



Wichita food deserts. Why we should care.

A community food assessment from the
Health & Wellness Coalition of Wichita
Winter 2013

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EXECUTIVE SUMMARY

The Health & Wellness Coalition of Wichita launched the fitWichita campaign to educate and empower Wichitans to take advantage of the healthy-living tools the city has made available to them. A key element of the education campaign is to promote access to healthy foods. The campaign does this through many communication channels, including FindYourFitWichita.com, which serves as a hub for collecting and sharing healthy-living tools and tips.

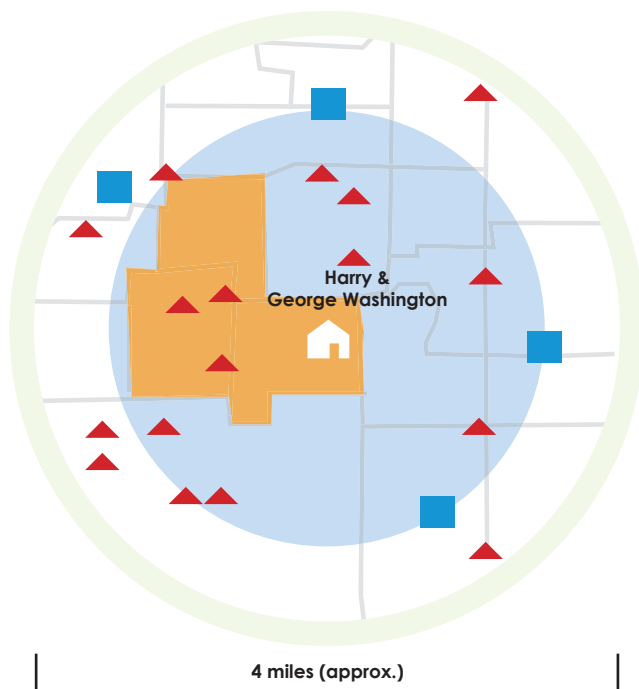
The release of the “Wichita Food Deserts: Why We Should Care” research report is important to build the community’s awareness and understanding of where we are now, in terms of access to healthy foods, in order to help us bridge the gap to become a healthier community.

WHAT IS A FOOD DESERT?

Traditionally, a food desert is defined as a low-income area where a significant number of residents have low access to supermarkets or grocery stores. The USDA describes low access for urban areas, like Wichita, as living more than one mile from a full-service grocery store.

Approximate
square mileage of
Wichita that makes
up food deserts

44



For a Wichitan living at Harry and George Washington, where the median household income is **\$31,706¹**, the closest option for bananas is one of two convenience stores less than a mile away. However, the bananas at the convenience store will cost that Wichitan almost **four times** more than at the grocery store nearly twice as far away.

- ▲ – Convenience stores
- – Grocery stores
- – Food desert
- +

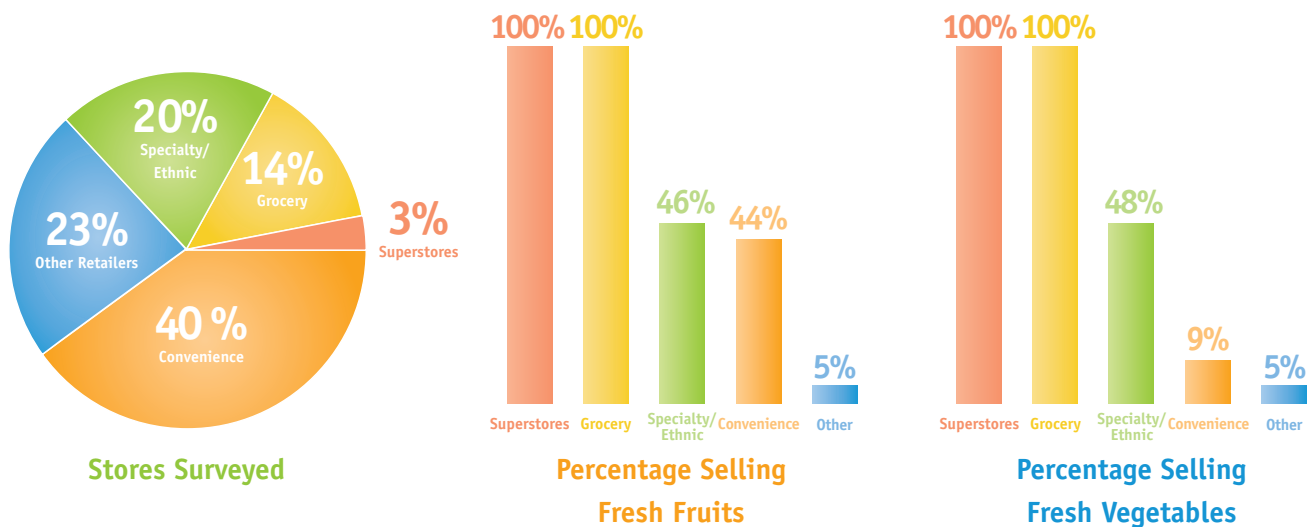
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THE HIGH COST OF LOW ACCESS

Convenience stores make up 40% of the city's food retailers, but only 44% offer fresh fruits and only 9% offer fresh vegetables. Not only that, but the fresh fruits and vegetables these stores offer are more expensive than at any other type of food retailer in the city. So, it's no surprise that only **37% of Wichitans feel convenience stores help residents maintain a healthy diet** and **78% think residents have difficulty eating healthy because of the price of fresh fruits and vegetables.**²



AVERAGE PRICE BY STORE TYPE

Store Type						
CONVENIENCE STORES	\$1.47	\$1.99	\$3.90	–	–	–
SPECIALTY/ETHNIC	\$1.33	\$0.67	\$3.37	\$0.75	\$1.52	\$1.90
GROCERY STORES	\$1.12	\$0.52	\$3.25	\$0.62	\$1.16	\$1.53
SUPERSTORES	\$1.35	\$0.50	\$3.83	\$0.61	\$0.91	\$1.48

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PRICES MAY VARY

Not only do food deserts present access issues to healthy foods, but these deserts create price inequalities across the city. Some products vary by as little as \$0.67 (cheddar cheese) or as much as \$7.69 (chicken thighs). In fact, **some of the most affluent ZIP codes have the lowest food prices while some of the lowest income ZIP codes have the highest food prices.**

