

# SAFE ROUTES TO HEALTHY FOOD REPORT AND ACTION AGENDA



Connecting Active Transportation  
to Healthy Food Access



# TABLE OF CONTENTS

INTRODUCTION .....	1
I. DEFINING THE PROBLEM.....	4
A. Transportation Challenges .....	6
B. Healthy Food Access Challenges .....	9
C. Measuring the Problem .....	10
II. THE OPPORTUNITY: SAFE ROUTES TO HEALTHY FOOD..	11
A. What is Safe Routes to Healthy Food? .....	11
B. What are the Benefits of Safe Routes to Healthy Food?..	12
III. ESSENTIAL FIRST STEPS FOR ACTION: COLLABORATION AND COMMUNITY ENGAGEMENT .....	16
A. Build Partnerships Across Sectors .....	16
B. Engage Affected Community Members.....	17
C. Use Stories and Data.....	18
IV. AN ACTION FRAMEWORK TO ADVANCE SAFE ROUTES TO HEALTHY FOOD .....	20
A. Commit to a Vision for Safe Routes to Health .....	21
B. Healthy Food .....	22
C. Safe Routes .....	24
D. Planning .....	27
E. Programming .....	29
V. POLICY RECOMMENDATIONS BY SECTOR .....	31
A. Local Governments .....	32
B. State Governments .....	33
C. Health Departments and Public Agencies .....	34
D. Regional Planning Organizations .....	35
E. Transit Agencies .....	36
CONCLUSION .....	37

*This report was developed with support from the Centers for Disease Control and Prevention. Its contents are solely the position of the authors and do not represent the official position or policies of the US Department of Health and Human Services, Centers for Disease Control and Prevention; nor does the mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.*





## Authors

Marisa Jones  
Sara Zimmerman

## Contributing Author

Caroline Harries

## Acknowledgments

The Safe Routes Partnership would like to extend our appreciation for the many people who supported the development of the concept of Safe Routes to Healthy Food and the recommendations to advance it. We would especially like to thank the members of the Safe Routes Partnership's Safe Routes to Healthy Food Task Force, which met from June 2016 through September 2018 to refine the concept, identify policy implications and opportunities, and collaborate to develop the recommendations included in this report. In particular, we would like to thank Caroline Harries at The Food Trust for her co-facilitation of the workgroup. We would also like to thank Voices for Healthy Kids, an initiative of the Robert Wood Johnson Foundation and American Heart Association, for their financial support of the workgroup. Members of the workgroup included:

- Marisa Jones, Safe Routes Partnership
- Sara Zimmerman, Safe Routes Partnership
- Caroline Harries, The Food Trust
- Waffiyyah Murray, Bicycle Coalition of Greater Philadelphia
- Julie Ralston-Aoki, Public Health Law Center
- Mary Marrow, Public Health Law Center
- Paul Mackie, Mobility Lab
- Rio Holaday, ChangeLab Solutions
- Danielle Sherman, Active Living By Design
- Juell Stewart, ChangeLab Solutions
- Karen Banks Bassarab, Johns Hopkins Center for a Liveable Future
- Madison Haugland, ModeShift Omaha
- Bernadette Onyenaka, NAACP
- Julie Leung, Prevention Institute
- Kamaryn Norris, The Food Trust
- Tim Vaske, Voices for Healthy Kids
- Kim Millbrath, Voices for Healthy Kids
- Aaron Doeppers, Voices for Healthy Kids
- Sagar Shah, American Planning Association
- Amanda Merck, Salud! America
- Sarah Norman, NeighborWorks America



## Introduction

“I live in what's been called a food desert. And, without any transportation and with the physical disability I have, it's a matter of what I can carry back. And you walk back and forth. It's usually multiple trips throughout a week. Which is just exhausting and I just can't do it some days. I mean really, it's getting to the food and back.”

-Man in southeast Portland, Oregon (From TriMet survey data)

Everyone has to eat; for most people that requires a trip – by car, foot, bus, train, or bicycle – to access food. This report is premised on the idea that we all deserve to have healthy food, relatively nearby, that we can get to without danger to life and limb. But that idea is currently far from reality for many people, especially in low-income communities, rural communities, and communities of color throughout the United States. The good news is there are a wide array of actions that can be taken and policies adopted by local and state agencies to make this goal a reality. This report is intended to explain the need for safe routes to healthy food and help us take action to make our communities safer and healthier.

While active transportation advocacy has historically focused on important community destinations like school and places of employment, it has often overlooked healthy food venues. Concurrently, champions of healthy food access have long viewed grocery store proximity as a significant barrier for people to obtain nutritious foods, but have not traditionally included transportation advocacy in their agendas.

Whether people are shopping at a supermarket or corner store, getting food from a food pantry, eating at a local restaurant, or picking up produce at a farmers market or community garden, everyone needs a safe and reliable way to get to the places where they obtain foods. Without places selling healthy foods nearby, people have to travel outside their neighborhoods. This inconvenience is exacerbated by lack of a car, unsafe streets for walking and bicycling, and lack of frequent, convenient public transportation. Yet, it is not a choice to go without food. That means people bike on streets filled with speeding traffic, spend hours in transit on multiple buses, and walk miles along the side of the road to buy food to put on the table. In Des Moines, Iowa, Bhutanese refugees walk three miles along the side of a highway in temperatures hovering just above freezing to reach the Dollar General, the closest place to purchase food.<sup>1</sup> A man with a disability in Portland, Oregon, makes multiple trips per week to access food, limited by what he can carry each trip. In New Orleans, Louisiana, a woman spends two hours on the bus to grocery shop for her family. After she completes her shopping, she makes the two-hour return journey, this time with groceries in hand.<sup>2</sup>

No one should have to risk their life or spend hundreds of hours a year traveling simply to access healthy food. This report reviews the scope of the problem of transportation access to healthy food, describes a vision for addressing it, and lays out a set of recommendations for policies and practices that can let people safely access healthy food by foot, bicycle, or transit.



## What can we do?

Interconnected problems require interconnected solutions. The work of overcoming the transportation challenges to getting healthy food is called Safe Routes to Healthy Food. Everyone deserves a transportation system that conveniently, safely, and affordably links them to the places they need and want to go, especially to healthy food. Increasing access to healthy food can be achieved not only by bringing healthy foods closer to people, but also by making walking, biking, and transit a safer and more viable option to link people to where they get food. Safe Routes to Healthy Food aims to strengthen policies and practices to make it safer and more convenient to walk, bike, and take transit to access healthy foods.

**Our vision for Safe Routes to Healthy Food** is that people of all ages, abilities, races, ethnicities and income levels are able to safely, conveniently, and affordably walk, bike, take public transportation, or roll to access nutritious foods that are high-quality, culturally appropriate, and affordable.

### Many sectors have a role to play in improving Safe Routes to Healthy Food

From 2016 to 2019, the Safe Routes Partnership convened a national Safe Routes to Healthy Food task force comprised of organizations and thought leaders from a variety of backgrounds. This collaboration demonstrated that improving access to healthy foods for people without cars can be improved by a variety of sectors, including: transportation, healthy food access, housing, racial and social equity, environmental justice, public health, academia, law, community organizing, and more.

## A. What Is in this Report?

This report details the interconnected challenges of transportation access and healthy food access, and provides strategies and solutions for communities interested in improving healthy food access for people walking, bicycling, and taking public transportation. This report explains why Safe Routes to Healthy Food matters for health and equity, describes opportunities for a variety of stakeholders to create or strengthen the transportation connection between neighborhoods and grocery stores, and highlights examples of Safe Routes to Healthy Food in action across the country.

In **Section I: Defining the Problem**, this report articulates the challenges to accessing nutritious foods faced by people using active transportation, through choice or necessity. Currently, many advocates for healthy food access and active transportation work separately from one another. But these advocates share the overarching goal of creating healthy communities. Lack of safe, convenient, affordable transportation and access to affordable, nutritious foods is particularly harmful in low-income communities and communities of color and exacerbates existing inequities. By working together to ensure that active transportation opportunities are linked to places where people access food, advocates and professionals working in the fields of public health and planning can strengthen their respective efforts and amplify their impact.

**Section II: The Opportunity**, offers a detailed explanation of what Safe Routes to Healthy Food is, how the concept arose, and the benefits it can impart to communities, including positive impacts on health, economic development, and quality of life.

**Section III: Essential First Steps for Action**, shifts from background information to actions that individuals, organizations, and government agencies can take to improve Safe Routes to Healthy Food. Section III provides an overview of why collaboration and community engagement must undergird every aspect of Safe Routes to Healthy Food, and provides ideas and suggestions for how to engage new partners and residents affected by the lack of transportation access to healthy foods.

**Section IV: An Action Framework**, lays out a framework for advancing Safe Routes to Healthy Food. Safe Routes to Healthy Food is predicated on the idea that transportation and healthy food access are related to one another, which means there are solutions that involve both bringing healthy food closer to people and enabling people to more safely and conveniently use active travel modes to reach healthy food retailers. This section offers concrete steps to take to commit to a vision of Safe Routes to Healthy Food; promote healthy food access through actively considering transportation access to food venues, improving safe, convenient mobility by keeping in mind the places people need and want to go, like grocery stores; details how land use planning can unite healthy food access and transportation goals; and shares ideas about how to educate and encourage people to use active travel modes to access healthy foods.

In **Section V: Policy Recommendations by Sector**, the report sets out Safe Routes to Healthy Food policy agendas for five key sectors: public health, state governments, local governments, regional planning organizations, and public transit agencies. This section pulls together information presented throughout the report with additional content, serving as a reference and action agenda for people working in or with these types of governmental agencies to improve active travel to healthy foods. The report concludes by urging collaboration to move these solutions into action and improve health and equity in our communities.



## SECTION I

# Defining the Problem



In too many neighborhoods and communities across the country, local stores do not sell fresh produce or other healthy options, and transportation obstacles make getting to healthy foods dangerous, time-consuming, and expensive.<sup>3</sup> It may be difficult to buy healthy food because stores that carry fresh produce and other healthy options are sparse or non-existent. If the community lacks safe and convenient conditions for walking and biking, people are less likely to be physically active. Often, these conditions exacerbate one another. Healthy eating is harder to do when traveling to food stores is not safe or convenient, and walking and biking are less appealing when there are few destinations nearby to walk or bike to.

“ *Healthy eating is harder to do when traveling to food stores is not safe or convenient, and walking and biking are less appealing when there are few destinations nearby to walk or bike to.* ”

In the United States, people's average travel time to the grocery store is fifteen minutes; people in low-income areas with limited supermarket access spend 30% longer traveling to the grocery store.<sup>4</sup> In the many communities without a grocery store nearby, people must travel long distances to access food or must rely on corner stores, which generally have limited healthy options, selling food that is both poorer in quality and more expensive relative to supermarkets.<sup>5</sup>

### KEY TERM

What do we mean by "active transportation" and "healthy food access"?

*What do we mean by active transportation?* Simply put, active transportation is human-powered transportation. Active transportation modes include walking, biking, riding a kick scooter, rolling in a wheelchair, and using a walker. Active transportation goes hand in hand with public transit (such as buses, light rail, subways, elevated rail, and trolleys), since most transit trips include active transportation at one end of the trip or the other.

*What do we mean by healthy food access?* Healthy food access means the ready availability of nutritious, culturally appropriate food at prices people can afford. In addition, people need to have the information, skills, and tools to prepare food. Food venues include all of the places where people buy or obtain food, such as grocery stores, corner stores, bodegas, restaurants, community gardens, urban agriculture plots, soup kitchens, food pantries, summer/afterschool meal sites, mobile markets, and more.

The lack of nearby venues for healthy food places a significant burden on low and moderate income families with limited vehicle access, who must rely on walking, bicycling, public transportation, lifts from friends or family, or taxi cabs. Each of these alternatives comes at a cost. Challenges include risking physical safety by walking and bicycling in areas without sidewalks, bike lanes, or crosswalks, or long bus rides with inconvenient schedules. For families relying on a ride from a friend or paying an expensive taxi fare, the distance from a grocery store and lack of adequate travel options may influence their shopping patterns in unhealthy ways. For example, a common response to this challenge is to only go shopping once a month, purchasing fewer fresh, nutritious foods.

The overall effect puts low-income people and people of color at a disadvantage in terms of the affordability and quality of food available within their neighborhoods. It is a hardship to have to travel a long distance to get healthy food, and one that particularly affects low-income people, people of color, and people living in rural places.

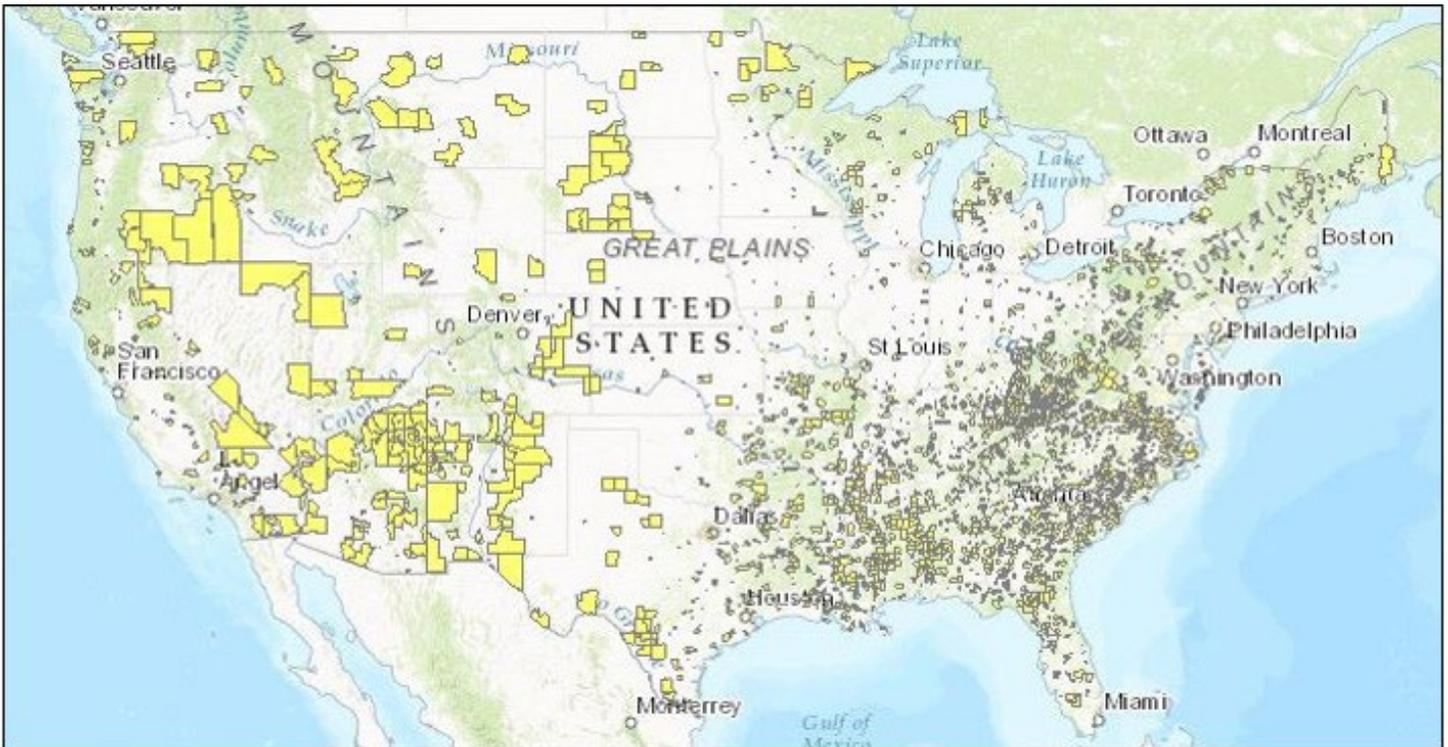
Our transportation system frequently makes it difficult and unsafe for people to get to the places they need and want to go in their communities. Lack of adequate support for active travel means that people either put themselves in harm's way by walking and biking on hostile streets, pay for expensive cab rides or ridehailing, or endure long rides with multiple transfers on public transportation.



