CANNERY DISTRICT, EC

2017

HEALTH IMPACT ASSESSMENT

PREPARED BY THE CANNERY HIA PROJECT TEAM
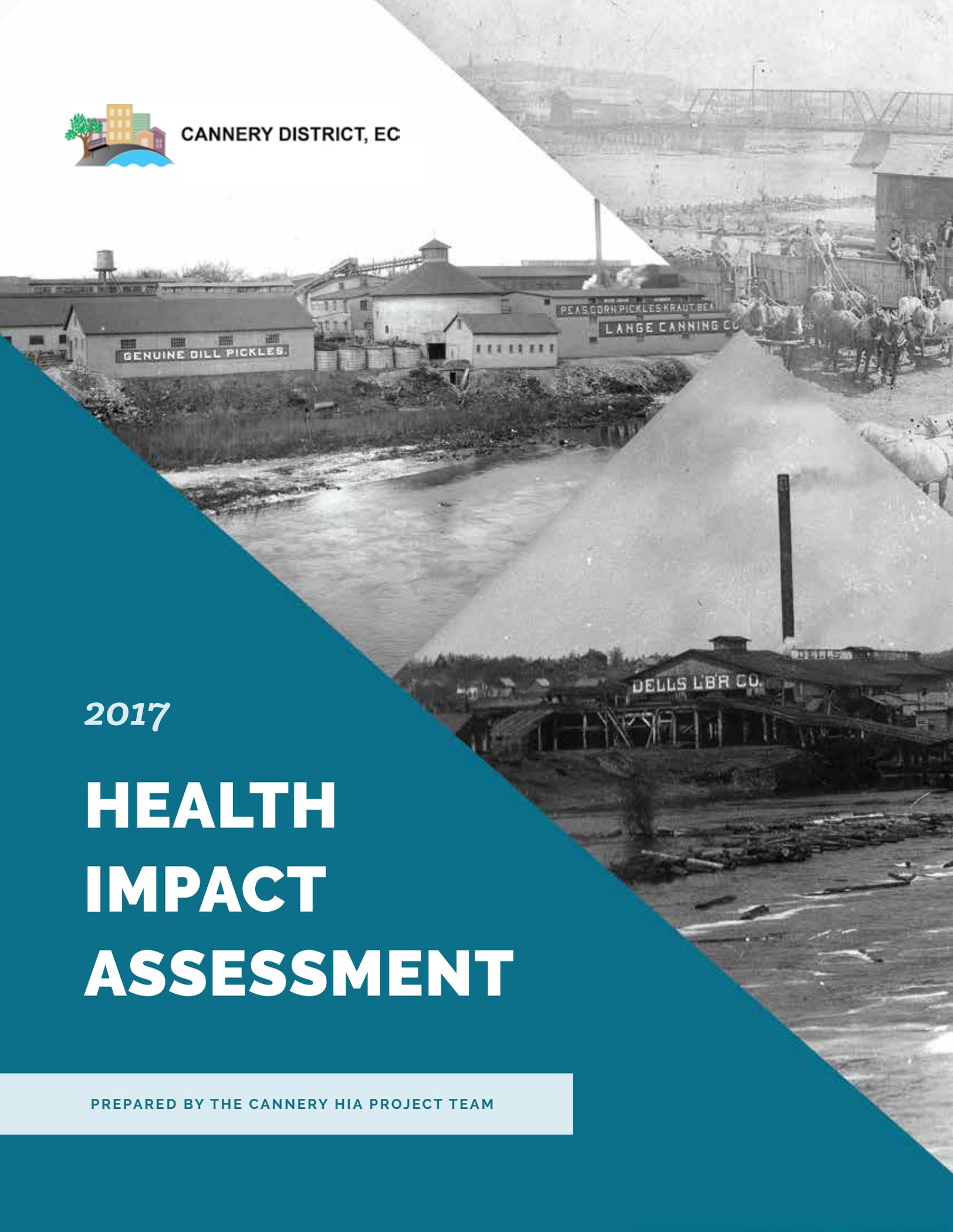
EXECUTIVE SUMMARY

The Cannery District Redevelopment Area in Eau Claire, Wisconsin is a 30-acre area in which a new park and multi-use development have been proposed. The area is across the Chippewa River from downtown Eau Claire and is intended to become an extension of downtown. The adjacent West Riverside Neighborhood, home to approximately 1,700 people, contains the city's senior center and an elementary school and is adjacent to a large hospital.

In response to the Eau Claire Comprehensive Plan Health Chapter Policy 3.2, a multi-disciplinary project team acquired funding to conduct the city's first comprehensive health impact assessment (HIA) on the potential development in the Cannery District. The project team engaged two groups of stakeholders including people that live and work in the neighborhood, as well as leadership from university, city, and county departments to serve as advisory committees. Throughout the HIA, the Project Team solicited stakeholders' interests and concerns for the site. The Project Team also engaged many people who live or work in the area through one-on-one conversations and door-to-door surveys.

Based on the interests and concerns of the advisory committees, the scope of this HIA examined park and trail design, street and sidewalk design,

and availability of affordable housing, as they relate to physical activity, social cohesion, mental health, and safety.

Recommendations for development of the Cannery District are provided in this report and are based on predicted health impacts determined from a review of existing research and local data.

At the time of this report, redevelopment plans for the Cannery had been proposed, but not finalized. As plans for the park and multi-use development design become finalized and requests for development proposals sought, developers, engineers, planners, architects, and others engaged in the design and programming of the Cannery District development should consult this report and recommendations so that design elements that are protective of health for all populations may be incorporated.

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Summary of HIA Findings, based on literature review, primary data, and secondary data. The direction, likelihood, and magnitude of the described effects are anticipated if the major recommendations in this report are adopted.

	DIRECTION	LIKELIHOOD	MAGNITUDE	STRENGTH OF EVIDENCE
PARK & TRAIL DESIGN				
Physical Activity	↑	Likely	High	★ ★ ★
Social Cohesion	↑	Likely	Medium	★ ★ ★
Safety	↑	Likely	Medium	★ ★ ★
STREET & SIDEWALK DESIGN				
Physical Activity	↑	Likely	High	★ ★ ★
Social Cohesion	↑	Possible	Medium	★ ★
Safety	↑	Likely	High	★ ★
HOUSING AFFORDABILITY & INFRASTRUCTURE				
Access to Affordable Housing	↑	Likely	High	★ ★ ★
Social Cohesion	↑↓	Possible	Medium	★ ★
Mental Health	↑	Possible	Low	★ ★

LIKELIHOOD

Unlikely – Little evidence effects will occur

Possible – Effects may occur

Likely – Evidence suggests these effects commonly occur in similar projects

Uncertain – Unclear if any impacts will occur

DIRECTION:

↑　　(Positive health impact)

↓　　(Negative health impact)

↑↓　(Mixed health impacts)

MAGNITUDE:

Low – A few people will be impacted

Medium – A moderate number of people will be impacted

High – A lot of people will be impacted

STRENGTH OF EVIDENCE:

★ ★ ★ = Many peer reviewed articles

★ ★ ☆ = Studies have mixed results

★ ☆ ☆ = Generally consistent with public health concepts

RECOMMENDATIONS

As plans for the park and multi-use development design become finalized and requests for development proposals sought, this report should be consulted and recommendations considered so that design elements that are protective of health for all populations may be incorporated.

EQUITY

Ensure a connection to transportation, trails, and amenities that is accessible for people with all ability levels and follows Universal Design principles

- Allow playgrounds, picnic areas, sport courts to be accessible from multi-use trails and by children and adults of all abilities
- Provide benches for rest at regular intervals along trail and sidewalk networks. Place benches where natural surveillance is maximized to increase safety

Engage the community in the design and implementation of new public spaces

- Solicit community ideas for design and engage community in development (such as tree planting events, soliciting local artwork for display, forums for discussion of design plans)

Explore a portion of new housing development to include affordable housing (housing for families at 50% and 80% of AMI)

Explore policies that ensure continued affordability of housing units within the neighborhood and ability of residents to remain in their homes

Engage in strategies that help to mitigate or offset the potential effects from gentrification, such as:

- Mixed-income housing, in which affordable and market rate units are in the same structure, housing development, or neighborhood
- Inclusionary zoning policies
- Homeownership or job programs to increase individuals assets

Evaluate housing plans or proposals to ensure new investments will benefit current residents

If a tax increment district (TID) is created for the Cannery District, consider allocating increment to improvements for the neighborhood within a 1⁄2 mile from the TID boundary.

PUBLIC SPACE & PLACE

Incorporate design elements that facilitate social interaction

- Design and support use of parks or surrounding streets for community gardens, festivals, events, or gatherings
- Include features such as courtyards, outdoor seating, small storefront setbacks, unique building façades, shade, and informal gathering spaces

Adopt pet friendly policies and amenities

- Consider pet watering stations, pet waste stations, and pet-friendly park programming

Encourage pedestrian activity through streetscape texture such as public art, street furniture, street trees, and variable building styles to maintain interest and activity

In appropriate areas consider a minimum street side width of 9 feet (residential areas) and 12 feet (commercial areas) to accommodate sidewalk, landscaping, and street furniture, to encourage pedestrian activity

Consider orienting building development toward the street and sidewalk, with setback from the sidewalk of 0 feet for commercial areas and a maximum of 10-15 feet for residential units within the mixed use development area

Develop open spaces and green areas that are readily accessible by housing residents, such as gardens, community rooms, fitness areas, and playgrounds

Incorporate design features that encourage social interactions, such as:

- play areas for young families
- home entrances oriented toward high-use pathways
- visual exposure of common spaces from porches or balconies

RECREATION CHOICES

Intermix active spaces (playgrounds, sport courts) with passive spaces (benches, pavilions, picnic tables, barbecue grills)

Provide a variety of high-quality spaces for multigenerational play and recreation for all ability and socioeconomic levels

- Provide a variety of programming such as group exercise classes, educational programs, and unique or special events
- Consider adaptive playgrounds for children with varied ability levels
- Locate areas for adult fitness near children's playground so adults can be active while visiting the park with children
- Provide separation between different park uses, such as sport areas (for groups/social gatherings) and natural quiet areas (for individuals/solitude)

SAFE ENVIRONMENTS

Include well-marked crosswalks, special pavers, and curb extensions to visually highlight pedestrians and slow traffic

Align neighborhood streets along park boundaries to increase "natural surveillance" or visibility of park users by people in cars and on sidewalks

Include entrances and windows in adjacent buildings that face the park or trail

Implement all applicable crime prevention through environmental design (CPTED) principles

- Minimize problem features, such as narrow pedestrian walkways, overgrown vegetation, isolated or unmonitored pedestrian areas, and physical signs of disorder (garbage, graffiti, etc.)
- Plan for events/activities to be held at different times of the day, so there is a citizen presence from morning to evening

Integrate Safe Routes to Parks design principles (comfort, convenience, safety, access & design, park quality)

- Routes to parks should easily walkable with shade, visual appeal, and easy traffic crossing for youth and adults
- Multiple access points to the park should be available, such that most people can access the park within a 10 minute walk

Implement "Safe Park Zones" in which traffic speeds are decreased and traffic violation fines are higher

Provide formal surveillance by law enforcement and/or cameras

Conduct a safety audit of the park and trail space, to gather perceptions of safety from users of the space (after development)

Develop comprehensive street, sidewalk, and bike-route network that connects neighborhoods/destinations to parks & trails

Coordinate transit stops with park access points

Implement way-finding signs to orient visitors and highlight area amenities

- Create visible and safe pedestrian and bike routes to nearby destinations such as schools, senior center, farmers' market, hospitals, university

TRANSPORTATION CHOICES

Develop the multi-use trail with a width of 12–14'

Provide amenities that support biking, walking, and transit such as bike racks/ covered bike parking, fixing stations, benches, and bus shelters

Consider incentives for developers or businesses that support the use of biking and walking

Create street lanes with widths of 10-11' on lower-speed urban streets to appropriately slow traffic & reduce pedestrian crossing distance

Use a detailed traffic model to determine the appropriateness, location, and type of on-street bicycle facilities that will decrease the likelihood of collision and injury

Locate housing developments near commercial/retail areas that allow people to walk or bike to access basic services and/or job opportunities

Ensure connection for residents to trails and public transit services

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HIA Project Team and Advisory Committee Participants

HEALTH IMPACT ASSESSMENT PROJECT TEAM

Audrey Boerner	Eau Claire City-County Health Department (report author)
Carleigh Olson	Eau Claire City-County Health Department (report author)
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Cortney Draxler	Eau Claire City-County Health Department
Barb Powers	Healthy Communities Chronic Disease Prevention Action Team Co-chair
John Stedman	JONAH (Joining our Neighbors Advancing Hope)
Sara Carstens	Mayo Clinic Health System
Terry Brandenburg	Medical College of Wisconsin – MPH Program
David Nelson	Medical College of Wisconsin – Dept of Family and Community Medicine
Nick Zupan	University of Wisconsin Population Health Institute Fellow

HEALTH IMPACT ASSESSMENT ADVISORY COMMITTEE MEMBERS

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Cheryl Brandt	Neighborhood resident
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Josh Clements	City of Altoona
Christa Cupp	Wisconsin Division of Public Health Western Regional Office
Chad Duerkop	Eau Claire Parks, Recreation & Forestry Division
Jim Dunning	Eau Claire County Board

TABLE 01.

Continued...

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Barbara Gosch	Community member
Phil Johnson	Ayers Associates
Todd Johnson	Eau Claire Montessori School
Mel Kantor	Eau Claire Healthy Communities, UW-Eau Claire faculty
Bruce King	Northwestern Wisconsin Realtors Association
David Klinkhammer	Eau Claire City Council, Redevelopment Authority
Sandra McKinney	Community member, Eau Claire County Board
Mark Mernitz	Mayo Clinic Health System
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Pat Perkins	Community member
Dale Peters	City of Eau Claire
Barb Powers	Eau Claire Healthy Communities Chronic Disease Prevention Action Team
Cory Streeter	Eau Claire Police Department
Pa Thao	Eau Claire Area Hmong Mutual Assistance Association
Andrew Werthmann	Eau Claire City Council
Ezra Zeitler	Community member
Nick Zupan	Wisconsin Division of Public Health Western Regional Office

01
INTRODUCTION

This section discusses the connection between health and the built environment, historical context for the factors that led up to the health impact assessment (HIA) conducted for the Cannery District in Eau Claire, and background on the Cannery District.

IMPACT OF THE BUILT ENVIRONMENT ON HEALTH

There is now a large body of research that supports the hypothesis that our individual choices, genetics, and clinical care contribute to a small part of our overall health, and that the social, economic, and physical environment play a much larger role than previously thought (Vlahov et al., 2007). Environmental factors may include one's education, race, ethnicity, income, and neighborhood. Though these factors can vary, the County Health Rankings model[01] suggests that as much as 50% of our health is determined by these factors, referred to as **health determinants.** The built environment specifically refers to all of the physical areas where we work, live, learn, and play. The Eau Claire Comprehensive Plan Health Chapter defines built environment as **"those settings designed, created, and maintained by human efforts—buildings, neighborhoods, public plazas, playgrounds, roadways,...parks,... and supporting infrastructure systems (sewers, gas pipes, and electric lines)".** According to this definition, the built environment includes our homes, schools, workplaces, business areas, and streets.

