pets		108	\$576.23	\$10,956,981
Toys/Games/Crafts/Hobbies (4)		94	\$107.68	\$2,047,540
Recreational Vehicles and Fees (5)		100	\$107.63	\$2,046,590
Sports/Recreation/Exercise Equipment (6)		102	\$168.25	\$3,199,325
Photo Equipment and Supplies (7)		78	\$43.03	\$818,210
Reading (8)		95	\$125.04	\$2,377,542
Catered Affairs (9)		69	\$17.97	\$341,767
<b>Food</b>		89	\$7,225.67	\$137,396,063
Food at Home		93	\$4,646.09	\$88,345,409
Bakery and Cereal Products		96	\$646.18	\$12,287,205
Meats, Poultry, Fish, and Eggs		92	\$1,019.09	\$19,378,090
Dairy Products		99	\$527.56	\$10,031,533
Fruits and Vegetables		87	\$829.16	\$15,766,490
Snacks and Other Food at Home (10)		95	\$1,624.09	\$30,882,093
Food Away from Home		83	\$2,579.58	\$49,050,653
Alcoholic Beverages		80	\$409.71	\$7,790,553

**Data Note:** The Spending Potential Index (SPI) is household-based, and represents the amount spent for a product or service relative to a national average of 100. Detail may not sum to totals due to rounding. This report is not a comprehensive list of all consumer spending variables therefore the variables in each section may not sum to totals.

**Source:** Esri forecasts for 2016 and 2021; Consumer Spending data are derived from the 2013 and 2014 Consumer Expenditure Surveys, Bureau of Labor Statistics.

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	Spending Potential Index	Average Amount Spent	Total
<b>Financial</b>			
Value of Stocks/Bonds/Mutual Funds	79	\$5,910.57	\$112,389,549
Value of Retirement Plans	94	\$24,705.11	\$469,767,626
Value of Other Financial Assets	114	\$1,292.76	\$24,581,831
Vehicle Loan Amount excluding Interest	96	\$2,330.96	\$44,323,242
Value of Credit Card Debt	89	\$508.43	\$9,667,853
<b>Health</b>			
Nonprescription Drugs	100	\$124.82	\$2,373,378
Prescription Drugs	114	\$475.92	\$9,049,582
Eyeglasses and Contact Lenses	102	\$90.89	\$1,728,368
<b>Home</b>			
Mortgage Payment and Basics (11)	78	\$6,674.16	\$126,909,201
Maintenance and Remodeling Services	95	\$1,661.54	\$31,594,112
Maintenance and Remodeling Materials (12)	115	\$418.62	\$7,960,001
Utilities, Fuel, and Public Services	96	\$4,665.89	\$88,721,911
<b>Household Furnishings and Equipment</b>			
Household Textiles (13)	84	\$73.08	\$1,389,618
Furniture	76	\$372.27	\$7,078,716
Rugs	74	\$17.95	\$341,369
Major Appliances (14)	98	\$276.37	\$5,255,223
Housewares (15)	85	\$71.31	\$1,355,997
Small Appliances	86	\$40.35	\$767,291
Luggage	63	\$5.86	\$111,341
Telephones and Accessories	85	\$60.27	\$1,145,953
<b>Household Operations</b>			
Child Care	65	\$275.14	\$5,231,848
Lawn and Garden (16)	108	\$438.94	\$8,346,393
Moving/Storage/Freight Express	78	\$49.50	\$941,325
Housekeeping Supplies (17)	94	\$663.96	\$12,625,293
<b>Insurance</b>			
Owners and Renters Insurance	109	\$504.23	\$9,587,928
Vehicle Insurance	91	\$1,019.39	\$19,383,785
Life/Other Insurance	95	\$393.59	\$7,484,107
Health Insurance	99	\$3,351.28	\$63,724,554
Personal Care Products (18)	87	\$377.61	\$7,180,224
School Books and Supplies (19)	84	\$137.32	\$2,611,100
Smoking Products	132	\$540.18	\$10,271,578
<b>Transportation</b>			
Payments on Vehicles excluding Leases	101	\$2,107.86	\$40,080,947
Gasoline and Motor Oil	100	\$3,081.31	\$58,591,135
Vehicle Maintenance and Repairs	95	\$981.45	\$18,662,363
<b>Travel</b>			
Airline Fares	68	\$312.36	\$5,939,439
Lodging on Trips	82	\$380.74	\$7,239,777
Auto/Truck Rental on Trips	75	\$17.94	\$341,133
Food and Drink on Trips	84	\$366.94	\$6,977,338

