

Detroit Project Technical Appendix

**Companion to
Examining the Impact of Food Deserts
on Public Health in Detroit**

**Sponsored by
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**Next Steps in our Food Desert
Work & Additional Reading Only**

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Next Steps in our Food Desert Work

Here are some of our ideas about new projects that we would like to embark on once funding is secured.

1. **A predictive and applied analysis of the best impact strategies** in Detroit for food access, food balance, and public health. As discussed in the *Author's Comments*, by using statistical methods we can identify optimal blocks and tracts where new grocery stores and fringe store improvements can make a meaningful difference. We can then effectively track change and intervention strategies moving forward. The same analysis can be done for Chicago. Of course, we can do this work in other locations, too, but we already have the necessary data assembled to do this work in these two cities and are ready to proceed.

2. Additional qualitative and quantitative analysis of how food deserts and food imbalance impact **women and children**. We have known for a long time that diet equals health, but recent research being conducted by medical scientists around the world goes farther, suggesting that child-bearing women who have low or no access to quality, nutritious foods have a greater propensity to pass on diet-related diseases and conditions to their offspring. This might be one reason why we see adult level diabetes increasingly affecting children. We like to believe in America that a motivated child can overcome all odds. But what if you have these health traits passed on before birth, ingest high levels of fat and sugar but low levels of nutritious foods, and grow up sick as well as poor? In those cases, it's typically harder to develop your full mental and physical capability. It's harder to pay attention in school and ultimately to graduate. It's harder to find a job and become gainfully employed. In many respects, the deck is stacked against you from the beginning. We need to know more.
3. An analysis of the **distribution of USDA Food Stamp dollars** in Detroit and metro Detroit. How much are recipients spending in different kinds of stores and what are they buying?
4. Field checks and recoding, if necessary, of **Food Stamp Retail patterns** in Metro Detroit and other locations such as Flint, Grand Rapids, and other Michigan cities. We would also like to conduct an updated Chicago area analysis that identifies USDA food stamp retailers, and accounts for them in the Food Balance score, similar to the analysis for Detroit. We would like to do this for the 6 county area of Metro Chicago and other parts of the state. We have already acquired and geocoded the data for all of Michigan and Illinois.
5. The development of a quantitative **instrument for identifying and tracking mainstream and fringe food purchasing locations**, paired with local workshops and training on how to do community-based food assessments. These workshops would be geared to local grassroots organizations around the country.
6. Food Balance scores at the block level **paired with individual level patient data from health care providers**, using strict data protection systems and controls. This will help us further quantify the impact that food imbalance has on health care costs as well as have more precision in our overall methodology.
7. **A rural food balance analysis** for an entire state or region. Food deserts and the issue of food balance are not solely an urban problem; rural areas suffer as well and are likely to require different improvement strategies. Ultimately, we would like to develop a **food balance data set and map for an entire state**.
8. Food balance research in **other locations**. Inquiries have been coming in from other parts of the country. We hope to hear from you.

