# Building Healthy Communities:
# A Baseline Characterization of Milwaukee's 30th Street Corridor


**Prepared by**
**Agency for Toxic Substances and Disease Registry**

**June 12, 2008**

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Division of Regional Operations

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# Note

This report has been subject to internal review at the Agency for Toxic Substances and Disease Registry (ATSDR) and external review by representatives from Milwaukee community groups, the City of Milwaukee, the Wisconsin Department of Health and Family Services, the Wisconsin Department of Natural Resources, the U.S. Environmental Protection Agency, and other parties. These reviews ensured that information and data contained within the report are accurate and representative of Wisconsin, the City of Milwaukee, and the 30th Street Corridor. Responses to reviewer comments can be made available by contacting the Agency directly.

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## About this Report

The Agency for Toxic Substances and Disease Registry (ATSDR) is the principal federal public health agency charged with evaluating the human health effects of exposure to hazardous substances. The Agency works in close collaboration with local, state, and other federal agencies, with tribal governments, and with communities and local health care providers. ATSDR's goal is to help prevent or reduce harmful human health effects from exposure to hazardous substances and to educate the public regarding health effects resulting from hazardous waste exposures at sites, including "brownfields" sites.

The U.S. Environmental Protection Agency (EPA) Web site defines brownfields as "…real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." ATSDR has been engaged with EPA, in brownfields and other land reuse sites, because they can be the source of potentially harmful exposures to hazardous substances or otherwise diminish the quality of life for nearby community members. To address public health issues in communities with brownfields sites, ATSDR formed a steering committee comprised of ATSDR, EPA, and state partners.

This report focuses on the steering committee's involvement with the redevelopment of brownfields sites in the 30th Street Corridor—an area in Milwaukee, Wisconsin. This area was once home to numerous industrial and manufacturing facilities but now contains a disproportionate number of brownfields sites and several economically challenged neighborhoods. Much attention and resources have been focused on redeveloping the 30th Street Corridor in an effort to revitalize the local community and its economy in a sustainable way. ATSDR has worked directly with residents, community groups, and many other parties to ensure that public health issues are considered as redevelopment proceeds.

After attending several meetings with local organizations and agencies, community groups, and residents, ATSDR learned that some concerned parties were interested in having a report that characterizes the baseline condition of Milwaukee's 30th Street Corridor. This report presents ATSDR's commitment to this effort and documents current conditions in the 30th Street Corridor through a series of baseline measures. The information in this report should assist the Corridor Development Community to make redevelopment decisions and may be revisited in future years to quantify the different ways that redevelopment activities might have contributed to changes in the health and quality of life among 30th Street Corridor residents. ATSDR and our Milwaukee partners hope this report will serve as a model for other communities undergoing redevelopment.

## Introduction

In the 30th Street Corridor in Milwaukee, Wisconsin, brownfields sites are being studied and redeveloped. These redevelopment activities will likely affect the community's health and overall quality of life. But what exactly will those changes be? And when will the changes take place? Questions like these are not always easy to answer, unless valuable information has been collected and compiled at the beginning of the community's revitalization. While state agencies, city agencies, and other parties collect very valuable information on issues related to

redevelopment, the types of information collected independently by these groups is not always compiled into a single document. In this report, ATSDR draws from information gathered by various parties and presents 19 baseline measures that help document the current "pre-development" health status of the 30th Street Corridor. These baseline measures can be revisited in the future to help quantify health-related impacts that may be associated, at least in part, with redevelopment activities.

While the focus of this report is on the 19 baseline measures, background information is also presented on the following topics:

- What is the 30th Street Corridor?
- What are baseline measures?
- ATSDR's Brownfields/Land Revitalization Action Model.

After addressing these background topics, the remainder of this report presents the baseline measures and makes some concluding statements. Additional relevant information is included in the appendices.

## What Is the 30th Street Corridor?

The 30th Street Corridor is located about 2 miles northwest of downtown Milwaukee. This section defines the "30th Street Corridor Evaluation Area" used throughout this report and presents background information on this area's history, demographics, and community groups.

### The 30th Street Corridor Evaluation Area

Milwaukee, like many cities, is made up of many distinct neighborhoods. The "30th Street Corridor" (the Corridor) is a loosely-defined term that refers to a part of Milwaukee that previously was home to many industrial properties located along a rail corridor that runs along North 30th Street. Some parties define the Corridor as the existing and abandoned industrial properties and underutilized connecting lands located immediately along the rail lines, while other parties view the Corridor as a broader area.

Before developing baseline measures, the evaluation area needed to be strictly defined. Several factors were considered when defining the evaluation area:

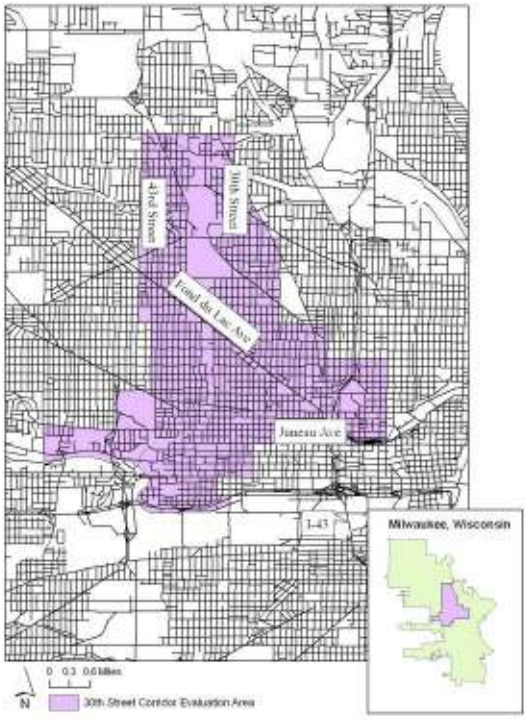
- The impacts of brownfields sites do not stop at the edge of these properties. Rather, brownfields can adversely impact the health and vitality of entire communities near these sites.

- The focus of ATSDR's project is to establish a baseline of measures that may be used to track changes in the impacted community's health and overall quality of life.

- Projects of a similar nature (e.g., the Menomonee Valley Benchmarking Initiative) defined their evaluation areas to involve residential neighborhoods within a fixed distance of redevelopment sites and did not limit evaluations to the brownfields sites alone.

After carefully evaluating these factors and considering the spatial resolution of the available data sources, ATSDR defined "the 30th Street Corridor Evaluation Area" as a series of adjacent census tracts that extend approximately ½ mile from the edge of the brownfields sites along the rail corridor (see Figure 1). Data from the Environmental Systems Research Institute (ESRI) were used to map the evaluation area, which spans roughly 9.5 square miles. While most data presented in this report reflect the 30th Street Corridor Evaluation Area shown in Figure 1, some baseline measures were organized by zip code boundaries instead of census tract boundaries. Refer to Appendix A for more information on this issue.

**Figure 1**. 30th Street Corridor Evaluation Area




While the evaluation area boundaries are suitable for the purposes of this report, ATSDR is well aware that some parties within the Development Community—which includes community and neighborhood groups, government agencies, non-governmental organizations, and private partners—may be interested in tracking statistics for a smaller portion of the evaluation area, such as one census tract or the areas immediately surrounding a site of interest. Those readers should note that all data obtained for this report are available at the census tract or zip code level (or sometimes at even finer resolution), and upon request, ATSDR will share those data with any parties.

## History

The 30th Street Corridor, no matter how its boundaries are defined, has a rich history as an industrial and manufacturing center. For more than a century, various industries thrived in the Corridor, including foundries, tanneries, breweries, and automobile parts manufacturers. By some estimates, approximately 40% of the workforce at the Corridor's industrial facilities lived in local neighborhoods (WDNR, 2006).

Because of various market forces, the economic vitality in the 30th Street Corridor changed in recent decades. For instance, increased reliance on automated processes and a shift in transportation from rail to trucking have resulted in many facilities either moving their operations away from the 30th Street Corridor or closing their business altogether, resulting in loss of jobs. As an example of these changes, Tower Automotive recently shut down most of its manufacturing operations in Milwaukee, leaving behind hundreds of acres of deserted buildings and causing many residents to lose their jobs. By many accounts, the net loss of jobs since the 1970s from the industries throughout the 30th Street Corridor has been substantial. Today, less than 15% of neighborhood residents are employed by manufacturing industries in the 30th Street Corridor (WDNR, 2006).

## Demographics

ATSDR accessed 2000 U.S. Census data to obtain a profile of the local population (U.S. Census Bureau, 2000). This demographic profile provides insights into the makeup of community members who are most affected by the many brownfields sites in the 30th Street Corridor Evaluation Area:

- *The 30th Street Corridor Evaluation Area is densely populated.* According to the 2000 U.S. Census data, 90,468 people live in the 30th Street Corridor Evaluation Area, accounting for 15% of the 596,974 people who live in the City of Milwaukee. The population density in the 30th Street Corridor Evaluation Area (i.e., the number of residents per square mile) is about 1.5 times that for the city.

- *The 30th Street Corridor has a large minority population.* About 92% of residents in the 30th Street Corridor Evaluation Area are mostly African-American—compared with 55% citywide.

- *Residents in the 30th Street Corridor Evaluation Area face economic challenges.* The average household income in the 30th Street Corridor Evaluation Area is $29,489. About 37.6% of residents in the evaluation area are living below the poverty level. In contrast, the average household income for Milwaukee residents ($40,875) is higher and the percentage living below the poverty level (21.3%) is lower.

  Economically challenged neighborhoods, like the 30th Street Corridor Evaluation Area, often face multiple, related challenges, such as difficulties recruiting businesses to the area, limited access to health care services, and perceived or real crime issues. These challenges can contribute to poor community/public health. In addition, these areas may have few grocery stores, restaurants, and other establishments that offer nutritious food

choices. This is a public health concern because limited opportunities to purchase healthy and affordable foods may subsequently lead to an increase in food- and nutrition-related illnesses, such as obesity and diabetes (Mari Gallagher, 2006; Policy Link, 2005).

