

SOLANO DISTRICT

Health Impact Assessment Report
SLHI 2013



St. Luke's Health Initiatives



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Acknowledgements

This assessment and set of recommendations for the Solano district is submitted by a multidisciplinary health team, convened by St. Luke's Health Initiatives (SLHI), as part of Reinvent PHX. Funded by the U.S. Department of Housing and Urban Development, Reinvent PHX is a partnership between the city of Phoenix, Arizona State University, and SLHI to develop a long-range sustainability plan for the neighborhoods along the light rail.

The scope of SLHI and the health team's work is to gather information from "underserved, particularly non-English speaking, residents in each district." From information gathered from residents, along with other primary and secondary data, the health team produced this "health impact assessment of Solano's existing built-environment conditions" with a focus on "healthy food and recreation access, walking and bicycling safety, and exposure to excessive heat." After assessing the current conditions, the health team recommends the attached "intervention strategies focused on improving public health."

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SLHI's mission is to inform, connect and support efforts to improve the health of individuals and communities in Arizona. SLHI seeks to be a catalyst for community health.

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Health Assessment Report

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Solano District and Its Residents

Solano residents differ from the Phoenix and U.S. populations in several ways. (See Map 1 for location of Solano in Phoenix.) Solano families have lower median household incomes than both Phoenix and the U.S. More than 40% of Solano residents identify themselves as Latino and are more likely to speak a language other than English. The district is home to many children and youth. Many residents are already plagued with a variety of chronic diseases and report having unhealthy eating habits. And lastly, more than 60% of families have no car or own just one car.

This combination of demographic and social factors creates a unique set of health challenges—and opportunities—for residents of Solano. In the public health field, these types of factors are called determinants of health. (See sidebar for more information on determinants of health.) The complex interrelationships of these factors—which reach far beyond the traditional healthcare system—have significant influence on an individual’s and community’s health.

Let us briefly examine some determinants of health for the residents of the Solano district, and how the built environment can affect these factors. (For more on how planning decisions affect health, see *The Built Environment and Health in Phoenix: Understanding the Connections to Healthy Eating and Active Living*, which can be found in the appendix.)

Understanding the Determinants of Health

Intuitively, we know that many factors affect our physical and mental health—beyond the traditional healthcare system of doctors and hospitals. While this traditional system is important, other factors carry great influence over our health; these factors are called determinants of health. The Centers for Disease Control and Prevention (CDC, 2013) provides a comprehensive definition of the determinants of health:

“Factors that contribute to a person’s current state of health. These factors may be biological, socioeconomic, psychosocial, behavioral, or social in nature. Scientists generally recognize five determinants of health of a population:

Biology and Genetics. Examples: sex and age

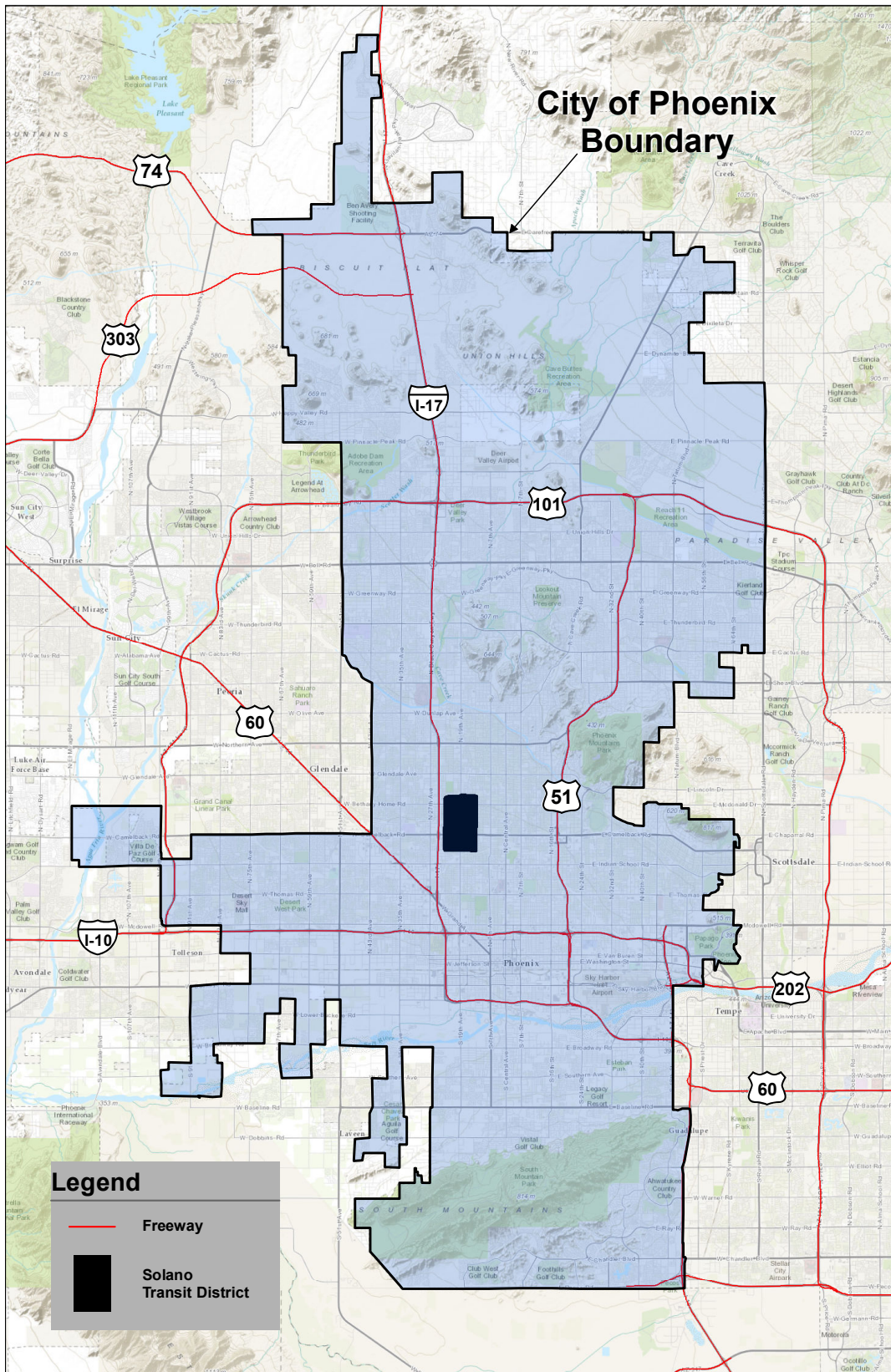
Individual Behavior. Examples: alcohol use, injection drug use (needles), unprotected sex, and smoking

Social Environment. Examples: discrimination, income, and gender

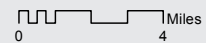
Physical Environment. Examples: where a person lives and crowding conditions

Health Services. Examples: Access to quality health care and having or not having health insurance”

Within the context of Reinvent PHX, not only do planning and policy decisions affect health, characteristics of the residents influence health. In turn, these determinants of health influence recommendations.



Reinvent PHX



Solano Transit District

Map 1 - Solano in the Context of the City of Phoenix

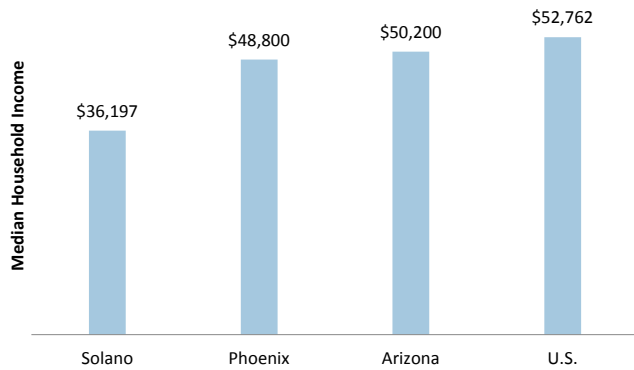


Figure 1. Solano residents’ median household income compared to city, state and country

Solano households earn substantially less when compared to the rest of the region and country. *Source: U.S. Census 2010.*

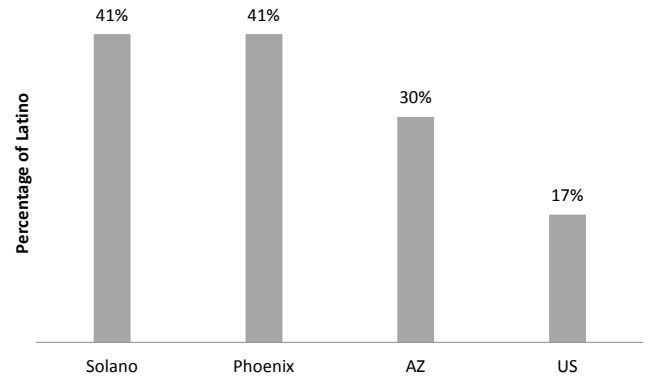


Figure 2. Race and ethnicity of Solano residents compared to city, state and country

Solano residents overwhelmingly identify themselves as Latino. *Source: U.S. Census 2010.*

Income

While the average Solano district household has an income of \$36,197, 60% of area families earn less than \$46,100, which is twice the federal poverty level for a family of four. (See Figure 1.) A family’s socioeconomic status is one of the most influential determinants of health, and therefore plays a substantial role in overall health and well-being.

Race and Ethnicity

When compared the U.S. and Arizona, a higher percentage of the district residents identify themselves as Latino. (See Figure 2.) While race or ethnicity do not cause obesity, Latinos and African-Americans are at a disproportionate risk of being obese and to suffer from heart disease, diabetes or stroke (Centers for Disease Control and Prevention, 2009; Han, Merrit, & Olmstead, 2008).



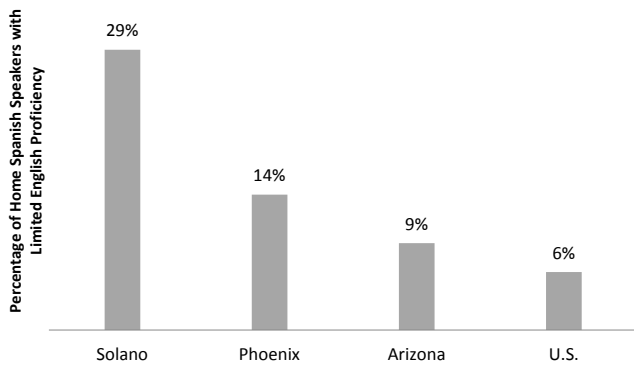


Figure 3. Percentage of Solano residents with Limited English Proficiency compared to city, state and country

Over one-quarter of Solano residents who speak Spanish at home identify themselves as Limited English Speakers. *Source: U.S. Census 2010.*

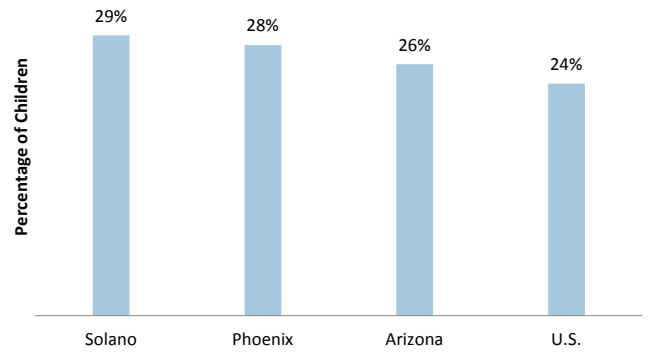


Figure 4. Percent of Solano residents under the age of 18 compared to city, state and country

Almost one-third of Solano residents is under 18 years old. *Source: U.S. Census 2010.*

English Proficiency

Limited proficiency in English significantly increases the risk of not receiving adequate healthcare services and general dissatisfaction with the medical services received (Flores, 2005). Over a quarter of the residents describe themselves as not speaking English “very well” or “not at all.” (See Figure 3.)

Age

Research shows that routines and practices that lead to a healthy lifestyle are established early in life (Rowan, 2013). A little under one-third of the residents of Solano are under the age of 18, which provides an opportunity for learning and sustaining healthy habits for future generations. (See Figure 4.)



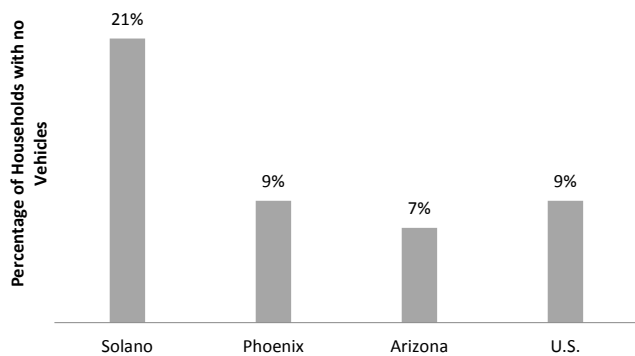


Figure 5. Percent of Solano households with no car compared to city, state and country

Almost one-quarter of Solano households do not own a vehicle. *Source: U.S. Census 2010.*

Transportation

Almost a quarter of the households in the Solano district have no car. (See Figure 5.) Moreover, an additional 41% of households own just one car, which limits transportation options for working families.

Housing and Transportation Costs

For most households, housing and transportation are the two largest budget items. From a public policy perspective, housing and transportation costs combined should consume no more than 45% of a family's income (Center for Neighborhood Technology, n.d.). On average, a Solano household spends 43% of its income on housing and transportation costs combined, with 20% going to housing costs and 23% to transportation (Center for Neighborhood Technology, n.d.).

	Solano	Arizona	U.S.
Eats two or more servings of fruit per day	80%	50%	33%
Eats three or more servings of vegetables per day	18%	22%	26%
Drinks one or more sodas per day	53%	28%	--
Drinks one or more sugar-sweetened beverages per day	82%	19%	--
Eats fast food at least once per week	77%	64%	--

Table 1. Eating habits of Solano residents compared to state and country

Solano residents eat more fruit but fewer vegetables than Arizona and U.S. averages. However, sugar-sweetened beverages, sodas and fast food are consumed at a much higher rate. *Source: Arizona Department of Health Services (2009-2011): Hospital Discharge Data.*

Diet

According to the Arizona Health Survey (2011), while Solano residents eat more fruits than the average Arizona resident, their vegetable consumption is fairly similar to national and Arizona eating patterns. (See Table 1 for details.) Unlike the state and national standards, residents in this district consume significantly higher amounts of sugary beverages – four times the average Arizonan. Consumption of sugary beverages has clear links to obesity and related diseases such as diabetes (Vartanian, 2007; Rosenheck, 2008). Solano residents also consume higher amounts of soda and fast food than the average Arizona resident. This might be explained by the high concentration of fast food outlets in certain parts of the district combined with the limited number of healthy food outlets in this district.



Solano Community Workshop

To better understand issues related to healthy foods, active living, public transportation and neighborhood safety, St. Luke's Health Initiatives hosted two community workshops with residents from Solano. Sixty-three residents attended these meetings. Because many attendees were Spanish-speaking, the workshops were conducted and facilitated in both English and Spanish.

Residents participated in small group discussions. Using a large aerial map of the district and surrounding areas, residents used icons to identify healthy eating, active living and transportation assets and liabilities. Residents also developed recommendations. These ideas represent their needs and visions for the future within the framework of a realistic assessment of their community.

Information gathered from the workshops is referenced throughout this report. A full workshop report, including a description of methodology, is located in the appendix.

Existing Health Conditions

Between 2009 and 2011, Solano residents had 2,885 hospitalizations due to cancer, diabetes, heart disease, stroke, asthma or some combination of these chronic diseases. Heart disease was the most frequently cited, with 78% of those hospitalized were, at least in part, due to this disease. According to the Centers for Disease Control and Prevention (CDC) (2009), Latinos are particularly at-risk for these conditions.

Currently, hospital charges are the only method allowing comparison of financial burdens related to hospital care; however, these charges not represent either costs of care or revenue received by the hospitals. Insurance companies pay based on negotiated contracts, Medicare and Medicaid pay according to a significantly reduced reimbursement rate, and hospitals typically have policies that allow low-income patients to received reduced charge or free care.

Over 81% of the Solano patients are covered by Medicare, Medicaid and other federally- and state-funded programs. The average annual hospital charge for a Solano patient was nearly \$47,000. These hospital charges do not include physician services, rehabilitation, lost wages or other costs associated with hospitalizations for chronic illnesses. Even with private insurance, the total costs of hospitalizations can be devastating to families. Substantial lost wages during a hospital stay adds to this cost burden.

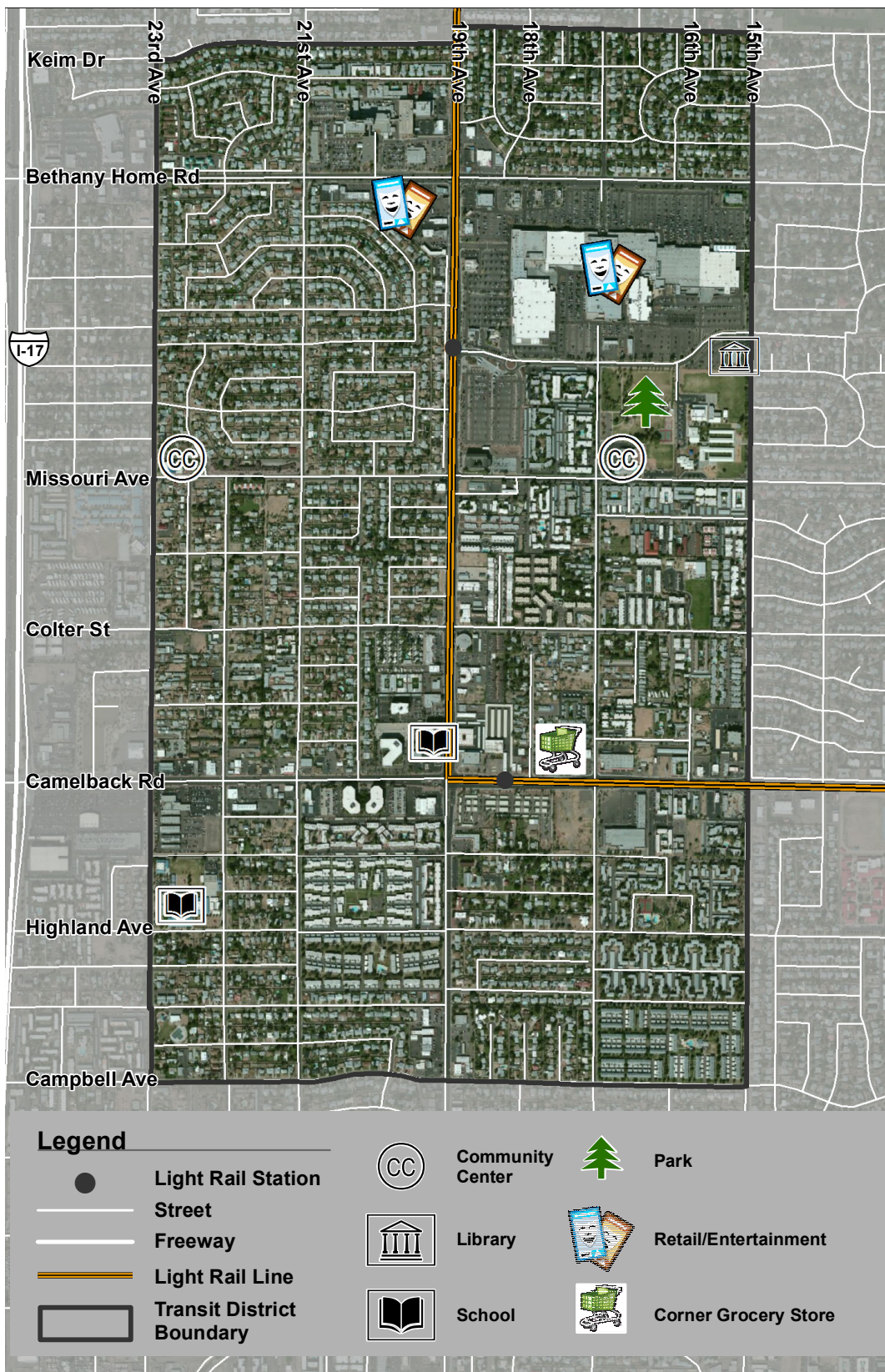
Solano Health Assets

St. Luke's Health Initiatives hosted two community workshops for residents of Solano to identify health assets and challenges. (See sidebar and the appendix for more information.)

Residents identified community health assets using a broad definition of a community asset as "anything that can be used to improve the quality of community life" (Work Group for Community Health and Development at the University of Kansas, 2012). Assets were classified into two groups: 1) positive resources that improve the quality of life of residents; and 2) positive resources that do not always support the unique needs of the community (potential assets).

Community-Identified Health Assets

Workshop participants identified the following as assets that contribute to and support the health of the community. (See Map 2.)

