

HEALTHY FOOD ACCESS

A VIEW OF THE LANDSCAPE IN MINNESOTA AND LESSONS LEARNED FROM HEALTHY FOOD FINANCING INITIATIVES

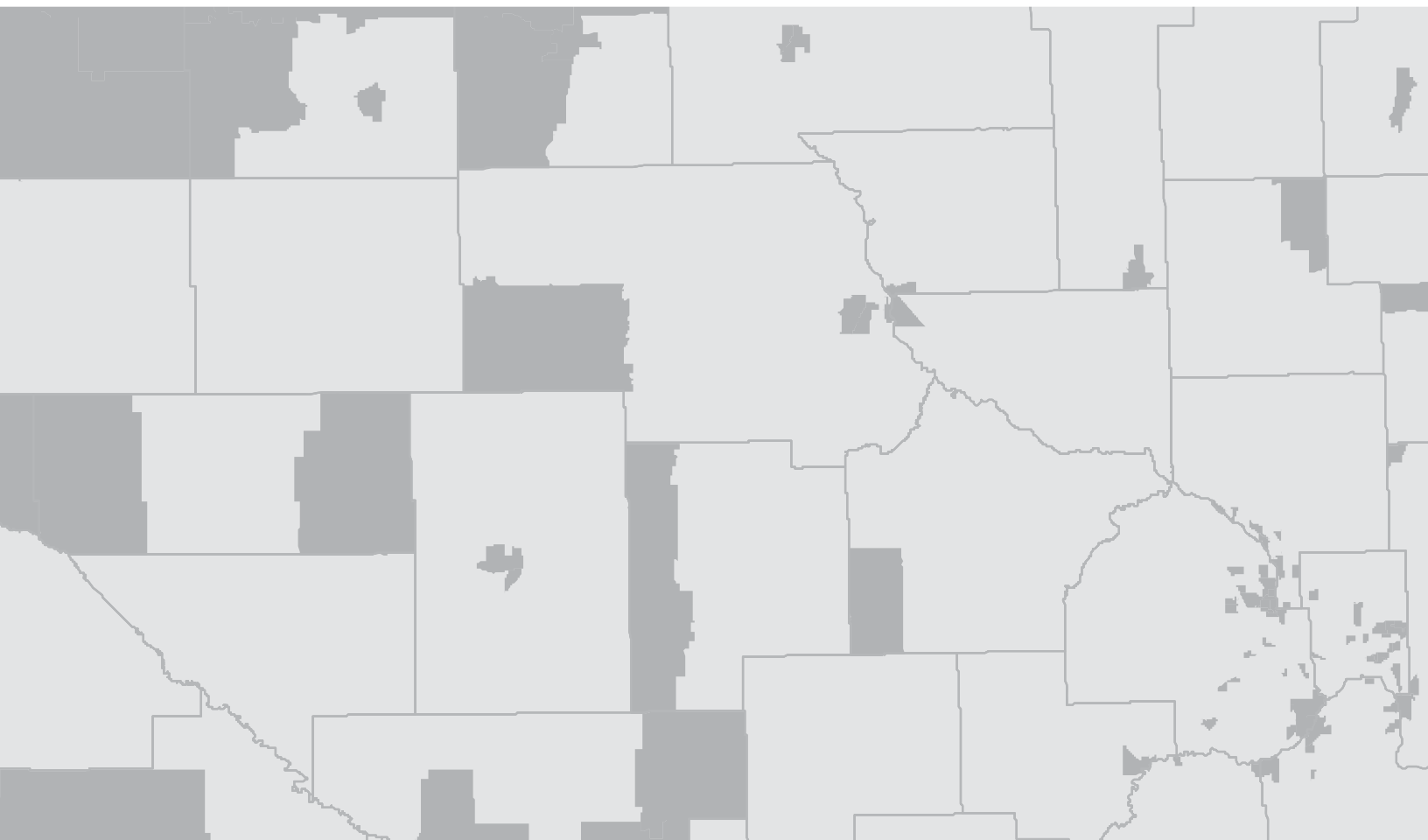
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PREPARED BY THE FEDERAL RESERVE BANK OF MINNEAPOLIS AND WILDER RESEARCH

COMMISSIONED BY THE CENTER FOR PREVENTION
AT BLUE CROSS AND BLUE SHIELD OF MINNESOTA



Wilder Research



Study commissioned by the Center for Prevention at Blue Cross and Blue Shield of Minnesota

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Executive Summary

STUDY PURPOSE

The Federal Reserve Bank of Minneapolis and Wilder Research undertook a multifaceted, mixed-methods study to provide new information for practitioners and other stakeholders interested in improving Minnesota's food retail environment. Results, which offer a common foundation for groups to act:

- Shed light on barriers related to healthy food access, consumption, and retail expansion for Minnesota;
- Provide an objective picture of the relationship between healthy food retail access and diet-related health outcomes; and
- Offer insight on the outcomes of existing healthy food financing initiatives in the United States and on important factors for successful operation.

WHAT DID THE STUDY FIND?

The number(s) in parentheses correspond to information sources that are listed under “How Was the Study Conducted?” on page 3.

Healthy food access

1. About 1.6 million Minnesotans (about 30 percent) have low retail access to healthy food, based on their distance to a full-service grocery store. (2)
2. When compared to other states, Minnesota's total share of residents with low retail access ranks among the ten highest. (2)
3. Both price and distance create barriers to healthy food access, but price constitutes a more significant barrier. (1) An estimated 341,000 Minnesotans face both income and distance barriers to purchasing healthy food. (2)
4. Key practitioners knowledgeable about the food system in Minnesota stated that certain residents have lower access to healthy food in their service areas than others: rural residents, low-income residents, senior residents, and residents of color. (3)
5. About 16 percent of Minnesota's census tracts qualify as federally designated food deserts—areas with a high proportion of residents who live far from a full-service grocery store and a high proportion of residents who are low- to moderate-income. Counties in rural Minnesota have a disproportionate number of food deserts relative to their total population and geographic area. (2)
6. Differences in transportation mode have little effect on the types of stores used. Ninety percent of Supplemental Nutrition Assistance Program participants and poor nonparticipants use a full-service grocery store or supercenter as their primary store. (1)

Healthy food consumption and health outcomes

1. Price is the most significant barrier to healthy food consumption for low- to moderate-income households. (1)
2. Store type can affect food purchases; overall, supercenters are associated with less healthy purchases than grocery stores. (2)
3. Poor health outcomes are more strongly linked to poverty than to distance to healthy food retail. (1)
4. Although retail access is a necessary factor in healthy food purchases, the addition or expansion of healthy food retail alone is unlikely to increase fruit and vegetable consumption without simultaneous health interventions that target consumers' eating behaviors. (1 and 4)

Healthy food retail expansion

1. Between 2007 and 2012, most Minnesota counties either lost full-service grocery stores or experienced no net change. (2)
2. Current demand for healthy food financing in Minnesota exceeds existing supply of resources. (3)
3. Technical assistance is a critical ingredient in the financing and long-term success of healthy food retail; current training and assistance needs among food retail business owners in Minnesota remain large and varied. (3)
4. Some current food regulations and licensing requirements present hurdles that could be reduced through policy changes that promote increased efficiency. (3)
5. Rural communities in Minnesota face added barriers to healthy food retail expansion, including low population density and limited infrastructure. (3)
6. Entrepreneurs of color in Minnesota might play a key role in expanding healthy food retail, including the provision of culturally preferred items, but sometimes face added barriers to accessing capital. (3)

Healthy food financing initiatives

This study explored healthy food financing initiatives (HFFIs)—one possible solution for expanding healthy food access in underserved communities. HFFIs are public-private funds that offer flexible capital in the form of loans and grants to developers and operators of food retail businesses. Interviews with managers of existing funds throughout the United States reveal that:

1. Seed money, including funds for planning and administration, is important for a successful launch. (4)
2. To date, the majority of HFFI dollars have gone to support already established business owners. (4)
3. Many healthy food projects are not equipped to take on debt. Grants or forgivable loans are needed in order to produce additional healthy food outlets, especially in areas that, from a business standpoint, would be considered unprofitable. (4)
4. Flexible sources of capital are critical for maximum deployment of funds, and project requirements should not be overly restrictive. (4)
5. HFFI-funded projects have helped to create jobs, expand healthy food retail, and eliminate food deserts. In some neighborhoods, these projects also spurred additional community revitalization. (4)

6. There are several cases of HFFI loan recipients partnering with other organizations, including community clinics, medical schools, and fitness facilities, to improve resident health. According to managers of HFFI funds, retail outlets need to be rooted in the community in order to be successful. To that end, business owners can play an important role in supporting population health improvement goals. (4)

Conclusion

Multiple strategies will be needed in order to increase healthy food access and healthy food consumption in Minnesota, including initiatives that address affordability, purchasing decisions, and transportation needs among consumers, and also initiatives that address financing, technical assistance, and regulatory needs among developers and operators. Cross-sector partnerships that leverage the strengths of public, private, and government entities can play a key role in helping to meet these needs.

HOW WAS THE STUDY CONDUCTED?

The Federal Reserve Bank of Minneapolis and Wilder Research partnered to conduct this study. Reported findings come from four sources:

1. Themes discovered through a literature review of national and local studies on food access and dietary behavior;
2. Social, demographic, and economic data from the U.S. Census Bureau, the U.S. Department of Agriculture Economic Research Service, County Health Rankings and Roadmaps, and Minnesota Compass;
3. Interviews with entrepreneurs and intermediary organizations who provide financing, technical assistance, advocacy, or services to food retailers and who have knowledge of Minnesota's food landscape; and
4. Interviews with fund managers and key partners of HFFIs, along with online data from their respective websites.

Support for this study was provided to Wilder Research by the Center for Prevention at Blue Cross and Blue Shield of Minnesota.

Literature Review

Research indicates that a number of factors influence consumer shopping behaviors and health outcomes. Distance to retail is one factor that influences healthy food purchasing decisions, but price, income, poverty status, education, social networks, and store type have independent and important effects, too. Following is a summary of key findings from recent academic literature on this topic. (For full citations to all works mentioned in this report, see the Appendix.)

Price and socioeconomic status most strongly influence food purchases

Price and socioeconomic status influence consumers' food purchases more than distance to retail.

- Research shows that prices are significant determinants of food purchases, but that supermarket access has limited influence. After controlling for prices, food access (measured in terms of travel time to a store and store type) had a negligible effect on the quantities of healthy foods purchased by low-income households, including fruit, vegetables, and milk (Lin et al., 2014).
- One study, which found that distance did not influence food choices, also found that consumers traveled out of their neighborhoods to shop in lower-cost supermarkets, again reflecting the significance of price over distance (Aggarwal et al. 2014).
- Using Nielsen Homescan data to track household food purchases, researchers found that after controlling statistically for spatial proximity, socioeconomic disparities constituted the most important factor in household food purchasing practices (Dubowitz et al., 2015).
- Research shows that low income is more strongly associated with purchases of unhealthful food than living in an area with limited healthy food retail outlets (Rahkovsky and Snyder, 2015).
- Friends and family sometimes influence food choices. To the extent that individuals have a social network not attuned to healthy eating, they may encounter a barrier to accessing and consuming healthy food (Baruth et. al, 2014).

Retail access alone has limited impact on healthy food consumption

New or expanded healthy food retail will not likely result in better health outcomes without simultaneous interventions that target consumers' eating behaviors.

- Research shows that the effects of living in a food desert on diet are modest, and that retail coverage alone is not enough to promote dietary changes (Rahkovsky & Snyder, 2015).
- Another recent study, which examined the effects of increased grocery store access on low-income households using both an intervention and a control neighborhood, found that the introduction of a new nearby supermarket had a positive effect on local residents' perceived access to healthy food, but did not result in any differential improvements in fruit and vegetable intake, whole grain consumption, or body mass index (Dubowitz et al., 2015).

Store type can impact healthy food purchases

Residents of some communities are more likely to shop at superstores and convenience stores. These types of stores are also associated with less healthy food purchases.

- A recent study found that store type has a large effect on food purchases, and that overall, purchases in supercenters were less healthy than purchases in grocery stores (Volpe et al., 2013).
- In low-income census tracts, in both urban and rural areas, consumers report higher food prices and more frequent use of convenience stores (Laxy et al., 2015).
- Rural residents tend to purchase less healthy food than urban consumers (Rahkovsky & Snyder, 2015).
- Higher use of convenience stores by residents of socioeconomically disadvantaged neighborhoods occurs even when those neighborhoods have supermarkets (Richardson et al., 2014).

The majority of low-income households use their own vehicle to purchase groceries; transportation mode has little effect on store type

Some, but not all, low-income households experience transportation as a barrier to healthy food access.

- A recent analysis of data from the USDA Economic Research Service National Household Food Acquisition and Purchase Survey found that 68 percent of SNAP participants and 65 percent of poor nonparticipants drive their own car to purchase groceries (Ver Ploeg, et al., 2015).
- Lower-income and vulnerable groups of consumers who shop by car will bypass nearby retail stores if they wish to access larger supermarkets with healthier food options (Aggarwal et al., 2014).
- Differences in transportation mode have little effect on the types of stores used. Ninety percent of Supplemental Nutrition Assistance Program (SNAP) participants and poor nonparticipants use a supermarket or supercenter as their primary store. This is similar to higher-income nonparticipants (Ver Ploeg, 2015).

Health outcomes are more strongly linked to poverty than to distance to healthy food retail

Research shows a correlation between food insecurity and poor health outcomes.

- Studies show disparities in health outcomes across the life course for food-insecure populations, from a greater likelihood of asthma in food-insecure children to greater likelihood of limitations on daily activities among food-insecure seniors (Gunderson and Ziliak, 2015).
- Food insecurity is associated with a greater likelihood of diabetes among adults, but is not consistently linked to obesity (Gunderson and Ziliak, 2015).
- Food-insecure households in a Minneapolis-St. Paul study reported more barriers to accessing fruits and vegetables than did other households; they also reported higher parental overweight and obesity, less healthy foods served at meals, and higher rates of binge eating (Bruening et al., 2012).
- A study, which used data from the population-based Survey of the Health of Wisconsin, could find no relationship between an unfavorable retail food environment (using a formula to reflect distance to supermarkets and convenience stores) and the health outcome of obesity. It suggested that more research is needed to understand the relationship between neighborhood characteristics, health behaviors, and health outcomes (Laxy et al., 2015).