9. Additional data cleaning and analysis for the **body mass index** for Detroit and the region. We could have a very useful dataset on our hands, but need to conduct more analysis to find out. The data set had a number of problems and was very difficult to geocode (thank you again to Joseph Ferrie especially and also Jason Booza for your help). We would also like to acquire BMI data for Metro Chicago at a lower geography for further analysis.
10. **A food desert section on our website**, with support from a sponsor or group of sponsors. We hear that our studies and periodic briefings are useful and of interest to students, other researchers, community organizations, government, and the general public, but developing these additional briefings and managing them on a website take time and resources.
11. **Market studies and strategies** that identify sustainable opportunities for grocers using “below the radar” data and information. We have a strong foundation in market analysis and we hear from private sector actors that such a public study would be useful.
12. **Undocumented Mexican location patterns** and adjustments in the data to reflect these realities insofar as they concern untapped buying power (market opportunities) and public health concerns (community needs).
13. Working in partnership with the **Metropolitan Detroit Cancer Surveillance System of Wayne State University**, we would like to select a random sample of USDA Food Stamp retailers and verify food availability using a grocery survey of available items for Metro Detroit. We would conduct validation tests using a randomly selected sample and a previously validated questionnaire (such as the NEMS-S or the Cheatle method). We would then repeat the analysis but add in food pantries to the food balance equation and we would test its usefulness and appropriateness in the equation. We would then expand the pilot to a larger sample, should the first phase of our results prove interesting and useful. The second joint project that we would like to launch involves the culling of death by cancers in Detroit and Metro Detroit that are associated with dietary factors and the mapping of incidence and mortality with food availability, using the foundational work already completed, but adding in the locations of food pantries and restaurants. We would select two areas with high and low incidence/mortality and compare them. Both projects would be published in a scientific journal to bring the Food Balance methodology and new validation measures to a broader academic audience. The food availability survey would also be useful for many other applications, including community-based assessment workshops.
14. Finally, we see the work of **Social Compact** (www.socialcompact.org) and The Urban Institute’s **National Neighborhood Indicators Partnership** (<http://www2.urban.org/nnip/>) as being important to our past, current, and future food desert studies. We encourage funders to contact them directly to learn more about their initiatives.

Additional Reading

A number of other scholars have measured food access and assessed its impact on health. The following list provides a good introduction to this growing literature, though it is by no means exhaustive.

"PATHMARK SUPERMARKET." *Journal of Housing & Community Development* 63, no. 4 (Jul/Aug, 2006): 22-23.

Though in recent years parts of Harlem have experienced a well-publicized renaissance, much of the upper Manhattan neighborhood remains intensely poor. In East Harlem, the area north of 96th street and east of Fifth Avenue, the median household income in 2000 was \$21,500 a year, barely over half the city's overall median income. Since the Pathmark opened, it has become the anchor for an \$85 million commercial/retail complex called Harlem Center, and has drawn other retail giants to what is now a busy shopping hub on both sides of the street and stretching for several blocks. As a matter of pure business, Pathmark's bet has paid off handsomely. Six years after the store's grand opening, Pathmark's SVP for retail development, Harvey Gutman, says it remains one of the chain's highest-grossing supermarkets. Some 275 people work at the 125th Street store, 85% of which are Harlem residents

"Grocer Takes Advantage of Federal Tax Incentive, Opens Store in Milwaukee." *Milwaukee Journal Sentinel*, March 24, 2005, 3/24/2005, 2005.

Supermarkets come and supermarkets go, so it may have looked like political overkill when Gov. Jim Doyle and Mayor Tom Barrett led a delegation of state and city politicians to celebrate a new owner for a vacant grocery store on Milwaukee's industrial north side Wednesday. What drew officialdom to the former Kohl's Food Store at 4030 W. Teutonia Ave. was the novelty and sophistication that went into an inner-city investment. Lena's Food Markets, a family-owned chain of three central city groceries, employed a new-fashioned federal tax incentive to swing the \$ 3.7 million deal.

New Markets Tax Credits, as the program is called, belong to a new set of redevelopment tools for urban activists.

"Free Shuttles can Close Grocery Gap: How Inner-City Supermarkets can Turn a Profit, Improve Customers' Health." *AScribe Newswire*, 4/8/2003

Inner-city supermarkets can improve their profit margins and the health of the communities they serve by offering shoppers free transportation, according to a report released today by researchers at the UC Davis Center for Advanced Studies in Nutrition and Social Marketing. A free shuttle program also reduces shopping-cart thefts.

Block, Daniel. What Fills the Gaps in Food Deserts? Mapping Independent Groceries, Food Stamp Card Utilization and Chain Fast-Food Restaurants in the Chicago Area. Vol. 472006.

