EPA
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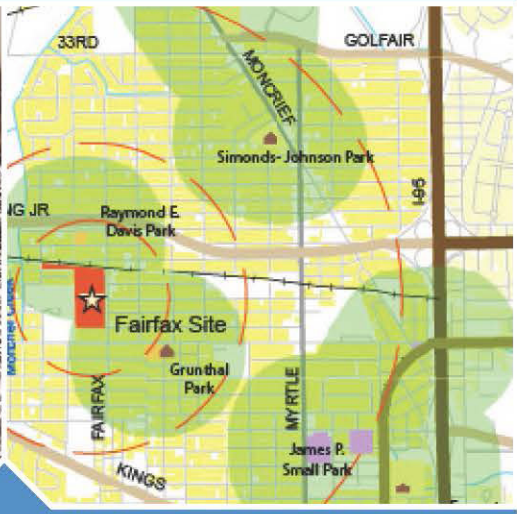
Environmental Protection
Agency

A Pilot Framework for Integrating Community Health and Wellness into the Superfund Reuse Assessment Process

July 2014



This report was funded by EPA's Superfund Redevelopment Initiative to provide a summary of a pilot framework for integrating health, prevention and wellness considerations into the Superfund reuse assessment process. Through the Superfund program, EPA is working to further the cleanup of contaminated sites and the protection of human health and the environment. Additional support was provided by EPA's Office of Environmental Justice and the EPA Region 4 Superfund program. For additional information on SRI, please visit: http://www.epa.gov/superfund/programs/recycle.

Foreword

Many Superfund sites are located in neighborhoods that suffer from multiple contaminated sites, disinvestment, lack of services and stark health disparities. During the Superfund cleanup process, Remedial Project Managers and Community Involvement Coordinators engage with communities to provide updates and gather input on the cleanup process. Depending on the stage of the remedial process, EPA may also engage with a community to determine the reasonably anticipated future land use of a site or seek a viable future use and landowner to ensure long-term stewardship.

When evaluating future use options, EPA may gather community goals, review local plans and initiatives, assess the surrounding land use context, and factor in natural site constraints and remedial considerations. Reuse options considered may include open space, residential, commercial and industrial uses, or focus on more specific goals of the community. The reuse assessment process also offers an opportunity to evaluate whether the Superfund site might be suitable to support health and wellness services and amenities. Amenities may include health care facilities, but can also include a broader set of uses to advance healthy, sustainable, equitable and resilient communities through amenities such as transportation options, parks and neighborhood retail services.

This document offers a a summary of a pilot framework to evaluate potentially integrating health and wellness considerations into the Superfund reuse assessment process. It does not, however, substitute for CERCLA or EPA's regulations, nor is it a regulation or guidance itself. Thus it does not impose legally binding requirements on EPA, states, tribes or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA, state, tribal and local decision-makers retain the discretion to adopt approaches on a case-by-case basis. Any decision regarding a particular facility will be made based on the applicable statutes and regulations. If such approaches are not within the scope of the Agency's authority, some other party (e.g., state, Potentially Responsible Party, local government, tribe, developer, community partner, etc.) must fund the additional costs associated with those actions. EPA should ensure that integrity of the CERCLA remedial action is not adversely affected by any activities carried out by such other parties at the site.

This framework may be useful for EPA staff, local government, organizations and community members who are considering future use for a Superfund site. If integrated into the reuse planning process, this framework may help to identify potential reasonably anticipated land uses for consideration, which could supplement and expand existing health assets for neighborhoods impacted by Superfund sites, and over time contribute to improved physical, mental and social well-being for these communities.

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Chapter 1. Introduction

Purpose of the Framework

This document provides a summary of a pilot framework for integrating health, prevention and wellness considerations during the Superfund reuse assessment process. The framework describes health and wellness considerations that can be integrated directly into each step of the reuse assessment process. It includes suggested community discussion questions, a set of health and wellness indicators, suggestions for mapping health and wellness features at the neighborhood scale, considerations for site suitability and a case study example to illustrate the process. If such approaches are not within the scope of EPA's authority, some other party (e.g., state, Potentially Responsible Party, local government, tribe, developer, community partner, etc.) must fund the additional costs associated with these actions. Thus, the framework also includes information on data sources, funding programs and other resources to assist in the process.

The document is organized into the following chapters:

- *Chapter 2: Background*

  This chapter provides background context for the framework, including: a description of the Superfund reuse assessment process, background on health, prevention and wellness efforts at the federal level, results of a best practices literature review of health assessment tools, and a set of criteria to identify Superfund sites that might be good candidates for a health and wellness assessment.

- *Chapter 3: Framework Overview*

  This chapter provides an overview of the health and wellness framework as it relates to the steps in the Superfund Reuse Assessment process. It also offers details on factors to consider during each step along with further detail on data sources, mapping and additional considerations.

- *Chapter 4: Case Study Example*

  This chapter provides an example of the application of the framework to the Fairfax St. Wood Treaters Superfund Site in Jacksonville, Florida.

- *Chapter 5: Summary*

  This chapter provides a summary of the health and wellness framework and its potential for leveraging reuse assessment investments to improve neighborhood health and wellness in overburdened communities.

- *Chapter 6: Resources*

  This chapter includes data sources, funding programs and other references to assist in the process.

Chapter 2. Background

Communities Impacted by Superfund Sites

Many Superfund sites are located in neighborhoods that suffer from multiple contaminated sites, disinvestment, lack of services and stark health disparities. These neighborhoods are also often communities of color. One of the earliest studies to draw a clear connection between communities of color and the location of contaminated sites was *Toxic Wastes and Race in the United States*, published by the United Church of Christ in 1987.[1] This study "found race to be more important than socioeconomic status in predicting the location of the nation's commercial hazardous waste sites."[2] A 1998 study of Superfund sites in Florida found that African Americans and Latinos are more likely to live in neighborhoods impacted by Superfund hazardous waste sites and that the spatial association between race, ethnicity and Superfund sites is increasing over time.[3] In 2007, *Toxic Wastes and Race at Twenty* concluded that these race-based disparities continue to persist.[4]

These conditions have a direct effect on the health and wellness of residents of overburdened communities. The U.S. Department of Health and Human Services (HHS) states, "Minority and low-income populations and Indian Tribes have greater exposure to adverse environmental and occupational hazards. For example, people of color make up 56 percent of those living in neighborhoods located near the nation's commercial hazardous waste facilities. This disproportionate exposure is compounded by the fact that minorities are more likely to have inadequate access to a primary care physician, often receive poorer quality of care and face barriers in seeking preventive and acute care. Such communities often have the most pressing need for health care and social services."[5]

Perhaps not surprisingly, given this context, communities of color and low-income communities are also more likely to experience disparities in health outcomes and costs. Disparities have been documented for many serious health conditions, including infant mortality, low birth weight births, asthma, cancer and cardiovascular disease; many of these conditions are known to be influenced by environmental pollutants.[6] For instance, according to HHS, "African American children are twice as likely to be hospitalized and more than four times as likely to die from asthma as non-Hispanic White children."[7] These disparities are costly. A study by the Joint Center for Political and Economic Studies concluded that "between 2003 and 2006 the combined costs of health inequalities and premature death in the United States were $1.24 trillion [… and that] 30.6% of direct medical care expenditures for African Americans, Asians, and Hispanics were excess costs due to health inequalities."[8] Disparities in health outcomes and healthcare costs are serious environmental justice concerns in many communities of color and low-income communities.

1 United Church of Christ. Toxic Wastes and Race in the United States. 1987. Online. Downloaded October 29, 2013, from http://www.ucc.org/about-us/archives/pdfs/toxwrace87.pdf.
2 United Church of Christ. Toxic Wastes and Race at Twenty: 1987-2007. 2007. Online. Downloaded October 29, 2013, from: http://www.ucc.org/assets/pdfs/toxic20.pdf. p. xi.
3 Stretsky, Paul and Michael J. Hogan. Social Problems. "Environmental Justice: An Analysis of Superfund Sites in Florida." 45(2). May 1998, pp. 268-287.
4 United Church of Christ. Toxic Wastes and Race at Twenty: 1987-2007. 2007. Online. Downloaded October 29, 2013, from: http://www.ucc.org/assets/pdfs/toxic20.pdf.
5 U.S. Department of Health and Human Services. 2012 Environmental Justice Strategy and Implementation Plan. 2012.
6 California EPA and Office of Environmental Health Hazard Assessment. Cumulative Impacts: Building a Scientific Foundation. 2010.
7 U.S. Department of Health and Human Services. HHS Action Plan to Reduce Racial and Ethnic Disparities: A Nation Free of Disparities in Health and Health Care. 2011.
8 Joint Center for Political and Economic Studies. The Economic Burden of Health Inequalities in the United States. 2009.

Chapter 2. Background

Addressing environmental justice concerns for overburdened communities is a priority for the EPA.[9] *Plan EJ 2014* outlines a strategy for advancing environmental justice, which places priority on initiatives that:

- "Protect the environment and health in overburdened communities.
- Empower communities to take action to improve their health and environment.
- Establish partnerships with local, state, tribal, and federal governments and organizations to achieve healthy and sustainable communities."[10]

The *1994 Presidential Executive Order 12898 on Environmental Justic*e requires all federal agencies to consider EJ in their policies and actions. EPA defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." This means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, commercial and governmental operations or land use decisions. All people should have the opportunity to participate in decisions that may affect their environment and their health. In addition to a focus on removing harms, environmental justice also addresses the fair distribution of benefits from government activities.

The Superfund Reuse Assessment Process

Future land use is an important factor in the remedial process to ensure a cleanup will be protective of human health and the environment. In 2001, EPA's Office of Solid Waste and Emergency Response (OSWER) released a memorandum titled *Reuse Assessments: A Tool To Implement The Superfund Land Use Directive (Reuse Assessment Memorandum)*. The memorandum offers a guide for conducting reuse assessments – a process for determining reasonably anticipated future land use at Superfund Sites, and also provides recommendations about the types of information that should be evaluated. Table 1 provides an overview of the process and the information evaluated during each step. The Agency reaffirmed its committment to integrating cleanup with future land use in the 2010 memorandum titled *Considering Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites*.

Reuse assessments can occur at various points in the remedial process. Early in the remedial process, anticipating future use can help inform: the baseline risk assessment, the development of remedial objectives and alternatives, and the selection of a remedy that ensures protection of human health and the environment. Once the remedy is in place, EPA may also evaluate future use options to facilitate long-term site stewardship.

When evaluating future use options, EPA may gather information on community goals, review local plans and initiatives, assess the surrounding land use context, and factor in natural site constraints and remedial considerations. The 2001 memorandum states, "Site location in relation to residential, commercial, industrial, agricultural and recreational areas, current and past uses, neighboring activities and land uses, relevant public infrastructure: roads, utilities, transit, parks, etc."[11] In addition, site ownership (whether public, private or uncertain) can inform the reuse planning approach.

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9 According to Plan EJ 2014, "EPA uses the term "overburdened" to describe the minority, low-income, tribal, and indigenous populations or communities in the United States that potentially experience disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards. This increased vulnerability may be attributable to an accumulation of both negative and lack of positive environmental, health, economic, or social conditions within these populations or communities." For more information, see page 1 of Plan EJ 2014.

10 U.S. Environmental Protection Agency. Plan EJ 2014. 2011. http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-2011-09.pdf.

11 U.S. Environmental Protection Agency. Reuse Assessments: A Tool To Implement The Superfund Land Use Directive (Reuse Assessment Memorandum). 2001. http://www.epa.gov/superfund/programs/recycle/pdf/reuseassessment.pdf.