Features such as the presence of sidewalks, parks and bike facilities, access to healthy food and quality education, age and quality of homes, and level of community engagement all contribute to the quality of our environment, the ability to make healthy choices conveniently, and ultimately

health outcomes (Marmot, 2005). All of these features of the built environment (and many more within our social and economic environments) can impact one's health as much as or more than individual choices or genetics (Jackson, 2003, Vlahov et al., 2007).

77% of Eau Claire residents feel it is "essential" or "very important" for the community to focus on the overall built environment in the next two years

EAU CLAIRE NATIONAL CITIZEN SURVEY, 2016

Health determinants, by definition, play a direct role in our **health outcomes**, which report the health status of a person or community (e.g. asthma, diabetes, obesity, heart disease, and mental health). Health determinants can vary highly by neighborhood, putting certain populations at higher risk for poor health outcomes and often, more risk factors for poorer health outcomes accumulate in poorer neighborhoods. Because our physical environment — the built environment — can play such a large role in individual health as well as the health of our neighborhoods, city planners, engineers, developers, and health professionals should carefully consider how development of the built environment supports easy, healthy choices for all people.

The strong influence of the built environment on

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01 Available at: www.countyhealthrankings.org and accessed on 4/25/2017

public health is evident in the research indicating that much of the burden of chronic diseases (the largest cause of mortality in the US) can be reduced by more active lifestyles and improved nutrition (Perdue et al., 2003, Rahman et al., 2011). The transition from infectious disease as the primary public health threat in the 19th and early 20th century to the current threat of cancer, heart disease, and diabetes correlates with the development of car-centric communities, urban sprawl, and sedentary lifestyles at home and work. In 2014, seven of the top 10 causes of death in the US were chronic diseases. Heart disease and cancer together accounted for nearly 46% of all deaths across the US (Prevention, 2015).

Many of these issues are also present in the Eau Claire community. **In Eau Claire County, 46% of all 2014 deaths could be attributed to heart disease, cancer, and diabetes.** In addition, two in three county residents were an unhealthy weight, and nearly one in four residents did not report any activity in their leisure time. However, the built environment impacts more than the ability to be physically active; it influences our exposure to environmental toxins, frequency in which we interact with our neighbors or our natural surroundings, access to healthy food options, and the ease at which people with limited mobility can access amenities. In Eau Claire County, 3 in 5 homes are built before 1979 (potentially containing a lead hazard). In addition, the majority of the city of Eau Claire and surrounding townships have been designated as "low food access" areas[01]. In general in the city of Eau Claire, more people

report poorer physical and mental health in the city's older, central neighborhoods than they do in surrounding neighborhoods.

HEALTH IMPACT ASSESSMENT (HIA) OVERVIEW AND COMMUNITY CONTEXT

Recognizing the importance of including health in planning for the health and future of our community, the Eau Claire City Council adopted the Health Chapter into the Eau Claire Comprehensive Plan in 2013. The Health Chapter was developed by an advisory committee formed by the Plan Commission and includes public input. The purpose of the Health Chapter was to "help improve human health relative to our built environment" and it provides policy strategies that address issues such as active living, food and nutrition, land use, safety and crime, drug abuse, and environmental exposures. These policies provide direction to educate, research, provide incentives, enhance programs, and partner with other departments and agencies in creative ways.

The structure of the Health Chapter is the result of a long and positive relationship between City planning staff and the Eau Claire City-County Health Department. The Health Chapter, collaboratively written by public health, city planning, and many more community stakeholders,

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01 USDA Low Access tracts are those in which 500 people or 33% of the population or more live further than 0.5 miles (in urban areas) of 10 miles (rural areas) from a supermarket or large grocery. Designation is from 2015.

set the stage for conducting a health impact assessment in the city of Eau Claire. The Health Chapter Land Use Policy 3.2 suggested HIA as a tool for incorporating health considerations into city development projects by stating:

Explore using the Health Impact Assessment (HIA) process to support health in the built environment. Consider a formalized policy, receive training, build capacity, and pilot HIAs on public or private projects.

As momentum around the Cannery District redevelopment project increased in 2014, a funding announcement was released from Advancing a Healthier Wisconsin Endowment: Healthier Wisconsin Partnership Program. In response to a funding opportunity from the Healthier Wisconsin Partnership Program (HWPP), the Project Team (see Table 01) used their existing relationships to collaborate on and submit an application to requests for proposals from HWPP.

HWPP awarded funds to the Project Team to carry out Health Chapter Policy 3.2 by piloting HIA on the Cannery District redevelopment and study how this HIA might result in a practice change in the community. The goal of this work was to determine an effective method or methods in which health could be more routinely incorporated into community development decisions. The Project Team's began work on the HIA and associated research in July 2015 and will conclude in December 2017.

Health Impact Assessment (HIA) is a tool to evaluate the potential positive and negative impacts to health from a proposed policy, project, or plan. HIAs are conducted to inform decision makers by using existing research, baseline health data, and input from stakeholders to determine potential effects, and then provide

The practice of HIA generally follows six steps:

1. SCREENING
Identifies whether an HIA will be useful and feasible

2. SCOPING
Sets the parameters for what health effects the HIA will examine and what assessment approach will be used, with input from the community

3. ASSESSMENT
Identifies whether impacts are likely to occur and then quantifies or characterizes the predicted impacts

4. RECOMMENDATIONS
Offers recommendations that include specific action items describing how conditions should amended to maximize health benefits and minimize negative health impacts

5. REPORTING AND DISSEMINATION
Compiles and communicates findings to decision makers, stakeholders, media, and the general public

6. MONITORING AND EVALUATION
Tracks the effect of the HIA and the health of the community over time and reviews the overall HIA process

The methods for each of these steps are discussed in detail in their respective sections of this report.
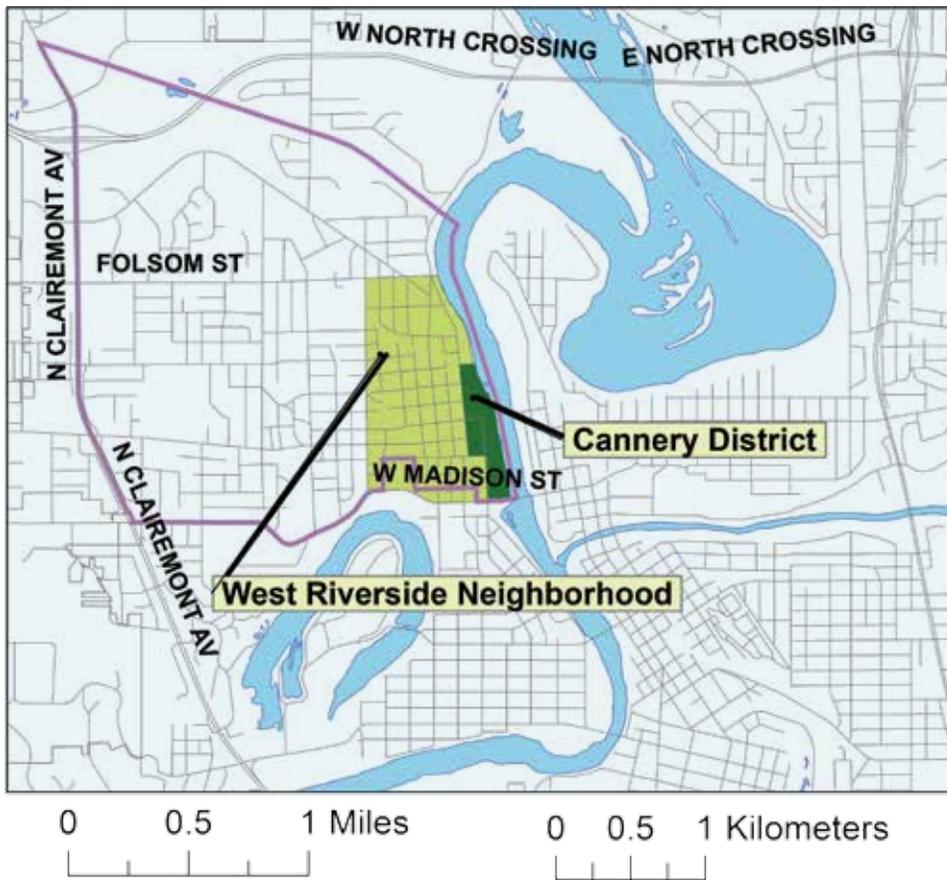
FIGURE 01.
The Cannery District redevelopment area in central Eau Claire, Wisconsin. The West Riverside Neighborhood is highlighted in light green, and the Cannery District is shaded in dark green. The census tract containing the West Riverside Neighborhood is outlined in pink.

recommendations to manage potential negative impacts, or optimize anticipated positive impacts.

The goal of this HIA was not only to move forward Health Chapter Policy 3.2, but also to provide a health lens for the planned development in the Cannery District in the hope of maximizing health benefits and minimizing negative health impacts for the greatest number of people. Many partnerships were crucial to successful completion of the Cannery HIA. Local public health, city government, community representatives, law enforcement, healthcare, and other partners worked collaboratively throughout the process. These partnerships brought enthusiasm and support for studying how development decisions in the community are made, and the value of HIA to the local decision-making process.

ABOUT THE EAU CLAIRE CANNERY DISTRICT REDEVELOPMENT

The city of Eau Claire is located in west-central Wisconsin, with a population of approximately 67,000 people. The Cannery District is approximately 30 acres and is proposed to become an extension of downtown Eau Claire. It is bounded to the east by the Chippewa River and to the west by the West Riverside Neighborhood, home to approximately 1,700 people (Figure 01). Very few people live in the District itself.

Around the turn of the 20th century, lumber companies owned part of the area, using the

Photo looking north along Oxford Avenue, the primary north/south street in the southern portion of Cannery District. The brick building on the left is the Eau Claire Children's Theater. In 2016, a local brewery purchased the brick warehouse (right side of the photo) to redevelop it into a brewery and taproom with outdoor seating. *Photo from 2012.*

river for the transport of logs. In the 1930s, food production facilities moved into the area, including a large canning company followed by a National Pressure Cooker Company in the 1950s. The 2011 neighborhood plan[01] for the West Riverside District calls for redevelopment that takes advantage of the views of the proposed riverfront park and Chippewa River and to include land uses such as small shops and businesses, offices, and lower-density multiple-family housing. Currently, the West Riverside Neighborhood is home to the L.E. Phillips Senior Center, Chippewa Valley Montessori Charter School (which serves ages 4-11), Eau Claire

Children's Theater, and several small businesses such as restaurants, bars, a specialty grocer, a brewery, and a convenience store and gas station.

The redevelopment plan for the area includes a 16-acre park and multiuse trail that will connect residents to the existing Eau Claire trail system and replace an existing neighborhood park (Figure 02). The remaining portion of the redevelopment area (approximately 14 acres) is expected to contain additional businesses and housing. In late 2016, clearing began for the multi-purpose trail on the west bank of the Chippewa River that

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01 West Riverside District Plan, available at http://www.eauclairewi.gov/home/showdocument?id=996 (Accessed 9/25/17)
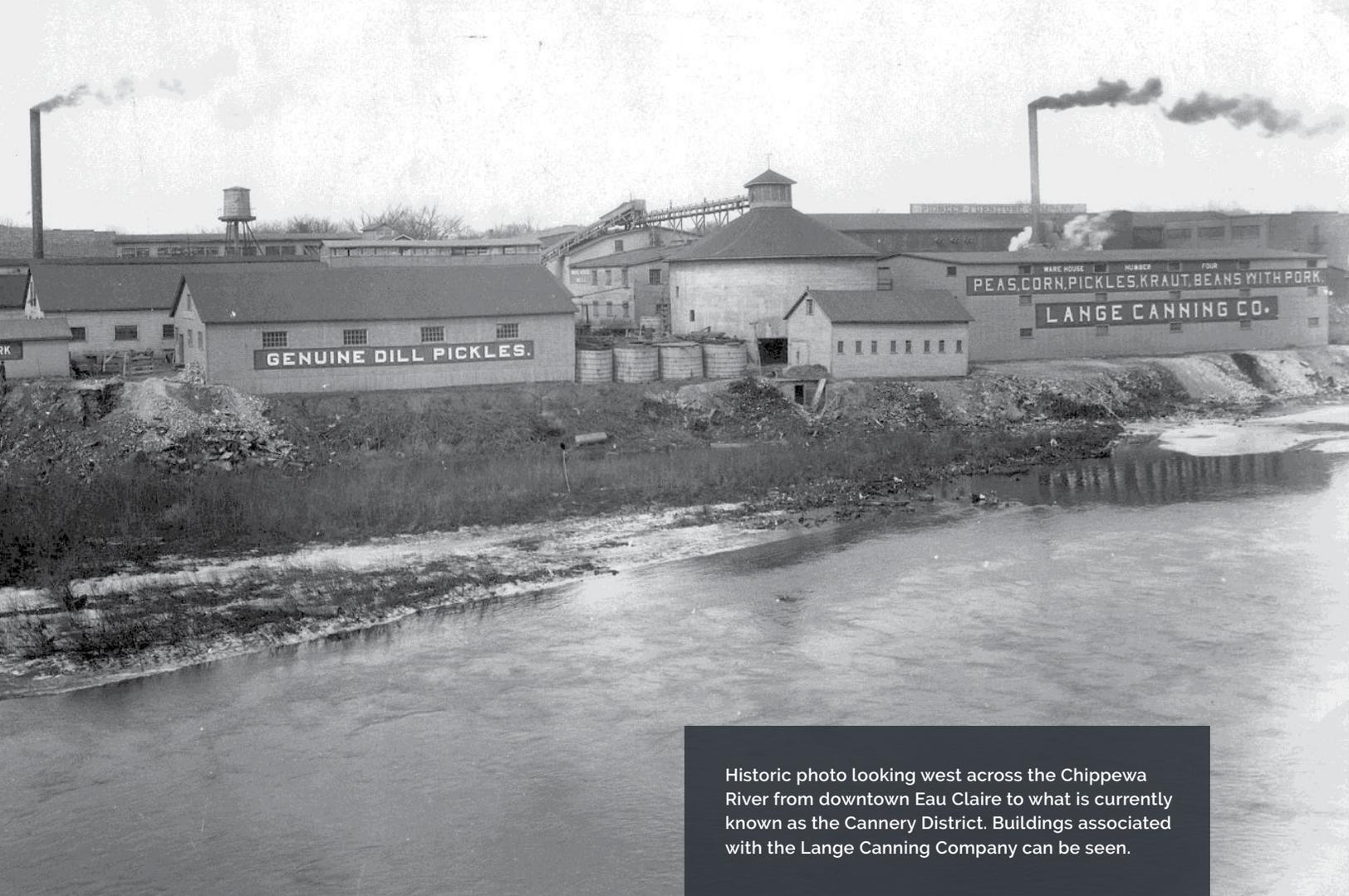
Historic photo looking west across the Chippewa River from downtown Eau Claire to what is currently known as the Cannery District. Buildings associated with the Lange Canning Company can be seen.

will stretch from the Madison St. bridge north to the High Bridge, with anticipated completion in 2017. At the time of this report, the Eau Claire Redevelopment Authority (RDA) had purchased and cleared much of the remnant-industrial land within the District in anticipation of development. The RDA, funded by City dollars, is responsible for development plans.