Photo: Sara Zimmerman

### Who Needs Safe Routes to Healthy Food?

We all do. Everyone deserves convenient access to affordable, nutritious foods and safe, comfortable ways to get around their communities. Some people choose not to drive because they prefer the wind in their hair, getting their steps in, the social aspect of riding the subway, or the carbon-neutrality of walking and biking. No matter the reason, people need streets, sidewalks, and transit that connect them to everyday destinations. Others use these travel modes out of necessity rather than choice. These challenges exist in urban, rural, and suburban communities, and the need is most acute for people and in places facing both transportation and healthy food access challenges. While the specific challenges and potential solutions vary, this problem affects many people: data from the USDA Economic Research Service show that almost 20% of Americans face serious barriers to accessing food. That means that the same people experience barriers to accessing food and barriers to convenient mobility.<sup>6</sup> The map below, from the USDA Economic Research Service, shows census tracts that are low income, have low vehicle access, where residents are either ½ mile in cities or 20 miles in rural areas from the closest grocery stores).



# A Transportation Challenges

“ *It is a hardship to have to travel a long distance to get healthy food, and one that particularly affects low-income people, people of color, and people living in rural places.*”

## 1. Inadequate Infrastructure for Safe and Convenient Walking and Bicycling

In communities all across the country, people want to walk, bike, and be active as they go about their day's activities – or they have no other choice – but inadequate facilities either discourage them or put them in danger from speeding traffic. The type and quality of transportation infrastructure and built environment features available in communities varies widely, but when compared across income, racial, and ethnic lines, it is readily apparent that there are significant disparities in the presence of infrastructure that supports healthy active transportation. In Denver, Colorado, 40 percent of the city lacks adequate sidewalks for people to walk on, but the problem is far more acute in low-income parts of the city, which are almost 20 percent more likely to lack sidewalks.<sup>7</sup> The experience in Denver aligns with larger trends in disparate access to sidewalks. Research shows that sidewalks are only present in 49 percent of low-income neighborhoods compared to 89 percent of high-income neighborhoods.<sup>8</sup> Likewise, streets with well-marked crosswalks are twice as common in high-income areas than low-income communities.<sup>9</sup> A similar pattern is seen for other types of features that make streets safer and more inviting for people walking, such as street lighting, traffic islands, traffic circles, and other features that slow traffic. While these are much less common in all communities, they are still found almost three times as often in high-income areas compared with low-income communities.<sup>10</sup>

The speed and traffic volume of a street is key to its safety, but major arterial roadways and highways are far more concentrated in low-income areas than upper income areas.<sup>11</sup> These high-speed roads pose far greater dangers to people walking, and are harder and less



pleasant to traverse by foot or bike than smaller streets. One study showed low-income neighborhoods had twice as many intersections with major thoroughfares, requiring residents on foot to navigate high-speed, high-traffic zones. In addition, poorer neighborhoods had more four-way intersections, which led to more injuries of people walking and driving due to the greater number of points of conflict.<sup>12</sup>

Lack of supportive infrastructure for walking and biking affects rural areas as well. One study found that rural North Carolina adults reported lack of sidewalks and bike lanes as significant barriers to getting regular physical activity and eating well.<sup>13</sup>

The impact of the lack of safe infrastructure can be deadly. Low-income people and people of color are more likely to walk, bike, and use public transit to get to basic needs than wealthier and whiter populations,<sup>14</sup> but are often getting around on streets that lack sidewalks and other basic elements that make it safe to walk or bike, resulting in high rates of injury and fatality.<sup>15</sup> Bicycle fatality rates nationwide are 23 percent higher for Latinos and 30 percent higher for African Americans compared with whites, reflecting the lack of adequate or safe infrastructure to support biking.<sup>16</sup>

People of color and low-income people are more likely to use healthy and sustainable ways to get around, but unsafe street conditions put them at risk for traffic-related crashes and fatalities.

## 2. Low Access to Vehicles for Low-Income Americans

Decades of sprawl, suburbanization, separation of land uses, and idealization of car ownership as part of the American Dream have resulted in people living far from many places they need and want to go, necessitating a car to get there. These planning and policy decisions, paired with underinvestment in public and active transportation and high levels of residential segregation, yield problematic outcomes for the millions of households in the United States without vehicles or with limited vehicle access. With a car, traveling to a grocery store outside one's neighborhood is easily accomplished. However, without vehicle access, people rely heavily on walking, bicycling, and transit to reach basic needs, including food. This challenge disproportionately affects low-income people and people of color.

More than a quarter of low-income Latinos and a third of low-income African Americans lack access to a car, compared to 12 percent of low-income whites.<sup>17</sup> This lack of vehicle access, paired with lack of proximity to healthy food retailers, portends significant transportation challenges. Approximately one-third of very low-income and food insecure families have to use a means other than their own car to get food.<sup>18</sup> Only 66% of SNAP households use their own vehicle to get to the store where they usually shop for groceries, compared to 95% of households not participating in SNAP. Fourteen percent of food-insecure households use methods other than a personal vehicle (such as walking, biking, public transportation, or cabs) for their primary grocery shopping, compared to only four percent of food-secure households.<sup>19</sup> Lack of vehicle access is not just an urban problem. In fact, the problem can be even more acute in rural areas, where public transportation infrastructure is less robust and 1.6 million people do not have cars, accentuating the need for alternative transportation options.<sup>20</sup>

Even with a car, costs for upkeep and gas may limit vehicle trips made by car owners. AAA estimates that the average cost to own and operate a new car is \$8,849.<sup>21</sup> These ongoing costs mean that some car owners lack adequate funds to use their cars regularly.

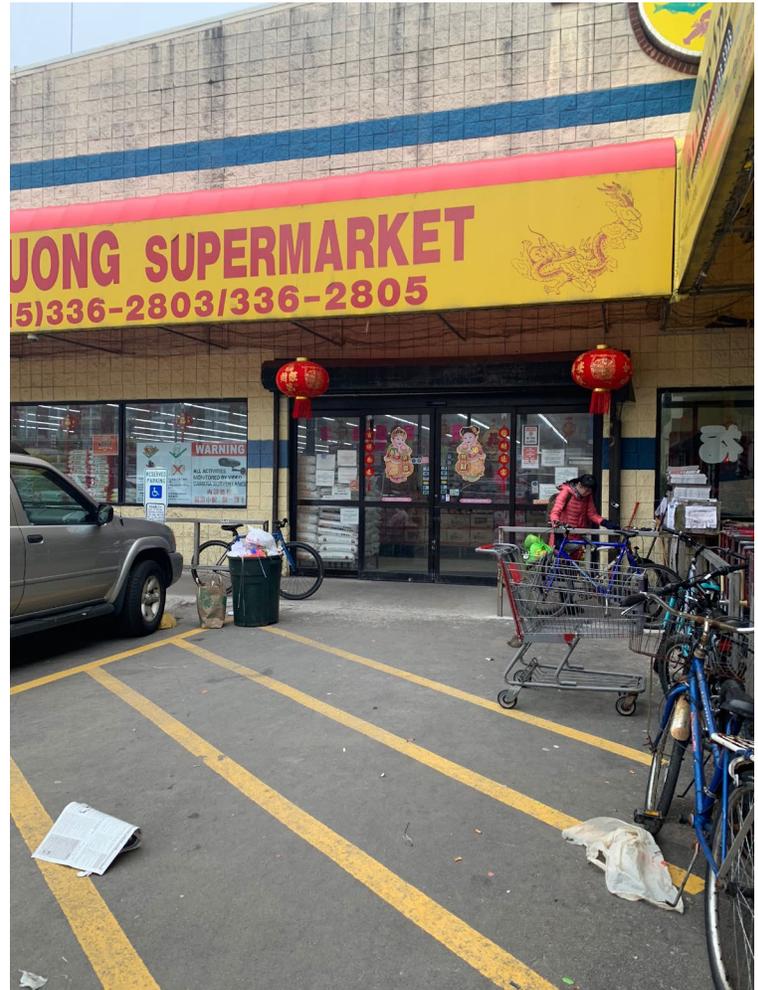




Photo: Andre Gaulin/Unsplash

### 3. Underfunded Public Transportation

Too often, public transportation falls short of meeting the needs of communities, requiring inconvenient transfers and connections, failing to provide reliable service, and involving long routes and poor connectivity to key destinations. A high percentage of public transportation users are low- to moderate-income, with two-thirds of riders having household incomes of less than \$50,000 per year, and 20 percent of riders having a household income of less than \$15,000 per year.<sup>22,23</sup> African Americans are six times more likely to use public transit than whites; Latinos are three times more likely.<sup>24</sup> One study showed that in Boston, Massachusetts, African-American commuters spend an average of 66 more hours per year commuting than white commuters, waiting, riding, and transferring along the city's public transportation system.<sup>25</sup>

Poor connectivity may require multiple transfers both within transit systems (bus to bus) or between different modes of transit (metro to bus), adding an additional level of time and complexity to food shopping. Families carrying home perishable groceries may worry about buying fresh meats, dairy items, produce, or frozen food for fear that they may spoil on the long trip home. In Waco, Texas, a fifteen-minute drive to the grocery store takes residents of one neighborhood two hours to complete on the bus, and requires crossing several lanes of traffic with no crosswalk or stop sign.<sup>26</sup>

Lack of safe and convenient mobility impedes not only access to healthy food, but also access to education, employment, opportunity, and more.



## B Healthy Food Access Challenges

Many communities do not have affordable food close to home, and when food is available in people's neighborhoods, it is frequently unhealthy and of low -nutritional value. Just as with transportation challenges, healthy food access challenges disproportionately affect low-income people and people of color.

### 1. Too Few Communities Have Affordable, Healthy Foods Close to Home

There are only ten grocery stores in the entire Navajo Nation, a geographic expanse roughly the size of the state of West Virginia, which means that nearly all residents have limited access to fresh, healthy food.<sup>27</sup> Throughout Indian Country, it is not unusual for people to travel over 20 miles before reaching a grocery store.<sup>28</sup> It is not only rural and frontier areas that experience challenges with access to healthy food; people in dense, urban neighborhoods lack grocery stores close to home as well. In Washington, D.C., there are only three grocery stores in Wards 7 and 8, which have a combined population of 148,000. In comparison, Ward 3, a wealthier and whiter area of the city has three times as many grocery stores and just over half the population of Wards 7 and 8.<sup>29</sup> Nearly one in ten Americans lives in a community that is a food desert: where there are no healthy food stores within one mile of their home in urban areas or ten miles of their home in rural areas.<sup>30</sup> Many studies have found that low-income neighborhoods, rural neighborhoods, predominantly black neighborhoods, and predominantly Latino neighborhoods have fewer supermarkets and more convenience stores than higher income, urban, and white neighborhoods.<sup>31</sup>

#### Access to Healthy Food

Access to healthy food is defined and measured a number of different ways. The broad definition of access takes into account physical availability and proximity, affordability, cultural alignment, and education about nutrition and food preparation. For the purpose of this report, healthy food access focuses on the proximity of healthy food venues, as this is the component most closely related to transportation challenges. For more information on other dimensions of food access and strategies to improve food access, please visit: [HealthyFoodAccess.org](http://HealthyFoodAccess.org) and the [Johns Hopkins Center for a Livable Future](http://JohnsHopkinsCenterforaLivableFuture.org).

### 2. Abundance of Expensive Unhealthy Food

When food retailers are located close to home, too often available foods are low in nutritional content. Many of the same communities lacking full-service grocery stores with healthy options are oversaturated with stores selling unhealthy food, often at higher prices than at grocery stores.<sup>32</sup> Lower income neighborhoods have a higher prevalence of corner stores and bodegas, which tend to sell limited healthy food options, instead providing food that is both poorer in quality and more expensive relative to supermarkets.<sup>33</sup> People tight on time and facing transportation barriers are relegated to more expensive and less healthy food options if they choose to shop in their neighborhoods. However, research suggests that people of color and low-income people are more likely to shop outside their neighborhoods due to lack of available nutritious foods close by. Low-income residents, Black residents, and Latino residents are less likely than other residents to shop for food in their own census tract – meaning that they have to travel further to find adequate or appealing food options.<sup>34</sup> This means they are enduring long bus rides, walks without sidewalks, and bike rides alongside speeding traffic in order to shop for healthier food.

### 3. Health Impacts of Lack of Safe Routes to Healthy Food

As noted, the lack of access to healthy foods, convenient public transit, and safe places to walk or bike is bad for people's health, and disproportionately affects low-income communities, rural communities, and communities of color. Without safe places to be physically active and without access to healthy food, Black and Latino residents and low-income residents of all races and ethnicities experience the highest obesity rates nationwide.<sup>35</sup> In rural communities, adults experience obesity at a rate that is significantly higher than urban adults of the same demographic.<sup>36</sup>

# C Measuring the Problem

There is no universal metric for measuring whether a place has Safe Routes to Healthy Food. Varying availability of local data on sidewalks, bike lanes, and transit routes make it difficult to compare between localities and even when these data are available, they typically do not include relevant information like whether sidewalks are in good repair or if bus routes run on time. A ten-minute walk, roughly one-half mile, is generally accepted as “walkable” – but it is key to note that this definition does not take into account walking with grocery bags, which can make walking more difficult, or the challenges that can accompany walking as an older person or with small children. Although there is no standardized Safe Routes to Healthy Food metric, there are a number of ways that communities can determine the need and opportunity.

## 1. Safe Routes to Healthy Food Mapping Resources

Assessing the food access landscape requires understanding what healthy food retail venues exist in a community, as well as real and perceived barriers to accessing them.<sup>37</sup> There are mapping tools that can help users understand various aspects of food access in their community. For example, [PolicyMap](#) is a tool that synthesizes various indicators and displays them visually for the user. Metrics such as income, healthy food retail venues (such as grocery stores and farmers markets) and health indicators can be displayed visually through this tool.

The USDA has also developed a tool to understand the availability of supermarkets in communities through the [Food Access Research Atlas](#). This tool allows the user to map aspects of food access by census tract, including those that are low-income low-access, at ½-mile, 1-mile, 10-mile and 20-mile distances to understand need in rural and urban areas.

The food access landscape is ever changing as stores open and close, and databases can age quickly. It is important to ground truth this data with a local perspective on healthy food access. GoogleMaps can also be a useful tool to get an updated reflection of grocery store presence in a community. For more information, see The Food Trust's [paper](#) on determining eligibility for healthy food financing projects.

## 2. WalkScore

The WalkScore [website](#) enables users to put in addresses and computes the walking distance/time to local food retailers, including corner stores, supermarkets, farmers markets, and more. It is a useful tool for gathering information about specific sites, but not for understanding the general scope of the access to healthy food problem in a community.

## 3. Safe Routes to Healthy Food Walk Audits

To truly understand the local conditions that impede active travel to food retailers, it is important to witness them firsthand. One way communities can assess whether routes are safe and convenient for people is to conduct walk audits. During a walk audit, community members go for a walk together, noting what makes their streets feel comfortable for walking and what aspects would make them feel better walking there. Communities can include questions specific to Safe Routes to Healthy Food in the walk audits, including proximity to grocery stores, access to the store itself, and accommodations for people returning with grocery bags.

### Safe Routes to Healthy Food for Older Adults

Asian Services in Action, Inc. (ASIA) in Northeast Ohio wanted to improve walkability to grocery stores for older adults in the AsiaTown neighborhood of Cleveland, Ohio (population 385,585). In order to determine what steps were needed, ASIA led a walk audit with residents of Evergreen Apartments, a large senior housing complex. The walk audit not only assessed the walkability of the route, but also the features around the store that supported or hindered these residents in walking to and from the grocery store. Residents grocery shopped during the walk audit so that their experiences were as realistic as possible. The walk audit revealed four priorities: (1) the need for park benches along the route: without a place to take a break, the walk between the grocery store and Evergreen Apartments was exhausting for some seniors, (2) the lack of a crosswalk at a major intersection, (3) the need for an improved crossing on the main road along the route, and (4) the need for improved maintenance of various properties along the route that made participants feel unsafe.

# The Opportunity: Safe Routes to Healthy Food



As the preceding section established, significant barriers in our communities are impeding healthy eating and active travel. These challenges provide an opportunity: a chance to work toward Safe Routes to Healthy Food.

**A**

## What is Safe Routes to Healthy Food?

Safe Routes to Healthy Food aims to make it easier, safer, and more convenient for people to walk, bike, and take public transit to places where they buy or obtain healthy foods. Safe Routes to Healthy Food recognizes that it is important to both bring healthy foods closer to people and to improve the transportation connections to healthy food venues. Safe Routes to Healthy Food is a constellation of policies, programs, and practices that consider food access in transportation planning and policymaking and also consider transportation issues as part of healthy food access improvements.