Chapter 2. Background

Table 1. Reuse Assessment Process

Reuse Assessment Process	Information Evaluated
Gather Community Goals	**Identify Stakeholders** • Identify stakeholders and their connection to the site • Determine which stakeholders are responsible for local land use • Document the stakeholders who participate in the Reuse Assessment **Gather Community Input** • Future reuses that community members would support • Future reuses that community members would oppose • Cultural factors that may create barriers or assets to any type of future reuse (historic buildings, Native American sacred lands) • Environmental justice issues (e.g., disproportionate exposures to environmental risks) **Review Public Initiatives** • Infrastructure plans that may influence the site uses • Potential municipal/public uses • Publicly initiated private sector redevelopment project • Funds available/committed for the redevelopment of the site
Determine Site Suitability	**Site Description** • Physical features: size, shape, topography, special features • Existing buildings and other site improvements • Surrounding residential, commercial, industrial, and recreational areas • Current and past uses • Neighboring activities and land uses • Relevant public infrastructure: roads, utilities, transit, parks, etc. **Environmental Considerations** • Contaminants and their location(s), technology constraints, to the extent this information is known • Potential restrictions resulting from the environmental contamination • Areas that are "clean" (i.e., where risks are acceptable, consistent with their planned use) and potentially available for immediate reuse • Ground water use classification/determination • Other site characteristics (e.g., wetlands, surface waters, upland habitat, forested habitat, flood plains) **Site Ownership** • Person or entity that holds title to the site; who controls access to the site • Any property liens, bankruptcy considerations • Site owner(s) preferences and plans • Any plans for the sale of the property Local planning department
Conduct Land Use Analysis	**Land Use Considerations and Environmental Regulations** • Zoning • Existing area master plans • Federal, state or tribe and local environmental regulations (e.g., wetlands, flood plain, etc.) impacting reuse • Institutional controls (e.g., easements, covenants) already in place • Historical and cultural resources
Develop Future Use Recommendations	**Most Likely Future Uses** • Summarize the information as the basis for concluding the most likely future use(s)

Chapter 2. Background

Health, Prevention and Wellness: A Growing National Consciousness

At the federal level, several recent initiatives have focused on health, prevention and wellness, including:

- National Prevention Strategy (NPS): Released in 2011 by the Office of the Surgeon General, the NPS provides a strategy for "increasing the number of Americans who are healthy at every stage of life."[12]
- HUD-DOT-EPA Partnership for Sustainable Communities: This partnership between EPA, the Department of Housing and Urban Development, and the Department of Transportation was founded in 2009 to "improve access to affordable housing, increase transportation options, and lower transportation costs while protecting the environment."[13]
- The Federal Interagency Working Group on Environmental Justice: Composed of 17 federal agencies and White House offices, this group seeks to "guide, support and enhance federal environmental justice and community-based activities."[14]
- OSWER Community Engagement Intiative: This initiative, developed by EPA's Office of Solid Waste and Emergency Response (OSWER), encourages collaboration with federal agencies to provide public health information on OSWER projects.[15]

A common theme across all of these initiatives is the recognition that improving community health and wellness has benefits that stretch far beyond improved individual health. Creating healthier neighborhoods is an important factor in strengthening our local and national economies. These initiatives also highlight the importance of specifically addressing health and wellness impacts on overburdened populations.

Nationwide, there is a growing consciousness regarding health, prevention and wellness. First Lady Michelle Obama has dedicated her Let's Move! program to solving the growing problem of childhood obesity in America. The community garden movement has produced an explosion of vegetable gardens across our nation's neighborhoods that have resulted in expanded access to fresh, healthy food as well as an increased sense of community. Additionally, there is a growing emphasis in the field of community planning on neighborhood completeness and walkability to encourage healthy lifestyles.

> **"The physical and emotional health of an entire generation and the economic health and security of our nation is at stake."**
>
> ***- First Lady Michelle Obama at the Let's Move! launch on February 9, 2010***

12 National Prevention Council. National Prevention Strategy. U.S. Department of Health and Human Services, Office of the Surgeon General. 2011.
13 Partnership for Sustainable Communities. About Us. 2013. http://www.sustainablecommunities.gov/aboutUs.html.
14 Federal Interagency Working Group on Environmental Justice. Overview. Retrieved October 29, 2013. http://www.epa.gov/compliance/ej/interagency.
15 EPA Office of Solid Waste and Emergency Response. Community Engagement Initiative. Retrieved November 3, 2013. http://www.epa.gov/oswer/engagementinitiative.

Chapter 2. Background

Tools for Evaluating Community Health, Prevention and Wellness

The World Health Organization defines health as:

"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[16]

Based on this definition, many of the land use factors analyzed in a reuse assessment have public health implications. Further, there are additional health indicators related to land use and built environment factors that could be integrated into a reuse assessment to strengthen the evaluation of health, prevention and wellness considerations.

More frequently, local government and community organizations are using the Health in All Policies model, the Health Impact Assessment paradigm and other models to evaluate this broader definition of a community's health and wellness.[17] The framework outlined in this document was developed by selecting and modifying the community health assessment tool that best fit project needs based on a literature review of best practices.

The literature review included a broad survey of peer-reviewed journals and agency publications addressing the intersection of planning and public health (a list of sources reviewed is included in the Resources section). Within the literature, a set of nationally-recognized municipal and agency models were identified and compared based on the following criteria: recognition in peer-reviewed literature, adaptability, and functionality at neighborhood scale.

Of these models, the City of San Francisco's Sustainable Communities Index (SCI), formerly known as the Healthy Development Measurement Tool, was found to be one example of a comprehensive, widely recognized and adapted model for integrating public health and quality of life factors into community and neighborhood planning initiatives.[18] For more information on the SCI, see the text box on the right.

The Sustainable Communities Index

The Sustainable Communities Index (SCI) is a land use and public health evaluation tool that was developed during the San Francisco Eastern Neighborhoods Community Health Impact Assessment (ENCHIA) project.[19] At the conclusion of the ENCHIA process, the San Francisco Department of Public Health made the tool available online. It has been used as a model in many other land use planning and public health evaluation processes by communities nationwide.

The SCI provides "over 100 performance indicators for livable, equitable and prosperous urban cities."[20] SCI indicators are organized into eight categories: transportation, community, public realm, education, housing, economy, health and environment. Indicators are selected based on direct research links to health outcomes and include a range of built and social environment factors.

For more information, visit: http://www.sustainablecommunitiesindex.org/

19 Dannenberg, Andrew L., Rajiv Bhatia, Brian L. Cole, Sarah K. Keaton, Jason D. Feldman, and Candace D. Rutt. 2008. American Journal of Preventative Medicine. "Use of Health Impact Assessment in the U.S.: 27 Case Studies, 1999-2007." Retrieved November 29, 2012. <http://www.cdc.gov/healthy-places/publications/ajpm_hiacasestudies_march2008.pdf>

20 Dannenberg, Andrew L., Rajiv Bhatia, Brian L. Cole, Sarah K. Keaton, Jason D. Feldman, and Candace D. Rutt. 2008. American Journal of Preventative Medicine. "Use of Health Impact Assessment in the U.S.: 27 Case Studies, 1999-2007." Retrieved November 29, 2012. <http://www.cdc.gov/healthy-places/publications/ajpm_hiacasestudies_march2008.pdf>

16 World Health Organization. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference. 1946.

17 More information about Health in All Polices can be found here: http://www.naccho.org/topics/environmental/HiAP/upload/HiAP-one-page-FINAL.pdf; http://www.naccho.org/topics/environmental/HiAP.

18 Ewing, et al. Understanding the Relationship between Health and the Built Environment: A report prepared for the LEED-ND Core Committee. 2006.

Chapter 2. Background

The SCI provides one option for an adaptable model that can be integrated into the reuse assessment process at Superfund sites to help evaluate opportunities at the site or neighborhood scale to improve health and wellness in the surrounding community. The following considerations were used to adapt the SCI for the reuse assessment process:

- Select categories, objectives and indicators that easily fit into the land use analysis of a reuse assessment.
- Ensure objectives and indicators are relevant in both urban and rural settings.
- Include a range of indicators using readily available national and local data sources.
- Provide a range in levels of effort for each indicator so that the assessment can be used across sites with varying levels of funding and local capacity.

Criteria for Selecting Candidate Sites

The following chapter outlines a framework and specific factors selected from the SCI that appear to be well-suited to integrate into the reuse assessment process. Although this framework can be integrated into any reuse assessment process, Superfund sites meeting the following criteria might be good candidates for considering health and wellness in the reuse assessment process:

- The surrounding community has the characteristics of an overburdened community.
- The surrounding community has raised environmental justice or disease disparity concerns.
- The surrounding community has raised health and wellness concerns or goals.

For more context on overburdened communities, see the section on *Communities Impacted by Superfund Sites* earlier in Chapter 2.

Chapter 3. Framework Overview

PROCESS OVERVIEW

This chapter describes each of these steps in the reuse assessment process and provides information on health and wellness-related factors and considerations. The process diagram in Figure 1 organizes the information gathered during a reuse assessment into a series of steps. The items in blue indicate additional information or steps that may be included when specifically integrating health and wellness considerations into the reuse assessment process.

Chapter 4 provides further detail on data sources and considerations for each of the health and wellness factors, along with a case study to illustrate examples of maps showing service analysis and potential health and wellness needs. As noted in the *2001 Reuse Assessment Memorandum*, each reuse assessment will differ in scope and level of detail depending on the conditions at the site. For additional detail on the common elements of a reuse assessment, the reader may refer to the 2001 Reuse Assessment Memorandum.

Figure 1. Process Diagram

Please note: Items in blue indicate additional information or steps that may be included when specifically integrating health and wellness considerations into the reuse assessment process.

Chapter 3. Framework Overview

STEP 1. IDENTIFY COMMUNITY GOALS

Reuse Assessment Approach

During a reuse assessment, community goals for future use are typically identified through interviews with key stakeholders, community meetings, and reviewing public initiatives and planning documents. Discussion of reuse with community stakeholders typically asks for stakeholder feedback on the following questions:

- What are future use goals for the site?
- What uses would be suitable for the site?
- What local public initiatives might inform future use considerations?
- What community groups may have an interest in the future use of the site?

Defining Community

Community can be defined in many ways. For the purposes of this document, "community" may include study area residents as well as community-based organizations representing them. Other stakeholders, including local government, can be included in community discussions as valued resource partners.

Health and Wellness Considerations

To integrate health and wellness considerations into the Community Goals, additional stakeholders and planning documents specific to public health and wellness will need to be included in the process. In addition, the stakeholder and community discussion may include questions focused on health and wellness goals and issues. Table 2 identifies health and wellness considerations for each element of this step.

Table 2. Health and Wellness Considerations when Identifying Community Goals

Information for Identifying Community Goals	Health and Wellness Considerations
Identify stakeholders	Stakeholders with expertise in health and wellness may include: • Neighborhood residents • Representatives of community-based organizations • Representatives from public institutions such as the public school system, local academic institutions or a Federally Qualified Health Center • County and state health agencies • Local government staff and elected representatives with expertise in fields such as parks and recreation, multi-modal transportation, and community planning and sustainability
Gather community input	In addition to gathering community input on general goals for future use of the site, specific discussion topics may include: • The community's need for health and wellness features (examples of specific questions are outlined in Table 3). • The community's health concerns (examples of specific questions are outlined in Table 5). Discussions with stakeholders should consider access to health and wellness features and services in the broadest sense (e.g., financial access, transportation options, operating times, safety).
Review public initiatives	In addition to general land use plans and community development initiatives, additional documents may include recent community health studies by the local county health department.

STEP 2. DETERMINE SITE SUITABILITY

Reuse Assessment Approach

In a reuse assessment, a site's physical and institutional constraints and assets can be evaluated to determine its suitability for a range of future uses. This evaluation typically includes analysis of a site's physical features and background, environmental and remedial considerations, and site ownership. Results from this analysis identify areas of the site that will be suitable for development, and which areas may have land use restrictions, long-term remedial features or natural site constraints that may limit future use. The size and location of the resulting area that will be available for development may limit what uses are suitable for the site. After evaluating site information, the outcomes can be compared to future use goals to see if the site could be suitable for the desired future uses.

Health and Wellness Considerations

The site suitability step requires very little modification to incorporate health and wellness considerations since it is a technical analysis of existing site characteristics. A reuse assessment that considers health and wellness might include determinations about whether the site is suitable for the following types of general health and wellness uses:

- Civic or institutional uses (e.g., a health care facility).
- Open space and recreation (e.g., a park or a walking trail).
- Neighborhood amenities (e.g., retail services with health and wellness components, healthy food services, affordable housing).

Chapter 3. Framework Overview

STEP 3. CONDUCT LAND USE AND HEALTH AND WELLNESS SERVICES ANALYSIS

Reuse Assessment Approach

At this stage of a reuse assessment, an analysis of surrounding land use, infrastructure and mobility is conducted to help determine the future land use. The analysis may include reviewing existing land use, zoning, area master plans, and environmental regulations (e.g., wetland regulations, flood plain regulations). The analysis is often map-based, using geographic information systems (GIS).

Health and Wellness Considerations

In addition to general land use analysis, an analysis of specific health and wellness features and services may be conducted to identify assets and gaps in the study area around the site. The analysis should consider both whether the features exist within the study area and whether the features are accessible to study area residents. Accessibility should be considered in the broadest sense of the concept (financial, transportation, operating time, safety, etc.). This information may be obtained during the community discussion or supplemented with additional research into accessibility and programming of high priority health and wellness amenities.

Table 3 identifies the types of features that may be evaluated in the Service Analysis. This table includes questions that may be used during community meetings or interviews with key stakeholders during Step 1. The table could be used as a template to guide these conversations. It may also be useful for summarizing both stakeholder feedback and the outcomes of the map analysis, which is discussed further below.

Options for Mapping Health and Wellness Services

The maps below illustrate two different approaches to mapping assets in a community. Proximity Maps use diameter rings to map the relative distance of features to the site. Service Area Maps use a buffer to approximate the service area of an amenity for the residential areas, as well as identify residential areas outside that service area distance. Service Area Maps require a higher level of effort due to the more advanced understanding of GIS required to perform buffer analysis and queries. Additional considerations on how to conduct a map-based Service Analysis using GIS and a case study example illustrating a range of factors are discussed in Chapter 4. For information on relevant data resources and considerations regarding level of effort, see Chapter 6.