Recent research has identified the existence of “food deserts” in many urban (and rural) areas, characterized by a lack of access to chain supermarkets. With few exceptions, these studies have focused on chains rather than independent supermarkets. The Northeastern Illinois Community Food Security Assessment is a GIS and survey based study of food access in the six-county Chicago metropolitan area. Preliminary results indicate that poor and minority areas are less likely to have full-line chain supermarkets, but it does not necessarily follow that all of these communities have poor food access since many Hispanic and other ethnic communities have many stores that cater to their cuisines. More interestingly, food stamp card allocation and redemption data indicate that most poor African-American areas have much higher levels of allocation than redemption. Surrounding areas have higher redemption than allocation levels, indicating that residents are spending their food stamp money at stores in these surrounding neighborhoods. This food stamp usage data set is compared to the mix of stores in the particular neighborhoods in question.

Brown, Monique R. "Supermarket Blackout." Black Enterprise v29n12, (Jul, 1999): 81-92 (6 pages).

Generally, major supermarket chains steer clear of African American communities because they underestimate the community's potential spending power and overestimate the risks. This deficiency in black neighborhoods results in fewer employment opportunities, fewer competitively priced product choices and little access to philanthropic contributions. But you can secure more quality grocers with better products and services in your neighborhood by taking an active stance. Suggestions include: 1. Identify opportunities. 2. Join community organizations. 3. Support the stores in your community. 4. Make companies accountable.

Chung, Chanjin and Samuel L. Myers Jr. "Do the Poor Pay More for Food? an Analysis of Grocery Store Availability and Food Price Disparities." *Journal of Consumer Affairs* 33, no. 2 (Winter, 1999): 276-296.

Do the poor pay more for food? To answer this question, a study was conducted to provide an empirical analysis of grocery store access and prices across inner city and suburban communities within the Minneapolis and St. Paul metropolitan area.

Fleming, Leonard. "Supermarkets Find Inner-City Philadelphia A Tough Sell." *Philadelphia Inquirer* (5/29/2002, .

Guy, Clifford M. and Gemma David. "Measuring Physical Access to 'Healthy Foods' in Areas of Social Deprivation: A Case Study in Cardiff." *International Journal of Consumer Studies* 28, no. 3 (June, 2004): 222-234.

This paper examines some characteristics of food deserts--areas of social deprivation which have poor physical access to food shopping--in a large British city, Cardiff. The stereotype of the 'food desert' is critically examined, emphasizing the importance attached by residents of such areas to easy access to food shopping, especially in multiple supermarkets. The case study of Cardiff briefly discusses the identification of potential 'food deserts', and then examines the structures of 'healthy food' availability and prices in four areas of the city (two in the inner city, two in the outer city) where physical access to large multiple supermarkets is poor. The analysis shows that the local shops in these areas cannot compete generally with large supermarkets on either availability of items or their prices, but that the local shops in the inner city areas are rather more competitive than those in the outer areas. Implications for research and policy formulation are finally discussed.

Inagami, Sanae, Deborah A. Cohen, Brian Karl Finch, and Steven M. Asch. "You are Where You Shop: Grocery Store Locations, Weight, and Neighborhoods." *American Journal of Preventive Medicine* 31, no. 1 (July, 2006): 10-17.

Background: Residents in poor neighborhoods have higher body mass index (BMI) and eat less healthfully. One possible reason might be the quality of available foods in their area. Location of grocery stores where individuals shop and its association with BMI were examined. Methods: The 2000 U.S. Census data were linked with the Los Angeles Family and Neighborhood Study (L.A.FANS) database, which consists of 2620 adults sampled from 65 neighborhoods in Los Angeles County between 2000 and 2002. In 2005, multilevel linear regressions were used to

estimate the associations between BMI and socioeconomic characteristics of grocery store locations after adjustment for individual-level factors and socioeconomic characteristics of residential neighborhoods. Results: Individuals have higher BMI if they reside in disadvantaged areas and in areas where the average person frequents grocery stores located in more disadvantaged neighborhoods. Those who own cars and travel farther to their grocery stores also have higher BMI. When controlling for grocery store census tract socioeconomic status (SES), the association between residential census tract SES and BMI becomes stronger. Conclusions: Where people shop for groceries and distance traveled to grocery stores are independently associated with BMI. Exposure to grocery store mediates and suppresses the association of residential neighborhoods with BMI and could explain why previous studies may not have found robust associations between residential neighborhood predictors and BMI. [Copyright 2006

Ingram, Bob. "Inner City Markets." *Supermarket Business* 54, no. 9 (Sep 15, 1999): 61-67 (3 pages).