Access To Healthy Food Retail In Minnesota

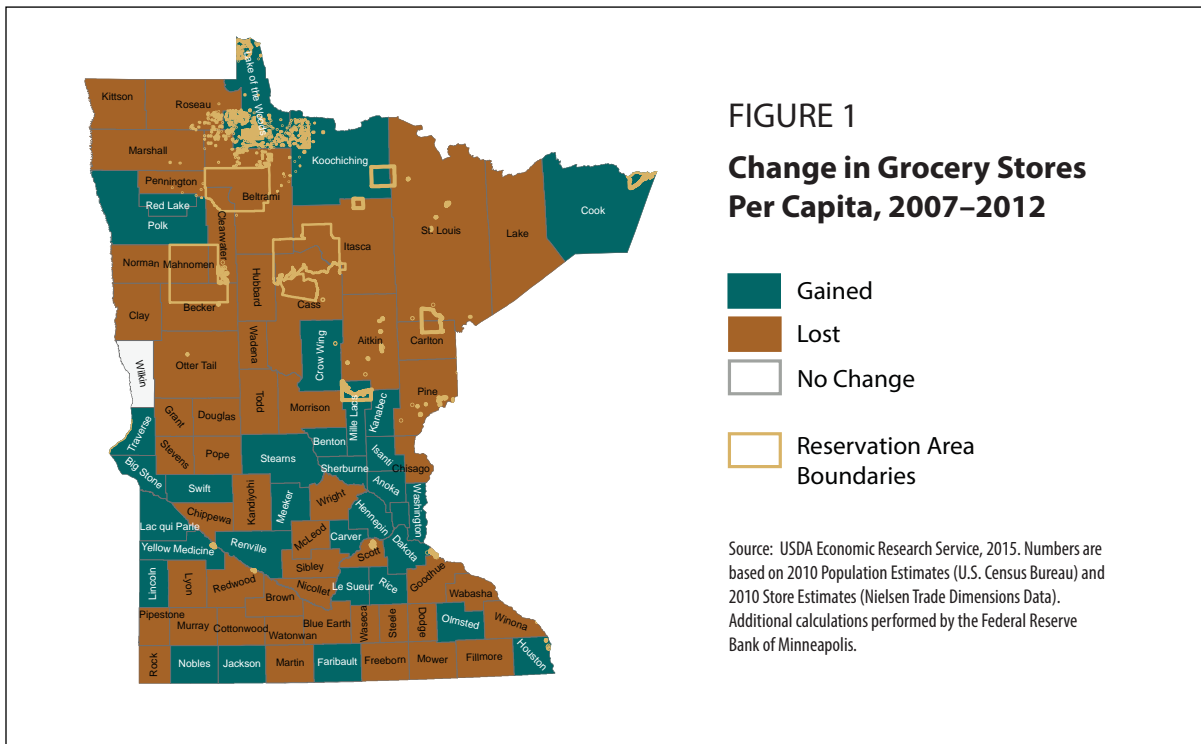
To assess the healthy food retail landscape in Minnesota, this study examined the aggregate data for grocery stores, supercenters, and convenience stores over the most recent five-year period for which data are available, 2007–2012.

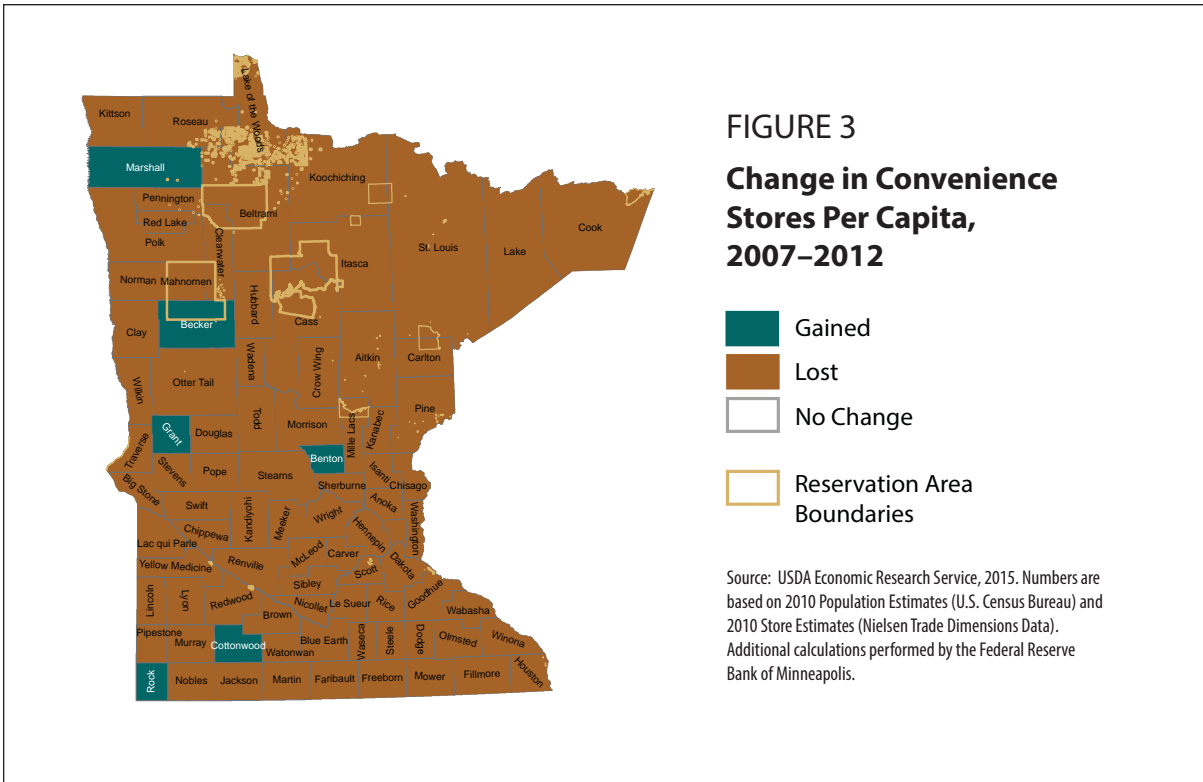
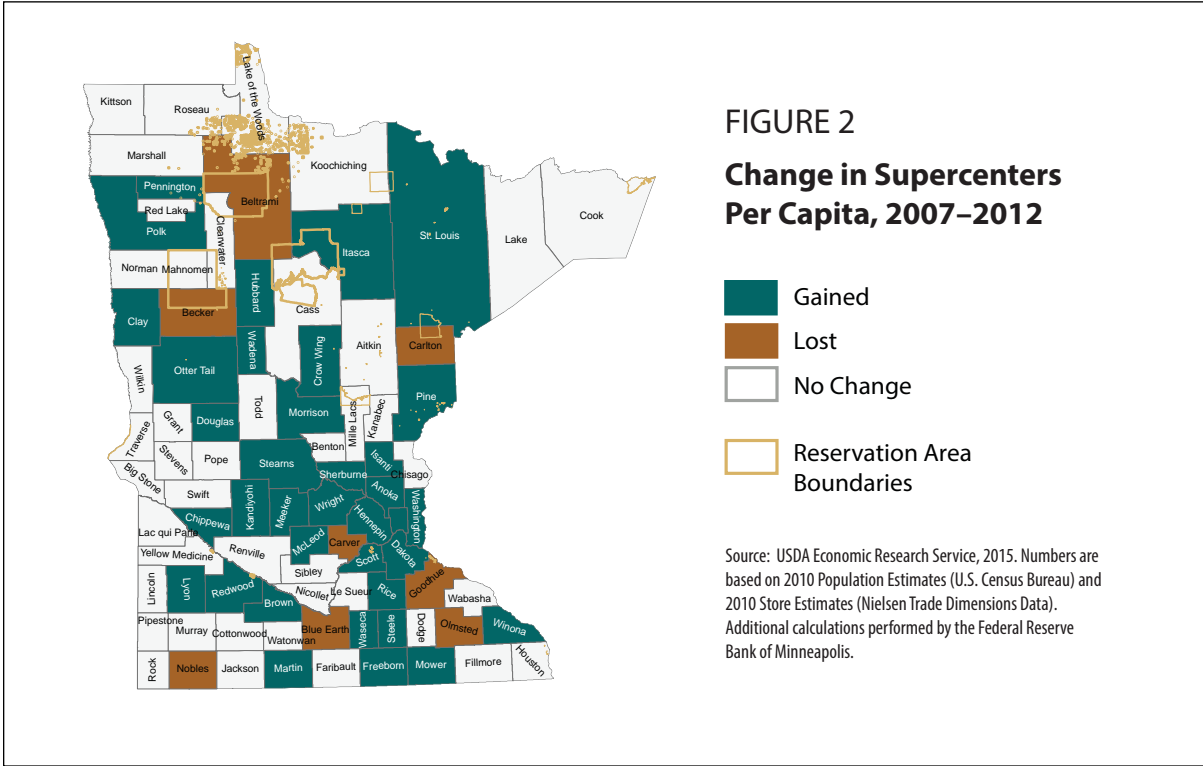
Data show uneven growth in food retail outlets across Minnesota

The total number of grocery stores ranges from only 1 in some rural counties to more than 250 in Hennepin County. Data reveal that 54 of Minnesota’s 87 counties (62%) experienced either a net loss or no change in grocery stores per capita. The remaining 33 counties (38%) that experienced a gain were primarily concentrated in the Twin Cities metro area and the Southern and Southwestern regions of the state. (See Figure 1 below.)

The total number of supercenters ranges from 0 in many rural counties to 19 in Hennepin County. Data show that 51 of Minnesota’s 87 counties (59%) experienced either no change or a net loss in supercenters per capita. The remaining 32 counties (41%) that experienced a gain included both urban and rural areas across the state of Minnesota. Twenty-three of the counties that experienced a gain went from having no supercenter to having one supercenter. This mirrors a trend in the national food retail market, which also shows growth in supercenters. (See Figure 2 on page 7.)

The total number of convenience stores ranges from less than 10 in several rural counties to more than 300 in Hennepin County. In recent years, 81 of Minnesota’s 87 counties (93%) experienced a net loss in convenience stores per capita. Healthy options in convenience stores may be limited, but in some communities a convenience store might be the only nearby food retail outlet. (See Figure 3 on page 7.)





Low Retail Access

By federal definition, individuals are considered to have low retail access if they live far from a large grocery store, supermarket, or supercenter (more than 1 mile for urban areas and more than 10 miles for rural areas).

An estimated 1.6 million Minnesota residents (about 30 percent) have low retail access based on the distance from their homes to the nearest full-service grocery store. The proportion of Minnesotans with low retail access is slightly higher than the rate for the United States overall, which is 24 percent of the total population. When compared to other states, Minnesota's total share of residents with low retail access ranks among the ten highest, and Minnesota has more residents with low retail access in rural areas than any other state except Texas.

Table 1: Low Retail Access Population by State
(Ranked by total share, with "1" being the highest)

Rank	State	Share (%) of total population that has low retail access	Total number of residents that have low retail access†	Number of residents that have low retail access (URBAN AREAS AND POPULATION CENTERS ONLY)†	Number of residents that have low retail access (RURAL AREAS ONLY)†	Total state population*
1	South Dakota	37	297,623	149,499	148,124	814,180
2	North Dakota	35	233,056	106,649	126,406	672,591
3	Alaska	34	242,751	176,687	66,064	710,231
4	New Mexico	34	694,944	546,831	148,113	2,059,179
5	Georgia	31	3,050,356	2,942,284	108,072	9,687,653
6	Delaware	31	279,631	279,631	0	897,934
7	Minnesota	31	1,641,906	1,409,269	232,637	5,303,925
8	Massachusetts	30	1,995,516	1,985,794	9,722	6,547,629
9	Texas	30	7,639,097	7,107,047	532,049	25,145,561
10	Connecticut	30	1,065,739	1,065,675	64	3,574,097
11	Kansas	29	829,328	641,300	188,028	2,853,118
12	Oklahoma	29	1,075,086	851,133	223,954	3,751,351
13	South Carolina	29	1,321,831	1,249,163	72,669	4,625,364
14	Wyoming	29	161,024	106,157	54,868	563,626
15	Louisiana	29	1,295,085	1,137,032	158,053	4,533,372
16	New Hampshire	28	372,112	365,723	6,389	1,316,470
17	Idaho	28	433,782	345,962	87,821	1,567,582
18	Rhode Island	27	289,431	288,380	1,051	1,052,567
19	Tennessee	27	1,738,885	1,655,844	83,042	6,346,105
20	Montana	27	266,363	125,451	140,912	989,415

Rank	State	Share (%) of total population that has low retail access	Total number of residents that have low retail access†	Number of residents that have low retail access (URBAN AREAS AND POPULATION CENTERS ONLY)†	Number of residents that have low retail access (RURAL AREAS ONLY)†	Total state population*
21	Florida	27	5,051,051	4,933,009	118,042	18,801,310
22	Utah	27	739,586	687,266	52,320	2,763,885
23	New Jersey	26	2,315,436	2,308,653	6,783	8,791,894
24	Arizona	26	1,672,282	1,472,868	199,414	6,392,017
25	Indiana	26	1,690,766	1,629,582	61,183	6,483,802
26	Mississippi	26	770,317	589,969	180,349	2,967,297
27	Nebraska	26	472,813	285,617	187,195	1,826,341
28	Alabama	26	1,232,503	1,113,574	118,929	4,779,736
29	Missouri	26	1,535,956	1,342,762	193,194	5,988,927
30	Hawaii	26	348,780	336,540	12,240	1,360,301
31	Colorado	25	1,270,440	1,139,886	130,554	5,029,196
32	Arkansas	25	734,417	577,176	157,241	2,915,918
33	Ohio	25	2,880,982	2,829,282	51,700	11,536,504
34	North Carolina	25	2,368,417	2,295,009	73,408	9,535,483
	United States	24	72,888,540	67,539,842	5,348,697	308,143,815
35	Washington	24	1,613,220	1,506,490	106,730	6,724,540
36	Wisconsin	23	1,317,598	1,183,935	133,663	5,686,986
37	Michigan	23	2,278,084	2,188,921	89,164	9,883,640
38	Iowa	23	691,796	494,736	197,060	3,046,355
39	Maryland	23	1,302,136	1,296,388	5,748	5,773,552
40	Nevada	22	601,248	553,920	47,328	2,700,551
41	Pennsylvania	22	2,824,509	2,772,228	52,281	12,702,379
42	West Virginia	22	398,850	337,410	61,441	1,852,994
43	Illinois	20	2,623,067	2,481,803	141,264	12,830,632
44	Virginia	20	1,631,023	1,514,602	116,421	8,001,024
45	Oregon	18	703,293	610,486	92,807	3,831,074
46	Kentucky	18	759,653	694,220	65,433	4,339,367
47	Maine	15	197,393	159,172	38,221	1,328,361
48	California	14	5,332,130	5,152,480	179,650	37,253,956
49	New York	13	2,527,336	2,452,208	75,128	19,378,102
50	Vermont	13	79,910	64,139	15,772	625,741

Sources: *2010 Population Estimates, U.S. Census Bureau. Additional calculations performed by the Federal Reserve Bank of Minneapolis. †USDA Economic Research Service, 2015. (Note: Rural area estimates for Connecticut and Delaware appear unusually low and may not be statistically reliable.)

Among the 1.6 million in Minnesota with low retail access, 21 percent are low-income, 12 percent are seniors age 65 or older, 26 percent are children age 0 to 17, 4 percent are Black, and 4 percent are Hispanic. Detailed demographic breakdowns by state region appear in the tables below.

USDA Economic Research Service estimates are not available for all race groups and ethnicities. Data indicate that the majority of Minnesotans with low retail access are white.