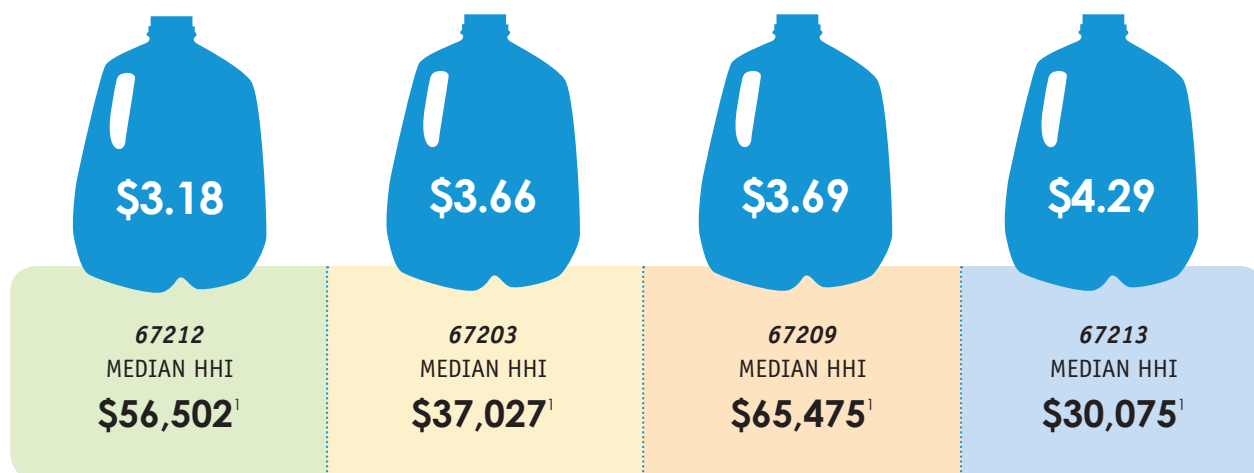


+/- \$0.67
(cheddar cheese)



+/- \$7.69
(chicken thighs)

PRICE DIFFERENCE OF A GALLON OF 1% MILK BY WICHITA ZIP CODE



For a full list of prices by ZIP code, see map on page 18.

WHY WE SHOULD CARE

With just over a quarter of Wichita's population living in food deserts, education about the inequalities caused by these deserts is essential to developing community solutions. The following report expands on the details of this issue.

1. "American Community Survey," U.S. Census Bureau, 2007-2011.
2. "Wichita Perceptions of Healthy Eating and Physical Activity," Wichita State University, 2011.

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Introduction and Purpose

The Wichita Community Food Assessment evaluates the food systems serving the city and their capacity to provide access to healthy, affordable and culturally appropriate foods to all residents. The assessment creates an inventory of local food resources and identifies any gaps present. The goal of the assessment is to produce recommendations to inform decision-making and new policy to improve community food security.

The first step required developing a description of the community, its food needs and the food systems that serve it. Team members created an inventory of retail food resources within the city limits that includes the prices and availability of certain staple food items.

This report looks at availability as well as financial and geographical access. Where appropriate, results of the 2011 “Wichita Perceptions of Healthy Eating and Physical Activity” survey are included to provide additional context.

Methodology

A total of 277 food retailers were surveyed during January and February 2013. The “Retail Food Store – Survey Instrument” (Appendix A), designed to reflect healthy food staples and less nutritious ones, focused on home-consumption foods.

The list of 277 food retailers located in the city was created using: USDA list of SNAP vendors (February 2012), U.S. Census Bureau Economic Census (2007), City of Wichita – Metropolitan Area Planning Department (2008), City of Wichita – Food Protection, Tobacco Control and Grease Program (2012), Kansas Department of Agriculture – Records Center (2012), individual company websites, yellow pages, and Google Maps.

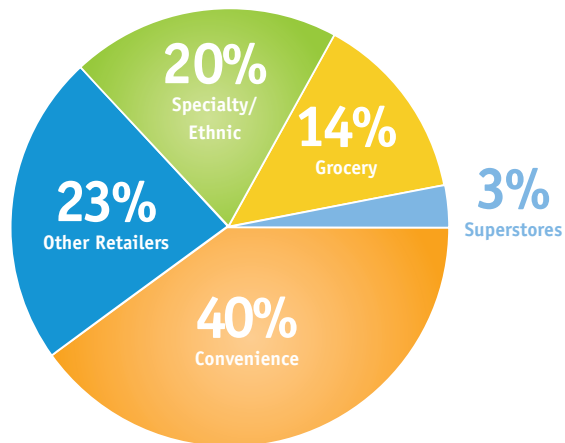
This report was compiled by Sharon Hakim, M.A. – Department of Psychology, Wichita State University.

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Stores Surveyed

The **277 stores** where data was collected can be broken down as follows:



110 (40%) were Convenience Stores

Convenience Stores were defined as smaller stores that offer a limited range of grocery items; as a matter of convenience, these stores are often perceived as gas stations or located at busy intersections (e.g., QuikTrip, Johnson's General Stores).

63 (23%) were Other Retailers

Other Retailers were defined as stores, big or small, which offer consumers a selection of grocery products, even though groceries may not be their main business (e.g., Walgreens or Kmart).

56 (20%) were Specialty/Ethnic Stores

This category consisted of two distinctive stores. Specialty Stores are retailers that carry one specific type of grocery item, such as bread, meat or dairy (e.g., Braums or Yoder Meats). Ethnic Stores are retailers, large or small, who specialize in groceries related to a certain ethnicity or culture. They may or may not carry more "mainstream" grocery items (e.g., an Asian grocery or Hispanic grocery).

40 (14%) were Grocery Stores

Grocery Stores were defined as retail stores whose main purpose is to sell food products to be prepared and consumed by consumers in their homes; Grocery Stores vary in size, but contain a necessary variety of departments such as meat, dairy, produce, and dry goods (e.g., Dillons, ALDI).

8 (3%) were Superstores

A physically large retail outlet, often part of a chain, that serves as "one-stop shopping" for all consumer needs, including groceries (e.g., Walmart or SuperTarget).