### Healthy Food Access Leads to Job Creation

After Vinton County, Ohio (population 13,048), lost its only grocery store in 2013, residents had to travel to another county to get fresh produce and groceries. Further compounding the distance challenges, the county seat, McArthur, has a large population of seniors and others with additional transportation challenges. The Vinton County government paid for a market study in order to attract a grocery operator. The information in the market study, paired with a grant and loan package provided through the state's Healthy Food Financing Initiative, the Healthy Food for Ohio program, successfully enticed Campbell's Market to open in the county. The 12,000 square-foot store opened fall 2017 and restored walkable healthy food access to many residents of downtown McArthur. The market accepts SNAP and WIC food assistance benefits. The opening of this market supported the community's economic health by creating jobs for 15 full-time and 15 part-time employees from the local community.

## B

# What Are the Benefits of Safe Routes to Healthy Food?

Tackling the intertwined challenges of healthy food access and safe active transportation offers a range of substantial benefits for communities. This section details key benefits of improving Safe Routes to Healthy Food and the research to substantiate each benefit.

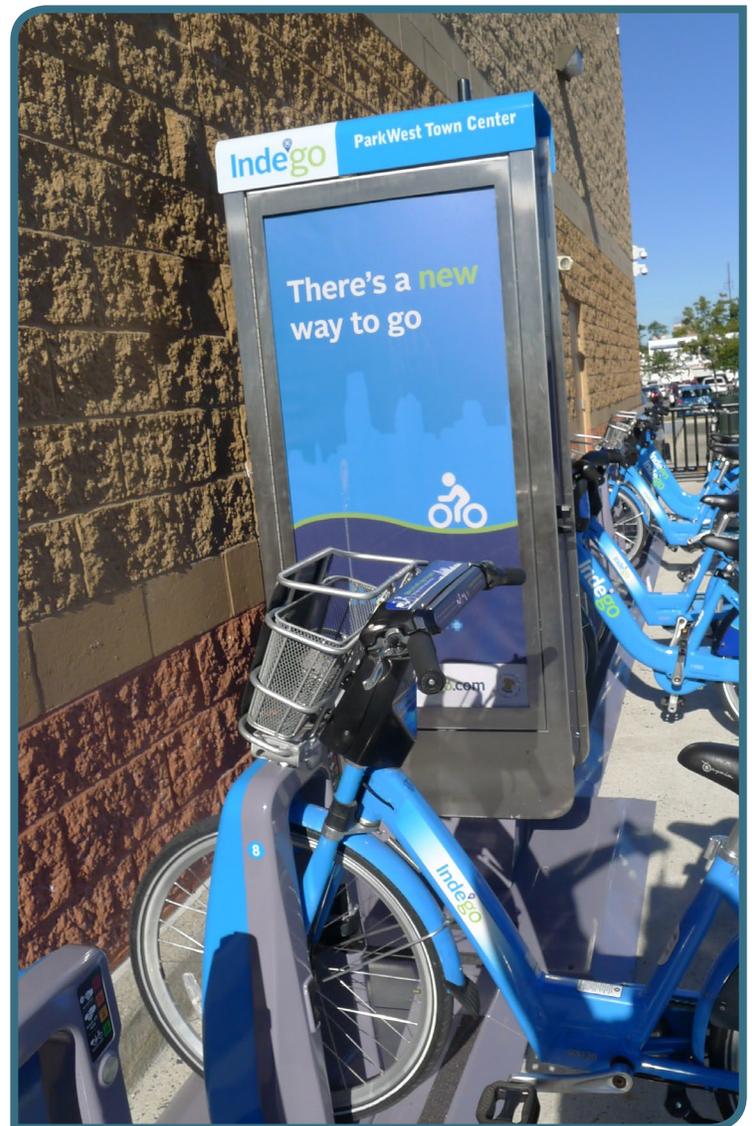
## 1. Improve Health

Perhaps the biggest benefit of community changes that improve Safe Routes to Healthy Food is the opportunity to see real health improvements. Increased access to nutritious foods and safe opportunities for physical activity can lead to decreased rates of weight-related chronic disease. Research shows that people with access to healthy food, streets that are safe for walking and biking, and public transportation options have better health outcomes than people without access to healthy foods and active transportation choices:

- One study of a food desert area in the South Side of Chicago, Illinois found that many residents who were SNAP recipients were both beyond walking distance of a chain supermarket and not well served by a fixed route transit line, leaving the most needy residents with very limited food options and suggesting the importance of providing improved public transit and biking options.<sup>38</sup>
- An investigation of food deserts in King County, Washington, found that while many residents of low-income neighborhoods live beyond 10 minutes walking distance of a supermarket, they are within a 10 minute transit or bike trip, suggesting that improvements to public transit and bicycle infrastructure could help connect residents in food desert areas to food stores that are out of walking range.<sup>39</sup>
- Residents living in walkable neighborhoods (where destinations are located within walking distance of residential areas and where physical design features make it safe and appealing to walk) are more likely to be physically active and less likely to be overweight or obese than residents living in less walkable neighborhoods.<sup>40</sup>
- People who use public transit to get to work are more physically active and walk more often to reach daily needs and destinations than people who do not use public transit.<sup>41</sup>
- Studies find a positive correlation between access to supermarkets and other healthy food retail outlets and

better health outcomes, including lower body mass index (BMI) and lower rates of chronic disease.<sup>42</sup>

- Supermarkets designed for pedestrians, including pedestrian-oriented entrances, have a higher proportion of pedestrian mode share for shopping trips.<sup>43</sup>
- A study of two African American neighborhoods in Philadelphia, Pennsylvania, found that residents who use public transit to get to their primary food store have a slightly lower body mass index (BMI) than those who use cars, perhaps because they walk more in order to reach public transit stops.<sup>44</sup>



## 2. Safety from Crime and Crashes

Improving safety for people using active routes to get to food retailers means making sure people feel safe from personal danger and crime, as well as from traffic injuries. Strategies that enable Safe Routes to Healthy Food can inspire more people to walk and bike, which in turn gets more eyes on the street, improving perceptions of personal safety.

- The concept of safety in numbers means that more people walking at an intersection decreases the likelihood of collisions with cars, making it safer for people walking.<sup>45</sup>
- On streets with protected bike lanes, people bicycling are 90% less likely to sustain an injury than on streets without bicycle infrastructure.<sup>46</sup>
- Research shows that protected, separated bicycle infrastructure improves safety outcomes for all users.<sup>47</sup>
- Up to 88% of crashes involving people walking along roadways could be prevented by providing places for people to walk that are separated from car travel lanes.<sup>48</sup>
- Increasing the number of people out and about improves feelings of personal safety by increasing the natural phenomenon in which people casually watch out for each other and react if something goes wrong, a concept known as eyes on the street.



### Transit-Oriented Development and Healthy Food Access

Washington, D.C. (population 633,427), has pursued transit-oriented development around numerous transit stops as an economic development strategy. Transit-oriented development in the Columbia Heights neighborhood, anchored by a 53,000 square foot Giant supermarket, yielded over \$900 million in investment.<sup>55</sup> In addition to easy transit access along the Metro bus and train lines and good sidewalk connectivity throughout the neighborhood, the Giant grocery store also hosts a Capital Bikeshare dock.

## 3. Promote Transportation Connectivity, Mode Shift, and Decrease Traffic Congestion

Many of the solutions that make it safer and more convenient for people to walk, bike, and take transit to healthy foods also make it easier for people to get to work, parks, schools, and other places they want to go. In order to mitigate traffic and meet environmental goals, many communities aspire to decrease reliance on cars and increase walking and biking mode share. A well-connected network of destinations makes it more likely that people walk, bike, and use other non-vehicle travel modes. It also supports alleviating traffic congestion. Making it easier, safer, and more normal for people to walk to achieve everyday errands like grocery shopping can help reduce vehicle miles traveled and traffic congestion.

- Well-connected street networks are associated with higher participation in walking.<sup>49</sup>
- A community's walkability positively correlates with increased physical activity. A mixture of business types and residences, street network connectivity, and residential density correlate with increased physical activity.<sup>50</sup>
- Compared to residents living further from transit areas, people living close to transit stations walk and take transit more and drive less frequently.<sup>51</sup>
- An analysis of 30 miles of bicycle lanes installed in New York City since 2007 showed that car travel speeds and travel time remained before and after installation of bicycle lanes.<sup>52</sup>

## 4. Economic Development

Accessible healthy food retail improves the economic health and well-being of communities and can help revitalize struggling business districts. In addition to providing jobs, healthy food retail also increases or stabilizes home values in nearby neighborhoods, generates local tax revenues, provides workforce training and development, and promotes additional spending in the local economy. Grocery stores serve as anchor retailers, attracting nearby retailers, and serve as employers – creating or retaining jobs.

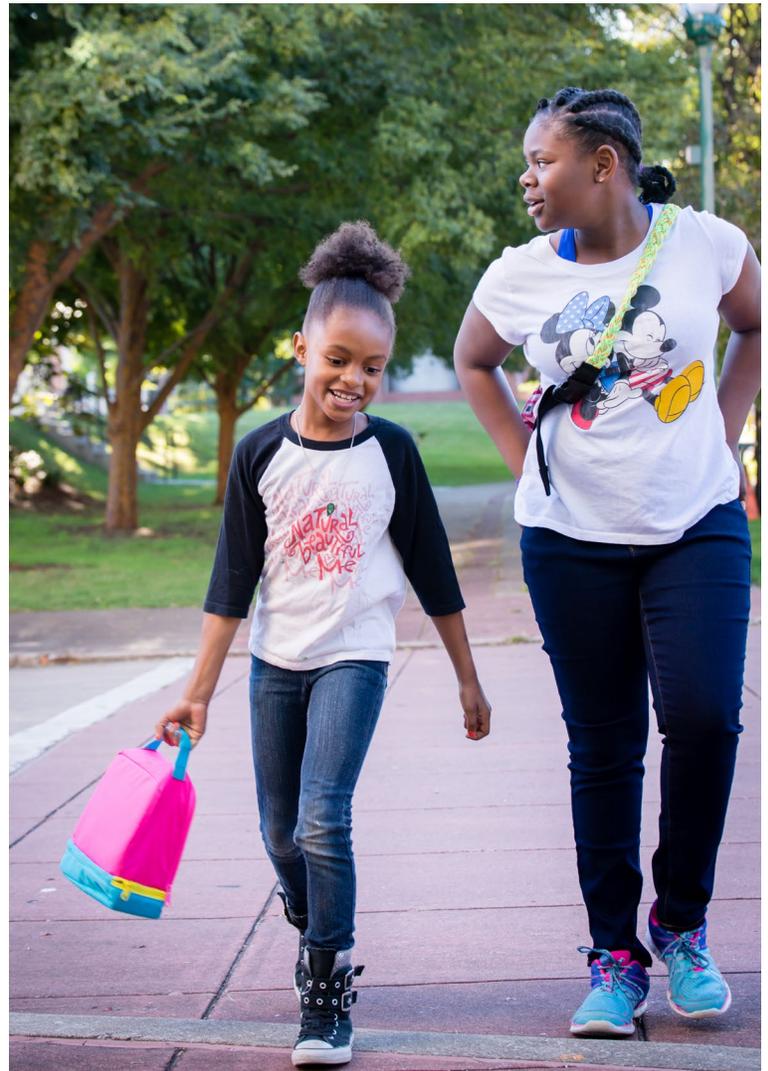
- Research suggests that improving pedestrian and bicycle infrastructure in commercial areas, such as walkways, bikeways, and bike racks, can increase sales and economic activity at local stores.<sup>53</sup>
- The New York City Department of Transportation conducted a rigorous analysis of seven corridors with streetscape improvements and found that these improvements were at least partially responsible for increased retail sales at businesses along the corridors. This research also suggests that streetscape improvements.<sup>54</sup>

### A Walkable, Transit-Accessible New Grocery Store Creates Jobs for 40 People in Ohio

Simon's Supermarket in Euclid, Ohio (population 47,201), opened in 2017 in a formerly blighted shopping center in the city's lowest income ward, which has low rates of vehicle access and a high concentration of people of color and recent immigrants. A health impact assessment conducted by a local government partnership identified the need for improved food access and recommended that the City of Euclid prioritize the recruitment of a grocery store to the neighborhood. Store owner Simon Hussain stepped up to develop a store in the shopping center, and when he faced unanticipated renovation costs, Cuyahoga County Board of Health connected him to the Healthy Food for Ohio program. The 27,000 square-foot grocery store creates much needed access to fresh food and accepts SNAP and WIC food assistance benefits. Hussain has hired more than 40 employees, predominantly from the neighborhood. Part of what made this site attractive for a grocery store is its proximity to residential neighborhoods within walking distance and its placement along an existing Cleveland Regional Transit Authority line.<sup>56</sup>

### Improving Multimodal Access to Healthy Foods to Promote Food Sovereignty

On the Rosebud Indian Reservation in South Dakota (population 11,354), leaders of the Community Food Sovereignty Initiative, led by Rosebud Economic Development Corporation (REDCO), undertook a community visioning exercise for a parcel of land adjacent to a residential area of the reservation. Among the top priorities identified by the tribe was a multi-modal path connecting the residential community to three tribally owned and operated food venues: a grocery store, farmers market, and community garden. REDCO's Community Food Sovereignty Initiative embraced this priority and is now working to create a safe, culturally relevant connection between these places.



# Safe Routes to Healthy Food Messaging Tips: Communicate the Interconnectedness of these Challenges

Persuading decisionmakers and community members of the need for action related to Safe Routes to Healthy Food calls for successful communication approaches. Effective communication requires understanding the needs, interests, and values of the target audience. Rather than presenting Safe Routes to Healthy Food as an entirely new concept for your intended audience to work on, it can be advantageous to communicate how working on it aligns with their existing values and interests. Here are suggested messages that may resonate about why to work on Safe Routes to Healthy Food:

**Supporting economic vitality:** Contextualize messages about Safe Routes to Healthy Food within a lens of supporting economic prosperity:

- Bike/pedestrian infrastructure promotes economic activity at businesses, especially where transit is unavailable.
- When people don't have ready access to affordable healthy food, they are burdened by costly barriers like cab fare or delivery fees, which means they have less spending money in their pockets to put back into the local economy.
- When people spend hours riding the bus due to infrequent headways and transfers, that is time they could be at work, spending with their families, helping kids with their homework, or getting involved in their communities.

**Creating safe, efficient transportation networks:** Present data that show how the lack of adequate, safe transportation to healthy foods affects people in a region:

- Due to unsafe routes in low-income communities and communities of color, these residents face higher rates of bicycle and pedestrian fatalities and serious injuries.
- Lack of Safe Routes to Healthy Food may be contributing to the numbers of fatalities and injuries, as people are walking and bicycling to food retailers in unsafe conditions.

**Improving community resiliency and sustainability:**

Sustainability is about much more than the physical environment, though improving environmental sustainability is certainly a worthy goal. Safe Routes to Healthy Food advocates can keep the triple bottom line in mind: environmental, social, and economic sustainability. To appeal to partners and decisionmakers focused on sustainability, frame messages to show how improving walkable, bikeable food access reduces carbon emissions, improves quality of life, and builds community resiliency in the face of a changing planet:

- Safe routes to walk, bike, or take public transportation reduces dependence on gas-burning vehicles, which reduces our carbon footprint and subsequent climate degradation.
- People want to live in vibrant communities: with places to visit and shop, where they might run into neighbors or friends, somewhere they don't have to spend a fortune on transportation expenses or a ton of time getting from point

A to point B, somewhere free of smog and pollution. People want to feel financially secure and part of community. Improving walkable, bikeable healthy food retail is a means to that end.

- Supporting walkable, bikeable food access ensures that residents are less reliant on cars in the face of natural disasters.

**Promoting social equity:** Frame Safe Routes to Healthy Foods requests as promoting social equity:

- No one should have to spend hours on the bus or risk their life walking or bicycling on unsafe streets just to get to the grocery store.
- Not everyone has access to a car, so we need to improve the ways people get to the various places they get food.

**Creating healthy communities:** Overwhelming evidence suggests that where people live, work, and play affects their ability to make healthy choices about food and physical activity. Partners and decisionmakers who care about supporting healthy choices may respond to messages about physical activity and healthy food access:

- Making it easy for people to walk and bike to the places they get food provides a simple way to build physical activity into one's day.
- Easy transportation access to grocery reduces dependence on expensive, calorie-dense foods at corner stores and increases access to affordable fruits, vegetables, whole grain foods, and low-fat milk, which decrease risk of obesity and other chronic diseases.
- Unhealthy communities can drag down economic productivity.