At the time of this report, redevelopment plans for the Cannery had been proposed but not finalized. As plans for the park and multi-use development design become finalized and requests for development proposals sought, developers, engineers, planners, architects, and others engaged in the design and programming of the Cannery District development should consult this report and recommendations so that design elements that are protective of health for all populations may be incorporated.

Cannery District Conceptual Plans

Conceptual plans presented publicly at the Cannery Visioning Session can be viewed here: www.eauclairedevelopment.com/docs/cannery-vision-session-pp.pdf

A conceptual 3D animated flyover video is available here: www.youtube.com/watch?v=VwmZQvUnvts

High Bridge trail

Paved trail

Skate plaza

Overlook

Yard game area

Sledding run

Flex field

Great Lawn

Performance area

Family pavilions

Overlook

Trail access

Overlook

Oxford Ave

Overlook

Madison St.

FIGURE 02.
Conceptual park plan presented at the January 2016 Cannery Visioning Session, including trail overlooks and park amenities
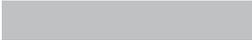
WEST RIVERSIDE DISTRICT PLAN VISION STATEMENT:

(FROM THE 2011 NEIGHBORHOOD PLAN)

The West Riverside District should grow as a proud and identifiable neighborhood in Eau Claire that features desirable housing options, many well-paying jobs, interesting shops serving the local population, two magnificent waterfronts and outdoor recreation opportunities. The District should complement the Downtown but stand on its own.

The centerpiece of the District should continue to be Luther Midelfort Hospital (Luther-Mayo Health System), which is the economic engine and a major source of identity for the district.

Neighborhood reinvestment should include housing,

shops, office buildings and small businesses. Housing assistance code enforcement and other efforts will stabilize and improve the neighborhood.

Beautiful public parks along the two waterfronts should provide lasting value for nearby housing and improve recreation and quality of life for residents throughout the District and across the City. A major new linear park and trail should be created along the Chippewa River that links segments of the City-wide network and ties into the neighborhood. Access to the fabulous Half Moon Lake and Carson Park should be improved by the completion of a walking and bicycling path all around the lake. Three paths in former railroad corridors should tie the waterfront parks and trail deep into the District and the northwestern Eau Claire community.

North of Madison Street, the Oxford Avenue corridor will be completely transformed with townhouses, apartments and small shops that take advantage of the views to the riverfront park.

Community members and stakeholders gather for an HIA training in Eau Claire.

02

SCREENING & SCOPING

The Project Team conducted the initial screening for this HIA during the development of the grant proposal to HWPP in early 2015. Following the direction of Policy 3.2 in the Eau Claire Comprehensive Plan Health Chapter to pilot HIA, the Project Team screened community projects for the the appropriateness of HIA, based on whether health was already being incorporated into the communities' development planning process and whether the project plan was developed enough for an HIA to be informative. The Project Team selected the Cannery District redevelopment project as a viable choice for an HIA because the industrial area was slated for redevelopment, vulnerable populations were potentially present in the adjacent neighborhood, the funding opportunity aligned with the anticipated timeline of planning for the redevelopment project, and the health perspective was not explicitly incorporated into the planning process at that point.

Prior to this comprehensive HIA, a rapid HIA for the Cannery District (previously referred to as the West Bank) was completed in 2015 (Appendix I). Rapid HIAs are useful tools when time or resources are limited, and information about potential health impacts is needed by decision makers. Comprehensive HIAs require more time and resources, but include additional engagement with stakeholders, interaction with external advisory groups, and often a greater scope in the topics that are researched and synthesized in the final report.

SCOPING THROUGH COMMUNITY ENGAGEMENT

To develop the scope on the project, the Project Team engaged community members and neighborhood residents, identified and selected key potential health impacts, developed project goals and research questions to guide the HIA, and determined potential data sources to answer the research questions.

In January 2016, City of Eau Claire staff organized a visioning session at Lazy Monk Brewery in Eau Claire to present the plan for the Cannery park and trail to the public and to survey attendees about existing assets in the neighborhood, types of desirable housing, parking and walkability, and other features the community desires to see in the redeveloped area. This session was held independently of the HIA, though HIA Project Team members attended. Results of the survey are discussed in further detail in the Community Engagement Data section of the report (page 32). This visioning session helped to inform HIA scoping, which began the following month.

TRAINING AND ADVISORY COMMITTEES

The Project Team began the scoping phase in February of 2016 by gathering a diverse set of stakeholders from the community to participate in a one-day training workshop, facilitated by technical assistance providers from the Georgia Health Policy Center (GHPC). The purpose of the workshop training was to 1) learn about HIA and 2) begin discussing potential health impacts of redevelopment decision points. Sectors represented at the training workshop included local city government officials, university faculty, health department staff, law enforcement, healthcare systems and local community groups/organizations.

To engage community members, partners, and other key stakeholders throughout the process of the HIA, the Project Team assembled two advisory committees (Table 01). The team recruited many of the committee members from attendees of the training workshop. For those committee members who had not attended the training, the team reached out personally to inform them of the opportunity to provide feedback into the HIA process. In addition to personal invitations, the HIA Project Team sent postcards to residences within the West Riverside neighborhood to inform them of the HIA and inviting anyone to participate in the advisory committees. Approximately 630 postcards were mailed.

The purpose of the advisory committees was to help obtain strategic buyin and input from a large set of stakeholders. The Neighborhood Advisory Committee included representatives of stakeholder groups who were most likely to be directly affected by the proposed decisions

SELECTED SCOPING TOPICS BY HIA ADVISORY COMMITTEES

NEIGHBORHOOD ADVISORY COMMITTEE	EAU CLAIRE AREA ADVISORY COMMITTEE
Safety/Crime	Housing
Social cohesion	Social cohesion
Park, trails, & transportation	Access (physical access to the redevelopment area, as well as food)

of the Cannery District redevelopment. This group included residents of the West Riverside Neighborhood as well as individuals who worked near the redevelopment area. The Eau Claire Area HIA Advisory Committee comprised community leaders and stakeholders who play a role in policy and decision-making in the community. Both advisory committees also reviewed materials and provided key feedback during the HIA process on the scope, pathway diagrams, research questions, effects characterization, and recommendations.

A list of 21 potential key health impacts was developed for the scoping phase, based on input during the February 2016 community training. During the first meeting of each of the advisory committees, the Project Team facilitated a discussion around these topics, and committee members then voted on the three topics they deemed most important to evaluate through the HIA.

This input from the advisory committees directed the Project Team to focus their research on the above built environment topic areas. The advisory committees continued to meet approximately every other month from May 2016 through June 2017 to provide input into the direction of

the HIA and feedback into data, findings, and recommendations. Given the relatively large scope of some of these topics (Housing, Parks & Trails, Access), the Project Team used the Eau Claire County health priorities selected through the 2015 Community Health Assessment process to further narrow the scope. Additional information about the Community Health Assessment is provided on page 31.

ONE-ON-ONE CONVERSATIONS & SURVEYS

As an additional step in the scoping process, the Project Team engaged West Riverside neighborhood residents through one-on-one conversations and a door-to-door survey. From Fall 2015 through Summer 2016, the Project Team connected with 24 individuals (males and females from different age groups) for one-on-one conversations. The goal of these conversations was to gather input about issues related to the built environment and health that could affect area residents. After data was recorded using data collection sheets, all of the responses were coded and the major themes that impact health were

identified. Comments from these conversations are shared throughout the report. The qualitative analysis of this data is summarized in the Community Engagement Data section (page 32).

In October 2016, the Project Team collaborated with faculty and students at the University of Wisconsin – Eau Claire to deploy the abbreviated Neighborhood Environment Walkability Survey (NEWS) tool in the West Riverside neighborhood. The survey was developed by Active Living Research and is available online[01]. This validated survey has been used across the United States and assesses the perception of neighborhood design features related to physical activity, land use mix, neighborhood aesthetics, and neighborhood satisfaction. Basic demographic information was also recorded for participants who were willing to provide it.

The goals of the survey were to gain insights from residents about walkability that could shape proposed redevelopment and health and to provide research experience for UW-Eau Claire undergraduate students. Ten student volunteers conducted door-to-door surveys under close supervision of a faculty member and the HIA Project Team lead. Survey teams were deployed twice on weekends and twice on week days, and respondents were provided $10 Chamber of Commerce gift cards to local businesses for their completion of the survey. Results of the NEWS survey are summarized in the Community Engagement Data section (page 32).

Through consultation with the advisory committees, Project Team members developed pathway diagrams to visualize and prioritize potential connections between short-term changes in the Cannery District redevelopment and long term positive and negative changes to health. Based on discussion of these pathway diagrams, research questions were developed to guide the Project Team in their review of relevant literature.

RESEARCH QUESTIONS

Based on the scoping process described above, the research questions addressed in this HIA were distilled into the following. Note that only data relevant to these research questions were gathered during the Assessment phase of the HIA.

PARKS AND TRAILS
How does park proximity impact physical activity for nearby residents?
How do local parks impact social cohesion for nearby residents?
What features of parks increase perceived safety for park users?

STREET AND SIDEWALK DESIGN
What factors related to street and sidewalk design increase physical activity?
What factors related to street and sidewalk design increase social cohesion?
How does street & sidewalk design impact safety?

HOUSING INFRASTRUCTURE & AFFORDABILITY
Why is safe and affordable housing important for health?
How does mixed-income housing impact health?
What is gentrification and how can it be mitigated?

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01 Available at: http://activelivingresearch.org/neighborhood-environment-walkability-survey-news-neighborhood- environment-walkability-survey-%E2%80%93 and accessed on 9/21/2017

03

ASSESSMENT FINDINGS PART 1: BACKGROUND DATA

The assessment phase of the HIA consisted of gathering baseline health, demographic, community survey data related to the main focus areas of the HIA. In addition, literature related to the pathway diagrams and research questions was gathered and reviewed. These research questions and findings are presented in Assessment Findings Part 2, beginning on page 34.

COMMUNITY HEALTH DATA

US CENSUS DATA

Census data was collected for the West Riverside Neighborhood and compared to identical measures available for the City of Eau Claire or Eau Claire County (See Figure 01 for reference of these different geographies). Approximately 2.5% of the city's population resides in the West Riverside neighborhood, the boundaries of which are shown on Figure 1. The average household size is 1.9 people. Similar to the city of Eau Claire, over 90% of the neighborhood residents are white, while the portion of African American residents is the second largest group and is slightly higher than the city average. The portion of youth (under age 18) is similar to the city average, though the West Riverside neighborhood has a larger portion of working adults (ages 18-64) and smaller fraction of elderly adults (65 years or older) than the city average. Census data for the West Riverside neighborhood indicates 918 households (defined as person or group of people living in any one housing unit) are present in the neighborhood.

TABLE 02.

Population, race, and age data for the West Riverside Neighborhood (US Census 2011-15).

	WEST RIVERSIDE NEIGHBORHOOD	CITY OF EAU CLAIRE
Population	1,739	67,385
RACE (% OF POPULATION)		
White	93.3%	91.8%
African American	3.3%	0.9%
Asian	0.7%	4%
Mixed or Other Race	2.6%	3.3%
AGE (% OF POPULATION)		
Under 5	3.7%	5.1%
Under 18	8.6%	19.3%
Working Age (18-64)	85.9%	68.4%
Experienced (65+)	5.5%	12.3%

FIGURE 03.

Household income for West Riverside Neighborhood and Eau Claire City and County Residents. US Census, 2011-2015. The percentage of neighborhood residents that are in higher income brackets decreases with increasing income. In contrast, the city and county have approximately the same percentage of people in three out of the four income brackets. The smallest percentage of residents (approximately 20%) is in households that make $50 - $75,000 annually. Compared to the City of Eau Claire as well as Eau Claire County, West Riverside Neighborhood has a much higher percentage of households that make less than $25,000 annually
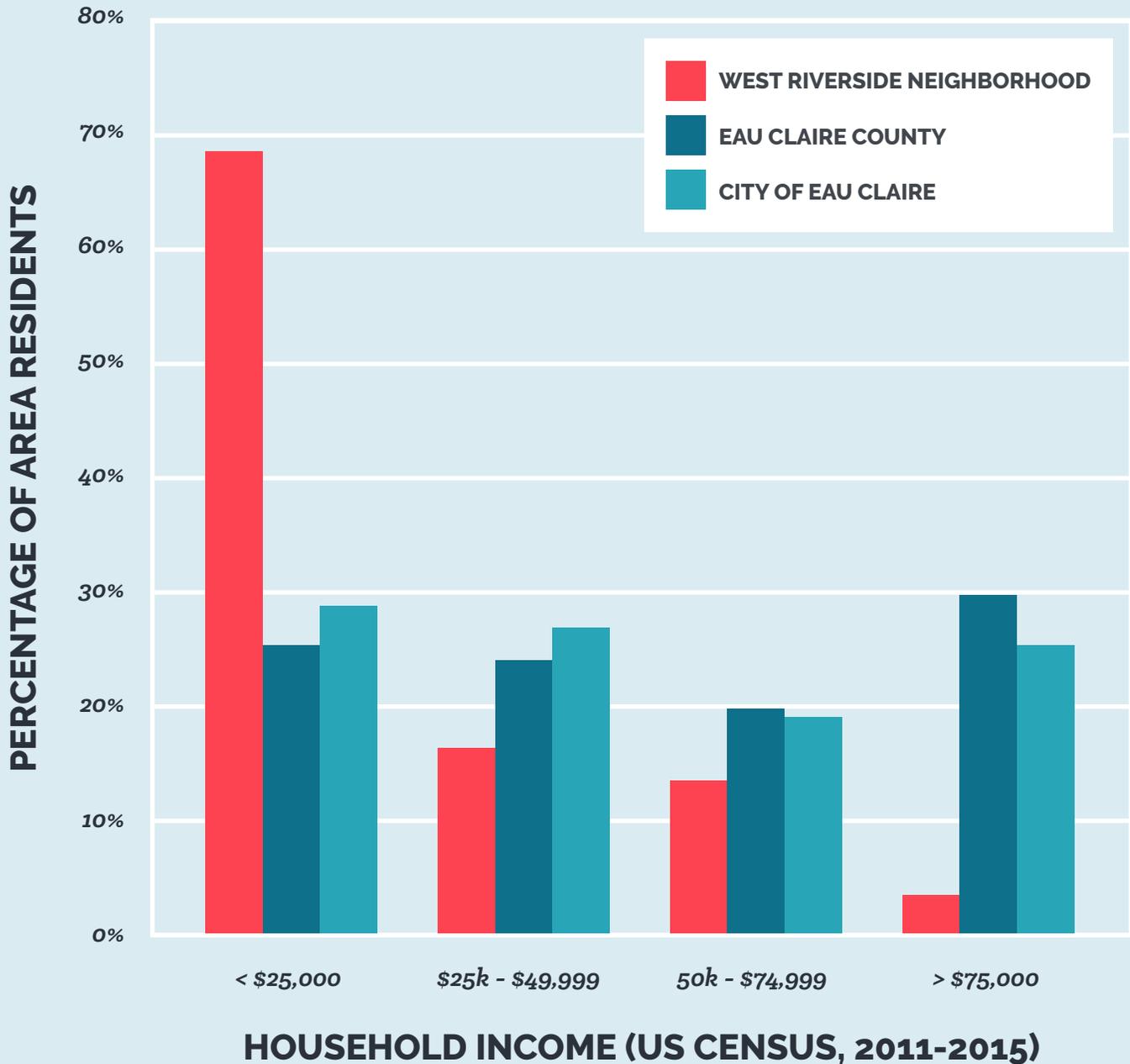
2015 COMMUNITY HEALTH ASSESSMENT

The most recent community health assessment for Eau Claire County include survey data for over 1300 people and collected primary and secondary data to determine the top health needs of the county. Obesity and mental health were identified as two of the top three priority areas for the 2015-2018 community health improvement plan cycle. The community health assessment is available online.[01] Data from the health assessment are described in relevant community data sections of the research questions.