These observations, in addition to others not documented here, confirm what many in the Development Community already know: the 30th Street Corridor Evaluation Area faces many economic and social challenges. Despite these challenges, the 30th Street Corridor has great redevelopment potential. For instance, many properties are available for commercial endeavors and the dense population can provide a valuable workforce. Many community groups, programs, and residents share a common vision of restoring and strengthening the 30th Street Corridor.

**Community Groups and Redevelopment**

The location of the 30th Street Corridor, combined with the many underused industrial facilities and eager workforce, provides an ideal environment for the creation of business and residential growth. The City of Milwaukee is working together with the Development Community to revitalize the 30th Street Corridor. Appendix B lists many of the groups that have been closely involved with past and ongoing redevelopment activities in this area.

By working with community and neighborhood groups, the City of Milwaukee ensures that the community's interest will be maintained in redevelopment plans and activities.

In an effort to spur redevelopment activities, the City of Milwaukee recently declared parts of the 30th Street Corridor to be a "Greenlight District"—a designation that permits Tax Incremental Financing (TIF) and other economic incentives to make residential and commercial redevelopment more financially appealing (City of Milwaukee, 2007). Some of the City's specific goals are to attract and retain businesses, incorporate job training incentives, improve infrastructure in both residential and commercial areas, and increase public safety.

## What Are Baseline Measures?

A baseline measure is a compilation of data that provides a "snapshot" of current conditions in the 30th Street Corridor Evaluation Area. Each baseline measure provides information on a quantifiable issue of community concern that may change in whole or in part due to redevelopment activities. ATSDR refers to these data compilations as "baseline measures" because they illustrate the current conditions in the 30th Street Corridor Evaluation Area. Thus, the baseline measures provide insight into the current status of the community during the earliest stages of redevelopment. This report uses 19 baseline measures to characterize the current community health status in the 30th Street Corridor Evaluation Area.

With the baseline measures, the Development Community can monitor the effect of brownfields redevelopment over the years. Ideally, such future research would involve recompiling data presented in these baseline measures, assessing trends over time (perhaps as "indicators"), and interpreting the extent to which changes may have resulted from redevelopment activities.

### Selecting Baseline Measures

ATSDR worked with the Development Community to select which baseline measures should be used in this report. Measures were selected based on whether they could offer insight into community health, have data that are readily available or could be gathered locally with a relatively minimal level of effort, are expected to change over time, in part or in whole as a result of redevelopment activities, and could be replicated in other communities.

## The ATSDR Brownfields/Land Revitalization Action Model

The baseline measures selection process was based on the "**Brownfield/Land Revitalization Action Model**," which ATSDR is currently developing. The model involves the following four steps:

- *Step 1. What are the issues in the community that may impact the health of the community?* During brainstorming sessions with members of the Development Community, ATSDR identified seven general issues of concern (see Table 1 on the following page). These issues fall into four broader topics: Health, Community, Land and Environment, and Buildings and Infrastructure.

- *Step 2. How can redevelopment address the issues that impact health status?* Once the general issues facing the community were listed, ATSDR and members of the Development Community identified various ways that redevelopment activities in the 30th Street Corridor Evaluation Area might help to address these issues. Of course, many of the issues listed in Table 1 cannot be solved through redevelopment activities alone.

- *Step 3. What are the community health benefits?* The third step in ATSDR's model is to list health benefits and improvements that could potentially result from the redevelopment activities. As explained later in this section, these anticipated health benefits may result from many factors, only one of which is redevelopment efforts.

- *Step 4. What data are needed: can change be measured?* The fourth step in the model is to identify specific ways that ATSDR (or the Development Community) can measure whether change has occurred. The brainstorming sessions identified numerous candidate measures, but this report focuses only on those that can be linked in some way to redevelopment and for which supporting data are readily available for the 30th Street Corridor Evaluation Area. Refer to Appendix C for a list of additional baseline measures that Development Community members identified, but were not included in this report.

**Table 1.** Results of ATSDR's Brownfields/Land Revitalization Action Model

| | STEP 1 | STEP 2 | STEP 3 | STEP 4 | |
|---|---|---|---|---|---|
| **Category** | **What are the community issues?** | **How can redevelopment address the issues?** | **What are the community health benefits?** | **What data are needed to measure change?** | **Page #** |
| *Health* | Exposure to harmful substances in the environment, such as those at brownfields sites or in old housing stock, is one of many risk factors for diseases and adverse health effects (e.g., asthma, high blood lead levels). | Environmental cleanups at brownfields sites may reduce risk of exposure to harmful substances. In addition, renovation of old housing stock and construction of newer homes may help to further reduce exposures to harmful substances. | Reduced blood lead levels, reduction of learning disabilities in children, fewer hospitalizations for asthma, fewer infant deaths, and fewer low birth weight infants. May also reduce exposures to carcinogens. | Hospitalizations for asthma | 10 |
| | | | | Infant mortality rate | 11 |
| | | | | Lead and copper in tap water | 12 |
| | | | | Lead poisoning in children | 13 |
| | | | | Low birth weight | 14 |
| *Community* | Elevated crime rates are detrimental to the overall health and well-being of the community. | Development of abandoned sites, vacant lots, and vacant buildings may reduce areas where certain crimes occur and create a better sense of community among local residents. | Reduced crime-related injury and death. Reduced fear of crime, likely resulting in increased mobility of local residents. | Acreage of vacant lots | 15 |
| | | | | Violent crimes | 16 |
| | Because of lower educational attainment levels, local residents may not be competitive in the labor force and thus not receive the benefits from full-time employment. | Improvements at existing educational facilities and development of new educational centers (e.g., vocational schools, community centers) may promote the educational development of youth in the community. | Increased educational attainment, employability, health insurance coverage, and understanding of health topics and information. | Education of adults | 17 |
| | | | | Third grade reading comprehension | 18 |
| | A lack of jobs is contributing to a high poverty rate, leaving residents with limited resources to access medical care and improve the residential infrastructure. | Whether through renovating abandoned or deserted buildings or constructing new ones, redevelopment activities designed to attract business can bring jobs into the community. | Lower unemployment rates and poverty may increase health insurance coverage. People may be able to afford better housing and crime rates may decrease. | Percentage of adults with health benefits | 19 |
| | | | | Percentage of people employed | 20 |
| | | | | Percentage of people living in poverty | 21 |
| *Land and Environment* | Opportunities for physical activity are limited, in part, by a lack of usable parks and "green space." | Providing recreational facilities (e.g., basketball courts) at parks and converting vacant lots into "green space" may increase physical activity and strengthen the sense of community. | Increased physical activity, decreased likelihood of disease and health problems related to a sedentary lifestyle. | Acreage of parks | 22 |
| | | | | People using parks | 23 |
| | Community members may be exposed to physical and environmental hazards when brownfields sites are not cleaned up. | Clean-up activities at brownfields sites and other sites with contaminated land will reduce harmful exposures in the community. | Reduced disease and injury as a result of harmful exposures. Increased opportunity for redevelopment. | Contaminated land | 24 |
| *Buildings and Infrastructure* | Vacant and poorly maintained buildings can expose residents to health hazards and increase the perception of blight in the community. | Redeveloping commercial buildings can create new jobs, and new or renovated housing units can reduce exposures to harmful environmental contaminants (e.g., lead) and improve residents' quality of life. | Decreased exposure to environmental contaminants, physical hazards, and decreased childhood blood lead levels. Reduction in crime and increase in employment. | Commercial properties | 25 |
| | | | | Number of lead abatements | 26 |
| | | | | Number of new construction permits | 27 |
| | | | | Residential properties | 28 |

## Developing Baseline Measures

ATSDR gathered data to develop the baseline measures primarily from city, state, and federal sources (Appendix D). In all cases, ATSDR accessed the most current and complete data available. Because this report is designed to characterize baseline measures, temporal trends are not considered and the baseline measures present only current conditions. When supporting underlying data were available, ATSDR compared conditions in the 30th Street Corridor Evaluation Area with those for the City of Milwaukee and the State of Wisconsin. For this report, note that Milwaukee data *include* data from the 30th Street Corridor Evaluation Area—these evaluation areas are not mutually exclusive.

Every baseline measure in this report contains the following information:

- *Introductory text.* The first two paragraphs in every baseline measure explain the significance of the measure, describe how the issue of concern relates to community health and redevelopment activities (whether directly or indirectly), and identify the data sources used to quantify baseline conditions.

- *What the data show.* This section of the baseline measure presents the results of the data analyses, using tables, figures, and maps.

- *Limitations.* While ATSDR relied on reputable data sources to develop the baseline measures, these data sources have inherent limitations, some more significant than others. Each baseline measure lists limitations that should be considered when interpreting data.

Baseline measures are separated by category—beginning with measures in the Health category. Note that the References and Resources section at the end of this report cites the main documents and databases used to develop the baseline measures.

## Interpreting Baseline Measures

Redevelopment activities can transform local communities by removing environmental contamination, revitalizing abandoned properties, improving local housing conditions, changing the image of a community, and enhancing commercial opportunities. However, ATSDR acknowledges that redevelopment activities are by no means the only factors that affect economic, environmental, and social challenges in communities. Moreover, the relationship between redevelopment activities and the baseline measures is likely quite complex. For example, lead abatements and construction of "lead-safe housing" will likely lead to lower lead poisoning rates among local children, but many other factors can affect the prevalence of elevated blood lead levels among children—such as exposure outside of the home. Accordingly, one should not expect trends in blood lead levels to mirror trends in lead abatements. For similar reasons, ATSDR encourages readers of this report to use caution when interpreting data in the baseline measures, especially when evaluating future trends.