Table 2: Minnesotans with Low Retail Access Living in Urban Areas and Population Centers						
Region	Total number of residents who live > 1 mile	Share (%) of Total Who Are				
		Low- income	Seniors age 65+	Children 0–17	Black	Hispanic
Central	138,608	22.5	10.7	27.1	2.0	2.2
Northland	58,792	33.8	16.3	20.8	1.7	1.4
Northwest	13,706	30.9	12.9	25.2	0.9	4.4
Southern	147,976	26.3	13.1	23.7	2.9	4.8
Southwest	35,258	28.5	15.5	24.6	2.4	11.3
Twin Cities	991,177	15.9	10.3	26.5	5.9	4.4
West Central	23,751	28.3	15.9	24.7	1.0	2.7
Minnesota State Total	1,409,269	19.0	11.1	26.0	4.8	4.3

Table 3: Minnesotans with Low Retail Access Living in Rural Areas						
Region	Total number of residents who live > 10 miles	Share (%) of Total Who Are				
		Low- income	Seniors age 65+	Children 0–17	Black	Hispanic
Central	36,311	34.4	17.9	24.4	0.1	1.2
Northland	32,592	32.0	20.1	19.4	0.2	0.9
Northwest	37,932	33.2	18.3	24.0	0.8	1.9
Southern	25,207	26.3	18.4	23.1	0.0	2.4
Southwest	65,036	29.2	20.2	23.7	0.6	3.6
Twin Cities	0	–	–	–	–	–
West Central	35,559	32.7	19.4	23.6	0.3	1.1
Minnesota State Total	232,637	31.3	19.2	23.2	0.0	2.0

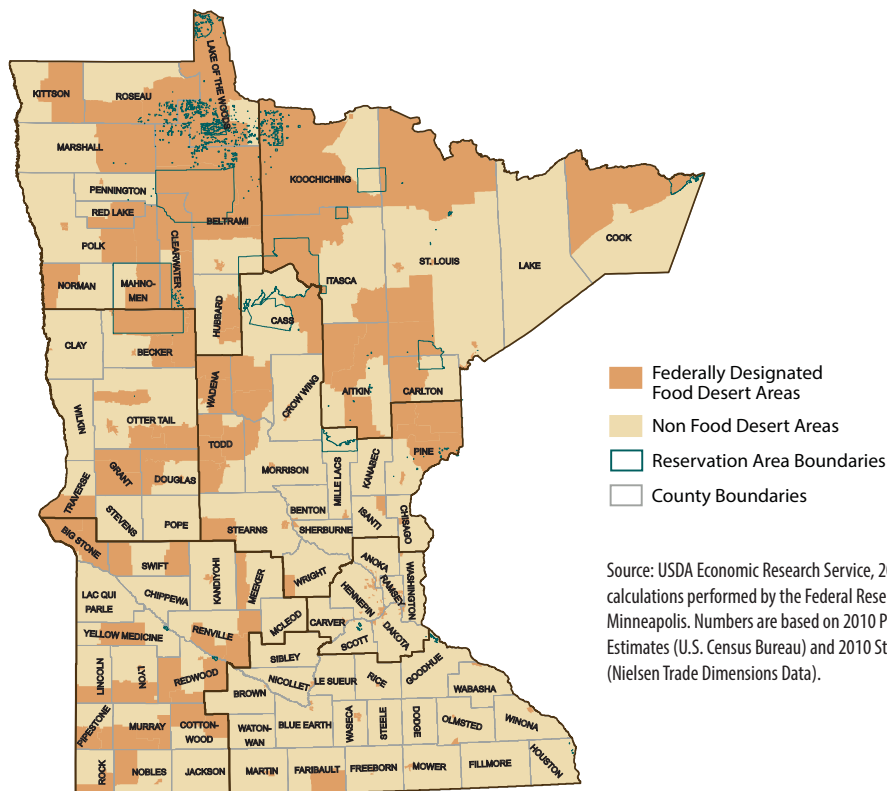
Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Food Desert Areas

This study also looked at the prevalence of food desert areas in Minnesota. In order to qualify as a federally designated food desert, a census tract must have a high proportion of residents who live far from a full-service grocery store and also a high proportion of residents who are low- to moderate-income (see the Appendix for a detailed explanation of criteria that must be met.)

In Minnesota, 208 census tracts qualify as federally designated food deserts, or about 16 percent of the state's total census tracts. Although two-thirds of the affected tracts are located in urban areas, counties in rural Minnesota have a disproportionate number of food deserts relative to their total population and geographic area. Figure 4 below shows the location of the state's federally designated food deserts. (See the Appendix for full-page regional maps that include low retail access population counts and federally designated food desert areas.)

FIGURE 4
Federally Designated Food Desert Areas in Minnesota



In 24 counties in Greater Minnesota, 100 percent of the county's low-income census tracts are federally designated food deserts. These counties are: Becker, Beltrami, Benton, Carver, Chisago, Cook, Grant, Isanti, Kittson, Koochiching, Lake of the Woods, Lincoln, Marshall, Morrison, Murray, Nicollet, Red Lake, Redwood, Rock, Scott, Sherburne, Traverse, Waseca, and Yellow Medicine.

In 20 counties in Greater Minnesota, at least half of the county's total census tracts qualify as federally designated food deserts. These counties are: Aitkin, Beltrami, Big Stone, Clearwater, Cottonwood, Grant, Kittson, Koochiching, Lake of the Woods, Lincoln, Mahnomon, Murray, Pine, Red Lake, Redwood, Renville, Swift, Todd, Traverse, and Wadena.

Figures 5–10 below offer a more detailed picture of food desert areas in Greater Minnesota.

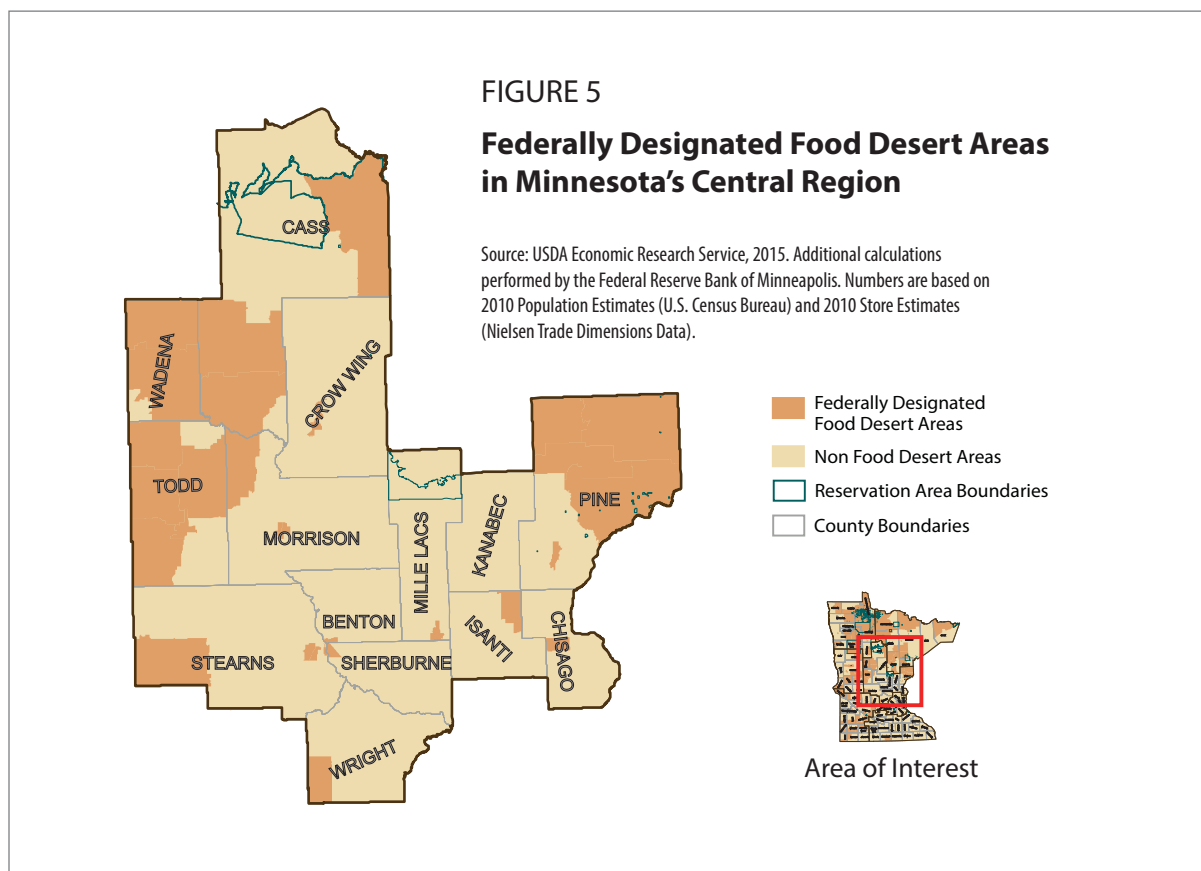
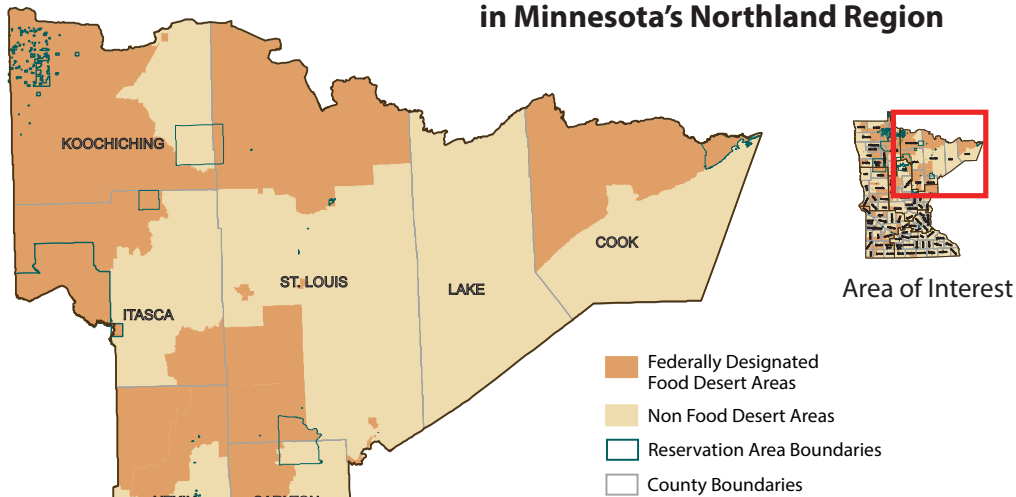


FIGURE 6

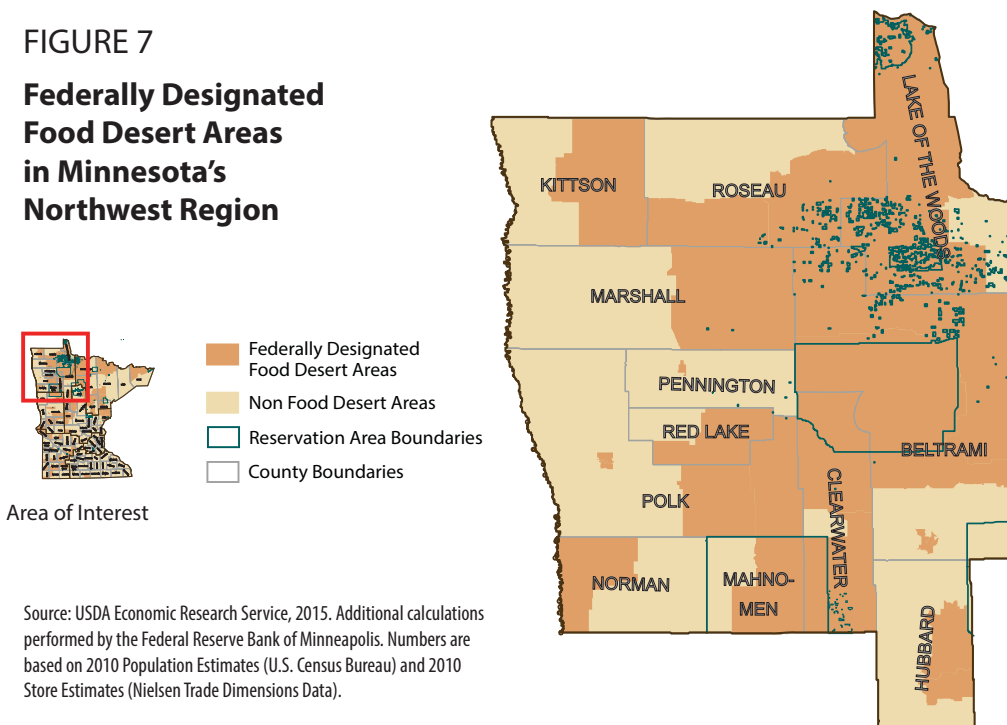
Federally Designated Food Desert Areas in Minnesota's Northland Region



Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

FIGURE 7

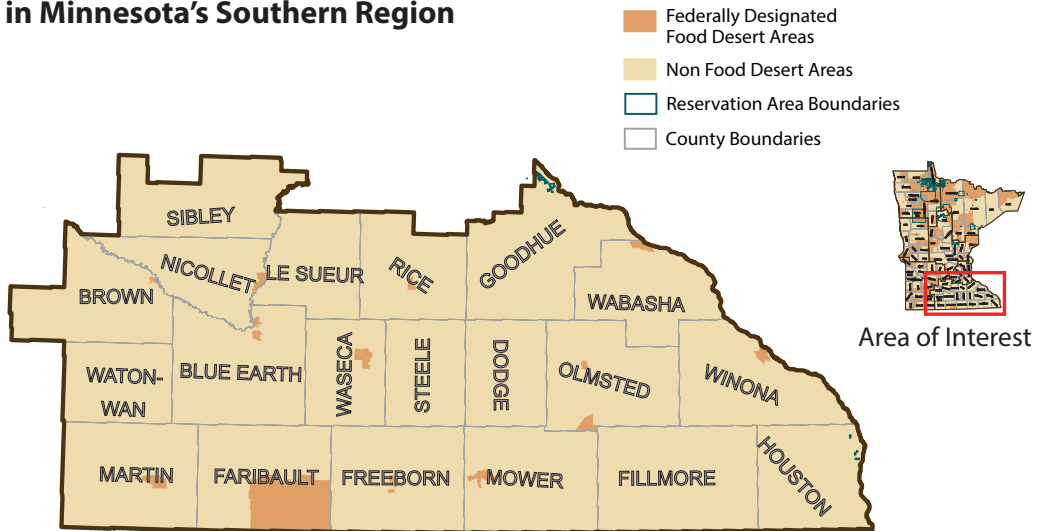
Federally Designated Food Desert Areas in Minnesota's Northwest Region



Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

FIGURE 8

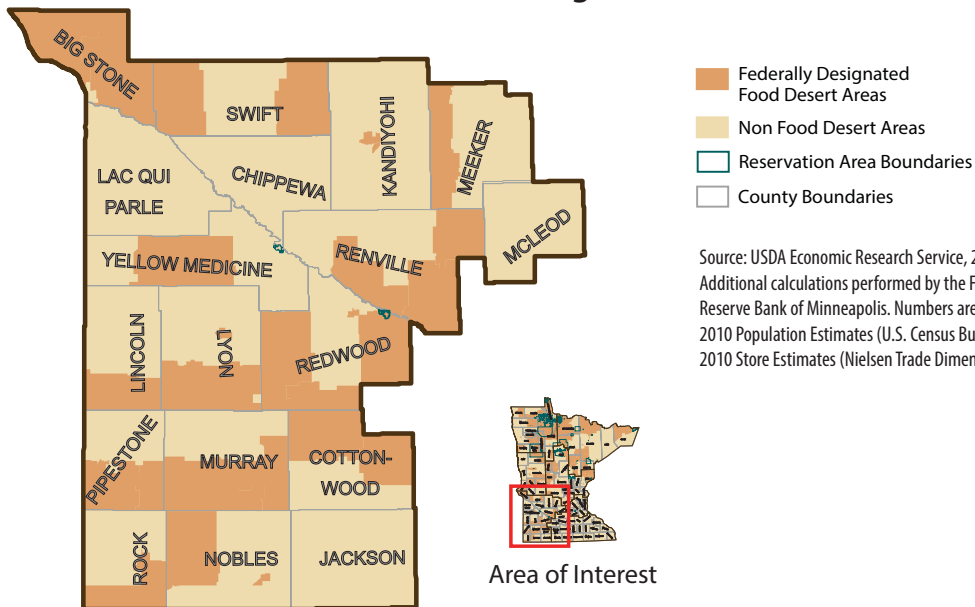
Federally Designated Food Desert Areas in Minnesota's Southern Region



Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

FIGURE 9

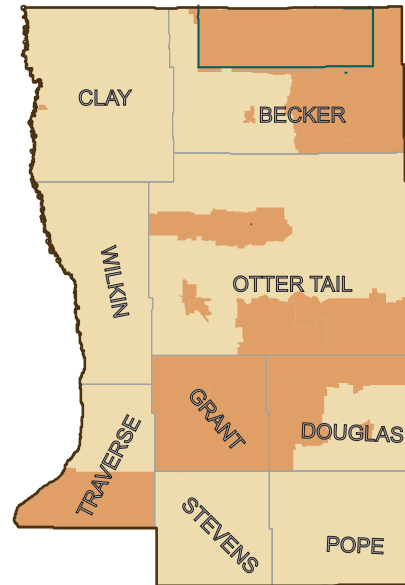
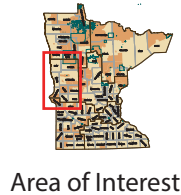
Federally Designated Food Desert Areas in Minnesota's Southwest Region



Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

FIGURE 10
Federally Designated Food Desert Areas in Minnesota's West Central Region

- Federally Designated Food Desert Areas
- Non Food Desert Areas
- Reservation Area Boundaries
- County Boundaries

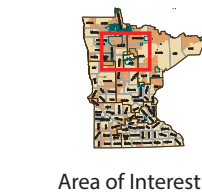
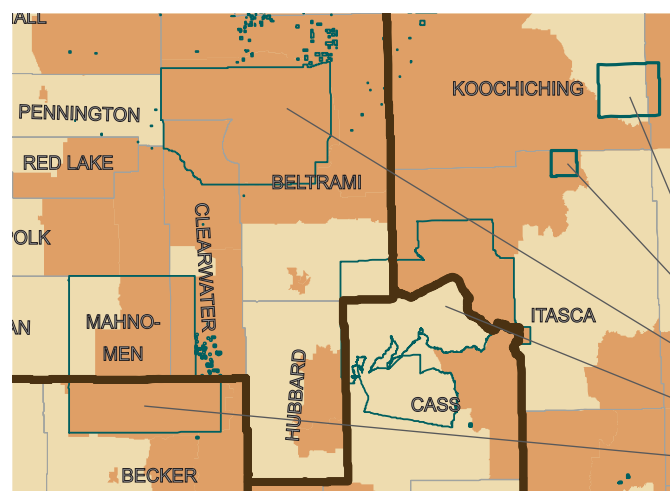


Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Minnesota's American Indian Reservations contain several food desert areas. All of Red Lake Reservation qualifies as federally designated food desert, and large portions of White Earth, Leech Lake, Mille Lacs, and Bois Forte Reservation Areas do so as well. Figure 11 illustrates the overlap between federally designated food deserts and reservation areas in Minnesota.

FIGURE 11
Federally Designated Food Desert Areas in Four Northern Minnesota Reservations

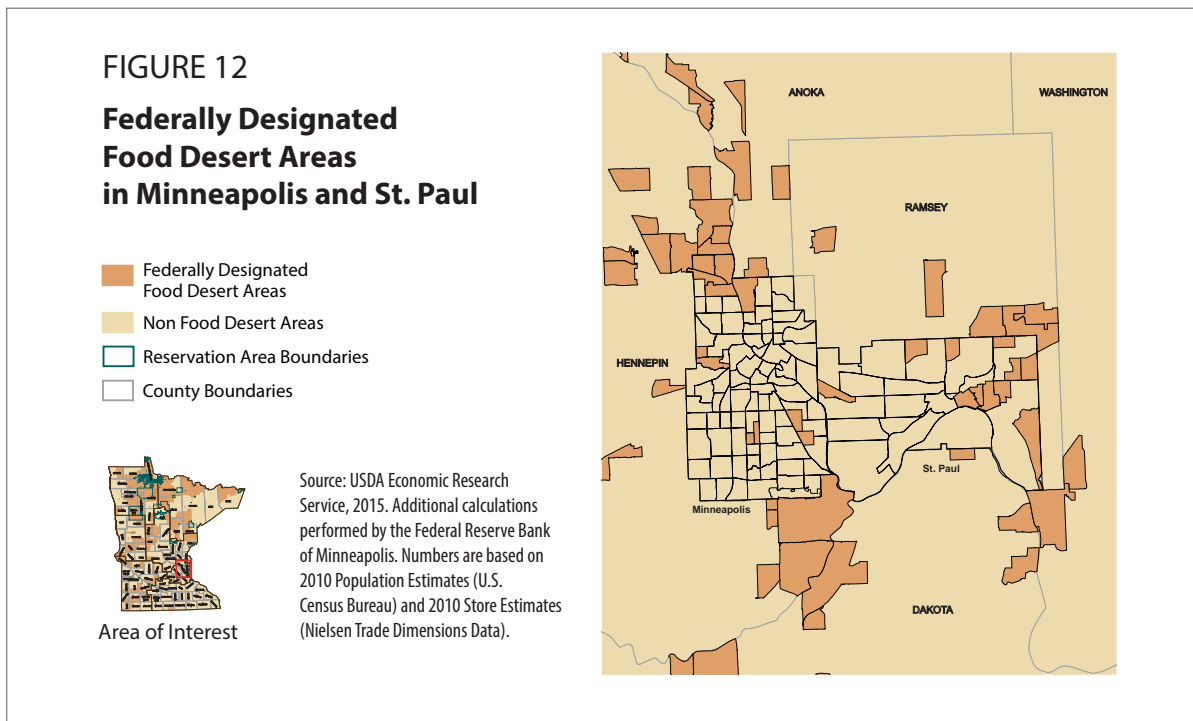
- Federally Designated Food Desert Areas
- Non Food Desert Areas
- Reservation Area Boundaries
- County Boundaries



- Bois Forte Reservation
- Red Lake Reservation
- Leech Lake Reservation
- White Earth Reservation

Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

In the Twin Cities metro area, food deserts are most prominent in the Greater Eastside and Dayton’s Bluff neighborhoods of St. Paul, the Near North and Camden neighborhoods of Minneapolis, and in the suburban cities of Brooklyn Center, Coon Rapids, Bloomington, Maplewood, North Saint Paul, and South Saint Paul.



Minnesota Compass and U.S. Census data offer some additional insight on where large populations of color live in federally designated food deserts in Minnesota. Table 4 includes geographies with multiple food desert areas and populations of color that exceed 25 percent.

Table 4: Minnesota Communities with Large Populations of Color and Multiple Food Desert Areas

Minnesota Location	Population of Color (%)	Predominant Ethnic Groups*
Near North Community, Minneapolis	83	Black, Asian, Hispanic, and mixed-race
Dayton’s Bluff Community, St. Paul	61	Asian, Black, Hispanic
Greater East Side Community, St. Paul	60	Asian, Black, Hispanic
Brooklyn Center	59	Black, Asian, Hispanic
Camden Community, Minneapolis	56	Black, Asian, Hispanic, mixed-race
Mahnomen County	52	American Indian, mixed-race
Maplewood	31	Asian, Black, Hispanic
Beltrami County	26	American Indian, mixed-race

Sources: *Minnesota Compass, 2016. Numbers are based on 2013 Population Estimates (American Community Survey). †USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis.

Distance and income both contribute to healthy food access, but income plays a more significant role

Healthy food access is made up of two primary components: 1) spatial proximity to a store that offers healthy food and 2) income available for food purchases. Individuals who live far from a store face a distance barrier. Individuals who do not have a reliable source of food due to insufficient income face an income barrier. Both long distance and insufficient income can contribute to low food access, but research indicates that income plays a more significant role in preventing households from purchasing healthy foods. (For more on this topic, see the Literature Review section on pages 4–5.)

Table 5: Minnesota Residents with Low Healthy Food Access (Distance and Income Breakdown)

Number of Minnesotans who...		
<u>Face a distance barrier</u>	<u>Face an income barrier</u>	<u>Face both distance and income barriers</u>
Live far from a large grocery store, super-market or supercenter (>1 mile urban and 10 miles rural)†	Are food insecure*	Live far from a large grocery store, supermarket or super center (>1 mile urban and 10 miles rural) and are low-income†
1,641,906	551,540	341,124

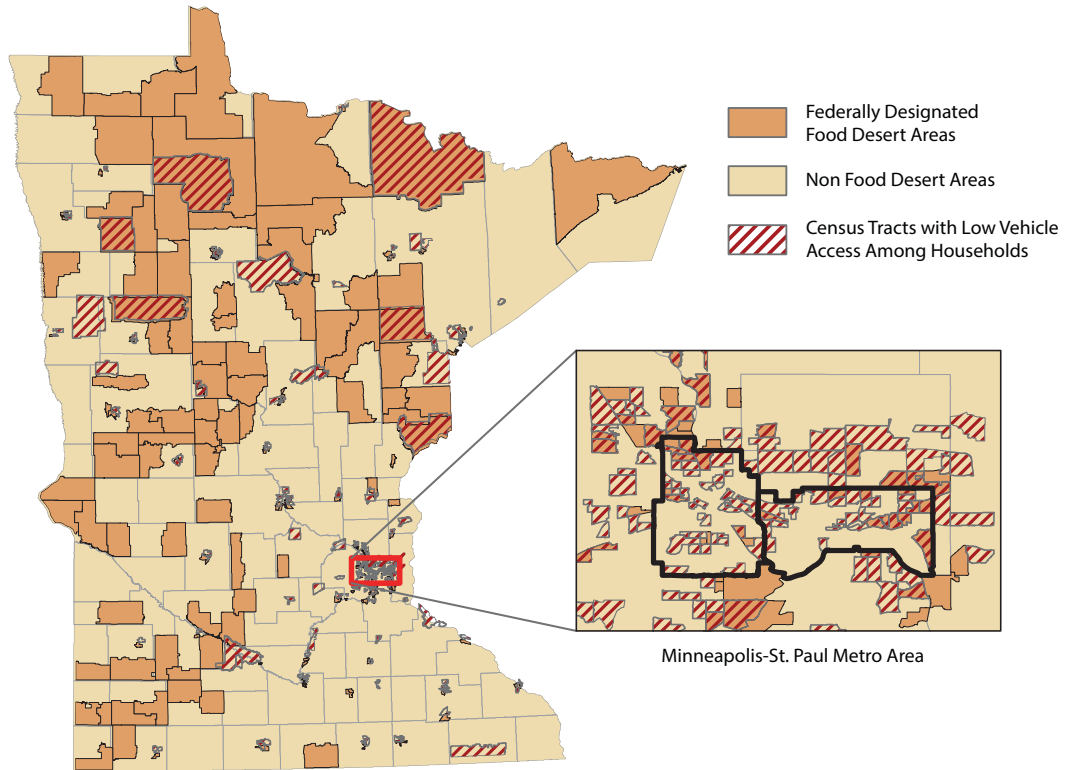
Sources: †USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data). *County Health Rankings and Roadmaps, 2016.

In some Minnesota counties, the proportion of residents who are both low-income and low retail access (LILA) comprises a sizeable share of their total population. Lincoln and Mahnommen counties have the highest rates of LILA residents at 25 percent and 20 percent, respectively. In comparison, just 5 percent of the total population in Hennepin County is LILA. (To view the total number and proportion of residents who are low-income and low retail access for all Minnesota counties, see the Appendix.)

Further data analysis shows that an estimated 42,500 Minnesota households live more than one mile away from a healthy food retail outlet and do not own a vehicle. For these households who lack their own transportation, distance is likely to pose a greater barrier. Figure 13 on page 18 shows the overlap between federally designated food desert areas and census tracts with low vehicle access among households.

FIGURE 13

**Federally Designated Food Desert Areas in Minnesota
and Census Tracts with Low Vehicle Access Among Households**



Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Food desert data are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data) and vehicle access data are based on 2006–2010 American Community Survey 5-year estimates.

Barriers to healthy food access for lower-income households in Minnesota

Key informants who provide services to low-income households rated the prevalence of six barriers to healthy food consumption for low-income Minnesotans in their service area.

- Across the state of Minnesota, the price of healthy foods emerged as the primary barrier to consumption, from the perspective of these informants.
- More than half of the informants also indicated that “most households” faced two of the other barriers on the list: limited knowledge and limited time for preparation.
- To a lesser extent, informants saw barriers for households with respect to distance from grocery stores and lack of access to a vehicle.
- Informants saw a “lack of interest in healthy foods” as a barrier for the fewest households.

Table 6: Key Informant Ratings of Potential Barriers to Healthy Food Consumption for Low-Income Minnesotans

	Percentage of key informants who indicated this to be a major barrier among low-income households in their service area for...				
	Most households	Some households	A few households	Not a barrier at all	Don't know
The price of healthy foods	55	45	0	0	0
Limited knowledge of how to prepare healthy foods	54	37	6	3	0
Limited time to prepare healthy foods	50	38	12	0	0
Distance to the nearest grocery store	30	63	7	0	0
Limited or no vehicle access	25	67	6	0	3
Limited interest in healthy foods (tastes and preferences)	19	44	25	6	6

Source: Key informant interviews conducted by Wilder Research in Quarter 4, 2015.

Representatives from intermediary organizations that serve low-income populations in Minnesota offered additional insights on household barriers to healthy food consumption:

“People of color and low-income families in North Minneapolis have less access to a vehicle, and they have only one major grocery store. So, people rely on corner stores, which have less healthy food. Also, North Minneapolis has fewer bus lines and less frequent routes compared to other parts of the city, which creates [an added barrier] for many people who rely on public transportation.”

Minneapolis-focused nonprofit

“It’s transportation, but also a time limitation. Low-income people don’t have time. When do they have time to go do grocery shopping? They’re working 80 hours a week at minimum wage.”

Statewide trade association

“Some people rely on convenience stores as their source of food. It’s cheap. They tend to use low-quality foods that are cheap as ways of satiating hunger. In some communities that are entrenched in intergenerational poverty, they may not know traditional ways of preparing healthy food, which [for some] has been lost over time.”

Statewide community development organization

“While healthy food efforts have been motivated by good intentions, they haven’t necessarily been met with enthusiasm by people who are underserved. There needs to be greater awareness of and appreciation for other people’s culture and foods, and also their economic status. Many underserved people cannot afford the high price of healthy food.”

Statewide community development financial institution, or CDFI

BARRIERS TO HEALTHY FOOD RETAIL EXPANSION IN MINNESOTA

Key informants from across the state who are engaged in Minnesota’s healthy food retail system through financing, technical assistance, advocacy, or policy development roles offered their insights on current barriers and opportunities to make positive change.

Developers and operators face several barriers to establishment and expansion

Key informants identified a number of barriers that developers and operators face in the process of trying to establish or expand healthy food retail outlets. These include: insufficient knowledge of finance and marketing, difficulty accessing financing, regulatory barriers, and market factors.

Operators’ knowledge of finance and marketing is often insufficient

According to respondents:

- Some entrepreneurs’ skills are focused in the area of growing, producing, making, etc., but they might not have the “business sense” or financial knowledge needed to propel their passion for food into a successful business.
- Business owners and entrepreneurs often face trouble with marketing and creating awareness of their business or product.
- Business owners might need to deepen their financial literacy and gain a better understanding of accounting, or hire someone with the necessary expertise.
- Healthy food ventures are often tied to nonprofits that lack the business model and knowledge required for success.