Last year, Giant Food Inc. opened 2 stores in Prince Georges County, Maryland - both in mature, underserved markets - and is currently negotiating for a site in Washington itself. In November, Baltimore was the beneficiary of this strategy with the opening of a 46,445-square-foot food/drug combination store in the Edmondson Avenue Shopping Center in West Baltimore. Details of the store's layout and inventory are discussed.

———. "Urban Urgency." *Supermarket Business* v54n7, (Jul, 1999): 13-22 (5 pages).

Pathmark, which is probably the premier city supermarket operator in the country, with 20% of its stores in urban areas, opened a showcase store in the old North Philadelphia Station in early May, and ShopRite owner Bill Glazier, a Philadelphia pioneer, unveiled a stunning 65,000-square-foot store in April in the city's Port Richmond section. Even Fresh Fields has gotten into the Philadelphia act with a lollapalooza unit that has been a mainstay in the Fairmont area for several years, and it has another planned for South Street. What is happening in Philadelphia is happening in cities all over the country: Giant Food Inc. (Landover, Maryland) has gone back into Baltimore, Pathmark has opened its long-awaited store on 125th Street in East Harlem and has as many as 6 other sites either under construction or signed in New York City, Shaw's is in New Haven, Connecticut, Dominick's has a Fresh store across from the Cabrini Green public housing projects in Chicago,

Schnucks opened in North St. Louis, and Mexican operator Gigante is coming into Southern California's Hispanic communities in full force.

Janoff, Barry. "Urban Renewal." *Progressive Grocer* 78, no. 10 (Oct, 1999): 22-30 (6 pages).

Supermarkets that had thrived in metropolitan centers before succumbing to financial, political and demographic metamorphosis are returning to inner-urban areas to expand their companies and reinvigorate local communities. Two key factors are re-establishing the US' urban centers as important retail centers for the 21st century: untapped financial power and the willingness of politicians and community organizations to work with retailers to bring companies back to the inner city. A number of supermarkets that are returning to the inner city are discussed. For example, Winn-Dixie Stores is scheduled to build a Winn-Dixie Marketplace on a tract of land in the inner-city section of LaVilla in Jacksonville, Florida. Meanwhile, Pathmark Stores Inc. has placed about 20% of its stores in urban markets, and Kroger Co. of Michigan is building a store that will be the anchor of a retail strip scheduled to open on the northeast side of Detroit in mid-2000.

Jetter, Karen M. and Diana L. Cassady. "The Availability and Cost of Healthier Food Alternatives." *American Journal of Preventive Medicine* 30, no. 1 (January, 2006): 38-44.

Many people, especially low-income consumers, do not successfully follow dietary recommendations to eat more whole grains and less fat and added sugar. The food environment may have a significant impact on the choice by low-income consumers to eat healthier foods, as both the availability and price of healthier food items may limit their ability to eat a healthier diet. We investigated the cost and availability of a standard market basket of foods, and a healthier basket that included low-fat meat and dairy and whole grain products. Market-basket surveys were conducted in 25 stores in Los Angeles and Sacramento. Stores were selected from neighborhoods that were varied by income and surveyed three times from September 2003 to June 2004. The average cost of a standard market basket (based on the U.S. Department of Agriculture's Thrifty Food Plan [TFP]) and a healthier market basket was calculated from these prices and compared using a standard t -test to determine if they were significantly different from each other. The analysis was conducted in 2005. The lack of availability in small grocery stores located in low-income neighborhoods, and the higher cost of the healthier market basket may be a deterrent to eating healthier among very low-income consumers. Public policies should take the food environment into account in order to develop successful

strategies to encourage the consumption of healthier foods.[Copyright 2006 American Journal of Preventive Medicine; published by Elsevier Inc.]