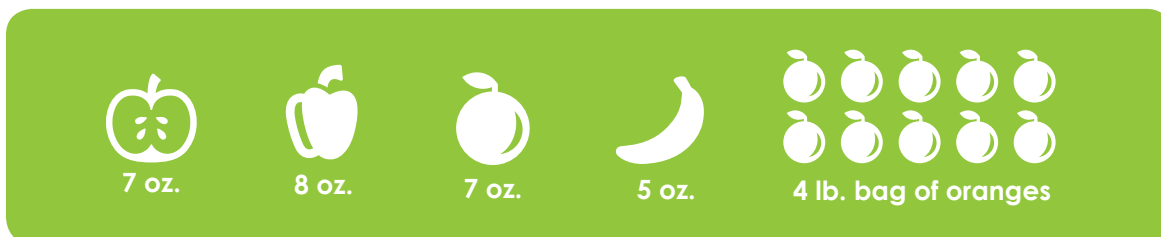
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Data Analysis

Because food products were available in a variety of sizes (e.g., bread sold in 16 oz., 20 oz., or 24 oz. packages), once data was collected, prices were adjusted so that comparisons could be made across stores. Researchers used the most common packaging/pricing unit as the base price, in order to minimize the number of calculations done. For calculating the prices of fruits and vegetables, and equating per pound and per item prices, the following standard weights were used: apple - 7 oz., orange - 7 oz., bell pepper - 8 oz., banana - 5 oz., 4 lb. bag of oranges = 10 oranges. In the case of national chain stores, prices were assumed to be identical in the various locations within the city. Additionally, when a retailer only sold organic produce, that data was used to indicate availability of fruits and vegetables, but was not included when calculating average prices for items.

The standard weights for calculating the prices of fruits and vegetables:



Part I: Availability and Financial Access

Vision Card Access

93.1%

of food retailers (258 stores)
in the city of Wichita accept
the Vision Card.

Of the 19 retailers that do not accept it (6.9% of all stores surveyed), 9 are Convenience Stores, 6 are Specialty/Ethnic Stores, 3 are Other Retailers, and 1 is a Grocery Store. Vision Card acceptance is an important aspect of access, as many families rely on Supplemental Nutrition Assistance Program (SNAP), a component of the Vision Card program, funds to purchase groceries. According to the Kansas Department for Children and Families, as of April 2013, there were 73,848 people (in 35,676 households) receiving SNAP benefits within the city of Wichita, which corresponds to 19.29% of the city's population and 23.5% of the city's households.

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Percentage of Stores Selling Fruits and Vegetables, by Store Type

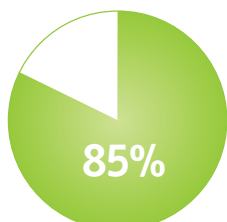
The retail food assessment asked about three fresh fruit items (apples, bananas, and oranges) and three fresh vegetable items (lettuce, carrots, and green peppers). For the sake of this analysis, retail stores were considered as “selling” fresh fruits or vegetables if they carried two of the three items per category. Of all 277 stores, 45.1% sell fresh fruits and 31.8% sell fresh vegetables. Below is a breakdown of fresh fruit and vegetable availability by store type.

Store Type	Number	% Selling Fresh Fruits	% Selling Fresh Vegetables
CONVENIENCE STORES	110	46.3%	9.1%
GROCERY STORES	40	100%	100%
OTHER RETAILERS	63	4.8%	4.8%
SUPERSTORES	8	100%	100%
SPECIALTY/ETHNIC	56	46.4%	48.2%

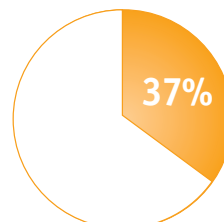
Both Grocery Stores and Superstores offer complete access to fresh fruits and vegetables. Convenience Stores, which represent the most common type of retail food outlet within the city of Wichita, offer low access to fresh fruits and extremely low access to fresh vegetables (second only to “Other Retailers”).

Specialty/Ethnic Stores seem to fall right in the middle; however, this statistic can be misleading as our data collection process showed that many Ethnic Stores do carry fresh fruits and vegetables, but, they carry items that are specific to their heritage and cooking traditions, and not the staples recorded.

These results are consistent with the results from the 2011 “Wichita Perceptions of Healthy Eating and Physical Activity” survey, which showed that over 85% of respondents thought both Grocery Stores and Superstores made it easy for Wichita residents to eat healthy, while only 37% of respondents felt that Convenience Stores helped residents maintain a healthy diet.



Thought both Grocery Stores and Superstores made it easy for Wichita residents to eat healthy.



Felt that Convenience Stores helped residents maintain a healthy diet.

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Price of Fruits and Vegetables, by Store Type

Besides varying in availability, fresh fruit and vegetables also significantly varied in price by retail location. The table below shows the average price of these fresh fruit and vegetable items by store type. If a store sold only “organic” fresh fruits or vegetables, those prices were excluded from the analysis so as to not distort the calculations.

For this analysis, apples and bananas are priced per pound. The orange price reflects a 4 lb. bag, carrots a 2 lb. bag, peppers (each) and lettuce per head. If not enough stores in a category sold an item, the averages were left blank.

Store Type						
CONVENIENCE STORES	\$1.47	\$1.99	\$3.90	–	–	–
GROCERY STORES	\$1.12	\$0.52	\$3.25	\$0.62	\$1.16	\$1.53
OTHER RETAILERS	–	–	–	–	–	–
SUPERSTORES	\$1.35	\$0.50	\$3.83	\$0.61	\$0.91	\$1.48
SPECIALTY/ETHNIC	\$1.33	\$0.67	\$3.37	\$0.75	\$1.52	\$1.90

Grocery Stores and Superstores offer fruits and vegetables at approximately equivalent prices. For most items, Specialty/Ethnic Stores are only a small percentage more expensive. Convenience Stores offer the most expensive fresh produce options. Bananas, for example, are almost four times more expensive in a Convenience Store than they are in a Grocery or Superstore. When considering these prices, it’s important to note that the 2011 “Wichita Perceptions of Healthy Eating and Physical Activity” survey showed that 77.7% of respondents thought that Wichita residents had difficulty eating healthy because of the price of fresh fruits and vegetables.



77.7% of respondents thought that Wichita residents had **difficulty eating healthy because of the price** of fresh fruits and vegetables.

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Price Variation of Items in Wichita Retail Stores (N=277)

One interesting item that emerged from data analysis was, not only do retail locations vary on what products they offer, but they also vary widely in terms of the price points they sell certain items for. On this page is a chart displaying all of the food items researchers collected data on, and the number of stores that sold this item, as well as the average price of the item. The last column in this chart represents the difference between the “top” or “high” price that a certain item was selling for while data was collected, and the “bottom” or “lowest” price that item was found for.

