# **“Barriers to Food Security and Community Stress in an Urban Food Desert”**

**By Jessica Crowe, Constance Lacy and Yolanda Columbus**

**Introduction**

1 In a number of recent studies, researchers document that food insecurity and hunger are a substantial and persistent problem in the United States [[**1**](https://www.mdpi.com/2413-8851/2/2/46/htm#B1-urbansci-02-00046),[**2**](https://www.mdpi.com/2413-8851/2/2/46/htm#B2-urbansci-02-00046)]. In 2010, 14.5% of American households were food insecure at some point during the year, and 5.4% had very low food security—meaning that the “food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year because the household lacked money and other resources for food” [[**1**](https://www.mdpi.com/2413-8851/2/2/46/htm#B1-urbansci-02-00046)]. In addition to household food insecurity, community food insecurity is also prevalent in the United States, particularly in the most rural and urban areas of the country. Community food security takes into consideration how accessible food is to residents as well as how adequate (e.g., nutritious) food is in the community [[**3**](https://www.mdpi.com/2413-8851/2/2/46/htm#B3-urbansci-02-00046)]. Over the past six decades, grocery retailers have abandoned the inner city for suburban and exurban locations, thus limiting food accessibility in urban neighborhoods. Retailers can build larger stores and large parking lots in the suburbs because there is more land available. Additionally, these suburban locations are convenient to highways and access roads, making it easier to load and unload trucks [[**4**](https://www.mdpi.com/2413-8851/2/2/46/htm#B4-urbansci-02-00046)].

2 Researchers who examined how the lack of grocery stores (often referred to as food deserts) affect residents found that urban residents typically pay more for groceries, spend more time traveling to distant supermarkets, and incur other costs related to poor food habits [[**5**](https://www.mdpi.com/2413-8851/2/2/46/htm#B5-urbansci-02-00046),[**6**](https://www.mdpi.com/2413-8851/2/2/46/htm#B6-urbansci-02-00046)]. According to the “Food Access Research Atlas” constructed by the USDA [[**7**](https://www.mdpi.com/2413-8851/2/2/46/htm#B7-urbansci-02-00046)], low access to healthy food is defined as being far from a large grocery store or supermarket. For urban areas, the Atlas tracks low-income census tracts (tracts with poverty rate of 20% or greater) as either being a half mile or one mile from the nearest supermarket or large grocery store. While researchers linked food deserts to lower fruit and vegetable consumption [[**8**](https://www.mdpi.com/2413-8851/2/2/46/htm#B8-urbansci-02-00046),[**9**](https://www.mdpi.com/2413-8851/2/2/46/htm#B9-urbansci-02-00046)] as well as higher child obesity rates [[**10**](https://www.mdpi.com/2413-8851/2/2/46/htm#B10-urbansci-02-00046)], fewer scientists examined the physiological effects of food desert created stressors. Researchers show that locating a large grocery retailer in a prior food desert has a minimal effect on residents’ fruit and vegetable intake [[**11**](https://www.mdpi.com/2413-8851/2/2/46/htm#B11-urbansci-02-00046)]. Because of this, it is important to look at health from a holistic viewpoint. This includes the effect that stress has on residents’ physical and mental health and how food deserts exacerbate prior social and economic stressors. We address this gap in research by focusing on the following questions: (a) What are the barriers to accessing nutritious affordable food in an urban food desert? (b) How does community food insecurity exacerbate prior social, built, and economic stressors? By analyzing data from focus groups in a poor, mostly African American neighborhood in a large U.S. city, we describe how residents in urban food deserts access food, the barriers they experience in accessing nutritious, affordable food, and how community food insecurity exacerbates prior social, built, and economic stressors. Thus, in this article we speak to academics, policy makers, and community organizations alike who are concerned with the effects of food deserts on health.

## Racial Segregation and the Rise of American Suburbs

3 American cities saw remarkable changes in the 20th century. As early as the late 1800s, transportation advances allowed for the rise of suburban communities. This continued through the early 20th century as the middle class took advantage of the park-like setting of the new suburban neighborhoods but—with the use of train, trolley, or automobile—still had easy access to the city for work and recreation. Suburban growth exploded after WWII, when federal policies such as the Servicemen’s Readjustment Act of 1944 (G.I Bill) and the Federal-Aid Highway Act of 1956 allowed veterans and their growing families to access low interest loans to purchase new homes in the growing suburbs.