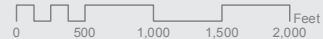


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Solano Transit District

Map 2 - Community-Identified Assets

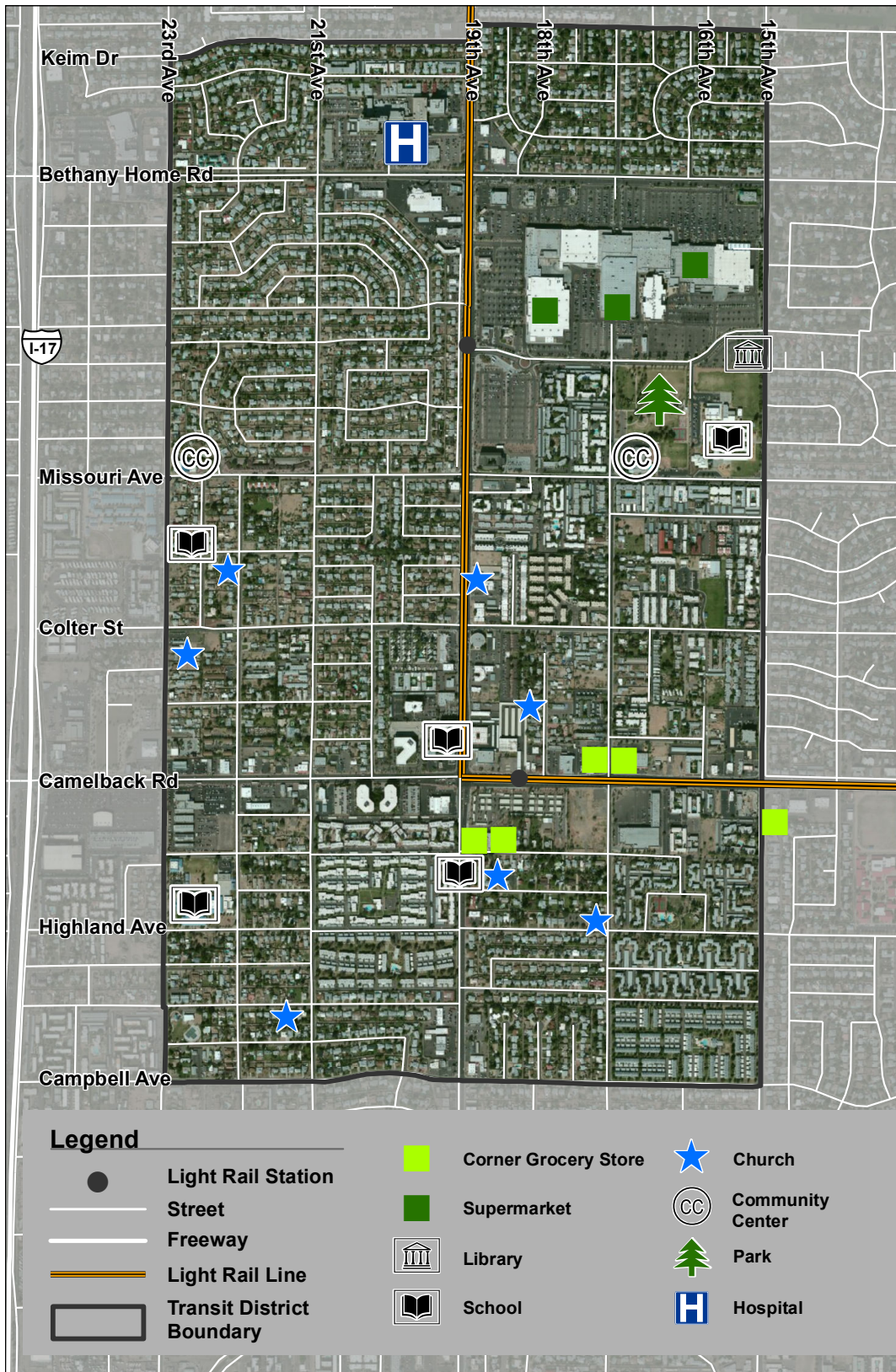


Asset	Description	Health Determinant Affected by Asset
Christown Spectrum Mall	Christown (19 th Avenue between Bethany Home Road and Missouri Avenue) is centrally located with access to many transit routes. The mall meets the shopping needs of many residents, including for grocery shopping at Super Target (19 th Avenue and Bethany Home Road) and Walmart (17 th Avenue and Bethany Home Road). Christown also includes Costco, a membership-based warehouse, which carries a wide variety of fresh foods.	Individual Behavior; Social Environment; Physical Environment
Public Transportation	Residents were quick to cite the district's transportation options as an asset, especially those living near 19 th Avenue and Camelback Road.	Individual Behavior; Physical Environment
Physical Activity Facilities	Participants listed Solano Park (17 th Avenue and Missouri Avenue), the Mark Atkinson Recreation Center (23 rd Avenue and Hazelwood Street) and the Legacy Foundation Chris-Town YMCA (17 th and Missouri Avenues) as recreational assets.	Individual Behavior; Social Environment; Physical Environment
Cultural and Entertainment Facilities	In addition to other entertainment facilities, residents valued Yucca Library (15 th Avenue between Bethany Home Road and Missouri Avenue.	Individual Behavior; Social Environment; Physical Environment

Community-Identified Potential Health Assets

Residents identified the following as potential health assets because they do not always support the needs of the Solano district. While these resources have potential, their current form and location do not meet resident needs or expectations.

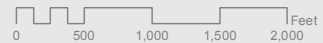
Potential Asset	Description	Health Determinant that Can Be Affected by This Asset
Retention Basin	Some residents identified the large retention basin on Camelback Road west of 23 rd Avenue as a recreational asset. However, many workshop participants felt uncomfortable there because of the presence of homeless people.	Physical Environment
Streets	Workshop participants advocated for replacing traffic lanes with planted medians, bike lanes and buffers between sidewalks and roads. Crosswalks, lane narrowing and traffic calming also received attention as ways to make streets better serve the community.	Individual Behavior; Physical Environment
Buses	Expanding bus routes and increasing weekend and night schedules are opportunities to improve the value of buses for residents relying on public transportation. Residents also saw bus stops as opportunity sites to install shade and benches, which would improve them as assets.	Social Environment; Individual Behavior; Physical Environment
Solano Park	Though a current asset, residents felt that Solano Park would benefit from fencing, shade trees, a playground, ramadas for picnics, and a skate park, splash pad or basketball court.	Individual Behavior; Physical Environment



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Solano Transit District Map 3 - Solano Assets



Other Community Assets

Washington Park (21st Avenue and Maryland Avenue) is outside the Solano district. However, residents visit the park because of its amenities.

Community-Identified Health Liabilities

Workshop participants identified the following as liabilities for the health of the community.



Liability	Description	Health Determinant Affected by Asset
Streets	Attendees found high traffic and speeding on the district’s arterial streets to be a liability that prevented residents from using bike lanes where they were present. Some intersections that residents consider dangerous include: 15 th and Highland Avenues, 17 th and Missouri Avenues, 19 th Avenue at Bethany Home Road, Montebello Avenue and Camelback Road, as well as 21 st Avenue and Camelback Road.	Individual Behavior; Physical Environment
Sidewalks	Residents found the width and quality of sidewalks to be liabilities, with cracks inhibiting walkers, wheelchairs and scooters. In particular, the narrowness on 17 th and 19 th Avenues, as well as Camelback Road made users feel unsafe because of their proximity to traffic. Within neighborhoods, the lack of sidewalks made residents feel unsafe walking.	Individual Behavior; Physical Environment
Lighting	Insufficient lighting makes people feel unsafe. The southeastern quadrant of the district lacks lighting, as well as on 17 th , 21 st , 23 rd , Montebello and Missouri Avenues.	Individual Behavior; Physical Environment
Vacant Lots and Buildings	Vacant lots along Camelback Road in the southeast quadrant of the district stand out as liabilities. These lots collect debris, are poorly lit and make residents feel unsafe. Attendees also communicated that empty buildings, such as the recently vacated Goodwill Career Center (17 th Avenue and Camelback Road), create a negative atmosphere.	Individual Behavior; Physical Environment
Crime	Workshop participants identified several areas of high crime: the southeast quadrant of the district, 19 th Avenue (particularly at Camelback Road) and Solano Park. Some residents are reluctant to visit the Christown Spectrum Mall Walmart Supercenter because of gang activity.	Individual Behavior; Social Environment

Key Issues about Solano and Its Residents

- A number of determinants of health should be taken into consideration when developing policies to increase the health of Solano residents. These include: lower incomes; race and ethnicity; age; language acquisition; existing health conditions; poor diet; and low rate of car ownership.
- A number of assets that contribute to health were identified in Solano and include Christown Spectrum Mall, public transportation and physical activity, cultural, and entertainment facilities.
- Residents suggested improvements to several would-be assets: the retention basin at 23rd Avenue and Camelback Road, streets, sidewalks and Solano Park.

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Access to Healthy Food

A nutritious diet is a building block of overall health and well-being. Good nutrition and regular exercise can reduce the incidence of obesity, heart disease, stroke, cancer and diabetes, which together comprise the leading causes of death and disability in the U.S. (Centers for Disease Control and Prevention, 2012).

The topic of nutrition becomes complicated when we look at obesity data. According to the CDC, one out of every four Arizonans is obese. Further, obesity impacts certain populations more than others, including those of Latino or African-American heritage and those with lower incomes. In a district like Solano, with 52% of the residents identifying themselves as African-American or Latino, access to healthy food is critical in addressing growing obesity and diabetes rates in these communities.

Solano Community Survey

In addition to the workshop, St. Luke's Health Initiatives collected data about residents through a community survey. The purpose of the survey was to identify issues related to healthy eating, physical activity and access to public transportation. In all, 63 surveys were returned. Survey data is referenced throughout this report. A full report of survey results can be found in the appendix.



While nutrition is about what we eat, what we eat is influenced by our environment. In many neighborhoods, retailers that carry healthy foods are scarce. Planning decisions influence resident access to healthy foods. The location of all food outlets, from supermarkets to convenience stores, farmers' markets to fast food restaurants, can profoundly affect a community's collective health.

Families who live near a supermarket are more likely to eat the daily recommended amount of fruits and vegetables (Kettel Khan, et al., 2009). Conversely, children who live in poor or predominantly minority neighborhoods are more likely to have greater access to fast food restaurants and convenience stores (Lee, 2012). Minority or low-income families are more likely to live in communities that are "food deserts"—a term used to describe neighborhoods with limited or no access to healthy, affordable food (U.S. Department of Agriculture, Economic Research Service, 2009).

Similar to a food desert, a "limited supermarket access" area measures access to retail food outlets that carry healthy food, taking into account family income and car ownership (The Reinvestment Fund, 2011). While Solano does not meet the technical definition of a limited supermarket access area, the district does face barriers to accessing healthy and affordable food.

Healthy Food Options in Solano

According to an analysis by The Reinvestment Fund (2011), Solano is home to two supermarkets and one corner grocery store that accepts vouchers from the federally-funded Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) program (Arizona Department of Health Services, 2012). Additionally, there is a membership-based warehouse supermarket that does not accept WIC.

From the standpoint of making healthy food affordable, WIC plays an important role. It provides food assistance to low-income pregnant or breastfeeding women or families with young children to purchase healthy food, such as milk and fresh fruits and vegetables. WIC has been shown to provide better health outcomes for infants, young children and their mothers (Devancey, 2007).

Map 4 (Healthy Food Accessibility) shows the four Solano healthy food outlets and the walking radius for these stores. Only 21% of households in the district are located within a convenient walk of healthy food.

Supermarkets

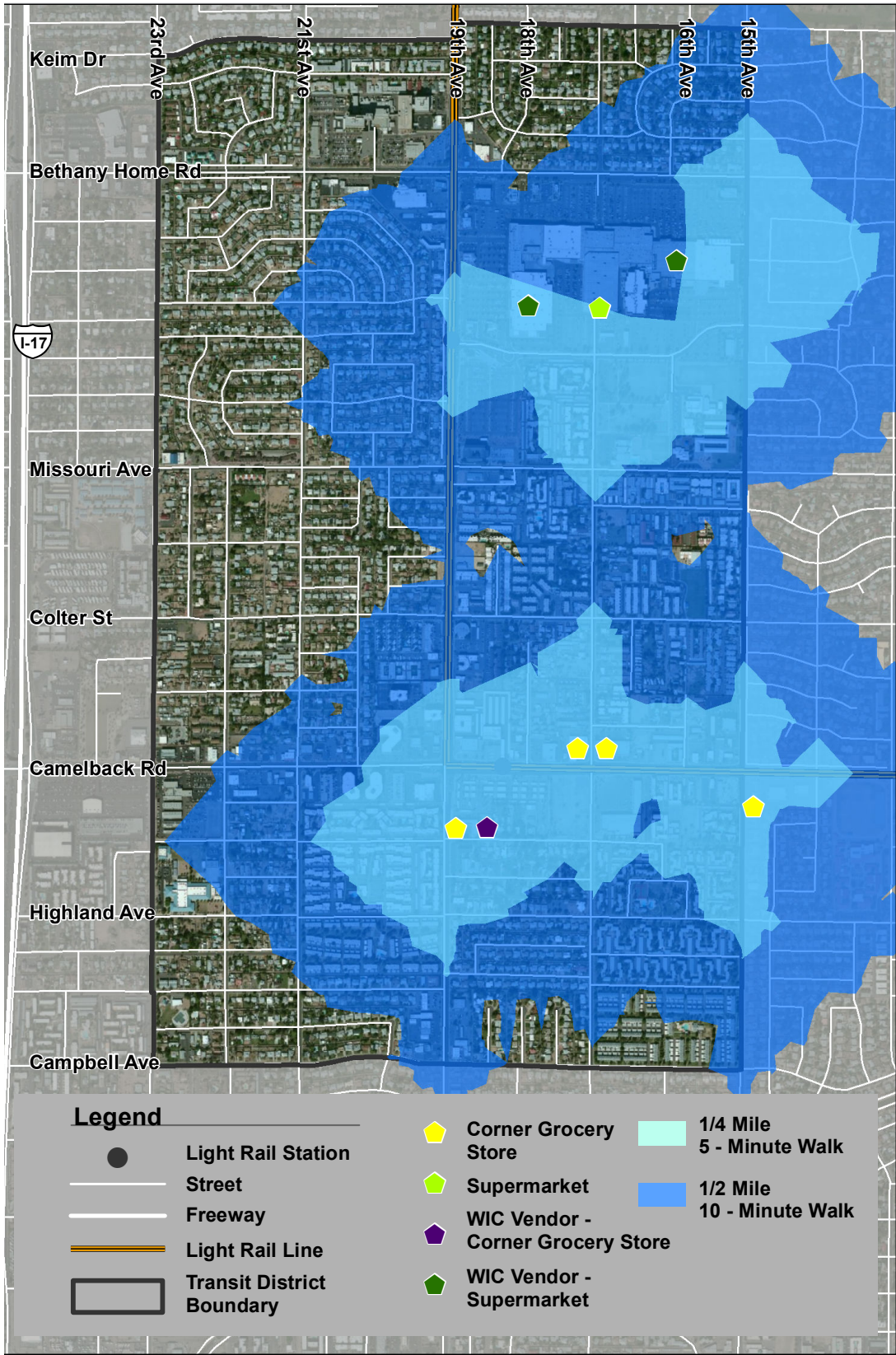
Walmart Supercenter (17th Avenue and Bethany Home Road) and Super Target (19th Avenue and Bethany Home Road) are the two supermarkets in the district. Both are standard full service supermarkets. Costco Warehouse is a third full service supermarket, but requires a membership to access it. Ninety percent of survey respondents purchased their groceries at supermarkets.

Walmart Supercenter, Super Target and Costco Warehouse are accessible for those who use a bus and light rail. Just 21% of the Solano residents live within a 5-minute walk of these stores.

Corner Grocery Stores

ABC Mart (19th Avenue and Camelback Road) is the only corner store with a wide variety of healthy food in the Solano district. ABC Mart carries milk, peanut butter, eggs, cheese, rice, beans, lentils and many vegetables. This variety is not found in the other corner grocery stores within the district.





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Solano Transit District Map 4 - Healthy Food Accessibility



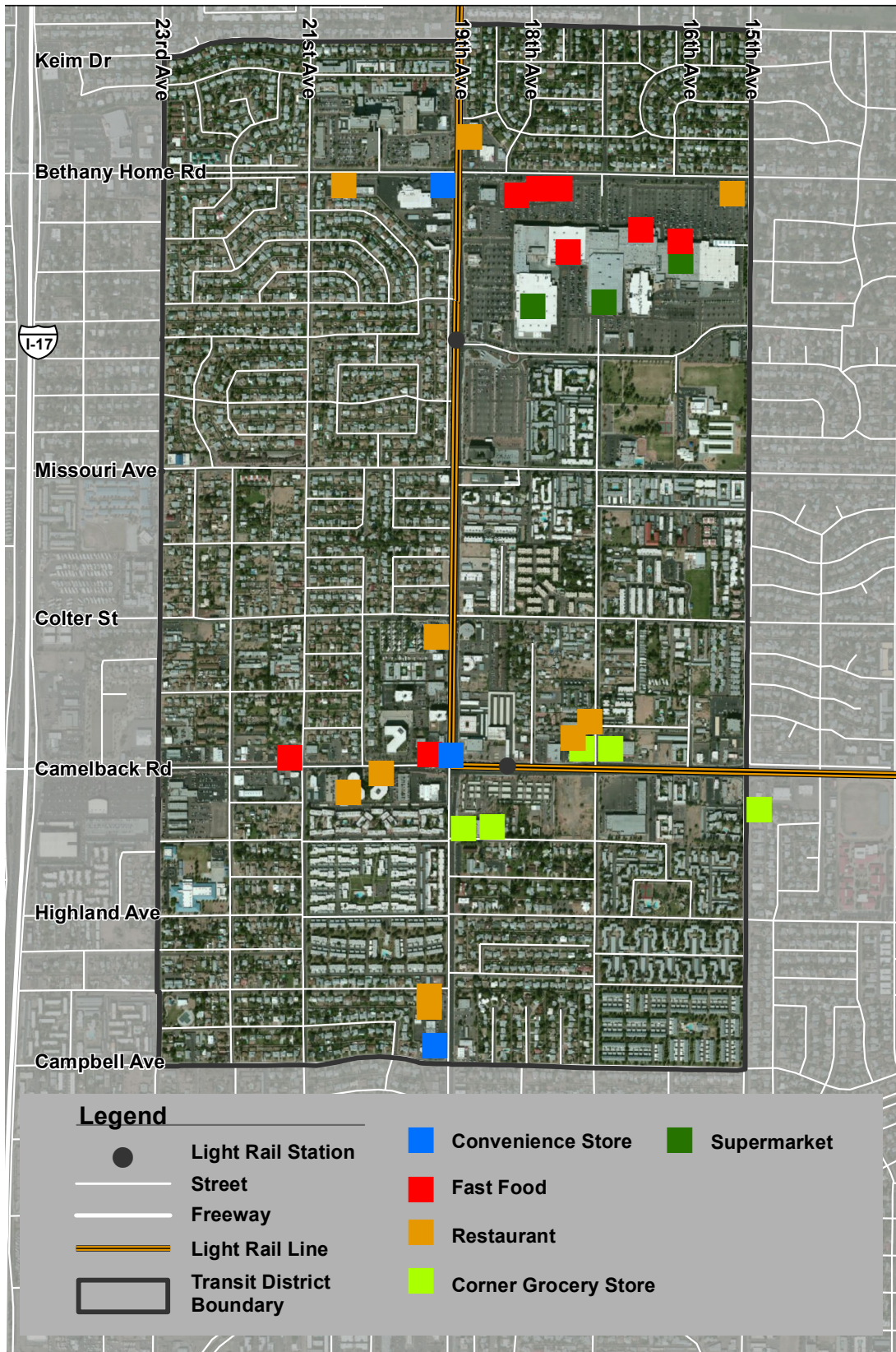
Other Food Retailers

In addition to the four healthy food retailers, Solano is also home to three additional corner grocery stores and one Family Dollar, none of which accept WIC. (See Table 2 for an overview of food retailers and WIC vendors in Solano.)

These additional retailers carry a limited assortment of fresh foods.

Store	Location	Type of Store/ Accepts WIC	Description	Percent of Population within a 5-Minute Walk
A&S Food Mart	15 th Avenue and Camelback Road	Corner grocery store / Does not accept WIC	A&S is sparse in healthy food, sold beer, and primarily had unhealthy options, such as soda and chips. It does carry milk, eggs, small bags of beans or rice and canned food, but no vegetables or meat.	7.9%
ABC Mart	19 th Avenue and Camelback Road	Corner grocery store / Accepts WIC	Carries a wide variety of healthy food choices	12.9%
Costco Warehouse	15 th and Montebello Avenues	Membership-based supermarket / Does not accept WIC	Membership-based full service supermarket	13.9%
Family Dollar	17 th Avenue and Camelback Road	Dollar store / Does not accept WIC	Although lacking vegetables, this store serves residents who need affordable staples within accessible walking distance. The store carries milk, eggs, grains and canned goods, as well as cereals.	10.4%
Loi Phat Oriental Food Grocery	17 th Avenue and Camelback Road	Corner grocery store / Does not accept WIC	Loi Phat is a specialty store, with considerable healthy food options, including milk, eggs, vegetables, grains and meat.	19.2%
Namaste Market	19 th Avenue and Camelback Road	Corner grocery store / Does not accept WIC	Namaste is a niche corner grocery store. It sells milk and eggs, but no vegetables or meat.	14.5%
Super Target	19 th Avenue and Bethany Home Road	Supermarket / Accepts WIC	Standard full service supermarket	6.4%
Walmart Supercenter	17 th Avenue and Bethany Home Road	Supermarket / Accepts WIC	Standard full service supermarket	1.4%

Table 2. Food Retailers and WIC Vendors in Solano.



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Map 5 - Food Outlets



Other Food Options

No community-based food options were identified in Solano, with no farmers' markets, community gardens or community supported agriculture drop-off sites in the district (Valley Permaculture Alliance, personal email communication, 2012).ⁱⁱ Workshop participants voiced support for bringing affordable grocery stores that stock fresh, organic, healthy food to the district. Food cooperatives and cooking classes were also desired by residents.

Solano has 21 other retail food outlets. (See Map 5.) The district has three convenience stores, 18 restaurants, which include both fast food restaurants (e.g., Jack in the Box, McDonalds, Church's Chicken) and slow food or sit-down restaurants.ⁱⁱⁱ

Community-Identified Barriers to Healthy Food

According to survey respondents, access to affordable, quality food from stores within the neighborhood is the biggest challenge to improving family diets. Fifty-five percent reported that healthy food was expensive. Considering that 80% of Solano families earn less than 200% of the poverty level, this is not surprising. Low-income families often consume a less nutritious diet than an average income family (Bhattacharyaa, Currieb, & Haiderc, 2004). For adults, as income decreases the rate of obesity increases.