 Fruits	Number	%	Average Price	Difference Between High and Low Price
APPLES (LB.)	130	47%	\$1.34	\$1.69
BANANAS (LB.)	119	43%	\$1.22	\$2.30
ORANGES (4 LB. BAG)	92	33%	\$3.60	\$6.40
FRUIT, CANNED	170	61%	\$1.42	\$3.69

 Vegetables	Number	%	Average Price	Difference Between High and Low Price
CARROTS (2 LB. BAG)	78	28%	\$1.70	\$3.28
GREEN PEPPER (SINGLE)	78	28%	\$0.71	\$2.84
LETTUCE (HEAD)	91	33%	\$1.38	\$3.41

 Dairy	Number	%	Average Price	Difference Between High and Low Price
MILK, 1% (GALLON)	121	44%	\$3.47	\$3.99
MILK, WHOLE (GALLON)	230	83%	\$3.93	\$6.15
CHEDDAR CHEESE (OUNCE)	143	52%	\$0.45	\$0.67
CHEESE STICK (ONE)	157	57%	\$0.61	\$0.75
LOW-FAT YOGURT, 32 OZ.	54	19%	\$2.63	\$2.56
LOW-FAT YOGURT, 6 OZ.	125	45%	\$0.79	\$1.75

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Price Variation of Items in Wichita Retail Stores, (N=277) cont.



Starches/Legumes	Number	%	Average Price	Difference Between High and Low Price
WHOLE-WHEAT BREAD	199	72%	\$2.18	\$2.76
WHITE BREAD	198	71%	\$1.85	\$3.96
WHOLE-WHEAT PASTA (1 LB.)	63	23%	\$1.47	\$4.00
WHITE PASTA (1 LB.)	205	74%	\$1.56	\$3.20
BEANS (1 LB.)	134	48%	\$1.32	\$3.38
BROWN RICE (1 LB.)	73	26%	\$1.05	\$2.06



Proteins	Number	%	Average Price	Difference Between High and Low Price
BEEF, NON-LEAN (LB.)	81	29%	\$3.11	\$3.61
BEEF, LEAN (LB.)	60	22%	\$4.32	\$7.19
CHICKEN THIGHS (LB.)	60	22%	\$1.89	\$7.69
EGGS (DOZEN)	183	66%	\$2.26	\$2.85
TUNA (5 OZ.)	215	78%	\$1.41	\$2.80



Beverages	Number	%	Average Price	Difference Between High and Low Price
POP (2 L)	228	82%	\$1.74	\$1.78
JUICE (59 OZ.)	167	60%	\$2.96	\$5.68

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The following is an analysis of the Price Variation charts on pages 10 and 11.

Availability

Overall, the items most commonly found in Wichita retail food stores are: canned vegetables, pop/soda, whole milk, and tuna (canned in water). All of these items are carried in at least 75% of local stores. With the exception of milk, all of these items have a long shelf life and do not need to be refrigerated. Items found in less than 25% of stores include: chicken thighs, lean beef, whole-wheat pasta, and low-fat yogurt (32 oz.).



Price Stability and Variation

Overall, prices varied widely by retail location. For example, while the average price of a dozen eggs is \$2.26, the difference between the highest price and the lowest price that eggs are being sold at is \$2.85 (high price: \$3.85, low price: \$1.00). When considering price variation (the highest price an item is being sold for minus the lowest price the same item is being sold for), it is important to interpret the "gap" relative to the average price of the item. For example, while a \$0.25 gap for the price of eggs may not seem like much, a \$0.25 gap around an item that sells for \$1.00 would be considered relatively large. Items that have the most variability include: chicken thighs, green peppers, and whole-wheat pasta.



Taking that into consideration, items that are the most "stable" in pricing across the city include: low-fat yogurt (32 oz.) and pop/soda. **Soda was, by far, the most stable-priced item, with 51% of the 228 stores that sold two-liters of pop pricing it at either \$1.89 or \$1.99.**

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Part II: Geographic Access

The previous section of this report focused on availability and financial access (e.g., affordability) of food, with a focus on fresh fruits and vegetables, at retail locations within the city of Wichita. The following analysis looks at access to these items in terms of geography and physical proximity within the city.

Considered in this section of the report are: overall geographic location of retail stores, geographic location of stores selling fresh fruits and vegetables, and price differentials that exist over different parts of the city. Most of this information is presented in visual form, through detailed maps. Maps were developed in partnership with Sedgwick County Geographic Information Services.

The following maps are included with the intent of visually describing the retail food systems that serve the city of Wichita.

Map Number



1. Location of the 277 retail stores surveyed, by store type (Convenience, Grocery, Specialty/Ethnic, Other, Superstore)



2. Location of stores that sell fresh fruits (2 out of 3 fresh fruit items needed to be present for a store to be included on map)



3. Location of stores that sell fresh vegetables (2 out of 3 fresh vegetable items needed to be present for a store to be included on map)