4 The rise of accessible suburbs led to a separation by race and by class as only middle and upper class whites were allowed to move to the new suburbs. Federal policy encouraged racial segregation through redlining practices. Neighborhoods with even a small African American population were coded as ‘red’ and were deemed to be too risky for banks to provide federally insured home loans. Without the ability to receive mortgages due to being a racial minority, African Americans found it very hard to leave the city. Racially restrictive covenants were also instituted in the early 20th century to prevent racial minorities from purchasing homes in white communities. Such covenants were contractual agreements that banned the purchase, lease, or occupation of property by a specific group, most commonly African Americans. These were mutual agreements between property owners in a neighborhood to not sell to certain people and were enforced through neighborhood associations and real estate boards. Racial covenants became common after the 1926 U.S. Supreme Court decision, *Corrigan v. Buckley*, which legalized their use. The practice was so wide-used that by 1940, 80% of property in Chicago and Los Angeles had covenants restricting African Americans [[**12**](https://www.mdpi.com/2413-8851/2/2/46/htm#B12-urbansci-02-00046)]. Both redlining by banks and the use of racial covenants existed until the passage of the Federal Fair Housing Act of 1968 that deemed both practices to be illegal.

5 While no longer a legally sanctioned practice, housing discrimination still occurs today through other means. For instance, through the use of experimental testing, the Fair Housing Center of Greater Boston [[**12**](https://www.mdpi.com/2413-8851/2/2/46/htm#B12-urbansci-02-00046)] found that African Americans and Latinos were shown fewer homes, steered to other communities, required to provide longer notices before viewing houses, and quoted higher loan rates than white testers. In addition, mortgage lending discrimination still occurs. For instance, the Massachusetts Community Banking Council found that upper- and middle-income African Americans and Latinos were 10 times more likely to have high interest loans than low income whites. In addition, high-risk lenders were 3.7 times more likely to be in minority neighborhoods than in white neighborhoods [[**13**](https://www.mdpi.com/2413-8851/2/2/46/htm#B13-urbansci-02-00046)]. Combined, past and present racial discrimination has led to the continuation of racial and ethnic segregation. High-poverty neighborhoods continue to be disproportionately composed of black residents (37.4%) and Latino residents (30.2%) [[**14**](https://www.mdpi.com/2413-8851/2/2/46/htm#B14-urbansci-02-00046)].

**The Rise of Suburbs, Supermarket Redlining and Urban Food Deserts**

6 The development and expansion of suburbs are directly tied to the history of grocery store locations. As white middle class families left the city for the newer suburbs, the grocery stores followed. Just as the new suburbanites and government were creating communities, supermarkets were also transforming in these new spaces [[**15**](https://www.mdpi.com/2413-8851/2/2/46/htm#B15-urbansci-02-00046)]. Suburbs, with their residents with higher buying power, were attractive to chain supermarkets for both their markets and locations [[**4**](https://www.mdpi.com/2413-8851/2/2/46/htm#B4-urbansci-02-00046),[**16**](https://www.mdpi.com/2413-8851/2/2/46/htm#B16-urbansci-02-00046)]. Improvements in supply chain logistics, computerized scanning and inventories, and other technological advancements led to the creation of a big-box format targeted towards an auto-dependent society. Chain grocery stores turned to increasingly larger formats to capture even more of the ever growing suburban grocery demand. Mergers and leveraged buy-outs in the 1980s intensified the trend toward fewer, bigger stores outside of the city. For example, in a six-year period between 1978 and 1984, Safeway closed over 600 stores in inner city neighborhoods [[**15**](https://www.mdpi.com/2413-8851/2/2/46/htm#B15-urbansci-02-00046)]. At the same time, urban grocery stores, with their much smaller square feet design, were frequently not associated with the large chain stores. They were part of a local chain or independent grocery stores [[**4**](https://www.mdpi.com/2413-8851/2/2/46/htm#B4-urbansci-02-00046)].

7 According to industry representatives, urban neighborhoods presented other challenges not present in suburban markets. Sites to accommodate large big-box stores were, and continue to be, hard to find. Barriers to building in urban communities encompassed costs associated with environmental cleanup, demolition of existing structures, and other site preparation costs along with the building’s cost and delays. Other factors that kept large grocery stores out of urban neighbors included depopulating neighborhoods, demanding regulations, and the presence of urban crime [[**4**](https://www.mdpi.com/2413-8851/2/2/46/htm#B4-urbansci-02-00046)]. Ultimately, the general attitude with the grocery industry has been that profits come more easily in the suburbs so it does not make financial sense to serve distressed urban areas [[**15**](https://www.mdpi.com/2413-8851/2/2/46/htm#B15-urbansci-02-00046)].