King, Robert P., Ephraim S. Leibtag, and Ajay S. Behl. Supermarket Characteristics and Operating Costs in Low-Income Areas United States Department of Agriculture, 2004.

Reveals that stores serving low-income shoppers--those with high Food Stamp redemption rates--differ from other stores. Findings do not support the hypothesis that supermarkets serving low-income clientele have higher operating costs, despite having significantly different cost structures.

Larson, Tom. "Why there Will be no Chain Supermarkets in Poor Inner City Neighborhoods." California Politics & Policy 7, no. 1 (June, 2003): 22-45.

Presents an economic explanation for difficulty in providing groceries to inner city residents from full-service grocery stores; experience of South Central area, Los Angeles, California.

Lavin, Marilyn. "Supermarket Access and Consumer Well-being: The Case of Pathmark in Harlem." International Journal of Retail & Distribution Management 33, no. 5 (2005): 388-398.

This paper extends the research stream that has linked supermarket access to consumer diet by focusing on Pathmark, a supermarket chain that operates in the Harlem neighborhood of New York City. The paper examines the square footage allocated to fresh produce, fish, meats, snack foods, soft drinks and similar items in Pathmark's Harlem store, and the pricing and promotion of those various foods. It is found that the allocation of space to nutritious foods and to those with minimal nutritional value as well as the pricing and promotion of those goods at the Pathmark Harlem store is similar to that of suburban supermarkets. The debate over the second supermarket in Harlem further shows that community leaders, food activists, and neighborhood residents recognize that large chain supermarkets may be uniquely positioned to improve access to healthy foods in lower-income urban areas.

Lewis, Len. "Dangerous Perceptions." Progressive Grocer 79, no. 3 (03, 2000): 4.

Deals with the misperception of the grocery industry about the inner city areas in the United States. Myths about inner-city business; Amount of retail spending in the

inner-cities; Lesson that retailers should learn.; Deals with the misperception of the grocery industry about the inner city areas in the United States. Myths about inner-city business; Amount of retail spending in the inner-cities; Lesson that retailers should learn.

McDaniel, Andi. "Guerrilla Grocers." *Utne* no. 131 (Sep/Oct 2005, 2005): 12-13.

Discusses the absence of supermarkets in inner cities in the U.S. in 2005. Replacement of supermarkets by convenience and liquor stores; Reasons for the decision of supermarket chains not to operate in inner cities; Action taken by the California Food Policy Advocates to promote healthy food habits.

McTaggart, Jenny. "Just enough for the City." *Progressive Grocer* 85, no. 10 (Jul 1, 2006): 44-46,48.

When retailers are on the prowl for viable new markets, higher poverty and unemployment rates are not the first characteristics they look for. The supermarket industry as a whole has made significant strides in serving urban neighborhoods in recent years marking a decided turn away from a period when the trend was to flee cities. Part of the reason supermarkets have become more open to inner cities is that governments and nonprofit organizations have become more open to helping retailers deal with their challenges. In California, meanwhile, several independents, such as Bill MacAloney's Jax Markets, have discovered the value of inner-city customers. One of Food Lion's urban success stories is a unit in Durham, NC, which it opened in Apr 2004. The major key to success in Durham and other urban locations is the fact that the communities want the stores there.

———. "The Path Less Retailed." *Progressive Grocer* 84, no. 5 (Apr 1, 2005): 26-28,30-32.