4. Average cost of eggs per ZIP code



5. Average cost of 1% milk per ZIP code

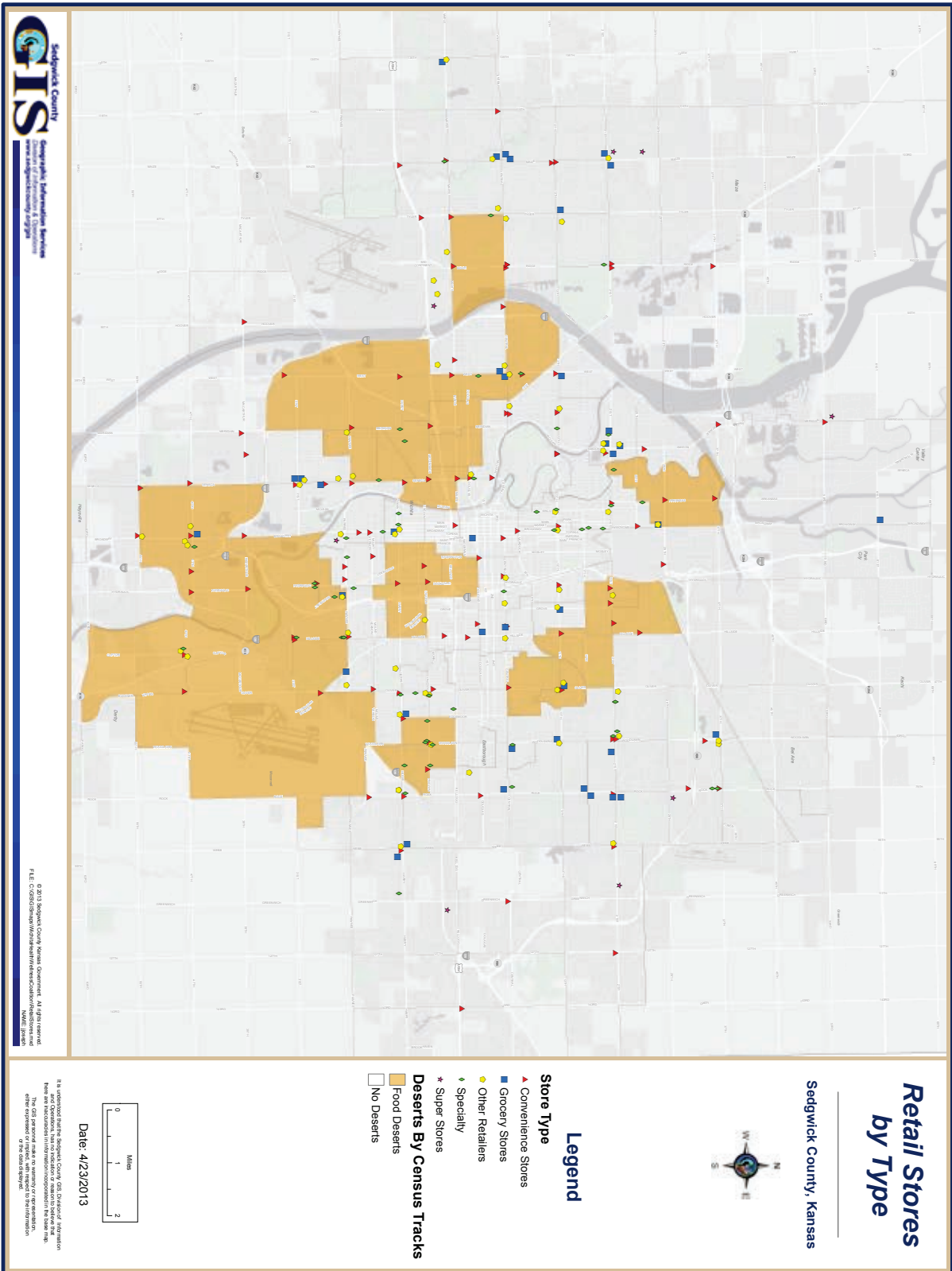


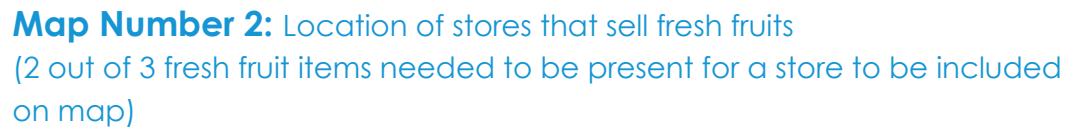
6. Average cost of whole milk per ZIP code

Also included in this section are economic factors that may make it difficult to access items necessary to maintain a healthy diet, such as the existence of food deserts.



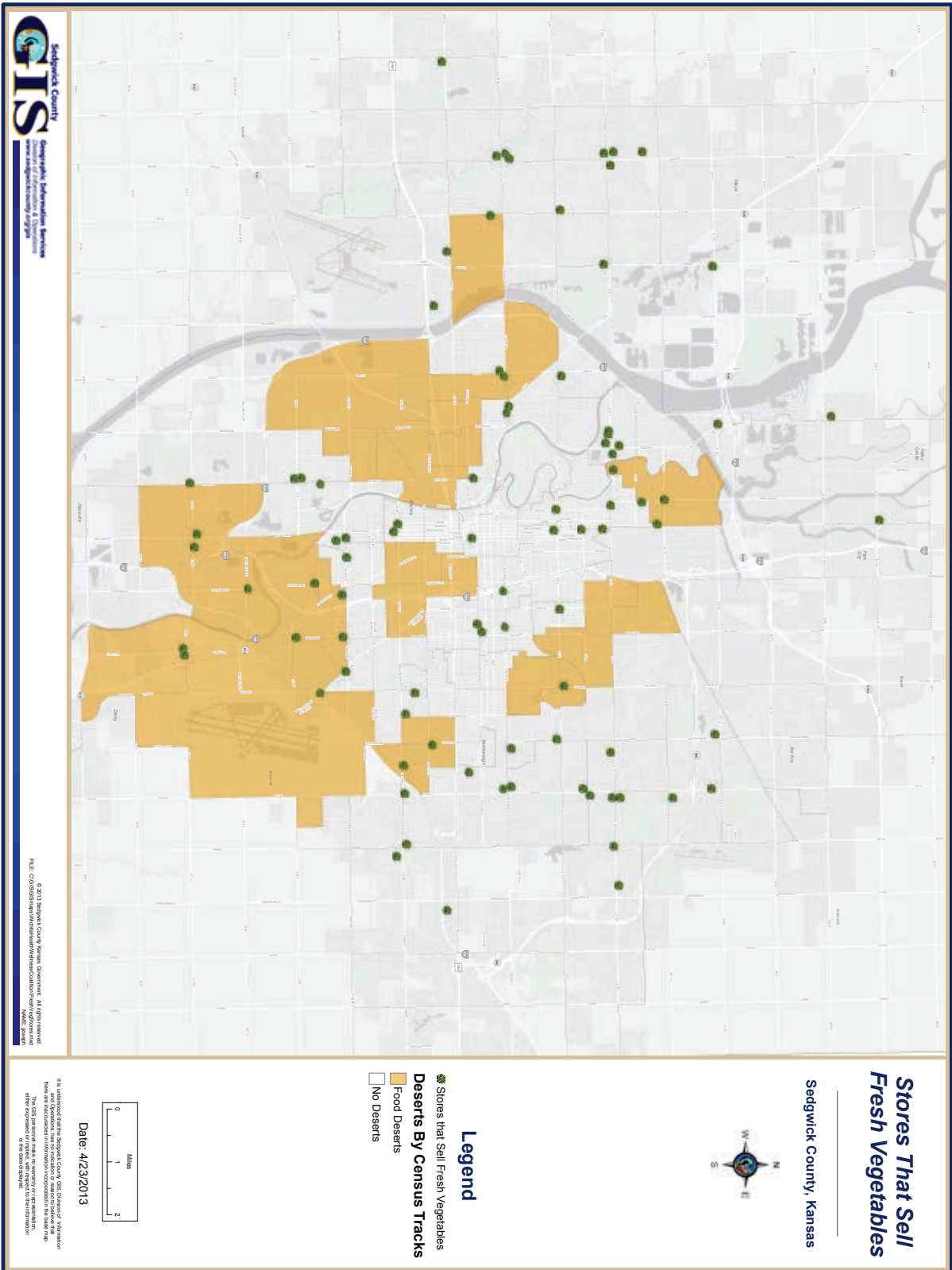
Map Number 1: Location of the 277 retail stores surveyed, by store type (Convenience, Grocery, Specialty/Ethnic, Other, Superstore)