ATSDR is aware that some Development Community members would like to use this report to compare conditions in the 30th Street Corridor Evaluation Area to those reported for other areas of Milwaukee. When developing this report, ATSDR intentionally did not compare data across every neighborhood in Milwaukee in order to keep this report focused primarily on the 30th Street Corridor Evaluation Area. Parties interested in comparing data to other neighborhoods

(such as the Menomonee Valley) are encouraged to do so, but should ensure that such evaluations are based only on comparable data (i.e., from the same data sources and years of interest).

## Baseline Measures

The remainder of this report presents the baseline measures for the 30th Street Corridor Evaluation Area. As noted previously, these measures are sorted into four categories:

- The "Health" baseline measures discuss disease prevalence and adverse health effects that may result (at least in part) from exposures to harmful substances in the environment.

- The "Community" baseline measures examine issues related to economics, education, and crime, all of which can affect public health and overall quality of life.

- The "Land and Environment" baseline measures address the quality of land in and around the 30th Street Corridor Evaluation Area, considering both properties with known or suspected contamination and the extent and condition of parks.

- Finally, the "Buildings and Infrastructure" baseline measures examine the inventory of commercial and residential properties.

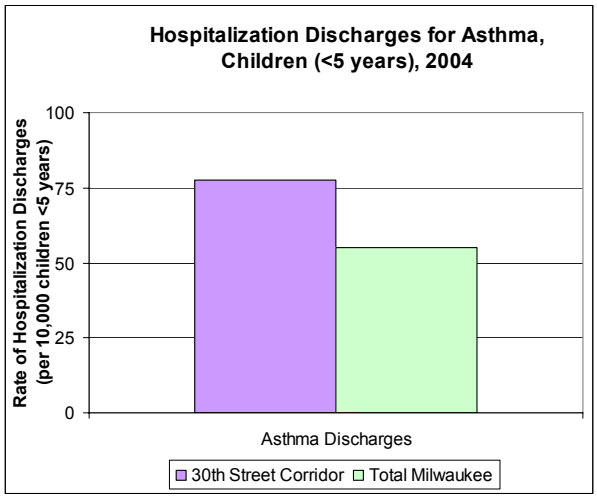
## Hospitalizations for Asthma

Though its fundamental causes are not completely understood, asthma is the most common chronic childhood disease and can cause disabilities, hospitalization, and even death (EPA, 2003). Children living in urban settings are at increased risk for having asthma (Aligne et al., 2000). Asthma attacks may be caused by exposure to various "triggers," like mold and allergens, tobacco smoke, and air pollution (NHLBI, 2007). The U.S. Department of Health and Human Services (DHHS) has set a target to have annual asthma hospitalization rates for children under 5 years old fall below 25 incidents per 10,000 children by the year 2010 (DHHS, 2000). The state of Wisconsin has adopted the DHHS goals in its own asthma plan (Wisconsin Asthma Coalition, 2003; DHFS, 2007a).

Data from the City of Milwaukee Health Department (MHD, 2007) were used to determine the number of children (under 5 years of age) who were discharged from hospitals because of asthma. Hospitalization discharges are presented for patients from the 30th Street Corridor Evaluation Area and patients from the City of Milwaukee. Data are presented for 2004 because that is the most recent calendar year for which complete, validated data are available.

### *What the Data Show*

In 2004, 78 hospitalization discharges for asthma occurred for every 10,000 children under 5 years of age in the 30th Street Corridor. In the same year, 55 asthma-related discharges occurred for every 10,000 children under 5 years of age in Milwaukee. Both of these hospitalization discharge rates for asthma are considerably higher than DHHS's target of 25 hospitalizations per 10,000 children by the year 2010.




### *Limitations*

This measure documents the number of hospitalizations for asthma, which is not necessarily equivalent to the number of children hospitalized for asthma—since a single child could have been hospitalized more than once in 2004. These data, while certainly informative, may not accurately reflect the actual number of children with serious asthma conditions because health insurance coverage and other factors might limit some families from seeking medical care. Regardless, the data shown provide useful insights on the incidence of asthma, the severity of asthma in children, and the extent to which parents and health care providers successfully manage children's asthma.

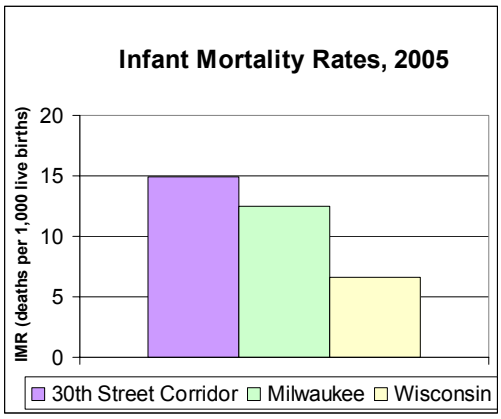
## Infant Mortality Rate

The leading causes of death for infants are birth defects, disorders related to premature birth and low birth weight, and sudden infant death syndrome (NCHS, 2007). Underlying factors that may influence the infant mortality rate (IMR) include maternal age, race, nutrition, and exposure to lead and other chemicals in the environment. Various studies have reported associations between IMR and socioeconomic status, access to health care, and health status and educational level of women of childbearing age. IMR is widely used as a general indicator of a population's health status, and the United States currently has a goal to reduce its IMR to 4.5 deaths per 1,000 live births across all racial and ethnic groups (DHHS, 2000).

This baseline measure summarizes IMR data (specifically, the number of infant deaths per 1,000 live births) provided by the City of Milwaukee Health Department (MHD, 2007) and Wisconsin Department of Health and Family Services (DHFS, 2005). Data were aggregated into three categories: the 30th Street Corridor Evaluation Area, the City of Milwaukee, and the State of Wisconsin. IMR in this baseline measure includes deaths of infants 1 year of age or younger who were first classified as live births—that is, infants who showed some evidence of life after separation from the mother.

### *What the Data Show*

In 2005, the IMR for the 30th Street Corridor was 14.9, meaning nearly 15 infants out of every 1,000 infants born to mothers in the evaluation area died before their first birthday. By comparison, the IMR in 2005 was 12.5 in the City of Milwaukee and 6.6 for the State of Wisconsin. For reference, the national IMR in 2005 was 6.7.




### *Limitations*

IMR data are derived from death certificates reported by physicians and hospitals and then compiled by local and state health departments. While some data may be coded incorrectly and some deaths not recorded at all, the data gathered for this baseline measure are believed to be largely complete and provide a very accurate account of IMR statistics.

**Lead and Copper in Tap Water**

Certain plumbing materials contain lead and copper, and those metals can enter drinking water as the materials corrode. Both metals are toxic. Exposure to lead in the body can cause adverse effects, such as damage to the brain and kidneys, and learning disabilities (EPA, 2007a). Copper is an essential trace nutrient, but elevated levels can cause nausea, vomiting, and diarrhea (ATSDR, 2004). Concerns about lead and copper in drinking water are particularly relevant in areas with an older housing stock. Many homes and other structures built prior to 1985 may have lead-soldered plumbing. Copper in drinking water is a concern for all homes containing copper pipes. To protect the public from drinking water that contains lead and copper, EPA requires water suppliers to test the tap water annually from a small subset of the homes or businesses that the suppliers serve. The amounts of lead and copper detected in these samples reflect, to a certain extent, the condition of plumbing in residential and commercial structures.

This baseline measure presents tap water sampling data for lead and copper collected by Milwaukee's Department of Public Works (DPW, 2007). DPW collects data from "at-risk" homes throughout the City, which are homes believed to contain plumbing features that might affect drinking water quality. The most recent testing of Milwaukee homes occurred in 2005.

***What the Data Show***

In 2005, every tap water sample that DPW collected in the City of Milwaukee, including in the 30th Street Corridor, had lead and copper levels that were below EPA's "action levels." These action levels are 15 parts per billion (ppb) for lead and 1,300 ppb for copper and represent contamination levels that may trigger various health-related interventions.

In the 30th Street Corridor, two houses were tested. The average lead and copper levels in tap water were 5.25 and 15.25 ppb, respectively. In the City of Milwaukee, 55 houses were tested and the average lead and copper levels in tap water were 3.3 ppb and 20.1 ppb, respectively.

***Limitations***

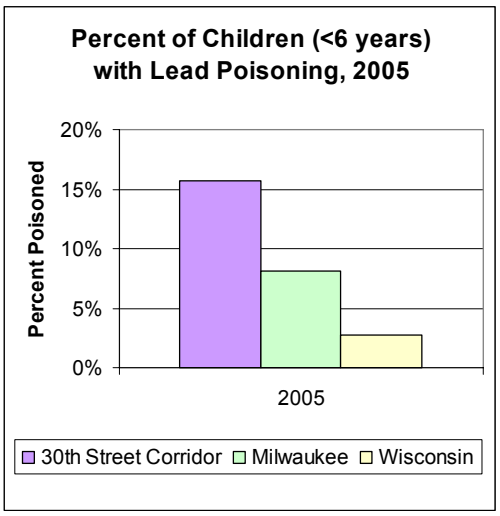
DPW collects enough tap water samples to fulfill the sampling requirements of the federal Safe Drinking Water Act and EPA's "Lead and Copper Rule." However, the number of samples collected does not allow a statistically meaningful comparison between certain neighborhoods (e.g., the 30th Street Corridor) and the entire city. Additionally, while the sampling data found that lead and copper levels in the homes that were tested did not exceed EPA's "action levels," the possibility remains that some homes that were not tested might contain higher levels. Ongoing tap water sampling in fulfillment of federal drinking water laws should help ensure the safety of Milwaukee's drinking water.

## Lead Poisoning in Children

Lead poisoning in children can cause learning disabilities, behavioral problems, and, at very high exposure levels, seizures, coma, and even death (CDC, 2007a). The most common sources of children's environmental exposure to lead are ingestion of lead-based paint and ingestion of lead-contaminated dust and soil (EPA, 2007b). Lead exposure potential is high in older homes that have lead-based paint dusts and chips flaking from window sills, doorways, and other surfaces. Children are at particular risk for elevated exposures because they tend to put their hands and other objects covered with dust in their mouths (EPA, 2007b).