WEST RIVERSIDE NEIGHBORHOOD CRIME DATA

The Eau Claire Police Department provided crime data for the West Riverside Neighborhood and City of Eau Claire. This data identifies the number and general types of crimes for both geographies for 2016. Additional criminal incidents likely occurred in these geographies but were not reported on for the purposes of the HIA as they were not relevant to the scope of the project. The dataset that was analyzed and is reported on included the following types of crimes: homicide, sexual assault with force, robbery, aggravated assault, burglary, theft, motor vehicle theft, and arson. The drug and alcohol incident code types included in the data were check-detox person, check-intoxicated person, drug-marijuana possession, drug-

marijuana selling, drug-meth possession, drug-meth selling, drug-multiple types possession, drug-possess drug paraphernalia, operating a motor vehicle under the influence of drugs, and operating a motor vehicle while intoxicated.

CHIPPEWA-EAU CLAIRE BICYCLE & PEDESTRIAN PLAN

The 2017-2027 Bicycle and Pedestrian Plan by the Chippewa-Eau Claire Metropolitan Planning Organization highlights some similar elements that have been identified through the HIA. The goals of this report address improving safety and comfort for bicyclists and pedestrians, expanding the connectivity of the bicycle and pedestrian transportation network, and increasing the number of people walking and biking. The plan is available online[02] and highlights three main findings from the data and community input:

1. Safety is a primary concern for those who want to bike and walk.
2. Most people walk or bike for recreation at parks, on trails, or around their neighborhoods or walk or bike for transportation.
3. People generally enjoy walking or biking and they want to do more than they currently are. (Respondents indicated that they would like to walk to restaurants, coffee shops, bars, and grocery stores more than they currently are able to.)

The plan provides information about crashes

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01 Available at www.ci.eau-claire.wi.us/departments/health-department/about-us/eau-claire-city-county- community-health-assessments (accessed on 9/21/2017)

02 Available at http://wcwrpc.org/Chippewa-Eau-Claire-MPO.html (accessed 9/21/2017)

involving people walking or biking in the Chippewa-Eau Claire Metropolitan Planning Area. This area includes the cities of Eau Claire, Chippewa Falls, and Altoona, as well as adjacent villages and townships, for a total population of approximately 115,648. This data is shared in the Street & Sidewalk Design Literature Review, Data, and Health Impact Predictions section (page 50)

COMMUNITY ENGAGEMENT DATA

VISIONING SESSION

Methods for creating and facilitating the visioning session are described in the Scoping through Community Engagement section starting on page 25. The full results are available online.[01]

Neighborhood and community attendees generally supported the following:

- Senior housing (considering the proximity of the area to Mayo Clinic Health System and LE Phillips Senior Center)
- Pedestrian-friendly development
- Residential units that include apartments/condos, low-income housing, and market-rate housing
- A mix of building types including housing, office, retail, and mixed
- Buildings with fewer than 5 stories

NATIONAL CITIZEN SURVEY

Every four to five years the City of Eau Claire surveys its residents using the National Citizen Survey, which provides respondents a chance to rate their city in terms of safety, mobility, the natural and built environment, the local economy, recreation and wellness, education, and community engagement. Data from the National Citizen Survey are described in relevant community data sections of the research questions. The full survey results can be reviewed online.[02]

EAU CLAIRE PARKS AND RECREATION SURVEY

Every five years, the City of Eau Claire surveys residents on their use and needs related to parks, recreation, and forestry. The survey is administered to help plan for the future for parks and recreation. Selected results from the 2016 survey are presented in the Park and Trail Plan Literature Review, Data, and Health Impact Predictions section, beginning on page 35. The full report can be viewed online.[03]

ONE-ON-ONE CONVERSATIONS

Methods for the one-on-one conversations are described in the Scoping through Community Engagement section on page 25. The main points

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01 Available at eauclairedevelopment.com/docs/results-of-cannery-visioning-session.pdf (accessed 9/21/2017)

02 Available at www.ci.eau-claire.wi.us/government/city-council/national-citizen-survey (accessed 9/12/2017)

03 Available at www.ci.eau-claire.wi.us/departments/community-services/recreation/reports-and-surveys (accessed 9/12/2017)

and quotations from the interviews are discussed in relevant community data sections of the research questions.

NEIGHBORHOOD ENVIRONMENT WALKABILITY SURVEY (NEWS)

Methods for the NEWS survey are described in the Scoping through Community Engagement section on page 25. Student teams visited 330 homes in which 111 contacts were made and 65 surveys were completed, equating to a 58.5% response rate. Females composed 54% of the respondents. The breakdown of respondent ages is shown in the pie chart below.

The majority (93%) of respondents identified as white, while the remaining 7% identified as Asian, Black, American Indian/Alaska Native, and multiracial. Renters made up 56% of the respondents, and the remaining 44% reported

owning their home. 60% of respondents reported a household income of less than $50,000 annually; 13% declined to report income.

Additional results from the survey include:

- 86% of respondents had lived in the neighborhood for more than 1 year. The largest group of respondents (37%) reported living in the neighborhood for 1-5 years.
- The majority of respondents indicated that a park, transit, and elementary school were less than a 10-minute walk
- The majority of respondents indicated that a library, post office, bank, pharmacy, supermarket, and fast food were further than a 10 minute walk
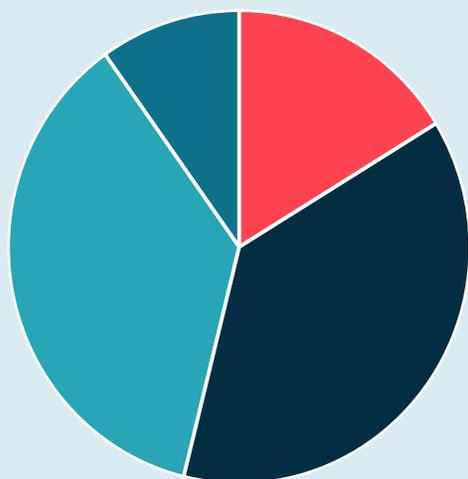
AGE OF RESPONDENTS TO NEWS SURVEY

- 19-25 YEARS (16%)
- 25-44 YEARS (38%)
- 45-64 YEARS (36%)
- 65 YEARS AND OLDER (10%)

04

ASSESSMENT FINDINGS PART 2: LITERATURE REVIEW AND SYNTHESIS

The second phase of assessment required collecting and evaluating existing research related to the pathway diagrams and research questions. These general findings were applied within the context of local data from Eau Claire County, the City of Eau Claire, and West Riverside Neighborhood (where neighborhood-specific data wasn't available, data from the census tract containing the neighborhood was used; see Figure 01. for geographical boundaries). Implications based on research and local data are also shared, as well as predicted health effects from different aspects of the development project.

This section contains three subsections:

1. **Park and Trail Plan Literature Review, Data, and Health Impact Predictions**

2. **Street & Sidewalk Design Literature Review, Data, and Health Impact Predictions**

3. **Housing Infrastructure & Affordability Literature Review, Data, and Health Impact Predictions**
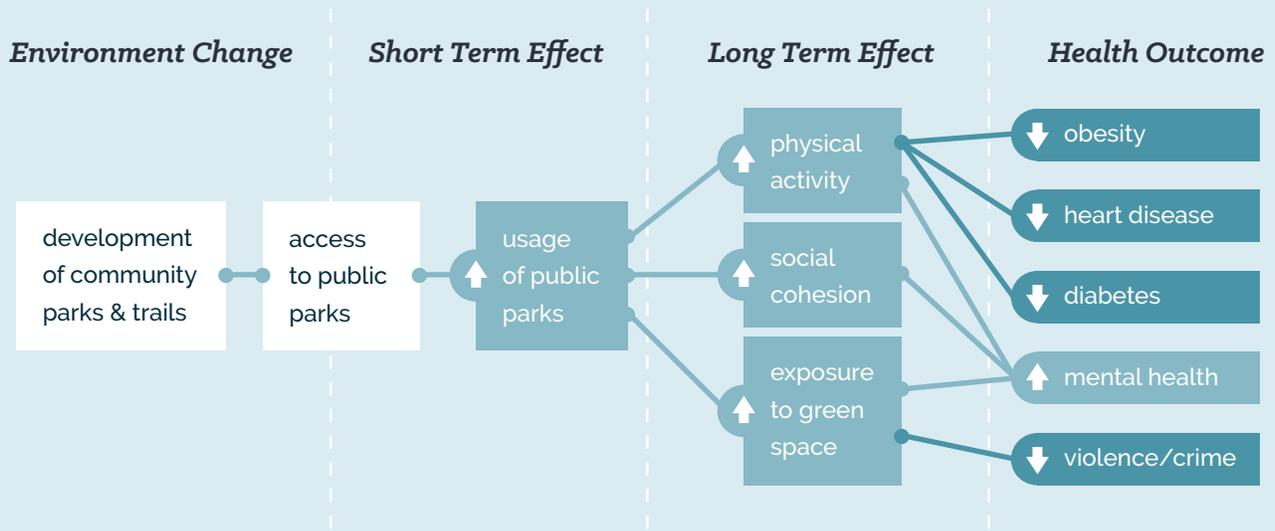
FIGURE 04. PARK AND TRAIL PATHWAY DIAGRAM

Pathway diagram of the potential short term changes, long term changes, and health outcomes that could be impacted through the development of the Cannery District park and multi- use trail. Short-term effects are anticipated immediately after development. Long-term effects may take months to years to take effect, while impacts to health outcomes may not be realized for a number of years.

PARK AND TRAIL PLAN LITERATURE REVIEW, DATA, AND HEALTH IMPACT PREDICTIONS

During the scoping phase of this HIA, the Project Team consulted with both the Neighborhood and Eau Claire Area Advisory Committees to determine the most relevant health topics related to parks and trails for more detailed research and impact evaluation. This input was combined with data collected during one-on-one interviews with people that live and work in the West Riverside Neighborhood. The summary of this conversation can be visualized in the pathway diagram below (Figure 04). Pathway diagrams are useful tools for visualizing possible health impacts to changes in our environment. The pathway diagram presented in this section is used to guide the reader through the literature findings and implications for health discussed in the section. The pathway diagram is not exhaustive and does not illustrate every potential health impact, only those that are relevant to the scope of the HIA. The three research questions developed from this pathway diagram are:

1. **How does park proximity impact physical activity for nearby residents?**
2. **How do local parks impact social cohesion for nearby residents?**
3. **What features of parks increase perceived safety for park users?**

The following presents a review of relevant literature related to those questions, assembled by the HIA Project Team.

The cost of physical inactivity in the United States is a significant burden (estimated to be $76 billion in direct medical expenses in 2000; (Brownson et al., 2006) and as a result, environmental opportunities that encourage and support physical activity, such as parks, are increasingly important community investments. Urban parks are a community asset that can provide year-round opportunity for physical activity. In addition, contact with nature in cities has been linked to health impacts across the lifespan: healthier birth weight, reduced ADHD symptoms in children, lower stress and anxiety in adults, and improved senior mental health (Wolf, 2016). Some researchers have estimated that greater investment in green spaces as part of urban built environments could result in annual savings of $11.7 billion in avoided health care costs nationally (Wolf, 2016).

A 2015 national survey revealed that 83% of people report personally benefiting from local parks, and 92% agreed that their communities also benefit from the presence of parks (Mowen et al., 2015). Urban parks with well-maintained and varied types of facilities are more likely to be used for physical activity and recreation or provide spaces to interact with nature and gather with others, among many other uses (Kaczynski et al., 2008). In addition to serving as an active and functional space in communities, the presence of a park in a neighborhood setting has reliably shown to increase property values of nearby homes by 20% or more, depending on the amenities of the park and the neighborhood (Crompton, 2001). Community parks, and their associated short-term

benefits described above can have numerous long-term benefits for park users, including increased community cohesion, improved mental health, decreased stress and chronic disease, and cleaner air (Frumkin and Eysenbach, 2003).

RESEARCH QUESTION 1: HOW DOES PARK PROXIMITY IMPACT PHYSICAL ACTIVITY FOR NEARBY RESIDENTS?

Literature Review

The proximity to parks and the availability of certain park features are important for park use and ultimately physical activity (Kaczynski et al., 2014a, Bedimo-Rung et al.). A review of park literature generally indicated that having more local parks within walking distances had a positive impact on park use and that having to drive to a park was a barrier for use (McCormack et al., 2010). In a Kansas City, Missouri study, people with multiple parks within 1 mile of their home were more likely to use a park and get physical activity at the park (Kaczynski et al., 2014a). In a Canadian study, Kaczynski (2009) found that increasing total park area and total number of parks within 1 km (0.62 miles) of their home increased the odds of people participating in recommended amounts of moderate-to-strenuous physical activity by as much as 17%. A survey of residents of Perth, Australia, found that **people with good access to large, attractive public spaces were 50% more likely to achieve high levels of walking** and that size of the space was a more important predictor for use than attractiveness (Giles-Corti et al., 2005). Access to spaces for physical activity can help to achieve or maintain a healthy weight; one study

found that children with a park playground within 1 km (0.6 miles) of their home were nearly five times more likely to be a healthy weight (Potwarka et al., 2008).

Different park features attract different types of users. Some research has indicated that close proximity to open space wasn't the only factor influencing use, but that size and attractive attributes were also important (Giles-Corti et al., 2005). A review of park literature (McCormack et al., 2010) found that a variety of facilities that supported recreational activities such as organized sport, playgrounds, and trees for climbing were important for use by children and adolescents. However, it should be noted that parks with amenities aimed at specific age groups (for example, playground or sport courts of youth) did not attract a wide variety of age groups (Kaczynski et al., 2014a).

"I think the people who use the senior center may use the park and trails if they are close and easy to get to."