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- (1) **Apparel Products and Services** includes material for making clothes, sewing patterns and notions, shoe repair and other shoe services, apparel laundry and dry cleaning, alteration, repair and tailoring of apparel, clothing rental and storage, and watch and jewelry repair.
- (2) **Membership Fees for Clubs** includes membership fees for social, recreational, and civic clubs.
- (3) **Audio** includes satellite radio service, sound components and systems, digital audio players, records, CDs, audio tapes, streaming/downloaded audio, tape recorders, radios, musical instruments and accessories, and rental and repair of musical instruments.
- (4) **Toys and Games** includes toys, games, arts and crafts, tricycles, playground equipment, arcade games, and online entertainment and games.
- (5) **Recreational Vehicles & Fees** includes docking and landing fees for boats and planes, purchase and rental of RVs or boats, and camp fees.
- (6) **Sports/Recreation/Exercise Equipment** includes exercise equipment and gear, game tables, bicycles, camping equipment, hunting and fishing equipment, winter sports equipment, water sports equipment, other sports equipment, and rental/repair of sports/recreation/exercise equipment.
- (7) **Photo Equipment and Supplies** includes film, film processing, photographic equipment, rental and repair of photo equipment, and photographer fees.
- (8) **Reading** includes digital book readers, books, magazine and newspaper subscriptions, and single copies of magazines and newspapers..
- (9) **Catered Affairs** includes expenses associated with live entertainment and rental of party supplies.
- (10) **Snacks and Other Food at Home** includes candy, chewing gum, sugar, artificial sweeteners, jam, jelly, preserves, margarine, fat, oil, salad dressing, nondairy cream and milk, peanut butter, frozen prepared food, potato chips, nuts, salt, spices, seasonings, olives, pickles, relishes, sauces, gravy, other condiments, soup, prepared salad, prepared dessert, baby food, miscellaneous prepared food, and nonalcoholic beverages.
- (11) **Mortgage Payment and Basics** includes mortgage interest, mortgage principal, property taxes, homeowners insurance, and ground rent.
- (12) **Maintenance and Remodeling Materials** includes supplies/tools/equipment for painting and wallpapering, plumbing supplies and equipment, electrical/heating/AC supplies, materials for hard surface flooring, materials for roofing/gutters, materials for plaster/panel/siding, materials for patio/fence/brick work, landscaping materials, and insulation materials for owned homes.
- (13) **Household Textiles** includes bathroom linens, bedroom linens, kitchen linens, dining room linens, other linens, curtains, draperies, slipcovers, decorative pillows, and materials for slipcovers and curtains.
- (14) **Major Appliances** includes dishwashers, disposals, refrigerators, freezers, washers, dryers, stoves, ovens, microwaves, window air conditioners, electric floor cleaning equipment, sewing machines, and miscellaneous appliances.
- (15) **Housewares** includes plastic dinnerware, china, flatware, glassware, serving pieces, nonelectric cookware, and tableware.
- (16) **Lawn and Garden** includes lawn and garden supplies, equipment and care service, indoor plants, fresh flowers, and repair/rental of lawn and garden equipment.
- (17) **Housekeeping Supplies** includes soaps and laundry detergents, cleaning products, toilet tissue, paper towels, napkins, paper/plastic/foil products, stationery, giftwrap supplies, postage, and delivery services.
- (18) **Personal Care Products** includes hair care products, nonelectric articles for hair, wigs, hairpieces, oral hygiene products, shaving needs, perfume, cosmetics, skincare, bath products, nail products, deodorant, feminine hygiene products, adult diapers, and personal care appliances.
- (19) **School Books and Supplies** includes school books and supplies for College, Elementary school, High school, Vocational/Technical School, Preschool/Other Schools, and Other School Supplies.

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