# Essential First Steps for Action: Collaboration and Community Engagement

## A

### Build Partnerships Across Sectors

Safe Routes to Healthy Food is, by definition, cross-disciplinary. It involves food access and the routes people take to get to food retailers. As such, it is most effective when advocates from different sectors come together to solve these challenges. By working in partnership, ordinary people, health-focused organizations, healthy food access advocates, bicycle and pedestrian advocates, hunger advocates, and local governments can make a big difference in community members' lives.

Focusing specifically on Safe Routes to Healthy Food is a newer area for planners, health professionals, and advocates, but there are many examples of ways to take action to improve transportation options to healthy food. Convene a meeting of local active transportation and food access stakeholders. Encourage a shift away from thinking about food access and active transportation as separate from one another, and discuss how the work could be strengthened by working together.

Key partners to recruit include food access organizations and active transportation advocates. In many communities, food access advocates and food policy councils are the leading voices calling attention to the need for affordable, healthy foods for people in a community. Many food access organizations and food policy councils address multiple dimensions of the food system, from farmer pay and land conservation to anti-hunger policy and nutrition. Often the availability of food that is accessible to local residents is a chief concern.

#### The Grocery Bag Challenge

In 2015, the American Heart Association in the Hampton Roads region of Virginia (population 1.7 million), added a new dimension to its annual 5k Heart Walk by inviting participants to take the Grocery Bag Challenge. Participants carried an eight-pound grocery bag for one mile of the walk to raise awareness of the difficulty faced by people without grocery stores close to home. Participants reported that it was much harder than they expected!

Active transportation advocates and organizations work to improve the bicycle and pedestrian environments for a host of reasons, including increased physical activity, injury prevention, decreasing carbon emissions, and community building. It is key to consider the everyday destinations people need and want to go, like schools, work, grocery stores, and parks, when advocating for improvements to biking and walking in communities. Food access organizations can collaborate with transportation advocacy organizations to identify where their goals overlap and then work together to achieve them.

Other important partners to involve include public health agencies and organizations, local government transportation, planning, and sustainability staff, environmental advocates, social justice organizations, and more. Section V includes recommendations based on sector, which provides detailed information about partners and potential actions they can take to improve Safe Routes to Healthy Food.

## B Engage Affected Community Members

The saying “necessity is the mother of invention” applies to Safe Routes to Healthy Food. People experiencing transportation and healthy food access challenges likely have ideas about what would most effectively support them to more safely and easily walk, bike, or take transit to food venues. Work with community members to understand the barriers and challenges to walking, biking, and taking transit to access healthy food. Host community visioning and listening opportunities in which community members are invited to share their ideas for improving Safe Routes to Healthy Food. Work with community members to understand how changes to existing transportation options or the addition of new transportation options will impact their ability to access nutritious foods. To understand the challenges and craft appropriate solutions, meet with local residents of areas with limited grocery access to understand how they’re currently getting to the grocery store, how they’d like to get to the grocery store, and how accessible proposed new locations are.

Questions to ask include:

- How do you currently get to the grocery store or wherever you buy/obtain food?
- Does public transportation provide a one seat ride (meaning no transfers are required)?
- Are there sidewalks connecting residential areas to this store?
- Is there bikeshare located near the grocery store? Are there bicycle racks?
- What would make it easier, safer, and less expensive for you to get to the store?



### Health Impact Assessment Recommends Community Feedback on Bus Modifications

In Phoenix, Arizona (population 1.6 million), Valley Metro participated as a stakeholder in a health impact assessment conducted by the Maricopa County Department of Public Health, which recommended “strengthening community engagement plans and protocols for bus level of service modifications in the study area.”<sup>57</sup> Transit agencies can hold focus groups and meetings with food advocacy organizations, such as food policy councils and neighborhood associations that can provide feedback on how a changed bus route will affect their ability to access groceries and other essential services.

## C Use Stories and Data

To engage new partners and compel decisionmakers to take action, share data that demonstrate interconnected transportation and healthy food access challenges, and also use storytelling to communicate the human element of this challenge. Maps can display existing bicycle, sidewalk, and transit infrastructure compared with venues where healthy food can be obtained. Data on crashes and collisions involving people walking and bicycling can draw attention to intersections and streets that require safety improvements, and can be used to guide policy, investments, and programmatic decision-making. Use photos to show the street conditions that make it difficult for people to get around the communities. Invite community members to share their stories of walking along streets with speeding traffic or exhausting bus rides with transfers.

### Mapping Food Access Within a 10-Minute Walk

In Philadelphia, Pennsylvania (population 1.6 million), the Department of Public Health launched a data collection initiative called Walkable Food Access, which maps the location of healthy food venues across the city to identify neighborhoods where people lack healthy food access within a ten-minute walk.<sup>59</sup> These data can inform policy and programmatic priorities.



Photo: ASIA, Inc.

### Analyzing Food Impacts of Transit Expansion

In Austin, Texas (population 950,715), recipients of an American Planning Association Plan4Health grant prepared a report entitled “Food for All: Inclusive Neighborhood Food Planning in North Austin,” which calls for conducting “a food impact analysis for all new transportation expansion projects.” This requirement would compel transportation planners for Capital Metro to consider access to and location of food venues when planning new transportation infrastructure.<sup>58</sup> Transit agencies can conduct internal assessments of how changing transit routes will affect riders’ ability to access essential services, like grocery stores, by incorporating this as a priority in service planning or when conducting an equity impact review of proposed changes.

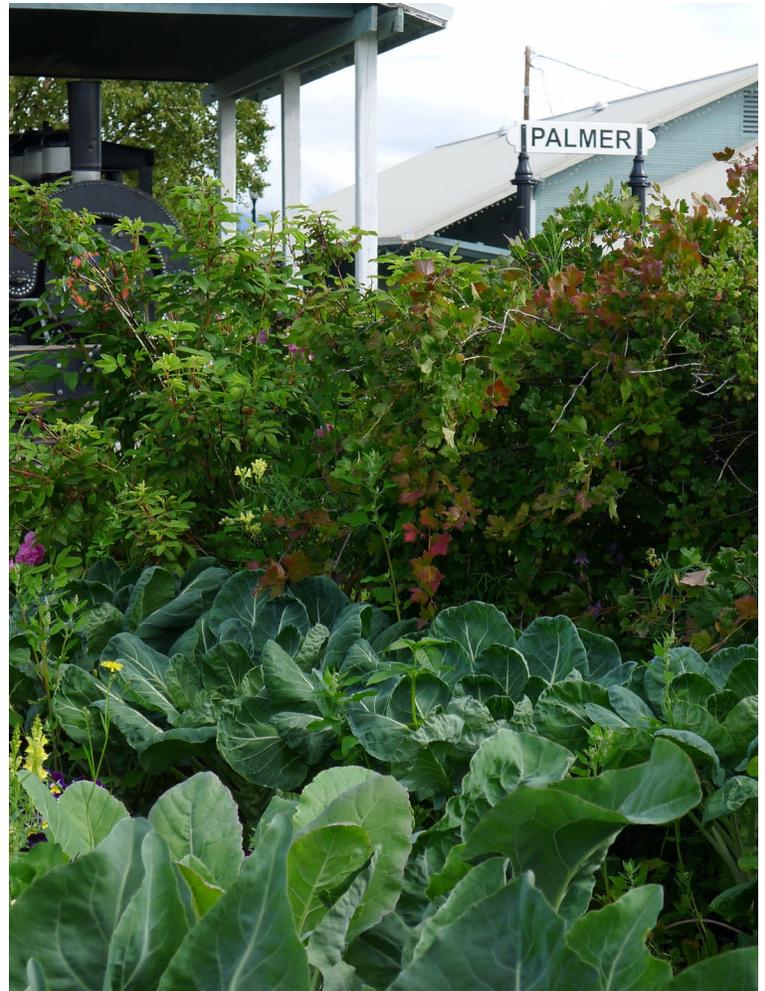




Photo: Sara Zimmerman

## Opportunities for further exploration that may impact Safe Routes to Healthy Food policies

*Can Safe Routes to Healthy Food strategies promote participation in the USDA summer meals program?*

The USDA reports that one of the most common barriers to participation in the summer meals program is the lack of transportation for school-aged children to summer meal sites.<sup>60</sup> Innovations in overcoming these transportation challenges currently focus on bringing meals to kids, which is great. Further exploration is needed to understand how improving walking and biking to summer meal sites in communities with many eligible children could affect the use of this essential nutrition program.<sup>61</sup>

*In large urban areas, especially those with “hot” real estate markets, what steps do we need to take so that improvements to food access and active transportation benefit existing community residents?*

Too often, in large metropolitan areas experiencing population and real estate growth, when a new grocery store, bike lane, or bus stop comes to a neighborhood that previously lacked options, it is accompanied by renewed attention that can raise property values and price people out of the communities they call home. As a result, it is recommended to pair recommended strategies to advance Safe Routes to Healthy Food with policies that mitigate the displacement of those communities these new food venues and transportation options are intended to benefit.

## SECTION IV

# An Action Framework to Advance Safe Routes to Healthy Food

There are numerous ways to improve Safe Routes to Healthy Food. This section offers a framework for working toward Safe Routes to Healthy Food. Section A addresses how communities can commit to a vision for Safe Routes to Healthy Food. Section B provides the opportunity to think about healthy food access through the lens of transportation, and Section C invites readers to consider transportation access to healthy foods. Section D addresses how land use planning processes provide an opportunity to unite transportation and healthy food access goals, and Section E includes programmatic ideas to motivate, inspire, and educate people to safely walk, bike, or take transit to local healthy food venues.

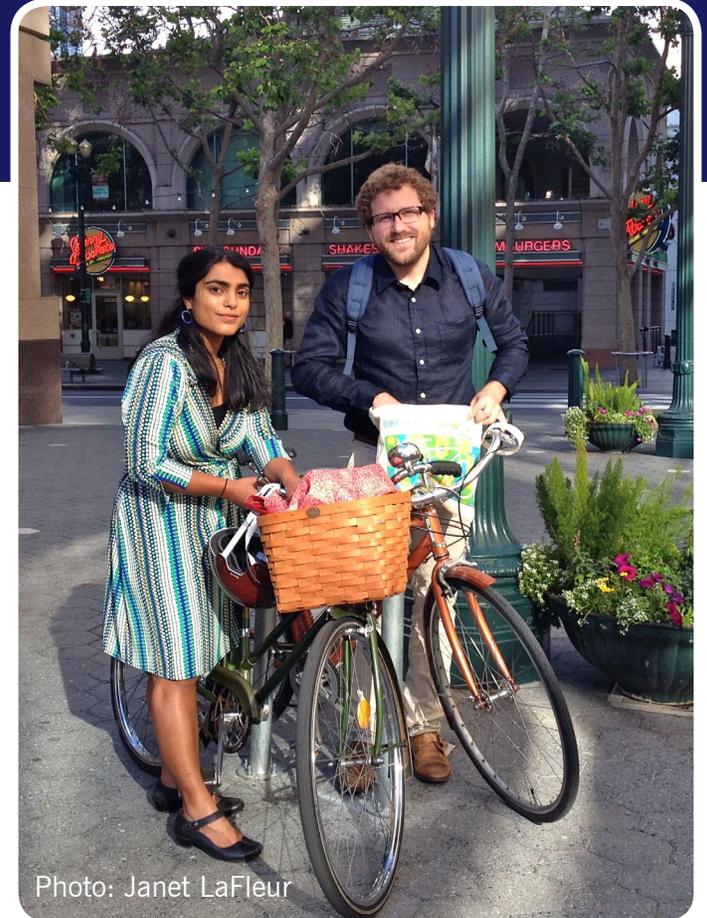


Photo: Janet LaFleur

### Safe Routes to Healthy Food in Sustainability Plan

The City of Philadelphia's Greenworks Sustainability Plan articulates a target goal to "bring local food within 10 minutes of 75 percent of residents."<sup>62</sup> The Southeastern Pennsylvania Transportation Authority (SEPTA), the regional transit provider, includes a parallel goal in its sustainability plan, SEP-Tainable: "Improving Access to Local Food via Transit." SEPTA sets out four action steps to achieve that vision.<sup>63</sup>



Photo: Sara Zimmerman

## A Commit to a Vision for Safe Routes to Healthy Food

One key to making positive change for Safe Routes to Healthy Food is to envision and plan for places that let everyone access safe, convenient opportunities for physical activity and healthy food access. Cities, states, transit agencies, community coalitions and others can develop visions for how everyone can safely and conveniently access healthy food without a car.

### **Strategy: Adopt a Safe Routes to Healthy Food Resolution**

One way for governments to articulate a vision is to **adopt a Safe Routes to Healthy Food Resolution**, a policy that spells out a commitment to creating places where people can safely and easily walk, bike, and take transit to healthy food venues.

### **A Safe Routes to Healthy Food Resolution in Kansas**

In Emporia, Kansas (population 24,724), the city passed a Safe Routes to Healthy Food resolution that set out its commitment to active transportation and Safe Routes to Healthy Food. The resolution declared: “Now therefore, be it resolved that the City of Emporia affirms its commitment to active transportation and supports Safe Routes to Healthy Food infrastructure and non-infrastructure projects with the Blue Cross/Blue Shield Pathways grant funds; ... Be it further resolved that the City of Emporia shall take steps to ensure that demonstrated low-income areas are prioritized in the process of awarding the Safe Routes to Healthy Food infrastructure and non-infrastructure projects, including establishing plans and goals for equitable participation of community members from these areas, prioritization of applications from low-income areas, and development of matching funds for these communities.”<sup>64</sup>

## B Healthy Food: Ensure that Healthy Food Options Abound, and Consider Transportation Access

There are multiple dimensions of healthy food access: affordability, nutritional quality, cultural relevance, knowledge and education, and more. While there are countless ways to improve healthy food access, for the purpose of Safe Routes to Healthy Food and this report, this section focuses narrowly on the improvements to healthy food access that rely on bringing healthy food retail closer to people and bringing people closer to healthy food. Additionally, because the USDA Economic Research Service finds that 90 percent of households, including SNAP recipients, food insecure households, and wealthier households, complete their food shopping at full-service supermarkets or supercenters,<sup>65</sup> this section focuses on ensuring access to grocery stores as the primary healthy food retailer.

### **Strategy: Use Healthy Food Financing Initiatives to Establish Retail**

In recent years, efforts to eradicate food deserts have centered around bringing grocery stores and other healthy food retail to underserved areas. [The Food Trust](#), along with partners such as PolicyLink and Reinvestment Fund, has led the national movement to develop **Healthy Food Financing Initiatives** (HFFI), which provide loans and grants to grocery stores and other healthy food retail that develop in lower-income underserved areas. Note that when new healthy food retail is established, people need to be able to get there. Healthy food access advocates can proactively consider transportation access to grocery stores as part of Healthy Food Financing initiatives.

HFFIs provide financial incentives to food retailers that meet three key criteria: 1) they develop or locate in underserved areas; 2) they serve low to moderate income areas; 3) they meet “community fit” criteria, which indicate that the project is supported by the community. Rather than

requiring grocers to meet certain transit criteria through these programs, which may end up hindering food retailers’ ability to locate in underserved areas, advocates have found strategies that instead are framed as recommendations to grocery store operators to be more effective. Further, supporting partnerships that enable grocers to work toward these transit recommendations will help them meet stated goals. When working to bring a grocery store to an underserved area, make sure transportation access recommendations are part of new healthy food financing and new healthy food retail establishment efforts. Here are strategies to consider transportation access as part of healthy food retail development:

- As part of the “community fit” assessment, be deliberate about encouraging the transportation accessibility of the site.
- Assist with site selection of new healthy food retail: ensure that sites selected are in walkable, bikeable, transit-accessible locations. Give priority to accessible locations.
- Expand permitted uses of healthy food financing funding to allow the purchase of bike racks, improvements to parking lot design, and other changes to make it easier for people to walk/bike to the store.

### **Healthy Food Financing in Massachusetts Considers Public Transit Access to New Grocery Stores**

The state Healthy Food Financing Initiative for Massachusetts, known as the [Massachusetts Food Trust Program](#), includes transportation access as a consideration for receiving the program’s funds. One condition of eligibility includes that customers be able to access the business by public transportation.