Data from the Wisconsin Department of Health and Family Services (DHFS, 2007b) and the Centers for Disease Control and Prevention (CDC) (CDC, 2007b) were used to determine the number of children under 6 years of age who had lead poisoning in the 30th Street Corridor Evaluation Area, the City of Milwaukee, and the State of Wisconsin. For this baseline measure, children were considered to have lead poisoning if their blood lead level was at least 10 micrograms per deciliter, which CDC considers to be an elevated blood lead level.

### *What the Data Show*




In 2005, 15.7% of children under 6 years of age living in the 30th Street Corridor Evaluation Area had blood lead levels at 10 micrograms per liter or higher. By comparison, 8.1% of children in Milwaukee and 2.7% throughout Wisconsin had blood lead level at or above this concentration.

### *Limitations*

State law currently requires that all families who qualify for certain public assistance programs have their children tested for lead poisoning. Because no such requirement extends to all families statewide, not every child in Wisconsin receives blood lead testing. However, this baseline measure was developed from blood lead testing for 81,741 children, which represents a considerable portion (roughly 20%) of the number of children younger than 6 years statewide (CDC 2007b). Accordingly, the statistics for this baseline measure are believed to offer reasonably accurate insights into blood lead poisoning rates in the evaluation area, Milwaukee, and Wisconsin.

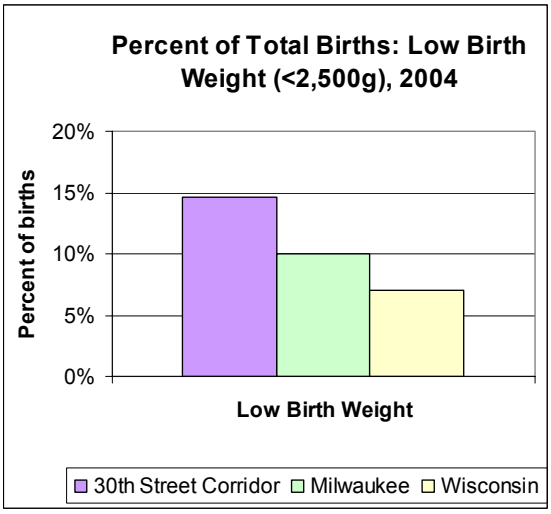
## Low Birth Weight

Low birth weight (LBW) children face an increased risk of dying during their early years and are more likely to develop physical and mental disabilities (WHO, 2007). Numerous risk factors can influence the birth weight of a child. These risk factors include the mothers' nutrition and age, and exposures to cigarette smoke, alcohol, and lead during pregnancy (Kiely et al., 1994; NIEHS, 2006; WHO, 2007). The proportion of LBW children is widely used as an indicator of a community's overall health and quality of life status. The United States currently has a goal to reduce LBW births to less than 5% by the year 2010 (DHHS, 2000).

Data from the City of Milwaukee Health Department (MHD, 2007) were used to determine the number of LBW children—defined as infants who weighed less than 2,500 grams (5.5 pounds) at birth—in the 30th Street Corridor Evaluation Area and the City of Milwaukee. Data for the State of Wisconsin were derived by the Wisconsin Department of Health and Family Services.

### *What the Data Show*

In 2004, 14.6% of children born in the 30th Street Corridor were LBW. By comparison, 10.0% of infants in the City of Milwaukee weighed less than 5.5 pounds at birth, and 7.0% of all newborn children born in Wisconsin were LBW. For reference, 8.1% of children born nationwide in 2004 were LBW. The proportion of LBW births in 2004 was above the federal goal of 5% for 2010 across all geographic areas.




### *Limitations*

LBW data are derived from birth certificates reported by physicians and hospitals and then compiled by local and state health departments. While some data may be recorded incorrectly, the data gathered for this baseline measure are believed to be largely complete and provide a very accurate account of LBW statistics. These data may not reflect LBW for home births, but home births account for a very small proportion of total births in Wisconsin.

**Acreage of Vacant Lots**

Vacant properties in otherwise developed areas may be associated with increased crime and arson rates, decreased property values, and negative impacts on the quality of life for residents in the surrounding community (NVPC, 2005). But vacant lots also represent development opportunities, because they ultimately could be used for community gardens, playgrounds, and residential and commercial buildings.

This baseline measure reports the number and acreage of vacant lots within the 30th Street Corridor, and the acreage of vacant lots per 1,000 people, as derived from data collected in the 2007 Milwaukee Property File (MPROP, 2007) and during the 2000 U.S. Census (U.S. Census Bureau, 2000). The City of Milwaukee defines vacant lots as any plots of land that have been assessed and contain no standing buildings, except for minor "improvements," such as billboards or storage sheds. For purposes of comparison, the acreage of vacant lots and vacant lots per 1,000 people are also reported for the City of Milwaukee.

***What the Data Show***


(ICC, 2005)

765 vacant lots, ranging in size from 0.01 to 2.05 acres, are located within the 30th Street Corridor. These vacant lots collectively span 100 acres, which amounts to 1.6% of the land coverage within the 30th Street Corridor boundary. The 30th Street Corridor contains 1.1 acres of vacant lots for every 1,000 residents.

By comparison, 2,870 vacant lots are located in the City of Milwaukee. These individual lots range in size from less than 0.01 acres to 21.7 acres. Altogether, the city's vacant lots span 905 acres, or about 1.5% of the total land coverage. The city contains 1.5 acres of vacant lots for every 1,000 residents—more than the proportion within the 30th Street Corridor.

***Limitations***

The data for this baseline measure includes only "vacant lots," and do not include vacant buildings or other unused or underutilized properties, such as parks or "quasi-parks" (i.e., vacant land believed to be used as parkland), all of which may contribute to the environmental, health, and fiscal condition of the 30th Street Corridor. Additionally, some lots that have been developed are still marked as vacant in the MPROP database, while other lots that are currently vacant do not have that designation in the database. Thus, while the MPROP database is believed to offer the best insights available into vacant properties, the actual number of vacant lots may differ from those identified in the database used to develop this baseline measure.

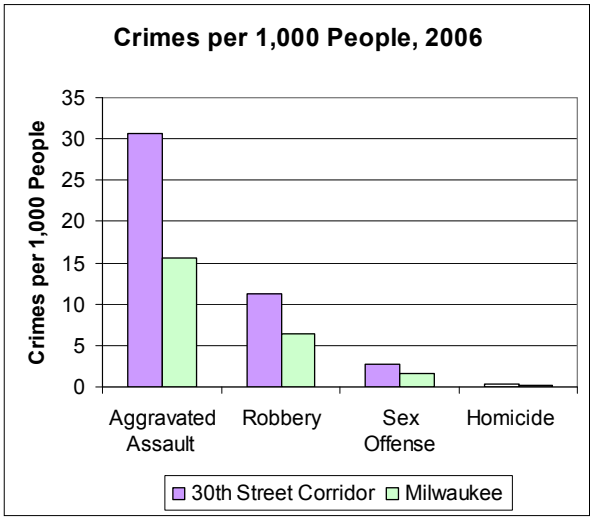
## Violent Crimes

Violent crime poses a significant risk to people's health and well-being, as it can result in psychological distress, physical harm, or even death. Furthermore, fear of crime may lead to limited mobility and psychological disorders—factors that are detrimental to the overall health and well-being of individuals and communities (Green et al., 2002).

Data from Milwaukee's COMPASS database (COMPASS, 2007) were used to compare the number of violent crimes per 1,000 residents in the 30th Street Corridor Evaluation Area during 2006 with the corresponding numbers for the City of Milwaukee. Data are presented for four types of violent crimes: aggravated assaults (attacks by one person upon another by means likely to produce death or injury), homicides (murders), robberies (crimes when a person takes or attempts to take, by threat or violence, anything from another person), and sex offenses (sexual acts directed against another person, forcibly or against their will).

### *What the Data Show*

In 2006, the four types of violent crimes considered were more prevalent in the 30th Street Corridor than in the City. Selected violent crime statistics in the 30th Street Corridor follow: aggravated assault, 30.6 incidence for every 1,000 residents; robberies, 11.3 incidences per 1,000 residents; sex crimes, 2.8 incidences per 1,000 residents; and homicides, 0.4 incidences per 1,000 residents. For all four violent crime types, the incidences in the 30th Street Corridor were approximately twice as high as the incidences in the City of Milwaukee.




### *Limitations*

The COMPASS crime statistics, which come from the Milwaukee Police Department, only reflect reported crimes. Because they do not account for unreported crimes, the statistics may not perfectly represent the actual number of crimes committed. Even so, the data are believed to be highly reliable and are useful for comparing crimes across different geographic areas. Crime statistics for the State of Wisconsin are not presented for comparison, due to the considerable differences in crime patterns between rural and urban areas.

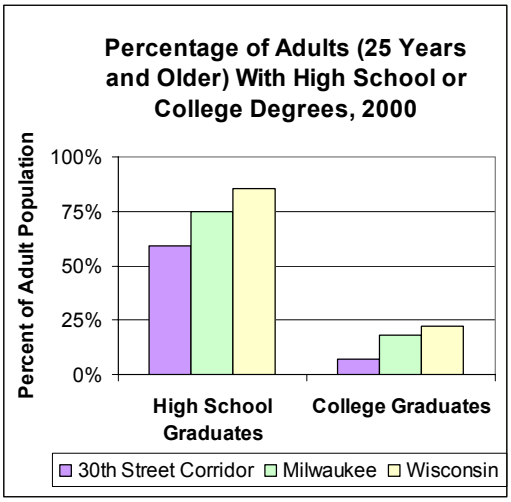
## Education of Adults

A strong and positive relationship exists between education and health (Grossman and Kaestner, 1997). More highly educated populations tend to be healthier (NPC, 2005). This relationship may be due to a number of factors. For instance, people with higher education levels tend to have better paying jobs that offer health insurance, which makes these individuals more likely to seek and be able to afford medical care (BLS, 2006).