Why is this important? The grocery industry has very low profit margins and business savviness is required in order to run and maintain a successful operation. At the initial stage, it can be difficult to qualify for a loan without a sound business plan that includes a market study and sales projections.

Accessing financing can be difficult, especially for entrepreneurs in underserved communities

According to respondents:

- Lack of creditworthiness and lack of collateral are the most significant barriers to financing food businesses.
- Seed money or money upfront is necessary to start a business; often it is not available.
- Funding is often restricted and difficult to access (for example, grants with too many requirements).
- For some, language differences can be a barrier to interacting with banks and technical assistance providers, as well as to understanding the financial and legal documents necessary for starting a business.
- For Somalis and other immigrants who are Muslim, traditional lending is often an undesirable option due to religious restrictions on usury and interest.
- Native Americans who live on reservations may not be able to use their homes as collateral because they are on government trust land, and frequently lack access to nearby financial institutions in general. Both factors can make securing a loan difficult.
- Some traditional lending institutions might hesitate to lend to entrepreneurs who want to open stores in low-income areas because the loans present too high of a risk.

Why is this important? With access to capital, entrepreneurs in underserved communities can play a key role in expanding healthy food retail, including the provision of culturally preferred items.

Regulatory barriers sometimes prevent businesses from moving forward

According to respondents:

- Businesses must comply with many regulations at city, county, and state levels, and sometimes find them challenging to navigate successfully, particularly without incurring extra costs or time.
- The food licensing system is highly restrictive and fragmented across several agencies.
- Existing regulations can impede producers who seek to provide some of their healthy food to schools, hospitals, day care facilities, or other institutions.

Why is this important? If entrepreneurs seeking to offer healthy food perceive regulatory barriers as insurmountable, they might never enter the market or refrain from expanding existing operations.

Market factors can limit viable strategies and solutions

According to respondents:

- Corner stores, small groceries, and other small independent food businesses usually cannot achieve the same economies of scale that big box stores can.
- Food retailers and hubs face challenges in trying to stock local food due to Minnesota's short growing season.
- In rural areas: low demand, population decline, economic decline, and distance to stores present added challenges.

Why is this important? Market factors will influence the feasibility of strategies for improving access to healthy food. In the short term, at least, they must be accepted as a given.

State of the current system

Technical assistance and outreach seem insufficient at current levels

Small business education, training, and technical assistance programs play an important role in helping entrepreneurs establish their businesses, expand over time, and plan for succession. Respondents identified a number of gaps in the delivery of technical assistance to food businesses across the state, including limited geographic coverage, lack of training and information specific to the grocery industry, and insufficient funding for services.

- Current technical assistance may not be specific enough for food businesses and the particular issues relevant to them, such as food safety regulations. Additionally, technical assistance offerings outside of the Twin Cities metro area are often limited.
- Technical assistance often does not qualify for funding, and there is not enough money to support the staff required to deliver needed technical assistance programs and services. It is especially difficult to find the money to pay people who can provide specialized knowledge.
- Business owners and entrepreneurs often lack awareness of existing technical assistance offerings, funding opportunities, and outreach that could benefit them.

Why is this important? According to experts, technical assistance is an important factor for growing the pipeline of healthy food retail in Minnesota.

Program, policy, and funding adjustments may be needed to support system change

Respondents identified a variety of features of the status quo that limit the expansion of healthy food retail and consumption of healthy foods.

- Few products and programs incentivize grocery store operators to locate in low-income neighborhoods.
- Grants as a base are not a sustainable funding system for many reasons (including staff time, restrictions on awards, and award amounts).
- Existing policies do not reflect the needs of our current food system. Some are more restrictive than necessary, or do not have the right infrastructure in place to deal with new trends, such as demands for locally produced, organic, and healthy food.
- Current agricultural and corporate subsidies support the development of inexpensive, low-quality food.
- System actors might invest too much in intermediaries; spend too much time talking about the problem and not enough time developing solutions.

Why is this important? Such inefficiencies, where they exist, can undermine future interventions to improve healthy food consumption. New initiatives that properly align incentives will be needed in order to succeed.

Key informants also offered their insights for strengthening Minnesota’s healthy food retail system, which fell into two main categories: partnerships and incentives. These ideas represent the voices of practitioners in the field.

New partnerships might offer solutions

- Partnerships and relationship-building are keys to success/progress.
- We need a way to connect people working on these issues. This could occur through the creation of working groups or committees with common interests across disciplines/agencies/sectors. Different perspectives and interests are useful and necessary for productive discussion and action, which offers a “health in all policies” framework.
- There are lots of “big ag” and food businesses in Minnesota. We should take advantage of this and build bridges between these companies and small and emerging businesses with the aim of generating new sources of financial and technical support.
- Public health efforts and agencies already have a focus on healthy eating. Business and other sectors should consider partnering with the health sector to expand the impact of healthy food access programs.
- Consider focus groups, surveys, or some other type of data collection that can help entrepreneurs better understand consumer needs and preferences and whether there is a market for selling healthy food.
- Consider utilizing graduate students as sources of lower-cost assistance to small businesses or entrepreneurs; there are universities and other secondary education institutions all across the state.

More financial incentives are needed

- Expand the use of healthy food financing grants, which seem to be effective and beneficial. (This was the most frequent suggestion offered by respondents.)
- Fresh food costs more and involves more regulation than packaged/processed food. Consider ways to incentivize business owners to sell healthy food and help guide the transition. For many small businesses, there is little financial incentive or benefit to offering fresh food. For example, it might not sell and thus go bad on the shelf, which cuts into profits.
- Support the growth of healthy food businesses in such a way that makes the “healthy choice” an easy choice. For example, provide financial (or other) support for small businesses that would make it more feasible to offer healthy food at an affordable price for consumers.

HEALTHY FOOD FINANCING INITIATIVES—KEY LEARNINGS

This study examined, in-depth, one strategy for growing healthy food retail that has gained popularity in recent years. HFFIs (Healthy Food Financing Initiatives) are public-private funds established with the specific goal of expanding healthy food access in underserved communities. These funds offer flexible capital in the form of loans and grants to developers and operators of food retail businesses.

The first HFFI in the United States was established in Pennsylvania in 2004. A number of other states and cities have created HFFIs modeled after the Pennsylvania Fresh Food Financing Initiative, including California, Colorado, Illinois, Michigan, New Jersey, New Orleans, New York, Ohio, and Virginia.

The U.S. Department of the Treasury’s CDFI Fund also has an HFFI that provides awards to certified community development financial institutions (CDFIs) that are interested in expanding their healthy food financing activities.

To provide insight into the operations and outcomes of HFFIs in the United States, telephone interviews were conducted with the managers of all funds launched to date and two advocacy organizations involved in the launch of HFFIs, The Food Trust and Michigan Fair Food Network. Following is a summary of key findings.

Flexible sources of funding and collaboration are keys for success

When asked about the ingredients most important for success, HFFI managers identified flexible funding and collaboration as the top two factors.

Flexible sources of funding were seen as necessary in order to provide grants, which play an important role both in incentivizing businesses to locate in areas that would otherwise be unprofitable and in supporting projects that are not in a position to take on debt.

On the importance of grants and flexible funding, key informants offered the following insights:

“Robert Wood Johnson Foundation provided us with low-cost capital that was flexible and a grant that allowed us to do those really low-cost, really flexible loans and grants. We would not have been able to have the same success without having those funds.”

Donna Leuchten Nuccio, Reinvestment Fund, New Jersey Food Access Initiative

“Grants were really critical for making projects work. We discovered that, on average, about 30 percent of a given project’s costs would need to be covered by equity. For example, with a \$2 million project, that would be \$600,000. That’s a lot of money for a small operator working in a low-income neighborhood. With grants, we were able to fill the equity gaps.”

Sajan Philip, Low Income Investment Fund, New York Healthy Food and Healthy Communities Fund

“Without a forgivable-loan component, we don’t think the deals would have happened. There needed to be an incentive to attract operators and developers to invest in these communities where the perception of crime is higher, and the opportunities to attract qualified employees are lower, and the security costs are higher. The forgivable loans were critical for attracting investment. . . You don’t want to close the door on any sources of capital, but if you have different options to consider, look for sources that allow for flexibility in deployment. That would be my biggest recommendation.”

Gary Williams, Hope Credit Union, New Orleans Fresh Food Retailer Initiative

HFFI managers also stressed the public-private nature of HFFIs as a hallmark of their success and highlighted the importance of collaboration across sectors throughout the process—from local government, to foundations, to health organizations, to community groups.

On collaboration, key informants offered the following insights:

“One of the most important factors was the collaborative effort that went along with it. There was a task force convened by the mayor, who is now the governor of Colorado, and one of the recommendations that came out of the task force was to establish a healthy food financing fund. There were a lot of different stakeholders along the way and they all informed the process. In addition, the capitalization of the fund is being carried out by different local foundations.”

Tim Dolan, Colorado Housing and Finance Authority, Colorado Fresh Food Financing Fund

“Our collaboration with The Food Trust and the City of New Orleans has been phenomenal. . . I’d advocate that public-private partnership big-time. That’s been one of the keys to our success. . . Also, there were nonprofit entities focused on community development in the city that were instrumental in making sure there were voices from the community included in the conversation at committee meetings.”

Gary Williams, Hope Credit Union, New Orleans Fresh Food Retailer Initiative

“Early on, we received support from a lot of well-recognized health organizations. Having a large national health organization backing this was really critical.”

Sajan Philip, Low Income Investment Fund, New York Healthy Food and Healthy Communities Fund

Fund Structure

To date, HFFIs have ranged in size from \$10 million to \$272 million, with initial seed amounts ranging from \$3 million to \$30 million. HFFIs are structured, public-private partnerships involving several key players, most often: a seed money provider, a financial partner to capitalize the fund, a fund manager, and a food advocacy organization.

First, seed money is provided by a local government or a foundation. That seed money is then used to attract a financial partner to capitalize the fund, which is usually a large CDFI or an investment bank, but can also be a consortium of foundations. Funds are most frequently managed by a CDFI, but can also be managed by a government agency. In some cases, a smaller CDFI is also enlisted to help close deals under \$250,000. According to key informants, the fund manager should have experience with assembling complex capital stacks, as deals often involve the use of New Markets Tax Credits, tax increment financing, foundation program-related investments (PRIs), or other sources of financing. The food advocacy organization is responsible for helping to market the fund and build the pipeline of investable projects. They may also deliver technical assistance to borrowers and grantees.

In cases where local government did not provide the seed money, local government sometimes expressed interest in supporting the fund after it had proven to be successful. In one instance where local government did provide the seed money, recapitalization of the fund has been difficult and highly politicized because of a shift in political leadership that has occurred since the fund was established. Some HFFI managers felt that the participation of local government was critical in their launch, while others felt that it was not needed.

Interviews with HFFI managers did not reveal a single, preferred structure for which organization types should fill which roles. Instead, interviews suggest that several different approaches can be successful. It should be noted, however, that in no cases did a single organization fill more than one key role.

Table 7: Established Healthy Food Financing Initiatives—Size and Project Yield

Fund Name	Fund Manager	Seed Amount and Source(s)	Total Fund (Includes Loan and Grant Capitalization)	Total Number of Projects
California Fresh Works Fund	Capital Impact Partners	\$33,000,000 (foundation PRI and grant)	\$272,000,000	More than 50 to date
Pennsylvania Fresh Food Financing Initiative	Reinvestment Fund	\$30,000,000 (state government)	\$176,000	93 total
New York Healthy Food and Healthy Communities Fund	Low Income Investment Fund	\$10,000,000 (state government)	\$30,000,000	25 total
Michigan Good Food Fund	Capital Impact Partners	\$3,000,000 (grant from U.S. Treasury CDFI Fund)	\$30,000,000	Not yet launched
Illinois Fresh Food Fund	IFF	\$10,000,000 (state government)	\$26,000,000	6 to date
New Jersey Food Access Initiative	Reinvestment Fund	\$16,000,000 (\$12,000,000 foundation PRI and grant, and \$4,000,000 state government)	\$22,000,000	22 total
New Orleans Fresh Food Retailer Initiative	Hope Credit Union	\$7,000,000 (Disaster Community Development Block Grant from City of New Orleans)	\$14,000,000	5 to date, 3 more expected
Colorado Fresh Food Financing Fund	Colorado Housing and Finance Authority	—	\$8,300,000	18 to date
Ohio Healthy Food Financing Initiative	Finance Fund	\$2,000,000 (state government)	In Progress	Not yet launched
Virginia Fresh Food Loan Fund	Virginia Community Capital	\$11,000,000 (CDFI)	In Progress	Not yet launched

Source: Key informant interviews conducted by the Federal Reserve Bank of Minneapolis in Quarter 1, 2016, and online data from respective healthy food financing initiative websites.

Eligibility, Application, and Program Requirements

All HFFIs require that projects either be located in a low-income census tract or predominantly serve *low-income* households, which is consistently defined as at or below 50 percent of area median income. For some programs, location in a food desert area, location in an area with below-average density of grocery store outlets, or location in a target neighborhood are also heavily considered criteria. To help ensure that low-income households are reached, operators must accept SNAP benefits. A few programs require that operators devote a certain percentage of floor retail space to unprepared healthy foods; one program also lists a fruit and vegetable sales requirement, and a fruit and vegetable variety requirement.

HFFIs fund similar activities, with a few notable variations. The most commonly accepted activities across initiatives include: pre-development, acquisition, construction, rehabilitation, and equipment. Some initiatives also provide financing for leasehold improvements, inventory, workforce development, repairs, security, or working capital.

Applications are rated against a variety of criteria, often including, but not limited to: benefit to underserved populations, promotion of fresh fruits and vegetables, anticipated economic impacts, adherence to sound land-use principles, leverage of existing programs, community support, payment of livable wages, hiring of local residents, promotion of transit-oriented development, and use of environmentally responsible practices.

To date, most HFFIs have been designed with the expectation that initial funds will be deployed within three to five years. HFFI managers emphasized the importance of having programs that are not overly restrictive, which can prevent funds from being utilized:

“The more restrictions there are with a program, the quicker the drop-off in terms of operators being able to take advantage of it. The simpler it is, the more likely there will be utilization.”

Sajan Philip, Low Income Investment Fund, New York Healthy Food and Healthy Communities Fund

“Our fund has flexible requirements around square retail footage or sale of certain items. We try to prioritize projects that include local hiring, expanded produce selections, and nutrition partners, but we avoid having requirements that could limit operators’ ability to make regular business decisions. I think that is one of the key successes to our fund.”

Donna Leuchten Nuccio, Reinvestment Fund, New Jersey Food Access Initiative

“We don’t have a specific requirement that there has to be an education component or outreach to the community, but it’s always part of what we look at [during the review process]. If a deal has a real community orientation, then that is a plus. The only requirement we make is that the operator has to accept SNAP benefits and WIC [Women, Infants, and Children], to the extent that it applies.”

Tim Dolan, Colorado Housing and Finance Authority, Colorado Fresh Food Financing Fund

Marketing and Outreach

HFFI managers emphasized the importance of conducting in-person outreach, developing relationships with wholesalers and other trusted industry players, and developing a clear and simple message about the program and its benefits. Managers also repeatedly emphasized how labor-intensive the process can be.

On marketing and outreach, key informants offered the following additional insights:

“Be aware that you will have to get out there and pound the pavement and make some inroads in terms of outreach and marketing, because the deals don’t just fall into your lap.”

Tim Dolan, Colorado Housing and Finance Authority, Colorado Fresh Food Financing Fund

“I always try to get buy-in from someone the operator trusts. If their wholesaler, accountant, or lawyer thinks I am legit, then the operator will talk to me.”