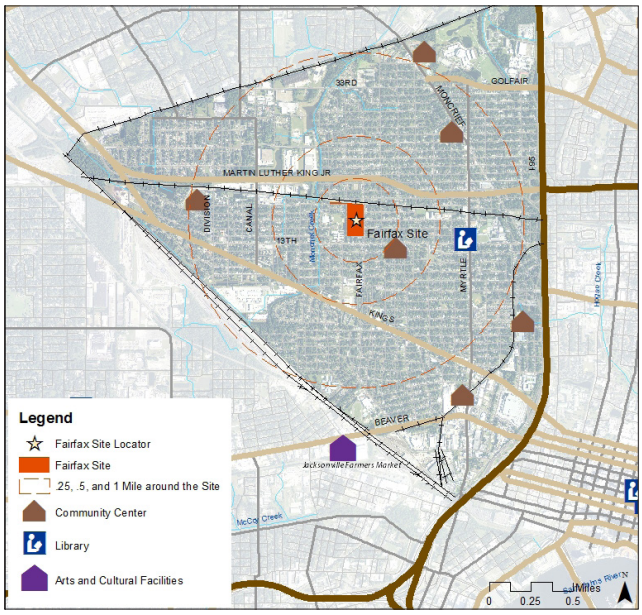


Figure 2. Example of a Proximity Map

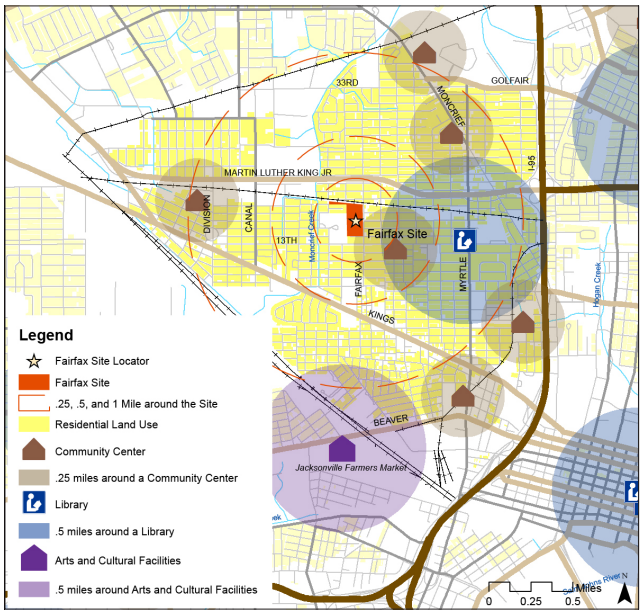


Figure 3. Example of a Service Area Map

Chapter 3. Framework Overview

Table 3. Health and Wellness Features Checklist

Feature	Do the features exist?			Accessibility Considerations?
	Yes	No	Unknown	
Transportation Options				
Does the site include sidewalks along all street edges?				
Does the site include street trees along all street edges?				
Does the site support the street grid of through-access?				
Is there access to public transportation?				
Community Amenities				
Is there a community center?				
Are there art and cultural facilities?				
Is there a public library?				
Health Care Options				
Are there emergency services?				
Is there a Federally Qualified Health Center?				
Are there affordable primary care services?				
Are there affordable dental services (including dental van stops)?				
Are there affordable vision services?				
Are there affordable mental health services?				
Parks and Open Space				
Is there a park?				
Does the park have amenities and desired programming?				
Is there a community pool?				
Is there access to a bike trail or greenway?				
Neighborhood Retail Services *(based on services included in the SCI's Neighborhood Completeness indicator)*				
Is there bank or credit union?				
Is there an auto service center?				
Is there a beauty/barber shop?				
Is there a bike shop?				
Is there a dry cleaner?				
Is there a gym?				
Is there a hardware store?				
Is there a laundry mat?				
Is there a pharmacy?				
Is there a movie theatre?				
Is there a gas station?				
Affordable, Healthy Food				
Is there a grocery store?				
Is there a farmers market?				
Is there a community garden?				
Quality Affordable Housing				
Are ownership rates equal to or higher than the city or county?				
Are vacancy rates higher than within the city or county?				
Are health and safety code violations a challenge?				

STEP 4. DETERMINE HEALTH AND WELLNESS NEEDS

Reuse Assessment Approach

Historically, reuse assessments typically have not addressed health and wellness considerations, however developing a summary of the community's relative health and wellness needs may assist the community in providing informed input for potential future land use assumptions. This data could also help the community advocate for resources, technical assistance or programs from local, state, tribal or federal partners that could help to support additional planning and implementation of future land uses related to health and wellness, or to address community needs outside of the scope of the Superfund program authority.

Health and Wellness Considerations

Relative health and wellness need in the community can be evaluated by looking at existing conditions data, including:

- Community health outcomes data.
- Potential environmental risks.

Table 4 suggests indicators and the types of data that might be evaluated during this step to contextualize the need for health-based interventions in the built environment. These indicators focus on infant health and hospitalization rates for ambulatory care sensitive conditions (ACSCs), which can be indicators of access to primary care. Other health conditions may be added for analysis based on data availability and additional priorities identified by stakeholders.

Consider gathering data from existing studies and national data sources, or both. Local and neighborhood-scale health data can be challenging to access due to privacy concerns, therefore more time and resources may need to be allocated if this level of detail is desired.

When developing maps of health indicators, evaluating health outcomes at the city or county scale will help highlight any disparities between the study area and the surrounding community.

Chapter 4 includes additional considerations for gathering health and wellness data, suggested metrics for ACSCs and birth outcomes, and map examples from a case study.

Table 4. Health and Wellness Needs.

Documenting Health and Wellness Needs	Factors for Consideration
Health Outcomes Does the neighborhood/community have documented health disparities?	Mortality rates for ambulatory care sensitive conditions (e.g. asthma, diabetes, heart failure, chronic obstructive pulmonary disease) Morbidity rates for ambulatory care sensitive conditions Birth outcomes
Environmental Risk Factors Does the neighborhood/community contain potential environmental or health risks?	Proximity to contaminated sites Water quality Air quality Proximity to unhealthy food and alcohol

Chapter 3. Framework Overview

Many Superfund sites are located in neighborhoods that suffer from multiple contaminated sites, lack of health services and stark health disparities. For many of these overburdened populations without access to health care, health conditions may go undiagnosed and untreated. For example, the Center for Disease Control estimates that 7 million people in the United States have undiagnosed diabetes.[1] Therefore, it is essential to complement objective data indicators with careful consideration of the lived experience of residents in communities with environmental justice concerns. Table 5 offers discussion questions that may be used during community meetings or interviews with key stakeholders during Step 1.

Table 5. Potential Questions for Neighborhood Residents and Community Stakeholders

Potential Questions for Neighborhood Residents and Community Stakeholders

The discussion questions below are intended to help identify the lived experience of community residents and stakeholders. Local knowledge from these subjective sources can be supplemented with the objective data indicators listed in Table 4. The questions may be used during community meetings or interviews with key stakeholders to assess need from the community's perspective:

- Are any of the following health conditions of concern to community residents?
  - Asthma
  - Diabetes
  - Heart failure
  - Chronic obstructive pulmonary disease
  - Infant mortality
  - Low birth weight births
- Are any additional community health conditions or issues of concern to community residents?
- Does the neighborhood study area have a disproportionate number of mortality rates, morbidity rates and/or emergency room visits relative to the rest of the county?
- Does the neighborhood contain environmental or health risks, such as:
  - Potentially contaminated sites?
  - Water bodies with fish consumption or swimming risks?
  - Poor air quality?
  - Retailers selling alcohol or unhealthy food?

1 Center for Disease Control. National Diabetes Fact Sheet. 2011. Retrieved 2013. http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf.

STEP 5. DEVELOP SUMMARY AND RECOMMENDATIONS

Reuse Assessment Approach

Following completion of the previous steps, the reuse assessment concludes with a set of recommendations that may include identification of future land use options as well as remedial considerations and considerations for local planning efforts. In some cases, when there is momentum around a particular future use, the reuse assessment recommendations may also include a set of next steps to move forward with the desired reuse.

Health and Wellness Considerations

The typical summary and recommendations of a reuse assessment may be supplemented with a summary of findings related to health and wellness considerations. The summary may identify:

- Community goals related to health and wellness.
- Health and wellness features that could be suitable for future use at the site.
- Health and wellness assets and needs in the neighborhood around the site.
- Health outcomes disparities and potential environmental risks experienced by the neighborhood around the site.
- Considerations for next steps and implementation of recommended future health and wellness uses.

Chapter 4. Case Study

CASE STUDY

This chapter shares a case study to illustrate additional data considerations and map suggestions for each of the health and wellness factors discussed in Chapter 3. The case study is organized into the reuse assessment steps outlined in Chapter 3 with additional guidance offered at the top of each page and the case study illustration at the bottom. The case study example is not intended to explain all aspects of a reuse assessment, but instead highlights considerations and examples specific to the additional health and wellness factors.

Fairfax St. Wood Treaters Site

This case study highlights the Fairfax St. Wood Treaters Superfund site (FSWT site) located in an environmentally overburdened neighborhood in Jacksonville, Florida. Wood treating operations active at the site from 1980 until 2010 resulted in the contamination of site soils and neighboring residential yards and school property. After conducting emergency removal actions at the site in 2010 and 2011, EPA Region 4 placed the site on the National Priorities List and initiated a Remedial Investigation /Feasibility Study (RI/FS). Recognizing that the site is well-positioned to serve as a positive center of community activity, EPA initiated a reuse assessment in parallel with the RI/FS. The site's context and the timing of remedial process provide a useful reference to illustrate how the health and wellness framework can be integrated into a reuse assessment.

Study Area Boundary

The Fairfax St. Wood Treaters Superfund Site is located in the Northwest Jacksonville approximately 2 miles from the City's downtown. The study area (Figure 4) is delineated to help characterize the site relative to surrounding land use, infrastructure and access. The study area is defined by I-95 to the east and active rail lines to the north, south and west. The study area includes primarily residential neighborhoods, interspersed with commercial corridors and industrial uses along the rail lines. The FSWT reuse assessment study area boundary defines the site's context and provides a common geographic area for use in the Health and Wellness Service Analysis discussed in Step 3.

Study Area Demographics

- *The Study Area's population in 2010 was approximately 21,000, a 15 percent decline since 2000.*
- *Ninety four percent of the area's residents are African-American (compared to 29 percent for all of Duval County)*
- *The Study Area's median household income in 2010 was $21,481 (43 percent of the median household income for all of Duval County).*

Source: 2000 and 2010 U.S. Census Demographic Profile (Tables DP-1:2000 and DP-1:2010) for Duval County, FL and Census Tracts 15, 16, 28.01, 28.02, 29.01, 29.02.) Median Household income data derived from U.S. Census Bureau, 2006-2010 American Community Survey; data are based on a sample and are subject to sampling variability.

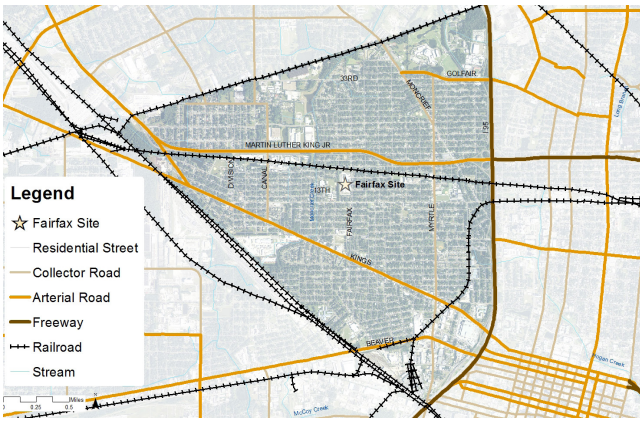


Figure 4. Fairfax Site Study Area

Chapter 4. Case Study

STEP 1. IDENTIFY COMMUNITY GOALS

Reuse assessments typically engage community stakeholders in discussions about site reuse opportunities and goals through an iterative process. Several commonly used types of outreach conducted to gather community goals are outlined below.

1. A site visit and initial discussions with a small group of stakeholders such as EPA and state agencies, site owners, municipal staff and community groups offers an opportunity to define the purpose and scope of the project, identify additional stakeholders, and document preliminary goals and priorities.
2. Follow-up interviews with community leaders, planning and development professionals, neighborhood residents and community members can help to further identify a community's health and wellness issues and concerns based on local experiences.
3. Community meeting(s) or workshops serve as an opportunity to bring a broad range of stakeholders together to confirm health and wellness issues and priorities, review study area analyses and identify reuse options.

Fairfax St. Wood Treaters Site

During the FSWT site reuse assessment, the process of identifying community goals began with an initial site visit with EPA's Remedial Project Manager to identify the site's status, contamination issues, anticipated remedial timeline and key community stakeholders that have been actively involved in discussions about the site. Stakeholder perspectives on the reuse of the site were gathered through interviews with neighborhood residents, city and county agencies and local organizations to help identify reuse goals and potential future uses for the Fairfax site (see Community Health and Wellness Considerations Identified by Stakeholders at right).