Using data from the 2000 U.S. Census (U.S. Census Bureau, 2000), this baseline measure presents the percentage of adults 25 years and older who have completed high school (including those who passed a high school equivalency test) and college. Data for the 30th Street Corridor Evaluation Area are compared to data for the City of Milwaukee and the State of Wisconsin. Additional statistics on educational status can be obtained from the U.S. Census or the Wisconsin Department of Public Instruction (DPI, 2007).

### *What the Data Show*

According to the 2000 U.S. Census, 59.2% of adult residents in the 30th Street Corridor are high school graduates. In comparison, 74.8% of adults in the City of Milwaukee and 85.1% of adults in the State of Wisconsin are high school graduates. In the 30th Street Corridor, 7.3% of the adult population graduated from college. By comparison, 18.3% of Milwaukee's adults and 22.4% of adults throughout Wisconsin are college graduates.




### *Limitations*

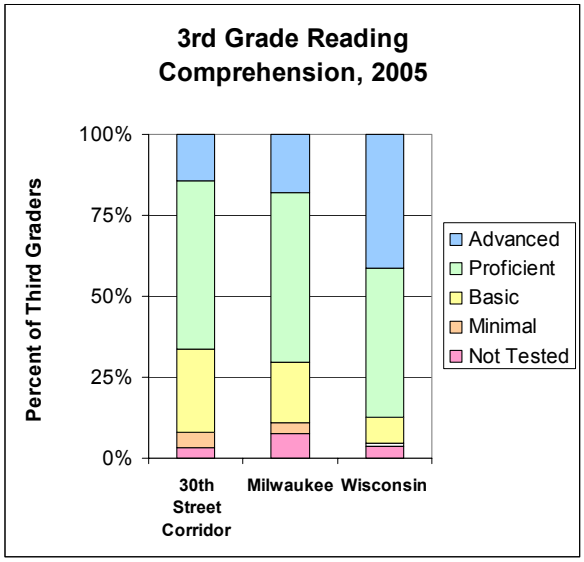
This baseline measure tracks education level among adults, but only in common academic settings (i.e., high schools and colleges). The statistics do not account for individuals who enrolled in adult education courses offered outside of high schools or colleges, nor do they account for carpenters, mechanics, and other professionals who might have learned their trades through apprenticeships or specialty schools. Therefore, the education levels tracked by the U.S. Census do not fully characterize the professional capabilities of the local workforce.

These data are not equivalent to current graduation rates from local high schools and colleges because the Census data quantify the education level of adult residents who may or may not have gone to school in the evaluation area, and because many adults surveyed in the Census completed their education decades ago.

## Third Grade Reading Comprehension

Children's ability to understand what they read is a significant aspect of their academic, economic, and social success (NRC, 1998). Reading comprehension also plays a role in health, because very important information on health, wellness, and disease prevention is often communicated in writing. In fact, the U.S. Agency for Healthcare Research and Quality has reported that low reading comprehension and poor health are "clearly related" (AHRQ, 2004). Therefore, performance on childhood reading comprehension exams is a useful indicator of health and overall quality of life.

Data from the Wisconsin Department of Public Instruction (DPI, 2007) characterize the reading comprehension of third grade children going to neighborhood elementary schools in the 30th Street Corridor Evaluation Area, the City of Milwaukee, and the State of Wisconsin. Based on test results, DPI assigned students' reading comprehension to four proficiency levels: advanced, proficient, basic, and minimal. These proficiency levels were established by the State Superintendent, with input from a panel of third grade teachers and district reading specialists.




### *What the Data Show*

In 2005, reading comprehension among third grade students attending school in the 30th Street Corridor was generally lower than that for students attending school in the City of Milwaukee and the State of Wisconsin. Of all third grade students who took the reading comprehension exam, 14.3% of students attending schools in the 30th Street Corridor were *advanced* readers, compared to 18.0% citywide and 41.3% statewide. On the other hand, 4.7% of students attending schools in the 30th Street Corridor had *minimal* reading comprehension, compared to 3.1% in Milwaukee and 1.0% in Wisconsin. Refer to the figure for additional statistics on *proficient* and *basic* reading comprehension.

### *Limitations*

All data used in this baseline measure are based on school location. The 30th Street Corridor schools are attended primarily by local students, but may include students who live outside of the evaluation area. Additionally, this measure does not account for students who were not tested, which include home-schooled children, students who were absent during the testing period, and students with disabilities or limited English proficiency. Therefore, the tests may not fully characterize the third grade populations within the 30th Street Corridor, Milwaukee, and Wisconsin. Nevertheless, this measure is useful for comparing the reading performance for elementary schools across different geographic areas.

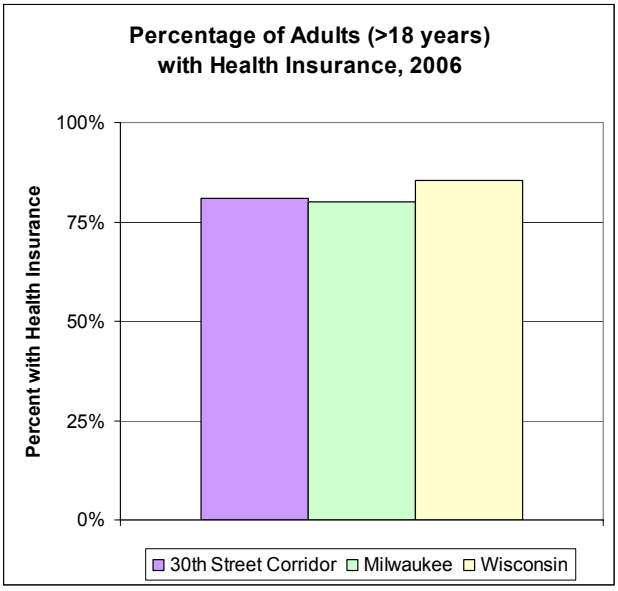
**Percentage of Adults with Health Benefits**

People without health insurance often cannot afford medical care and consequently do not visit doctors or do so only when serious conditions develop (Kaiser Commission on Medicaid and the Uninsured, 2006). These trends place uninsured people at increased risk for numerous health conditions, both because they receive less preventive health care and because they are often diagnosed with serious diseases at more advanced stages (IOM, 2002). For these and other reasons, the percentage of people with some type of health insurance coverage is used as one measure of community health.

Data from the Wisconsin Department of Health and Family Services' Behavioral Risk Factor Survey (BRFS) were used to determine the number of people with health insurance in the 30th Street Corridor Evaluation Area, the City of Milwaukee, and Wisconsin (DHFS, 2007c). The BRFS is a telephone survey of state residents age 18 and older and addresses various health topics. Data for this baseline measure are based on responses to the following question: "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?"

***What the Data Show***

According to the 2006 BRFS, 81% of residents age 18 and over in the 30th Street Corridor Evaluation Area have some type of health insurance. By comparison, 80% of adults in the City of Milwaukee had health insurance, and 90% in the State of Wisconsin were insured. For reference, the number of adults nationwide who had health insurance in 2006 was 86% (CDC, 2007c).




***Limitations***

While the BRFS appears to offer the best available insights into health insurance coverage in Wisconsin, the survey has inherent limitations. Most importantly, telephone surveys (like BRFS) provide no insight on people who either do not have telephones or have unlisted telephone numbers. Further, the available data do not indicate the source of insurance (i.e., private or government subsidized). The extent to which this sample bias may affect the results for health insurance coverage is not known.

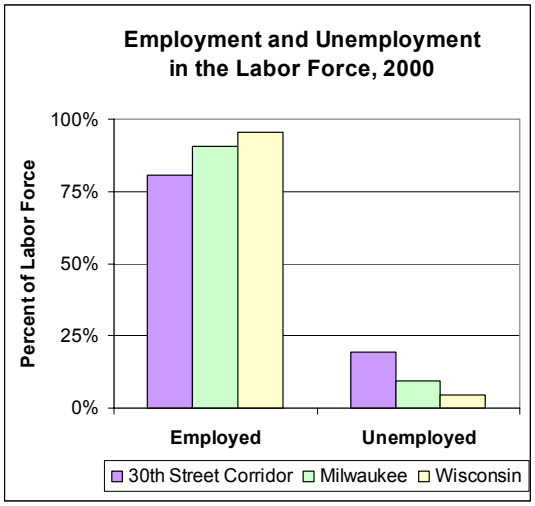
## Percentage of People Employed

Employment can increase economic status and independence and have positive effects on quality of life. Employment also typically provides individuals with better access to health care, often through medical insurance. Conversely, unemployment is associated with a greater risk of various adverse physical and mental health outcomes (Lin, 1995), which may result from many factors. For these and other reasons, employment statistics have often been used as indicators of communities' health-related quality of life (CDC, 2000a).

Data from the 2000 U.S. Census (U.S. Census Bureau, 2000) were used to determine the number of people employed in the 30th Street Corridor, the City of Milwaukee, and the State of Wisconsin. According to the Census definitions, people are considered to be employed if they are at least 16 years old, are part of the civilian labor force, and have paying or profitable jobs, including part-time and temporary work. Unemployed persons are people who do not have jobs but were seeking them during the time of the Census survey. People who do not have jobs and are not actively seeking them are not considered to be part of the labor force.

### *What the Data Show*

According to the 2000 Census, unemployment rates in the 30th Street Corridor exceed those in the City of Milwaukee and the State of Wisconsin. Specifically, in 2000, 80.8% of the labor force in the 30th Street Corridor was employed and 19.2% was unemployed. By comparison, 90.6% of the labor force in the City of Milwaukee was employed, and 9.4% did not have work at the time of the Census. Finally, 95.3% of the labor force in Wisconsin was employed in 2000, with an unemployment rate of 4.7%.