ONE-ON-ONE INTERVIEW RESPONDENT, REGARDING CANNERY PARK PLANS

Children in a family can be a motivator for the whole family to use a park (McCormack et al., 2010). Appropriate placement of shade also has been shown to impact the use of parks by children and caregivers (McCormack et al., 2010). Constructed and natural trails also facilitated adults' park use (McCormack et al., 2010). **Dog owners reported dog litter bins and bags as well as dog exercise areas as important park features. Amenities like barbecues, seating, water fountains, user-friendly signage, and tables were important regardless of age.** In addition, people want to have walkable routes to get to parks. Youth (ages 11-18) use of parks increased with perceived safety and better ability to walk and bike across neighborhood streets to the park (Grow et al., 2008). Dills et al. (2012) found that well-maintained and attractive routes (including factors such as short distance, low traffic, safe, and good aesthetics) were used more frequently by people walking to parks.

Strong research indicates that income and racial/ethnic differences exist between the types of facilities that impact park use and park physical activity among these groups. Income has been found to be a strong predictor of perceived barriers to park visitation, and older adults, racial or ethnic minorities, people in poor health, and lower income families were less likely to use or regularly visit a park (Zanon et al., 2013, Scott and Munson, 1994). An analysis of 22 studies from the US identified that strong constraints for low income families visiting parks include cost, fear, location of the park, and transportation to the park. Younger people are constrained from visiting parks by time, knowledge of the park, location, and facilities at the park; older adults report being constrained by poor health, lack of a companion to go to the park transportation to the park, and some type of fear in visiting the park, but may be more likely to visit the park if there are active recreation facilities, sport programs, and good maintenance (Loukaitou-Sideris and Sideris, 2010). Kaczynski et al. (2014a) found that **park use among low-income people in Kansas City, MO was significantly related to the presence of playgrounds and baseball fields, whereas fitness stations and dog parks were the only facilities significantly associated with park use for moderate-income people.**

Community Data

Data from the 2016 Eau Claire Parks and Recreation survey and the 2016 National Citizen Survey of the City of Eau Claire reveal the importance of parks to community residents. Results from the survey indicated:

- **86% OF PEOPLE** report visiting a city park in the past year
- **65% OF PEOPLE** report large community parks are important to their household
- **50% OF PEOPLE** report trails and bikeways are important to their household
- **30% OF PEOPLE** report neighborhood playgrounds are important to their household
- **82% OF PEOPLE** report that recreational opportunities are good or excellent
- **85% OF PEOPLE** report a good or excellent fitness opportunities (including exercise classes, paths, trails)

The ratings for recreational and fitness opportunities were both higher than the national benchmark for other cities that complete the survey.

However, several health issues related to a lack of physical activity are prevalent in the community. During the 2015 Community Health Assessment, respondents selected obesity as one of the top three community health priority areas and 81% of Eau Claire County residents indicated obesity was a moderate or major problem in our community. In several 2013 CDC studies, approximately two in three county residents were overweight or obese [01], and 23% (almost 1 in 4) Eau Claire County did

not engage in physical activity in their leisure time. Unhealthy weight and lack of physical activity can lead to other chronic conditions, such as heart disease, some types of cancer, and diabetes. Combined, deaths from these causes accounted for 46% of all 2014 deaths in Eau Claire County. In the West Riverside Neighborhood census tract specifically, one in three residents reported being diagnosed with high cholesterol [01]. Some researchers have estimated that approximately 12% of all deaths (approximately 1 in 8) are attributable to a lack of regular physical activity (Pate et al., 1995). Assuming the same rate as national statistics suggest, approximately 99 of the 823 deaths in Eau Claire County in 2014 could have been delayed by regular physical activity.

Physical activity is also closely linked with mental health outcomes. Mental health was also one of the top three community health priority areas and 60% of Eau Claire County residents indicated that mental health is a problem in the community during the 2015 Community Health Assessment. County rates of self-inflicted injury hospitalizations have increased since 2000 to 179 hospitalizations per 100,000 people in 2012. This has consistently exceeded the state average over the same time period of less than 100. From 2000-2012, suicide deaths in Eau Claire County have averaged 12 deaths per 100,000 people. Specifically in the West Riverside Neighborhood census tract, 1 in 5 residents report a week or more of poor mental health days in the past month.[01]

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01 Data from CDC Behavioral Risk Factor Surveillance System (2013), reported through www.policymap.com (accessed 8/4/2017)

Predicted Impacts for Health

The above research review provides evidence for the connections shown in Figure 04. Through the development of the Cannery Park, including the multi-use trail, residents in the West Riverside Neighborhood and Eau Claire community will have increased access to public park space, and as a result, the usage of public park space by the neighborhood is anticipated to increase, which in turn could lead to longer lives. **Access and usage of the Cannery Park is anticipated to increase the number of people who are physically active and achieve recommended levels of physical activity.**

Physical activity is irrefutably associated with continuing healthy exercise habits as well as lower risk of heart disease, high blood pressure, diabetes, anxiety, depression, and cancer (Warburton et al., 2014) and as **a result of higher levels of physical activity, the number of people who suffer from these chronic conditions may decrease over several years.** Though physical activity is connected to mental health outcomes, many mediating effects impact mental health. **Increased usage of the park space or trail may provide some buffer or support for certain individuals.**

All demographic or socioeconomic groups will not likely feel the same impacts of the park and trail development. Based on findings from other communities, it is plausible that park usage will be lower among low-income families, older adults, racial or ethnic minorities, and people in poor health. In order to maximize the potential benefits for the greatest number of people, park and trail design and implementation should incorporate features that facilitate ease of access and safety as well as amenities that are suitable to a wide range of demographic and socioeconomic groups.

Recommendations to accomplish this are provided at the end of this section (page 48).

In summary, with construction of the park and trail as generally proposed at the time of this report, physical activity is anticipated to increase for a large number of people, though some populations will not receive the same benefits. Inclusion of the recommendations provided on page 48 will help to maximize the reach and depth of these anticipated positive impacts to health.

RESEARCH QUESTION 2: HOW DO LOCAL PARKS IMPACT SOCIAL COHESION FOR NEARBY RESIDENTS?

Literature Review

Social cohesion is defined by Hartig et al. (2014) as "shared norms and values, the existence of positive and friendly relationships, and feelings of being accepted and belonging." Research has shown that social relationships are protective of health. For example, negative social relationships have been linked to greater risk of death, whereas positive social relationships may be as or more important to health as quitting smoking, maintaining a healthy weight, and engaging in regular physical activity (Holt-Lunstad et al., 2010).

At an individual level, social relationships support good physical and mental health through social support when people experience stress (House et al., 1988, Kawachi, 1999). Social connection is also important at the neighborhood level where, within a neighborhood, social cohesion can benefit residents through informal social control, establishment of healthy social norms, and access

to various forms of social support (Kawachi, 1999). These mechanisms may support health through monitoring and reporting of unhealthy or unsafe youth behavior, as well as monitoring the ill, elderly, or isolated (Kawachi, 1999). Donnelly et al. (2016) found that over the lives of 2000 children from major US cities, adolescents who grew up in neighborhoods with higher "collective efficacy" (interest in sharing values with their neighbors and sharing expectations for social control) demonstrated lower levels of anxiety or depressive symptoms, regardless of family or neighborhood income.

Though this is an area where additional research is needed, some researchers have found social cohesion to be an important mediator of some complex relationships, such as the relationship between nearby greenspace and overall health or the relationship between quantity and quality of streetscape greenery and mental health (Hartig et al., 2014).

Research on contributing factors to social cohesion generally support that **interactions with others** and **cultivating "place attachment"** are both ways to contribute to social cohesion. **Parks are spaces for social interactions, which can facilitate social cohesion.** As discussed earlier in this section, open and inviting public parks that offer a variety of amenities draw people to use them. The close proximity of people in an area or sharing facilities naturally creates opportunities for meeting, conversations, and becoming acquainted. Child et al. (2016) found that having walking destinations within a neighborhood, access to amenities, and structures that supported physical activity (sidewalks, well-connected streets, recreation facilities) were associated with increased interactions with neighbors. This

study also indicated that the presence of other people being active and an interesting aesthetic environment were positively associated with social cohesion.

Public spaces provide opportunities for people of different socioeconomic backgrounds to interact in a variety of ways, such as through one-time interactions, or semi-regular or structured interactions among existing groups, neighbors, or family members. Kuo et al. (1998) found that greener common spaces had higher use and that people reported more taking part in social activities, knowing more of their neighbors, having stronger feelings of belonging, and that neighbors being more concerned with helping and supporting one another, compared to residents of less green areas. In a 2015 national survey, respondents reported social benefits as the second most important community benefits from parks (Mowen et al., 2015). Pet ownership may also provide opportunities for interactions with other public space users. (Wood et al.2005) found that pet owners scored higher on social capital and civic engagement scales.

Urban parks also cultivate place attachment, through which social cohesion can develop. People experience place differently, and therefore a place can develop a different level of meaning for different people. Place attachment – a positive emotional bond between a person and their environment – has been connected to the level of perceived social cohesion by people. Through a survey of users in five urban parks in the Netherlands, Peters et al. (2010) found that involvement and concern with parks can facilitate attachment to these places and that as frequency of use increased, so did place attachment to the park. Some study participants

reported feeling more "familiar" with a park as a result of participating in the park design process and seeing many of the elements residents requested be constructed. The study also found that older people were more attached to parks, possibly in part due to their more frequent use of the park. Users of specific park features such as community gardens have reported more contacts with friends and fewer feelings of loneliness than non-gardening park users. Kaźmierczak (2013) also found a connection between the quality of parks and extent of social ties of neighborhood residents near parks, though individual characteristics of neighborhood residents plays a role in how social ties will develop.

Community Data

Measuring social cohesion is a difficult task and can take many different forms. Some researchers have used proxies to measure social cohesion, such as the number or size of community groups, opportunities for social gatherings, or political participation. For the purposes of this HIA, the Project Team evaluated social cohesion qualitatively, as reported by community residents through two 2016 surveys: The National Citizen Survey (city-wide survey of Eau Claire residents), and the NEWS survey (survey of West Riverside Neighborhood residents). In summary, people who replied to the surveys or participated in one-on-one interviews generally report positive feelings toward the social environment in Eau Claire. However, the majority of West Riverside residents surveyed did not feel that their neighborhood was close-knit, and several opportunities to improve social cohesion and community connectedness were reported through the one-on-one interviews.

Results from the National Citizen survey related to

social cohesion included the following::

- **63% OF PEOPLE** reported that neighborliness in the community is excellent or good
- **57% OF PEOPLE** reported that openness and acceptance of the community toward people of diverse backgrounds was excellent or good
- **67% OF PEOPLE** feel that it is essential or very important for the community to focus on building a strong sense of community and cohesion
- **78% OF PEOPLE** reported that social events and activities in the community are excellent or good
- **77% OF PEOPLE** report that opportunities to participate in community matters are excellent or good
- **60% OF PEOPLE** report talking to/visiting with a neighbor more than once per month
- **73% OF PEOPLE** report doing a favor for a neighbor

The rating for **social events and activities was above the national benchmark** for other cities that completed the survey.

Data from the NEWS survey indicated that 43% of respondents agree they "live in a close-knit neighborhood," though 71% agree that "people in their neighborhood were willing to help their neighbors."

During one-on-one conversations conducted with neighborhood residents, people revealed diverse thoughts on what serves to facilitate and prevent interactions in their community:

- People generally feel that their neighbors are hardworking and friendly people
- Some locations such as the restaurant (Chick-a-dee's) and the senior center facilitate people being able to congregate and build relationships

- Some people mention the desire to have additional communal locations to connect in the area
- Some interviewees felt strongly about the bar in the neighborhood being a problem
- One person commented on the lack of a neighborhood association
- One person commented on how people move in and out of the neighborhood often, potentially impacting their lasting relationships with their neighbors

"We need a park that appeals to all ages"

ONE-ON-ONE INTERVIEW RESPONDENT, REGARDING CANNERY PARK PLANS

Predicted Impacts for Health

Existing research and input from West Riverside Neighborhood residents support the conclusion that the development of the Cannery park and multi-use trail will increase opportunities for social interactions and place attachment, thereby increasing social cohesion. Through these increased opportunities for social interactions, the neighborhood and city will likely realize long-term health impacts from these opportunities such as improve mental health, decreased violence and crime, and decrease chronic diseases such as diabetes and obesity. However, the research outlined in this section **suggests some vulnerable groups, such as elderly and low-income, may face greater barriers to park use than other populations and may not realize the same social and mental health benefits.** The health benefits

of parks should be available to all populations, regardless of age, ability, or socioeconomic status. The positive effects of the park and trail will be felt most by groups that frequently use the park for social, sport, or physical activities; the size of this effect will depend on the number of people who use the park and trail. Inclusion of the recommendations provided on page 48 is anticipated to help maximize the reach and depth of these anticipated positive impacts to health.

RESEARCH QUESTION 3: WHAT FEATURES OF PARKS ARE ASSOCIATED WITH INCREASED SAFETY FOR PARK USERS?

Literature Review

Public safety is an important component of individual and community health. Addressing crime is often considered a precursor to neighborhood revitalization efforts (Ryan, 2011). Safe neighborhoods are more likely to attract homeowners, businesses, and visitors, promote cohesion and engagement within one's neighborhood and help current residents envision a positive future. Crime researchers explain crime as the intersection of three entities: victim, offender, and location. A particular solution or intervention that addresses all three of these entities is the strongest approach to eliminating a crime problem (Ryan, 2011).

Safety within parks is determined not only by design but also by a combination of design, programming, regular maintenance, and involvement of citizens (Association, 2016).

Programming such as classes, concerts, and other events can help to draw diverse crowds to public green spaces and foster place attachment and social cohesion.

Feeling safe while using a park is an important predictor of park use and physical activity (Molnar et al., 2004). **Some fear of visiting a park has been shown to be a strong barrier for use of parks by females and low-income families in several studies** (Zanon et al., 2013). Even the perception of crime in the neighborhood can serve as a detriment to outdoor leisure activity; **one study indicated that those who did not perceive crime or fear of personal safety to be a barrier were 40% more likely to meet physical activity recommendations** (McGinn et al., 2008).

In addition to safety within a park, safe routes to access parks are strong predictors of park use. Park use and physical activity within parks are facilitated by easy access to the park, which includes close proximity and routes that are easy to walk or bike or close proximity to public transit. **People who are in more well-connected neighborhoods** (defined as a higher density of street intersections, which shorten routes to destinations) and **those who could walk in areas with slower traffic are more likely to use parks** and engage in park-based physical activity (Kaczynski et al., 2014b, Dills et al., 2012).

A review of literature by McCormack et al. (2010) found that most personal safety concerns among park users were related to the presence of loiterers, homeless people, and substance users in the park as well as the presence of older children or teenagers using the park when young children might be present. Specific park attributes that negatively influenced feelings of safety included poor lighting, lack of law enforcement, poor

security and surveillance, secluded areas or paths, heavy traffic, and off-leash pets (McCormack et al., 2010). Park users have also reported feeling safer in parks where no unfamiliar park users were "hanging around" and people were not drinking alcohol (Dolash et al., 2015).

"We also need safe routes for kids and people to get to the trails."