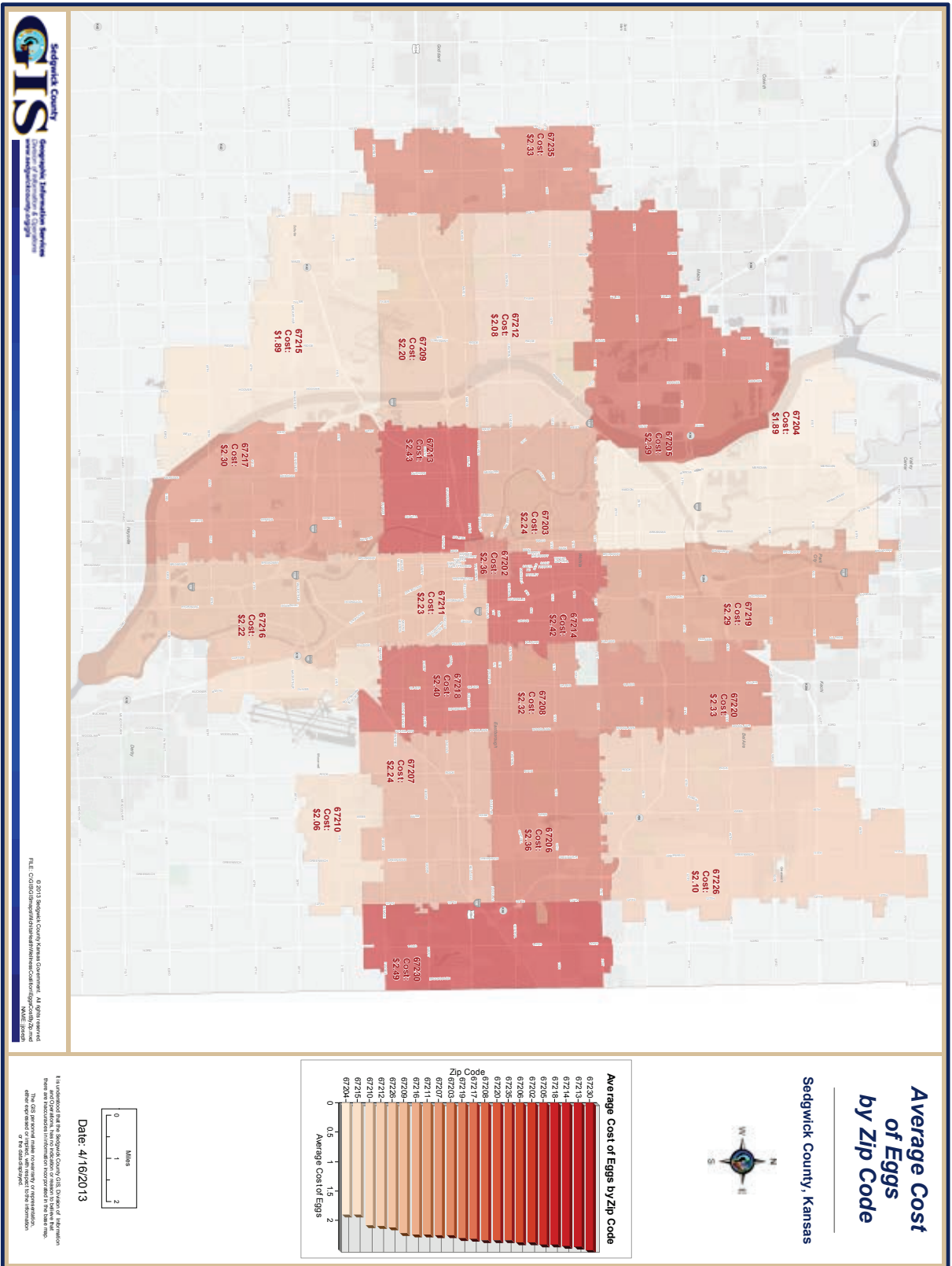


Map Number 3: Location of stores that sell fresh vegetables (2 out of 3 fresh vegetable items needed to be present for a store to be included on map)