Distance to an affordable supermarket is also a concern. Less than 40% of the residents had a grocery store within 10 blocks of home. Research supports that distance to a supermarket affects healthy food consumption (Leadership for Healthy Communities, 2012).

More than half (57%) of workshop attendees drove to grocery shop with 20% taking the bus and 20% walking. Ninety percent of survey respondents reported doing all or some of their grocery shopping at supermarkets, with the remainder shopping at Fruiterias and ethnic markets.

Key Issues about Healthy Food in Solano

- The district has two supermarkets—Super Target and Walmart Supercenter— which both accept WIC vouchers. Additionally, there is corner grocery store that accepts WIC and carries a variety of healthy food. 21% of district residents live within a 5-minute walk of these three stores.
- Solano is also home to three additional corner stores and a Family Dollar store, which carry a limited selection of food.
- More than half of surveyed residents said that healthy food was expensive.
- More than half of Solano residents surveyed use a car to get to the supermarket.



Access to Recreation

Along with a healthy diet, physical activity is critical in order to maintain a healthy lifestyle and to improve the overall health of residents. Public parks, recreation facilities and safe streets provide a place for us to play, exercise, walk and bike. When looking at a population with limited resources and predisposition for chronic disease, access to recreation is key when considering investments aimed at creating healthier communities.

Parks play an important role in promoting health. People who live closer to a park exercise more (Babey, Brown, & Hastert, 2005; Cohen, McKenzie, & al, 2007).

Assessing the District: Street and Park Audits

To better understand and document the health assets and challenges of the Solano district, residents conducted an assessment of selected streets and parks.

Residents performed 19 audits encompassing three parks and six streets. Streets selected for an audit were identified by residents as those frequented used by residents, or had a number of injuries or fatalities according to data from the Arizona Department of Health Services.

There are limitations to data collected through resident auditors. The data is often based on personal perceptions, which differ from person-to-person. However, these audits are helpful in gaining insight into residents' viewpoints and an overall snapshot in time.

The audit instruments themselves were developed using a variety of sources (The WABSA Project, 2003; Health by Design, n.d.; Brownson, Brennan Ramirez, Hoehner, & Cook, 2003) and will be refined and used in the subsequent Reinvent Phoenix districts.

Full audit results are in the appendix.

Parks provide a place to be physically active, which can help decrease obesity and related chronic conditions. Residents who do not have access to parks often go without exercise. This is particularly true for low-income families who may be unable to afford other exercise options, such as a gym membership (The Trust for Public Lands, 2006).

Safety is a critical consideration in the usage of parks (Babey, Brown, & Hastert, 2005). Parents who believe their neighborhood is unsafe are less likely to encourage their children to walk to schools and parks or to play outdoors (Miles, 2008). This reserve extends to communities that have a higher degree of “physical disorder” or blight, such as litter, graffiti and lack of residential maintenance. Not surprisingly, parents will keep children indoors rather than risk their personal safety.

This reluctance to visit parks, in the face of a perceived safety threat, extends to adults as well. Individuals who perceive a park to be safe are between six and seven times more likely to be frequent users of that park. Adults are up to 13 times more likely to use a park specifically for exercise (Wood, et al., 2012). Without adults modeling regular exercise, children are unlikely to develop lifelong healthy habits (Surgeon General, 2012). Going outside to bike or walk to the neighborhood park becomes an unfamiliar routine for children and adults without a safe setting to do so.

The Solano district has one park operated by the City Parks and Recreation Department. (See Map 6 for recreation accessibility. See Tables 3 and 4 for information on Solano Park.)

Solano Park

Solano Park (17th Avenue and Montebello Avenue) sits on almost 12 acres just south of the Christown Spectrum Mall. The park’s amenities include lighted basketball and tennis courts, a lighted soccer field, a playground, restrooms and a ramada and picnic area with a grill.

Residents recognized Solano Park as an asset, even though they agreed it could be improved. Crime in the park and surrounding area was a concern at the community workshops. Participants suggested fencing, shade trees, more playground options, a skate park or splash pad, and closing the park at night.

	Land Used for Parks	Park Acres per Person
Solano District	1.07%	0.00092
City of Phoenix	1.35%	0.00315

Table 3. Amount of parkland acreage per Solano resident.

Solano residents have less than one-third the parkland acres per person than City residents as a whole.

Park	Acres	Percent of Residents within a 5-Minute Walk
Solano Park	11.78	16.8%

Table 4. Snapshot of Solano parks.

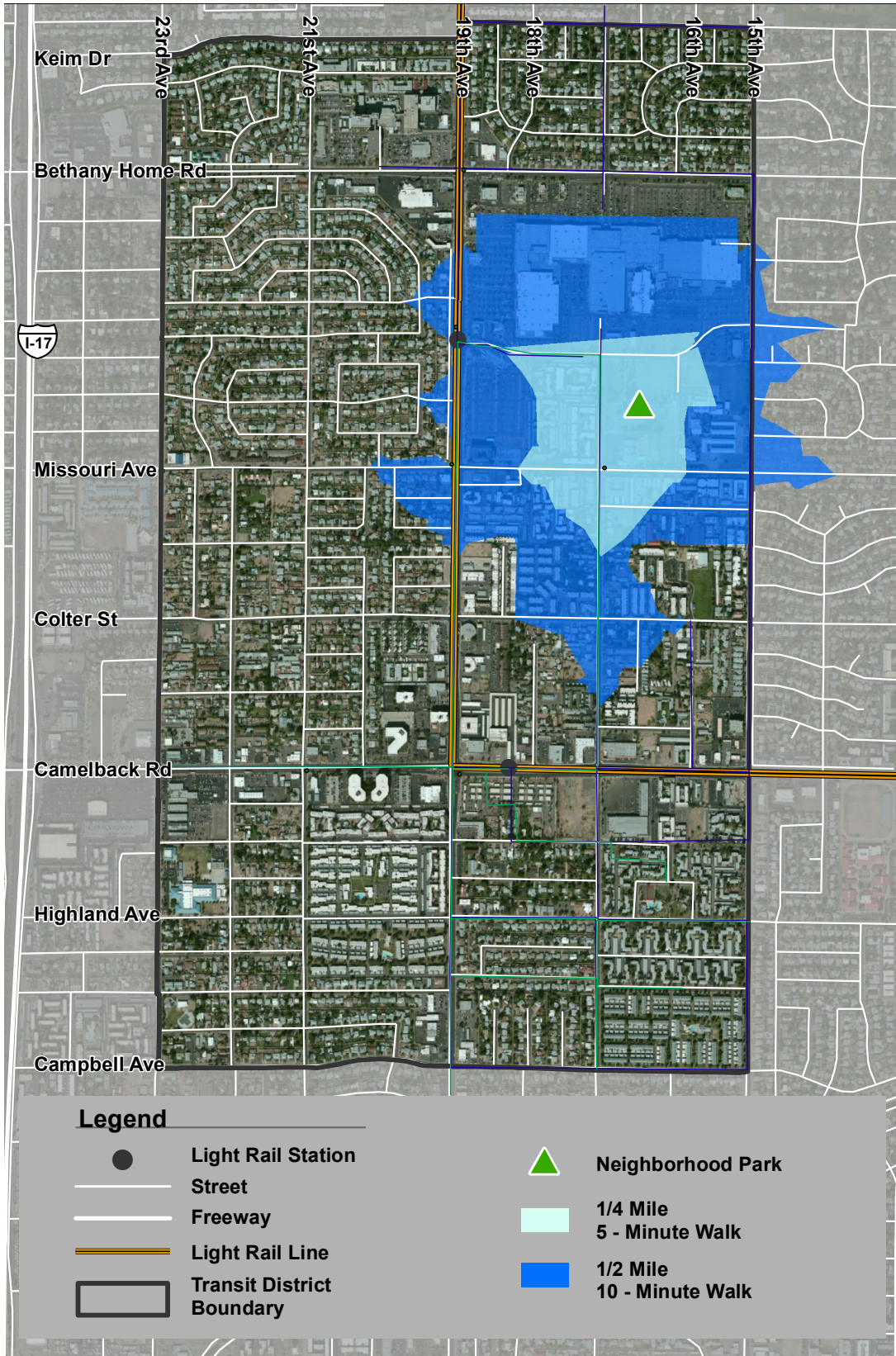
Park Audit

Three separate park audits were performed for Solano Park, each completed by a district resident. The streets surrounding the park have sidewalks, but only half of them are useable and they lack curb cuts or ramps for wheelchair or stroller accessibility.

The park has restrooms, but all auditors agreed that the restrooms were in poor condition. Drinking fountains are in reasonable condition with most near activity areas. The park’s benches, picnic tables and ramadas are in good condition and were being used during every audit.

The park’s swings, slides, climbing bars and wall were all in moderate condition and people were using these amenities during audits. Auditors agreed the field and basketball court were in good condition, though the tennis court could use some maintenance. Shade is lacking, with two of three auditors reporting less than 25% of the park could be shaded with the sun overhead.

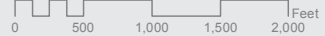
Residents identify the prevalence of crime as the most important issue in Solano Park. All auditors observed graffiti, vandalism and high quantities of litter. Homeless people were observed sleeping in the park. One auditor reported: “The first time I visited the park, police instructed me to leave due to illegal activity happening in the park.” All auditors agreed that there was behavior or persons in the park that made them feel uncomfortable: “There were people sleeping and begging other people for money.”



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Solano Transit District Map 6 - Recreation Accessibility





I feel maybe the park just suffers from its surroundings, the heavy traffic, the shopping center, and the possibility of dangerous individuals. The park itself is of good quality though.

Solano resident about Solano Park.

Auditors reported using the park weekly in the previous six months, even though they feel unsafe: “I don’t feel safe at this park. I don’t feel safe walking to this park. The neighborhood around the park isn’t safe.” Overall, auditors suggested that better lighting and better playground equipment could improve the park.

Other Recreational Opportunities

In addition to Solano Park, the City of Phoenix Parks and Recreation Department has the 1.2 acre Kid Street Park (23rd Avenue and Hazelwood Street) next to Mark Atkinson Recreation Center. Kid Street Park has a playground, a multi-purpose field and lighted sand volleyball and basketball courts. The Atkinson Recreation Center includes a multi-purpose recreation building, a racquetball court and a ramada picnic area.

Finally, Solano residents also travel north of the district to the 54-acre Washington Park (between 21st, 23rd and Maryland Avenues). Washington Park has many amenities, including lighted basketball and sand volleyball courts, lighted soccer and softball fields, a pool, playground and exercise course. There is also a lighted PETsMART Dog Park and ramada picnic area.

Key Issues about Recreation in Solano

- The vast majority of residents (83%) do not have a park within a 5-minute walk of home.
- Solano Park has limited shade and feels unsafe for some. Residents recognize it as a health asset in need of improvement.
- Solano residents have less than one-third the parkland acres per person than City residents as a whole.



Safe Streets and Public Spaces

Development patterns of Phoenix are typical of many newer American cities: low-density and car-dependent. Urban design and transportation systems have focused on accommodating the automobile, not pedestrians or cyclists. Through strategic infrastructure investments, urban design and planning can encourage walking, bicycling and use of public transportation.

While there are many ways to be physically active, few are as inexpensive and easy as walking. For many, a significant barrier to bicycling is the initial cost of the bicycle, as well as lack of safe places to ride. The most obvious health outcome of increased walking and bicycling is better health. The Surgeon General recommends at least 30 minutes of walking five times a week as a means of reducing obesity and other chronic health conditions (2012).

In addition to walking or bicycling for health-related reasons, these activities can be used for transportation. One study found that children who walked to and from school daily got on average 24 minutes more exercise per day than those who walked occasionally or rode in a car (Active Living Research, 2009).

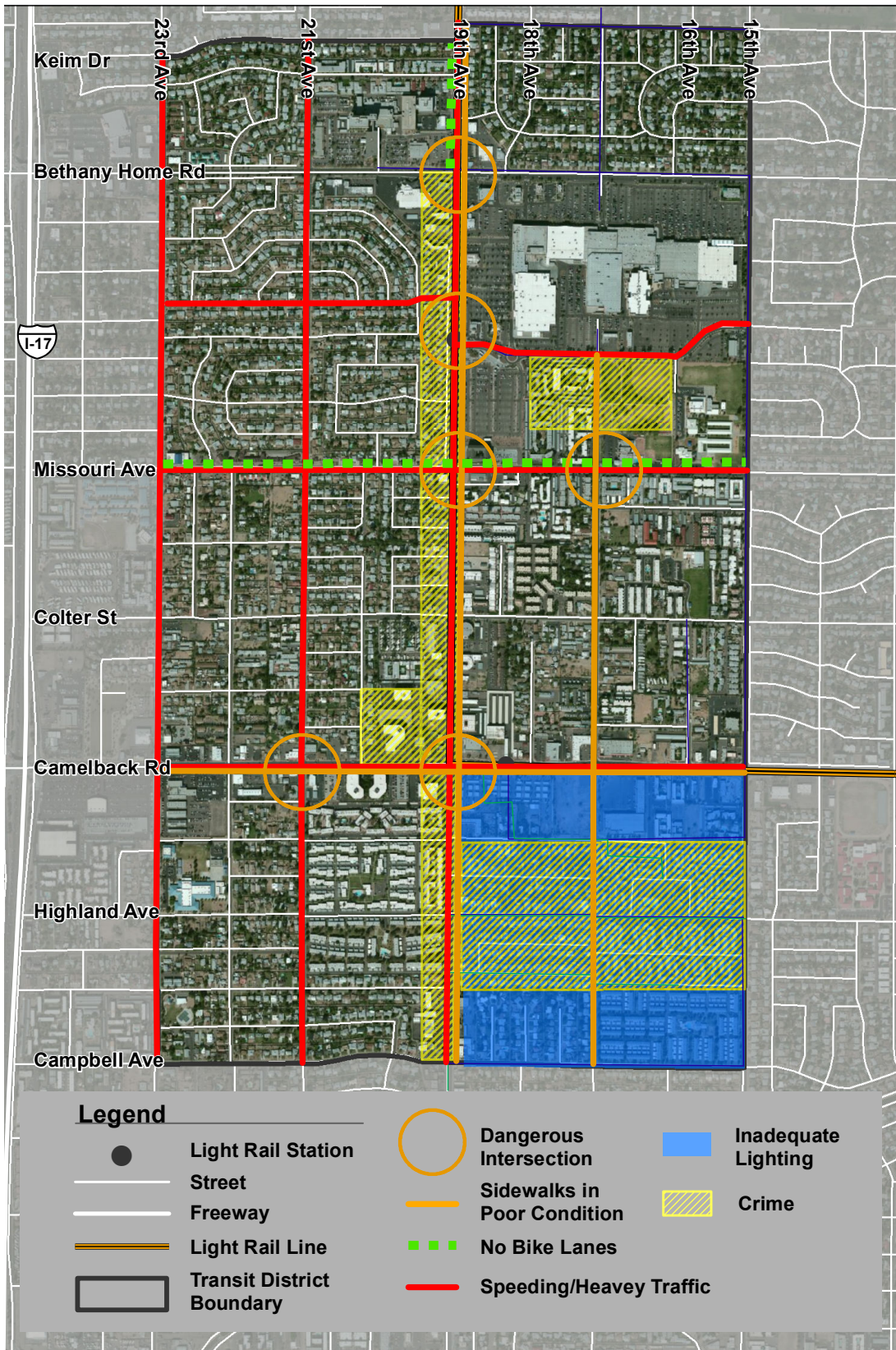
Those who use public transportation tend to walk to and from their stop, which, in turn, increases their likelihood of meeting the minimum daily recommendation of physical exercise (PolicyLink and Prevention Institute,

n.d.). Those who live in more compact neighborhoods walk, bicycle and use public transportation more frequently than those in more spread-out neighborhoods. Those who live in compact neighborhoods also have lower rates of obesity (Ewing, Schmid, Killingsworth, A., & Raudenbush, 2003).

Public transportation reduces traffic collisions and the injuries, disabilities and deaths that accompany more serious crashes. It also reduces air, water and noise pollution, and reduces the emotional and financial stress often associated with car ownership (Victoria Transport Policy Institute, 2010).

To better understand the walking and bicycling environment and use of public transportation in Solano, we looked at the street infrastructure through three lenses:

1. Issues raised during two community workshops. Some of these issues are tied to particular locations within the district, while others are more general in nature. (See Map 7.)
2. An epidemiological analysis of pedestrian and cyclist injuries. (See Map 8.)
3. Observations of the walking and bicycling environment.



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Solano Transit District Map 7 - Community-Identified Liabilities

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Community-Identified Street Concerns

Solano residents walk and bike as a means of transportation within the district to access bus and light rail stops, parks, jobs and for basic errands. While walking and biking are routine activities for residents, aspects of the current built and social environment limit walking and biking altogether.

Workshop participants identified a number of issues that affect feeling safe and comfortable walking, biking or taking public transportation in their neighborhood. (See Map 7 Community Identified Liabilities.)

Land Use

Certain land uses and commercial activities can be disruptive or socially uncomfortable for those who want to walk, bike or take transit. Liquor stores, adult entertainment businesses, vacant lots and abandoned buildings are types of land uses that affect how residents interact with health assets and how they go about their daily lives.

Vacant lots and abandoned buildings were seen as significant problems creating a sense of danger that inhibits walkers. The community is eager to transform these vacant lots and ill-maintained buildings to meet essential needs and deter current uses. In particular, residents mentioned vacant lots along Camelback Road and the recently vacated Goodwill Career Center (17th Avenue and Camelback Road).

Personal Safety

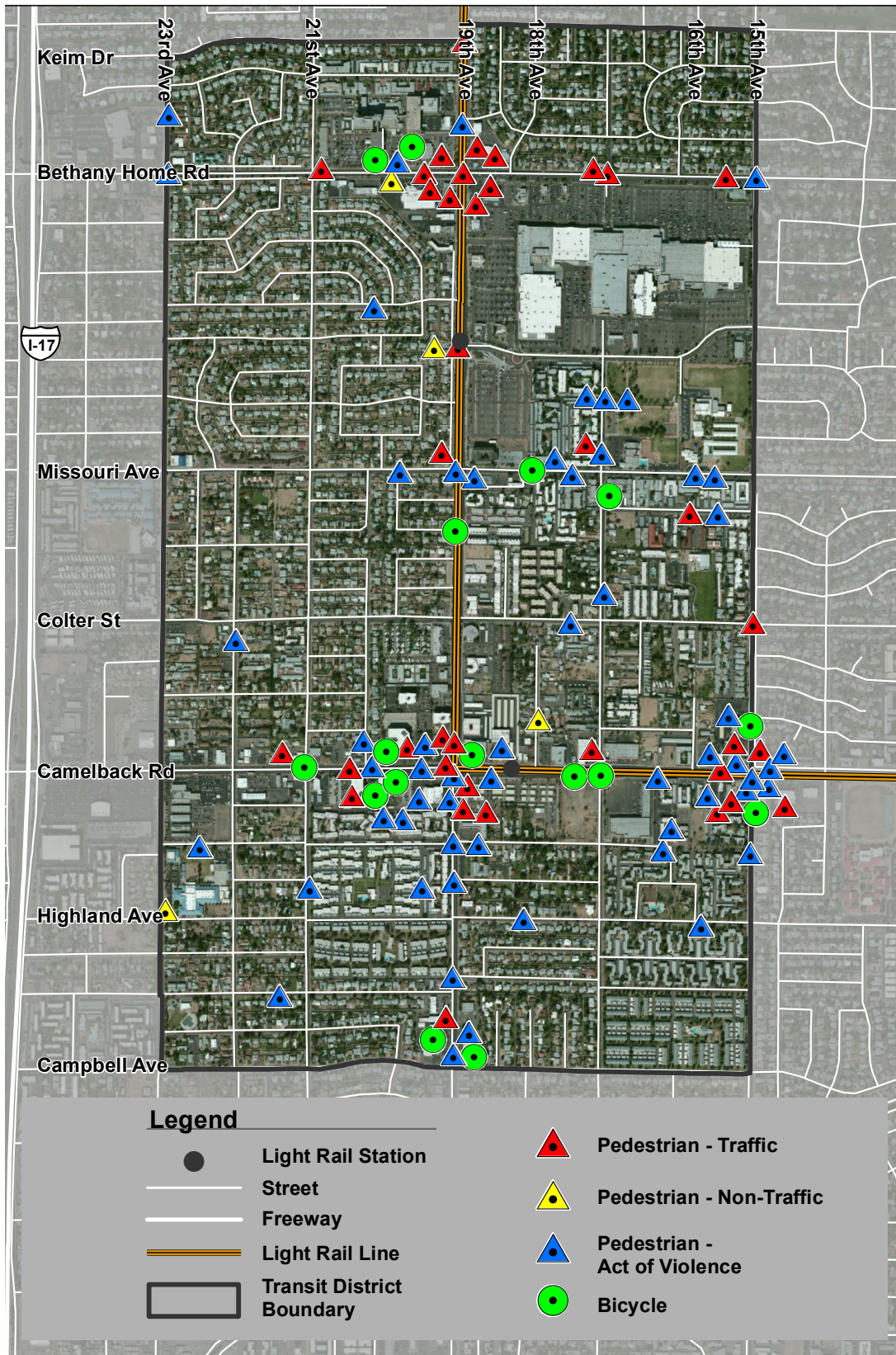
In Solano, workshop participants cited crime as a significant liability for the district. The residential area in the southeast corner of the district, 19th Avenue (especially at Camelback Road) and Solano Park all received mention as high crime areas. Some residents are reluctant to visit the Walmart at the Christown Spectrum Mall because of the prevalence of gang activity nearby. Homeless people at the retention basin at 23rd Avenue and Camelback Road make residents feel unsafe in the area.