ONE-ON-ONE INTERVIEW RESPONDENT, REGARDING CANNERY PARK PLANS

Research has shown that crime prevention through environmental design (CPTED) principles are effective in reducing both crime and fear of crime in the community (Cozens et al., 2005). CPTED (pronounced sep-ted) concepts will not be covered in depth here but can be reviewed in Fennelly & Crowe (2013). In addition, the city of Eau Claire Planning Department is developing a manual of CPTED strategies for future use in the community. In general, these strategies are being implemented globally as effective methods to thoughtfully and deliberately construct spaces in a way that will deter crime and improve safety for users. The CPTED approach generally strives to deter criminal behavior through designing the built and social environment in a way that promotes perceived safety among users and increases exposure of attempted criminal activity. According to Fennelly & Crowe (2013), there are three overlapping strategies to CPTED:

1. **NATURAL ACCESS CONTROL:** decreases crime opportunity and access to a crime target through control features such as security officers, mechanical locks, or natural spatial definition

2. **NATURAL SURVEILLANCE:** keeping people under observation, which increases the perceived risk to intruders, through methods such as patrol officers, lighting, or windows

3. **TERRITORIAL REINFORCEMENT:** designing spaces in a way that encourages a sense of proprietorship by users, which is also perceived and discourages potential offenders

The National Crime Prevention Association includes a fourth strategy, maintenance, in which public areas are to be kept clean and free of defects to deter crime.

Some researchers have estimated that increased investment in green spaces as part of urban built environments could result in an annual $928 million in savings from avoided crime (Wolf, 2016). Research has also shown that residents with more trees and grass around their buildings were less aggressive and perpetrated fewer crimes (Kuo and Sullivan, 2001). Troy et. al (2012) found that a 10% increase in tree canopy was associated with approximately a 12% decrease in crime in Baltimore, Maryland. Increasing greenery levels has also been associated with reduction in gun assaults and disorderly conduct, higher perceived general health, and lower levels of depression, anxiety, stress, irritability, and impulsivity, all of which can be precursors to violence or crime (Maas et al., 2006, Maas et al., 2009, Beyer et al., 2014, Hartig et al., 2014, Association, 2016). Several studies have indicated that greenery in public and private spaces is associated with feeling of safety, provided the greenery is not excessively dense or creates feelings of entrapment (Hartig et al., 2014). Greener environments may also help to mediate health disparities that result from income inequality (Mitchell and Popham, 2008).

Safety in parks is a nuanced topic, with many factors that can vary greatly among park users. For example, social contacts have also been associated with one's sense of safety, theoretically leading to a positive feedback loop in which perceived safety of a park which can further increase the use of parks and development or strengthening of social contacts, leading to increased feelings of safety within the park (Hartig et al., 2014). Additional research has identified a positive connection between higher levels of social cohesion and actual safety, such as reduced crime, burglary, and neighborhood violence (Wood and Giles-Corti, 2008).

Community Data

Community safety perception data were available from a variety of sources. The 2016 National Citizen Survey asked several questions regarding community safety, and the results are presented below:

- **85% OF PEOPLE** reported their overall feeling of safety in Eau Claire is very or somewhat safe
- **79% OF PEOPLE** reported they feel very safe in their neighborhood during the day
- **72% OF PEOPLE** reported traffic enforcement was excellent or good
- **10% OF PEOPLE** reported a household member was a victim of a crime in Eau Claire in the past year
- **ALL RATINGS** for public safety services (police, fire, emergency preparedness, etc.) were similar to national benchmarks.

"Overall Safety" was one of two priority areas respondents indicated that the Eau Claire community should focus on from 2016-2018.

The NEWS survey collected data on the West Riverside Neighborhood on some additional measures related to safety. The results of the survey indicated that:

- **37% OF PEOPLE** agree that "the streets are not well lit at night"
- **66% OF PEOPLE** agree that "most drivers exceed posted speed limits in the neighborhood"
- **40% OF PEOPLE** agree "there is a high crime rate in the neighborhood"

The project team collected actual crime data from the Eau Claire Police Department. In 2016, 214 crimes were reported in the West Riverside neighborhood (Figure 05). Approximately 46% of these crimes were theft/burglary. Almost 22% of crimes were battery, 21% of crimes were alcohol-related and almost 10% of crimes were related to drug use. The total number of crimes in the City of Eau Claire over the same time period (for the same categories) was 2836. Crimes in the West Riverside neighborhood represented 7.5% of crimes in the reported categories in 2016, though the neighborhood represents approximately 2.6% of the city's population. However, many crimes go unreported, and these numbers likely underestimate the actual number of crimes in the neighborhood and city.

Predicted Impacts for Health

Health impacts from the Cannery park and multi-use trail will depend on the final design of the park and trail, including features such as lighting, signage, landscaping, facilities, programming, maintenance levels, and the other types of users present. Not surprisingly, **a park and trail that users feel safe traveling to and using increases the number of people who get the numerous benefits parks offer, such as physical activity, social connection, and exposure to green space.**

These short-term benefits lead to longer term benefits such as improved overall health, lower chronic disease rates, improved mental health, and overall greater sense of place and connection to community, among many others.

The increased number of people to the area is anticipated to increase the overall perception of **safety, since additional users provide "natural surveillance" or "eyes on the street",** which can help other users feel more secure and deter criminal activity. While the total amount of greenery in the Cannery Park may not change from pre-development levels (much of the area was heavily wooded before park and trail development

NUMBER & TYPE OF CRIME - WEST RIVERSIDE NEIGHBORHOOD
January - December 2016

NUMBER OF CRIMES

120

100

80

60

40

20

0

Burglary   Battery   Alcohol   Drug   Sex Offense
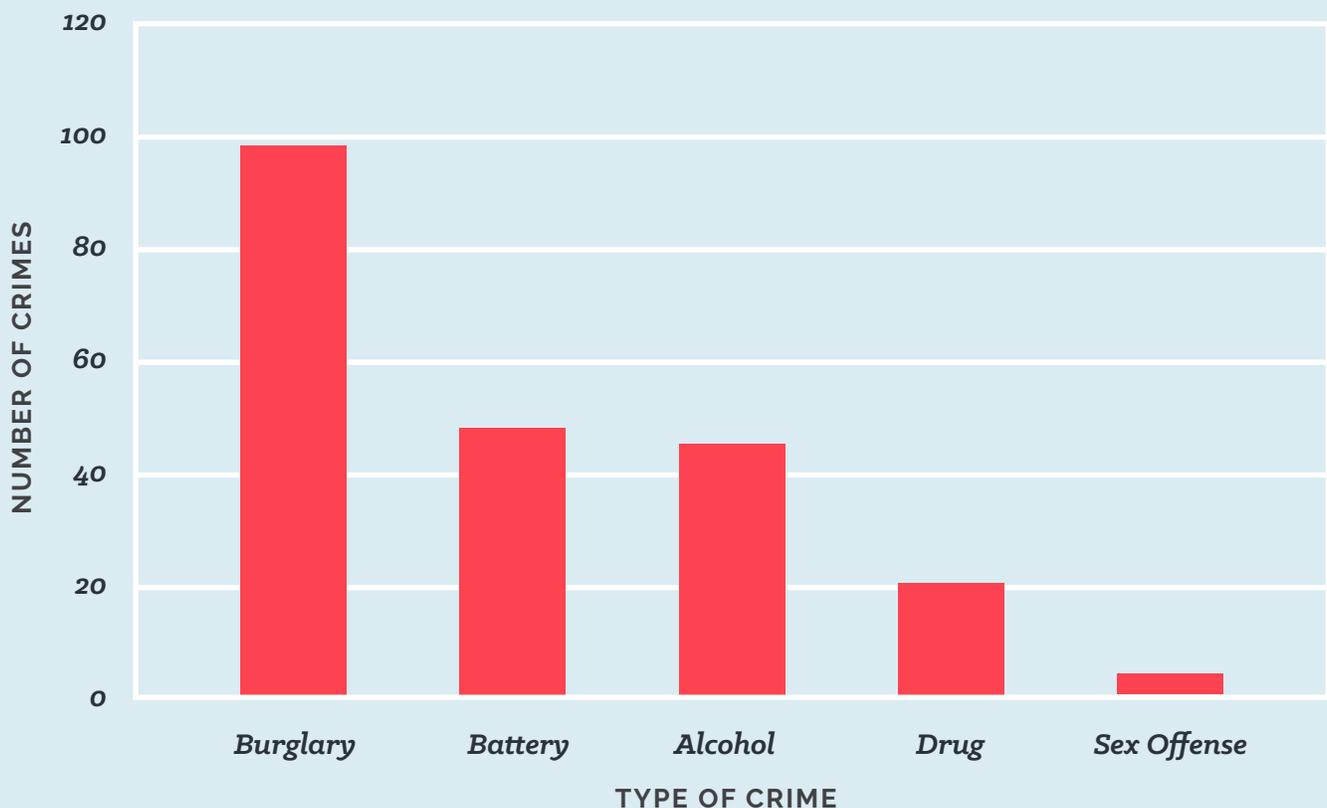
TYPE OF CRIME

FIGURE 05.
Number and types of crime reported by the Eau Claire Police Department for the West Riverside Neighborhood. Data from Eau Claire Police Department.

began), the construction of the park and multi-use trail increased the functionality of the space. Furthermore, it provides a safe way for citizens to benefit from exposure to the greenery, whether through structured events or passive time spent in the park or trail. Based on research from other communities, it is likely that this increase in exposure to green space may positively impact mental health outcomes, and reduce the crime rate.

The full benefit of the park and trail is more likely to be realized if park design, community input, programming, and maintenance work cooperatively to create a space that maximizes the perceived safety and ease of access for potential users. Considering the proximity of the Cannery Park to the senior center and the lower income West Riverside neighborhood, final park design must provide access to safe and desirable places to play that appeal to a variety of users, regardless of age or income. **As park design is finalized, community engagement and feedback must be incorporated into the final planning processes. This input will ensure that park facilities meet the needs and desires of the neighborhood and other users, as well as increase the overall sense of community and connection.** To maximize the number of people who are able to realize the positive benefits from physical activity, social cohesion, and exposure to green space, several recommendations are provided on the following pages.

RECOMMENDATIONS FOR CANNERY DISTRICT PARKS AND TRAILS

Recommendations below will help create equitable access for most population groups to realize the potential health benefits. Recommendations were developed through research of best practices, healthy design guidance documents, and consultation with advisory committees. Specifically, recommendations in pink are evidence-based strategies from the Building Healthy Places Toolkit.[01] Recommendations in blue are best practice strategies from the Building Healthy Places Toolkit. Recommendations are created for the city to provide all citizens access to healthy options. However, financial or practical restrictions may preclude certain recommendations, depending on final design and community input. Recommendations are separated into the categories of **equity, public space and place, recreation choices, safe environments, and transportation choices.** Equity is defined by the national health plan Healthy People 2020[02] as the "attainment of the highest level of health for all people." These categories indicate different opportunities to impact different health determinants with the goal of maximizing the opportunity for all people to be healthy.

01 Urban Land Institute. (2015) Building Healthy Places Toolkit: Strategies for Enhancing Health in the Built Environment, Washington, D.C.

02 Available at www.healthypeople.gov/ (accessed 9/20/2017)

PARK AND TRAIL RECOMMENDATIONS

Recommendations in pink are evidence-based strategies from the Building Healthy Places Toolkit. **Recommendations in blue** are best practice strategies from the Building Healthy Places Toolkit.

EQUITY

Ensure connection to transportation, trails, and amenities to be accessible for people with all ability levels, following Universal Design principles[01]

- Allow playgrounds, picnic areas, sport courts to be accessible from multi-use trails & by children/adults of all abilities
- Provide benches for rest at regular intervals along trail & sidewalk networks. Place benches where natural surveillance is maximized to increase safety

Engage the community in the design and implementation of new public spaces

- Solicit community ideas for design and engage community in development (such as tree planting events, soliciting local artwork for display, forums for discussion of design plans) discussion of design plans)

PUBLIC SPACE & PUBLIC PLACE

Incorporate design elements that facilitate social interaction

- Design and support use of parks or surrounding streets for community gardens, festivals, events, or gatherings

Adopt pet friendly policies and amenities

- Consider pet watering stations, pet waste stations, and pet-friendly park programming

RECREATION CHOICES

Intermix active spaces (playgrounds, sport courts) with passive spaces (benches, pavilions, picnic tables, barbecue grills)

Provide a variety of high-quality spaces for multigenerational play and recreation for all ability and socioeconomic levels

- Provide a variety of programming such as group exercise classes, educational programs, and unique or special events
- Consider adaptive playgrounds for children with varied ability levels
- Locations for adult fitness near children's playground so adults can be active while visiting the park with children
- Provide separation between different park uses, such as sport areas (for groups/social gatherings) and natural quiet areas (for individuals/solitude)

SAFE ENVIRONMENTS

Include well-marked crosswalks, special pavers, and curb extensions to visually highlight pedestrians and slow traffic

Align neighborhood streets along park boundaries to increase "natural surveillance" or visibility of park users by people in cars and on sidewalks

Include entrances and windows in adjacent buildings that face the park or trail

Implement all applicable crime prevention through environmental design (CPTED) principles

- Minimize problem features, such as narrow pedestrian walkways, overgrown vegetation, isolated or unmonitored pedestrian areas, and physical signs of disorder (garbage, graffiti, etc.)
- Plan for events/activities to be held at different times of the day, so there is a citizen presence from morning to evening

Integrate Safe Routes to Parks design principles (comfort, convenience, safety, access & design, park quality)[02]

- Routes to parks should easily walkable with shade, visual appeal, and easy traffic crossing for youth and adults
- Multiple access points to the park should be available, such that most people can access the park within a 10 minute walk

Implement "Safe Park Zones" in which traffic speeds are decreased and traffic violation fines are higher[02]

Provide formal surveillance by law enforcement and/or cameras

Conduct a safety audit of the park and trail space, to gather perceptions of safety from users of the space (after development)

TRANSPORTATION CHOICES

Develop a street, sidewalk, and bike-route network that connects neighborhoods and destinations to parks and trails

Coordinate transit stops within park

Provide amenities that support biking, walking, and transit such as bike racks/covered bike parking, fixing stations, benches, and bus shelters

Implement way-finding signs to orient visitors and highlight area amenities

- Create visible and safe pedestrian and bike routes to nearby destinations such as schools, senior center, farmer's market, hospitals, university

Develop the multi-use trail with a width of 12 – 14 feet[03]

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01 Universal Design calls for a built environment designed so that it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, ability, or disability.