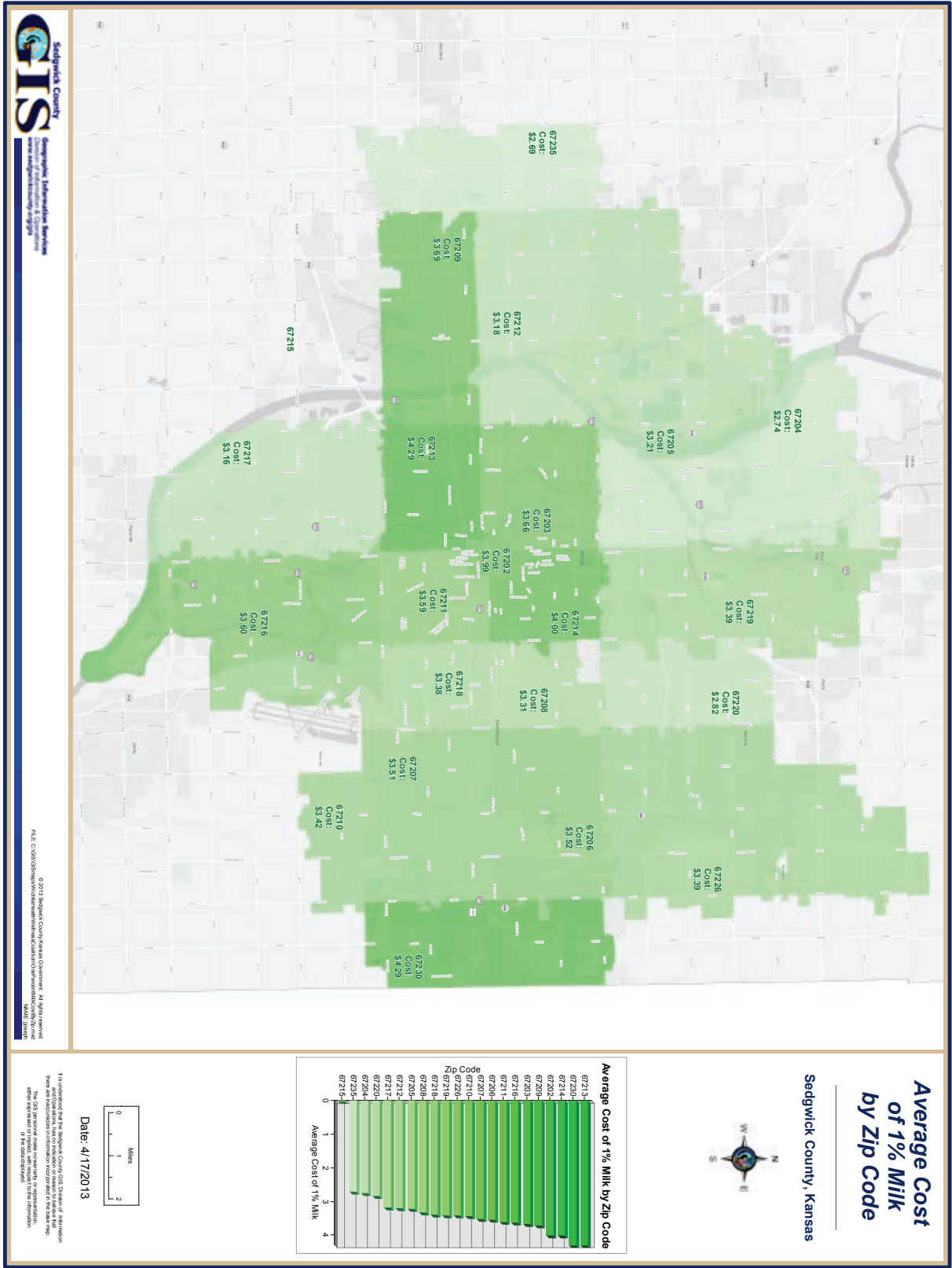


Map Number 4: Average cost of eggs per ZIP code



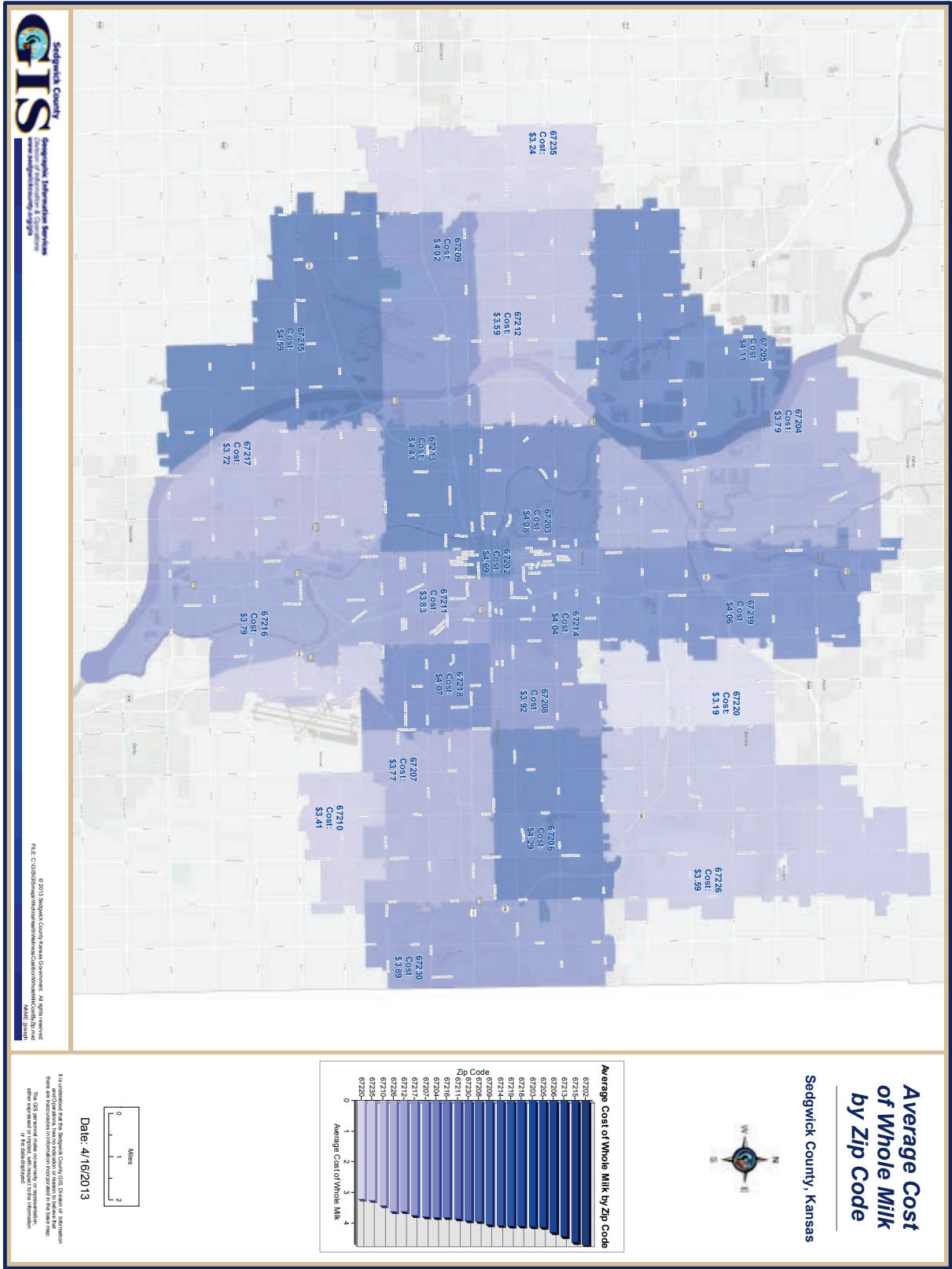


Map Number 5: Average cost of 1% milk per ZIP code





Map Number 6: Average cost of whole milk per ZIP code



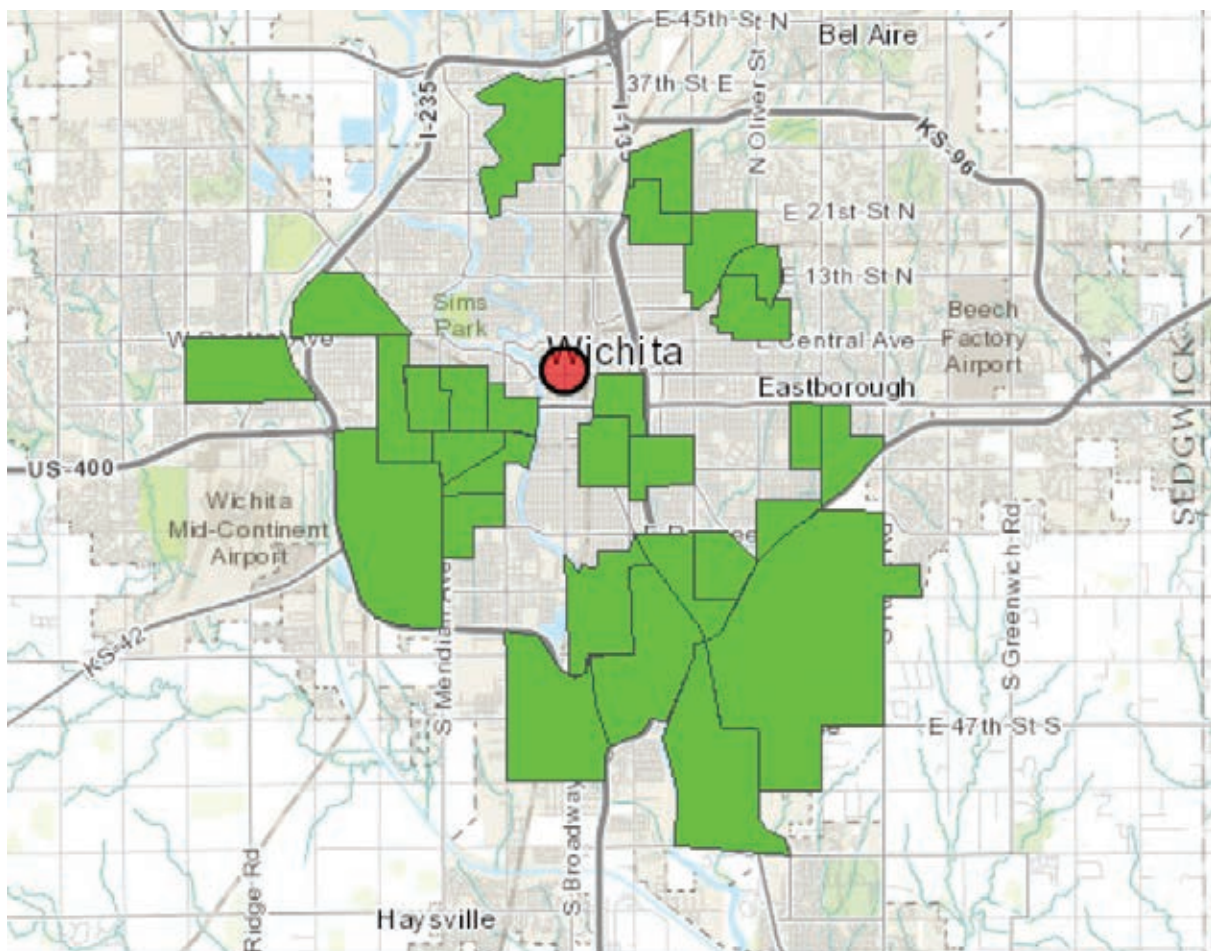
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Food Deserts

Traditionally defined, food deserts are low-income areas (census tracts) where a significant number of residents are far from a Supermarket/Grocery Store (defined as low access). Low-income census tracts are defined in one of three ways: 1) a tract's poverty rate is greater than 20%, 2) the tract's median family income is less than or equal to 80% of the statewide median family income, or 3) in a metropolitan area such as Wichita, the tract has a median family income less than or equal to 80% of the city's median family income. The USDA (United States Department of Agriculture) describes low access for urban areas, such as Wichita, as living more than one mile from a full-service Grocery Store.

In the map below, areas highlighted in green represent food deserts within the city of Wichita as defined by the USDA definition. Food deserts were also drawn in on Maps 1-3 in the previous section in order to allow readers to look at the retail data in terms of food deserts as well.



**Wichita Health and Wellness Coalition
Retail Food Store - Survey Instrument
January 2013**

Store ID Number

Evaluator: _____

Store Name: _____

Address: *(Updates Only)* _____

Time and Date of Visit: _____

Store Type:

- ☐ Supermarket/Grocery Store (e.g. Dillons)
- ☐ Convenience Store (e.g. Quick Trip)
- ☐ Ethnic/Speciality Store (e.g. Spanish Grocery Store, Meat Store)
- ☐ Superstore (e.g. Supertarget, Walmart)
- ☐ Other Retailer (e.g. Walgreens, Dollar General)

Store Hours:

Day	Hours	Day	Hours
Sunday		Thursday	
Monday		Friday	
Tuesday		Saturday	
Wednesday			

Accepts SNAP/WIC Benefits: _____ YES _____ NO