Following analyses of the site's context, access to services and site suitability, the reuse assessment process convened a group of 45 residents, community development corporations, elected officials and municipal staff in a workshop to refine reuse priorities for the site (see Community Reuse Goals at right).

The FSWT site reuse assessment included a community engagement process that provided multiple opportunities for input that led to a refined set of reuse goals affirmed by a diverse group of stakeholders. This input provides valuable insight into the needs of the community based on lived experience that helps to inform the service analysis and recommendations discussed in Steps 3 and 5.

Community Health and Wellness Considerations Identified by Stakeholders

- The neighborhood has a stable, historically African American population and many neighborhood residents are senior citizens.
- There is an adequate supply of single-family housing but a shortage of quality multi-family housing.
- Primary neighborhood concerns include reducing crime and ensuring that people feel safe leaving their homes.
- Area residents and organizations see a need for additional activities for young people and senior citizens, including structured community-oriented programs; health and wellness services; accessible open space for neighborhood residents; and multi-family, senior housing.

Community Reuse Goals

- Mixed-use space to support small businesses
- Grocery store
- Banking services
- Health clinic/pharmacy
- Senior housing center
- Police stop station

Chapter 4. Case Study

STEP 2. DETERMINE SITE SUITABILITY

A typical reuse assessment includes consideration of site specific features in addition to the site context in order to determine areas of the site suitable for development of buildings, parking or open space. The suitability analysis should examine whether a site's size, features and location could support neighborhood health and wellness features. Components of a site suitability analysis may include: access, compatibility with surrounding land use, remedial features, institutional controls, notable natural or built environment features, and the historic and/or cultural significance of the site or buildings on the site.

In addition, it should be noted that more complex cleanups and waste left in place could have a significant impact on the area suitable for buildings. Considerations may include physical remedy components (e.g., grades from a containment cell, cap or ground water collection) and institutional controls that may create additional limitations on specific areas of the site or the types of activities that are permissible.

Fairfax St. Wood Treaters Site

Site Suitability Analysis

The two suitability maps (Figure 5) for the FSWT Site show how slabs, buildings or other site and remedial features may determine the future area available for development. The FSWT Site could offer 9.5 acres of developable area, based on grades, remedial approach and site features.

The site is one of two vacant parcels of this size in the study area, making it a highly valuable asset for adding community-oriented health and wellness amenities to the neighborhood. The large size of the site offers an opportunity to provide institutional services that may need a larger footprint for building/parking, or a mixed-use development that includes neighborhood services. Given that the site is not on a major commercial corridor, retail or other services may need to be scaled to a neighborhood market. Further, given the site's proximity to two schools, some land uses with health risks (e.g., fast food restaurants and stores with licenses for the sale of alcohol) may not be appropriate.[1]

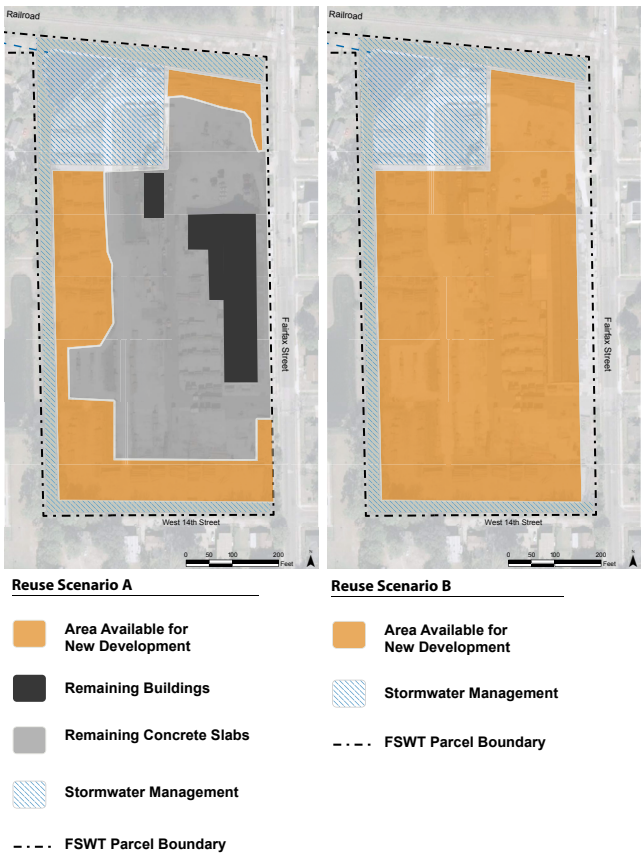


Figure 5. Fairfax Site Reuse Scenarios

1 For further information on school siting guidelines, see http://www.epa.gov/schools/siting.

Chapter 4. Case Study

STEP 3. CONDUCT HEALTH AND WELLNESS SERVICE ANALYSIS

The purpose of the Health and Wellness Service Analysis is to supplement the land use analysis typically conducted in a reuse assessment with an analysis that is specific to health and wellness considerations. The analysis should include an evaluation of:

- Health and wellness assets in the study area.
- Any gaps in amenities and services that support health and wellness.

As discussed in Chapter 3, this analysis may be conducted using Proximity Maps or Service Area Maps. Examples of both types of maps are included throughout this section. Table 11 in Chapter 6 offers additional considerations on the level of effort required by different types of analysis.

The following pages provide additional detail on what factors to map, data considerations, and explain the connections to health and wellness for each of the following health and wellness factors:

- Transportation Options
- Community Amenities
- Health Care Options
- Parks and Open Space
- Neighborhood Retail Services
- Healthy, Affordable Food
- Quality Affordable Housing

Each factor is illustrated by an example from the case study at the bottom of each page. As noted previously, the service analysis should be supplemented by community discussion to determine other factors that may be limiting access to service. Additional follow up research may be conducted as well for priority services. If data or resources are limited, the community goals and site suitability conducted in steps 1 and 2 can help prioritize which factors to map and evaluate.

A summary of the service analysis is provided at the end of the section to provide an overview of gaps and assets of the health and wellness services.

STEP 3. CONDUCT SERVICE ANALYSIS | Transportation Options

Factors to Map

Map analysis can include transportation features such as sidewalks, street trees, street grid connectivity, bike lanes, walking trails, bus routes and mass transit. The map could be scaled to the area around the site, in order to examine site features such as sidewalks, street trees and street connectivity that support pedestrian access. Or, the map could be scaled to the study area, in order to examine broader transportation options across the full study area, provided there is a potential connection to the future use of the site.

Data Considerations

Most transportation data can be obtained from local data sources such as a planning department or transit authority. In some cases, GIS data such as the locations of sidewalks and bike lanes may not have been developed by the local government. The website United We Ride (http://www.unitedweride.gov/) has links to transit authorities in many communities across the U.S.

Connection to Health

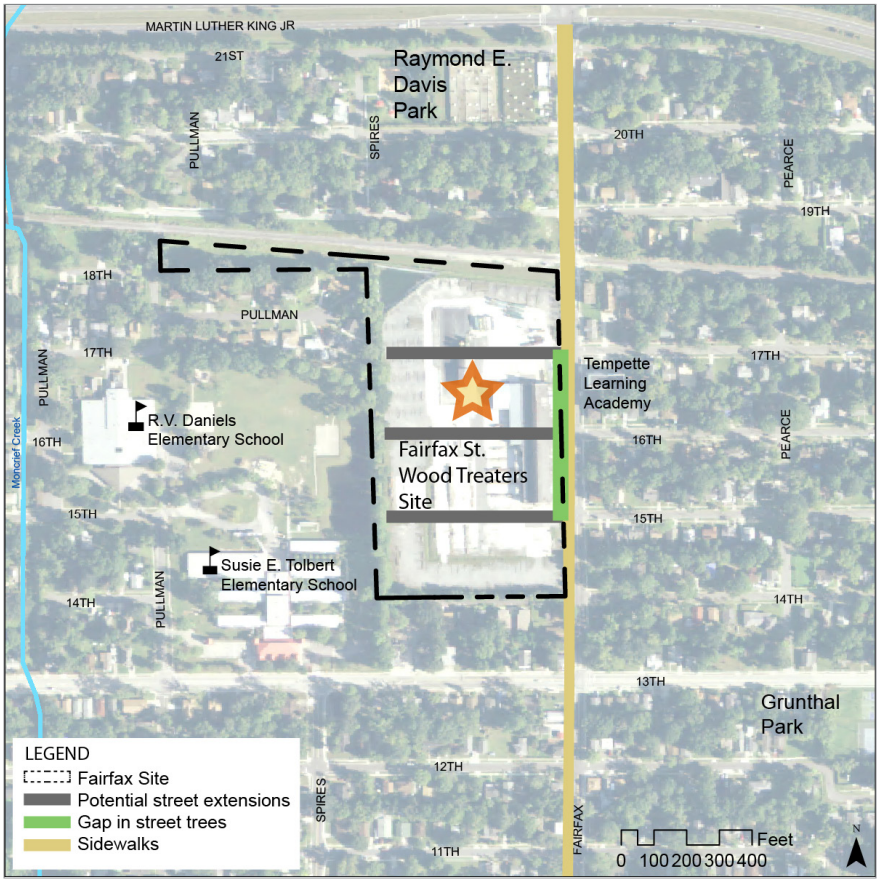
According to the SCI, transportation systems affect health and sustainability through:

- "Access to jobs, goods and services,
- The livability of neighborhoods, including opportunities for physical activity and social interaction…
- Safety from traffic injury, and
- Exposure to environmental pollution including noise, air pollution and water contamination."[2]

For more information, see:

http://www.sustainablecommunitiesindex.org/webpages/view/51

2 Sustainable Communities Index. Transportation Systems. Retrieved 2013. http://www.sustainablecommunitiesindex.org/webpages/view/51.



Fairfax St. Wood Treaters Site

Mobility at the Site

Fairfax Street already has sidewalks adjacent to the FSWT site. However, it is important to note that proximity does not always indicate accessibility. Physical barriers to pedestrian activity (such as train tracks) that may limit access to parks and other amenities for community residents who do not have automobiles.

There is gap in street trees adjacent to the FSWT Site, which could be addressed during reuse.

The street grid could be extended through the site; however, in this case this would not have a large impact on neighborhood connectivity because of the railroad and schools bordering the site.

Figure 6. FSWT Site Mobility Features

STEP 3. CONDUCT SERVICE ANALYSIS | Community Amenities

Factors to Map

Map analysis could include locations of community centers, public libraries, and arts and cultural facilities. The SCI recommends defining arts and cultural centers using the following criteria: "(1) There is an actual, non-changing physical location for the facility, (2) The facility is open to the public throughout the year, not just a short term or one-time per year activity, (3) The primary function is public display of artistic/cultural entertainment or education."[3]

3 Sustainable Communities Index. Art & cultural facilities. Retrieved 2013. http://www.sustainablecommunitiesindex.org/indicators/view/100.

Data Considerations

Most community amenity data can be obtained from local data sources such as a planning department or parks and recreation department. In some cases, when data has not been digitized by the local government, data can be manually digitized by using a public data source; this can be a resource-intensive process, depending on the study area size.

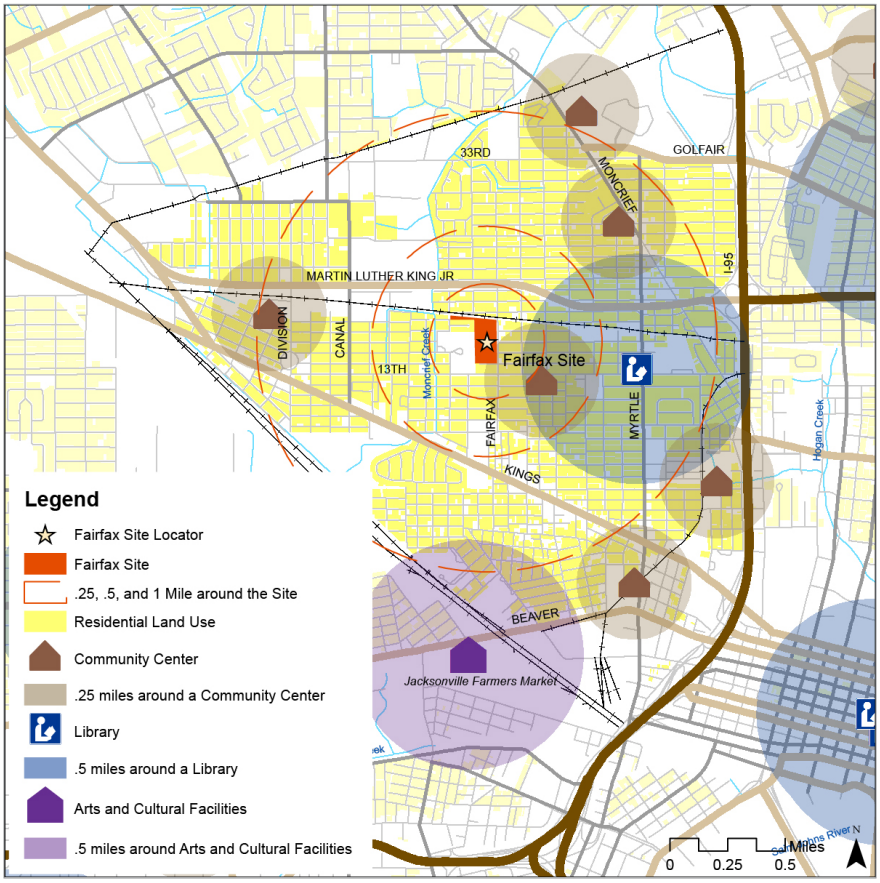
Connection to Health

Community amenities function as "third places," or those places between work and home that serve as community gathering points and foster the development of strong social networks. For more information see:

http://www.sustainablecommunitiesindex.org/indicators/view/235

http://www.sustainablecommunitiesindex.org/indicators/view/100

http://www.sustainablecommunitiesindex.org/indicators/view/99



Fairfax St. Wood Treaters Site

Access to Community Amenities

Community amenities within a mile of the site include:

- *Community centers*
- *A public library*

A farmers market is located within 1.5 miles of the site.