02 National Recreation and Park Association. Safe routes to parks: Improving access to parks through walkability. NRPA, http://www.nrpa.org/Safe-Routes-To-Parks/

03 Federal Highway Administration. Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/sidewalks214.cfm
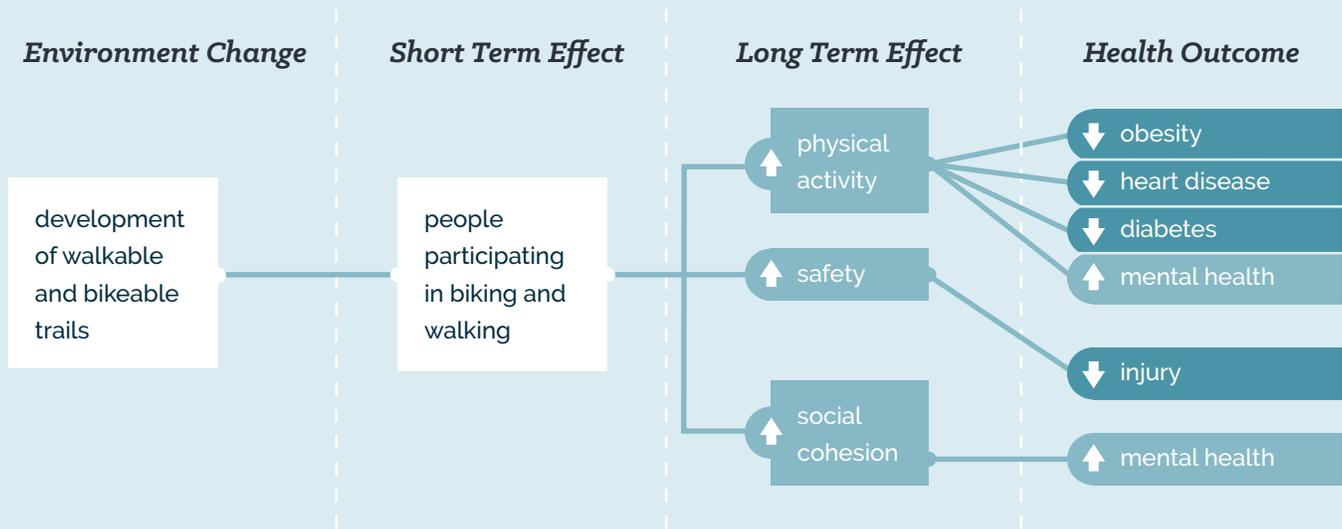
FIGURE 06. STREET AND SIDEWALK PATHWAY DIAGRAM
Pathway diagram of the potential short term changes, long term changes, and health outcomes that could be impacted through the development of the Cannery District and changes to the street and sidewalk network in the District and adjacent neighborhood. Short-term effects are anticipated immediately after development. Long-term effects may take months to years to take effect, while impacts to health outcomes may not be realized for a number of years.

STREET & SIDEWALK DESIGN LITERATURE REVIEW, DATA, AND HEALTH IMPACT PREDICTIONS

During the scoping phase of this HIA, the Project Team consulted with both the Neighborhood and Eau Claire Area Advisory Committees to determine the most relevant health topics related to street and sidewalk design for more detailed research and evaluation of potential health impacts. This input was combined with data collected during one-on-one interviews with people who live and work in the West Riverside Neighborhood. The summary of potential health impacts as a result of short-term environmental changes can be visualized in the pathway diagram below (Figure 06). The pathway diagram presented in this section guides the reader through the literature findings and implications for health discussed in the section. The pathway diagram is not exhaustive and does not illustrate every potential health impact, only those that are relevant to the scope of the HIA. The three research questions developed from this pathway diagram are:

1. **What factors related to street and sidewalk design increase physical activity?**
2. **What factors related to street and sidewalk design increase social cohesion?**
3. **How does street and sidewalk design impact safety?**

RESEARCH QUESTION 1: WHAT FACTORS RELATED TO STREET AND SIDEWALK DESIGN INCREASE PHYSICAL ACTIVITY

Literature Review

Designing neighborhoods that better accommodate walking appeal to residents and benefit public health. Walkable neighborhoods help children and adults meet the recommended amount of physical activity. The majority of pedestrians will use sidewalks when they are available and sidewalk availability in neighborhoods is positively associated with total amount of walking (Forsyth et al., 2017). A cross-sectional study of 32 different neighborhoods across the United States found that adults living in high-walkability neighborhoods more frequently met the physical activity recommendations compared to those who lived in low-walkability neighborhoods (Institute, 2015, Sallis et al., 2009). Additionally, those who live in neighborhoods with street lights, pedestrian crossings, and traffic calming or those close to workplaces and commercial destinations are more likely to walk (Cerin et al., 2007, Forsyth et al., 2017, Powell et al. (2003) suggested that intentionally designed neighborhoods and redeveloping old neighborhoods to include walkable sidewalks and streets appeal to residents and positively impacts physical activity. The same study found that **the most common place for people to walk was in their neighborhood and that those who can walk to a desired place in 10 minutes are most likely to be active.**

Bicycling is also impacted by how streets and sidewalks are designed. Safety is one of the most frequently cited barriers for people who want to bike (Reynolds et al., 2009). People are more likely to bike to other destinations when protected bike lanes, well-lit trails, and bike racks are available (Forsyth et al., 2017). Furthermore, perceived safety improvements in bicycle transportation (such as street lighting, paved surfaces, and low-angled grades) have a direct impact on the number of people who commute by bicycle (Reynolds et al., 2009, Teschke et al., 2012). Additionally, evidence suggests that bike-specific facilities, such as bike tracks at roundabouts and bike routes, lanes, and paths improve safety for bikers (Reynolds et al., 2009). The same study found that on-road biking with traffic or biking on sidewalks decreases safety (Reynolds et al., 2009). Marked bike lanes and routes were found to reduce injury or crashes by half when comparing to roadways without these amenities (Reynolds et al., 2009). A number of cross-sectional studies have identified that as the number of bike lands and paths increases, the number of bikers increases (Buehler et al., 2011). Related research also suggests that as the number of bikers increases, less injuries occur due to drivers being more aware of or expect people who bike to be on roads (Reynolds et al., 2009).

Community Data

Several types of primary (collected by the project team) and secondary (collected prior or outside of the HIA) data support the need for places to be physically active; data also highlight the burden of physical inactivity in Eau Claire city and County. Data from the 2016 National Citizen Survey of the City of Eau Claire indicated:

- **80% OF PEOPLE** reported overall ease of getting places they usually visit
- **82% OF PEOPLE** reported that recreational opportunities are a good or excellent
- **85% OF PEOPLE** reported fitness opportunities (including exercise classes, paths, trails) are good or excellent

"We walk on the sidewalk. We could use more sidewalks; they are only on one side of the street. We mostly get around by car."

ONE-ON-ONE INTERVIEW RESPONDENT,
REGARDING CANNERY DEVELOPMENT PLANS

Though many residents in Eau Claire reported highly valuing recreational and fitness facilities such as parks and trails, during focused conversations with residents in the West Riverside neighborhood, participants indicated that road safety and incomplete sidewalks are barriers to walking and biking. Data from the 2017 NEWS survey of those who live in the Cannery District indicated that 68% of people agree that many places are within an easy walking distance of their home. Yet, during one-on-one interviews, participants indicated a desire for children to be able to easily access Cannery Park and Phoenix Park (downtown Eau Claire) and that current walking infrastructure did not safely permit this. An additional interviewee expressed interest in more sidewalks within the neighborhood.

Several health issues related to physical inactivity have been indicated through community health data. During the 2015 Community Health Assessment, obesity was selected as one of the top three community health priority areas, and 81% of Eau Claire County residents indicated obesity was a moderate or major problem in our community. At the time of the survey, approximately two in three county residents were overweight or obese, and 23% (almost 1 in 4) of Eau Claire County residents did not engage in physical activity in their leisure time. These numbers are concerning as an unhealthy weight and lack of physical activity can leader to other chronic conditions, such as heart disease, some types of cancer, and diabetes. Combined, deaths from these causes accounted for 46% of all 2014 deaths in Eau Claire County. In the West Riverside Neighborhood census tract, one in three residents self-report being diagnosed with high cholesterol.[01]

Physical activity is also closely linked with mental health outcomes. Mental health was also one of the top three community health priority areas in 2015 and 60% of Eau Claire County residents indicated that mental health was a problem in the community. County rates of self-inflicted injury hospitalizations had increased since 2000 to 179 hospitalizations per 100,000 people in 2012. This rate consistently exceeded the state average over the same time period of less than 100. From 2000-2012, suicide deaths in Eau Claire County averaged 12 deaths per 100,000 people.[02] Specifically in the West Riverside Neighborhood census tract, one in five residents reported a week or more of poor mental health days in the past month.[03]

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01 Data from CDC Behavioral Risk Factor Surveillance System (2013), reported through www.policymap.com (accessed 8/4/2017)

02 2015 Eau Claire Community Health Assessment. Available at www.ci.eau-claire.wi.us/departments/health- department/ about-us/eau-claire-city-county-community-health-assessments (accessed on 9/21/2017)

03 Data from CDC Behavioral Risk Factor Surveillance System (2013), reported through www.policymap.com (accessed 8/4/2017)

Predicted Impacts for Health

The research review mentioned provides evidence for the connections shown in Figure 06. At the time of this report, there were no solidified plans for the street and sidewalk design in the Cannery District. Therefore, this section provides details more akin to a "health lens analysis", providing evidence-based recommendations to promote public health and well-being, which is applicable to various potential design scenarios, based on data regarding the community demographics and current research.

Physical activity is one proven way to impact long-term health outcomes such as heart disease, high blood pressure, diabetes, anxiety, depression, cancer, and quality of life (Warburton et al., 2014). Increasing access to places for safe biking and walking is one effective method to improve achievement of recommended physical activity levels and associated long-term health outcomes. Based on the research and data provided above, a street and sidewalk design that positively influences walking and biking in the Cannery District could decrease the risk for chronic diseases for people who live in or frequent the Cannery area and adjacent neighborhood. In fact, some research estimates that about 12% of deaths are attributable to a lack of physical activity (Pate et al., 1995). Assuming the same percentage of deaths is influenced by a lack of physical activity in Eau Claire County, 99 deaths (about 1 in 8) of the 823 deaths in 2014 could have been delayed.[01] Though physical activity is associated with mental health outcomes, the association is

not as strong as that with chronic diseases. It is not expected that increased ease of walking or biking would drastically improve mental health outcomes, but it could provide some support for a number of individuals, depending on their degree of participation in physical activity, current mental health state, and other factors.

Based on research from other communities, children, older adults, and people in poor health are less likely to experience the same health benefits as other populations. Recommendations to help maximize the potential benefits for the largest number of people are presented at the end of this section.

RESEARCH QUESTION 2: WHAT FACTORS RELATED TO STREET AND SIDEWALK DESIGN INCREASE SOCIAL COHESION?

Literature Review

Cities must recognize the impact that walking and biking has on the opportunity to develop social cohesion within a community (see definition of social cohesion on page 39). Similar to how social cohesion is developed in the park setting, much of how streets and sidewalk design foster social cohesion is based on how people interact with one another and how attached they are to the place. In addition to facilitating higher rates of walking and biking, walkable

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01 Eau Claire County Public Health Profiles, 2016 (contains 2014 data)

neighborhoods increase the appeal of walking and biking and provide opportunities for social interaction. Street-scale features such as places for gathering or community programming (festivals or sport events) can encourage planned or unplanned social interactions. These interactions, especially when repeated, can build community cohesion and trust (Forsyth et al., 2017). Child et al. (2016) also found that the **presence of other active people and interesting aesthetics in the neighborhood environment were positively associated with social cohesion.** Some aesthetically-pleasing features include storefronts that face the sidewalks, maintained walkways, outdoor furniture, and wide walking paths (Forsyth et al., 2017).

"Drunk people in the area can sometimes cause problems."

ONE-ON-ONE INTERVIEW RESPONDENTS, REGARDING WEST RIVERSIDE NEIGHBORHOOD ASSETS

Shared spaces that connect residents to one another also serve to connect residents to their neighborhood, which fuels place attachment. The research on development of social cohesion indicates that connections with others and cultivating "place attachment" are both methods of building social cohesion in a community. Place attachment is constructed differently for each community and person, but growing evidence shows that those who feel they have a place in their community have more trust and solidarity as well as stronger social networks. Similar to the research discussion in the park and trail design section (page 39), as opportunities to connect with others increases, the potential for place attachment also increases. For example,

participation in social activities or volunteering has been linked to positive relationships and sense of belonging (Forsyth et al., 2017). Additionally, Reynolds et al. (2009) and Child et al. (2016) found that **having walking destinations in a neighborhood, access to amenities, and structures that support physical activity (sidewalks, well-connected streets, recreation facilities) contribute to increased connection with neighbors.** Conversely, when people spend more time at home and away from public spaces, there is more disinvestment in social capital of the community (Dannenberg et al., 2011). Other research suggests that a lack of social cohesion contributes to poorer health outcomes, such as an increased risk for depressive symptoms and negative self-reported health (Forsyth et al., 2017). Therefore, communities must prioritize development that is built to foster and encourage social cohesion through interactions among those frequenting the area and place attachment.

Community Data

Measuring social cohesion is a difficult task, and can take many different forms. Some researchers have measured social cohesion using the number or size of community groups, opportunities for social gatherings, or political participation. For the purposes of this HIA, the Project Team evaluated social cohesion qualitatively, as reported by community residents through the 2016 National Citizen Survey and the 2016 NEWS survey. People who replied to these surveys or participated in the one-on-one interviews generally reported positive feelings toward the social environment in Eau Claire. However, the majority of West Riverside residents surveyed did not feel that their neighborhood was close-knit and reported several opportunities to improve social cohesion and

community connectedness.

Results from the National Citizen Survey (city-wide survey of Eau Claire residents) related to social cohesion indicated:

- **63% OF PEOPLE** reported that neighborliness in the community is excellent or good
- **57% OF PEOPLE** reported that openness and acceptance of the community toward people of diverse backgrounds are excellent or good
- **67% OF PEOPLE** felt that building a strong sense of community and cohesion is essential or very important for the community
- **78% OF PEOPLE** reported that social events and activities in the community are excellent or good
- **77% OF PEOPLE** reported that opportunities to participate in community matters are excellent or good
- **60% OF PEOPLE** reported talking to/visiting with a neighbor more than once per month
- **73% OF PEOPLE** reported doing a favor for a neighbor

The rating for social events and activities was above the national average for other cities that completed the survey.

Data from the NEWS survey (survey of West Riverside Neighborhood residents) indicates that 43% of respondents agree they "live in a close-knit neighborhood," though 71% agree that "people in their neighborhood are willing to help their neighbors."

During one-on-one conversations conducted with neighborhood residents, people revealed diverse thoughts on what serves to facilitate and prevent interactions in their community:

- People generally feel that their neighbors are hardworking and friendly people

- Some locations such as the restaurant (Chick-a-dee's) and the senior center facilitate people being able to congregate and build relationships
- Some people mention the desire to have additional communal locations to connect in the area
- One person commented on the lack of a neighborhood association.
- One person commented on how people move in and out of the neighborhood often, potentially impacting their lasting relationships with their neighbors

"The senior center is a point of connection, place to play games and do activities. It is free...you meet others and make friends."

"We have friendly neighbors and an established neighborhood. It's quiet and there's diversity."

ONE-ON-ONE INTERVIEW RESPONDENTS, REGARDING WEST RIVERSIDE NEIGHBORHOOD ASSETS

Predicted Impacts for Health

The above research review provides evidence for the connections shown in Figure 06. At the time of this report, the City had no finalized plans for the street and sidewalk design in the Cannery District. Therefore, this section provides details more akin to a "health lens analysis" providing evidence-based recommendations to promote public health and wellbeing, which is applicable to various potential design scenarios, based on what

is known about the community demographics and current research.