Directions for the Evaluator: *On the back of this sheet several grocery items are listed. Please record the price of the item, according to the unit requested. If an item is usually sold in the store, but is currently unavailable please record the price and write "OUT" next to it. If an item is not usually sold in a store, please write "NA" in the price field or mark the line with a slash. If the price of an item is a "sale price" indicate the price, and write "S" next to it (e.g., Apples, \$1.09/lb, S). When more than one brand/type for each item exists, please choose the cheapest one. (e.g. Whole Wheat Pasta Brand X is \$1.99/package and Walmart Brand Whole Wheat Pasta is \$1.09 for the same size package, record the Walmart brand price). If you cannot find an item of the desired size/package, record the closest thing and write down any differences.*

Food Item	Item Weight/Unit	Price
Fruit - Fresh		
Apples, any variety	Per lb	
Apples, any variety, Single	One	
Bananas	Per lb	
Banana, Single	One	
Oranges, any variety	4 or 8 lb bag	
Fruit, Canned in Syrup	15 oz can	
Vegetables - Fresh		
Veg, Canned, Not Peas	14.5oz	
Carrots, unpeeled	2-lb bag	
Fresh Vegetables, Single Serving	Single Serving Packet	
Green pepper	Each	
Lettuce, leaf (green or red)	Head	
Dairy Products		
Milk, 1% lowfat	1 gallon	
Milk, whole	1 gallon	
Cheese, cheddar, any variety	Per oz	
Cheese Stick, Mozerella, Part Skim	1	
Lowfat yogurt	32-oz carton	
Single Serving Lowfat Yogurt	6 ounce container	
Grain Products		
Bread, whole wheat	20 or 24-oz loaf	
Bread, white	20 or 24-oz loaf	
Whole Wheat Pasta	13.25 oz	
Pasta, white	1-lb bag	
Beans, Dry, any variety	1-lb bag	
Brown Rice	32 ounces or 16 ounces	
Meats/Fish		
Beef, ground, non-lean	Per lb	
Beef, ground, lean	Per lb	
Chicken, thighs	Per Lb	
Eggs, grade A large	1 dozen	
Tuna fish, water, canned	5-oz can	
Beverages		
Pop/Soda, not Refrigerated	2L	
Juice, Refrigerated	59oz or 1/2 gallon	