### **What Are Healthy Food Financing Initiatives (HFFIs)?**

The concept of a Healthy Food Financing Initiative (HFFI) refers to a policy model at the local, state, or federal level that provides financing for healthy food retail projects in underserved urban and rural areas. These policies improve access to healthy foods in low-income and underserved areas, create and preserve quality jobs, and revitalize communities by providing loans and grants to eligible fresh, healthy food retail projects. They also promote affordability of healthy food by supporting venues that accept benefits such as the Supplemental Nutrition Assistance Program (SNAP) and Gus Schumacher Nutrition Incentive Program (GusNIP). Projects can include grocery stores, farmers markets, food hubs, co-ops, and other businesses that sell healthy food. This financing allows retailers to overcome the high monetary barriers to entry in low-income urban, suburban, and rural areas that are underserved by healthy food retail. They are intended as a one-time incentive to help overcome these barriers and not as an ongoing operating subsidy. For more information about HFFI programs and their impact across the country, view the [HFFI Brochure](#) and the [HFFI Impacts Report](#).

### Strategy: Zone for Healthy Food Access

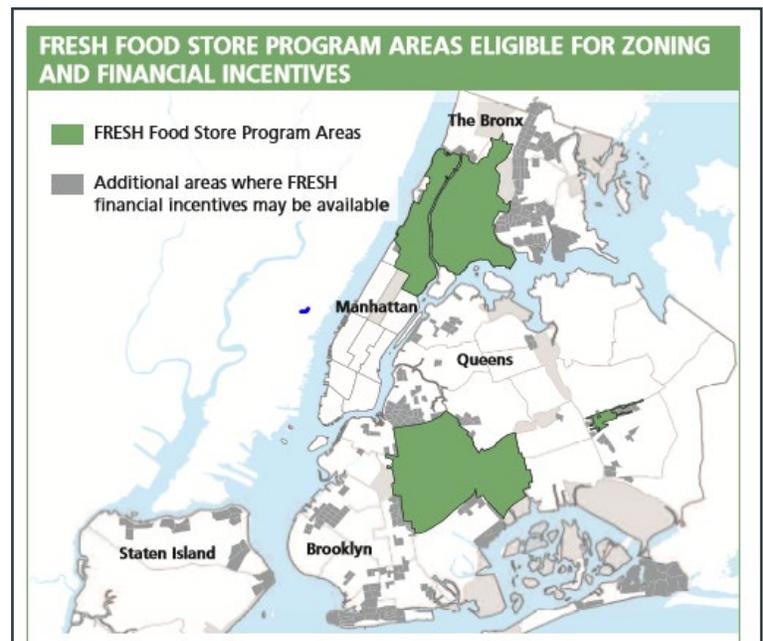
Zoning to allow a variety of types of food retailers is, perhaps, the most essential zoning strategy for increasing healthy food access. Research evaluating zoning codes in 175 municipalities and counties found that 93% of zoning codes allow fast-food restaurants, but only 78% allow supermarkets or grocery stores.<sup>66</sup> Most zoning codes only allow uses that are designated in particular areas, so “permissive zoning is an essential prerequisite for attracting a grocery store to a community.” In communities where zoning patterns do not allow grocery stores in close proximity to residential areas, zoning may create a significant barrier to food access for lower-income people, who often lack access to reliable transportation.<sup>67</sup>

An analysis of 154 municipal zoning codes and food outlets found that communities with zoning codes that permit grocery stores/supermarkets had more healthy food outlets per square mile than municipalities without language in their zoning codes expressly permitting grocery stores/supermarkets.<sup>68</sup>

In addition to specific land uses permitted in a zoning code, states and localities across the country are using zoning incentives in order to attract healthy food retailers to their communities. The rationale behind this is that incentives can help overcome the barriers to bringing in new food venues caused by the significant upfront costs to opening a healthy food retail establishment like a grocery store, particularly in high-poverty areas. As noted above, zoning incentives are an important tool for encouraging actions that jurisdictions cannot or do not want to mandate. When communities offer density bonuses or parking reductions for food retailers, it can provide a lucrative incentive for a retailer to locate in a certain area.

### Zoning and Financial Incentives for Neighborhood Grocery

New York City’s Food Retail Expansion to Support Health (FRESH) program provides zoning and financial incentives to promote the establishment and retention of neighborhood grocery stores in underserved communities throughout the five boroughs. These zoning incentives include additional development rights, reductions in parking requirements, and density bonuses for grocery stores locating in priority neighborhoods.<sup>69</sup> The zoning incentives are paired with financial incentives, including tax abatements. Over 20 projects have been approved since the launch of the program.<sup>70</sup> Following the launch of the FRESH program, in-store surveys show that 80% of respondents buy more fruits and vegetables due to the renovation or construction of a local grocery store. Additionally, 96% said that the store’s construction or renovation made fresh produce more convenient to buy.<sup>71</sup>



### Supporting Grocery Store and Healthy Food Retail in Underserved Areas

Over the past decade, The Food Trust, a national nonprofit dedicated to increasing access to healthy food, has worked with multi-sector task forces in regions across the country to come up with recommendations for better supporting grocery store and other healthy food retail development in underserved areas. Each task force together develops recommendations to improve food access. Often, transportation comes up as a key issue, and task force members identify opportunities to address this problem. In Pennsylvania, the recommendations included: “The appropriate city, regional and state transportation agencies should develop safe, cheap, and convenient transportation services for shoppers who do not have access to a full service supermarket.”<sup>72</sup> In North Carolina, recommendations included: “Develop affordable and efficient transportation services for rural and urban neighborhoods without convenient access to healthy food retail venues. Support innovations such as e-commerce solutions, mobile markets, and grocery delivery, in addition to connecting existing transit lines with healthy food access venues.”<sup>73</sup>

# C

## Safe Routes: Ensure the Availability, Accessibility, and Appeal of Safe Routes Throughout Communities, and Consider Connectivity to Healthy Food Destinations

Because healthy food retail development takes time and significant capital and requires an experienced operator, there are many communities where healthy food retail may not be an option any time soon. As a result, it is critical to consider how people are getting to and from the places where they currently buy or get healthy foods.

There are myriad ways to make places feel comfortable and desirable to walk and bike. In addition to a need to make it functionally possible to connect to destinations on foot, bike, or bus, it is essential to make routes safe, convenient, and even enjoyable for people. Communities need strong, connected transportation networks that connect people to the places they need and want to go. General improvements that advance walking and biking are supportive of Safe Routes to Healthy Food; in addition, a focus on improving walking and bicycling transportation access to food venues also benefits people walking and wheeling to other places in their communities.

“*You may not use a bike for transportation but if you were to try riding from a neighborhood to the grocery store, your job site, or just the nearest transit stop, you'd experience how it feels to travel on a street or road that doesn't include provision for your mode. ... A bike can be the key that unlocks the door to opportunity but lack of comfortable, complete connections can keep that door from opening. These are the people biking to home from a late shift or on their way to an early one. The people carrying a bag on the handlebar to get their groceries home the only way they can, because a rack and bike bag aren't in the budget. The people whose headlights are dead because batteries cost money. The mom taking her kids to school by bike because the family has one car and it's in use. The senior citizen pedaling slowly to the doctor's office because their reflexes aren't up to the speed of driving decisions anymore.*”

-Secretary of Transportation for Washington State, Roger Millar<sup>74</sup>



### Considering Healthy Food Access in Sidewalk Improvement Planning

In Asheville, North Carolina (population 91,902), the city's Neighborhood Sidewalk Policy includes proximity to major grocery stores as a key consideration among several other criteria in prioritizing sidewalk improvement projects.<sup>75</sup>



### **Strategy: Improve Active Transportation and Transit Connectivity**

Communities desiring to improve safety and connectivity for people walking, biking, and taking transit can explore the many available types of policies and practices, including: passing Complete Streets policies, Vision Zero policies, Safe Routes to School policies, improving transit connectivity, and generally improving facilities for people walking and bicycling. Complete Streets, Vision Zero, and Safe Routes to School policies formalize a community's commitment to safe streets for users of various ages and abilities and travel modes. Improving transit connectivity requires recognizing public transportation as an essential component of a community's transportation network. Transit agencies can be a key player in improving healthy food access by considering the location of healthy food venues as part of transit planning.

#### **Dedicated Transit Lines to Grocery Stores**

In Flint, Michigan (population 96,448), Flint Mass Transportation Authority responded to the closure of two major grocery stores in its east side by creating a dedicated Rides to Groceries bus line that links low-food access neighborhoods to full service grocery stores.

#### **Complete Streets to Healthy Food**

In Maryland, the state expanded its Complete Streets program goals to include providing access to healthy food retail, with an emphasis in underserved areas. The law expands the definition of "Complete Streets design features" to include providing access to healthy food retail.<sup>76</sup>



**Strategy: Consider healthy food retail in active transportation project planning and prioritization**

To improve Safe Routes to Healthy Food, consider the locations of healthy food retailers when planning and prioritizing for improvements to street safety, networks, and connectivity. Ideas for improving facilities for people walking and bicycling to healthy food venues include: ensure ample bike parking at food retailers, prioritize the development and maintenance of sidewalks and bicycle lanes that connect residential areas to food venues, include multi-modal healthy food access as a goal in Complete Streets policies, and consider healthy food venues as destinations in project scoring and prioritization.

**Mapping Healthy Food Access**

In Nashville, Tennessee (population 691,243), the Metropolitan Planning Organization’s 25-year Regional Transportation Plan included a staff analysis of how roadways in the Nashville area can better connect residents to food retailers. The analysis overlays maps that identified neighborhoods with lower income, minority and elderly residents who would benefit from transportation links to food retailers that did not require owning a car. The Metropolitan Planning Organization included the analysis of food environments and community populations in the ranking and funding of transportation projects as one part of a comprehensive approach to promote the health and wellness of residents in the Nashville area.

**Incorporating Active Design Guidelines Into Policies and Planning Documents**

In New York City (population 8.6 million), architects, planners, and public health professionals joined forces to develop Active Design Guidelines.<sup>74</sup> The goal of the guidelines is to support New Yorkers in achieving daily physical activity as part of their normal days. In order to ensure their implementation, these recommendations were then incorporated into relevant administrative documents, building codes, zoning codes, and subdivision ordinances. The Active Design Guidelines include four recommendations specifically related to improving walkable, bikeable, transit-accessible food access:

- Develop full-service grocery stores within walking distance in all residential neighborhoods.
- Introduce farmers markets as a complement to grocery stores.
- Provide safe walking and bicycle paths between densely populated areas and grocery stores and farmers market sites.
- Design grocery store layouts and parking to accommodate people walking, bicycling, driving, and loading trucks safely and conveniently. Provide infrastructure such as bicycle parking and drinking fountains.

## **D** Planning: Use Land Use Planning Processes to Bring Safe Routes and Healthy Food Together

The way places are designed and built influences how hard or easy it is to be physically active and obtain nutritious foods. The way our built environments are designed and constructed can promote physical activity – through active transportation or recreation – or hinder it, by creating environments that do not support walking and bicycling.<sup>77</sup> Similarly, our built environments influence healthy food access by shaping proximity to and accessibility of healthy food venues. In order for people to walk, bike, or take transit to a food retailer, that connection must be physically possible. Because the built environment is so influential over human health, it is imperative to look at how it is created. Land use and transportation plans are powerful tools that guide the way that communities develop and redevelop. There are opportunities to incorporate Safe Routes to Healthy Food into comprehensive plans, master plans, and bicycle and pedestrian plans.

**Strategy: Use these land use plans to bring safe routes and healthy food together**

- Comprehensive plans act as a blueprint for a community's future. A comprehensive plan is a written document that starts with residents' vision for how they want the community to look and feel in the future –what kind of place they want it to be. Building off the current community conditions, the comprehensive plan details the goals, objectives, and policies that if implemented, will lead to a realization of that vision.
- Master plans are narrower in scope than comprehensive plans, and typically focus on a particular area like a neighborhood or park, but also act to set the course for what an area could look and feel like in the future.<sup>78</sup>
- Bicycle and pedestrian plans are communities' blueprints for enabling people to walk and bike safely and conveniently. They also include goals and objectives, and they prioritize projects that will achieve connected networks for people walking and bicycling.

### Prioritizing Walking Projects that Connect to Healthy Food

Siler City, North Carolina, (population 7,887), is a predominantly Latino community where the per capita income is less than half that of the surrounding county. The town worked together with the Chatham County Health Department to incorporate healthy food access into its Pedestrian Master Plan. The Health Department conducted a nutrition environment analysis of food retailers in Siler City, and the town's Pedestrian Master Plan prioritized sidewalk and pedestrian improvements that connect residential areas with venues selling healthy food options. In a recent round of transportation funding, three of the recommended projects from the Pedestrian Master Plan received funding from the state department of transportation. This Pedestrian Master Plan has helped Siler City access millions of dollars in transportation funding to improve pedestrian connectivity and safety.<sup>79</sup>

### Healthy Food in Pedestrian Master Plans

In South Carolina, the Department of Health and Environmental Control is working with 16 communities to develop Pedestrian Master Plans that focus on equity-based planning, community engagement, and safe pedestrian access to healthy foods. These plans are developed with input from residents who are most affected by poor food access and transportation challenges to identify and prioritize solutions for improving walkable access to healthy foods.

### Health and Food Systems Master Plan Element

Through a Plan4Health grant from the American Planning Association, Trenton, New Jersey (population 84,964) developed a Health and Food Systems Master Plan Element,<sup>80</sup> which includes a strategic action to "Improve walking, biking and transit access to healthy food outlets." This action step specifies the roles various city and county agencies have in improving connectivity to food venues. It also provides concrete actions these agencies can take, suggesting, for example, that the "City of Trenton Department of Housing and Economic Development should conduct a series of 'safe routes to food' audits that examine pedestrian, bicycle and public transit access to food outlets in the City that sell healthy food."

# Zoning for Safe Routes to Healthy Food

We know that where we live affects our ability to walk and bike safely and affects our ability to easily access nutritious foods. That means that where we live affects our ability to lead a healthy life. But what determines the characteristics of where we live? Zoning and subdivision laws influence the design and construction of the built environment. Zoning laws typically regulate: (1) use of the property (usually dividing areas into residential, commercial, industrial, and other “zones”), (2) features of physical structures that can be built, and (3) density (e.g. size of lots and size and location of structures on the lot).<sup>81</sup> Zoning laws may also cover some infrastructure elements (e.g. sidewalks and bike parking), or these may be addressed in subdivision codes or in unified development codes.

Zoning codes that are supportive of Safe Routes to Healthy Food may involve updates that overhaul and comprehensively reform the entire approach to zoning, for example converting to a form based code or enabling mixed-use development. Alternatively, zoning code reforms may be more limited, simply inserting specific provisions that support aspects of Safe Routes to Healthy Food into an existing code. For example, a new provision could be inserted that incentivized bicycle parking in commercial food retail establishments or apartment buildings, or that expressly permitted supermarkets, farmers' markets, produce carts, and community gardens in all areas of town.

There are a variety of zoning and land use planning opportunities that have the potential to influence the ability to walk or bike to access healthy foods.

## **Pedestrian Friendly Building Design for Food Retailers**

By incorporating zoning code requirements that promote walking, biking, and transit into building design for food retailers, it ensures that food venues are accessible and attractive to people walking and bicycling.<sup>82</sup>

- Build/orient entrance toward pedestrians
- Provide amenities/infrastructure for people walking/biking to store, such as bicycle parking and safe pedestrian paths through the parking lot
- Design parking lots to consider people walking/biking entering and exiting
- Allow sidewalk displays to make food venues more attractive and inviting
- Ensure safety with pedestrian-oriented lighting and ground floor windows

## **Ensure Ample Bicycle Parking for Food Retailers**

Bicycle parking accommodations are needed to support people on bikes to shop at the grocery store. At the most basic level, food venues can provide bicycle parking for store patrons.

- The Association of Pedestrian and Bicycle Professionals recommends 1 space for each 2,000 square feet of food retail (with a minimum requirement of 2 spaces) for stays less than two hours.<sup>83</sup>

## **Reduced Automobile Parking for Food Retailers**

As mentioned above as an incentive for healthy food retail development, reducing parking requirements for supermarkets can also support people arriving on foot, bike, or public transportation. To take it a step further, this could be tied to vehicle ownership rates in the neighborhood the grocery store is located in.<sup>84</sup>

- Provide parking reductions when healthy food venues locate along transit or planned/existing bicycle routes and provide sufficient bicycle parking.<sup>85</sup>

## **More Bike Parking, Less Car Parking**

Los Angeles County, California (population 10.2 million), adopted a Bicycle Parking Ordinance that allows “bike parking to be substituted for car parking for up to 20 percent of the total automobile parking required for non-residential uses or up to 30% of the auto parking required near Transit Oriented Developments (TODs).”<sup>86</sup> This can save significant upfront costs associated with developing automobile parking for food retailers, making them both more accessible to people on bike and more economically viable.