8 This attitude held by the grocery industry has been termed by some as “supermarket redlining” [[**17**](https://www.mdpi.com/2413-8851/2/2/46/htm#B17-urbansci-02-00046),[**18**](https://www.mdpi.com/2413-8851/2/2/46/htm#B18-urbansci-02-00046)]. As with residential redlining, decisions about investing in particular neighborhoods are based on stereotypes of gross income, race, and reputation of a neighborhood. This perception of “urban obstacles” has led to a gap in supermarkets in central-city neighborhoods compared to suburban neighborhoods [[**16**](https://www.mdpi.com/2413-8851/2/2/46/htm#B16-urbansci-02-00046),[**19**](https://www.mdpi.com/2413-8851/2/2/46/htm#B19-urbansci-02-00046)]. According to Cotterill and Franklin, [[**19**](https://www.mdpi.com/2413-8851/2/2/46/htm#B19-urbansci-02-00046)] fewer and smaller grocery stores are located in poorer zip codes than in wealthier zip codes. They found a negative relationship with the percent of people on public assistance and the number and size of grocery stores in an area. Cotterill and Franklin indicated that the poorest zip codes in 21 of the nation’s largest metropolitan areas had a little over half (55%) of the grocery square footage that existed in wealthier zip codes [[**19**](https://www.mdpi.com/2413-8851/2/2/46/htm#B19-urbansci-02-00046)].

9 Supermarket redlining can lead to a central-city gap in grocery stores even when there is a market demand. The Initiative for a Competitive Inner City [[**20**](https://www.mdpi.com/2413-8851/2/2/46/htm#B20-urbansci-02-00046)] found that there may be as much as a 25% gap between existing demand for food and availability of food in the inner cities. The U.S. Department of Housing and Urban Development [[**21**](https://www.mdpi.com/2413-8851/2/2/46/htm#B21-urbansci-02-00046)] calculated an untapped demand of $8.7 billion for the 48 cities that had a retail gap. HUD estimated that if Chicago developed 28 new supermarkets in its economically distressed neighborhoods it could capture just 14% of the untapped retail demand [[**4**](https://www.mdpi.com/2413-8851/2/2/46/htm#B4-urbansci-02-00046)].

10 Pothukuchi [[**4**](https://www.mdpi.com/2413-8851/2/2/46/htm#B4-urbansci-02-00046)] indicated that despite local government knowledge of the absence of grocery stores in low-income neighborhoods, city planning and development agencies took a laissez faire approach by tending to wait for proposals for grocery stores to be initiated by developers. Planners tended to not take a proactive role in filling the grocery retail gap and instead were happy that their agencies did not provide additional barriers to development. Thus, if developers did not want to expand into inner city neighborhoods, city planners felt that it must be because market conditions were unsuitable, rather than it being due to discrimination based on perceptions of urban obstacles. This notion is contrary to the studies cited above, which indicated great market demand for retail and grocery stores in many low-income minority neighborhoods in cities across the United States.