Feeling unsafe is accompanied by unease with law enforcement. According to those who attended the workshop, families of Latino heritage worry about being asked about their immigration or citizen status, resulting in an environment of distrust for residents; therefore, crimes go unreported. According to some residents, reporting a crime will increase police presence—albeit temporarily—which will increase the likelihood of harassment as well as retaliation by those involved in the criminal activity. The simplest solution is to not engage the police at all, which allows crime to go unreported and unchecked.

Reckless Drivers

Residents identified seven streets as particularly dangerous because of current traffic patterns, driving behaviors and lack of street signs—23rd Avenue, 21st Avenue, 19th Avenue, 15th Avenue, Camelback Road, Missouri Avenue and Montebello Avenue. (See red line on Map 7.)





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Solano Transit District

Map 8 - Pedestrian and Cyclist Injuries



Street Safety Hazards

The lack of lighting is a serious concern and was repeatedly mentioned during the community workshops. Dark streets, intersections and parks make it dangerous to walk or bicycle at night or take the bus early in the morning. Residents reported completing all outdoor activities before dark in order to avoid the dark streets and parks.

Site-specific safety hazards include:

1. 19th Avenue and Camelback Road is a very high crime area.
2. Workshop participants perceived Solano Park to be unsafe.
3. Homeless people often occupy the retention basin on Camelback Road.

	Bicycle	Pedestrian	Violence	Total
No Injury	4	4	0	8
Possible Injury	6	8	0	14
Minor Injury	7	8	0	15
Serious Injury	0	3	0	3
Fatal Injury	0	4	5	9
Trauma	14	37	54	105
Total	31	64	59	154

Table 5. Total number of pedestrian and cyclist injuries

More than 74% of injuries in Solano were treated in Level I Trauma Centers. Source: Arizona Department of Transportation's Safety Data Mart; Arizona State Trauma Registry.

Injury Analysis^{iv}

Analyzing pedestrian and bicyclist injuries provides another way to examine walking and biking conditions in the district. The type of injuries analyzed fall into three broad categories: 1) bicyclist injuries; 2) pedestrian injuries, which may be caused by a collision with a motor vehicle or falling or striking an object, such as a utility pole; and 3) violence-related injuries. A full report analyzing district injuries and containing the comprehensive epidemiological analysis and findings can be found in the appendix.

From 2008-2010, a cyclist or pedestrian was injured in 154 cases while traveling in the district. (See Map 8 for locations. Table 5 provides an overview of the injuries sustained.)

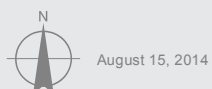
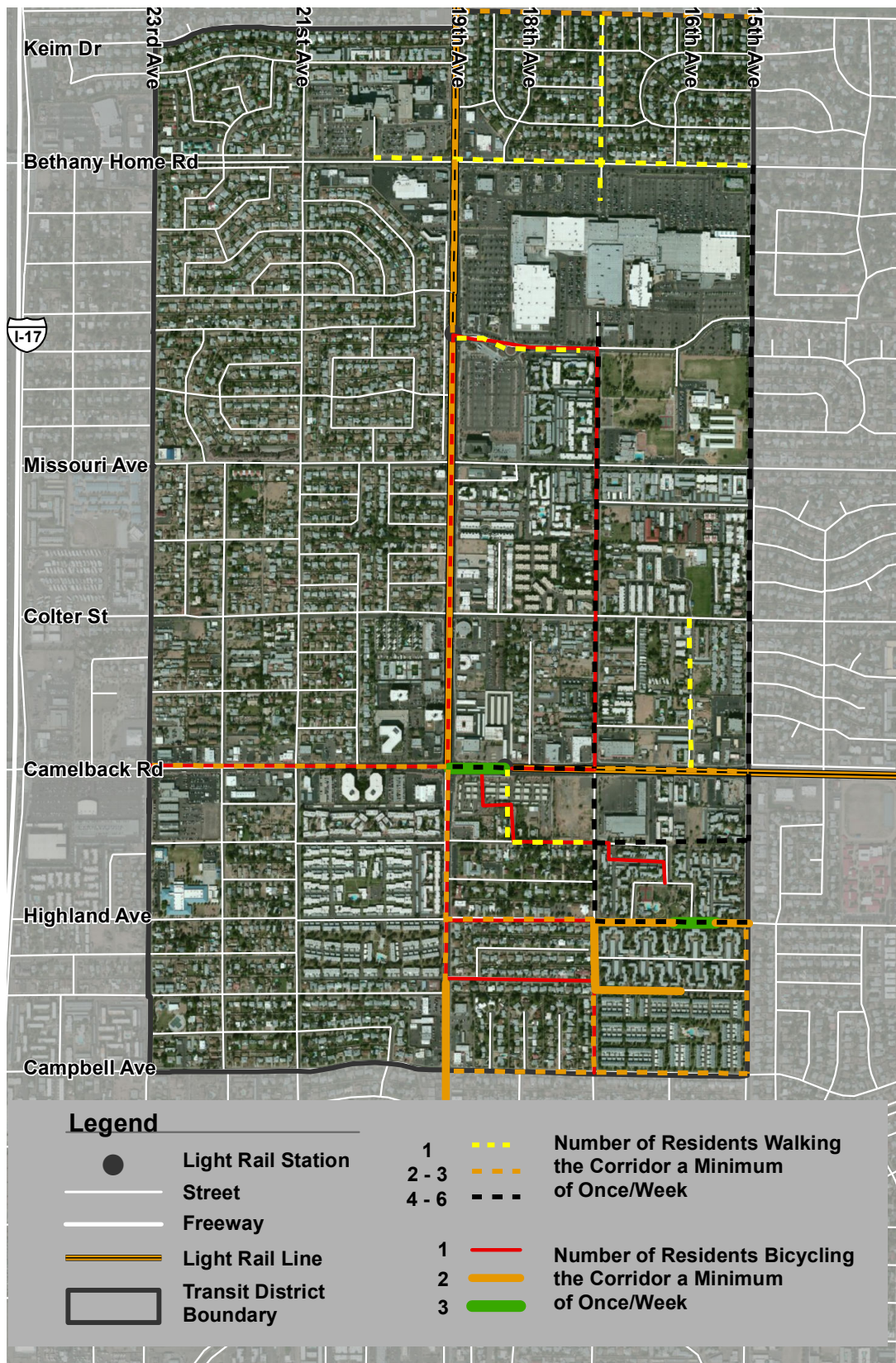
More than 74% of the injuries were substantial enough to warrant treatment at a Level I Trauma Center, which would include those with potentially life threatening injuries based on vital signs, level of consciousness, type of injury, or other considerations.

Over the three-year period, nine people died in Solano—four pedestrian traffic collisions and five pedestrians from violence. Eight of the nine deaths occurred near Camelback Road. All the pedestrian fatalities from violence were men, three of which were from firearms, though only one of the five was under the influence of drugs or alcohol.

For non-violence injuries, one common thread was time of day. Ninety percent of incidents occurred between noon and midnight, most of which were pedestrian traffic injuries.

Alcohol is a frequent contributor to injury events. Of those tested, about 46% had a blood alcohol level above the legal limit. Incredibly, 60% of those over the legal limit were more than triple the limit. Nearly 60% of the individuals with violence related injuries had a blood alcohol level above the legal limit.

Slightly over 70% of bicyclists and 65% of pedestrians received violations. The most common violations were “not using the crosswalk” and “disregarding traffic signals.” More than 30% of the collisions did not result in violations issued to a bicyclist or pedestrian. Because of data limitations, we cannot connect vehicular violations to these collisions.



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Solano Transit District



Map 9 - Community-Identified Pedestrian and Bicycle Corridors

Street Audits and Epidemiological Observations

Street Audits

Twenty workshop participants identified walking routes that are used during their regular routines. (See Map 9.) Streets identified with a green designation represent the most frequently traveled street segments, with orange and red streets representing lesser use. The top three destinations were Christown Spectrum Mall, Solano Elementary School and Solano Park.

Based upon these walking patterns, three north-south street segments were identified for residents to conduct street audits. (See Map 10.) For each segment, two residents volunteered to conduct audits.

Epidemiological Observations

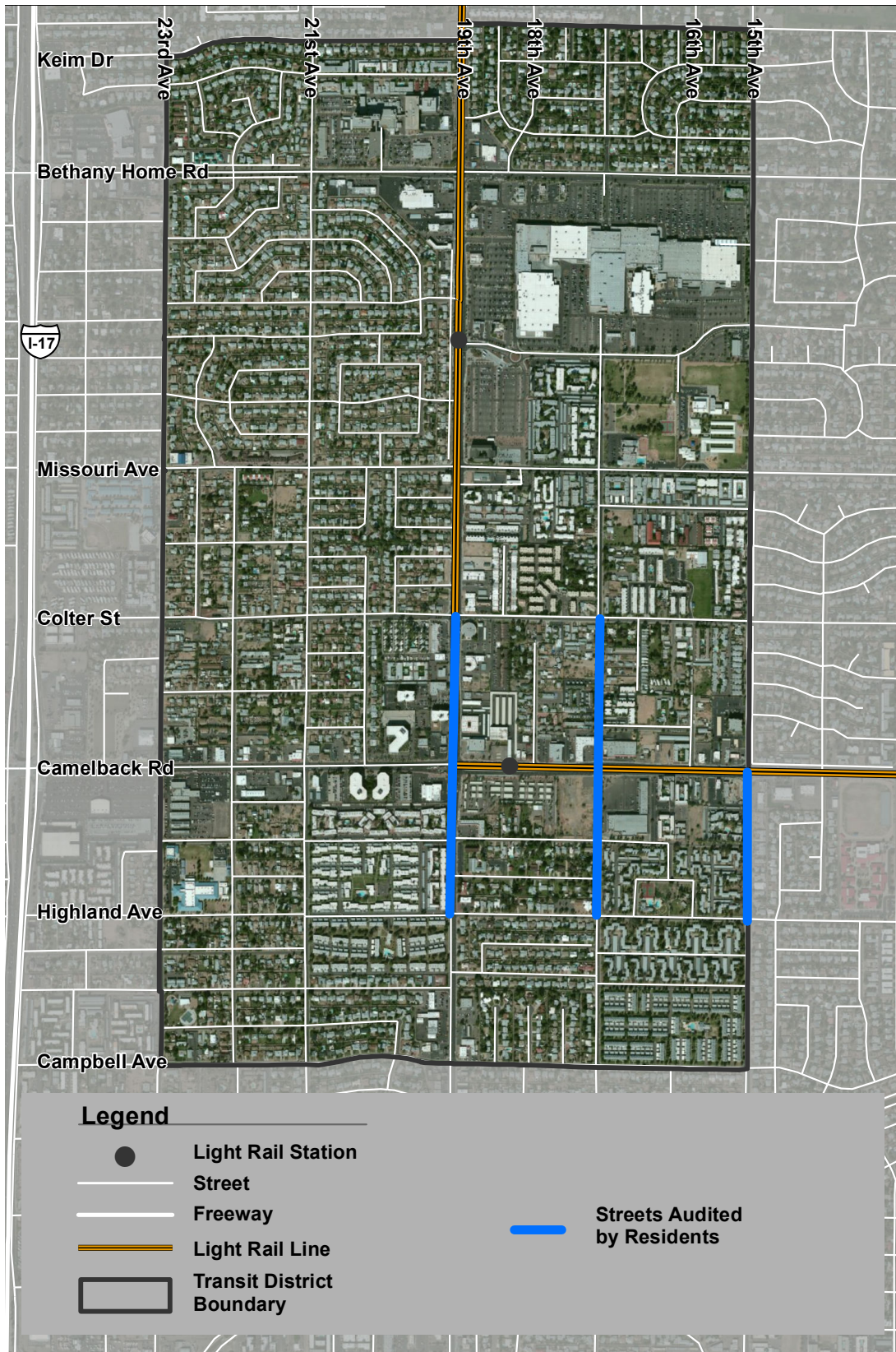
Using injury data, four east-west streets were selected for epidemiological field observation. The purpose of these observations was to identify factors that could contribute to injuries and collisions. Data for intersections of north-south and east-west streets is included with east-west streets.

Identifying the “hot spots” or locations with numerous incidents is an important part of identifying specific locations for street safety improvements. Map 8 (Injuries and Fatalities) illustrates the locations of bicycle, pedestrian and violence-related collisions and injuries. “Hot spots” identified through data analysis and mapping included several areas of high risk.

The district’s hot spots are primarily located along the major thoroughfares, 19th Avenue, 15th Avenue, Camelback Road and Bethany Home Road. Bethany Home Road primarily experienced pedestrian traffic injuries. Camelback Road had both many pedestrian traffic and violence injuries, as did 15th Avenue. Bicyclists had the most accidents on 19th Avenue, with a similar number of pedestrian violence injuries, and about twice as many pedestrian traffic injuries.

The following section provides summary information gathered from these audits and the field observations. For more information about the results of these audits and the field observations, see the appendix.





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**Solano Transit District
Map 10 - Community Streets Audited**

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Camelback Road, from 23rd Avenue to 15th Avenue

Sidewalks are in relatively good condition. They are wide enough for two adults to walk side-by-side, but there is little shade.

West of 19th Avenue, traffic on Camelback Road is similarly heavy, with the same driving behaviors observed to the east. The sidewalk on the north side is mostly buffered from the street, whereas only half the south sidewalk has a buffer.

Residents consider 19th Avenue and Camelback Road to be particularly dangerous. There were 16 injuries at this intersection: two bicyclists, eight pedestrian traffic and six pedestrian violence. Light rail passengers cross against the crosswalk signals to catch connecting buses. Other pedestrians ignore clearly marked crosswalks, audible traffic signals and flashing timers. Many cross Camelback Road midblock.

There were 18 injuries at 15th Avenue and Camelback Road—two bicyclists, eight pedestrian traffic and eight pedestrian violence.

Camelback Road Epidemiological Findings

Condition of bus and light rail stops?	Good
Would you feel safe waiting for a bus or train?	19 th Avenue and Camelback is perceived to be particularly dangerous
Types of reckless driving behaviors observed:	<ul style="list-style-type: none"> Not stopping for pedestrians Speeding Speeding through yellow lights Right turns on red without stopping
Sidewalks on both sides of street?	Yes
Condition of sidewalks:	<ul style="list-style-type: none"> Relatively good condition Most have buffers Wide enough for two side-by-side adults No shade
Observations about the neighborhood:	<ul style="list-style-type: none"> Heavy traffic 19th Avenue intersection has high pedestrian and vehicle traffic from the light rail, bus stops and nearby businesses



Bethany Home Road, from 23rd Avenue to 15th Avenue

Sidewalks along Bethany Home Road are in relatively good condition, wide enough for two adults to walk side-by-side. There is no buffer between the sidewalk and the street along the north side and only a small buffer on the south side.

East of 19th Avenue, speeding was observed, particularly to beat yellow lights. The area has some litter, excessive noise, poorly maintained properties and stray or unleashed dogs. Sidewalks on the north side are in poor condition, with large cracks and holes, making it difficult for strollers or mobility devices. On the south side, sidewalks are in relatively good condition, wide enough for two adults to walk side-by-side. About half of the south side has a buffer between the sidewalk and the street.

Traffic in and around the Christown Spectrum Mall is congested.

Bethany Home Road Epidemiological Findings

Condition of bus and light rail stops?	Relatively good
Would you feel safe waiting for a bus or train?	Yes
Types of reckless driving behaviors observed:	Street racing Speeding for yellow lights
Sidewalks on both sides of street?	Yes
Condition of sidewalks:	Relatively good except for the north side of the street east of 19 th Avenue where there are large cracks and holes difficult for strollers and mobility devices Some buffers Wide enough for two side-by-side adults No shade
Observations about the neighborhood:	Light rail construction at 19 th Avenue slows traffic and blocks the sidewalk Heavy traffic, especially at the Mall



Missouri Avenue, from 19th Avenue to 15th Avenue

Missouri Avenue is the third highest risk east-west street in the district, with 16 injuries. All three bicycling injuries occurred east of 17th Avenue, with three pedestrian traffic injuries occurring at 17th, 19th and 23rd Avenues. The remaining 10 injuries were pedestrian violence, seven near Solano Park and three at 19th Avenue. Workshop participants reported the park and surrounding area as a high crime area of the district.

Missouri Avenue itself is in relatively good condition with four lanes of traffic and a turn lane at intersections. There are apartment complexes and small businesses, as well as Chris-Town YWCA and Solano Elementary School. Sidewalks are narrow with no buffer between the sidewalk and the street. Overall, Missouri Avenue struggles with heavy traffic before and after school, as well as personal safety, particularly in the area of the park.

Missouri Avenue Epidemiological Findings	
Reckless behaviors?	Midblock crossings Crossing against the light
Sidewalks on both sides of street?	Yes
Condition of sidewalks:	Relatively good Narrow No buffer
Number of people seen	Many at the beginning and end of the school day



Denton Lane, from 17th Avenue to 15th Avenue

Denton Lane dead-ends at both 17th and 15th Avenue. However, there were three injuries (two pedestrian traffic and one bicycling) on this low volume street. The major problems along this segment appear to be poorly maintained properties, low lighting, excessive litter and parking too close to sidewalks.

The sidewalks on both sides are narrow and shopping carts block the way in places. There was excessive litter by the dumpsters of the apartment complexes. There were no eyes on the street.

Sidewalks on the north side have no buffer with either the street or the parking areas of apartment complexes. When parking spaces are full, it is very difficult to see pedestrians, bicyclists and other vehicles.

On south side, sidewalks are in better condition with some landscaping in front of apartments. However, there is little shade.

Denton Lane Epidemiological Findings	
Condition?	Two lanes of traffic without lane markings
Surrounding buildings?	Apartments and vacant lots
Condition of sidewalks:	Narrow No buffer to street or apartment parking No shade Buckled section on the north side
Observations about the neighborhood:	No eyes on the street Poorly maintained properties Overflowing dumpsters Low lighting Parking too close to sidewalks



19th Avenue, from Colter Street to Highland Avenue

High traffic volumes, the number of major bus routes and the light rail all contribute to creating a high-risk environment along 19th Avenue. Sixty-two injuries happened along 19th Avenue, 15 bicyclist, 30 pedestrian traffic, one pedestrian non-traffic and 16 pedestrian violence.

The intersection of Camelback Road and 19th Avenue is particularly high risk. Residents report this intersection to be a high crime area, which is supported in the number of violence related injuries.

Resident auditors reported sidewalks were in good condition, but lacked shade. Dangerous behaviors were not confined to drivers, as one auditor commented: “pedestrians and bikers don’t follow street signs.”

19th Avenue Street Audit Findings

Condition of bus and light rail stops?	Mostly poor condition
Would you feel safe waiting for a bus or train?	No, because there were people drinking there
Types of reckless driving behaviors observed:	Not stopping for pedestrians Speeding Speeding to make a yellow light Running red lights
Sidewalks on both sides of street?	Yes
Condition of sidewalks:	Good condition Half the sidewalk has a buffer from the street No obstacles obstruct the sidewalk Wide enough for three side-by-side adults Less than 25% could be shaded
Observations about the neighborhood:	Some traffic, litter, graffiti, vandalism and poor lighting Some evidence of threatening persons or behaviors
Number of people seen:	38, with four biking on the sidewalk, four biking in the street
Do you feel safe on this street?	Yes, but only because “I had something to protect me from harm.”



17th Avenue, from Colter Street to Highland Avenue

17th Avenue leads to the Legacy Foundation Chris-Town YMCA, Solano Park and the Christown Spectrum Mall. Eighteen injuries happened along 17th Avenue, two bicyclist, seven pedestrian traffic and nine pedestrian violence.

Resident auditors reported sidewalks were in moderate condition, but lacked shade. The neighborhood was observed to be in good condition, though both auditors agreed that lighting could be improved and new crosswalks should be installed.

17th Avenue Street Audit Findings

Condition of bus and light rail stops?	Mostly good condition
Would you feel safe waiting for a bus or train?	No
Types of reckless driving behaviors observed:	Not stopping for pedestrians Speeding Speeding to make a yellow light
Sidewalks on both sides of street?	Yes
Condition of sidewalks:	Only one side of the street has sidewalk with a buffer from the street Trees, large plants, weeds, bushes, small holes and cracks obstruct the sidewalk Wide enough for two side-by-side adults Less than 25% could be shaded
Observations about the neighborhood:	Poor lighting Some litter Some poorly maintained or vacant properties Eyes on the street lacking Some animal waste, unpleasant smells and strays
Number of people seen:	Three people walking, one bicyclist on the street and one on the sidewalk
Do you feel safe on this street?	Yes



15th Avenue, from Colter Street to Highland Avenue

15th Avenue leads to Solano Elementary School, Yucca Public Library and the Christown Spectrum Mall. Thirty-five injuries happened along 15th Avenue, five bicyclists, 14 pedestrian traffic and 16 pedestrian violence.

Resident auditors noticed that sidewalks lacked buffers and shade, and had cracks and holes. Both auditors commented on “people that hang out around the bus area and drink.”

15 th Avenue Street Audit Findings	
Condition of bus and light rail stops?	Moderately good condition
Would you feel safe waiting for a bus or train?	Yes
Types of reckless driving behaviors observed:	Not stopping for pedestrians Speeding Speeding to make a yellow light
Sidewalks on both sides of street?	Yes
Condition of sidewalks:	About half the sidewalk is in good condition No buffer in areas Large cracks, bumps or holes Less than 25% could be shaded
Observations about the neighborhood:	Heavy traffic Some graffiti and vandalism Many vacant buildings or lots, or undesirable uses Plenty of eyes on the street Lots of evidence of threatening persons or behaviors
Number of people seen:	Five people walking
Do you feel safe on this street?	Yes

Public Transportation

Fifty-five percent of survey respondents reported using buses, with only 20% using the light rail system. Given that less than 15% of Solano residents live within a 5-minute walk of a light rail station, this is not surprising. Among those who use public transportation, 35% use it to go grocery shopping.