Photo: The Food Trust

**E**

## Programming: Use Programming to Encourage Safe, Active Travel to Healthy Food Venues

In addition to creating safe and appealing connections, there are additional steps to changing behavior. Many people walk, bike, or take transit out of necessity. Others do so by choice, and others may need a nudge to get out of their cars. As a result, it can be important to educate people about active travel opportunities and encourage them to use active routes to healthy food venues. This is of particular importance when improvements have been made, like a new bus route connecting a neighborhood to a grocery store or a new protected bike lane that connects a major employment center and a shopping plaza.

### Bikeshare Highlights Farmers Markets and Community Gardens

In Philadelphia, Pennsylvania, the bikeshare system, Indego, hosted bike rides for community members that departed from farmers markets and toured community gardens in local areas. In addition to providing people with a low-risk opportunity to try the new bikeshare system, it gave people ideas of where to ride and forged the connection between healthy food access and active transportation.

### Mapping Farmers Markets on Transit Routes

In Los Angeles, California, Metro publishes a map on its website to show riders where farmers markets are accessible along transit routes. Transit agencies can develop similar maps for their systems displaying transit routes with markers for places where people buy healthy food, like farmers markets and grocery stores.

### Tokens for People Who Walk or Bike

In Spartanburg, South Carolina (population 37,498), a farmers market exists in what had previously been a grocery store desert. The farmers market is home to a Spartanburg B-Cycle bikeshare station. To ease parking congestion and promote physical activity, a local philanthropy provides market tokens to people who arrive on foot or bike.



### Strategies:

- **Educating** people about new and improved connections to healthy food retailers can take place a number of ways, ranging from wayfinding signage and advertisements in bus shelters to comprehensive transportation demand management programs.
- **Transportation demand management** is a set of policies, programs, and practices that governments can put in place to inspire people to choose transportation modes other than individual car use. The nonprofit Mobility Lab explains, “transportation demand management is influencing people’s behavior to use the existing infrastructure in more efficient ways.”<sup>87</sup>
- **Hosting events** that activate new and existing routes provides people with a low-risk way of experiencing for themselves the reality that walking, biking, or taking transit to food venues is a viable option.
- **Incentivizing** active travel to food venues is an even better way that government and retailers can promote Safe Routes to Healthy Food. This entails providing a reward or recognition for people who use an active travel mode to access healthy foods.

#### The Edible Rail Trail

Grow Palmer, an organization based in Palmer, Alaska (population 7,209), makes locally grown, nutritious foods available for free to anyone and everyone by filling planters with kale, broccoli, and rainbow chard, among other vegetables, outside of local businesses and in front of the Palmer Depot, a converted train station that now functions as a community gathering space. Grow Palmer planted 40 planters teeming with zucchini, nasturtiums, kohlrabi, and other vegetables along the town’s multi-modal rail trail, called the “Edible Rail Trail.”

#### Incentives for Children Who Bike to the Farmers Market

In Moscow, Idaho (population 25,146), the University of Idaho collaborated with the city to start a Passport for Health program in the farmers market. All children riding to the market receive a \$1.00 token to purchase farm fresh food. Although the incentive is intended for children, it also encourages these children’s parents to ride to the farmers market, too. Additionally, the local Safe Routes to School program holds bike and helmet safety education events at the market.

## SECTION V

# Policy Recommendations by Sector



Photo: Michigan Municipal League

How can the various approaches discussed in the previous section be turned into a local action agenda? This section assembles specific recommendations for actions that various sectors can take to influence Safe Routes to Healthy Food. Some of the recommendations bring together ideas introduced earlier in this report into a quick reference guide for advocates and stakeholders, as well as for local governments, state governments, regional planning organizations, and transit agencies.

### Transportation Demand Management in San Francisco

San Francisco, California (population 884,363), adopted a Transportation Demand Management (TDM) ordinance that includes a menu of options developers can choose from to reduce automobile dependency.<sup>88</sup> One way that developers can earn points toward their TDM requirement is by promoting walkable or bikeable healthy food access. This “Healthy Food Retail in Underserved Areas” option involves providing healthy food options (restaurants, grocery stores) in an area identified as underserved.



## Local Governments

In communities across the country, local government leaders recognize that where we live and spend time influences our ability to lead a healthy life. Local governments can play a significant role in creating healthier conditions, taking steps to increase access to nutritious foods and safe opportunities for physical activity, with the longer-term effects of decreasing weight-related chronic disease. A key role of local government is to plan how development, transportation, and investments can help a community achieve its vision for the future. Local governments often design and control the streets in their communities, make decisions about the amount and affordability of housing and the availability of parks, initiate programs that affect the community's support for bicycling and walking, conduct traffic enforcement that can encourage or discourage walking and bicycling, and take actions that support local economic development. [This factsheet](#) from Safe Routes Partnership provides more information on what local governments can do to promote Safe Routes to Healthy Food.

### Safe Routes to Healthy Food Strategies for Local Governments

This list provides a good starting place for actions that local governments can take to promote walkable, bikeable, transit-accessible healthy food access, but it is not exhaustive. Cities, towns, and counties have a variety of options available to promote Safe Routes to Healthy Food:

- Include health, active transportation, and healthy food access as priorities in long range plans, including Master Plans, Comprehensive Plans, and Bicycle and Pedestrian Plans.
- Update zoning codes to allow for mixed-use, dense, and in-fill development that promote connectivity of destinations and require supportive infrastructure for walking and bicycling, like sidewalks to require safe routes between the network of destinations. Ensure that food retailers are permissible land uses in these zones.
- Adopt Complete Streets policies that consider the mobility needs of people of all ages and abilities. In the implementation section of the Complete Streets policy, use healthy food access as a criterion for project prioritization and funding.
- Develop Active Design Guidelines, including healthy food access considerations, tailored to your community.
- Plan for transit-oriented development that includes food access. Grocery stores make strong anchors for development, especially in underserved neighborhoods. Promote development that is accessible by public transportation by ensuring dense development of the land around existing or planned transit stops.
- Plan for walking paths and bicycle lanes between food retailers and between food retailers and residential neighborhoods. Ensure that the design of food retail parking lots and loading zones take into account the safety of people walking and bicycling to access the store.
- Adopt a Transportation Demand Management Ordinance to require developers to design and construct developments that reduce vehicle miles traveled; tailor to support healthy food access.
- Develop incentives for developments that support people walking, biking, and/or taking public transit. Allow valuable parking reductions for new developments that provide bike parking or are located near public transit routes or along county bike master plan routes, as well as to healthy food retailers that provide ample bike and pedestrian accommodations or locate along transit/bike paths.
- Support the creation of Healthy Food Financing Initiatives (HFFI) at the state or local level, which offer grant and/or loan incentives to healthy food retailers interested in opening new or enhancing existing stores in areas that would be "food deserts" were they not to exist. Especially in conjunction with strong zoning provisions, new food development can address both healthy food access and opportunities for safe and convenient mobility.
- Prioritize land assembly for healthy food retail development, especially land that is or can become accessible to people without vehicle access.
- Include residents who are most affected by poor food access in official advisory/steering committees to advocate for, shape and help implement solutions for improving access to healthy foods through the ongoing process of planning and decision-making in their communities.

## B

## State Governments

At the state level, Safe Routes to Healthy Food is not the purview of a single governmental agency or department. As a result, a constellation of policies and approaches will be necessary. There are actions that state legislatures can take to pass laws and appropriate funds, and others that agencies can take to advance Safe Routes to Healthy Food. Because Safe Routes to Healthy Food transcends single agencies, it can promote cross-departmental collaboration, a hallmark of good, effective governance.

### Safe Routes to Healthy Food Strategies for State Governments

To promote Safe Routes to Healthy Food, states can:

- Create Healthy Food Financing Initiatives to secure public funding to increase the number of healthy food retail outlets in underserved communities. Incorporate transportation access as part of the “community fit” criteria.
- Provide funding and technical assistance to local governments to update zoning codes, land use plans, and transportation plans to incorporate healthy food access and active transportation.
- As health or transportation agency initiatives, provide funding and technical assistance to localities to develop pedestrian plans that focus on equity, community engagement, and pedestrian access to healthy foods.
- Adopt Complete Streets policies and identify funds to implement Complete Streets policies and other transportation plans prioritizing projects that support active transportation to healthy food retailers.
- Direct attention to the need for improved bicycle, pedestrian, and transit connections to places where people buy and obtain healthy foods.
- Develop Safe Routes to Healthy Food model policies and zoning and subdivision codes for localities. Provide educational, technical support, and funding.
- Require that local jurisdictions update their comprehensive plans to explicitly require that land use policies affirmatively support healthy eating, active living, and the intersection of the two by a certain date or when changes to the plan are next made.



Photo: ASIA, Inc.



## Health Departments and Public Health Agencies

In 1950, the American Journal of Public Health issued an article on the role of local health departments that states, “A primary task of the local health department should be to encourage the fullest possible coordination of the work of (the) various official and voluntary agencies.”<sup>89</sup> While it is over 70 years old, this guidance is far from outdated, especially as it relates to Safe Routes to Healthy Food. A pivotal role that public health professionals can play is ensuring that where challenges to transportation and healthy food access overlap, the response is coordinated.

### Safe Routes to Healthy Food Strategies for Health Departments and Public Health Agencies

Public health and health departments can improve Safe Routes to Healthy Food in a number of ways, including:

- Serve as a convener. Organize a meeting of local active transportation and food access stakeholders. Encourage a shift away from thinking about food access and active transportation as separate from one another, and discuss how the work could be strengthened by working together.
- Foster cross-collaboration between workgroups and coalitions. Many health departments support obesity prevention efforts focused on healthy eating and physical activity. While it may make sense for groups of stakeholders to work on these issues independently, find opportunities for cross-pollination between the workgroups.
- Identify opportunities to infuse health, and specifically Safe Routes to Healthy Food in other government agencies' plans. Exemplified by the [Siler City, North Carolina Pedestrian Master Plan](#) (page 26) and [Philadelphia, Pennsylvania Sustainability Plan](#) (page 19), there are opportunities to incorporate Safe Routes to Healthy Food goals in government plans that are not explicitly focused on improving health.
- Use funding to encourage Safe Routes to Healthy Food. When health departments and public health agencies have funding available to promote active transportation and/or healthy food access, they can encourage recipients of the funding to work toward Safe Routes to Healthy Food. One example is the South Carolina Department of Health and Environmental Control (page 26) providing funding to localities to develop pedestrian plans that incorporate equity-based planning, community engagement, and access to healthy foods.
- Use data to show the need for Safe Routes to Healthy Food. In their capacity as monitoring and surveilling health concerns in a community, health departments and public health agencies can use data to show the gravity of the problem of healthy food access for people with limited vehicle access. Get Healthy Philly, an initiative of the Philadelphia Department of Public Health, created a map of the city showing where residents lack access to grocery stores within a ten minute walk (page 20).
- Support the development of active design guidelines that include healthy food access considerations, like in New York City (page 25).
- Articulate Safe Routes to Healthy Food as a goal in agency planning and policies and dedicate staff time and resources to working toward improving it.
- Partner with land use/planning department to identify updates to zoning and land use to allow for mixed-use, dense, and in-fill development that promote connectivity of destinations and require supportive infrastructure for walking and bicycling, like sidewalks to require safe routes between the network of destinations. Ensure that food retailers are permissible land uses in these zones.
- Partner with Planning department and regional planning organizations to Include health, active transportation, and healthy food access as priorities in long range plans, including Master Plans, Comprehensive Plans, and Bicycle and Pedestrian Plans.
- Work with Planning Department and/or elected officials to Adopt Complete Streets policies that consider the mobility needs of people of all ages and abilities. In the implementation section of the policy, use healthy food access as a criterion for project prioritization and funding.
- Host public education campaigns about the proximity of various food assets (grocery stores, farmers markets, community gardens) to neighborhoods.
- Include residents who are most affected by poor food access in official advisory/steering committees to advocate for, shape and help implement solutions for improving access to healthy foods through the ongoing process of planning and decision-making in their communities.

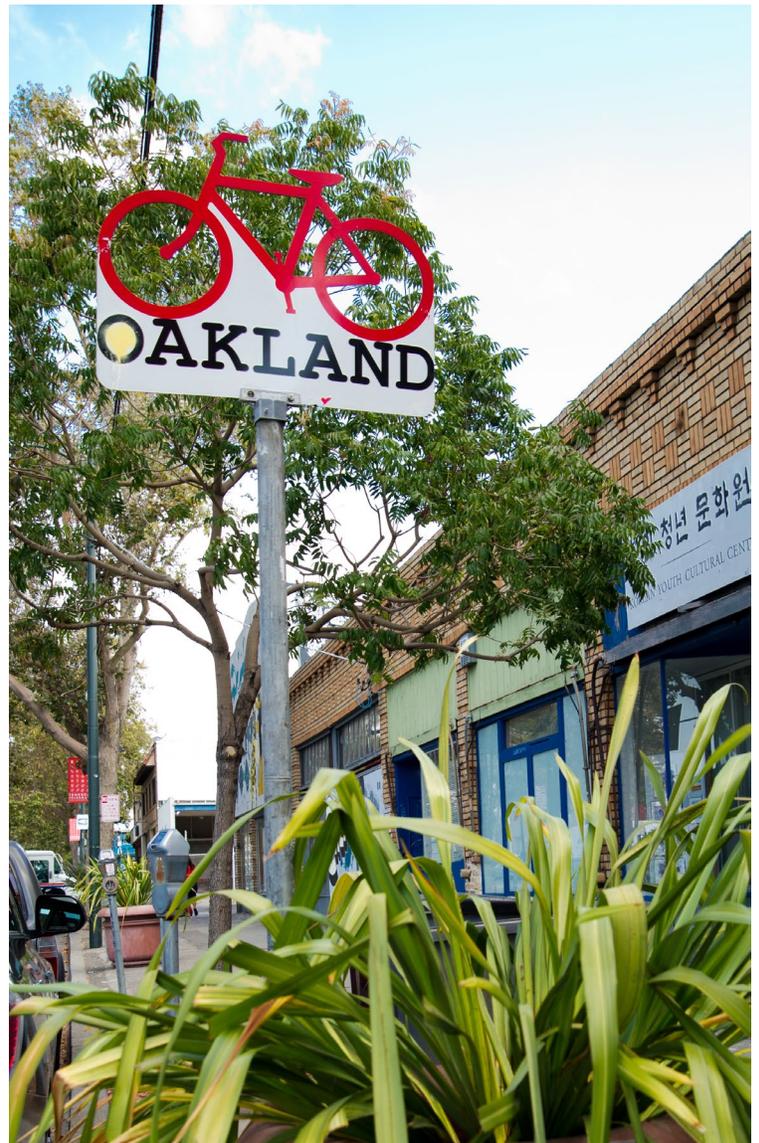
## D Regional Planning Organizations

Regional planning agencies, like metropolitan planning organizations (MPOs) or rural transportation planning agencies, work across sectors with the goal of building strong transportation systems and regional economies where people are easily able to get around on foot, on bike, by car, or on public transit. As such, they have a unique role to play in improving healthy food access. Regional planning agencies work across multiple jurisdictions. Regional planning organizations often set policy and administer funds, but are not the entities tasked with implementation. See [our factsheet](#) for more information on what regional planning agencies can do to promote Safe Routes to Healthy Food.

### Safe Routes to Healthy Food Strategies for Regional and Metropolitan Planning Organizations

To improve healthy food access, regional planning agencies can:

- Develop publicly available tools/metrics for analyzing transportation access to essential community services, including healthy food access.
- Develop scoring criteria to advance Safe Routes to Healthy Food priorities. Add healthy food access to competitive project scoring sheets and provide extra points to transportation projects that improve healthy food access in such scoring and when developing project lists for Long Range Transportation Plans and Transportation Improvement Programs.
- Create advisory committees to advise on what are the real challenges and priorities and solutions. These committees can include people working in this space professionally as well as ordinary residents whose jobs do not center on transportation or healthy food access.
- Provide technical assistance to member governments on how to improve multimodal transportation options to healthy food venues. Provide model language for localities to adopt in comprehensive plans, active transportation plans, sustainability plans, and design guidelines. Incorporate healthy food access in Complete Streets policies.