Inner-city markets present challenges that many supermarket operators choose not to take on, but for Pathmark Stores, Inc, choosing the path less retailed seems to be paying dividends. In its new Harlem, NY store, which is located in the Bradhurst section, all the amenities typically found in suburban supermarkets are present -- albeit on a slightly smaller scale -- and the neighborhood shoppers have so far been showing their appreciation. The store offers the quintessential one-stop shop, inner-city style, complete with a miniature pharmacy; a branch from locally owned Carver Savings Bank; a full aisle of American Greetings card; a service desk where customers can purchase money orders, Western Union services, and lottery tickets; hot foods to go; photo processing; and even a steam machine rental service for

cleaning carpets. Pathmark maintains very high sanitation standards. Its rule is, clean first, then fill the shelves.

O'Dwyer, Lisel A. and John Coveney. "Scoping Supermarket Availability and Accessibility by Socio-Economic Status in Adelaide." *Health Promotion Journal of Australia* 17, no. 3 (Dec, 2006): 240-246.

Issue addressed: Lower socio-economic status (SES) populations are known to have poorer diets than high SES populations. We explore the extent to which factors in the built environment may contribute to this social health inequality and determine whether 'food deserts' exist in Australian cities. Methods: We use a geographic information system to measure availability and accessibility of supermarkets in four case study local government areas (LGAs). The location of supermarkets is analysed in relation to residential dwellings, car ownership and in terms of travel distance along the road network. Results: This methodology identifies differences in both availability and accessibility between and within LGAs. It shows that a local-level approach to the issue of food deserts is warranted and suggests that generalisations based on large geographic areas are unlikely to be meaningful. Conclusions: A significant number of households live in 'food deserts' in Adelaide and these can only be identified using a local-level approach. Adapted from the source document.

Pothukuchi, Kameshware. "Attracting Supermarkets to Inner-City Neighborhoods: Economic Development Outside the Box." *Economic Development Quarterly* 19, no. 3 (Aug 1, 2005): 232-244.

The paucity of accessible supermarkets is a continuing concern in inner-city communities. Based on a survey of planners in 32 communities, this article examines initiatives to encourage grocery retail investment, reasons for the existence or absence of initiatives, and factors in successful developments. This research shows that systematic, citywide grocery initiatives are rare, with such efforts limited to particular sites or developments. Reliance on private initiatives, absence of grassroots requests for action, and assignment of lower priority to grocery stores in commercial revitalization programs explain planner inaction. Successful initiatives are characterized by political leadership, competent public agency participation, and, often, partnerships with nonprofit agencies. This article also presents recommendations for community and economic development planners to increase grocery investment in underserved areas.

Pothukuchi, Kameshware 2003. "The food system in Detroit: A Handbook for local planning", Detroit: Wayne State University.

Pothukuchi, Kameshware 2004. "Community Food Assessment: A First Step in Planning for Community Food Security." *Journal of Planning Education and Research*, 23, 356

Smoyer-Tomic, Karen E., John C. Spence, and Carl Amrhein. "Food Deserts in the Prairies? Supermarket Accessibility and Neighborhood Need in Edmonton, Canada." *Professional Geographer* 58, no. 3 (08, 2006): 307-326.

The U.S. and U.K. literatures have discussed "food deserts," reflecting populated, typically urban, low-income areas with limited access to full-service supermarkets. Less is known about supermarket accessibility within Canadian cities. This article uses the minimum distance and coverage methods to determine supermarket accessibility within the city of Edmonton, Canada, with a focus on high-need and inner-city neighborhoods. The results show that for 1999 both of these areas generally had higher accessibility than the remainder of the city, but six high-need neighborhoods had poor supermarket accessibility. We conclude by examining potential reasons for differences in supermarket accessibility between Canadian, U.S., and U.K. cities. ABSTRACT FROM AUTHOR Copyright of Professional Geographer is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use. This abstract may be abridged. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material for the full abstract. (Copyright applies to all Abstracts); The U.S. and U.K. literatures have discussed "food deserts," reflecting populated, typically urban, low-income areas with limited access to full-service supermarkets. Less is known about supermarket accessibility within Canadian cities. This article uses the minimum distance and coverage methods to determine supermarket accessibility within the city of Edmonton, Canada, with a focus on high-need and inner-city neighborhoods. The results show that for 1999 both of these areas generally had higher accessibility than the remainder of the city, but six high-need neighborhoods had poor supermarket accessibility. We conclude by examining potential reasons for differences in supermarket accessibility between Canadian, U.S., and U.K. cities. ABSTRACT FROM AUTHOR Copyright of Professional Geographer is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles