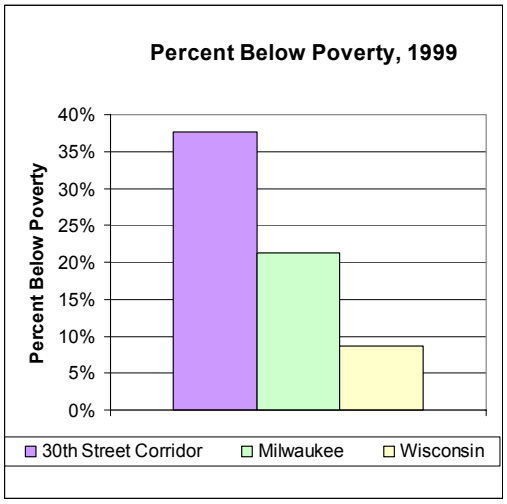

### *Limitations*

Census data provide insights into the proportion of a population that is employed based on work activity during a reference week (i.e., the week before the Census questionnaire was filled out). Therefore, the Census data do not account for seasonal fluctuations in employment. For instance, employment rates may sink during the winter because agricultural jobs are not available, and rise during the summer when students have more time to work. Additionally, Census data do not provide information on where (geographically) people are employed. Nonetheless, the Census data are useful for comparing employment rates across different geographic areas.

**Percentage of People Living in Poverty**

Poverty is one of the underlying risk factors for increased mortality and ill health (WHO, 2003). Not only are impoverished people less likely to have health insurance, but they also have limited access to nutritional food, adequate housing, and education—all factors that can affect overall health and well-being (U.S Census Bureau, 2004).

Data from the 2000 U.S. Census (U.S. Census Bureau, 2000) were used to determine the number of individuals living in poverty in the 30th Street Corridor Evaluation Area, the City of Milwaukee, and the State of Wisconsin. People are considered to be living below the poverty level if their total annual household income is less than the poverty threshold, which varies by family size and the number of children. This means that the poverty level is different for each type of household. For example, the poverty threshold for a family of four (two adults and two children) in 2000 was $17,463.




***What the Data Show***

According to the 2000 Census, 37.6% of residents in the 30th Street Corridor Evaluation Area were living in poverty, compared to 21.3% citywide, and 8.7% statewide. In fact, of the 123,377 people living in poverty in the City of Milwaukee, 29% (35,214 people) lived in the 30th Street Corridor.

***Limitations***

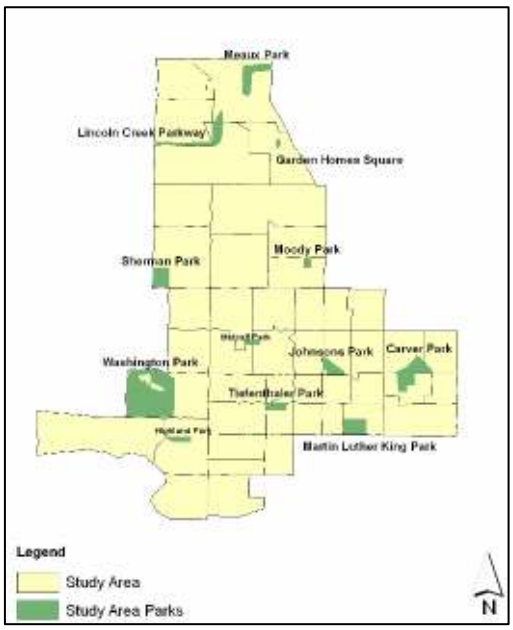
The U.S. Census data provide insights into the proportion of a population that lives below certain household income levels. However, the statistics on residents "below the poverty level" may not adequately represent the actual number of people who have trouble making ends meet, in part because the poverty thresholds used in the Census data do not account for the fact that costs of living vary from one location to the next. For instance, someone who is just below the poverty threshold in the City of Milwaukee might actually have more difficulty making ends meet when compared to another person with the same annual household income living in another area of Wisconsin, where costs of living are lower. Nonetheless, the Census data are useful for comparing household income levels across different geographic areas.

## Acreage of Parks

Parks and open space in communities provide residents the opportunity to engage in physical activity, which can help reduce the risk of chronic health problems, such as heart disease, high blood pressure, diabetes, and obesity (CDC, 1996). Parks also provide recreational and quality-of-life benefits to the entire community. The National Recreation and Parks Association (NRPA) recommends that urban areas contain 6.25 acres to 10.5 acres of park per 1,000 residents (NRPA, 2004).

This baseline measure reports the acreage of parks within the 30th Street Corridor and the corresponding park space per capita, as derived from data collected by Environmental Systems Research Institute (ESRI, 2004) and during the 2000 U.S. Census (U.S. Census Bureau, 2000). In cases where parks straddle the boundary of the 30th Street Corridor, this baseline measure considers only the area that lies within the boundary. For purposes of comparison, acreage of parks and park space per capita are also reported for the City of Milwaukee.

### *What the Data Show*




Twelve parks are located, in whole or in part, within the 30th Street Corridor, and these parks range in size from 2.6 acres to 142.7 acres. Overall, 437 acres of park space lie within the 30th Street Corridor boundary, which amounts to 7% of the land coverage. The 30th Street Corridor contains 4.8 acres of park space for every 1,000 residents, though these residents can also readily access additional park space located in very close proximity but technically not within the 30th Street Corridor boundary. Most, but not all, of the parks in the 30th Street Corridor are maintained and usable by residents. Observations made by the authors of this report indicate that the parks are generally well maintained and accessible, mowed frequently, and typically clean of litter.

By comparison, 81 parks are located in Milwaukee, ranging in size from 1.2 acres to 916.5 acres. This amounts to 5,010 acres of parks, or about 8% of the land coverage. The city contains 8.4 acres of park space for every 1,000 residents, which is within the NRPA recommendations. An evaluation of the condition of parks citywide was not conducted.

### *Limitations*

The ESRI data used to develop this baseline measure do not include playgrounds at schools and some privately-owned recreational areas. Therefore, this baseline measure may understate the actual area of lands that some residents consider to be parks.

## People Using Parks

The health benefits of physical activity are well-documented. Access to parks provide people opportunities for engaging in various forms of physical activity, which can help reduce the risk of many chronic health problems, such as diabetes, heart disease, high blood pressure, and obesity (DHHS, 1996). Parks also provide recreational and quality-of-life benefits to the entire community. Increases in the number of people using parks, whether due to redevelopment activities or other improvements, are expected to translate into community health benefits.

This baseline measure reports the number of people using the 12 parks located within the 30th Street Corridor Evaluation Area, as derived from field surveys (ERG, 2007). Each park was surveyed for six one-hour time frames (three on weekdays and three on weekends) over a 3-week period during July, 2007. All surveys were conducted during the daylight hours and not on rainy days. More details on the survey protocol are documented in a separate summary report (ERG, 2007).

### *What the Data Show*

The number of people using parks varied widely from one park to the next. Highland Park and Metcalf Park, for example, typically had fewer than 15 users per hour surveyed, while several other parks routinely had at least 10 times more users.

Generally, larger parks were used more than smaller parks. Also, parks with well-maintained recreational facilities (e.g., tennis courts, playgrounds, basketball courts) seemed to attract more users than parks with poorly-maintained facilities or limited recreational opportunities. Finally, parks with limited access due to extensive fencing were underutilized in comparison to parks without such barriers to access.

| Park Name | Weeknight Users per Hour Surveyed | Weekend Users per Hour Surveyed |
|---|---|---|
| Carver | 253 | 354 |
| Garden Homes | 51 | 41 |
| Highland | 11 | 9 |
| Johnson's | 42 | 59 |
| Lincoln | 244 | 137 |
| Martin Luther King | 76 | 41 |
| Meaux | 169 | 273 |
| Metcalf | 12 | 13 |
| Moody | 46 | 41 |
| Sherman | 169 | 110 |
| Tiefenthaler | 122 | 67 |
| Washington | 126 | 105 |

### *Limitations*

The data in this baseline measure are based on a survey conducted during the month of July, 2007, and therefore may not be representative of park usage rates during other summer months. Researchers interested in comparing future park usage statistics to those presented here should consider replicating the survey protocol (ERG, 2007).

## Contaminated Land

Land contamination can occur as a result of accidental spills or poor environmental management practices, including intentional disposal of hazardous substances directly into the environment. Contaminated land may pose health and environmental risks, and can also negatively impact community development plans. For instance, people who spend time on contaminated land might be exposed to hazardous substances, and concerns about such exposures might prevent property owners from developing land. Efforts to clean up contaminated land may reduce exposures to hazardous substances and revitalize the area—benefiting the entire community.

The Wisconsin Department of Natural Resources (WDNR) (BRRTS, 2007) tracks information on contaminated lands identified throughout the state. This baseline measure focuses on two types of properties known to have soil or groundwater contamination: "Environmental Repair" (ERP) sites and Leaking Underground Storage Tank (LUST) sites. Specifically, this baseline measure reports: (1) the number of activities related to clean up that occurred per square mile and (2) the percentage of sites whose clean-up status became designated as "closed" or "conditionally closed" in the past 5 years and thus the properties were cleared for redevelopment. Data are reported for the 30th Street Corridor Evaluation Area and the City of Milwaukee.

### *What the Data Show*

Over the entire period of record covered by WDNR's data, the 30th Street Corridor has had more ERP and LUST site clean-up activities per square mile (31) in comparison to the City of Milwaukee (22). Moreover, in recent years, a greater proportion of the clean-up activities documented in the 30th Street Corridor have resulted in a status code of "closed" or "conditionally closed" when compared to citywide data. In other words, the remediation activities in the 30th Street Corridor are bringing many contaminated properties one step closer to redevelopment.

| Data Elements for ERP and LUST Sites | 30th Street Corridor | Milwaukee |
|---|---|---|
| Number of Clean-up Related Activities per Square Mile | 31 | 22 |
| Percentage of Activities Closed or Conditionally Closed | 41.7% | 38.0% |

### *Limitations*

WDNR's data provide very extensive insights on properties known or suspected to be contaminated with hazardous substances, and these data can be summarized in countless ways. This baseline measure focuses on a large subset of these sites, but not the entire universe of properties tracked by the state. Users interested in further information on clean-up related activities can consult the online database (BRRTS, 2007).