**Works Cited Entry**

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## References

1. Coleman-Jensen, A.; Nord, M.; Andrews, M.; Carlson, S. Household food security in the United States in 2010. USDA-ERS Economic Research Report No. 125. Available online: [**https://www.ers.usda.gov/publications/pub-details/?pubid=44909**](https://www.ers.usda.gov/publications/pub-details/?pubid=44909) (accessed on 25 May 2018).
2. Hoefer, R.; Curry, C. Food security and social protection in the United States. *J. Policy Pract.* **2012**, *11*, 59–76. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Food+security+and+social+protection+in+the+United+States&author=Hoefer,+R.&author=Curry,+C.&publication_year=2012&journal=J.+Policy+Pract.&volume=11&pages=59%E2%80%9376&doi=10.1080/15588742.2011.624062)] [**[CrossRef](https://dx.doi.org/10.1080/15588742.2011.624062%22%20%5Ct%20%22_blank)**]
3. Busch, L.; Lacy, W. *Food Security in the United States*; Westview Press: Boulder, CO, USA, 1984. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Food+Security+in+the+United+States&author=Busch,+L.&author=Lacy,+W.&publication_year=1984)]
4. Pothukuchi, K. Attracting supermarkets to inner-city neighborhoods: Economic development outside the box. *Econ. Dev. Q.* **2005**, *19*, 232–244. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Attracting+supermarkets+to+inner-city+neighborhoods:+Economic+development+outside+the+box&author=Pothukuchi,+K.&publication_year=2005&journal=Econ.+Dev.+Q.&volume=19&pages=232%E2%80%93244&doi=10.1177/0891242404273517)] [**[CrossRef](https://dx.doi.org/10.1177/0891242404273517%22%20%5Ct%20%22_blank)**]
5. Morland, K.; Wing, S.; Roux, A. The contextual effect of the local food environment on residents’ diets: The atherosclerosis risk in communities study. *Am. J. Public Health* **2002**, *92*, 1761–1767. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=The+contextual+effect+of+the+local+food+environment+on+residents%E2%80%99+diets:+The+atherosclerosis+risk+in+communities+study&author=Morland,+K.&author=Wing,+S.&author=Roux,+A.&publication_year=2002&journal=Am.+J.+Public+Health&volume=92&pages=1761%E2%80%931767&doi=10.2105/AJPH.92.11.1761&pmid=12406805)] [**[CrossRef](https://dx.doi.org/10.2105/AJPH.92.11.1761%22%20%5Ct%20%22_blank)**] [[**PubMed**](https://www.ncbi.nlm.nih.gov/pubmed/12406805)]
6. Whelan, A.; Wrigley, N.; Warm, D.; Cannings, E. Life in a ‘food desert’. *Urban Stud.* **2002**, *39*, 2083–2100. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Life+in+a+%E2%80%98food+desert%E2%80%99&author=Whelan,+A.&author=Wrigley,+N.&author=Warm,+D.&author=Cannings,+E.&publication_year=2002&journal=Urban+Stud.&volume=39&pages=2083%E2%80%932100&doi=10.1080/0042098022000011371)] [**[CrossRef](https://dx.doi.org/10.1080/0042098022000011371%22%20%5Ct%20%22_blank)**]
7. U.S. Department of Agriculture (USDA). Food Access Research Atlas: Documentation. Available online: [**https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/**](https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/) (accessed on 1 May 2018).
8. Diaz-Roux, A.; Nieto, J.; Caulfield, L.; Tyroler, H.; Watson, R.; Szklo, M. Neighborhood differences in diet: The atherosclerosis risk in communities (ARIC) study. *J. Epidemiol. Commun. Health* **1999**, *53*, 55–63. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Neighborhood+differences+in+diet:+The+atherosclerosis+risk+in+communities+(ARIC)+study&author=Diaz-Roux,+A.&author=Nieto,+J.&author=Caulfield,+L.&author=Tyroler,+H.&author=Watson,+R.&author=Szklo,+M.&publication_year=1999&journal=J.+Epidemiol.+Commun.+Health&volume=53&pages=55%E2%80%9363&doi=10.1136/jech.53.1.55)] [**[CrossRef](https://dx.doi.org/10.1136/jech.53.1.55%22%20%5Ct%20%22_blank)**]
9. Ellaway, A.; Macintyre, S. Does where you live predict health related behaviors? A case study in Glasgow. *Health Bull.* **1996**, *54*, 443–446. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Does+where+you+live+predict+health+related+behaviors?+A+case+study+in+Glasgow&author=Ellaway,+A.&author=Macintyre,+S.&publication_year=1996&journal=Health+Bull.&volume=54&pages=443%E2%80%93446)]
10. U.S. Department of Agriculture (USDA). *Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal YEAR 2010. Report SNAP-11-CHAR*; Food and Nutrition Service, Office of Research Analysis: Alexandria, VA, USA, 2011. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Characteristics+of+Supplemental+Nutrition+Assistance+Program+Households:+Fiscal+YEAR+2010.+Report+SNAP-11-CHAR&author=U.S.+Department+of+Agriculture+(USDA)&publication_year=2011)]