Sajan Philip, Low Income Investment Fund, New York Healthy Food and Healthy Communities Fund

“We were able to get the word out quickly by holding meetings with operators and wholesalers throughout the state. Having grant funds in addition to predevelopment loan funds provided an extra incentive to get people to the table.”

Donna Leuchten Nuccio, Reinvestment Fund, New Jersey Food Access Initiative

“Supermarket operators have to trust that the product works, that it won’t cost too much, and that it won’t take too much of their time. At the end of the day, they just want a simple program.”

Sajan Philip, Low Income Investment Fund, New York Healthy Food and Healthy Communities Fund

Economic Development and Job Creation Goals

HFFIs use economic development messages that focus predominantly on removing investment barriers for business owners and community revitalization. Job creation is also frequently mentioned, but sometimes referred to as “employment opportunities” instead. Less frequently promoted messages include: increased property values, increased tax revenue, grocery stores serving as anchors for other commercial development, workforce development, and creating a pipeline of investable businesses.

HFFI managers emphasized the importance of counting jobs retained and entry-level jobs created, since projects do not always result in the creation of new jobs or ones that pay higher wages. In fact, several managers reported “renovation of existing businesses” as their largest subset of projects.

Key informants viewed grocery stores as important community anchors and offered a number of examples where stores had spurred additional commercial development and revitalization in low- to moderate-income communities.

On economic development and job creation, key informants offered the following additional insights:

“Grocery jobs are important because of who is able to access them. We see a lot of stores doing local hiring, or hiring individuals who have limited work experience. The food retail industry is one where people are able to move up without a lot of set criteria around educational achievement. Also, we have found that when a new store opens within a chain, sometimes workers are able to find employment closer to home.”

Cathy Califano, Reinvestment Fund, New Jersey Food Access Initiative

“We funded a store that did all of its hiring at a local church across the street in partnership with a neighborhood organization. At the end of the day you have a store that the community feels like they own, and is the heart of the community.”

Donna Leuchten Nuccio, Reinvestment Fund, New Jersey Food Access Initiative

“Grocery stores are, quite frankly, the anchor for additional business owners to come into neighborhoods and invest their dollars. It also incentivizes the homeowners who live in the neighborhoods to invest in their homes.”

Gary Williams, Hope Credit Union, New Orleans Fresh Food Retailer Initiative

“In rural communities, the preservation of existing stores is really important. It’s not always the creation of a new store. Sometimes the project involves buying out an existing store, making renovations, or bringing in new equipment.”

Donna Leuchten Nuccio, Reinvestment Fund, New Jersey Food Access Initiative

Health Improvement Goals

The primary goal of HFFIs is to increase healthy food access for underserved neighborhoods. Most initiatives describe access in terms of distance to fresh food retail; two initiatives explicitly mention reducing the cost of healthy foods. Some initiatives also state improved overall health of residents as a goal. Reducing disease rates and changing eating behaviors are less frequently mentioned.

HFFI managers stressed the importance of retail access in allowing consumers to make healthy food choices. They also offered several examples of grocery stores using “supermarketed” health promotion strategies or partnering on community health initiatives.

Examples of HFFI-funded food retail businesses supporting community health improvement include:

- Offering a rewards program that earns points based on the healthfulness of food purchases;
- Offering cooking classes to customers in partnership with a university extension program;
- Training medical school residents to prescribe healthy recipes to patients in partnership with a medical school program;
- Offering an in-store diabetes prevention program in partnership with a YMCA;
- Partnering with a federally qualified health center developer to locate a clinic within the store; and
- Sharing food purchase data with primary care doctors in partnership with a community health clinic (for customers who opt in).

HFFI managers indicated that community business owners who receive funding need to be viewed as a community asset or the store will not survive. Residents will just visit a big box retailer instead. As a result, business owners are generally willing to participate in “supermarketed” health promotion strategies, such as those identified above, especially if they help to attract customers. One fund manager noted that memorandums of understanding, or MOUs, have been particularly useful for securing community engagement on the part of borrowers.

Evaluation and Outcome Measurement

To date, HFFIs in the United States have supported more than 200 healthy food projects. Most of the projects financed have been traditional supermarkets. A few loans and grants have been used to support cooperatives, farmers markets, mobile markets, and kiosks; and a very small number of loans and grants have been used to support community facilities that serve healthy foods, such as charter schools or daycare centers.

The most frequently tracked outputs beyond financial metrics include retail square footage (added or preserved) and jobs (created or retained). Other less frequently tracked outputs include food deserts eliminated, job training received, property taxes paid, and LEED certifications received.

An analysis of the Pennsylvania Fresh Food Financing Initiative revealed a five-year business success rate of 99 percent. Most HFFIs have yet to reach their five-year mark, but other fund managers reported similarly high business success rates to date.

One HFFI manager reported development of a score card that will be used to track whether loan and grant recipients ultimately meet program goals. Borrowers will be scored annually on the following: healthy food access, economic development and job creation, social and racial equity, environmental stewardship, and local sourcing.

Studies of impact on residents can be expensive and few have been conducted to date. In 2015, the California Fresh Works Fund surveyed residents in three previously underserved neighborhoods that received new grocery stores. More than 75 percent of survey respondents agreed that the new stores had a greater variety of fresh fruits and vegetables, had higher quality fresh fruits and vegetables, had a greater variety of culturally traditional foods, and had friendlier staff when compared to their previous primary store. However, less than 50 percent of respondents said the prices of fruits and vegetables at the new stores were less expensive (Yoshida et al., 2015). Survey respondents were also asked about the new stores’ health promotion activities, which included healthy food events, health demos, and health screenings. Less than 50 percent were aware of the activities, and among those who were aware, less than 50 percent participated. Among those who did participate, 75 to 80 percent said that health demos and events positively influenced their shopping decisions (Yoshida et al., 2015).

Some HFFI managers identified the importance of setting aside funds for program evaluation and indicated that it was a required aspect of their (respective) master funding agreements. Others highlighted the potential to collaborate with universities and health organizations in order to measure longer-term impacts.

Key informants offered the following additional insights on outcome measurement:

“In our case, neighborhood revitalization was a significant outcome of our program. We’ve seen that as a result of the investments we have made. We’ve seen other commercial establishments make improvements to their businesses, and even residents make improvements to their homes. Neighborhood revitalization is a very desirable outcome that should be sought and measured by administrators of similar programs.”

Gary Williams, Hope Credit Union, New Orleans Fresh Food Retailer Initiative

“Our fund did not include operating grant support to measure long-term health impacts, such as [change in] diabetes rates in neighborhoods over time. That level of data collection would require additional operating grant support. But, in the case of one funded project, which includes the collection of food purchase data for federally qualified health center patients who shop at the store over time, they should be able to measure that impact.”

Sajan Philip, Low Income Investment Fund, New York Healthy Food and Healthy Communities Fund

“We’ve examined input measures, process measures, outputs, and outcomes, and have built out a logic model to measure and track what our impacts are. One of the things we stress is to be realistic and pragmatic around what you are asking your borrowers to collect and share with you so that participation in the program doesn’t become so burdensome that it makes it difficult to get loans out the door.”

Cathy Califano, Reinvestment Fund, New Jersey Food Access Initiative

HFFIs can be an effective tool for expanding healthy food retail access in underserved communities. In some cases, HFFI-funded projects have also demonstrated community economic benefits and features that support healthy eating behaviors among residents. Evidence from past and current programs suggests that the following ingredients are keys to success: public-private structure, flexible capital in the form of both loans and grants, operating support for outreach and evaluation activities, program criteria that are not overly restrictive and that do not impact participants’ ability to make good business decisions, programs that combine both financing and technical assistance, and programs that encourage business owners’ collaboration with organizations that target health improvement.

CONCLUSION

The data and information presented in this report are intended to provide a common foundation of knowledge for practitioners and other stakeholders interested in improving Minnesota's food retail environment and healthy food access in low- to moderate-income communities.

Multiple strategies will be needed in order to increase healthy food access and healthy food consumption in Minnesota, including initiatives that address affordability, purchasing decisions, and transportation needs among consumers; and also initiatives that address financing, technical assistance, and regulatory needs among developers and operators. Cross-sector partnerships that leverage the strengths of public, private, and government entities can play a key role in helping to meet these needs.

In developing new strategies and solutions, practitioners and policymakers should give special consideration to initiatives that:

- Increase access to capital for food businesses entrepreneurs serving rural communities and communities of color, particularly those in food desert areas.
- Reduce the price of healthy foods for the consumer through innovations or subsidies at the production, distribution, or retail stages.
- Promote increased efficiency in licensing and compliance with other food regulations.
- Encourage collaboration between community development and health organizations to address both the environmental conditions and individual behaviors that influence healthy food consumption.
- Deliver high-quality and affordable technical assistance to food business owners that addresses needs across the business life-cycle—emerging, expanding, and succession planning.
- Target specific consumer barriers in a local community, such as transportation for seniors with low retail access.
- Leverage the work of existing efforts that target healthy food consumption, such as: the Minnesota Food Charter; University of Minnesota Extension Regional Sustainable Development, SNAP Education, and Expanded Food and Nutrition Education programs; Minnesota Market Bucks program administered by Hunger Solutions; and Twin Cities Mobile Market.

APPENDIX

RESEARCH QUESTIONS

This study addressed the following research questions:

1. What is the healthy food retail landscape in Minnesota?
2. What is the overlap between healthy food retail access and health outcomes related to diet and nutrition?
3. What barriers prevent residents in low- to moderate-income (LMI) households from accessing and consuming healthy foods?
4. What barriers prevent entrepreneurs from establishing or expanding healthy food retail outlets in underserved areas?
5. What outcomes have healthy food financing initiatives and their partners across the United States produced? What advice and lessons learned can be gathered from existing programs regarding their operations, their structure, and other factors related to the policy environment?

KEY DEFINITIONS

Central Region: Benton, Cass, Chisago, Crow Wing, Isanti, Kanabec, Mille Lacs, Morrison, Pine, Sherburne, Stearns, Todd, Wadena, and Wright counties.

Federally Designated Food Desert Areas: a census tract qualifies as a federally designated food desert if at least 500 people have low access OR the percentage of people in the tract with low access is at least 33 percent AND the census tract meets one or more of three income criteria for the New Markets Tax Credit Program: the poverty rate is greater than 20 percent; the median family income is less than or equal to 80 percent of the statewide median family income; or the tract is in a metropolitan area and has a median family income less than or equal to 80 percent of the metropolitan area's median family income.

Healthy food: whole foods such as fruits, vegetables, whole grains, fat free or low-fat dairy, and lean meats that are perishable (fresh, refrigerated, or frozen) or canned as well as nutrient-dense foods and beverages encouraged by the 2010 Dietary Guidelines for Americans.

Low retail access: resident lives more than 1 mile from the nearest large grocery store, supermarket, or supercenter (in urban areas and population centers) or lives more than 10 miles from the nearest grocery store, supermarket, or supercenter (in rural areas).

Low-income, low access (LILA): individuals that have low retail access and a family income at or below 200 percent of the federal poverty threshold for family size.

Northland Region: Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, and St. Louis counties.

Northwest Region: Beltrami, Clearwater, Hubbard, Kittson, Lake of the Woods, Mahnommen, Marshall, Norman, Pennington, Polk, Red Lake, and Roseau counties.

Population center: a census tract with its geographic centroid in an area with at least 2,500 but less than 50,000 people.

Population of color: all racial groups other than white, non-Hispanic.

Rural area: a census tract with its geographic centroid in an area with less than 2,500 people.

Southern Region: Blue Earth, Brown, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Houston, Le Sueur, Martin, Mower, Nicollet, Olmsted, Rice, Sibley, Steele, Wabasha, Waseca, Watonwan, and Winona counties.

Southwest Region: Big Stone, Chippewa, Cottonwood, Jackson, Kandiyohi, Lac qui Parle, Lincoln, Lyon, McLeod, Meeker, Murray, Nobles, Pipestone, Redwood, Renville, Rock, Swift, and Yellow Medicine counties.

Supercenter: a very large supermarket that sells food and also a wide range of other products, usually at discounted prices. Examples include Walmart and Sam's Club.

Twin Cities Metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties.

Urban area: a census tract with its geographic centroid in an area with 50,000 or more people.

West Central Region: Becker, Clay, Douglas, Grant, Otter Tail, Pope, Stevens, Traverse, and Wilkin counties.

DATA NOTES

County Health Rankings and Roadmaps data

Food insecurity data is based on a composite measure that combines Current Population Survey food security data with poverty rate, unemployment rate, median income, and homeownership rate to estimate the number of food-insecure individuals by county.

USDA Economic Research Service Food Environment Atlas data

Healthy food retail outlet data includes all stores that reported at least \$2 million in annual sales and contained all the major food departments found in a traditional supermarket, including fresh produce, fresh meat and poultry, dairy, dry and packaged foods, and frozen foods.

Estimates for Black and Hispanic Minnesotans with low retail access were provided by USDA Economic Research Service staff members Shelly Ver Ploeg and Vince Breneman.

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Appendix Table: Low-Income and Low Retail Access (LILA) Population by County

County	Region	Share (%) of total population that is LILA	Total number of residents that are LILA	Number of residents that are LILA (URBAN AREAS AND POPULATION CENTERS ONLY)†	Number of residents that are LILA (RURAL AREAS ONLY)†	Total county population*
Aitkin	Northland	12.0%	1,944	0	1,944	16,202
Anoka	Twin Cities	6.9%	22,765	22,765	0	330,844
Becker	West Central	14.8%	4,800	817	3,983	32,504
Beltrami	Northwest	10.0%	4,445	2,214	2,231	44,442
Benton	Central	9.8%	3,750	3,503	246	38,451
Big Stone	Southwest	16.1%	849	0	849	5,269
Blue Earth	Southern	17.6%	11,298	10,867	431	64,013
Brown	Southern	8.3%	2,142	2,039	102	25,893
Carlton	Northland	4.8%	1,692	566	1,126	35,386
Carver	Twin Cities	4.2%	3,830	3,830	0	91,042
Cass	Central	6.9%	1,961	0	1,961	28,567
Chippewa	Southwest	3.8%	471	160	311	12,441
Chisago	Central	4.9%	2,650	2,643	6	53,887
Clay	West Central	6.0%	3,549	3,050	499	58,999
Clearwater	Northwest	17.3%	1,502	0	1,502	8,695
Cook	Northland	6.5%	338	0	338	5,176
Cottonwood	Southwest	11.5%	1,348	0	1,348	11,687
Crow Wing	Central	3.8%	2,381	2,273	109	62,500
Dakota	Twin Cities	5.2%	20,675	20,675	0	398,552
Dodge	Southern	2.9%	577	434	143	20,087
Douglas	West Central	9.8%	3,518	1,189	2,329	36,009
Faribault	Southern	5.7%	831	50	781	14,553
Fillmore	Southern	0.6%	135	0	135	20,866
Freeborn	Southern	7.1%	2,209	2,063	145	31,255
Goodhue	Southern	5.3%	2,453	1,669	785	46,183
Grant	West Central	16.9%	1,017	0	1,017	6,018
Hennepin	Twin Cities	5.2%	60,004	60,004	0	1,152,425
Houston	Southern	3.4%	655	554	101	19,027
Hubbard	Northwest	6.1%	1,251	93	1,158	20,428
Isanti	Central	6.6%	2,509	2,138	371	37,816
Itasca	Northland	8.3%	3,761	1,607	2,155	45,058
Jackson	Southwest	8.1%	830	54	777	10,266
Kanabec	Central	2.1%	340	188	152	16,239
Kandiyohi	Southwest	11.8%	4,979	4,379	600	42,239
Kittson	Northwest	8.2%	375	0	375	4,552
Koochiching	Northland	18.5%	2,460	1,230	1,230	13,311