Residential access to these amenities is more limited in the western part of the study area.

Figure 7. Community Amenities

STEP 3. CONDUCT SERVICE ANALYSIS | Health Care Options

Factors to Map

Map analysis can include locations of hospitals (with and without emergency services), Federally Qualified Health Centers,[4] primary care physicians and dentists who accept Medicaid or provide free or sliding scale services, health department clinics, mobile van stops, mental health services and vision services. When the data are available, these facilities could be mapped in relationship to their proximity to public transit.

4 According to the Health Resources and Services Administration, "federally qualified health centers (FQHCs) include all organizations receiving grants under Section 330 of the Public Health Service Act (PHS)."

Data Considerations

Data for this indicator may be obtained from a variety of sources, including local planning departments or health departments, state agencies, and the Health Resources and Services (HRSA) Data Warehouse.[5] It should also be noted that health care access is most often related to non-proximity-related factors such as transportation options, service hours, types of services offered, and insurance coverage. Therefore, service area maps may be less relevant for this indicator, depending on the local context.

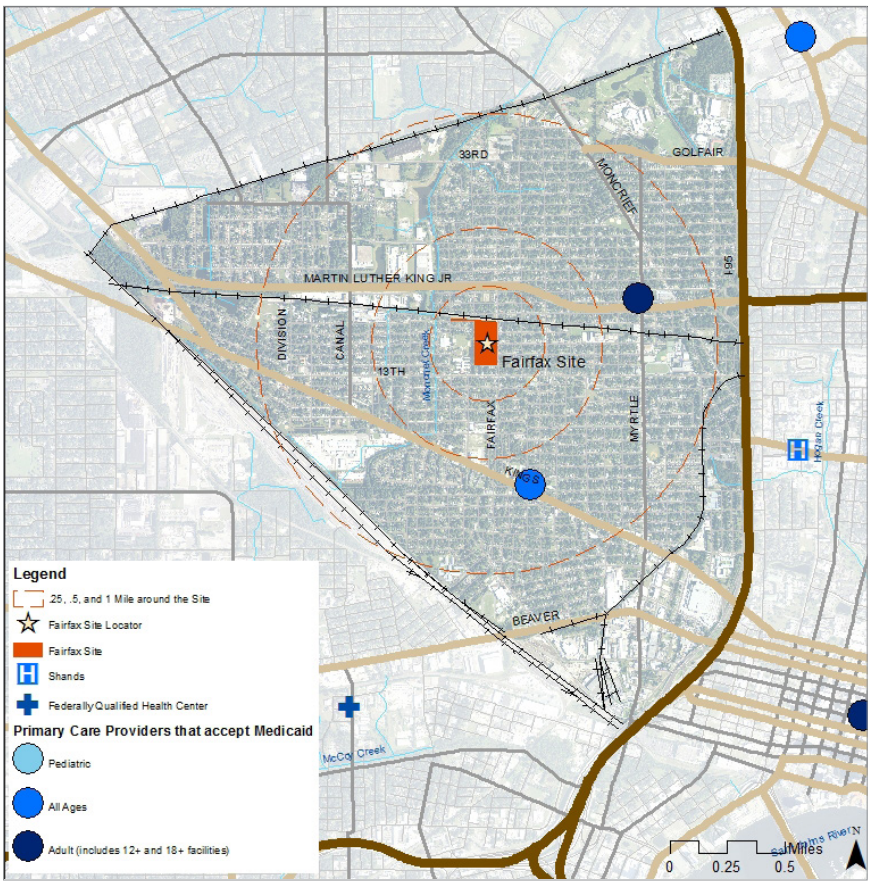
5 Health Resources and Services Administration. Data Warehouse. Retrieved 2013. http://datawarehouse.hrsa.gov.

Connection to Health

Access to affordable health care is critical to community health. Access to affordable, quality primary care promotes early detection and ongoing management of chronic disease. In addition, health and wellness services create jobs and support local economic vitality. For more information, see:

http://www.sustainablecommunitiesindex.org/indicators/view/112

http://www.sustainablecommunitiesindex.org/indicators/view/111



Fairfax St. Wood Treaters Site

Emergency and Primary Care Facilities

Two primary care providers who accept Medicaid are located within a mile of the Fairfax site. A Federally Qualified Health Center as well as a hospital with emergency services are located within two miles of the site; both are located outside of the study area.[6] Challenges with access and utilization of the FQHC have been reported. With infrequent transit services, a distance of two miles could be a barrier for those without access to a car.

6 According to HRSA, "FQHCs qualify for enhanced reimbursement from Medicare and Medicaid, as well as other benefits. FQHCs must serve an underserved area or population, offer a sliding fee scale, provide comprehensive services, have an ongoing quality assurance program, and have a governing board of directors."

Figure 8. Health Care Options

STEP 3. CONDUCT SERVICE ANALYSIS | Parks and Open Space

Factors to Map

Map analysis can include locations of open space resources (e.g., natural areas, publicly accessible water bodies), parks and recreation facilities, and bike paths or greenways. Parks and recreation facilities could be further distinguished by type or available facilities.

Data Considerations

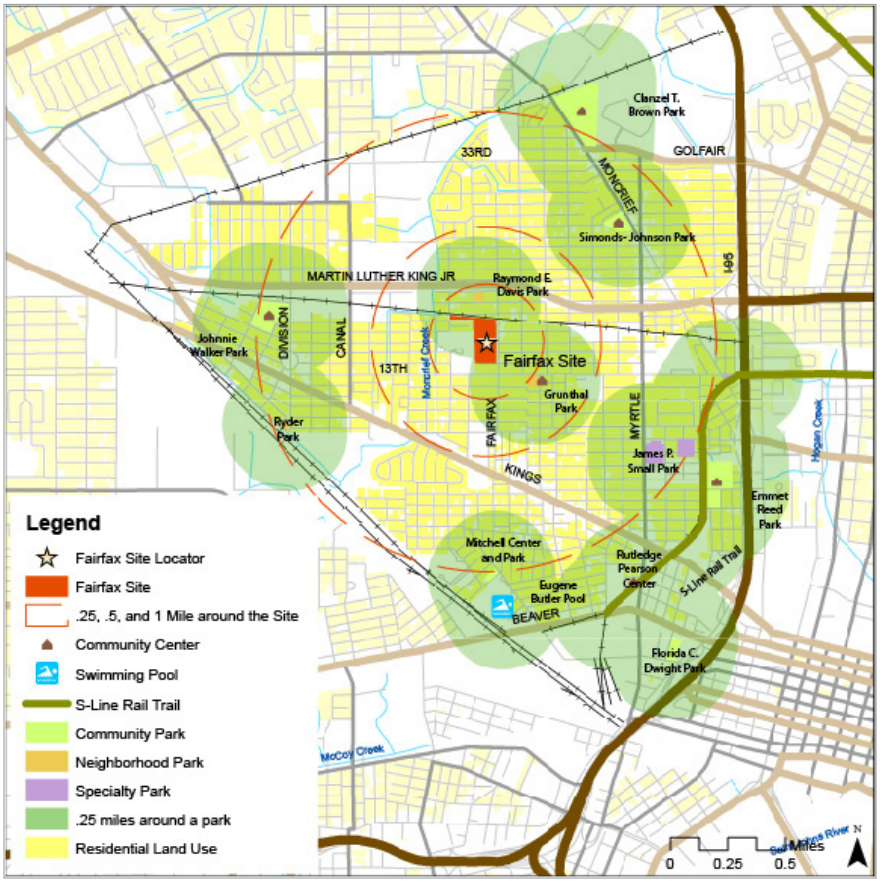
Most open space and park data can be obtained from local sources such as a planning department or parks and recreation department. State conservation or tourism agencies could also be potential sources. It is important to note once again that although proximity is an important indicator for access to parks and open space, other issues such as safety, upkeep and available facilities influence access as well.

Connection to Health

Access to parks and open spaces has been shown to correlate with numerous health benefits, including increased physical activity, development of social networks, better grades for school-aged children, and reduced body mass index in adults.[7] For more information, see:

http://www.sustainablecommunitiesindex.org/indicators/view/92

7 Sustainable Communities Index. Recreation facility access. Retrieved 2013. http://www.sustainablecommunitiesindex.org/indicators/view/92.



Fairfax St. Wood Treaters Site

Access to Parks and Open Space

Many residences in the study area are located within a quarter-mile of a park.

However, the presence of a park does not indicate how well it is maintained or whether it has community-appropriate amenities.

A bike path or greenway is only available in the southeast corner of the study area.

Figure 9. Parks and Open Space

STEP 3. CONDUCT SERVICE ANALYSIS | Neighborhood Retail Services

Factors to Map

Map analysis can include locations of commercial and office zoning or existing land use. The analysis could also include locations of specific neighborhood-oriented services such as an auto service center, beauty/barber shops, bank, bike shop, drug store, dry cleaner, gym, hardware store, laundromat, and movie theater.[8]

8 Services included in the Neighborhood Completeness indicator developed by the Sustainable Communities Index.

Data Considerations

Most neighborhood-oriented service data can be obtained from local data sources such as a planning department. In some cases, when data has not been digitized by the local government, data can be manually digitized by using a public data source. This can be a resource-intensive process, depending on the study area size.

Connection to Health

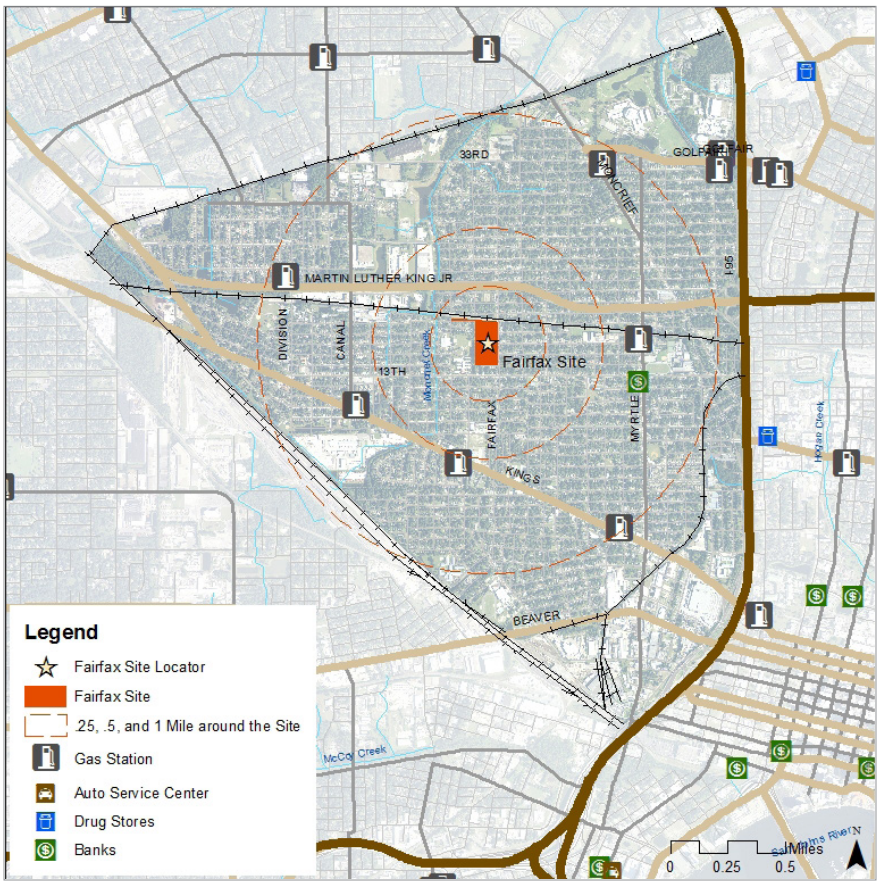
According to the SCI, "the more public and retail services in one's neighborhood, the greater the likelihood of accessing these basic needs by walking or biking, increasing physical activity. Local goods and services can increase 'eyes on the street' and reduce motor vehicle injuries and pollution."[9] In addition these retail locations may provide jobs for community residents as well as supporting local economic vitality. For more information, see:

http://www.sustainablecommunitiesindex.org/webpages/view/53

http://www.sustainablecommunitiesindex.org/indicators/view/115

http://www.sustainablecommunitiesindex.org/indicators/view/259

9 Sustainable Communities Index. Public Realm. Retrieved 2013. http://www.sustainablecommunitiesindex.org/webpages/view/53.