In communities with public transportation, transit can play a critical role in connecting people and neighborhoods to the places where they buy and obtain food – not to mention other destinations needed to live a healthy life, such as places of employment, parks, and community services. Transit agencies have a unique opportunity to create vital linkages between where people live and where they get healthy food. See [our factsheet](#) for more information on what transit agencies can do to promote Safe Routes to Healthy Food.

## Safe Routes to Healthy Food Strategies for Transit Agencies

Transit agencies can improve Safe Routes to Healthy Food through:

### Service Planning

- Include improving food access as a goal in transit long range plans to set a vision for how transit agencies can meet the needs of riders and work toward those goals.
- Engage community members and community-based organizations when changing routes and service schedules. Transit agencies can hold focus groups and meetings with food advocacy organizations, such as food policy councils and neighborhood associations, that can provide feedback on how a changed bus route will affect their ability to access groceries and other essential services.<sup>90</sup>
- Assess impact on communities when changing bus routes. Transit agencies can conduct internal assessments of how changing transit routes will affect riders' ability to access essential services, like grocery stores, by incorporating this as a priority in service planning or when conducting an equity impact review of proposed changes.
- Title VI of the Civil Rights Act of 1964 requires transit agencies to enact service standards that ensure that service is provided in an equitable, nondiscriminatory manner.<sup>91</sup> Transit agencies can use this requirement as the impetus for ensuring that riders of all races, ethnicities, and income levels across their service areas are able to use transit to meet their basic needs, including food access.
- Transit agencies can encourage developers to engage them early in the development process to ensure that project sites can be serviced by public transit.
- Educate the public about how to take public transportation to food access. Transit agencies can develop maps for their systems displaying both transit routes and places where people buy healthy food, like farmers markets and grocery stores.<sup>92</sup>

### Co-location

- Provide space at transit stations for temporary sales of fresh produce and other healthy foods.
- Provide space and utilities for permanent structures within or connected to transit stations for the sale of fresh produce and healthy foods.
- Co-locate healthy food access at multi-modal transit hubs, amplifying impact of initiatives aimed at linking food access and public transportation.

### Real Estate

- Transit agencies can also use their real estate to promote safety, vibrancy, and a sense of place with transit oriented development (TOD), either as landowners or as part of public-private partnerships. At the location of transit stops owned by a transit agency, the agency can develop plans and recommendations for developers or by expanding into under-served neighborhoods. Transit agencies can catalyze development that is accessible by public transportation.

### Additional Resources

- [The Wheels on the Bus Go to the Grocery Store](#)  
This fact sheet outlines the role of transit agencies in improving food access, offers examples from transit agencies across the country, and shares solutions that will allow transit agencies to create or strengthen the connection between neighborhoods and grocery stores.
  - [Mind the Gap: Using Public Transportation to Connect Neighborhoods and Grocery Stores](#)  
Traveling outside the neighborhood for food access can be complicated without a car. This two-page fact sheet describes why public transit matters for food access and strategies for improving healthy food access.

# Conclusion



Both transportation and food are essential parts of people’s daily lives. The recommendations included in this report offer a tremendous opportunity to promote cross-sector collaboration that improves the health, equity, and connectivity of communities all across the country. There are many stories of progress throughout this report that show us how Safe Routes to Healthy Food improves quality of life and makes healthy choices easier for people. These examples offer a compelling look at what happens when working toward Safe Routes to Healthy Food, creating solutions that address both transportation challenges and healthy food access. Policies and strategies that improve Safe Routes to Healthy Food make peoples’ lives better and make our communities healthier and more equitable. Transportation and healthy food access challenges are connected; we can connect the solutions as well to achieve outcomes that are far more effective and comprehensive.

# References

- Elmer, MacKenzie. 2017. "Refugees in Des Moines Walk Miles along Busy Highway to Buy Groceries." *Des Moines Register*, December 19, 2017. <https://www.desmoinesregister.com/story/news/2017/12/19/refugees-des-moines-walk-miles-along-busy-highway-buy-groceries/829290001/>.
- The Food Trust. 2014. YouTube. <https://www.youtube.com/watch?v=9gel4hCtsR4&feature=youtu.be>.
- Walker RE, Keane CR, and Burke JG. 2010. "Disparities and Access to Healthy Food in the United States: A Review of Food Deserts Literature." *Health and Place* 16(5): 876-884. Available at: [www.sciencedirect.com/science/article/pii/S1353829210000584](http://www.sciencedirect.com/science/article/pii/S1353829210000584); See also: Forbes GS. 2012. "Putting Transit to Work in Small Towns and Rural Places." Reconnecting America. Available at: [www.reconnectingamerica.org/assets/Uploads/ruralplatformmarch2012.pdf](http://www.reconnectingamerica.org/assets/Uploads/ruralplatformmarch2012.pdf); See also: Cannuscio CC, Hillier A, Karpyn A, and Glanz K. 2014. "The Social Dynamics of Healthy Food Shopping and Store Choice in an Urban Environment." *Social Science Medicine* 122: 13-20. Available at: [www.ncbi.nlm.nih.gov/pubmed/25441313](http://www.ncbi.nlm.nih.gov/pubmed/25441313).
- Hamrick, Karen & Hopkins, David. (2012). "The time cost of access to food – Distance to the grocery store as measured in minutes." *Electronic International Journal of Time Use Research*. [https://www.researchgate.net/publication/262487496\\_The\\_time\\_cost\\_of\\_access\\_to\\_food\\_-\\_Distance\\_to\\_the\\_grocery\\_store\\_as\\_measured\\_in\\_minutes](https://www.researchgate.net/publication/262487496_The_time_cost_of_access_to_food_-_Distance_to_the_grocery_store_as_measured_in_minutes).
- Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes. 2008. California Center for Public Health Advocacy, PolicyLink, and the UCLA Center for Health Policy Research. Available at: [www.healthpolicy.ucla.edu/pubs/files/Designed\\_for\\_Disease\\_050108.pdf](http://www.healthpolicy.ucla.edu/pubs/files/Designed_for_Disease_050108.pdf)
- Ver Ploeg, Michele, Lisa Mancino, Jessica E. Todd, Dawn Marie Clay, and Benjamin Scharadin. *Where Do Americans Usually Shop for Food and How Do They Travel To Get There? Initial Findings From the National Household Food Acquisition and Purchase Survey*. Report. March 2015.
- Fehr Peers. 2017. "Denver Moves: Pedestrian and Trails Plan Existing Conditions." *Denver Moves: Pedestrian and Trails Plan Existing Conditions*. City of Denver. [https://www.denvergov.org/content/dam/denvergov/Portals/Denveright/documents/pedestrians-trails/DenverMoves\\_Peds\\_Trails\\_Existing\\_Conditions.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/Denveright/documents/pedestrians-trails/DenverMoves_Peds_Trails_Existing_Conditions.pdf).
- "Income Disparities in Street Features that Encourage Walking." March 2012. Bridging the Gap. Available at: [www.bridgingthegapresearch.org/\\_asset/02fpi3/btg\\_street\\_walkability\\_FINAL\\_03-09-12.pdf](http://www.bridgingthegapresearch.org/_asset/02fpi3/btg_street_walkability_FINAL_03-09-12.pdf).
- K. Gibbs, S. Slater, N. Nicholson, et al., Income Disparities in Street Features that Encourage Walking – A BTG Research Brief. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago (2012), [http://www.bridgingthegapresearch.org/\\_asset/02fpi3/btg\\_street\\_walkability\\_FINAL\\_03-09-12.pdf](http://www.bridgingthegapresearch.org/_asset/02fpi3/btg_street_walkability_FINAL_03-09-12.pdf).
- K. Gibbs, S. Slater, N. Nicholson, et al., Income Disparities in Street Features that Encourage Walking – A BTG Research Brief. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago (2012), [http://www.bridgingthegapresearch.org/\\_asset/02fpi3/btg\\_street\\_walkability\\_FINAL\\_03-09-12.pdf](http://www.bridgingthegapresearch.org/_asset/02fpi3/btg_street_walkability_FINAL_03-09-12.pdf).
- Sara Fecht, Accident-Zone: Poorer Neighborhoods Have Less-Safe Road Designs, *Scientific American* (May 3, 2012) <http://www.scientificamerican.com/article/accident-zone-poorer-neighborhoods/>; Patrick Morency, Lise Gauvin, Céline Plante , et al., Neighborhood Social Inequalities in Road Traffic Injuries: The Influence of Traffic Volume and Road Design, *Am J Public Health*, 102(6): 1112–1119 (June 2012), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3483951/>.
- Sara Fecht, Accident-Zone: Poorer Neighborhoods Have Less-Safe Road Designs, *Scientific American* (May 3, 2012), Available at <http://www.scientificamerican.com/article/accident-zone-poorer-neighborhoods/>.
- Jilcott Pitts SB, et al. 2015. "Associations Between Neighborhood-Level Factors Related to a Healthful Lifestyle and Dietary Intake, Physical Activity, and Support for Obesity Prevention Policies among Rural Adults." *Journal of Community Health* 40(2): 276-284. Available at: [www.ncbi.nlm.nih.gov/pubmed/?term=bicycle+lanes+and+food+access](http://www.ncbi.nlm.nih.gov/pubmed/?term=bicycle+lanes+and+food+access).
- Zimmerman S, et al. 2015. *At the Intersection of Active Transportation and Equity: Joining Forces to Make Communities Healthier and Fairer*. Safe Routes to School National Partnership. Available at: [http://saferoutespartnership.org/sites/default/files/resource\\_files/at-the-intersection-of-active-transportation-and-equity.pdf](http://saferoutespartnership.org/sites/default/files/resource_files/at-the-intersection-of-active-transportation-and-equity.pdf).
- The New Majority: Pedaling Towards Equity*. 2013. The League of American Bicyclists and The Sierra Club. Available at: [www.bikeleague.org/sites/default/files/equity\\_report.pdf](http://www.bikeleague.org/sites/default/files/equity_report.pdf).
- "New Opportunities for Bicycle and Pedestrian Infrastructure." The League of American Bicyclists. Available at: [http://bikeleague.org/sites/default/files/FAQ-%20New%20Opportunities\\_0.pdf](http://bikeleague.org/sites/default/files/FAQ-%20New%20Opportunities_0.pdf).
- Judith Bell & Larry Cohen, "The Transportation Prescription: Bold New Ideas for Healthy, Equitable Transportation Reform in America," PolicyLink, Convergence Partnership and Prevention Institute, 2009 (Statistics republished from Steven Raphael and Alan Berube, "Socioeconomic Differences in Household Automobile Ownership Rates: Implications for Evacuation Policy," paper prepared for the Berkeley Symposium on "Real Estate, Catastrophic Risk, and Public Policy," March 23, 2006).
- Clifton, Kelly J. "Mobility Strategies and Food Shopping for Low-Income Families: A Case Study." *Journal of Planning Education and Research* 23, no. 4 (2004): 402-13. doi:10.1177/0739456x04264919.; See also *Getting on Board for Health: A Health Impact Assessment of Bus Funding and Access*. Report. May 2013. [www.acphd.org/media/309838/transithia.pdf](http://www.acphd.org/media/309838/transithia.pdf).
- Morrison, Rosanna Mentzer, and Lisa Mancino. n.d. "Most U.S. Households Do Their Main Grocery Shopping at Supermarkets and Supercenters Regardless of Income." Amber Waves. USDA Economic Research Service. Accessed September 5, 2019. <https://www.ers.usda.gov/amber-waves/2015/august/most-us-households-do-their-main-grocery-shopping-at-supermarkets-and-supercenters-regardless-of-income/>.
- Forbes GS. 2012. "Putting Transit to Work in Small Towns and Rural Places." Reconnecting America. Available at: [www.reconnectingamerica.org/assets/Uploads/ruralplatformmarch2012.pdf](http://www.reconnectingamerica.org/assets/Uploads/ruralplatformmarch2012.pdf).
- "Your Driving Costs." 2018. Your Driving Costs. AAA. <https://newsroom.aaa.com/auto/your-driving-costs/>.
- Neff, John and Pham, Larry. "A Profile of Public Transportation Passenger Demographics and Travel Characteristics Reported in On-Board Surveys." American Public Transportation Association. May 2007. [http://www.apta.com/resources/statistics/Documents/transit\\_passenger\\_characteristics\\_text\\_5\\_29\\_2007.pdf](http://www.apta.com/resources/statistics/Documents/transit_passenger_characteristics_text_5_29_2007.pdf).
- Mike Maciag, "Public Transportation's Demographic Divide," *Governing*, February 25, 2014, <http://www.governing.com/topics/transportation-infrastructure/gov-public-transportation-ridersdemographic-divide-for-cities.html>.
- Getting on Board for Health: A Health Impact Assessment of Bus Funding and Access. Report. May 2013. [www.acphd.org/media/309838/transithia.pdf](http://www.acphd.org/media/309838/transithia.pdf).
2016. "METRO BOSTON REGIONAL INDICATORS TRANSPORTATION: Staying on Track." METRO BOSTON REGIONAL INDICATORS TRANSPORTATION: Staying on Track. [https://s3.amazonaws.com/dev.files.regionalindicators.mapc.org/assets/Resources/TransportationIndicators\\_ExecSumm.pdf](https://s3.amazonaws.com/dev.files.regionalindicators.mapc.org/assets/Resources/TransportationIndicators_ExecSumm.pdf).
- "How Long Does It Take to Ride the Bus to HEB?" 2014. Waco, Texas: KWBU. <http://www.vsc.kwbu.org/post/grocery-race-how-long-does-it-take-ride-bus-heb>.
- Echo Hawk Consulting. (2015). "Feeding Ourselves: Food access, health disparities, and the pathways to healthy Native American communities." Longmont, CO: Echo Hawk Consulting. [https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm\\_475566.pdf](https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_475566.pdf)
- Ibid.
- Miller, Larry. 2018. "Life in a Food Desert: Elderly Southeast, DC Woman Struggles to Get to Nearest Supermarket." WUSA9, May 1, 2018. Life in a food

desert: Elderly Southeast, DC woman struggles to get to nearest supermarket.