County	Region	Share (%) of total population that is LILA	Total number of residents that are LILA	Number of residents that are LILA (URBAN AREAS AND POPULATION CENTERS ONLY)†	Number of residents that are LILA (RURAL AREAS ONLY)†	Total county population*
Lac qui Parle	Southwest	3.9%	283	0	283	7,259
Lake	Northland	2.9%	313	91	222	10,866
Lake of the Woods	Northland	14.6%	593	0	593	4,045
Le Sueur	Southern	0.4%	120	120	0	27,703
Lincoln	Southwest	25.3%	1,493	0	1,493	5,896
Lyon	Southwest	8.8%	2,276	928	1,348	25,857
Mahnomen	Northwest	19.5%	1,054	0	1,054	5,413
Marshall	Northwest	17.0%	1,605	0	1,605	9,439
Martin	Southern	12.2%	2,536	1,077	1,459	20,840
McLeod	Southwest	6.0%	2,211	1,919	292	36,651
Meeker	Southwest	4.0%	933	276	656	23,300
Mille Lacs	Central	3.7%	963	865	98	26,097
Morrison	Central	10.9%	3,609	1,699	1,909	33,198
Mower	Southern	10.5%	4,120	3,323	797	39,163
Murray	Southwest	11.4%	998	0	998	8,725
Nicollet	Southern	10.6%	3,481	3,464	17	32,727
Nobles	Southwest	14.3%	3,062	1,643	1,419	21,378
Norman	Northwest	8.7%	599	0	599	6,852
Olmsted	Southern	3.8%	5,547	5,546	1	144,248
Otter Tail	West Central	6.6%	3,806	1,627	2,179	57,303
Pennington	Northwest	5.0%	693	391	302	13,930
Pine	Central	6.6%	1,955	264	1,691	29,750
Pipestone	Southwest	11.8%	1,128	93	1,035	9,596
Polk	Northwest	8.9%	2,800	1,342	1,458	31,600
Pope	West Central	3.0%	334	0	334	10,995
Ramsey	Twin Cities	5.9%	29,807	29,807	0	508,640
Red Lake	Northwest	10.6%	434	0	434	4,089
Redwood	Southwest	16.4%	2,628	410	2,218	16,059
Renville	Southwest	15.9%	2,494	0	2,494	15,730
Rice	Southern	4.2%	2,665	2,616	49	64,142
Rock	Southwest	6.2%	603	185	418	9,687
Roseau	Northwest	9.5%	1,480	201	1,280	15,629
Scott	Twin Cities	4.7%	6,162	6,162	0	129,928
Sherburne	Central	4.1%	3,653	3,650	3	88,499
Sibley	Southern	0.7%	100	0	100	15,226
St. Louis	Northland	9.9%	19,792	16,372	3,421	200,226
Stearns	Central	7.3%	10,970	9,730	1,241	150,642
Steele	Southern	6.4%	2,347	2,333	14	36,576

County	Region	Share (%) of total population that is LILA	Total number of residents that are LILA	Number of residents that are LILA (URBAN AREAS AND POPULATION CENTERS ONLY)†	Number of residents that are LILA (RURAL AREAS ONLY)†	Total county population*
Stevens	West Central	2.8%	274	0	274	9,726
Swift	Southwest	15.3%	1,494	15	1,479	9,783
Todd	Central	13.3%	3,318	349	2,970	24,895
Traverse	West Central	15.8%	563	0	563	3,558
Wabasha	Southern	3.1%	682	169	513	21,676
Wadena	Central	12.5%	1,736	0	1,736	13,843
Waseca	Southern	9.8%	1,866	1,298	568	19,136
Washington	Twin Cities	5.9%	14,104	14,104	0	238,136
Watonwan	Southern	1.2%	139	9	130	11,211
Wilkin	West Central	7.4%	487	48	439	6,576
Winona	Southern	3.3%	1,673	1,309	365	51,461
Wright	Central	3.1%	3,854	3,854	0	124,700
Yellow Medicine	Southwest	9.5%	992	0	992	10,438
Minnesota Total		6.4%	341,124	268,340	72,784	5,303,925

Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

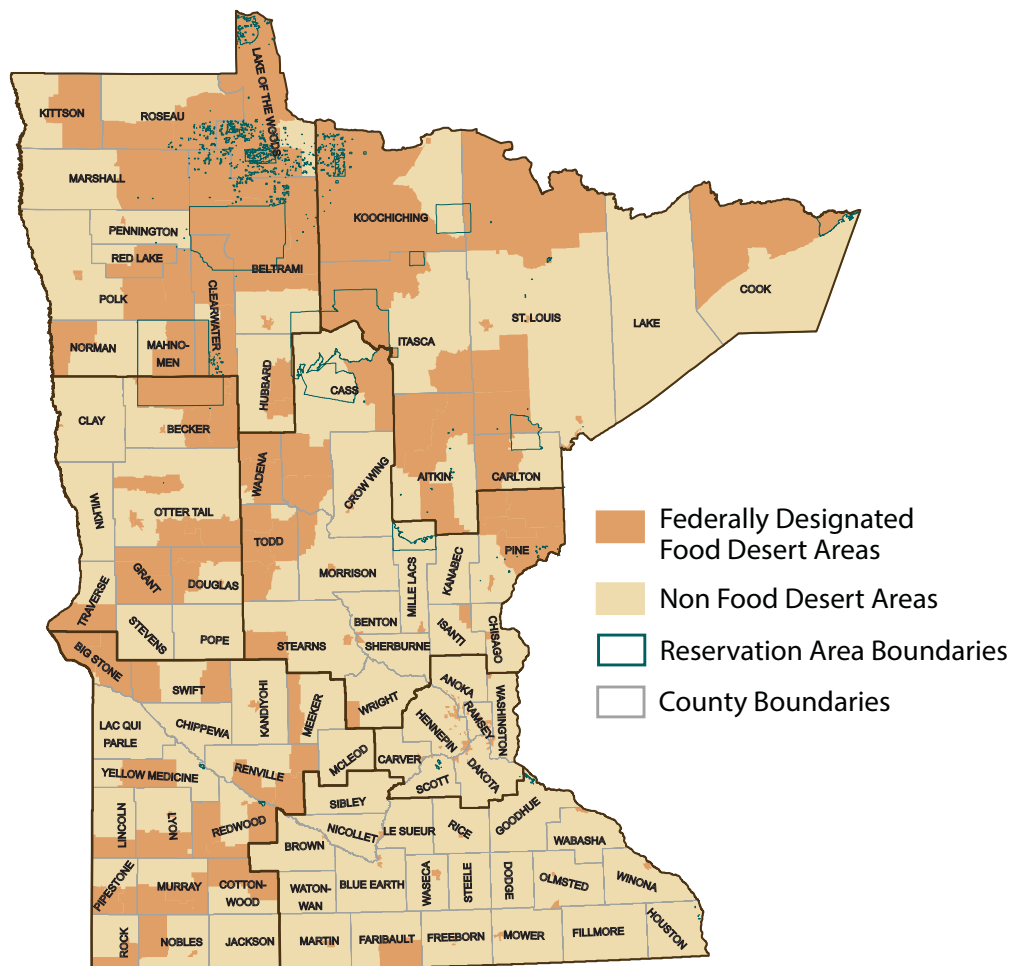
FULL-PAGE REGIONAL MAPS

Food Desert Areas and Low Retail Access Population Counts

Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota

An estimated 1,409,269 residents in urban areas (includes population centers) live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 19%; seniors age 65+, 11%; children age 0–17, 26%; Black race, 5%; Hispanic ethnicity, 4%. Data for other races and ethnicities are not available.

An estimated 232,637 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 31%; seniors age 65+, 19%; children age 0–17, 23%; Black race, 0%; Hispanic ethnicity, 2%. Data for other races and ethnicities are not available.

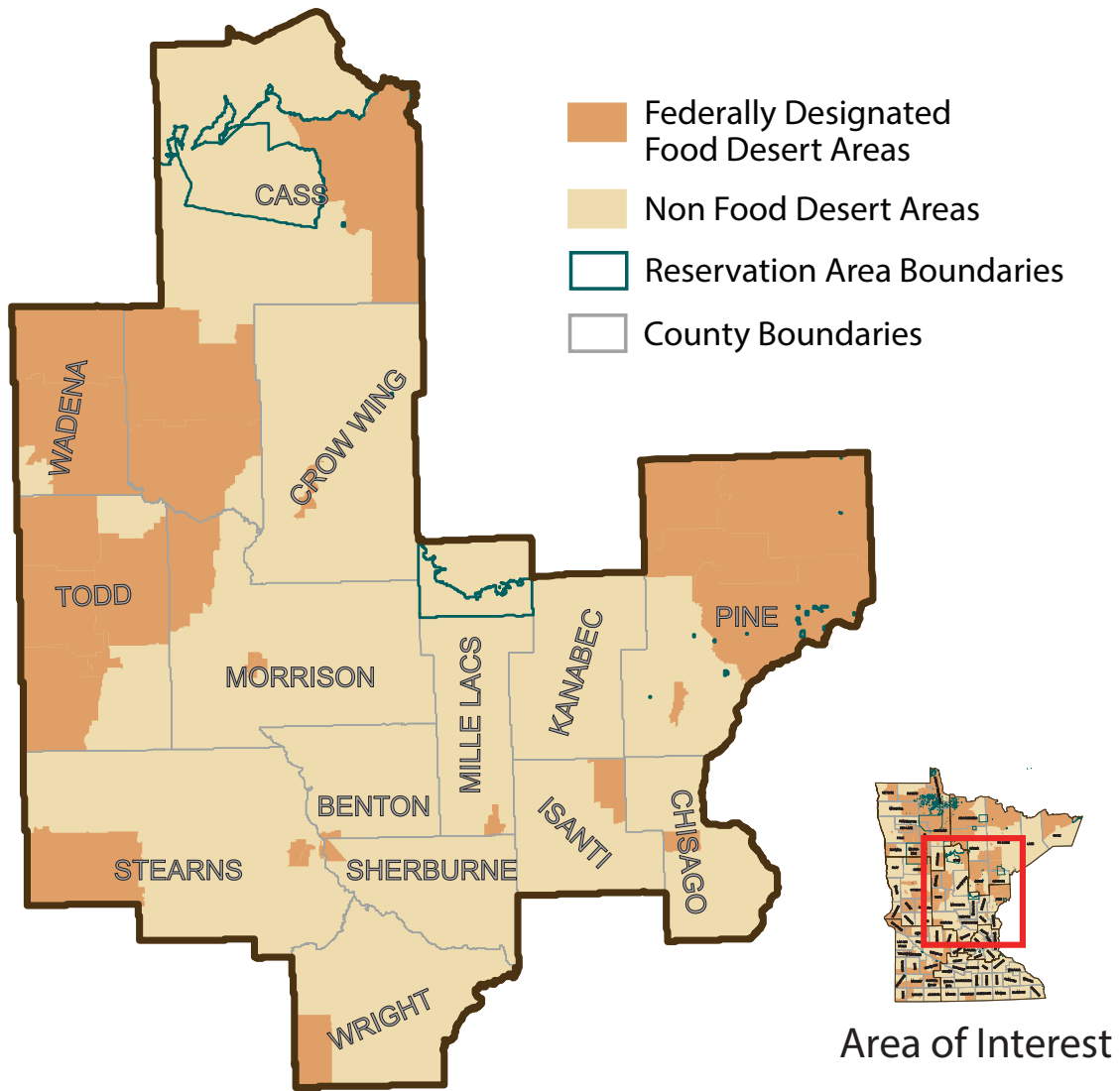


Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota's Central Region

An estimated 36,311 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 34 %; seniors age 65+, 18%; children age 0–17, 24 %; Black race, <1%; Hispanic ethnicity, 1%. Data for other races and ethnicities are not available.

An estimated 138,608 residents in population centers live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 23%; seniors age 65+, 11%; children age 0–17, 27%; Black race, 2%; Hispanic ethnicity, 2%. Data for other races and ethnicities are not available.



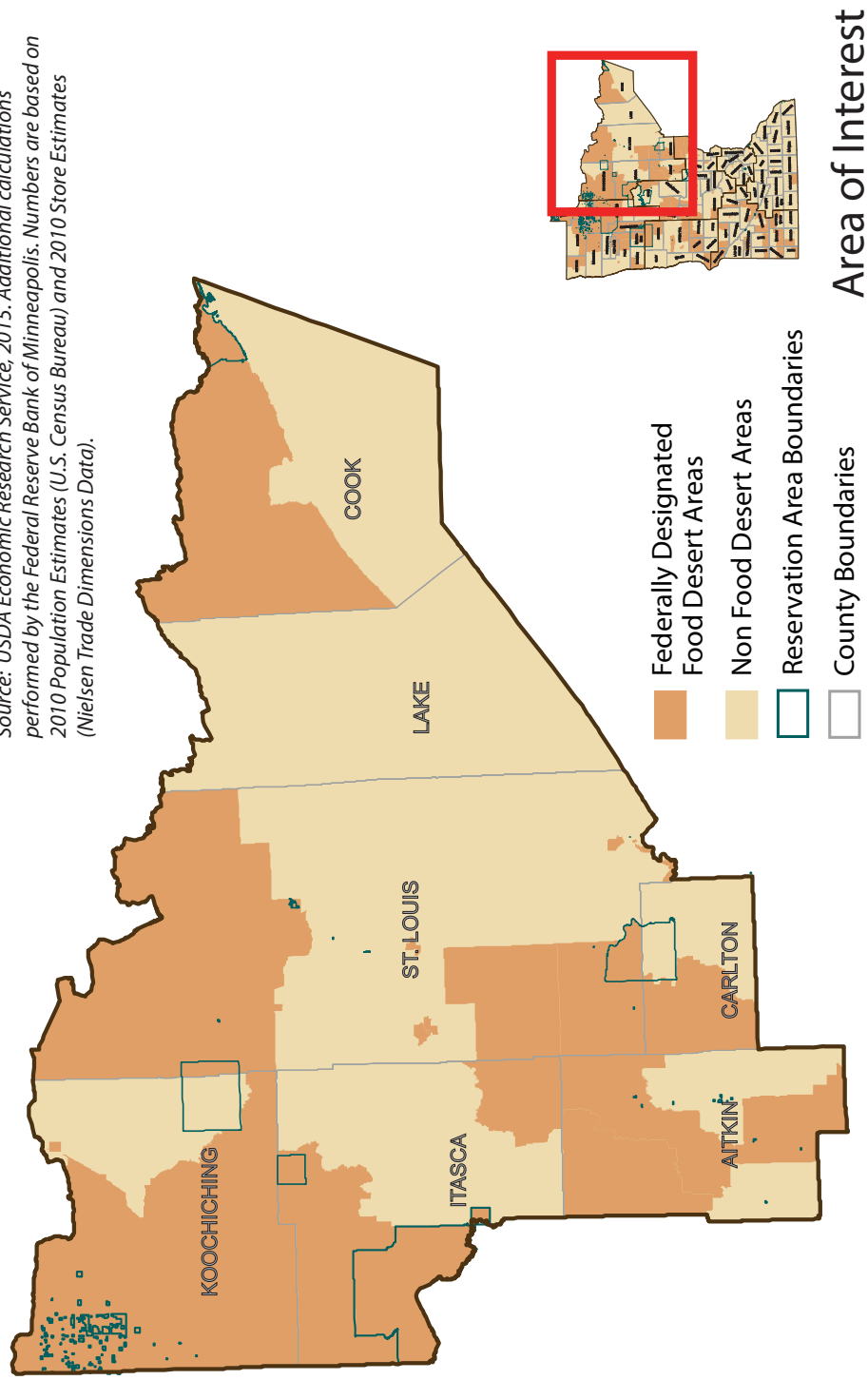
Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota's Northland Region

An estimated 32,592 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 32%; seniors age 65+, 20%; children age 0-17, 19%; Black race, <1%; Hispanic ethnicity, 1%; Data for other races and ethnicities are not available.