Fairfax St. Wood Treaters Site

Access to Neighborhood Services

Neighborhood retail services examined for this map include:*

- *Auto service center*
- *Beauty/barber shop*
- *Bank*
- *Bike shop*
- *Drug store*
- *Dry cleaner*
- *Gym*
- *Hardware store*
- *Laundromat*
- *Pharmacy*
- *Movie theater*

All residential areas in the study area are located within a mile of a gas station. Some have proximity to a bank and a drug store.The rest of the services are not found within the study area.

** Services included in the Neighborhood Completeness indicator developed by the Sustainable Communities Index.*

Figure 10. Neighborhood Retail Services

STEP 3. CONDUCT SERVICE ANALYSIS | Healthy, Affordable Food

Factors to Map

Map analysis can include locations of supermarkets, farmers markets, community gardens and retailers accepting Supplemental Nutrition Assistance Program (SNAP) benefits.[10] Prices vary at supermarkets and farmers markets and may not necessarily be affordable for residents of low-income communities.

10 Formerly known as food stamps, SNAP benefits offer "nutrition assistance to millions of eligible, low-income individuals and families and provides economic benefits to communities. SNAP is the largest program in the domestic hunger safety net." (USDA, 2013)

Data Considerations

Most data can be obtained from local data sources such as a planning department. SNAP retailers data can be obtained from the U.S. Department of Agriculture (USDA) Food and Nutrition Service (http://www.snapretailerlocator.com).

Retailers who accept SNAP may include corner stores and convenience stores that do not carry a wide selection of healthy food.

Connection to Health

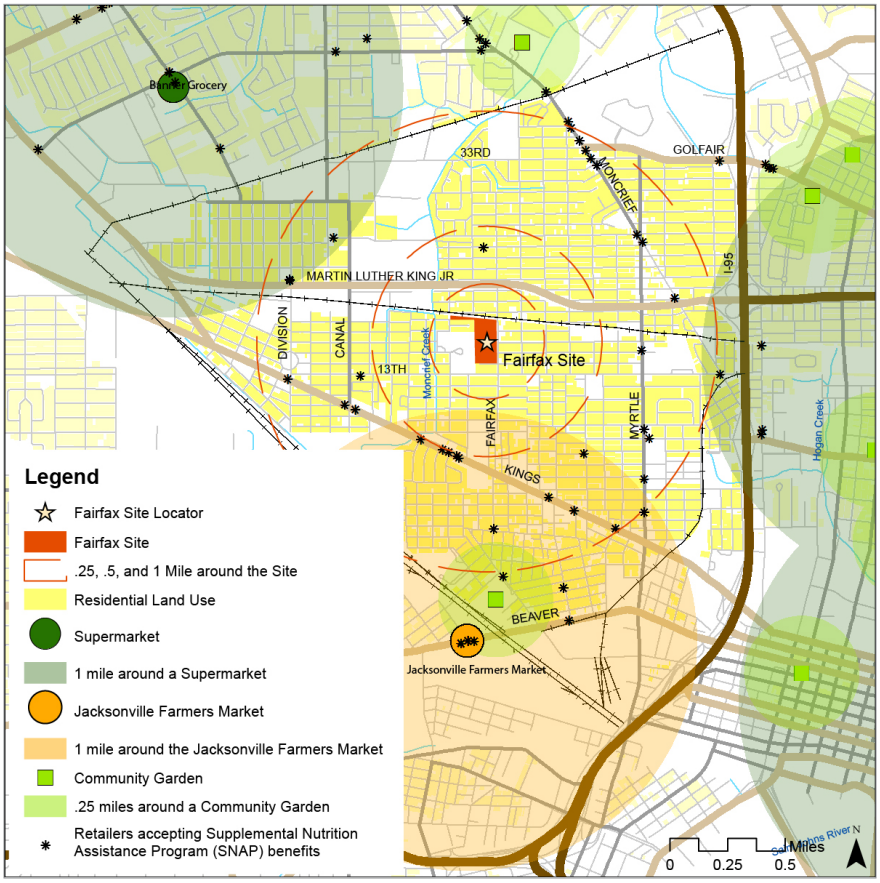
Proximity to healthy, affordable food may decrease rates of obesity and diabetes. Further, third places such as community gardens and farmers markets can increase social cohesion. For further information, see:

http://www.sustainablecommunitiesindex.org/webpages/view/53

http://www.sustainablecommunitiesindex.org/indicators/view/116

http://www.sustainablecommunitiesindex.org/indicators/view/246

http://www.sustainablecommunitiesindex.org/indicators/view/32



Fairfax St. Wood Treaters Site

Access to Healthy Food

Most residential areas within the study area are located further than one mile from a grocery store or a farmers market.

Numerous retailers who accept SNAP are located within the study area; however, retailers who accept SNAP may include corner stores and convenience stores that do not carry a wide selection of healthy food.

Figure 11. Healthy, Affordable Food

STEP 3. CONDUCT SERVICE ANALYSIS | Quality Affordable Housing

Factors to Map

Map analysis may include housing code violation data, home ownership rates, vacancy rates and median household income. This information can help tell a story about the quality and quantity of affordable housing in the community.

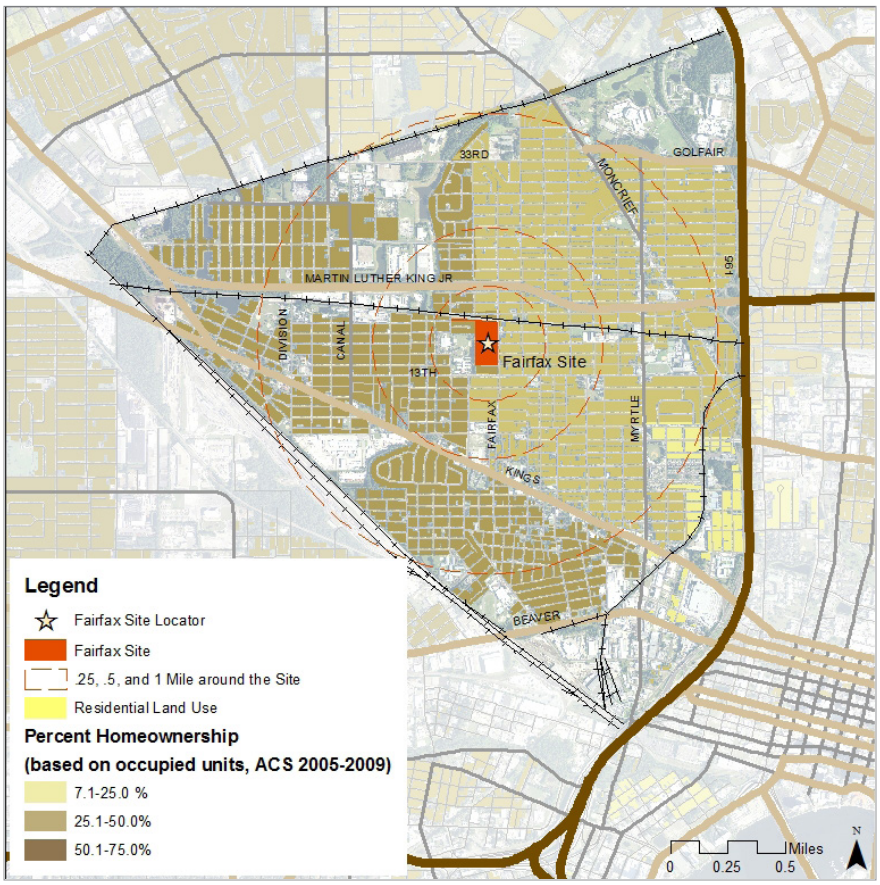
Data Considerations

Homeownership rates, vacancy rates and median household income can be obtained from the U.S. Census Bureau. Housing code violation data may be obtained from a local data source such as a code enforcement department.

Connection to Health

Housing costs compose a significant proportion of household expenses, and excessive housing costs may tighten a famccv ily's budget in other areas affecting health-related expenditures. Further, the quality of housing has a direct effect on health. For instance, childhood lead poisoning is often attributed to peeling lead paint in older or poorly maintained homes. For more information, see:

http://www.sustainablecommunitiesindex.org/webpages/view/55



Fairfax St. Wood Treaters Site

Quality Affordable Housing

- *Housing code violation data was requested but unavailable in GIS format.*
- *11,073 housing units are located in the study area (2010 Census).*
- *Twenty-four percent of housing units are vacant (2010 Census).*
- *The study area median household income is $21,481 (American Community Survey 2006-2010).*
- *Participants at a reuse workshop indicated a desire to increase quality affordable housing.*

Figure 12. Homeownership

Chapter 4. Case Study

HEALTH AND WELLNESS SERVICE ANALYSIS SUMMARY

The health and wellness service analysis can be summarized in a table for easy reference as shown in the case study below.

Table 6. Health and Wellness Service Analysis Summary Template

Feature	Assets	Gaps within the Study Area
Transportation options		
Community facilities		
Health facilities		
Open space		
Neighborhood retail services		
Healthy, affordable food		
Quality affordable housing		

Fairfax St. Wood Treaters Site

Health and Wellness Services Analysis Summary

The following table summarizes health and wellness services in the FSWT study area.

Table 7. Health and Wellness Service Analysis Summary for the FSWT Site

Feature	Assets	Gaps within the Study Area
Transportation options	Sidewalks on Fairfax Street frontage	Limited street trees on Fairfax frontage Rail line blocks access to the site for residential areas north of the site
Community facilities	Multiple community centers Public library	No arts or cultural facilities
Health facilities	Two primary care offices that accept Medicaid Dental van stops	No FQHC in the study area No dental facility that accepts Medicaid Vision and mental health facilities unknown
Open space	Multiple public parks	Limited bike/greenway access
Neighborhood retail services	Gas stations are prevalent Bank	Limited neighborhood retail
Healthy, affordable food		No grocery store Retailers with limited health foods are prevalent
Quality affordable housing		Low homeownership rates High vacancy rates Community indicates a desire to increase affordable housing

Chapter 4. Case Study

STEP 4. DETERMINE HEALTH AND WELLNESS NEEDS

As discussed in Chapter 3 (Step 4), the purpose of the health and wellness needs analysis is to document the relative need to support health and wellness in the neighborhood around the site related to:

- Community health outcomes and
- Potential environmental risks.

Health Outcomes

Health outcomes can be documented through community interviews and health outcome data maps. In addition to the community interview questions outlined on page 14, Table 8 offers a set of recommended indicators and metrics for mapping community health outcomes.

Table 8. Recommended Health Outcome Indicators and Metrics

Indicator	Health Outcomes Metric
Asthma hospitalizations	Combined adult and pediatric asthma hospitalization rate per 10,000 people
Diabetes hospitalizations	Adult diabetes hospitalization rate per 10,000 people
Chronic obstructive pulmonary disease (COPD) hospitalizations	Adult chronic obstructive pulmonary disease (COPD) hospitalization rate per 10,000 people
Heart failure hospitalizations	Adult congestive heart failure hospitalization rate per 10,000 people
Infant mortality	Infant mortality per 1000 live births
Low birth weight births	Number of babies born with low birth weight, per 1,000 live births

Data Considerations

Additional indicators may be explored depending on the health challenges that are of concern to the local community. Sources could include:

- The SCI offers a number of indicators related to preventable hospitalizations and early prenatal care that could be incorporated into a Health Outcomes Assessment if local data is available.[11]
- The Center for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS) provides metropolitan statistical area, micropolitan statistical area, and metropolitan division (MMSA)- and county-level GIS data on a wide range of health behavior indicators.[12] The BRFSS provides valuable baseline county-level data that may be particularly relevant where neighborhood-scale health indicators are not available or accessible.
- The U.S. Department of Health and Human Services' Area Health Resource File provides county-level data on over 6,000 indicators related to health facilities, health professions, measures of resource scarcity, health status, economic activity, health training programs, and socioeconomic and environmental characteristics; however, the data is provided in a format that would require a higher level of effort to integrate into a spatial analysis.[13]

Topics covered by the BRFSS include:

- Alcohol consumption
- Arthritis
- Asthma
- Cardiovascular Disease
- Cholesterol awareness
- Chronic health indicators
- Colorectal cancer screening
- Demographics
- Diabetes
- Disability
- Exercise
- Fruits and vegetables
- Health care access/coverage
- Health status
- Hypertension awareness
- Immunization
- Injury
- Oral health
- Overweight and obesity
- Physical activity
- Prostate cancer
- Tobacco use
- Women's health

11 Sustainable Communities Index. Health Systems. Retrieved 2013. http://www.sustainablecommunitiesindex.org/webpages/view/56.
12 Center for Disease Control. GIS Data and Documentation. 2013. Retrieved 2013. http://www.cdc.gov/brfss/gis/gis_maps.htm.
13 Health Resources and Services Administration. Overview. Retrieved 2013. http://arf.hrsa.gov/overview.htm.