Fifty-five percent of survey respondents reported using a car as their only form of transportation, whether their own or being dependent on a neighbor or friend for a ride. Only 5% reported using bicycles as their main mode of transportation, but 30% walked as their primary form of transportation.

Survey respondents shared concerns about public transportation in Solano:

- Length of transit time;
- Inconvenient schedules;
- Too hot;
- Inconvenient location of transportation stops;
- Cost; and
- Lack of security and shade in and around stops.



Health Strategy Report

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Healthy Food Strategies

Healthy food retailers in Solano are primarily concentrated around Christown Spectrum Mall, leaving much of the remaining district with few healthy choices. 21% of district residents live within a 5-minute walk of these retailers.

Strategy One: Strengthen the existing retail food environment

WIC Vendors

WIC is an impactful food assistance program that should be used to strengthen the existing retail food environment in Solano. WIC provides assistance to low-income pregnant or breastfeeding women or families with young children to purchase healthy food, such as milk, fresh fruits and vegetables. Stores that currently accept WIC should be supported to expand healthy food options through programs like the one described previously, and existing healthy food retailers should be encouraged to join this program and other federal food assistance programs.

Currently, there are three WIC vendors in Solano: ABC Mart; Super Target; and Walmart Supercenter. To increase healthy options for all residents, other food retailers should be recruited to participate in the WIC program, including the corner grocery stores. (See Map 11 for sites.)

Recommended Policies

1. Partner with the Arizona Department of Health Services to improve the selection of healthy food offered at the existing WIC vendors in Solano.

Goal: All Solano residents have access to healthy food.

Measure/Target Indicator	Baseline	Target
Percent of residents who live within a 5-minute walk of a healthy food outlet	21%	90%
Percent of residents within a 15-minute transit ride of a full-service supermarket	TBD	TBD

*To be determined.

Strategy Two: Create new healthy food outlets in the Solano district

New healthy food options can assume different forms, from community-based gardening initiatives to the development of a supermarket. Regardless of how this is accomplished, the goal is the same: to increase the quantity of affordable healthy food available within the district.

Community Gardens

Although there are currently no community gardens in Solano, there is a parcel at 19th Avenue and Georgia Street that is owned by Valley Metro. While there are limitations on uses permitted on land owned by Valley Metro, a community garden could be an interim use that can provide several positive impacts on adjacent neighborhoods through the activation of a publically owned vacant parcel.

In recent years, Phoenix has taken successful steps to support community gardens. In 2012, the City adopted a community garden policy that has clear requirements, including property maintenance.^v Phoenix also has excellent examples of community gardens in low-income neighborhoods that face many of the same issues as Solano. Maryvale on the Move, a multi-year project funded by the Robert Wood Johnson Foundation, has been successful in establishing gardens in Maryvale. Tigermountain Foundation in South Phoenix has started community gardens along with job training for landscapers. Produce from Tigermountain's gardens is distributed among residents and food banks. In partnership with residents of the Grant Park neighborhood, Phoenix Revitalization Corporation developed a community garden that has been successful in providing culturally-appropriate produce for low-income residents.

Approximately 89% of Solano residents expressed an interest in participating in community gardening. Some residents indicated they do not know how to garden (15%) or gardening is not allowed where they live (20%). There are vacant parcels available throughout the district that could be used on an interim basis for community gardens.

The owners of multi-family communities could be contacted regarding the potential to set aside an area in their property that residents could access for growing their own food. Having a dedicated place for gardening is important for many residents. However, 75% of survey respondents said they did not have a space for a garden at their home or growing food where they live is not permitted.

In addition to access to land, water can be cost prohibitive for some residents or for larger scale urban agriculture. The water meter hookup fee, monthly sewer fee and the ongoing cost of water from the city of Phoenix can limit opportunities to establish community gardens.

The other Phoenix examples of successful community gardening have two other commonalities that should be taken into account in Solano. First, there is a strong lead organization that is trusted by area residents. This organization typically has a strong focus on overall health and wellness. Second, while a backbone organization manages the garden, residents provide the vision. Successful community gardens are resident-driven.

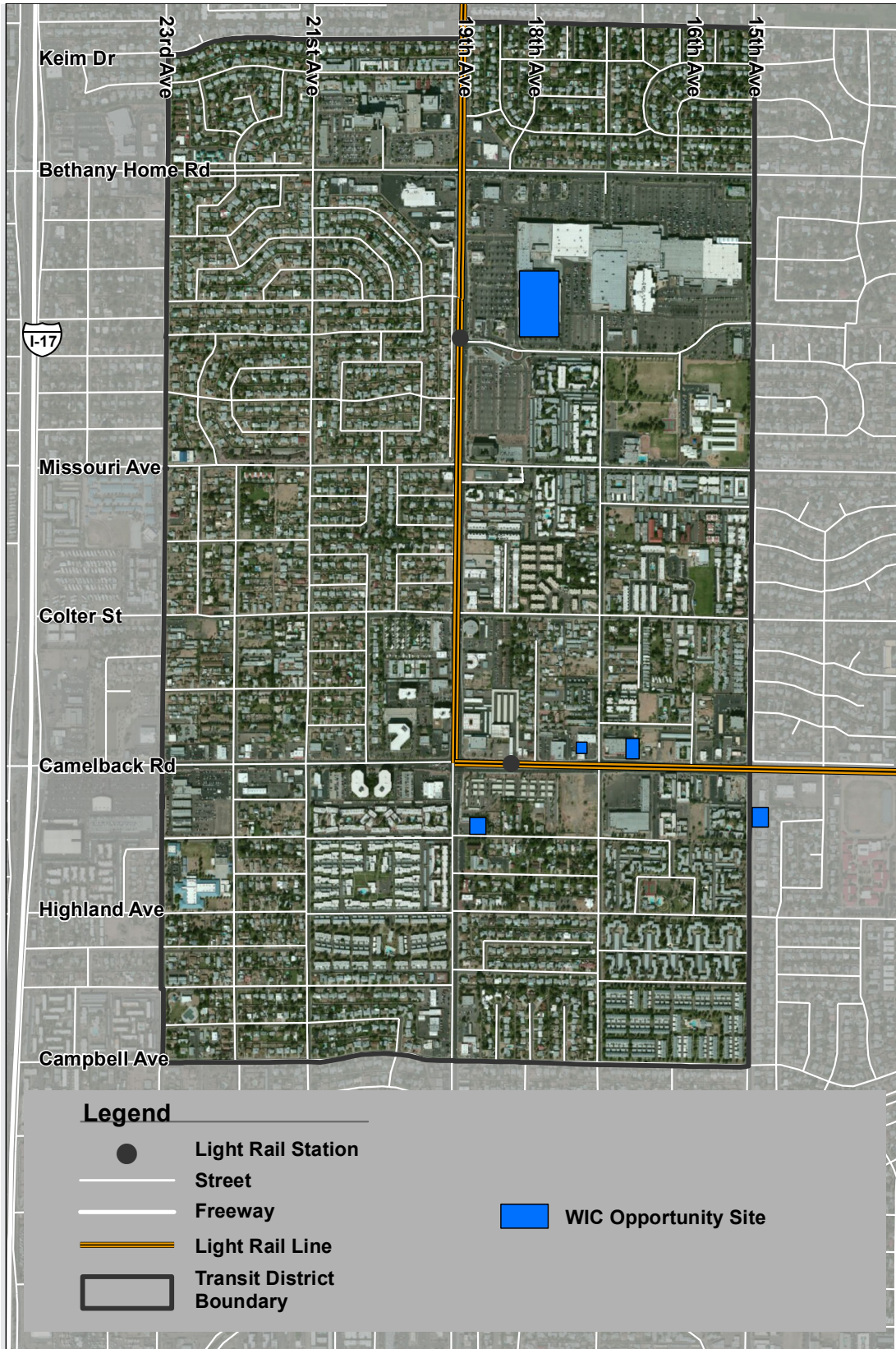
Temporary Food Retailers

Temporary food retailers can take a number of different forms, such as mobile grocery stores, fresh produce stands, community supported agriculture drop-off sites and farmers' markets. By providing a space for healthy food retailers to sell within the community on a regular basis, residents could reduce or completely replace trips by car to the supermarket and decrease dependency on unhealthy food sold at convenience stores or the fast food restaurants that are common in their community.

Tools to Implement Strategy One

A brief description of each tool appears at the end of the *Healthy Food Strategies* section.

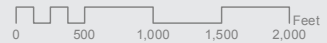
- Community Reinvestment Act
- Healthy Food Financing Initiative
- New Markets Tax Credit Program
- Special Supplemental Nutrition Program for Women, Infants and Children (WIC)



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Solano Transit District
Map 11 - WIC Opportunity Sites



There are opportunities throughout Solano for temporary food retailers to locate—on the street, in parking lots or on vacant parcels—to provide unique access to residents within an area of low access to healthy food retailers, including:

- **Residential Neighborhoods.** Low density, single family neighborhoods throughout Solano could provide the opportunities for temporary food retailers. These retailers could locate on the street (requires a street vending license) or on a vacant parcel (requires a temporary permit). They would be required to offer a range of healthy foods in exchange for the opportunity to sell directly to residents.
- **Parking Lots.** Temporary food retailers operating in parking lots could serve district residents as well as employees in the area. Two park-and-ride lots (Central and 19th Avenues and Montebello and 19th Avenues) could be potential locations, especially when the lots are underused, such as the weekend or evenings.
- **Vacant Sites.** Although there are currently no farmers' markets in Solano, there are potential sites where a farmers' market could be located, including:
 - Northwest corner of Georgia and 19th Avenues. This site is comprised of two vacant residential lots and is owned by Valley Metro. This site could be used for temporary food retailers or as a community garden.

Tools to Implement Strategy Two

A brief description of each tool appears at the end of the *Healthy Food Strategies* section.

- Community Development Block Grant
- Community Food Projects Competitive Grants Program
- Community Reinvestment Act
- Farmers Market Promotion Program
- Healthy Food Financing Initiative
- New Markets Tax Credit Program

Map 12 shows potential sites for temporary healthy food retailers.

Mobile Retailers and Grocery Stores

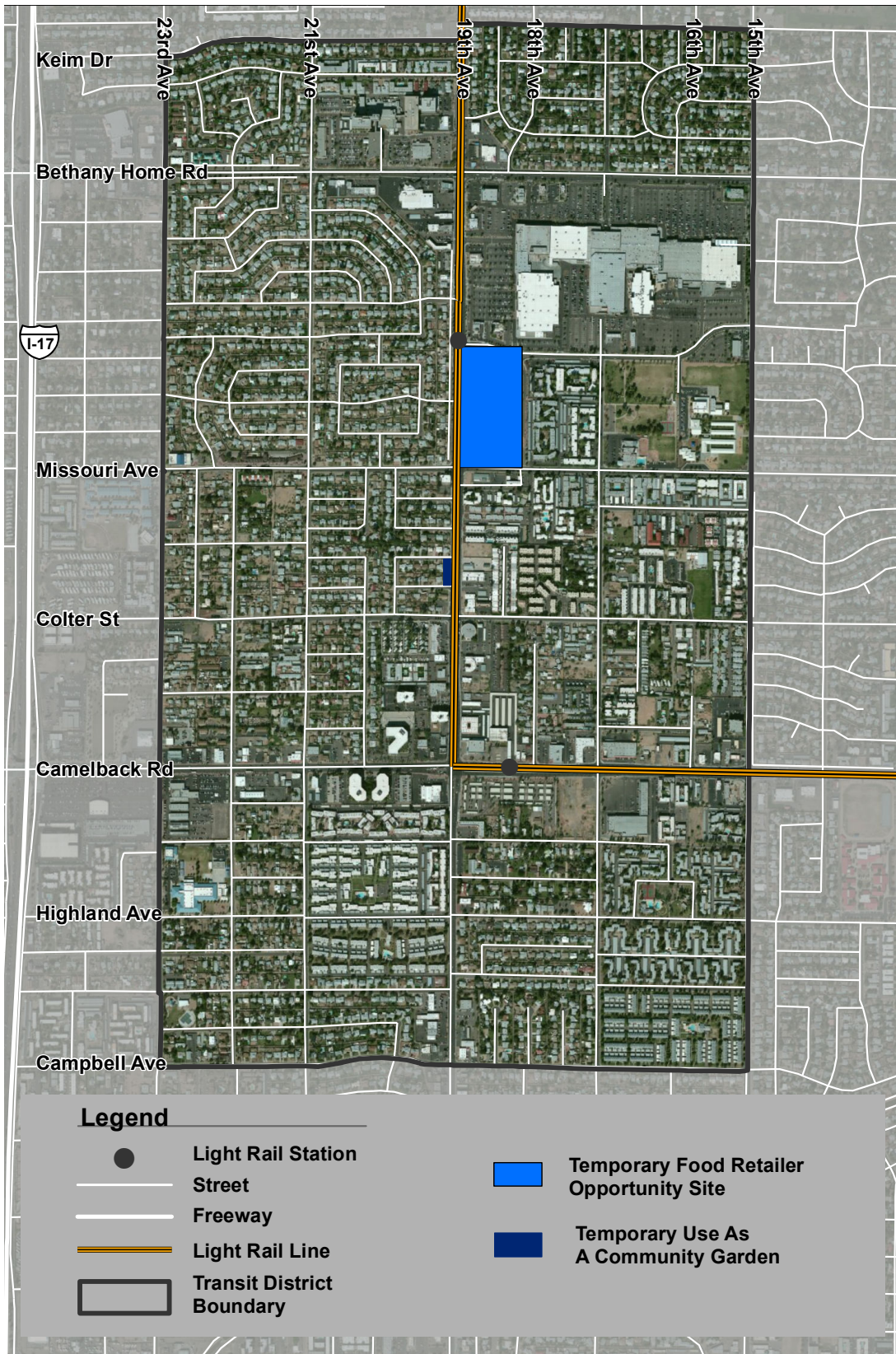
Chicago, Chattanooga, TN, and Madison, WI have successfully supported mobile grocery stores—renovated school or city buses with shelves and display cases instead of seats.^{vi} In Washington, DC, Arcadia's Mobile Market sells locally-grown produce in a converted school bus.^{vii} Seattle's Stockbox is a temporary grocery store located in a shipping container.^{viii} These efforts have a goal of improving access to healthy food in communities with few options. They are often spearheaded by nonprofit or community-based organizations and rely on grants for ongoing financial support. In keeping with the goal of increasing access to healthy food, many of these ventures accept federal food assistance programs, like WIC, and price their food at levels comparable to—or sometimes lower than—conventional supermarkets.

The Discovery Triangle Development Corporation recently launched a mobile grocery store - Fresh Express.^{ix} In addition to fresh produce, the Fresh Express bus provides other health and wellness resources, including health screenings. The Discovery Triangle Development Corporation includes areas of western Tempe and eastern Phoenix.

Discussions with mobile retailers in Phoenix suggest that current zoning and permitting requirements do not pose barriers to their business. However, proactive city policies could actually encourage mobile healthy food retailers in communities with few healthy food opportunities or in areas around light rail stations. New York City's Green Carts Initiative has a goal of issuing 1,000 additional mobile vending permits for vendors that only sell fresh uncut produce and operate in a lower-income area.^x These Green Carts have priority on the vendor permit waiting list. The Kansas City Department of Parks and Recreation provides a 50% discount on permits if half of the food meets nutritional standards.^{xi}

Farmers' Markets

A group of community stakeholders, including SLHI, worked with the city of Phoenix Planning and Development Department and developed a reasonable and clear zoning policy for farmers' markets. This policy has been incorporated by City staff into the Phoenix *Zoning Information Guide*.



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Solano Transit District

Map 12 - Temporary Food Retailer Opportunity Sites



To ensure that farmers' markets are affordable to families with lower incomes, the U.S. Department of Agriculture sponsored a grant program that subsidized the purchase of equipment necessary to accept WIC and other food assistance programs like SNAP.^{xii} This equipment is often expensive, resulting in few vendors at farmers' markets accepting this type of payment. The Arizona Department of Health Services received funding under this federal grant. While it is unclear if this program will continue, it provides a model that could be adopted in communities with little access to healthy food.

Supermarkets and Corner Stores

Limited access to healthy food outlets, coupled with easy access to convenience stores and fast food restaurants, is associated with high rates of obesity and other diet-related chronic diseases. The Reinvestment Fund, a national leader in community development finance and understanding issues around access to healthy food retailers, estimates that district residents collectively spent about \$18 million at supermarkets in 2011 (The Reinvestment Fund, 2011). Because of the limited options in Solano, most of this was spent outside the district.

Ultimately, residents want an additional supermarket with reasonable prices that carry an array of items that can meet nearly all of their dietary needs, located within a 5- or 10-minute walk of their home. (See Map 13 for recommended sites for future supermarkets or corner stores.) Residents realize this is a long-term vision that may take years to accomplish.

The following sites are identified as opportunity sites for future development of a supermarket or corner store. These sites include:

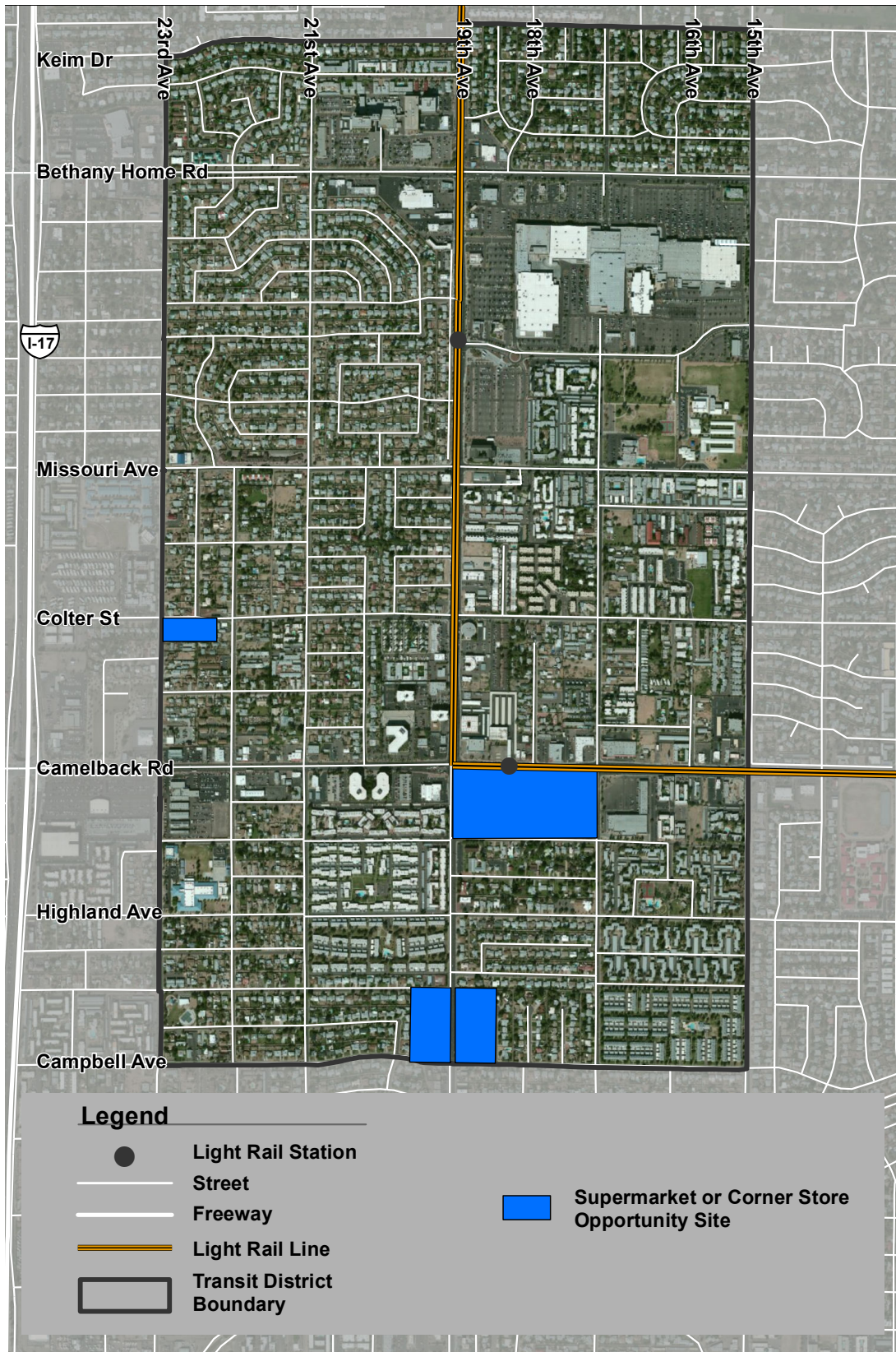
- Camelback Road between 17th and 19th Avenues. This site, located south of the light rail stop, is a light rail park-and-ride and could accommodate a full service grocery store as part of a larger mixed-use.
- 19th and Campbell Avenues. Several vacant buildings in this strip mall can be reused to introduce new specialty food/ethnic markets for the residents on the west side of 19th Avenue.
- 19th Avenue and Colter Street. Residents of the neighborhoods in the area expressed the need for a corner grocery store. Proximity to a corner store is important to neighborhood residents, given that most households in this neighborhood have low car ownership.

Bringing healthy retail food options to communities like Solano can be seen as a means for economic and community development. For example, organizations like UpLift Solutions view supermarkets as a community asset and hub. Through workforce training programs located on-site, supermarkets can provide needed jobs for residents within their community, up to 200 full- and part-time positions (PolicyLink, n.d.). Supermarkets can have in-store amenities that can support residents, like free community meeting rooms, health clinics, affordable financial services (such as checking accounts), and healthy eating and financial literacy classes. All of these services and amenities would be welcome in Solano.