An estimated 58,792 residents in population centers live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 34%; seniors age 65+, 16%; children age 0-17, 21%; Black race, 2%; Hispanic ethnicity, 1%. Data for other races and ethnicities are not available.

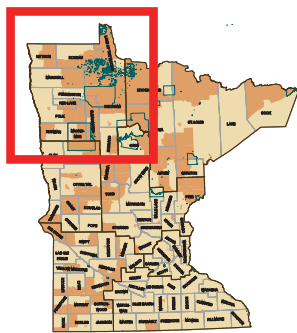
Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).



Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota's Northwest Region

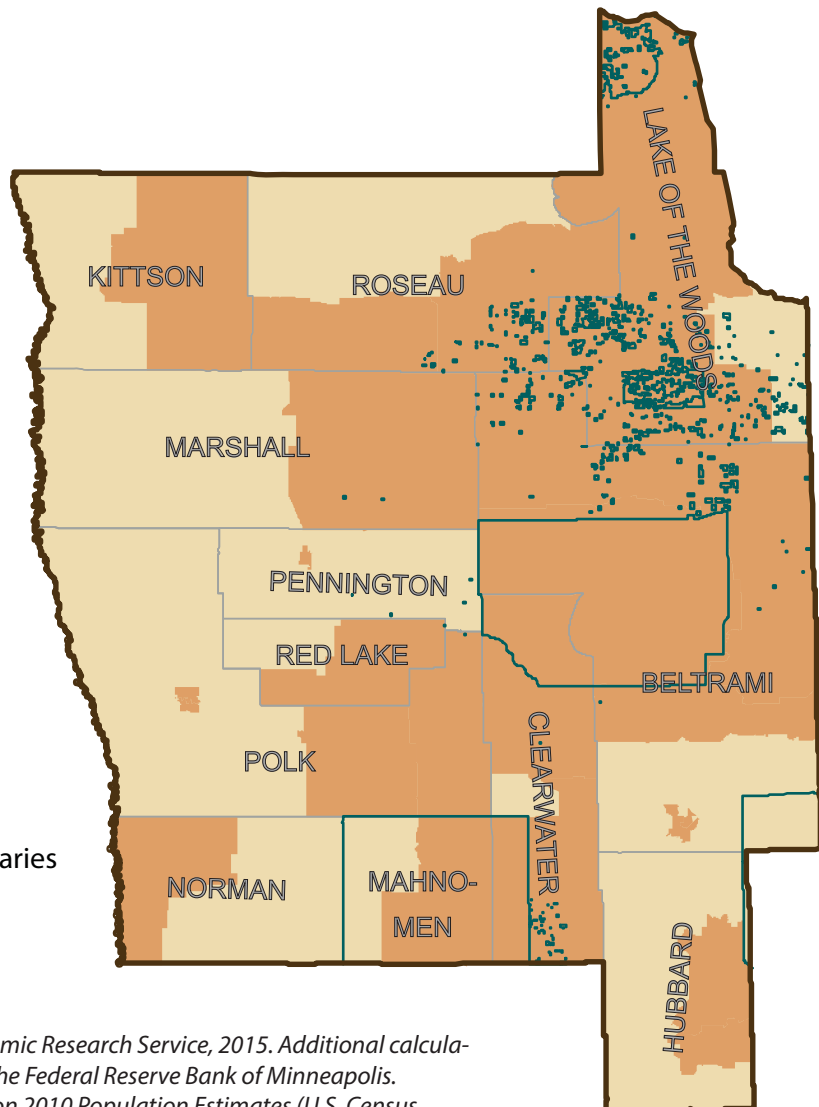
An estimated 37,932 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 33%; seniors age 65+, 18%; children age 0–17, 24%; Black race, 1%; Hispanic ethnicity, 2%; Data for other races and ethnicities are not available.

An estimated 13,706 residents in population centers live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 31%; seniors age 65+, 13%; children age 0–17, 25%; Black race, 1%; Hispanic ethnicity, 4%. Data for other races and ethnicities are not available.



Area of Interest

- Federally Designated Food Desert Areas
- Non Food Desert Areas
- Reservation Area Boundaries
- County Boundaries

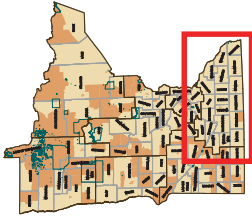


Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota's Southern Region

An estimated 25,207 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 26%; seniors age 65+, 18%; children age 0–17, 23%; Black race, 0%; Hispanic ethnicity, 2%; Data for other races and ethnicities are not available.

An estimated 147,976 residents in population centers live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 26%; seniors age 65+, 13%; children age 0–17, 24%; Black race, 3%; Hispanic ethnicity, 5%. Data for other races and ethnicities are not available.



Area of Interest

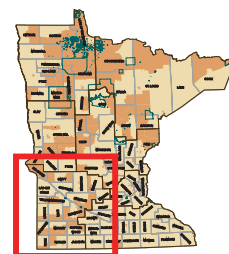
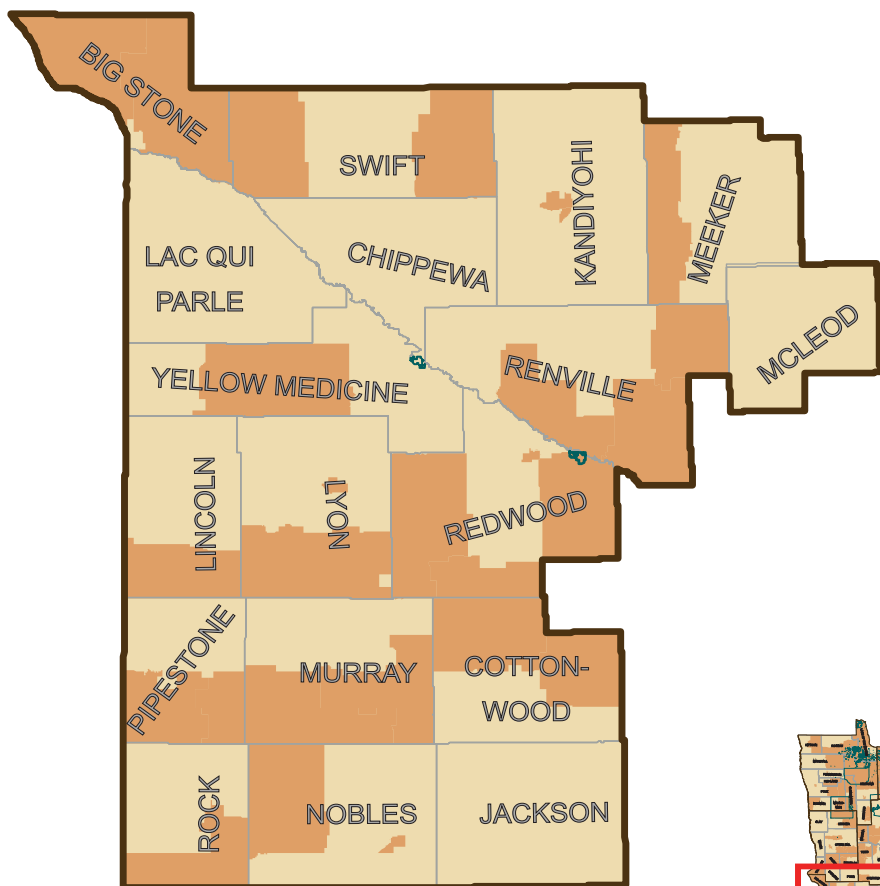


Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota's Southwest Region

An estimated 65,036 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 29%; seniors age 65+, 20%; children age 0–17, 24%; Black race, 1%; Hispanic ethnicity, 4%. Data for other races and ethnicities are not available.

An estimated 35,258 residents in population centers live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 29%; seniors age 65+, 16%; children age 0–17, 25%; Black race, 2%; Hispanic ethnicity, 11%. Data for other races and ethnicities are not available.



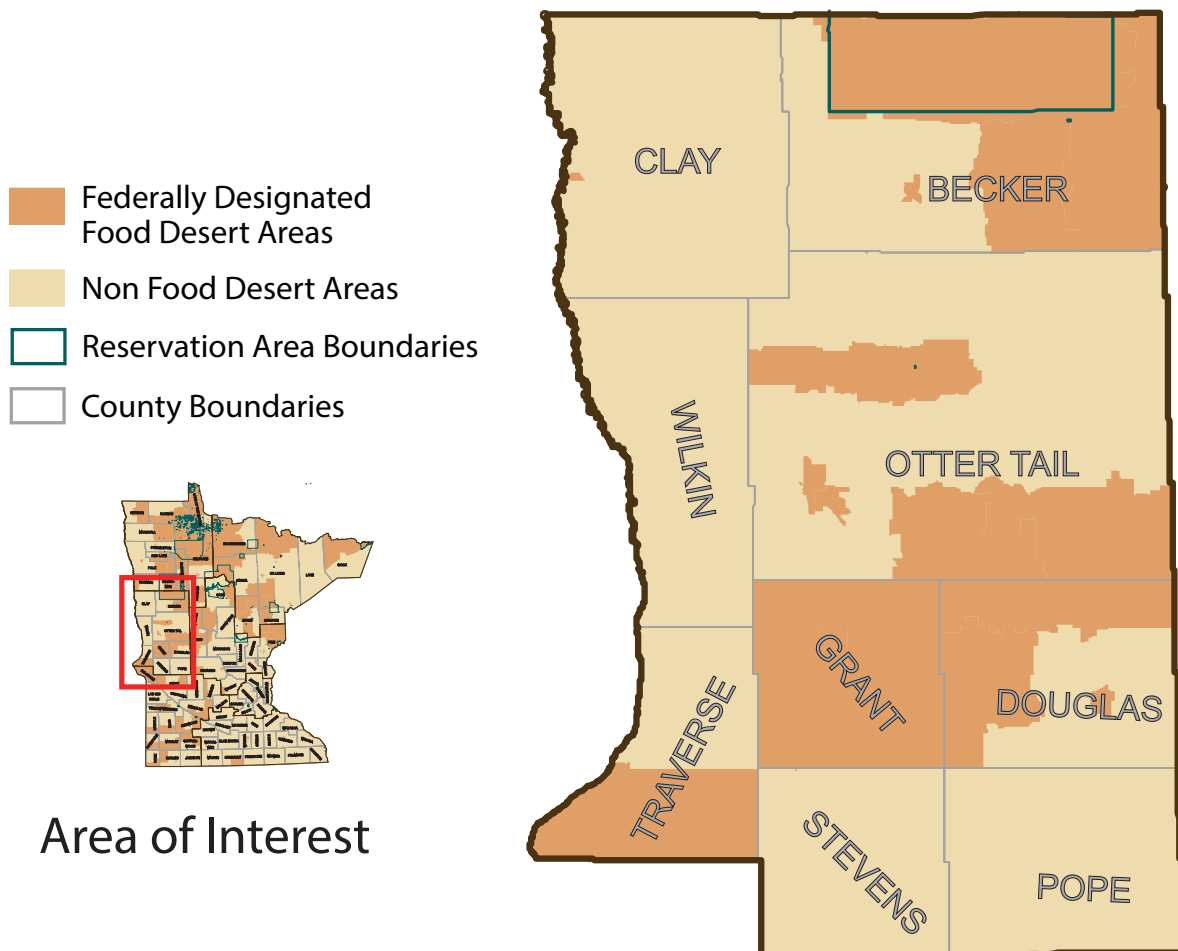
Area of Interest

Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

Federally Designated Food Desert Areas and Low Retail Access Population in Minnesota's West Central Region

An estimated 35,559 residents in rural areas live more than 10 miles from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 33%; seniors age 65+, 19%; children age 0–17, 24%; Black race, <1%; Hispanic ethnicity, 1%. Data for other races and ethnicities are not available.

An estimated 23,751 residents in population centers live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 28%; seniors age 65+, 16%; children age 0–17, 25%; Black race, 1%; Hispanic ethnicity, 3%. Data for other races and ethnicities are not available.

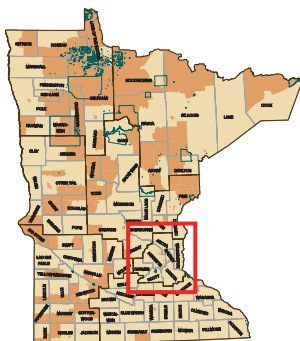


Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

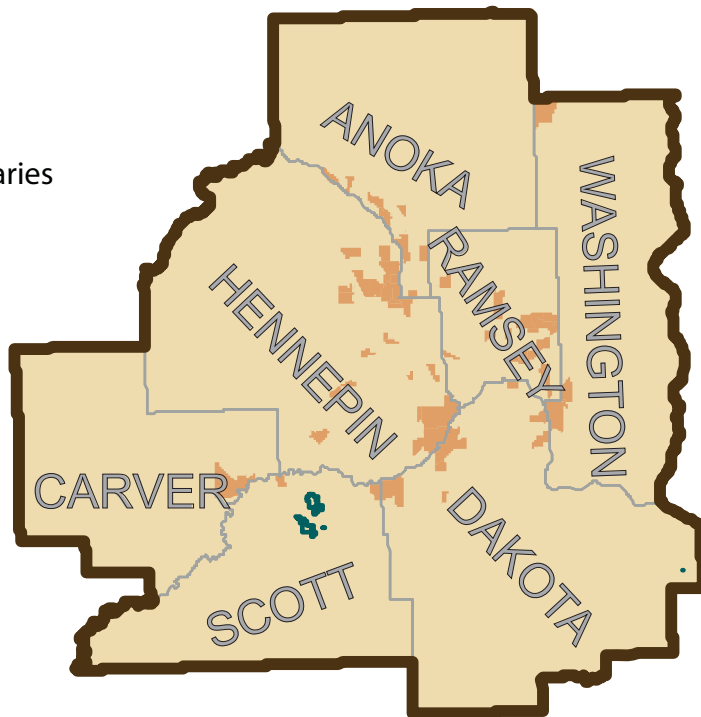
Federally Designated Food Desert Areas and Low Retail Access Population in the Twin Cities Metro

An estimated 991,177 residents live more than 1 mile from a large grocery store, supermarket, or supercenter. Demographic characteristics for those impacted: low-income, 16%; seniors age 65+, 10%; children age 0–17, 27%; Black race, 6%; Hispanic ethnicity, 4%. Data for other races and ethnicities are not available.

-  Federally Designated Food Desert Areas
-  Non Food Desert Areas
-  Reservation Area Boundaries
-  County Boundaries



Area of Interest



Source: USDA Economic Research Service, 2015. Additional calculations performed by the Federal Reserve Bank of Minneapolis. Numbers are based on 2010 Population Estimates (U.S. Census Bureau) and 2010 Store Estimates (Nielsen Trade Dimensions Data).

HEALTHY FOOD ACCESS:
A VIEW OF THE LANDSCAPE IN MINNESOTA AND LESSONS LEARNED
FROM HEALTHY FOOD FINANCING INITIATIVES

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