Chapter 4. Case Study

Fairfax St. Wood Treaters Site

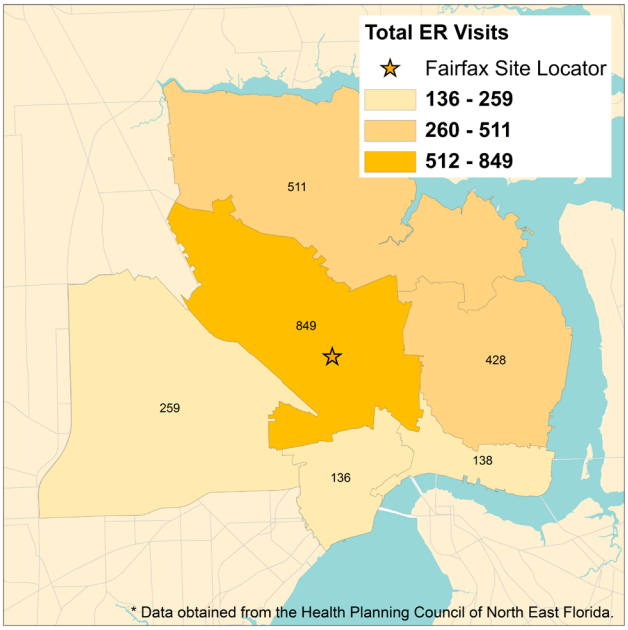
Health Outcomes

The Fairfax site is located in Duval County's Health Zone 1, which has the highest rates in Duval County of:

- *Infant mortality*
- *Heart disease mortality*
- *Asthma-related ER visits*
- *ER visits related to uncontrolled diabetes*

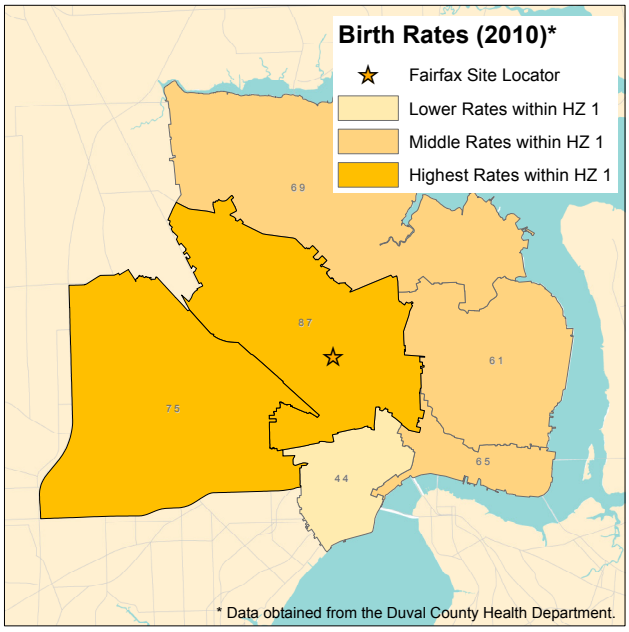
The site is also located in the zipcode of Health Zone 1 with the highest rates within Health Zone 1 of:

- *Teen births*
- *Dental-related ER visits*
- *Ambulatory care sensitive conditions-related ER visits*



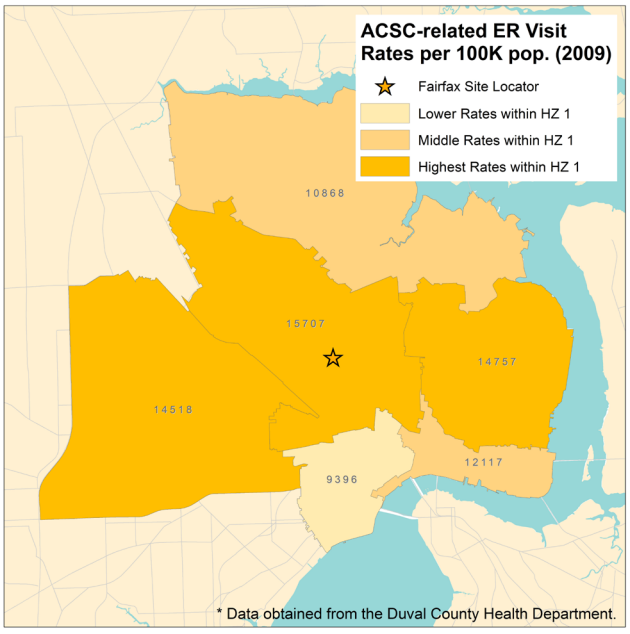
Total Adult ER Visits
(dental, COPD, asthma, diabetes, congestive heart)

This map shows that the central zipcode of Health Zone 1 consistently documents high admission rates for health issues.



Teen Births
(per 1,000 females between ages 15-18)

This map shows that teen births in 2010 were distributed across Health Zone 1.



Ambulatory Care Sensitive Condition (ACSC) -related ER Visits

ACSC are a set of conditions, such as asthma, COPD and diabetes, where appropriate ambulatory care prevents or reduces the need for admission to the hospital. These diagnoses are related to access to good primary care.

Figure 13. Health Outcomes in Health Zone 1 of Jacksonville, Florida

Chapter 4. Case Study

Potential Environmental Risk Factors

Map analysis of environmental risk factors may include the indicators outlined in Table 9.

Table 9. Environmental Risk Factors

Indicator	Health Outcomes Metric
Contaminated sites	Brownfields, Superfund sites
Water quality	Fish consumption Swimming risks
Air quality*	Air quality attainment status Mobile air pollution sources • Highly trafficked roads • Truck routes • Rail lines • Stationary air pollution sources • Industrial areas • Ports
Unhealthy food	Fast food restaurants Corner stores Stores licensed to sell alcohol for consumption off premises
Flood risks	Floodway and floodplain areas Coastal flooding areas

** The California Air Resources Board has recommended buffers for some land uses that pose risks to air quality, and it may be useful to map these buffers in relationship to the relevant land uses and surrounding residential areas.*

Data Considerations

Data related to contaminated air, soil or water may be obtained from state or federal environmental agencies. Data related to flood risks may be obtained from Federal Emergency Management Agency (FEMA). Fast food and corner store locations may be obtained from a local data source such as the planning department. In some cases, when data has not been digitized by the local government, data can be manually digitized by using a public data source. This can be a resource-intensive process, depending on the study area size. Stores licensed to sell alcohol for consumption off of the premises may be obtained from the state agency that regulates alcohol sale licenses. For example, in Florida, this information can be obtained through the Florida Department of Professional and Business Regulation (https://www.myfloridalicense.com/wl11.asp?mode=0&SID=).

Connection to Community Health

Many Superfund sites are located in neighborhoods that suffer from multiple contaminated sites, disinvestment and lack of services. These environmentally overburdened communities often face disparate health impacts. For further information, see: http://www.sustainablecommunitiesindex.org/webpages/view/50.

Residential areas with higher proximity to fast food restaurants are associated with a higher risk of obesity.[14] A high density of alcohol outlets is associated with higher levels of crime and violence; for more information, see: http://www.sustainablecommunities-index.org/indicators/view/73.

14 Bodor, Nicholas et al. Journal of Urban Health. "The Association between Obesity and Urban Food Environments." 87(5). September 2010, pp. 771-781.

Chapter 4. Case Study

Fairfax St. Wood Treaters Site

Environmental Risks

Risks include:

- *Proximity to streams with fish consumption risks and swimming risks due to poor water quality*
- *Four Superfund sites in close proximity (note that proximity does not directly correlate to exposure or health effects).*
- *A multitude of sites under investigation or cleanup through the State Brownfield program*

The California Air Resources Board recommends the following distances between residential areas and land uses with air quality risks:

- *Industry = 500 feet*
- *High traffic = 500 feet*

Duval County meets EPA's National Ambient Air Quality Standards and is not considered a non-attainment area.

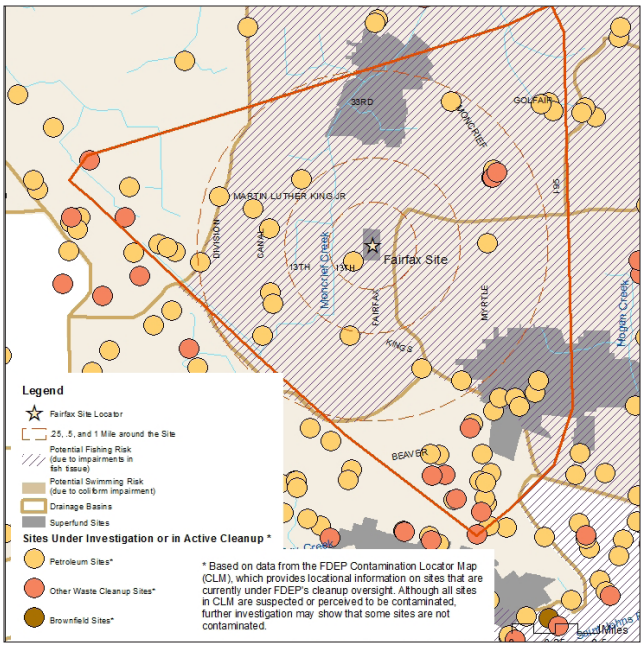


Figure 14. Contaminated or Potentially Contaminated Sites and Streams with Fish Consumption or Swimming Risks

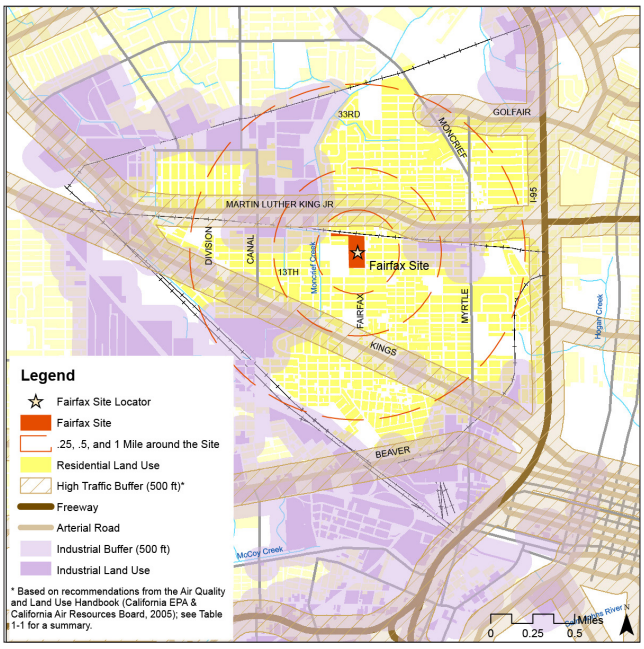


Figure 15. Land Uses that May Contribute to Air Quality Risks

Chapter 4. Case Study

STEP 5. SUMMARY AND RECOMMENDATIONS

Following completion of steps 1-4, the health and wellness assessment findings should be summarized. The typical recommendations of a reuse assessment may be supplemented with an additional set of health and wellness recommendations based on this summary.

The summary may identify:

- Health outcomes disparities and potential environmental risks experienced by the neighborhood around a site,
- Health and wellness service assets in the neighborhood around a site,
- Health and wellness service needs in the neighborhood around a site,
- Health and wellness features that could be suitable for future use at a site, and
- Considerations for implementation of recommended future health and wellness uses.

Fairfax St. Wood Treaters Site

Fairfax St. Woodtreaters Site: Pilot Conclusions

- *The neighborhood could benefit from the following health and wellness features:*
  - » *A dental facility*
  - » *Extension or expansion of an existing FQHC*
  - » *A grocery store*
  - » *Neighborhood retail services*
  - » *Affordable housing*
  - » *Arts and cultural facilities*
- *The site could be suitable for any of these uses, however:*
  - » *Retail size may need to be suited to neighborhood scale*
  - » *Access may need to be improved for a large volume of users*
- *Residents in this zipcode suffer from the highest health disparities within the county based on birth, mortality and emergency room data.*
- *The neighborhood is also burdened with environmental risks, as well as land uses associated with health risks.*

Chapter 5. Summary

In summary, the Superfund reuse assessment process provides a significant opportunity for advancing health and wellness interventions in communities impacted by Superfund sites. In many of these neighborhoods, residents and stakeholders have environmental justice concerns about the state of community health and wellness. As discussed in Chapter 2, communities of color and low-income communities are more likely to experience disproportionate exposure to the cumulative risks of contaminated sites, poor air quality and poor water quality. These communities are also more likely have a history of economic and social disinvestment, leading to lower levels of access to health and wellness amenities. These same communities often bear the weight of significant health outcomes disparities.

Reversing this trend is an important part of EPA's emphasis on environmental justice initiatives that:

- "Protect the environment and health in overburdened communities.
- Empower communities to take action to improve their health and environment.
- Establish partnerships with local, state, tribal, and federal governments and organization to achieve healthy and sustainable communities."[1]

This document provides a summary of a pilot framework for integrating health and wellness considerations into each of the following steps of the Superfund reuse assessment process.