However, the development process in urbanized and underserved areas can be complicated, especially financing. Developers often cite lower incomes of area residents and higher development and operating costs as factors that make these projects complex. Several states have special programs to attract and launch supermarkets in communities like Solano. These programs are often funded through state or philanthropic funding or a mix of sources. For in-fill development, many communities rely on tax incentives to attract a supermarket, most notably tax increment financing, a tool that is not available in Arizona. Any supermarket attracted to communities like Solano will be a unique blend of private and public funds from a variety of sources and incentives provided by the state or community.

Pennsylvania's Fresh Food Financing Initiative has helped develop supermarkets and other fresh food outlets in 78 underserved urban and rural areas, creating or retaining 4,860 jobs while increasing access to healthy food for nearly 500,000 residents (PolicyLink & The Food Trust, 2010). This Initiative was initially funded with \$30 million of state funding, but was able to attract an additional \$120 million in low-interest financing from private sources. The California FreshWorks fund is a public-private partnership loan fund that raised \$264 million to invest in bringing supermarkets and other forms of healthy food retailers to underserved communities, of which approximately \$45 million is from private investors, including Dignity Health.^{xiii} The CDC (n.d.) highlights various financing policies that have been initiated to strengthen financing options for healthy food retailers.

Cities can also provide incentives to attract supermarkets to a particular area. These incentives can take many forms, including: flexibility with zoning and development regulations; waiving fees, such as permit and impact; discounted city-owned land; site preparation assistance; property tax abatement; and investment in transportation infrastructure, such as street or sidewalk improvements.^{xiv}



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Solano Transit District

Map 13 - Supermarket or Corner Store Opportunity Sites





Recommended Policies

1. Develop the necessary partnerships to promote community gardening in Solano, including partners to provide gardening technical assistance, tools and necessary land.
2. In collaboration with partners and PHX Renew, develop a streamlined process to identify and use city-owned land for community gardens or urban agriculture.
3. Encourage urban agriculture by considering incentives such as a special water rate category, removal of sewer fees and reduced water meter hookup fees for urban agriculture water users.
4. Establish a program to allow the use of designated areas in city parks for community gardens.
5. Develop incentives to encourage temporary healthy food retailers in Solano. Prioritize the use of vacant lots for this purpose. Reduce fees and application waiting time to target these areas. Partner with the existing PHX Renew initiative.
6. As farmers' markets open in Solano, work with Arizona Department of Health Services and the Maricopa County Department of Health to purchase

equipment that allows these markets to accept WIC and other food assistance programs.

7. Develop public-private partnerships using the tools listed for this strategy to attract a new supermarket in the Solano district. As a condition of the partnership, require the new supermarket to accept WIC and other food assistance programs including SNAP.

Tools for Implementation of Food Strategies

Community Food Projects Competitive Grants Program

Community Food Projects are designed to increase food security by bringing the whole food system together to assess strengths, establish linkages, and create systems that improve the self-reliance of community members over their food needs. Projects funded by this grant include: expanding access to healthy and local foods in a low-income, high-unemployment area by employing teens to develop community gardens and market their produce; establishing a county-wide operation of community kitchens for micro-enterprise development with low-income participation and leadership; and improving access to healthy foods through a variety of methods, including supermarket development, promoting local produce, a community kitchen and educational programs.

Community Reinvestment Act

The federal Community Reinvestment Act (CRA) encourages banks to invest in lower income communities. The Act requires financial institutions, like banks and credit unions, to provide loans in communities where they have branches. Before CRA, many banks would provide checking and saving services, but not loans, in lower income communities or communities of color. CRA requires financial institutions to proactively assess community needs and develop financial products for communities where it has branches. Partly due to CRA requirements, banks are now more active in providing financing for the development or expansion of businesses in low-income communities, often with favorable rates.

Farmers Market Promotion Program

The Farmers Market Promotions Program offers grants to help improve and expand domestic farmers' markets, roadside stands, community-supported agriculture programs, agritourism activities, and other direct producer-to-consumer market opportunities. Agricultural cooperatives, producer networks, producer associations, local governments, nonprofit organizations, public benefit corporations, economic development corporations, regional farmers' market authorities, and tribal governments are among those eligible to apply.

Healthy Food Financing Initiative

The Healthy Food Financing Initiative can help finance new or improve existing stores that sell healthy food. The Initiative is a set of federal programs that support

projects to increase access to healthy, affordable food in communities that currently lack these options. Federal grants, loans and tax credits provide incentives to expand the availability of nutritious food, including developing and equipping small retailers and corner stores.

New Markets Tax Credit

The New Markets Tax Credit program can assist certain community development organizations in developing community assets like healthy food retailers in lower income communities. It is a federal program that focuses on attracting business and real estate investment into lower income neighborhoods and communities. In exchange for a federal tax credit, individuals or corporations make an investment in a community-based organization that has a primary mission of serving the community and has accountability to area residents. As of 2012, Phoenix has six community development entities including the city of Phoenix, Arizona MultiBank, Prestamos Community Development Financial Institution and Raza Development Fund.

WIC Program

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a program administered by the Arizona Department of Health Services that provides vouchers to purchase certain healthy foods, such as milk, whole wheat bread, eggs, fresh fruits and vegetables. WIC assistance targets low-income pregnant, postpartum and breastfeeding women, infants and children up to age five. Not all food retailers accept WIC vouchers. Retailers that accept WIC must agree to carry a certain variety of healthy food.

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Recreation Strategies

Solano has a single park—Solano Park. While mostly in good condition, visitors saw homeless or transient loitering in the park, which made auditors feel socially uncomfortable or uneasy about safety. Auditors found the public restrooms to be in poor condition. Litter, minor vandalism and graffiti were also identified as problems. Solano Park lacks shade throughout and drinking fountains near activity areas, such as the playground.

Strategy One: Enhance existing recreation facility within the Solano district

Solano Park provides a variety of recreation opportunities for the residents. In general, Solano Park is in good condition. There are two critical issues that relate to the provision of additional infrastructure to make the park more comfortable and safer for users. The first infrastructure improvement includes more shade, more seating and gathering places, and the provision of drinking fountains at key locations in the park. The second infrastructure improvement relates to safety for the users and includes better/more lighting and a more proactive approach for dealing with the homeless using the park and creating a sense of a lack of safety for residents using the park.

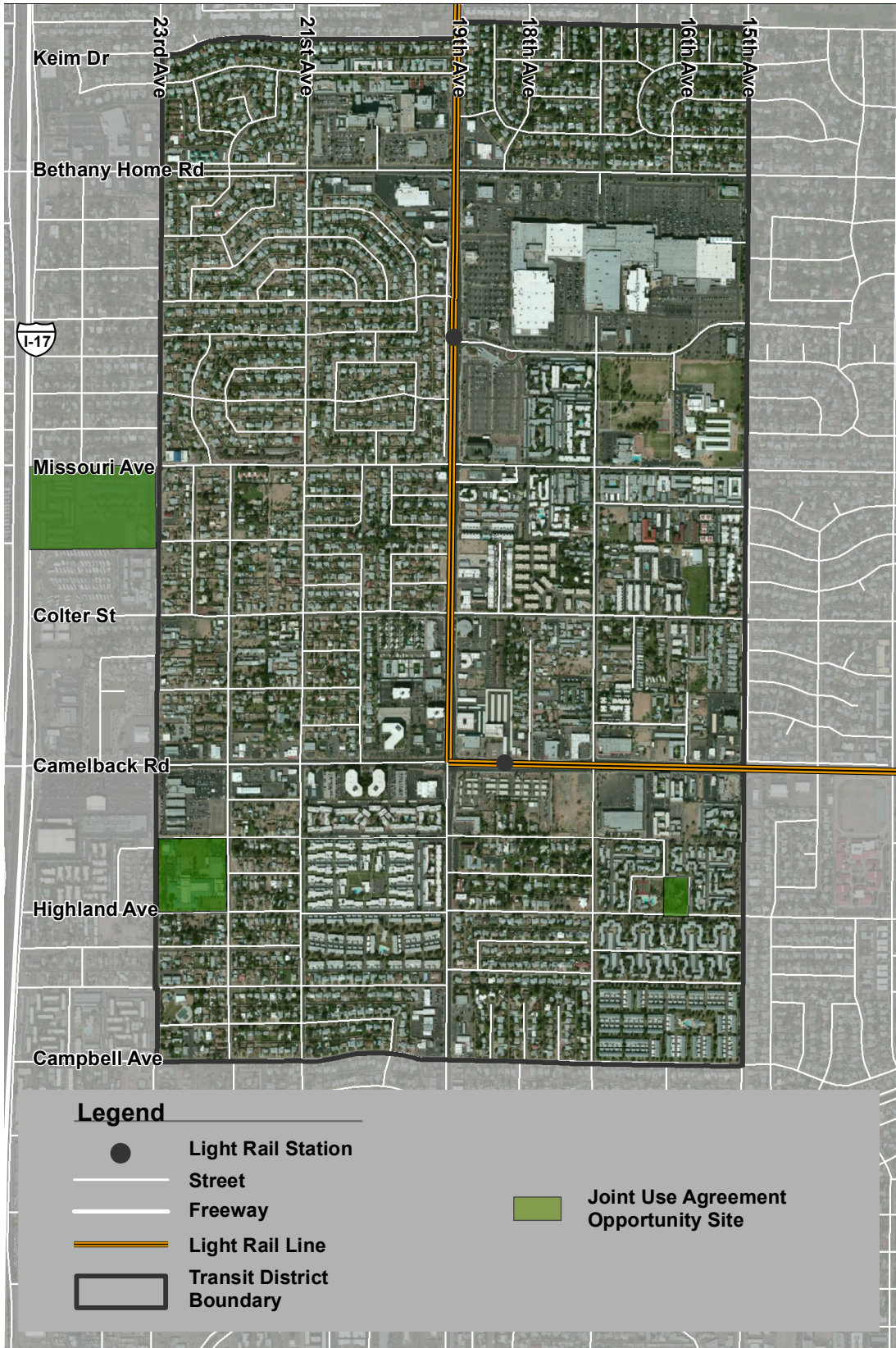
Standard Investments at Solano Park

Standard investments, such as additional shade and drinking fountains, should be added to Solano Park. Researchers have found that the presence of amenities like drinking fountains and shade are associated with higher park usage (Rung, Mowen, Broyles, & Gustat, 2011). Investments should include:

Goal: All Solano residents will have access to recreation spaces.

Measure/Target Indicator	Baseline	Target
Percent of residents who live within a 5-minute walk of a park and/or free recreation facility	16.8%	70%
Percent of residents who report using the local park regularly	TBD	TBD

*To be determined.



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Solano Transit District

Map 14 - Joint Use Agreement Opportunity Sites



- Additional drinking fountains, with a focus on areas near physical activity equipment and areas where residents gather and socialize.
- Additional seating areas, with shade and drinking fountains, providing opportunities for residents to gather and socialize.
- Additional shade throughout the park, focusing on shading play equipment, walkways and seating areas.
- Additional safety infrastructure, such as brighter lighting, concentrating on areas near play equipment, walkways and seating areas with tables.
- Improved on-site signage at the park as well as signage at key locations to direct people to the park.

To encourage usage and increased awareness of Solano Park, the city of Phoenix should conduct outreach to the broader Solano district. A recent study of 50 Los Angeles parks found that a small increase in a park’s marketing budget, combined with input from a local park advisory board, resulted in a slight increase (12%) in park usage (Cohen, et al., 2013). More signs and reminders in areas outside Solano Park could help attract new visitors.

Recommended Policies

1. Implement standard investments at Solano Park. These investments should include additional shade, drinking fountains and better lighting to increase the sense of security.
2. Engage the Reinvent PHX Steering Committee to identify additional means of marketing and resident engagement for Solano Park in order to increase usage by Solano residents.

Tool to Implement Strategy One

A brief description of each tool appears at the end of the *Recreation Strategies* section.

- Community Development Block Grant

3. Work with the residents living in adjacent neighborhoods to raise awareness of Solano as a neighborhood park to encourage and increase use of those facilities for gatherings and activities.

Strategy Two: Create additional recreation facilities and opportunities for physical activity within the Solano district

Slightly more than 16% of the population of Solano lives within a 5-minute walk of Solano Park. When coupled with low incomes and unsafe streets, the majority of residents have limited public recreation options within their community.

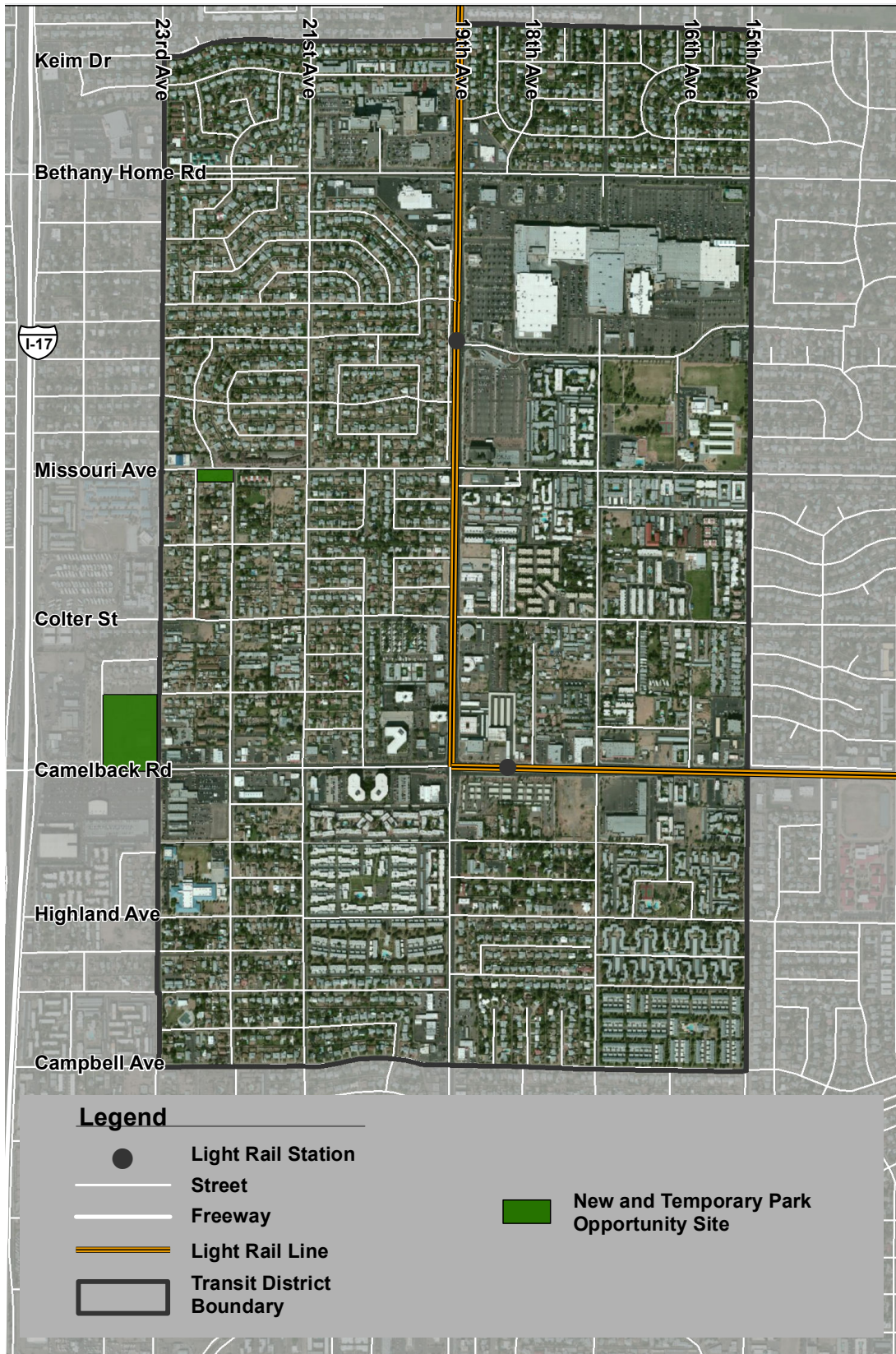
Convert Existing Playgrounds into Public Parks

There are limited opportunities to convert school playgrounds into public parks in Solano. Solano Elementary School (15th and Missouri Avenues) is immediately adjacent to Solano Park and would be therefore somewhat redundant. Westwood Primary School (23rd and Highland Avenues) is the other traditional public school in the Solano district. Simpson School (23rd and Missouri Avenues) is located adjacent to the west boundary of the district. The latter two schools have active recreational facilities that could be used by residents. (See Map 14.) A joint use agreement would open the school grounds to serve residents in the low recreation access neighborhoods.

In addition to using school playgrounds as parks, the Park Lea Apartment complex playground could be augmented to serve as a park for an area with few existing recreation options. (See Map 14 for location.)

Construct New Parks

In addition to school parks, other recreation options should be added to Solano. The district needs additional free and safe recreation facilities that would accommodate various age groups. A long-term goal should be to increase the park acreage per person in Solano to that of the average for the city of Phoenix (The Trust for Public Land, 2012). Part of the expansion plan should include increased programming for residents, including exercise, and healthy living and nutrition classes. (See Map 15 for potential park sites.)



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Solano Transit District

Map 15 - New and Temporary Park Opportunity Sites



Temporary Parks

Activating some of the vacant parcels is a less costly alternative to developing a new park. Vacant parcels scattered throughout the district can be transformed into temporary or “pop-up” parks, adding much needed recreation options. Groundwork USA, a national nonprofit that works in underserved communities, has developed a toolbox for municipalities interested in creating temporary park space on vacant land.^{xv} Arizona Forward has highlighted some innovative recreation uses from across the country that might be replicable in Phoenix.^{xvi}

Permanent Parks

While temporary recreation opportunities provide a valuable community benefit by immediately increasing park options as well as improving a vacant parcel that creates a neighborhood nuisance, they are only interim solutions. They do not address the basic issue of the lack of access to active lifestyle opportunities that are critical for both physical and mental health. The best solution for both existing and future residents will be permanent parks and recreational facilities.

Regardless of the approach to expanding parks in Solano, residents should play an active role in designing them so that they can create a space that fits their needs. The Solano Steering Committee could make initial recommendations about the equipment and amenities appropriate for their community, until a longer public participation process is adopted to include the school districts and neighborhood associations.

Tools to Implement Strategy Two

A brief description of each tool appears at the end of the *Recreation Strategies* section.

- KaBOOM!

Recommended Policies

1. Acquire and develop the parcels at the northwest corner of Camelback Road and 23rd Avenue in conjunction with the adjacent city owned stormwater detention basin. The detention basin is an area improved with turf and trees that could be improved with recreational amenities – playfields in the areas subject to flooding and seating and picnic facilities on the at-grade areas.
2. Acquire and develop the parcel at the southeast corner of 22nd Avenue and Missouri Avenue for a neighborhood park.
3. Identify opportunities to provide recreational facilities in conjunction with existing schools through the implementation of joint use agreements. In addition, take a similar approach to working with the Legacy Foundation Chris-Town YMCA to facilitate access by residents to the recreational facilities and programming available.
4. Initiate a program to work with local multi-family communities to expand recreational opportunities for Solano residents. An example is Park Lee Apartments which has a fully functioning park with amenities currently for resident use only. A joint use agreement would make the facilities available to residents from adjacent neighborhoods, an area underserved in terms of recreation facilities. Upgrades to the existing recreation infrastructure will ensure that this facility will be able to meet the demands of increased use when a joint use agreement becomes effective.
5. Expand the PHX Renews initiative to activate vacant parcels within Solano for recreation purposes.
6. Expand park and recreation opportunities for Solano residents and ensure those opportunities are provided within a 10-minute walk of homes, schools and businesses in order to encourage more physically and socially active lifestyles.

Strategy Three: Improve and enhance the physical environment to encourage residents to walk or bicycle in the Solano district

Recreation and street infrastructure are closely linked on several fronts. With well-designed streets, residents would walk or bike to recreation facilities or a neighborhood park. The street itself can be a platform for recreation or active transportation by foot or bike. Moreover, walking and biking on neighborhood streets are simple and inexpensive ways to stay physically active.

Much like the successful Safe Routes to School concept, Safe Routes to Recreation would increase safety infrastructure along key pedestrian and cyclist routes to recreation facilities. The addition or maintenance of sidewalks, bike lanes, crosswalks, drinking fountains, shade and lighting along these key routes would encourage walking and biking to these destinations.

Recommended Policy

1. Ensure that the Safe Routes to Recreation design elements are applied to a 10-minute walking radius around Solano Park as well as routes to parks outside the district that serve residents, such as Washington Park.
2. Provide infrastructure improvements at strategic locations that encourage residents to walk and bike to local destinations such as Christown Spectrum Mall.

Tools to Implement Strategy Three

A brief description of each tool appears at the end of the *Recreation Strategies* section.

- Community Development Block Grant
- Surface Transportation Program

Tools for Implementation of Recreation Strategies

Community Development Block Grant

This program can be used to fund park amenities, playgrounds, neighborhood streetscapes, landscaping, and other physical improvements in a neighborhood. Eligible applicants include neighborhood associations or other nonprofit organizations in partnership with a city of Phoenix department.

Joint Use Agreement

A joint use agreement is a formal agreement between a school and a city or county that outlines the terms and conditions for the public use of the school's facilities, such as playgrounds, gymnasiums and libraries during after-school hours, weekends and breaks. Joint use agreements address school district concerns regarding cost and liability while simultaneously addressing the need for increased access to safe recreation for community residents.

KaBOOM!

This organization is a national nonprofit that offers a limited amount of funding toward playground equipment and uses the construction of playgrounds as a community building exercise. KaBOOM! also matches nonprofits and municipal organizations with funding partners.