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Summerour, Jenny. "Making it in the City." *Progressive Grocer* 81, no. 7 (May 1, 2002): 15-24.

Many of urban areas are experiencing steady growth in density and development, and the opportunity exists for competitive food retailers - chains and independents alike - to gain footholds and penetrate a niche that the Wal-Marts of the nation might find difficult to service. Chain retailers that have entered the inner city say their urban locations invariably are their most highly trafficked and profitable stores. Yet while the huge gap between major grocery stores and dense urban areas has closed significantly in the last decade, new trends in urban development make the inner city an even more viable market. By operating in inner cities, retailers not only reach a denser population, they also cater to a much more diverse population that more closely mirrors the future demographic makeup of America. While average household income is lower in inner cities than in many other communities, those households on average spend slightly more per month on food products than shoppers in the overall US.

Tortola, Jane Olszeski. "Urban Entrepreneurs." *Progressive Grocer* 81, no. 13 (Sep 15, 2002): 12.

Supermarkets looking to grow have recently set their sights on the inner cities, where the existence of prime real estate, redevelopment initiatives, and thousands of people all indicate that a store can be successful. Industry experts caution that operating in the inner city is no easy task. But Leonard and Donna Harris, owners of Chicago's Chatham Food Center, have proven that the benefits of operating in the inner city far outweigh the risks.

Special posting of works by Zenk et al:

Food Access Studies in Detroit: Selected Results from Research Conducted by Projects Affiliated with the Detroit Community-Academic Urban Research
(www.sph.umich.edu/urc)

Results from Research Affiliated with the Healthy Environments Partnership
(www.sph.umich.edu/hep)



Supermarket Access¹

This study compared the distance to the nearest chain supermarket by neighborhood economic and racial characteristics. In 2002, we mapped all supermarkets (full-line chain grocery stores and supercenters) in the city of Detroit and within 15 miles of Detroit. The city of Detroit had only 9 supermarkets compared to 151 supermarkets in the surrounding metropolitan area (see Figure 1). Using census tracts as proxies for neighborhoods, we measured the distance to the nearest supermarket from the middle of each of the 869 neighborhoods located in Detroit and within 10 miles of Detroit. For African-American neighborhoods, the distance to the nearest supermarket increased as poverty in the neighborhood increased. For White neighborhoods, there was no difference in the distance to the nearest supermarket by poverty level of the neighborhood. Among the highest poverty neighborhoods, the nearest supermarket was approximately one mile further away, on average, in neighborhoods where African-Americans lived when compared with White neighborhoods, after accounting for differences in population density. Distance to the nearest supermarket was similar among the lowest poverty neighborhoods, regardless of the proportion of African-American residents. The findings highlight the need for more supermarkets in Detroit, especially in poor African-American neighborhoods.