30. Ver Ploeg, M. et al. 2012. "Access to Affordable and Nutritious Food: Updated Estimates of Distance to Supermarkets Using 2010 Data." [Report No. 143.] United States Department of Agriculture, Economic Research Service. Available at: [www.ers.usda.gov/publications/err-economic-research-report/err143.aspx](http://www.ers.usda.gov/publications/err-economic-research-report/err143.aspx).
31. Lovasi GS, Hutson MA, Guerra M, Neckerman KM. 2009; 31:7-20. *Epidemiological Reviews*. "Built Environments and Obesity in Disadvantaged Populations." doi: 10.1093/epirev/mxp005. Epub 2009 Jul 9.
32. Bell J, et al. 2013. *Access to Healthy Food and Why it Matters: A Review of the Research*. PolicyLink and The Food Trust. Available at: [http://thefoodtrust.org/uploads/media\\_items/access-to-healthy-food.original.pdf](http://thefoodtrust.org/uploads/media_items/access-to-healthy-food.original.pdf).
33. Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes. 2008. California Center for Public Health Advocacy, PolicyLink, and the UCLA Center for Health Policy Research. Available at: [www.healthpolicy.ucla.edu/pubs/files/Designed\\_for\\_Disease\\_050108.pdf](http://www.healthpolicy.ucla.edu/pubs/files/Designed_for_Disease_050108.pdf)
34. 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 Preventative Medicine*, August 2006. doi:10.1016/j.amepre.2006.03.019.
35. Levi J, et al. 2011. F as in Fat: How Obesity Threatens America's Future. Trust for America's Health. Available at: <http://healthyamericans.org/assets/files/TFAH2011FasInFat10.pdf>.
36. Befort CA, Nazir N, and Perri MG. 2012. "Prevalence of Obesity among Adults from Rural and Urban Areas of the United States: Findings from NHANES (2005-2008)." *Journal of Rural Health* 28(4):392-397. Available at: [www.ncbi.nlm.nih.gov/pmc/articles/PMC3481194/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3481194/).
37. Harries, C. et al., "Moving from policy to implementation: a methodology and lessons learned to determine eligibility for healthy food financing projects," *J Public Health Manag Pract*. 2014 Sep-Oct;20(5):498-505, <https://www.ncbi.nlm.nih.gov/pubmed/?term=24594793>.
38. Blackston Christina. "Navigating Food Deserts: An Analysis of Social Characteristics and Transportation Options on Chicago's Far South Side." (Undergraduate Thesis). Northwestern University. (2012.) Available at: [www.transportchicago.org/uploads/5/7/2/0/5720074/2b3\\_navigatingfooddeserts.pdf](http://transportchicago.org/uploads/5/7/2/0/5720074/2b3_navigatingfooddeserts.pdf)
39. Jiao, Junfeng, Anne V. Moudon, Jared Ulmer, Philip M. Hurvitz, and Adam Drewnowski. "How to Identify Food Deserts: Measuring Physical and Economic Access to Supermarkets in King County, Washington." *American Journal of Public Health* 102, no. 10 (2012). doi:10.2105/ajph.2012.300675.
40. Sallis JF and Glanz K. 2009. "Physical Activity and Food Environments: Solutions to the Obesity Epidemic." *The Milbank Quarterly* 87(1): 123-154. Available at: [www.ncbi.nlm.nih.gov/pmc/articles/PMC2879180/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879180/).
41. Lachapelle U, et al. 2011. "Commuting by Public Transit and Physical Activity: Where You Live, Where You Work, and How you Get There." *Journal of Physical Activity and Health* 8 (Suppl 1): 72-82. Available at: [www.ayfcoaching.com/AcuCustom/Sitename/Documents/DocumentItem/10\\_lachapelle\\_JPAH\\_2010\\_0109.pdf](http://www.ayfcoaching.com/AcuCustom/Sitename/Documents/DocumentItem/10_lachapelle_JPAH_2010_0109.pdf).
42. Ahern M, Brown C and Dukas S. "A National Study of the Association Between Food Environments and County-Level Health Outcomes." *The Journal of Rural Health*, 27(4): 367-379, 2011. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1748-0361.2011.00378.x/pdf>; See also Bodor JN, Rice JC, Farley TA, et al. 2010. "The Association between Obesity and Urban Food Environments." *Journal of Urban Health: Bulletin of the New York Academy of Medicine* 87(5): 771-81. Available at: [http://prc.tulane.edu/uploads/Bodor%202010\\_JUHpub\\_Obesity%20Urban%20Food%20Envir.pdf](http://prc.tulane.edu/uploads/Bodor%202010_JUHpub_Obesity%20Urban%20Food%20Envir.pdf); See also Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes. 2008. California Center for Public Health Advocacy, PolicyLink, and the UCLA Center for Health Policy Research. Available at: [www.healthpolicy.ucla.edu/pubs/files/Designed\\_for\\_Disease\\_050108.pdf](http://www.healthpolicy.ucla.edu/pubs/files/Designed_for_Disease_050108.pdf); Rundle A, Neckerman KM, Freeman L, et al. 2008. "Neighborhood Food Environment and Walkability Predict Obesity in New York City." *Environmental Health Perspectives*, 117(3): 442-447. Available at: [www.ncbi.nlm.nih.gov/pmc/articles/PMC2661915/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2661915/); Liu GC, Wilson JS, Qi R, et al. 2006. "Green Neighborhoods, Food Retail and Childhood Overweight: Differences by Population Density." *American Journal of Health Promotion* 21(4 Suppl): 317-325. Available at: [www.goforyourlife.vic.gov.au/hav/admin.nsf/Images/Green\\_Neighborhoods.pdf/\\$File/Green\\_Neighborhoods.pdf](http://www.goforyourlife.vic.gov.au/hav/admin.nsf/Images/Green_Neighborhoods.pdf/$File/Green_Neighborhoods.pdf); Inagami S, Cohen DA, Finch BK, et al. 2006. "You Are Where You Shop: Grocery Store Locations, Weight, and Neighborhoods." *American Journal of Preventative Medicine* 31(1):10-17. Available at: [www.healthydurham.org/docs/file/committees/obesity\\_chronic\\_care/ShopBMI.pdf](http://www.healthydurham.org/docs/file/committees/obesity_chronic_care/ShopBMI.pdf).
43. Maley, D. and Weinberger, R. (2010). Food Shopping in the Urban Environment: Parking Supply, Destination Choice, and Mode Choice. Presented at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., January 25, 2011.
44. Fuller, D., S. Cummins, and S. A. Matthews. "Does Transportation Mode Modify Associations between Distance to Food Store, Fruit and Vegetable Consumption, and BMI in Low-income Neighborhoods?" *American Journal of Clinical Nutrition* 97, no. 1 (2012): 167-72. doi:10.3945/ajcn.112.036392.
45. Murphy, Brendan, David M. Levinson, and Andrew Owen. 2017. "Evaluating the Safety In Numbers Effect for Pedestrians at Urban Intersections." *Accident Analysis & Prevention* 106: 181-90. <https://doi.org/10.1016/j.aap.2017.06.004>.
46. Kay Teschke, M. Anne Harris, Conor C. O. Reynolds, Meghan Winters, Shelina Babul, Mary Chipman, Michael D. Cusimano, Jeff R. Brubacher, Garth Hunte, Steven M. Friedman, Melody Monro, Hui Shen, Lee Vernich, and Peter A. Crompton. 2012. Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study. *American Journal of Public Health* 102, 2336\_2343, <https://doi.org/10.2105/AJPH.2012.300762>
47. Wesley E. Marshall. Nicholas N. Ferenchak. Why cities with high bicycling rates are safer for all road users. *Journal of Transport and Health*. Volume 13. June 2019. Available at: <https://doi.org/10.1016/j.jth.2019.03.004>
48. FHWA, An Analysis of Factors Contributing to "Walking Along Roadway" Crashes: Research Study and Guidelines for Sidewalks and Walkways. Report No. FHWA-RD-01-101, FHWA, Washington D.C., 2001.
49. Wineman, Jean D., Robert W. Marans, Amy J. Schulz, Diaan Louis Van Der Westhuizen, Graciela B. Mentz, and Paul Max. 2014. "Designing Healthy Neighborhoods." *Journal of Planning Education and Research* 34 (2): 180-89. <https://doi.org/10.1177/0739456x14531829>.
50. Sallis, James F., and Karen Glanz. "Physical Activity and Food Environments: Solutions to the Obesity Epidemic." *Milbank Quarterly* 87, no. 1 (2009): 123-54. doi:10.1111/j.1468-0009.2009.00550.x.
51. Noland, Robert B., Kaan Ozbay, Stephanie DiPetrillo, and Shri Iyer. "Measuring Benefits of Transit-Oriented Development." Mineta National Transit Research Consortium. <http://transweb.sjsu.edu/PDFs/research/1142-measuring-TOD-benefits.pdf>.
52. Trottenberg, Polly. 2014. "Protected Bicycle Lanes in NYC." Protected Bicycle Lanes in NYC. New York City Department of Transportation. <http://www.nyc.gov/html/dot/downloads/pdf/2014-09-03-bicycle-path-data-analysis.pdf>.
53. Litman TA. 2014. Economic Value of Walkability. Victoria Transport Policy Institute. Available at: <http://vtpi.org/walkability.pdf>; See also: Flusche D. 2012. Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure. Advocacy Advance. Available at: [www.advocacyadvance.org/site\\_images/content/Final\\_Econ\\_Update%28small%29.pdf](http://www.advocacyadvance.org/site_images/content/Final_Econ_Update%28small%29.pdf).
54. "The Economic Benefit of Sustainable Streets ." New York City Department of Transportation , 2013. <http://www.nyc.gov/html/dot/downloads/pdf/dot-economic-benefits-of-sustainable-streets.pdf>.
55. Tregonig, Harriet. TOD as Economic Development in Washington, D.C. Retrieved from [http://www.mncppc.org/Assets/Planning/Programs and Projects/Community Plans/Subregion 4/Washington D.C..pdf](http://www.mncppc.org/Assets/Planning/Programs%20and%20Projects/Community%20Plans/Subregion%204/Washington%20D.C..pdf)

56. "HFFI Impacts Case Studies: Ohio." The Food Trust. <http://thefoodtrust.org/what-we-do/administrative/hffi-impacts/hffi-impacts-case-studies/ohio>.
57. Lopez, V. Maricopa County Department of Public Health. November 20, 2014. "South Central Neighborhood Transit Health Impact Assessment". <https://www.phoenix.gov/oepsite/documents/south%20central%20transit%20health%20impact%20Assessment%2011.20.14.pdf>.
58. Lentz, E, Patel, R. July 2016. Food for All: Inclusive Neighborhood Food Planning in North Austin. [http://rajpatel.org/wp-content/uploads/2009/11/Food-For-All\\_FINAL\\_070616.pdf](http://rajpatel.org/wp-content/uploads/2009/11/Food-For-All_FINAL_070616.pdf).
59. Walkable Access to Healthy Food in Philadelphia, 2012-2014. Report. November 2015. <http://www.phila.gov/health/pdfs/Walkable%20Access%20to%20Healthy%20Food%202012-2014.pdf>.
60. 2016. "Summer Meals Toolkit - Transportation Challenges ." Summer Meals Toolkit - Transportation Challenges . United States Department of Agriculture. <https://fns-prod.azureedge.net/sites/default/files/sfsp/smt-transportation.pdf>.
61. To learn more about existing efforts to bring summer meals to kids, visit <https://www.nrpa.org/success-stories/solving-transportation-barriers-to-increase-access-to-meals/> and <https://nationalcenterformobilitymanagement.org/by-topic/by-topic-food-nutrition/>.
62. Greenworks Philadelphia. 2009. <https://beta.phila.gov/media/20160419140515/2009-greenworks-vision.pdf>.
63. SEP-TAInable: The Route to Regional Sustainability. Report. January 2011. <http://www.septa.org/sustain/pdf/septainable11.pdf>.
64. City of Emporia, Kansas. A resolution supporting Safe Routes to Healthy Food in Emporia, Kansas. Resolution number 3618. Passed by City Council April 3, 2019. <http://thehealthyfoodpolicyprojehct.org/wp-content/uploads/Emporia-KS-SRHF-Resolution.pdf>.
65. SEP-TAInable: The Route to Regional Sustainability. Report. January 2011. <http://www.septa.org/sustain/pdf/septainable11.pdf>.
66. Chriqui JF, Thrun E, Rimkus L, Barker DC, and Chaloupka FJ. Zoning for Healthy Food Access Varies by Community Income – A BTG Research Brief. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2012. [www.bridgingthegapresearch.org](http://www.bridgingthegapresearch.org).
67. McCann, Barbara. Community Design for Healthy Eating How Land Use and Transportation Solutions Can Help. Report. February 2006. <https://folio.iupui.edu/bitstream/handle/10244/561/communitydesignhealthyeating.pdf?sequence=2>.
68. Chriqui, Jamie. "How Zoning and Land Use Laws Influence Community Walkability and Healthy Food Access." Presentation, American Planning Association 2013 National Planning Conference, Chicago. [http://www.bridgingthegapresearch.org/\\_asset/plxtip/Chriqui\\_APA\\_2013\\_rev13Apr13.pdf](http://www.bridgingthegapresearch.org/_asset/plxtip/Chriqui_APA_2013_rev13Apr13.pdf).
69. 2018. Food Retail Expansion to Support Health (FRESH). New York City Economic Development Corporation. October 2018. <http://www.nyc.gov/html/misc/html/2009/fresh.shtml>.
70. Ibid.
71. Food Retail Expansion to Support Health (FRESH). New York City Economic Development Corporation. October 2018. FRESH Impact Report. Report. [http://www.nycedc.com/system/files/files/program/FRESH\\_Impact\\_Report.pdf](http://www.nycedc.com/system/files/files/program/FRESH_Impact_Report.pdf).
72. Burton, Hannah, and Duane Perry. Stimulating Supermarket Development: A New Day for Philadelphia. The Food Trust, 2004, Stimulating Supermarket Development: A New Day for Philadelphia, [https://d3n8a8pro7vnmx.cloudfront.net/foodtrust/pages/223/attachments/original/1551117906/pa-recommendations\\_original.pdf?1551117906](https://d3n8a8pro7vnmx.cloudfront.net/foodtrust/pages/223/attachments/original/1551117906/pa-recommendations_original.pdf?1551117906).
73. Robbins, Judy, Caroline Harries, and Morgan Wittman Gramman. Supporting Healthy Food Access in North Carolina. The Food Trust and North Carolina Alliance for Health, 2019, Supporting Healthy Food Access in North Carolina, <https://www.ncallianceforhealth.org/wp-content/uploads/2019/04/Support-Healthy-Food-Access-in-NC-Final.pdf>.
74. Roger Millar, "WSDOT Blog: Understanding all modes of transportation key in building system that works for everyone," 5/16/18, <https://wsdotblog.blogspot.com/2018/05/understanding-all-modes-of.html>
75. City of Asheville, North Carolina. Neighborhood Sidewalk Policy. Passed by City Council October 13, 2015. [https://drive.google.com/file/d/1-zlzM8TzUfXwJJsNnfp55SWz9\\_Q2Wxoz/view](https://drive.google.com/file/d/1-zlzM8TzUfXwJJsNnfp55SWz9_Q2Wxoz/view).
76. H.B. 0082. Sess. of 2019 (Maryland 2019). <http://mgaleg.maryland.gov/webmg/frmMain.aspx?pid=billpage&tab=subject3&id=hb0082&stab=01&ys=2019RS>.
77. Papas, Mia A., Anthony J. Alberg, Reid Ewing, Kathy J. Helzlouer, Tiffany L. Gary, and Ann C. Klassen. "The Built Environment and Obesity." *Epidemiologic Reviews* 29, no. 1 (May 28, 2007): 129-43. doi:10.1093/epirev/mxm009.
78. Davidson, Michael, and Fay Dolnick, eds. 2004. "A Planners Dictionary." A Planners Dictionary. American Planning Association . [https://planning.org/uploaded-media.s3.amazonaws.com/publication/download\\_pdf/PAS-Report-521-522.pdf](https://planning.org/uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-Report-521-522.pdf).
79. Siler City, North Carolina Pedestrian Master Plan. 2013. <http://www.silercity.org/vertical/sites/%7B3856B9B8-1C42-483B-A4CB-C0D6B1FE7142%7D/uploads/silercityncpedestrianmasterplan2013.pdf>.
80. Trenton 2050 Health and Food Systems Element. May 2, 2016. <http://njplanning.org/wp-content/uploads/1-Trenton-Healthy-Food-Systems-Element-1.pdf>
81. Ibid.
82. Active Design Guidelines: Promoting Physical Activity and Health in Design, 2010, <https://centerforactivedesign.org/dl/guidelines.pdf>.
83. Bicycle Parking Guidelines, 2nd Edition: A Set of Recommendations from the Association of Pedestrian and Bicycle Professionals (APBP). 2010.
84. Dohan, Marc, Andrew Fisher, Robert Gottlieb, Linda O'Connor, Virginia Parks. (1996). Working paper, Homeward bound: Food-related transportation strategies in low income and transit dependent communities [Electronic version]. UCTC, 366, 1-77
85. "Healthy Design Ordinance." Los Angeles County Department of Regional Planning. <http://planning.lacounty.gov/hdo>.
86. Bicycle Parking Ordinance CF 12-1297-51 . January 15, 2013. BICYCLE PARKING ORDINANCE CF 12-1297-51 .
87. Fortunati, Jenna. 2019. "What Is Transportation Demand Management, Actually?" Mobility Lab. April 15, 2019. <https://mobilitylab.org/2018/07/27/what-is-transportation-demand-management-actually/>.
88. Transportation Demand Measures. February 17, 2017. [http://default.sfplanning.org/plans-and-programs/emerging\\_issues/tsp/TDM\\_Measures\\_02-17-2017.pdf](http://default.sfplanning.org/plans-and-programs/emerging_issues/tsp/TDM_Measures_02-17-2017.pdf).
89. "The Local Health Department. Services and Responsibilities." *American Journal of Public Health and the Nations Health* 40, no. 1 (1950): 67–72. <https://doi.org/10.2105/ajph.40.1.67>.
90. Lopez, V. Maricopa County Department of Public Health. November 20, 2014. "South Central Neighborhood Transit Health Impact Assessment ." <https://www.phoenix.gov/oepsite/Documents/South%20Central%20Neighborhood%20Transit%20Health%20Impact%20Assessment%2011.20.14.pdf>.
91. Best Practices in Transit Service Planning. Report. Center for Urban Transportation Research, University of South Florida. March 2009. <http://www.nctr.usf.edu/wp-content/uploads/2012/05/77720.pdf>.
92. Los Angeles County Metropolitan Transportation Authority. Go Metro to Farmers' Markets. <https://www.metro.net/riding/farmers-markets/>.