Surface Transportation Program—Transportation Alternatives

This program is a street funding opportunity that helps expand transportation choices and enhance transportation through programming, including pedestrian and bicycle infrastructure and safety programs, landscaping beautification, historic preservation and environmental mitigation.

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Safe Streets and Public Places Strategies

Goal: All residents will have a sense of personal security and feel safe walking or biking in their neighborhood.

Measure/Target Indicator	Baseline	Target
Five percent annual reduction in the rate of injuries and fatalities among bicyclists per 10,000 population ^{xvii}	7.65%	4.58%
Ten percent annual reduction in the rate of injuries and fatalities among pedestrians per 10,000 population ^{xviii}	8.46%	4.8%
Percent of residents who report walking or biking as a means of transportation or recreation	TBD	TBD
Percent of residents who report feeling safe while walking or biking in their neighborhood	TBD	TBD

**To be determined.*

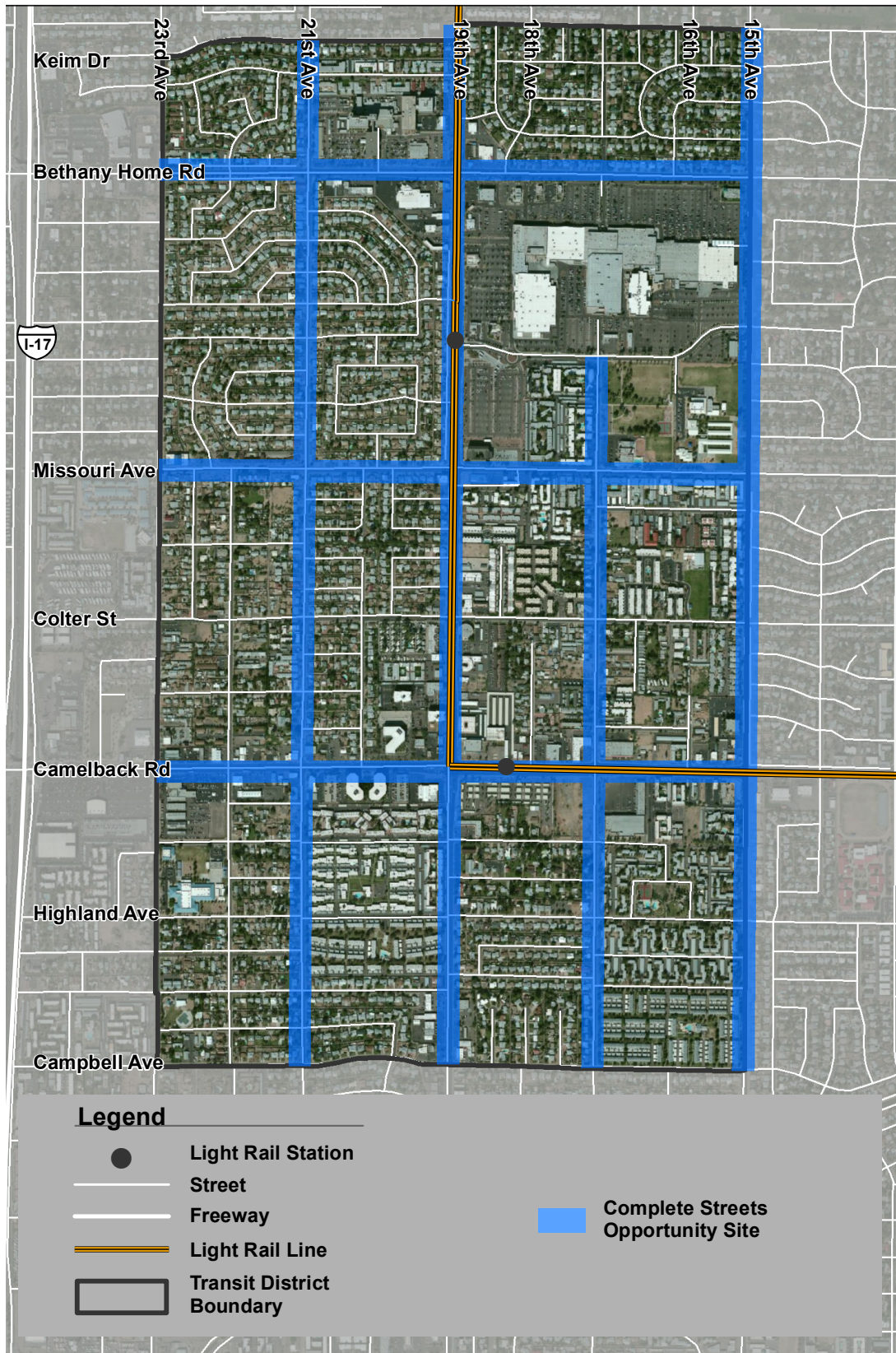
The streets and public places in Solano need attention if they are to connect residents to health assets, or serve as a health asset in themselves. While some residents voiced personal safety concerns, the physical infrastructure itself does not always support or encourage an active lifestyle. Vacant properties contribute to an environment of unease in public places. Pedestrians and cyclists experience speeding traffic along a number of critical pedestrian and bicyclist routes. Sidewalks along these critical corridors are often in poor repair, in addition to lacking shade or the appropriate ADA improvements to accommodate those with strollers or wheelchairs.

Strategy One: Implement infrastructure improvements to create safe streets and public places in Solano

Residents, street audits, field observations and injury data reveal specific street segments and intersections that are unsafe and would benefit from a technical evaluation and the addition of remedial upgrades. This poor infrastructure negatively impacts the health of residents by discouraging physical activity, compromising their safety and inhibiting the use of community assets that can support a healthy lifestyle, such as parks, libraries and access to healthy food retailers.

Implement Complete Streets Design Elements on Key Corridors

The north/south streets—15th, 19th, and 23rd Avenues—and the east/west streets—Campbell Avenue, Camelback Road, Missouri Avenue and Bethany Home Road—are vital transportation corridors within Solano as well as connecting the district to the broader community. These



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0 500 1,000 1,500 2,000 Feet

Solano Transit District

Map 16 - Complete Streets Opportunity Sites

streets have the potential to create safe pedestrian and bicyclist connectivity. Investments should be targeted to establish safe, convenient, accessible and comfortable multimodal transportation corridors that connect neighborhoods to health assets. This holistic view of public streets is called Complete Streets, as this concept is inclusive of everyone who uses streets, regardless of mode.

Map 16 depicts the streets that are suited for Complete Streets design elements, which include shade, bike lanes and safer areas for pedestrians to cross the street. These streets were often identified by residents as key corridors; often it is these same corridors where pedestrians and cyclists are injured. Buses and Light Rail also serve these areas.

In the context of Reinvent PHX, the north/south streets in Solano, specifically 15th, 19th and 23rd Avenues, are key corridors for pedestrians, bicyclists and transit users. Upgrades and modifications along these corridors, regardless of the Reinvent PHX district, should result in an overall, comprehensive approach, with the goal of creating a multimodal corridor connecting several districts.

Invest in Safety and Accessibility Retrofits throughout the District

In addition to introducing Complete Streets design concepts to key corridors, other targeted investments should be made to increase access to community assets and increase safety for those who walk or bike, as well as increase accessibility for those that face mobility challenges. These sites were identified by workshop participants, analysis of injury data, street audits and epidemiological field observations. (Sites are identified in the table below and on Map 17.)

Improve Shade and Lighting

Like much of Phoenix, Solano lacks sufficient shade, particularly in areas where residents walk, bike, exercise and wait for transit. Residents agree that their community needs more shade. As a community of frequent walkers, residents do not have structures or trees that shade frequently-traveled routes. When maintaining or upgrading the City infrastructure, the addition of shade elements should be incorporated.

While a number of existing resources promote planting and caring for trees, residents may be unaware of those resources. Additionally residents with a tight budget may be unable to afford the additional cost of regular watering—a necessity in Phoenix. One example of a volunteer group that supports urban trees is TreePeople.^{xix} In addition to general education and tree planting events, volunteers provide care for trees including watering and maintenance. The Phoenix Shade and Tree Master Plan provides more examples of how other cities have supported and expanded their urban forests.^{xx}

When asked about street lighting, residents regularly identified the lack of lighting as a major issue. Adding more lighting, in addition to ensuring that existing lighting is well-maintained, should be a priority throughout the district.

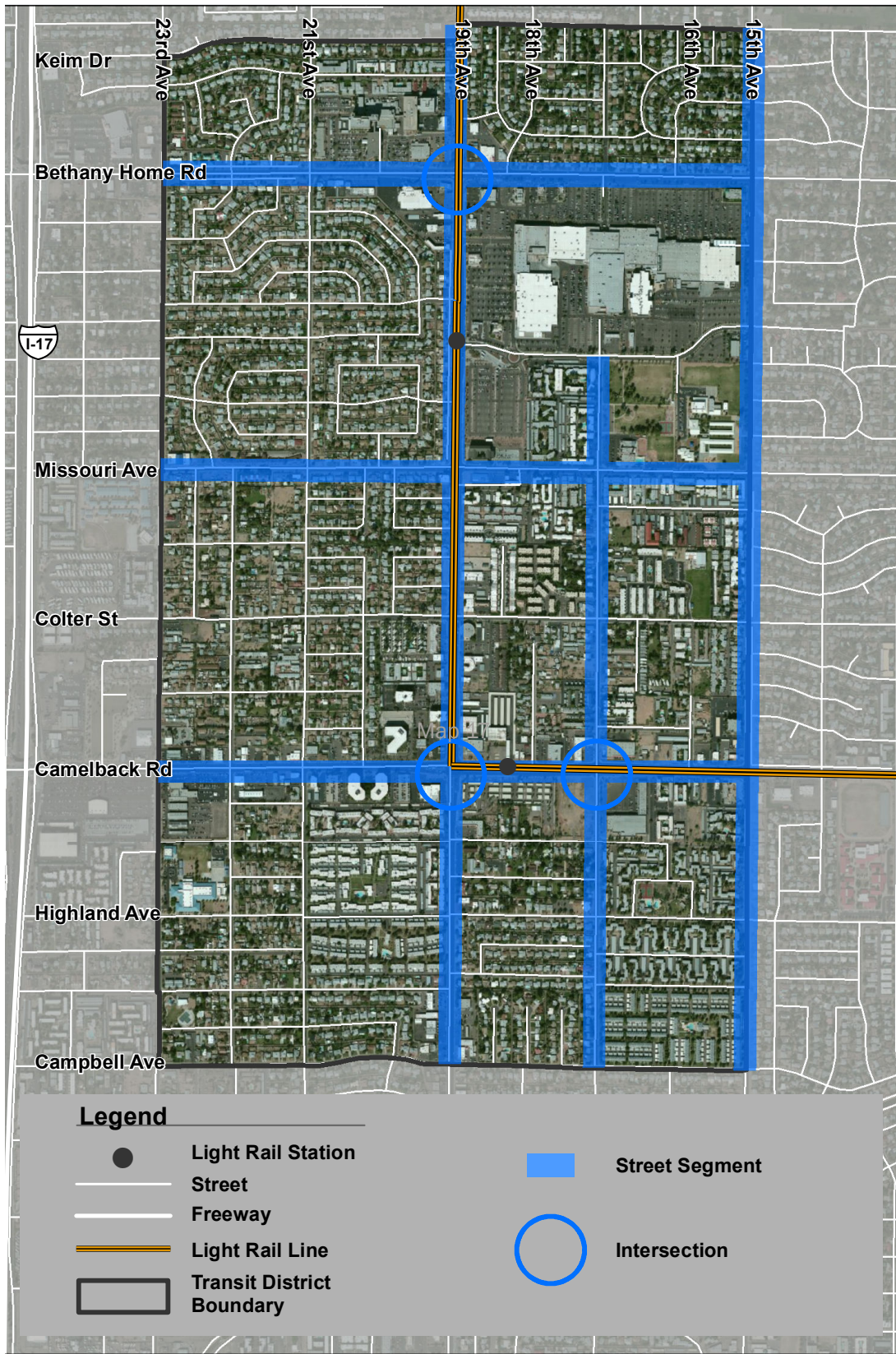
Recommended Policies

1. Prioritize the key corridors for Complete Streets upgrades, ensuring they are convenient, accessible, comfortable and safe for pedestrians, bicyclists and transit users. (See Map 16 for locations.)
2. In addition to the common design elements of Complete Streets, invest in safety and accessibility retrofits in the following areas. (See Map 17 for locations.)

Tools to Implement Strategy One

A brief description of each tool is at the end of the *Safe Streets and Public Spaces* section.

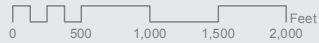
- Capital Improvement Program
- Community Development Block Grant
- New Freedom Program
- Partnership for a Healthier America



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Solano Transit District



Map 17 - Site-Specific Recommended Street Improvements

Intersection or Street Segment	Safety Concern	Recommended Investment	Specifics
Intersection of Camelback Road and 19th Avenue	<p>High volume of traffic. Pedestrian/vehicle conflicts where transit users are transferring between transit modes.</p> <p>High number of injuries.</p> <p>Unsafe pedestrian and bicycle environments.</p>	<p>Safe sidewalks.</p> <p>Traffic calming.</p> <p>Safe bike lanes.</p> <p>Safe intersections.</p> <p>Additional pedestrian safety infrastructure.</p>	<p>Pedestrian and bicycle infrastructure improvements.</p> <p>Redesign as a Complete Street.</p> <p>Lighting; enhanced diagonal crosswalks; bicycle traffic signals; bike parking.</p>
Intersection of Camelback Road and 17th Avenue	<p>Unsafe pedestrian and bicycle environment.</p> <p>Pedestrians crossing Camelback Road.</p>	<p>Improvements to the pedestrian and bicycle infrastructure to provide a safe and comfortable environment.</p>	<p>Enhance visibility for pedestrians and bicyclists.</p> <p>More lighting.</p> <p>Bicycle traffic signal.</p>
Camelback Road, between 15th and 19th Avenues	<p>High volume of traffic.</p> <p>Unsafe pedestrian and bicycle environments.</p> <p>Pedestrian/vehicle conflicts where transit users are transferring between transit modes.</p>	<p>Safe sidewalks.</p> <p>Safe bike lanes.</p> <p>Gathering places.</p> <p>Reduction of pedestrian/vehicle conflicts.</p> <p>Additional bicycle infrastructure.</p> <p>Public transit rider infrastructure.</p>	<p>Pedestrian and bicycle infrastructure improvements.</p> <p>Redesign as a Complete Street.</p>
Camelback Road, between 19th and 23rd Avenues	<p>High volume of traffic.</p> <p>Unsafe pedestrian and bicycle environments.</p> <p>Pedestrian/vehicle conflicts where transit users are transferring between transit modes.</p>	<p>Safe sidewalks.</p> <p>Safe bike lanes.</p> <p>Gathering places.</p> <p>Reduction of pedestrian/vehicle conflicts.</p> <p>Safe intersection infrastructure.</p> <p>Lighting.</p>	<p>Pedestrian and bicycle infrastructure improvements.</p> <p>Redesign as a Complete Street.</p>

Intersection or Street Segment	Safety Concern	Recommended Investment	Specifics
19th Avenue	Lack of a safe and comfortable pedestrian and bicycle environment.	Safe bike lanes. Gathering places. Provide more buffers between pedestrians and vehicles.	Pedestrian and bicycle infrastructure improvements. Redesign as a Complete Street.
Intersection of 19th Avenue and Bethany Home Road	Lack of a safe pedestrian and bicyclist crossing. Traffic speed. Vehicle volume.	Additional safe intersection infrastructure. Enhanced diagonal crosswalks.	Pedestrian and bicycle infrastructure improvements. Redesign as a Complete Street.
17th Avenue	High volumes of traffic. Speeding vehicles. Lack of pedestrian amenities.	Provide a pedestrian buffer from vehicle traffic. Lighting, benches.	Redevelop as a walking corridor with enhanced pedestrian infrastructure.
15th Avenue	Existing safe pedestrian and bicycle environment should be augmented with additional amenities and safety infrastructure.	Enhance this pedestrian corridor. Extend safe bike lanes north of Campbell. Create gathering spaces	Pedestrian amenities such as benches, drinking fountains and shade. Implement Complete Streets principles.
Missouri Avenue	Pedestrian and bicycle injuries have occurred at this location.	Safe Routes to School. Additional pedestrian and bicycle safety infrastructure.	Lighting, benches, bike parking.

3. Ensure that the Safe Routes to School design elements are applied to a 10-minute walking radius around the three public schools and charter schools located in Solano.
4. Match residents with existing no- and low-cost tree resources, including those sponsored by the City, Arizona Public Service Company and Salt River Project. Develop partnerships to assist low-income residents with ongoing maintenance and watering assistance.

Strategy Two: Implement programs that support safe streets and public places in Solano

A lack of community cohesion and the presence of vacant lots and abandoned buildings create additional barriers for walking and biking in this community.

Community Organizing and Engagement

One step in creating a safer and more cohesive community—and implementing many of the strategies in this document—is providing an organized outlet for residents to identify community concerns and advocate for change at the neighborhood level, such as neighborhood associations. These resident-led groups are often incubators for actions like Block Watch programs or walking groups that increase community safety and improve community and individual health. They also provide a platform for residents to collectively advocate for change in their community and seek city funding for community development projects through Block Watch grants.

Tools to Implement Strategy Two

A brief description of each tool is at the end of the *Safe Streets and Public Spaces* section.

- Community Development Block Grant
- Hospital Community Benefit Requirement
- Neighborhood Association
- Partnership for a Healthier America

Residents in some neighborhoods of the Solano district rely on neighborhood associations as a means for policy change and advocacy. The city of Phoenix has an existing infrastructure through which to engage neighborhood groups—the Neighborhood Services Department (NSD). NSD has staff that act as a liaison between neighborhood groups and the city government. NSD also has education programs, like Neighborhood College and the Good Neighbor Program that can increase the ability of residents to identify and carry through with solutions to community-identified challenges.

While the Solano district has strong neighborhood associations in some neighborhoods, residents of other areas in Solano are not well represented. NSD should assist with creating a new neighborhood association or assist existing neighborhood associations to better engage these residents.

At a national level, the Robert Wood Johnson Foundation’s Healthy Kids, Healthy Communities initiative focuses on changing public policy to reduce childhood obesity through local advocacy efforts. The Foundation’s grantees have documented many of their strategies to advocate for change in the built environment, including access to healthy food and parks.^{xxi} These strategies can be helpful to Solano residents.

Activate Vacant Properties

The abundance of vacant buildings and land contributes to criminal activities and detracts from the appearance of the district. Vacant buildings are not maintained and vacant parcels are frequently covered with weeds and garbage. Vacant buildings, if not secure, can become sites for illegal activities, exacerbating safety problems and perceptions. In 2012, the city of Phoenix initiated PHX Renews, which brings temporary public uses to vacant land. When coupled with the lack of healthy food and recreation space, PHX Renews could address several of the community’s most pressing problems by using these sites for the purposes of increasing access to healthy food and recreation. Strategies for pop-up parks and agriculture or gardening are discussed in the previous sections.

Solano Injury Reduction Coalition

St. Joseph’s Hospital and Medical Center is a Level I trauma center located approximately two miles southeast of the Solano district at Thomas Road and 3rd Avenue. In order to maintain this status, trauma centers must respond to and develop interventions around injuries that are treated on a regular basis. Through street



audits, field observations and injury analysis completed for the Existing Conditions Report, there is a more comprehensive understanding of the types of traffic-related injuries that occur in Solano.

Developing a district-level coalition—built around responding to place-based injury data—can lead to appropriate and preventative responses to ongoing injury problems. Activities that could be supported include distribution of bicycle safety equipment, pedestrian safety education and organizing walking clubs. When paired with environmental changes to the streets, this coalition could be a powerful mechanism for targeted public education efforts.

Recommended Policies

1. Work with residents in neighborhoods without a neighborhood association to form a new neighborhood association.
2. Use the PHX Renews Initiative to activate vacant lots within the Solano district for uses such as community gardens, pop-up parks and other types of public places.
3. Create a coalition of residents, law enforcement, the fire department, the Street Transportation

Department and St. Joseph's Hospital and Medical Center to develop strategies to reduce traffic-related injuries.

Strategy Three: Increase the quality, access and safety for transit users in Solano

Many Solano residents rely on the bus and light rail systems as a means of transportation. Rider infrastructure should be improved throughout the district. When a bus shelter is provided, the shade is inadequate during hot months. The bus shelters are in poor condition and some are without necessary upgrades to meet ADA standards. Some stops have little more than a Valley Metro sign. Shade, seating, lighting and better maintenance are needed at all bus stops.

New York City places a priority in getting transit riders safely from the street environment to the transit-rider environment in order to make using the transit system easier and more convenient. Its Safe Routes to Transit program focuses on improving safety and relieving congestion at transit stops as well as improving sidewalks, crosswalks and the overall walking environment around transit stops.^{xxii}

Recommended Policies

1. Develop and execute a Safe Routes to Transit program.
2. Design a bus shelter that provides adequate shade, seating and an information kiosk that provides riders with bus schedule information.
3. Work with the Solano Steering Committee and neighborhood representatives to address ADA issues throughout the district to enhance access to bus shelters as well as encourage residents to use public transit.

Tools to Implement Safe Streets and Public places

Capital Improvement Program

The Phoenix Capital Improvement Program (CIP) provides a roadmap for expenditure of city funds to construct public infrastructure, such as streets improvements, land acquisition to expand the park system and the construction of new police stations. The CIP prioritizes projects and outlines potential funding sources for five-year time increments and is updated on an annual basis. The Program goes through a public hearing process where residents can weigh in on various priorities.

Community Development Block Grant (CDBG)

CDBG grants can be used to fund park amenities, playgrounds, neighborhood streetscaping, landscaping, and other physical improvements in a neighborhood. Eligible applicants include neighborhood associations or other nonprofit organizations in partnership with a city of Phoenix department.