## Commercial Properties

A neighborhood's commercial properties can reflect a community's livelihood. The *amount of land* being used for commercial purposes gives some indication of local land uses. The *value* of commercial properties can reflect confidence in local businesses and opportunities for future development. *Tax delinquency* of commercial properties can indicate, among other things, the level of economic success that local businesses may or may not enjoy. This baseline measure tracks all of these aspects of commercial properties, because commercial enterprise can bring economic vitality and its associated benefits (e.g., income, medical insurance) to local residents.

Data from the Milwaukee Property File (MPROP, 2007) were used to calculate the number of commercial properties for both the 30th Street Corridor and the City of Milwaukee. For purposes of this baseline measure, "commercial properties" include several types of establishments: wholesale and retail, services, mixed commercial, manufacturing, construction, and warehousing. For each property, the MPROP data also report the average size of the buildings and land, building values, and tax delinquency status. See Appendix E for a more detailed breakdown of commercial property in Milwaukee and the 30th Street Corridor.

### *What the Data Show*


**(WDNR, 2006)**

Consistent with its history as an industrial area, the 30th Street Corridor contains more commercial properties per square mile than does the City of Milwaukee. According to the 2007 MPROP data, the 30th Street Corridor Evaluation Area contains 892 lots zoned for commercial purposes (or 94 per square mile), while the City of Milwaukee has 5,623 commercial properties (or 58 per square mile).

MPROP data suggest that opportunities exist for developing commercial properties in the 30th Street Corridor. The average value of commercial properties in the evaluation area is $335,844, which is roughly one-third the average value of commercial properties citywide. This translates to an average value of about $41 per square foot of property in the evaluation area, compared to $135 per square foot citywide. Additionally, 21% of commercial properties in the 30th Street Corridor are tax delinquent, and have been for an average of 2.4 years. The comparable citywide average tax delinquency rate for commercial properties is 11%, with an average duration of tax delinquency of 1.9 years.

### *Limitations*

Characterizing the inventory of a large city's commercial properties is a complicated task, given the frequent real estate transactions and changes in building values and tax delinquency status. This baseline measure is based on the most recent and extensive property inventory data available for the City of Milwaukee. While the MPROP data may not perfectly characterize the local building inventory, the data clearly offer the best available information on commercial building stock and are believed to provide a highly accurate account of commercial property trends.

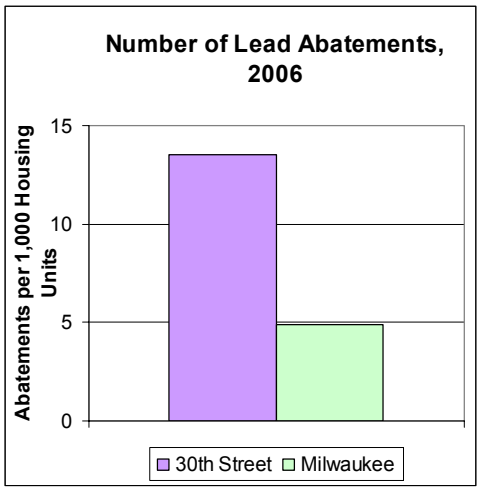
## Number of Lead Abatements

Lead exposure in young children can cause a range of health and behavioral effects, including reduced intelligence and attention span, impaired growth, and reading and learning disabilities (CDC, 2007d). A major source of exposure in older urban neighborhoods, such as the 30th Street Corridor, is ingestion of lead-based paint chips and dust (ATSDR, 2007). Lead poisoning can be prevented by lead abatement, which is the removal of lead-based paint hazards from a house or property. Tracking the number of lead abatements therefore provides insights on the number of homes where lead exposure hazards have been significantly reduced.

Data from the Wisconsin Department of Health and Family Services (DHFS, 2007b) were used to determine the number of residential lead abatements completed in 2006 in both the 30th Street Corridor Evaluation Area and the City of Milwaukee. According to DHFS, lead abatements are cleanups conducted by certified contractors, who are required to report their work to the state. The state requires abatements to occur when a child resident is found to have very high blood lead levels (>20µg/dl).

### *What the Data Show*

In 2006, 477 lead abatements were completed in the 30th Street Corridor Evaluation Area, which amount to 38.7% of the 1,233 lead abatements that were completed citywide. For every 1,000 housing units in the 30th Street Corridor, 13.5 abatements were conducted. In contrast, throughout the city of Milwaukee, 4.9 abatements were conducted for every 1,000 housing units.




Additionally, data collected thus far in 2007 suggest that more than half of the lead abatement orders issued in the City of Milwaukee are for residential properties within the 30th Street Corridor.

### *Limitations*

This baseline measure tracks lead hazards removed by licensed contractors. It does not account for lead hazards that may be removed when homeowners conduct renovations or lead hazards removed when buildings are demolished. Thus, lead hazards may actually be removed from selected residences at a greater rate than indicated. This baseline measure does not report statewide data because the risk of elevated blood lead levels is disproportionately high in low-income and minority communities, even after home age is taken into account (CDC, 2000b).

**Number of New Construction Permits**

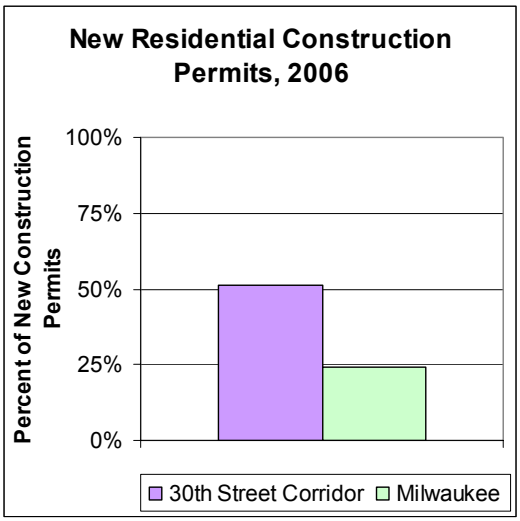
The quality of housing can affect both physical and mental health. For instance, people living in older homes have a higher-than-usual risk of lead poisoning, since older housing is more likely to contain lead paint (NSC, 2005). Further, redevelopment in residential areas may strengthen a community's sense of pride and accomplishment in their neighborhoods. While the extent of redevelopment activities can be tracked in many ways, the number of new construction permits was selected for this report because it represents efforts to improve the housing stock and the community's desire to create healthier living environments.

This baseline measure is based on data collected by the City of Milwaukee Department of City Development (DCD, 2007) on building permits issued during 2006. Building permits can address a very broad range of renovation and construction activities, including new construction, additions put on existing buildings, and electrical and plumbing work. Data are reported for total building permits issued and what percent of these are new construction permits. The percent of new construction of residential buildings is also reported. For comparison, permit data for Milwaukee are also presented.

***What the Data Show***

Building permit data confirm that ongoing efforts are being made to improve the residential housing stock in the 30th Street Corridor Evaluation Area. Specifically, in 2006, DCD issued 5,724 building permits in the 30th Street Corridor Evaluation Area, and 3.5% of these were for new construction. Of all of the new construction permits, 51% were for residential buildings.

In Milwaukee, DCD issued 38,013 building permits, 2.5% of which were for new construction. Citywide, a smaller portion (24%) of the new construction permits was for residential properties.




***Limitations***

Data for this baseline measure are based on construction permits filed with DCD. While these records likely account for the overwhelming majority of new construction projects and a large fraction of home renovations, some residents may conduct home improvement activities without obtaining appropriate permits. Regardless, the building permit data show that improvements continue to be made to the local housing conditions, both in the 30th Street Corridor Evaluation Area and citywide.

**Residential Properties**

The quality of housing can affect both physical and mental health. People living in older houses have a higher-than-usual risk of lead poisoning, since about two-thirds of homes built before 1940 and half of homes built between 1940 and 1960 contain heavily leaded paint (CPSC, 2007). Moreover, vacant properties in otherwise developed areas may be associated with increased crime and arson rates, decreased property values, and negative impacts on the quality of life for residents in the surrounding community (NVPC, 2005). Furthermore, symptoms of stress, anxiety, and depression may be associated with poor quality housing (WHO, 2004). Improvements in housing conditions are expected to contribute to many community and health benefits.

This baseline measure characterizes the housing stock within the 30th Street Corridor as derived from data collected during the 2000 U.S. Census (U.S. Census Bureau, 2000) and reported in the Milwaukee Property File (MPROP, 2007). For purposes of comparison, the housing stock conditions are also reported for the City of Milwaukee.

***What the Data Show***

As the table shows, 30th Street Corridor housing, on average, is older than housing in Milwaukee. In 2000, the 30th Street Corridor had nearly twice as many vacant units as did Milwaukee. Fewer people own single-family homes in the 30th Street Corridor, and the average assessed value of these homes is about $66,000 less than comparable properties throughout Milwaukee. Monthly rent in the 30th Street Corridor is about 15% less expensive than the citywide average.

| Housing Characteristic | 30th Street Corridor | Milwaukee |
|---|---|---|
| Number of Housing Units | 35,233 | 249,215 |
| Built Before 1960 | 76.6% | 69.5% |
| Vacant | 12.9% | 6.8% |
| Single-Family, Owner Occupied | 20.1% | 33.0% |
| Average Assessed Value | $86,336 | $152,434 |
| Median Monthly Rent | $450 | $527 |

***Limitations***

With one exception, the data elements shown in this table are believed to be highly accurate and representative of the housing stock in 2000. As the possible exception, the median value of single-family, owner-occupied housing units may not accurately reflect actual market prices of homes in 2000, because some real estate assessments may have been made many years prior to the 2000 Census. However, any resulting bias in this statistic is believed to occur in both the 30th Street Corridor data and the City of Milwaukee data.