Fresh Fruit and Vegetable Access²

This study compared access to fresh fruit and vegetables in four Detroit area communities: a poor African-American community (Eastside Detroit), a poor racially heterogeneous community (Southwest Detroit), a middle-income African-American community (Northwest Detroit), and a middle-income racially heterogeneous community (Southfield). We mapped and visited all food stores (except convenience stores with gasoline) located in these communities in the fall of 2002. For each store, we measured the availability (whether or not the store sold any fresh fruit or vegetables), selection (count of 80 fresh fruits and vegetables), quality (average quality score for a subset of 20 fresh fruit and vegetables based on the proportion of adequate quality items), and price (average price of a subset of 20 fresh fruit and vegetables based on the lowest cost brand and size) of fresh fruit and vegetables. Eastside Detroit had four times more liquor stores (see Figure 2) and fewer grocery stores (see Figure 3) per 100,000 residents than Southfield. Of the four communities, Northwest Detroit had the fewest grocery stores and the fewest stores selling fresh fruit and vegetables per population. The quality of fruit and vegetables was significantly lower, on average, at stores in Eastside Detroit than at stores in Southfield. Differences in the types of stores present in the communities only explained part of this quality difference. The communities did not differ in the average selection and price of fruit and vegetables at stores. Thus, residents of Eastside Detroit were asked to pay the same price for inferior quality fruit and vegetables. Increasing access to fresh fruit and vegetables in this community is a critical first step to improving dietary practices and health among residents.

Neighborhood Food Store Availability and Obesity³

This study examined availability of resources and risks in the retail food environment -- healthy foods (large grocery store) and cheap, high-calorie foods



(convenience store, liquor store) -- as two pathways by which neighborhoods may affect residents' body sizes. The study is based on a community survey of 919 African-American, Latino, and White adults ages 25 years and over living in Eastside, Southwest, and Northwest Detroit. As part of the survey, interviewers measured participants' height, weight, and waist circumference to find out whether they had an unhealthy body size (i.e., obesity, abdominal obesity). The study also used data from the 2000 U.S. Census and maps of food stores in the three communities. Living in a high-poverty (vs. low-poverty) neighborhood was associated with a 56% and two-fold increase in the risk of being obese and abdominal obesity, respectively. Grocery store availability in the neighborhood was not associated with body size. However, presence of a specialty store was associated with decreased risk of unhealthy body size. Liquor store and convenience store availability were associated with increased risk of unhealthy body size. The availability of retail outlets offering a wide selection of cheap, high-calorie foods and relatively few healthful alternatives may contribute to unhealthy body sizes among residents. Interventions and policies that both increase access to healthy foods and reduce their price are needed to address the increased risk of obesity and related chronic conditions that disproportionately affect residents of poor neighborhoods.

Results from Research Affiliated with the East Side Village Health Worker Partnership

Food Store Characteristics and Fruit and Vegetable Intake⁴

This 2001 study examined whether food store characteristics affected African-American women's fruit and vegetable intake. As part of a community survey of women living in eastside Detroit, 266 women provided the name and location of the store where they purchased the most food for themselves and their families. We asked them how they would rate the quality/selection and affordability of fresh fruit and vegetables at the store where they shopped, and as well as how often they ate fruit and vegetables. The women reported shopping at 45 different stores, 44% of which were located in the city of Detroit. Of the 183 women shopping in Detroit, 77% frequented independent grocery stores, 16% chain supermarkets, and 7% specialty or limited assortment stores. Of the 83 women shopping in the suburbs, 86% frequented supermarkets, 14% specialty or limited assortment stores, and none at independent grocery stores.

Women shopping at supermarkets and specialty stores (fruit and vegetable markets or meat markets) ate fruit and vegetables more often, on average, than women shopping at independent grocery stores. Women who were happier with the quality/selection of fresh fruit and vegetables for sale at the store where they shopped also ate fruit and vegetables more often. Perceived affordability of fresh fruit and vegetables was not related to fruit and vegetable intake. The findings suggest that the type of store to which women had access and the selection and quality of fruit and vegetables for sale affected how often they ate fruit and vegetables. Given that women are often the main household food shoppers, the stores and foods to which they have access may not only affect their personal nutrition, but also the nutrition of other household members.

References



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2 Zenk SN, Schulz AJ, Israel BA, James SA, Bao S, Wilson ML. 2006. Fruit and vegetable access differs by community racial composition and socioeconomic position in Detroit, Michigan. *Ethnicity & Disease*, 16, 275-280.

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