Tools to Implement Strategy Three

A brief description of each tool is at the end of the *Safe Streets and Public Spaces* section.

- Capital Improvement Program
- Community Development Block Grant

Partnership for a Healthier America

This project is a partnership with the Blue Cross Blue Shield Association and provides funding to get kids and communities out and active by creating Play Streets—roads closed to traffic and open to the community to encourage physical activity.

Neighborhood Association

The City of Providence, RI (n.d.) describes a neighborhood association as “a group of residents who meet regularly to accomplish specific goals in their neighborhood. The association may include homeowners, renters, business owners, school faculty or staff, church officials and members of nonprofit organizations. Depending on the goals of the group, meetings may be held twice a year, once a quarter or every month. Neighborhood associations help identify challenges and concerns, support change and improvement efforts, help resolve conflicts, provide volunteers for community initiatives, represent the neighborhood as a whole to elected officials and find resources to make the neighborhood a better place to live. Before forming a neighborhood association, it is important to define or understand the goals of the proposed neighborhood association.” In other Phoenix neighborhoods, the Neighborhood Services Department has been instrumental in starting or strengthening neighborhood associations, especially when a proactive staff person is assigned.

Hospital Community Benefit Requirement

All non-profit hospitals must dedicate funding to addressing the health needs of the communities they serve. In order to retain a nonprofit status, these hospitals must understand the health needs of area residents and develop a plan for meeting these needs. Depending upon the needs of the community it serves, a nonprofit hospital can fund prevention or education programs, like nutrition and exercise classes or a farmers’ market. Some hospitals have chosen to make investments in community development and broad programs, like affordable housing and job training.

New Freedom Program

This federal program seeks to reduce barriers to transportation and expand the transportation options available to those with disabilities, beyond ADA requirements.

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References

- Active Living Research. (2009). Walking and Biking to School, Physical Activity and Health Outcomes.
- Agency for Healthcare Research and Quality. (2010). Emergency Department Visits and Inpatient Stays Involving Dog Bites, 2008. Retrieved December 27, 2012, from <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb101.pdf>
- Arizona Department of Health Services. (2010, March). Deaths from Exposure to Excessive Natural Heat. Retrieved December 17, 2012, from <http://www.azdhs.gov/plan/report/heat/heat09.pdf>
- Arizona Department of Health Services. (2011, December 11). The Obesity Epidemic. Retrieved December 17, 2012, from http://www.azdhs.gov/phs/bnp/nupao/documents/ObesityInArizona_121611.pdf
- Arizona Department of Health Services. (2012, July). Arizona WIC Program Authorized Vendors. Retrieved September 26, 2012, from <http://www.azdhs.gov/azwic/documents/vendors/WICVendorList.pdf>
- Arizona Department of Health Services. (n.d.). The Burden of Cardiovascular Disease in Arizona. Retrieved December 17, 2012, from <http://www.azdhs.gov/azcvd/documents/pdf/az-burden-of-cardiovascular-disease.pdf>
- Arizona Diabetes Coalition. (2008). Arizona Diabetes Strategic Plan, 2008-2013. Retrieved December 4, 2012, from Arizona Department of Health Services: http://www.azdhs.gov/azdiabetes/documents/pdf/az-diabetes-strategic-plan_2008-2013.pdf
- Arizona Health Survey. (2011, October). Healthy Eating and Active Living of Adults and Young Children in Arizona. Retrieved January 15, 2013, from <http://www.arizonahealthsurvey.org/wp-content/uploads/2011/10/ahs-2010-heal-oct11.pdf>
- Babey, S., Brown, E., & Hastert, T. (2005, December). Retrieved October 4, 2012, from Access to Safe Parks Helps Increase Physical Activity among Teenagers: <http://www.healthpolicy.ucla.edu/pubs/Publication.aspx?pubID=159>
- Balling, R., & Brazel, S. (1987). Time and Space Characteristics of the Phoenix Urban Heat Island. *Journal of the Arizona-Nevada Academy of Science*, 75.
- Bhattacharyya, J., Currieb, J., & Haiderc, S. (2004). Poverty, Food Insecurity, and Nutritional Outcomes in Children and Adults. *Journal of Health economics*, 23, 839-862.
- Broad Leib, E. (2013). All (Food) Politics is Local: Increasing Food Access Through Local Government Action. *Harvard Law & Policy Review*, 7, 321-341.
- Brownson, R., Brennan Ramirez, L., Hoehner, C., & Cook, R. (2003). Analytic Audit Tool. Retrieved October 15, 2012, from Active Living Research: <http://www.activelivingresearch.org/node/10616>
- Center for Neighborhood Technology. (n.d.). H+T Affordability Index. Retrieved January 25, 2013, from <http://htaindex.cnt.org/map/>
- Centers for Disease Control and Prevention. (n.d.). *State Initiatives Supporting Healthier Food Retail: An Overview of the National Landscape*. Retrieved from Centers for Disease Control and Prevention: http://www.cdc.gov/obesity/downloads/healthier_food_retail.pdf

- Centers for Disease Control and Prevention. (2005). Heat-Related Mortality - Arizona, 1993-2002 and United States, 1979-2002. Retrieved October 1, 2012, from Morbidity and Mortality Weekly Report: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5425a2.htm>
- Centers for Disease Control and Prevention. (2009). Differences in Prevalence of Obesity among Black, White and Hispanic Adults, U.S. 2006-2008. Retrieved December 19, 2012, from Morbidity and Mortality Weekly Report: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5827a2.htm>
- Centers for Disease Control and Prevention. (2012). Adult Obesity facts. Retrieved October 9, 2012, from <http://www.cdc.gov/obesity/data/adult.html>
- Centers for Disease Control and Prevention. (2012). Health Effects of Limited Access to Healthy Food: Obesity, Chronic Disease and Poor Nutrition. Retrieved December 5, 2012, from <http://www.cdc.gov/healthyplaces/healthtopics/healthyfood/obesity.htm>
- Centers for Medicare and Medicaid Services. (2007). Top 31 Elective Inpatient Hospital DRGs, 2006 Data. Retrieved January 25, 2013, from <http://www.cms.gov/Research-Statistics-Data-and-Systems/Research/HealthCareConInit/Hospital.html>
- Cheng, E., Chen, A., & Cunningham, W. (2007, November). Primary Language and Receipt of Recommended Health Care among Hispanics in the U.S. *Journal of General Internal Medicine*, 22(Suppl 2), 283-288.
- City of Phoenix. (2010). *Tree and Shade Master Plan*. Retrieved June 13, 2013, from http://phoenix.gov/webcms/groups/internet/@inter/@dept/@parks/documents/web_content/071957.pdf
- City of Phoenix Police Department. (2012). Uniform Crime Reporting Violent Crimes, Calendar Year 2012. Retrieved from City of Phoenix Police Department: http://phoenix.gov/webcms/groups/internet/@inter/@dept/@police/documents/web_content/099359.pdf
- City of Providence, Mayor's Office of Neighborhood Services. (n.d.). *Neighborhood Association Tool Kit*. Retrieved from City of Providence: <http://www.providenceri.com/efile/101>
- Cohen, D., Han, B., Derose, K., Williamson, S., Marsh, T., & McKenzie, T. (2013, November). Physical Activity in Parks: A Randomized Controlled Trial Using Community Engagement. *American Journal of Preventive Medicine*, 45(5), 590-597. doi:10.1016/j.amepre.2013.06.015
- Cohen, D., McKenzie, T., Sehgal, A., Williamson, S., Golinelli, D., & Lurie, N. (2007, March). Contribution of Public Parks to Physical Activity. *American Journal of Public Health*, 97(3), 509-514. doi: 10.2105/AJPH.2005.072447
- County Health Rankings. (n.d.). Data and Methods, Our Approach. Retrieved February 12, 2013, from <http://www.countyhealthrankings.org/our-approach>
- Devancey, B. (2007). WIC Turns 35: Program Effectiveness and Future Directions. Retrieved December 7, 2012, from <http://www.earlychildhoodrc.org/events/presentations/devaney.pdf>
- Ewing, R., Schmid, T., Killingsworth, R., A., Z., & Raudenbush, S. (2003). Relationship between Urban Sprawl and Physical Activity, Obesity and Morbidity. *American Journal of Health Promotion*, 18(1), 47-57.
- Fanger, P. (1970). *Thermal Comfort, Analysis and Applications in Environmental Engineering*. Lyngby, Denmark: McGraw-Hill Book Company.
- Fish, J., Ettner, S., Ang, A., & Brown, A. (2010, November). Association of Perceived Neighborhood Safety on Body Mass Index. *American Journal of Public Health*, 100(11), 2296-2303.

- Flores, G. A.-K. (2005, July/Aug). Limited English Proficiency, Primary Language Spoken at Home, and Disparities in Children's Health and Healthcare: How Language Barriers are Measured. *Public Health Reports*, 120(4), 418-430.
- Frank, L., Andresen, M., & Schmid, T. (2004). Obesity Relationships with Community Design, Physical Activity and Time Spent in Cars. *American Journal of Preventative Medicine*, 27(2), 84-96.
- Halfon, N., Larson, K., & Slusser, W. (2012). Associations between Obesity and Comorbid Mental Health, Developmental and Physical Health Conditions in a Nationally Representative Sample of US Children Aged 10 to 17. *Academic Pediatrics*.
- Hamilton, B., & Erickson, C. (2012, Summer). Urban Heat Island and Social Work: Opportunities for Intervention. *Advances in Social Work*, 13(2), 420-430.
- Han, J., Merrit, R., & Olmstead, N. (2005). The Burden of Cardiovascular Disease in Arizona.
- Harlan, S., Brazel, A., Prashad, L., Stefanov, W., & Larsen, L. (2006). Neighborhood Microclimates and Vulnerability to Heat Stress. *Social Science and Medicine*(63), 2847-2863.
- Health by Design. (n.d.). How Walkable Is Your Neighborhood? Retrieved October 15, 2012, from http://www.healthbydesignonline.org/documents/WalkabilitySurvey_HbD.pdf
- Hodges, E.A. (2003). A primer on early childhood obesity and parental influence. *Pediatric Nursing*. 29(1):13-16.
- Jenerette, G., Harlan, S., & Stefanov, W. (2011). Ecosystem Services and Urban Heat Riskscape Moderation: Water, Green Spaces, and Social Inequality in Phoenix, USA. *Ecological Applications*, 21(7), 2637-2651.
- Jernigan, D., Sparks, M., Yang, E., & Schwartz, R. (2013). Using Public Health and Community Partnerships to Reduce Density of Alcohol Outlets. *Preventing Chronic Disease*. doi:10.5888/pcd10.120090
- Kettel Khan, L., Sobush, K., Keener, D., Goodman, K., Lowry, A., Kakietek, J., & Zaro, S. (2009, July 24). Recommended Community Strategies and Measurements to Prevent Obesity in the United States. Retrieved October 9, 2012, from *Morbidity and Mortality Weekly Report*: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5807a1.htm>
- Klinenberg, E. (2002). *Heat Wave: A Social Autopsy of Disaster in Chicago*. Chicago: The University of Chicago Press.
- Leadership for Healthy Communities. (2011). A Guide for Local and State Leaders Working to Create Healthy Communities and Prevent Childhood Obesity. Retrieved October 11, 2012, from Leadership for Healthy Communities: [http://www.leadershipforhealthycommunities.org/images/stories/LHC_Action_Strategies_Toolkit_100222\[1\].pdf](http://www.leadershipforhealthycommunities.org/images/stories/LHC_Action_Strategies_Toolkit_100222[1].pdf)
- Leadership for Healthy Communities. (2012, February). Marking the Connection: Linking Policies that Prevent Hunger and Childhood Obesity. Retrieved December 17, 2012, from http://www.leadershipforhealthycommunities.org/images/stories/lhc_hunger_obesity_02.14.12.pdf
- Lee, H. (2012, April). The Role of Local Food Availability in Explaining Obesity Risk among Young School-Aged Children. *Social Science and Medicine*, 74(8), 1193-1203.
- Miles, R. (2008). Neighborhood Disorder, Perceived Safety and Readiness to Encourage Use of Local Playgrounds. *American Journal of Preventive Medicine*, 34, 275-281. doi:10.1016/j.amepre.2008.01.007
- Morency, P., Gauvin, L., Plante, C., Fournier, M., & Morency, C. (2012, June). Neighborhood Social Inequalities in Road Traffic Injuries: The Influence of Traffic Volume and Road Design. *American Journal of Public Health*, 102(6), 1112-1119.

- Phoenix Police Department. (2012). Crime Statistics and Maps. Retrieved from City of Phoenix: http://phoenix.gov/webcms/groups/internet/@inter/@dept/@police/documents/web_content/099359.pdf
- PolicyLink. (n.d.). *Access to Healthy Food*. Retrieved from http://www.policylink.org/site/c.lkIXLbMNJrE/b.7634003/k.519E/Access_to_Healthy_Food.htm
- PolicyLink & The Food Trust. (2010). *The Grocery Gap*. Retrieved from <http://www.policylink.org/atf/cf/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/FINALGroceryGap.pdf>
- PolicyLink and Prevention Institute. (n.d.). *The Transportation Prescription: Bold New Ideas for Healthy, Equitable Transportation Reform in America*.
- Rosenheck, R. (2008, November). Fast food consumption and increased caloric intake: a systematic review of a trajectory towards weight gain and obesity risk. *Obesity Reviews*, 9(6), 535-547. doi:10.1111/j.1467-789X.2008.00477.x
- Rung, A., Mowen, A., Broyles, S., & Gustat, J. (2011). The Role of Park Conditions and Features on Park Visitation. *Journal of Physical Activity and Health*, 8(Suppl 2), S178 -S187.
- Saelens, B., Salis, J., Black, J., & Chen, D. (2003). Neighborhood Based Differences in Physical Activity. *American Journal of Public Health*(93), 1552-1558.
- Shay, E., Spoon, S., & Khattak, A. (2003). Walkable Environments and Walking Activity. Retrieved December 14, 2012, from <http://www.stc.utk.edu/STCresearch/completed/PDFs/walkfinal.pdf>
- Stockbox Neighborhood Grocery. (n.d.). Retrieved from Stockbox Neighborhood Grocery: <http://stockboxgrocers.com/about/>
- Successful Communities Online Toolkit. (n.d.). Phoenix, Arizona Heat Relief Network. Retrieved January 3, 2013, from <http://scotie.sonorainstitute.org/component/content/article/168-phoenix-az-heat-relief-network.html>
- Surgeon General of the United States. (2012). *Overweight and Obesity: What You Can Do*. Retrieved October 9, 2012, from http://www.surgeongeneral.gov/library/calls/obesity/fact_whatcanyoudo.html
- Taggart, M., Chaney, M., & Meaney, D. (n.d.). *Vacant Land Inventory for Urban Agriculture*. Retrieved from Cleveland-Cuyahoga Food Policy Coalition: <http://cccfoodpolicy.org/sites/default/files/resources/Vacant%20Land%20Inventory%20for%20Urban%20Agriculture%20-%20Report%20for%20Urban%20Land%20Ecology%20Conference.pdf>
- The Reinvestment Fund. (2011). *Limited Supermarket Access (LSA) Status, as of 2011*.
- The Trust for Public Lands. (2006). Retrieved October 4, 2012, from *The Health Benefits of Parks*: http://www.eastshorepark.org/HealthBenefitsReport_FINAL_010307.pdf
- The Trust for Public Land. (2012). *City Park Facts*. Retrieved June 13, 2013, from <http://cloud.tpl.org/pubs/ccpe-cityparkfacts-2012.pdf>
- The WABSA Project. (2003, October 29). *Assessing and Improving Your Community's Walkability and Bikeability*. Retrieved October 12, 2012, from <http://www.unc.edu/~jemery/WABSA/documents/wabsa%20guidebook%2003-1029.pdf>
- Transportation Alternatives. (2011). *Play Streets: Best Practices*. Retrieved from http://transalt.org/files/news/reports/2011/PlayStreets_BestPractices.pdf

Transportation Research Board; Institute of Medicine of the National Academies. (2005). Does the Built Environment Influence Physical Activity? Examining the Evidence. Retrieved January 8, 2013, from Transportation Research Board of the National Academies: <http://onlinepubs.trb.org/onlinepubs/sr/sr282.pdf>

U.S. Census Bureau. (2010). Summary File 1.

U.S. Department of Agriculture, Economic Research Service. (2009). Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and their Consequences, Report to Congress. Report to Congress. Retrieved October 11, 2012, from http://www.ers.usda.gov/media/242675/ap036_1_.pdf

U.S. Department of Health and Human Services. (n.d.). Social Determinants of Health. Retrieved March 1, 2013, from Healthy People 2020: <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=39>

U.S. Department of Housing and Urban Development. (n.d.). Affordable Housing. Retrieved January 25, 2013, from http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing

Vartanian, L. S. (2007, April). Effects of Soft Drink Consumption on Nutrition and Health: A Systematic Review and Meta-Analysis. *American Journal of Public Health*, 97(4), 667-675. doi:10.2105/AJPH.2005.083782

Victoria Transport Policy Institute. (2010). Retrieved October 4, 2012, from Evaluating Public Transportation Health Benefits: http://www.apta.com/resources/reportsandpublications/Documents/APTA_Health_Benefits_Litman.pdf

Walgreens. (2011) Walgreens Commits to Converting or Opening at Least 1,000 Food Oasis Stores Over the Next Five Years. [Press Release]. Retrieved from http://news.walgreens.com/article_print.cfm?article_id=5451

Weiss, C., Purciel, M., Bader, M., Quinn, J., Lovasi, G., Neckerman, K., & R. A. (2011). Reconsidering Access: Park Facilities and Neighborhood Disamenities in New York City. *Journal of Urban Health*, 88(2), 297-309.

Whyte, W. H. (1980). *The Social Life of Small Urban Spaces*. New York: Project for Public Spaces.

Work Group for Community Health and Development at the University of Kansas. (2012). The Community Toolbox. Retrieved September 26, 2012, from <http://ctb.ku.edu/>

Endnotes

- i. Categories of stores are based upon site visits by the health team. The definitions of the types of stores are drawn from The Reinvestment Fund (2011) and Examining the Impact of Food Deserts on Public Health in Detroit (Mari Gallagher Research & Consulting Group, 2007).
- ii. Finding and documenting these types of resources is difficult, since there is no central data repository, the data system is self-reported and incomplete, and definitions of these food resources differ. During our workshop, some residents identified other locations of what they termed as community gardens. These were informal, backyard vegetable gardens grown by residents and distributed among friends. These sites were not accessible to a large number of residents and not a consistent or reliable source of healthy food.
- iii. The methodology used to identify restaurants, including fast food and “sit down” restaurants, included a Google search, followed by a windshield survey. Like much of the food environment, this is a snapshot in time meant to provide context rather than exact details about the restaurants.
- iv. All traffic related injury data were from either the Arizona Department of Transportation’s Safety Data Mart or the Arizona Department of Health Services State Trauma Registry and were matched resulting in an unduplicated count.

- v. The city of Phoenix's Community Garden Policy Guidelines can be found at: http://phoenix.gov/webcms/groups/internet/@inter/@dept/@dtd/documents/web_content/pdd_pz_pdf_00348.pdf.
- vi. More information about programs in these communities, go to <http://www.freshmoves.org/>, <http://chattanoogamobilemarket.org/>, and <http://www.marketonwheels.com/index.html> respectively.
- vii. Information can be found at <http://arcadiafood.org/programs/mobile-market>.
- viii. Information can be found at <http://stockboxgrocers.com/about/>.
- ix. Information on the Discovery Triangle and Fresh Express can be found at <http://www.discoverytriangle.org/fresh-express/>.
- x. More information on the Green Cart Initiative can be found at: <http://www.nyc.gov/html/doh/html/diseases/green-carts.shtml>.
- xi. The policy can be found at <http://www.kcmo.org/idc/groups/parksandrec/documents/parksrecreation/012710.pdf>.
- xii. More information about this program can be found at <http://content.govdelivery.com/bulletins/gd/USDAO-78ddc5>.
- xiii. More information about this program can be found at <http://www.cafreshworks.com/Index.html>.
- xiv. A brief description of development incentives can be found at <http://www.policylink.org/site/c.lkIXLbMNJrE/b.7677419/k.C869/Policy.htm>.
- xv. Groundwork's toolbox can be found at <http://research.ncl.ac.uk/engscc/assets/pdf/toolkit.pdf>.
- xvi. Information can be found at http://www.arizonaforward.org/pdf/ASU_SGSUP_Placemaking_and_Community_Building_Project.pdf.
- xvii. Injury and fatality rates were calculated by computing an average annual number of injuries and fatalities based on the available years of data from the sources—three years for City Collision data and five years for the Arizona State Trauma Registry data. The rate was calculated as follows: (Average number of injuries and fatalities)/(Total population for district) x 10,000
- xviii. Injury and fatality rates were calculated by computing an average annual number of injuries and fatalities based on the available years of data from the sources—three years for City Collision data and five years for the Arizona State Trauma Registry data. The rate was calculated as follows: (Average number of injuries and fatalities)/(Total population for district) x 10,000
- xix. Information on TreePeople can be found at <http://www.treepeople.org/>.
- xx. The City of Phoenix Tree and Shade Master Plan is at http://phoenix.gov/webcms/groups/internet/@inter/@dept/@parks/documents/web_content/071957.pdf.
- xxi. An advocacy resource guide for grantees can be found at http://www.healthykidshealthycommunities.org/sites/default/files/ALBD%20Advocacy%20Resource%20Guide%20May%202010-updated%20Aug%202010_0.pdf.
- xxii. For more information about Safe Routes to Transit, go to <http://www.nyc.gov/html/dot/html/pedestrians/safertstransit.shtml>.



St. Luke's Health Initiatives