## Conclusion

This report presents ATSDR's compilation of the most current, complete, and accurate data available to characterize the baseline—or "pre-development"—condition of the 30th Street Corridor Evaluation Area. Taken together, the 19 baseline measures provide insights into an area that clearly faces many economic, environmental, and social challenges. However, redevelopment activities can provide some means for the local Development Community to overcome these challenges.

## Recommendations

1) The baseline measures in this report should be revisited as redevelopment activities continue in the 30th Street Corridor Evaluation Area. Changes between future conditions and baseline measures may demonstrate that redevelopment activities have affected—and hopefully improved—the community health and quality of life among residents of the 30th Street Corridor Evaluation Area. Of course, such future evaluations must also consider the extent to which factors other than redevelopment activities might have contributed to changes.

2) Future research efforts should be mindful of the fact that some community issues documented in this report may change quickly and be directly linked to redevelopment activities, while others may take many years to show improvement and be affected by many complex factors. As examples, aggressive redevelopment activities in the next few years might very well decrease the acreage of vacant lots and reduce the amount of contaminated land in the 30th Street Corridor Evaluation Area. On the other hand, issues such as infant mortality rates are not expected to change as quickly and are affected by many inter-related socioeconomic factors, only some of which might be changed through redevelopment activities. Such observations should not discourage researchers from revisiting the data presented in this report's baseline measures. Rather, any future evaluations of the community issues should carefully interpret trends and document them within appropriate context.

3) The information provided by these indicators should be considered in the planning efforts for the 30th Street Corridor to improve the health status of the community.

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# Appendix A. 30th Street Corridor Evaluation Area: Census Tracts and Zip Codes

The 30th Street Corridor Evaluation Area depicted earlier in this report is based on the boundaries of the census tracts listed below. In some cases, underlying data for baseline measures were not available by census tract, but instead were aggregated by zip codes. This occurred for 4 out of the 19 baseline measures: Hospitalization for Asthma, Lead and Copper in Tap Water, Number of People with Health Benefits, and Infant Mortality. While the zip code boundaries are not perfectly aligned with the boundaries of the 30th Street Corridor Evaluation Area depicted earlier in this report, the five zip codes listed below provide a reasonable approximation for the evaluation area and were used to compile data for the four baseline measures listed above.

**Census Tracts**

| | |
|---|---|
| 24 | 101 |
| 25 | 102 |
| 26 | 103 |
| 39 | 104 |
| 41 | 115 |
| 42 | 116 |
| 48 | 117 |
| 62 | 118 |
| 63 | 119 |
| 64 | 120 |
| 65 | 121 |
| 85 | 122 |
| 86 | 123 |
| 87 | 124 |
| 88 | 135 |
| 90 | 136 |
| 96 | 137 |
| 97 | 138 |
| 98 | 139 |
| 99 | 140 |
| 100 | 141 |

**Zip Codes**

| |
|---|
| 53205 |
| 53206 |
| 53208 |
| 53210 |
| 53216 |

# Appendix B. 30th Street Corridor Development Community

Over the last year, ATSDR has consulted or met with numerous parties who have a vested interest in the ongoing redevelopment activities in the 30th Street Corridor Evaluation Area and how those activities affect community and public health. Following is a list of the government agencies, organizations, and other parties ATSDR has coordinated with on this project:

- Groundwork Milwaukee (http://www.groundworkmke.org)
- Industrial Corridor Corporation (ICC) (http://www.30thstreeticc.org)
- Milwaukee Department of City Development (http://www.mkedcd.org)
- Milwaukee Health Department (http://www.city.milwaukee.gov/health)
- Community Health Improvement for Metcalf Park and Concordia (CHIMC) Project: Neighborhood House (http://www.nh-milw.org), Medical College of Wisconsin, Next Door Foundation
- Northwest Side Community Development Corporation (CDC) (http://www.nwscdc.org)
- Wisconsin Department of Health and Family Services (http://dhfs.wisconsin.gov)
- Wisconsin Department of Natural Resources (http://dnr.wi.gov)
- University of Wisconsin—Milwaukee (http://www4.uwm.edu)
- Urban Open Space Foundation (http://www.uosf.org)

In addition, the 30th Street Corridor has numerous community groups and agencies who ATSDR has consulted with on this project. These include:

- Community Care (http://www.cco-cce.org)
- Habitat for Humanity (http://www.milwaukeehabitat.org)
- Johnsons Park Neighborhood Association
- Local residents
- Metcalfe Park Resident's Association
- Milwaukee Community Services Corporation
- Milwaukee Local Initiatives Support Corporation (LISC) (http://www.lisc.org/Milwaukee)
- North Avenue Community Development Corporation (CDC)
- Northside YMCA (http://www.ymcamke.org/northsidebranch)
- Walnut Way Conservation Corp. (http://www.walnutway.org)

# Appendix C. Additional Baseline Measures

ATSDR worked with the Development Community to select baseline measures, using ATSDR's 4-Step Brownfields/Land Revitalization Action Model. A number of additional baseline measures were suggested but not used in this report, typically because data were not easily accessible or available. The following table lists the additional baseline measures of interest to community members but not included in this report for various reasons.

| *Category* | *Measure* |
|---|---|
| *Health* | Number of Programs (e.g., clinics, halfway houses) for People with Mental Health Problems |
| | Obesity or Body Mass Index (BMI) (Childhood) |
| | Self Reports of Happiness (Survey) |
| *Community* | Cost of Public Transportation |
| | Crime (Including Arson, Burglary, and Theft) |
| | High School Graduation Rates |
| | New Jobs Added |
| | Number and Types of Employers |
| | Number of Groups Working on Redevelopment |
| | Number of People Who Have Moved Out of the Area |
| | Number of Police Patrolling, Police Stations |
| | Number of Recreational and Youth Centers Available or Active |
| | Percentage of Population on Medicaid |
| | Proportion of Adults Employed in Local Businesses |
| | Ridership Statistics for Public Transportation |
| *Land and Environment* | Number of Brownfields Sites |
| | Number of Community Gardens |
| | Number of Recreational Facilities (e.g., basketball courts, town pools) |
| *Buildings and Infrastructure* | Number and Types of Grocery Stores or Food Establishments |
| | Number and Types of Schools in Area |
| | Number and Types of Streetlights |
| | Number of Clinics, Free Clinics, and Hospitals |

# Appendix D. Baseline Measures and Sources

ATSDR generally relied on data sources compiled by local, state, and federal agencies to develop the baseline measures. For one baseline measure ("Number of People Using Parks"), ATSDR used data collected during field surveys performed by students at the University of Wisconsin—Milwaukee. The following table lists the primary data sources for the baseline measures.

| *Category* | *Measure* | *Primary Data Source(s)* |
|---|---|---|
| *Health* | Hospitalizations for Asthma | City of Milwaukee Health Department |
| | Infant Mortality Rates | City of Milwaukee Health Department; Wisconsin DHFS |
| | Lead and Copper in Tap Water | Milwaukee Water Works (DPW) |
| | Lead Poisoning in Children | Wisconsin DHFS |
| | Low Birth Weight | City of Milwaukee Health Department |
| *Community* | Acreage of Vacant Lots | Milwaukee Property File (MPROP) |
| | Education of Adults | 2000 U.S. Census |
| | Percentage of People Employed | 2000 U.S. Census |
| | Percentage of Adults with Health Benefits | Wisconsin DHFS Behavioral Risk Factor Survey |
| | Percentage of People Living in Poverty | 2000 U.S. Census |
| | Third Grade Reading Comprehension | Wisconsin Department of Public Instruction |
| | Violent Crime Rates | Milwaukee Police Department (through COMPASS) |
| *Land and Environment* | Acreage of Parks | ESRI GIS Data |
| | Contaminated Land | Wisconsin DNR BRRTS Database |
| | People Using Parks | ERG and University of Wisconsin—Milwaukee Student Survey |
| *Buildings and Infrastructure* | Commercial Properties | Milwaukee Property File (MPROP) |
| | Number of Lead Abatements | Wisconsin DHFS |
| | Number of New Construction Permits | Milwaukee Department of City Development |
| | Residential Properties | 2000 U.S. Census; Milwaukee Property File (MPROP) |

# Appendix E. Detail of Commercial Property Data

ATSDR used data from the Milwaukee Property File (MPROP) to determine the breakdown of commercial property in the city of Milwaukee and the 30th Street Corridor. The following data supplement the information included in the "Commercial Properties" baseline measure on page 25.

| *Commercial Property Type* | *Study Area* | *Percent of Total* | *Average Value* | *Average Value per Square Foot* | *Tax Delinquent* | *Average Years Tax Delinquent* |
|---|---|---|---|---|---|---|
| *Wholesale and retail trade* | Milwaukee | 30.46% | $630,210 | $109.55 | 12.6% | 1.8 |
| | 30th Street Corridor | 32.06% | $294,143 | $47.45 | 18.5% | 2.5 |
| *Services, Finance, Insurance & Real Estate* | Milwaukee | 31.46% | $1,325,785 | $185.96 | 14.9% | 1.9 |
| | 30th Street Corridor | 33.18% | $189,334 | $31.87 | 30.7% | 2.2 |
| *Mixed* | Milwaukee | 16.45% | $1,245,518 | $92.32 | 7.2% | 1.7 |
| | 30th Street Corridor | 10.20% | $450,624 | $30.52 | 15.4% | 2.2 |
| *Manufacturing, construction, and warehousing* | Milwaukee | 21.62% | $889,357 | $110.83 | 9.2% | 2.2 |
| | 30th Street Corridor | 24.55% | $540,632 | $50.06 | 15.5% | 2.8 |