11. Cummins, S.; Petticrew, M.; Higgins, C.; Findlay, A.; Sparks, L. Large-scale food retailing as an intervention for diet and health: Quasi-experimental evaluation of a natural experiment. *J. Epidedemiol. Commun. Health* **2005**, *59*, 1035–1040. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Large-scale+food+retailing+as+an+intervention+for+diet+and+health:+Quasi-experimental+evaluation+of+a+natural+experiment&author=Cummins,+S.&author=Petticrew,+M.&author=Higgins,+C.&author=Findlay,+A.&author=Sparks,+L.&publication_year=2005&journal=J.+Epidedemiol.+Commun.+Health&volume=59&pages=1035%E2%80%931040&doi=10.1136/jech.2004.029843&pmid=16286490)] [**[CrossRef](https://dx.doi.org/10.1136/jech.2004.029843%22%20%5Ct%20%22_blank)**] [[**PubMed**](https://www.ncbi.nlm.nih.gov/pubmed/16286490)]
12. Fair Housing Center of Greater Boston. Historical Shift from Explicit to Implicit Policies Affecting Housing Segregation in Eastern Massachusetts. Available online: [**http://www.bostonfairhousing.org/timeline/1968-Housing-Discrimination-Today.html**](http://www.bostonfairhousing.org/timeline/1968-Housing-Discrimination-Today.html) (accessed on 1 May 2018).
13. Paying More for the American Dream. Available online: [**https://mahahome.org/sites/default/files/attachment-files/Paying%20More%20VI.pdf**](https://mahahome.org/sites/default/files/attachment-files/Paying%20More%20VI.pdf) (accessed on 1 May 2018).
14. Jargowsky, P. Concentration of Poverty in the New Millennium: Changes in the Prevalence, Composition, and Location of High-Poverty Neighborhoods. The Century Foundation, 2014, (1-30). Available online: [**https://cure.camden.rutgers.edu/files/2013/12/Concentration\_of\_Poverty\_in\_the\_New\_Millennium.pdf**](https://cure.camden.rutgers.edu/files/2013/12/Concentration_of_Poverty_in_the_New_Millennium.pdf) (accessed on 1 May 2018).
15. Eisenhauer, E. In poor health: Supermarket redlining and urban nutrition. *GeoJournal* **2001**, *53*, 125–133. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=In+poor+health:+Supermarket+redlining+and+urban+nutrition&author=Eisenhauer,+E.&publication_year=2001&journal=GeoJournal&volume=53&pages=125%E2%80%93133&doi=10.1023/A:1015772503007)] [**[CrossRef](https://dx.doi.org/10.1023/A%3A1015772503007%22%20%5Ct%20%22_blank)**]
16. Donohue, R.M. *Abandonment and Revitalization of Central City Retailing: The Case of Grocery Stores*; University of Michigan: Ann Arbor, MI, USA, 1997. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Abandonment+and+Revitalization+of+Central+City+Retailing:+The+Case+of+Grocery+Stores&author=Donohue,+R.M.&publication_year=1997)]
17. Bennett, S. Combining good business and good works. *Prog. Grocer.* **1992**, *71*, 65–69. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Combining+good+business+and+good+works&author=Bennett,+S.&publication_year=1992&journal=Prog.+Grocer.&volume=71&pages=65%E2%80%9369)]
18. Turque, B. Where the food isn’t. *Newsweek* **1992**, *119*, 36–37. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Where+the+food+isn%E2%80%99t&author=Turque,+B.&publication_year=1992&journal=Newsweek&volume=119&pages=36%E2%80%9337)]
19. Cotterill, R.W.; Franklin, A. *The Urban Grocery Store Gap*; Food Marketing Policy Center Issue Paper No. 8; University of Connecticut: Storrs, CT, USA, 1995. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=The+Urban+Grocery+Store+Gap&author=Cotterill,+R.W.&author=Franklin,+A.+&publication_year=1995)]
20. Initiative for a Competitive Inner City. *The Business Case for Pursuing Retail Opportunities in the Inner City*; Initiative for a Competitive Inner City: Boston, MA, USA, 1998. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=The+Business+Case+for+Pursuing+Retail+Opportunities+in+the+Inner+City&author=Initiative+for+a+Competitive+Inner+City&publication_year=1998)]
21. U.S. Department of Housing and Urban Development. *New Markets: The Untapped Retail Buying Power in America’s Inner Cities*; U.S. Department of Housing and Urban Development: Washington, DC, USA, 1999. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=New+Markets:+The+Untapped+Retail+Buying+Power+in+America%E2%80%99s+Inner+Cities&author=U.S.+Department+of+Housing+and+Urban+Development&publication_year=1999)]