1. Identifying community goals provides an opportunity to capture local stakeholder priorities and public initiatives for health and wellness improvements and interventions at the local scale.
2. During the site suitability step, the site can be evaluated to determine which more general health and wellness amenities it can support, ranging from institutional, open space or neighborhood services.
3. The land use analysis step may be expanded to include a review of what health and wellness amenities are within the neighborhood and which ones may be missing, or inaccessible.
4. An additional step in the process may include summarizing health outcome data and identifying potential environmental risks that may signify an additional need for health and wellness amenities in the community.
5. And finally, future use recommendations can summarize community goals, site suitability, service availability and relative need for health and wellness amenities.

Using this framework to integrate health and wellness considerations into Superfund reuse assessments may provide an opportunity to leverage an existing tool to advance improved health outcomes in communities impacted by Superfund sites. Developing a summary of the community's relative health and wellness needs may assist the community in providing informed input for potential future land use assumptions. This data could also help the community advocate for resources, technical assistance or programs from local , state, tribal or federal partners that could help to support additional planning and implementation of future land uses related to health and wellness, or to address community needs outside of the scope of the Superfund program authority. This framework could be used by EPA staff, local government, community-based organizations and community residents to forge new and effective collaborations around health and wellness goals and to take action, in partnership with EPA, to improve community health and wellbeing.

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1 U.S. Environmental Protection Agency. Plan EJ 2014. 2011. http://www.epa.gov/compliance/ej/resources/policy/plan-ej-2014/plan-ej-2011-09.pdf.

Chapter 6. Resources

DATA CONSIDERATIONS AND RESOURCES

Data collection can be a time-consuming process, depending on data availability. The indicators recommended in this report were selected in part because they typically have readily available national and local data sources.

Table 10. Data Considerations and Resources

Indicator	Considerations	Resources
Transportation Options	Most transportation data can be obtained from local data sources such as a planning department or transit authority. In some cases, GIS data such as the locations of sidewalks and bike lanes may not have been developed by the local government. United We Ride has links to transit authorities in many communities across the U.S.	• Local planning department • Local transit authority • United We Ride: http://www.unitedweride.gov
Community Amenities	Most community amenity data can be obtained from local sources such as a planning department or parks and recreation department. In some cases, when data has not been digitized locally, data can be manually digitized using a public data source. This can be a resource-intensive process, depending on the study area size.	• Local planning department • Local parks and recreation department • Manual digitizing from a public data source
Healthcare Options	Data for this indicator may be obtained from a variety of sources including local planning departments or health departments, state agencies or the Health Resources and Services Data Warehouse. It should also be noted that healthcare access is most often related to non-proximity related factors such as transportation options, service hours, types of services offered, and insurance coverage; therefore, service area maps may be less relevant for this indicator depending on the local context.	• Local planning department • Local health department • State agencies • Health Resources and Services Data Warehouse: http://datawarehouse.hrsa.gov
Parks and Open Space	Most open space and park data can be obtained from local sources such as a planning department or parks and recreation department. State conservation or tourism agencies may also be potential sources. As previously noted, although proximity is an important indicator for access, other issues such as safety, upkeep and available facilities influence access as well.	• Local planning department • Local parks and recreation department • State conservation or tourism agencies
Services	Most neighborhood-oriented service data can be obtained from local data sources such as a planning department. In some cases, when data has not been digitized by the local government, data can be manually digitized by using a public data source. This can be a resource-intensive process, depending on the study area size.	• Local planning department • Manual digitizing from a public data source
Healthy, Affordable Food	Most data can be obtained from local data sources such as a planning department. SNAP retailers data can be obtained from the USDA Food and Nutrition Service.	• Local planning department • USDA Food and Nutrition Service: http://www.snapretailerlocator.com
Quality Affordable Housing	Homeownership rates, vacancy rates and median household income can be obtained from the U.S. Census Bureau. Housing code violation data may be obtained from a local data source such as a code enforcement department.	• Local code enforcement department • U.S. Census Bureau: http://www.census.gov • American FactFinder: http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Table 10. Data Considerations and Resources (cont.)

Indicator	Considerations	Resources
Environmental Risk Factors	Data on brownfields, Superfund sites, air quality and water quality can typically be obtained from EPA or the state environmental protection agency. Analysts may work with their EPA contact at the site to determine the best venue for obtaining data relevant to the site.	• U.S. EPA - Superfund: http://epa.gov/superfund/ - Brownfields: http://www.epa.gov/brownfields/bfwhere.htm - Air Quality: http://www.epa.gov/air/ - Water Quality: http://water.epa.gov/ • State environmental protection agency
Health Outcomes	Data on health outcomes, such as emergency room visits or cause of death, may often be obtained from local or state health agencies. Privacy concerns associated with this data may make it difficult to obtain neighborhood-scale data in some cases. The Sustainable Communities Index offers a number of indicators related to preventable hospitalizations and early prenatal care that could be incorporated into a Health Outcomes Assessment if local health department data is available The Center for Disease Control's BRFSS provides county-level GIS data on a wide range of health behavior indicators and could easily be incorporated into a Health Outcomes Assessment. The BRFSS provides valuable baseline county-level data that may be particularly relevant where health indicators are not available or accessible from local health departments. The U.S. Department of Health and Human Services' Area Health Resource File provides county-level data on over 6,000 indicators related to health facilities, health professions, measures of resource scarcity, health status, economic activity, health training programs, and socioeconomic and environmental characteristics; however, the data is provided in a format that would require a higher level of effort to integrate into a spatial analysis for a Health Outcomes Assessment.	• Local or state health agencies • Sustainable Communities Index: http://www.sustainablecommunitiesindex.org/webpages/view/56 • Centers for Disease Control: http://www.cdc.gov/brfss/gis/gis_maps.htm • U.S. Department of Health and Human Services: http://arf.hrsa.gov/overview.htm

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SELECTING A LEVEL OF EFFORT

Recognizing that time and resources to evaluate reuse options may vary from site to site, the following chart outlines a range in level of effort that could be applied during the Superfund reuse assessment process. A lower level of effort does not imply that the information being gathered is less valid or important. The community discussion, for example, is critical to integrating health and wellness considerations into a reuse assessment.

Table 11. Level of Effort Options

	LOE	Approach
Community Discussion	**Low**	**Discussion Questions** Use the discussion questions during stakeholder interviews or community meetings to identify community health and wellness needs.
Asset and Gap Analysis Approaches	**Medium**	**Proximity Maps** Map the location of features related to health and wellness in the community relative to the site.
	High	**Service Area Maps** Map the gaps in service area for features related to health and wellness.
Health Conditions Approaches	**Low**	**Existing Health Risk and Disparity Studies** Identify existing resources on health risks and disparities.*
	High	**Health Risks and Disparity Maps** Map health disparities and potential neighborhood health risks.

**These might include local health studies, information from the EPA EJ screening tools (required during RIFS), Agency for Toxic Substances and Disease Registry (ATSDR) public health assessments, and other existing studies.*

Chapter 6. Resources

FUNDING SOURCES

Federal Funding Sources for Health Amenities and Health Centers

The U.S. HRSA funds community health centers to provide quality primary health care services to medically underserved populations or people with limited access to health care services. FQHCs must be a public or private not-for-profit organization and serve a federally-designated Medically Underserved Area or Medically Underserved Population. FQHCs must be governed by a community board, representative of the population served, and composed of a majority (51 percent or more) of health center patients. FQHCs provide comprehensive primary health care and supportive services (education, translation, transportation, etc.) to all people in their service area on a sliding-scale fee basis. In addition, there are several other performance and accountability requirements regarding administrative, clinical and financial operations for FQHCs. Public and private non-profit health care organizations may apply to receive federal funding for the Health Center Program through section 330 of the Public Health Service Act.

There are several types of federal funding opportunities for FQHCs including planning grants for new facilities, grants for new service delivery sites (new access points), grants for the expansion of existing facilities, and service area competition grants. Expansion grants are available to construct or update facilities, expand the medical capacity of facilities by adding or increasing primary health services (e.g., additional medical providers, additional services, expanded hours of operation, etc.), and through the expansion of services such as mental health/substance abuse, oral health, pharmacy and enabling services.

There is much federal funding for health amenities. Cataloguing those resources is beyond the scope of this document, but the interested reader could start with the following:

- HUD Community Development Block Grants. http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
- HUD Fair Housing and Equity Assessment. http://portal.hud.gov/hudportal/HUD?src=/program_offices/sustainable_housing_communities/regional_fairhsg_equityassesmt
- USDA Rural Health and Safety Education Grants Program. http://www.csrees.usda.gov/fo/ruralhealthandsafetyeducation.cfm

Affordable Care Act (ACA) Funding and Grants Listed on HHS Website

There are several potential health center grant opportunities identified on the U.S. Department of Health and Human Services grant forecast website. Based on the potential for future rounds of funding and the estimated application due dates, several funding opportunities might offer opportunities for increasing access to primary health care for Health Zone #1 (HZ#1); these are marked in bold font below. Based on the health center program collaborative relationship requirement (see Health Center Program Requirements, page 6), any new access point sites in HZ#1 would need support from Agape Community Health Center, the FQHC facility serving HZ#1. (Note: for grants listed as "application deadline ended," it is unclear whether there will be another round of funding.)

1. **ACA - Health Center New Access Points Funded Under the Affordable Care Act of 2010.** Program goal: to establish new full-time service delivery sites that provide comprehensive primary and preventive health care services. In fiscal year (FY) 2010, HRSA announced the opportunity for organizations interested in becoming health centers to apply for up to $250 million to be awarded in FY 2011. These have already been awarded for FY 2013.
2. **ACA - School-Based Health Centers (SBHCs).** In FY 2013, HRSA announced $50 million for the construction and renovation of school-based health centers. These grants have been awarded already

during FY 2013. From information on www.nasbhc.org/, Florida was awarded a total of $2.6 million for SBHCs (eight awards given). http://www.grants.gov/search/search.do?mode=VIEW&oppId=58278

3. **ACA - Capital Development in Health Centers Program.** This program will award approximately $600 million, through competitive one-time grants, to existing health centers receiving grants under the Health Center Program (section 330 of the PHS Act, 42 USC 254b, as amended). This announcement details the competitive ACA funding opportunity available for existing Health Center Program grantees to improve their capacity to provide primary and preventative health services to medically underserved populations. Grants awarded through this opportunity can include alteration/renovation, expansion, or the construction of a facility. http://www.acf.hhs.gov/hhsgrantsforecast/index.cfm?switch=grant.view&gff_grants_forecastInfoID=35981, and http://www07.grants.gov/search/search.do;jsessionid=CvplTMqYplcpHyM4TY011qgTnKRdGW1pnMv6gYqL5GPJP2vvvN2q!-1697423112?oppId=121493&mode=VIEW
4. **Health Care Controlled Networks Technical Assistance**. This grant is intended to support the adoption and implementation of electronic health records and technology enabled quality improvement strategies in health centers. http://www.hrsa.gov/grants/apply/assistance/HCCN
5. **Health Center Outreach and Enrollment Assistance**. This funding is available to " support health centers in raising awareness of insurance options and providing eligibility and enrollment assistance to uninsured patients of health centers and residents in their approved service areas." http://bphc.hrsa.gov/outreachandenrollment
6. **Health Center Base Adjustments**. This award is intended to "support ongoing operations and quality improvement." http://www.hrsa.gov/about/news/2013tables/baseadjustments

For more information on application requirements, visit HRSA's How to Apply website.

Funding Sources for Health Impact Assessments

Foundations and other funding sources that may have funding available to support health impact assessments include:

- Active Living Research. http://activelivingresearch.org
- Health Impact Assessment to Help Foster Healthy Design, a grant opportunity offered by the Centers for Disease Control. http://www.grants.gov/custom/viewOppDetails.jsp?oppId=66533
- The Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trust. http://www.healthimpactproject.org
- Robert Wood Johnson Foundation. http://www.rwjf.org

Additional Funding Networks

Additional funding networks that may have grants related to health and wellness include:

- Environmental Funders Network. http://www.greenfunders.org
- Environmental Grantmakers Association. http://ega.org
- Funders Network for Smart Growth and Liveable Communities. http://www.fundersnetwork.org
- Health and Environmental Funders Network. http://www.hefn.org

Chapter 6. Resources

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The following resources were included in the literature review to identify a range of approaches that evaluate relationships between public health and the design of the built environment.

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U.S. Environmental Protection Agency. 2012. "Contaminated Site Clean-Up Information". Retrieved November 29, 2012. < http://www.clu-in.org/>

General Resources on Health, Planning and the Environment

Centers for Disease Control and Prevention. "A Sustainability Planning Guide for Healthy Communities. Retrieved November 16, 2012 <http://www.cdc.gov/healthycommunitiesprogram/pdf/sustainability_guide.pdf>

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Partnership for the Public's Health. "Health Eating Active Communities". <http://www.partnershipph.org/projects/heac>

Recycled/Recyclable

Printed on 100% recycled/recyclable paper with a minimum 50% post-consumer waste using vegetable-based ink.