While the research linking street and sidewalk design to social cohesion is not as robust as the physical activity and chronic disease connection, evidence still suggests that **intentional street and sidewalk planning creates space for positive social connections within neighborhoods and ultimately increased social cohesion.** Additionally, feedback from those who spend time in the West Riverside neighborhood and Cannery District indicates that citizens would positively receive a street and sidewalk design that helps to facilitate social interactions and place attachment. As a result, those who interact in this space may realize long-term health impacts such as improved mental health and stronger supportive networks. Recommendations are provided at the end of this section to incorporate features that promote social cohesion into the final street and sidewalk design.

RESEARCH QUESTION 3: HOW DOES STREET AND SIDEWALK DESIGN IMPACT SAFETY?

Literature Review

In 2015, 5,376 pedestrians were killed in traffic crashes in the United States, which was a 9.5% increase from 2014 (Administration, 2015). The same year, pedestrians deaths accounted for 15% of all traffic fatalities (Administration, 2015). As Figure 07 shows, small changes in traffic speed can have significant impact on the likelihood of injury and death (McCabe et al., 2013). Speeding has played a role in roughly nine of ten speeding-related deaths on roads that have a speed limit of 55 mph or less (McCabe et al., 2013). As a result,

speed management (especially in areas that have large numbers of children) has been found to be the most impactful in preventing injury.

A report developed for the Wisconsin Department of Transportation indicates that the highest concentrations of pedestrian and bicycle crashes that result in severe injury or fatality tend to be along signalized, multilane arterial roadway corridors in urban and suburban areas with moderate to high levels of pedestrian or bicycle activity (Schneider and Stefanich, 2015). Bicyclists who are hit by a vehicle going between 20 and 30 mph have a 92% higher chance of fatality compared to bikers hit by vehicles driving less than 20 mph (McCabe et al., 2013). As for bicycle crashes in Wisconsin, 30% occurred on roadways with speed limits less than 35 mph, and 33% of all bicycle crashes involved bicyclist younger than age 20 (Schneider and Stefanich, 2015).

For pedestrians, the chance of injury for a person who is hit by a car is 50% when the car is traveling at 31 mph, whereas the chance of injury decreases to 10% when the car is traveling at 16 mph (McCabe et al., 2013). Additionally, 54% of pedestrian crashes were on roadways with speed limits below 35 mph, and 31% of crashes involve those 65 or older (Schneider and Stefanich, 2015).

Aside from modifications in road speed, communities can take a number of other steps to influence the safety of streets and sidewalks. The design of the built environment, traffic safety laws, and pedestrian and bike education all contribute to increased safety. Communities can also take a number of steps to impact safety for pedestrians and bikers who use the roadways and sidewalks, such as:

- Increasing lighting for pedestrians at night. Three

out of four pedestrian fatalities occur in the dark.

- Advancing stop lines, in-pavement flashing lights, and automatic pedestrian detection at walk signals.
- Installing modern round abouts in place of conventional intersections. A roundabout is one of the most effective ways to control speed and increase pedestrian safety.
- Changing traditional intersections to roundabouts to reduce the rate of pedestrian crashes by about 75%.
- Installing stop signs instead of traffic signals at low-traffic-volume urban intersections. Pedestrian collisions decreased by 25% when multiway stop signs were installed instead of traffic signals.

- Using automatic pedestrian detection in lieu of pedestrian push buttons. This technology automatically detects pedestrians and will display a walk signal when they are present as well as extends crossing time to allow slower pedestrians time to finish crossing (Retting et al., 2003; Administration, 2015).

Community Data

According to US Census data, approximately 1 in 50 people (2.1% of residents) bike or walk to work in the West Riverside census tract. In the city of Eau Claire, the number more than doubles to 5.6%. The Wisconsin average is 4.1% of residents biking or walking to work. However, 1 in 3 people do

PEDESTRIAN INJURIES AT IMPACT SPEEDS:

20mph:

30mph:

40mph:
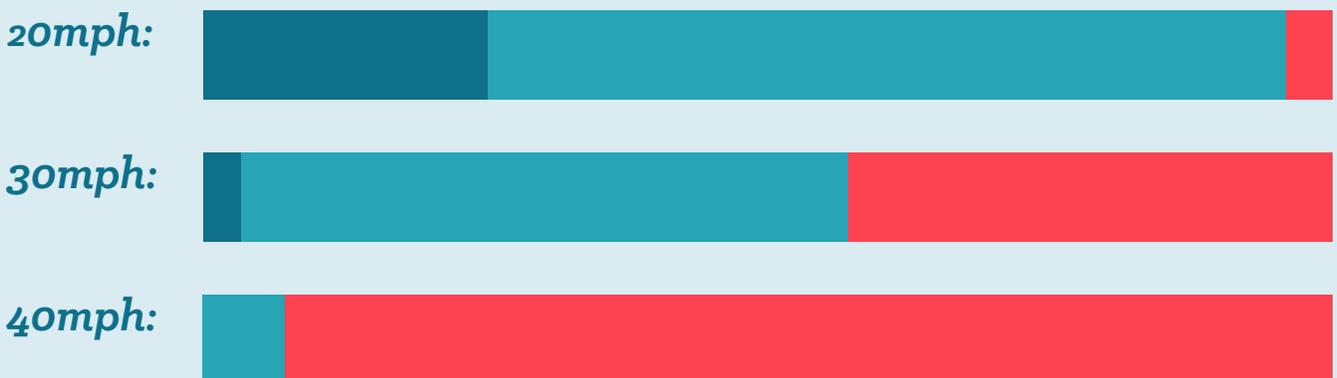
FIGURE 07.

Pedestrian chance of injury or fatality based on impact speed of a vehicle. This image is reformatted from the Federal Highway Administration. Small changes in vehicle speed can drastically change the outcome for someone who may be struck while walking.

FATAL

INJURY

UNINJURED

RATE OF PEDESTRIAN & BICYCLIST FATALITIES/INJURIES
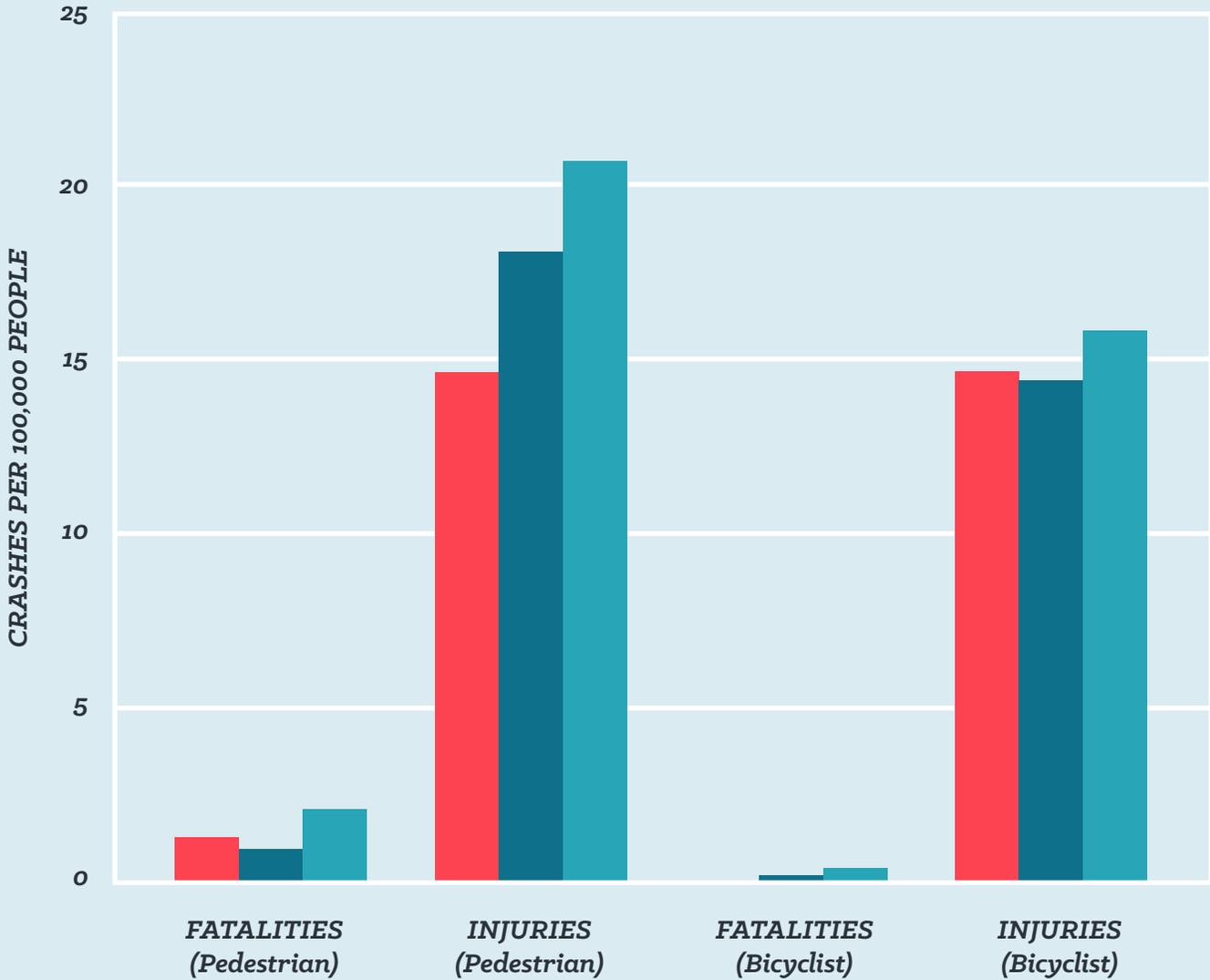
FIGURE 08.

Comparison of 2014 crash rate among pedestrians and bicyclists for the United States, Wisconsin, and the metropolitan planning area (MPA; the metropolitan planning area includes Eau Claire, Altoona, Chippewa Falls, Lake Hallie, and adjacent townships. Population in the MPA was estimated at 115,648 in 2015). Reformatted with permission from the Chippewa-Eau Claire Metropolitan Planning Organization 2017-2027 Bicycle and Pedestrian Plan.

- **MPA**
- **WISCONSIN**
- **UNITED STATES**
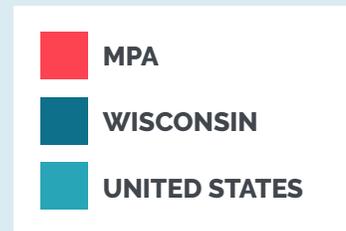
not drive at all, due to age, economic or physical ability, or choice.[01]

A comparison of injuries and fatalities among pedestrians and bicyclists for the City of Eau Claire and surrounding area is shown in Figure 08. The rate of pedestrian fatalities and bicyclist injuries was slightly higher in the metropolitan area (MPA) than across Wisconsin in 2014. Pedestrian injuries and bicyclist fatalities were lower in the MPA than Wisconsin or United States.

"Lighting and street lights would keep people from stealing."

ONE-ON-ONE INTERVIEW RESPONDENT,
REGARDING CANNERY DEVELOPMENT PLANS

Injuries and deaths from motor vehicle crashes impact several hundred people in Eau Claire County per year. Deaths from motor vehicle crashes averaged seven deaths per year in Eau Claire County from 2010-2014. For the same time period, motor vehicle injuries averaged 639 people injured per year.[02]

Community safety perception data were available from a variety of sources. The Chippewa-Eau Claire Bicycle and Pedestrian Plan highlight some of the safety data related to biking and walking. The main findings from this plan are:

- There were an average of 41 crashes between people walking or biking and people driving per

year from 2011 – 2015, representing 1.8% of total crashes in the metropolitan planning area, but 18% of the fatalities.
- Of crashes between people walking or biking and people driving, people biking represented 48% of crash victims, while 52% of crash victims were people walking.
- 47% of the crashes occurred where the posted speed limit was 25 mph or less.
- 32% of crashes occurred on streets where the speed limit was 30 mph.
- Approximately two-thirds of crash victims are under the age of 30.

"7th street is unsafe because there's a hill and no sidewalks, so I tell my son to stay off that street and walk home a different way."

ONE-ON-ONE INTERVIEW RESPONDENT,
REGARDING CANNERY DEVELOPMENT PLANS

The 2016 National Citizen Survey asked several questions regarding community safety, and the results are presented below. Respondents indicated that "Overall Safety" was one of two priority areas the Eau Claire community should focus on from 2016 - 2018.

- **85% OF PEOPLE** reported their overall feeling of safety in Eau Claire is very or somewhat safe
- **79% OF PEOPLE** reported they feel very safe in

01 Chippewa-Eau Claire Metropolitan Planning Organization 2017-2027 Bicycle and Pedestrian Plan

02 Wisconsin Department of Health Services Public Health Profiles, Eau Claire County

their neighborhood during the day

- **72% OF PEOPLE** reported traffic enforcement was excellent or good.
- **10% OF PEOPLE** reported a household member was a victim of a crime in the past year
- All ratings for public safety services (police, fire, emergency preparedness, etc.) were similar to national benchmarks.

Some additional measures related to safety were collected through the NEWS survey in the Neighborhood. The results of the survey indicated:

- **37% OF PEOPLE** agreed that "streets are not well lit at night"
- **45% OF PEOPLE** agreed "there are no crosswalks or signals to help cross the street"
- **66% OF PEOPLE** agreed that "most drivers exceed posted speed limits in the neighborhood"
- **40% OF PEOPLE** agreed "there is a high crime rate in the neighborhood"

One-on-one conversations with community residents highlighted perceptions of safety as it relates to transportation. Many people discussed the impact of traffic and traffic speed on their lives. Participants discussed road safety and incomplete sidewalks as a barrier to walking and biking. Some residents identified improvements to biking and walking infrastructure, use of cameras to improve safety and reduce vandalism, and improvements to lighting to increase visibility as ways to improve safety.

Predicted Impacts for Health

The above research review provides evidence for the connections shown in Figure 06. At the time of this report, the City had no solidified plans for the street and sidewalk design in the Cannery District. Therefore, this section provides details more akin to a "health lens analysis," providing evidence-based recommendations to promote public health and wellbeing, which is applicable to various potential design scenarios, based on what is known about the community demographics and current research.

Street and sidewalk design impacts safety for all people who live or use the area. By designing streets and sidewalks in a way that considers safety, the risk of injury can be minimized and those in the area will feel safer. Development in the Cannery District is an important opportunity to impact safety for people using all modes of transportation. The Cannery District is very close to an elementary school and the senior center, both serving groups that experience high vulnerability to injury or death by motor vehicles. Additionally, through development of a street and sidewalk network that maximizes safety for many different populations, there is a higher likelihood of improved health outcomes related to physical activity and social cohesion, as discussed earlier in this section. The recommendations below support the efforts to prevent injury and make the area safer for all groups of people, particularly those who experience vulnerabilities.

RECOMMENDATIONS FOR THE CANNERY DISTRICT STREET & SIDEWALK DESIGN

To help realize the anticipated benefits and positive changes to health outcomes, these recommendations provide suggestions that will help to create equitable access for most populations groups to realize the potential health

Madison Street to Platt Street looking West

benefits. Recommendations were developed through research of best practices, healthy design guidance documents, and consultation with advisory committees. Specifically, recommendations in pink are evidence-based strategies from the Building Healthy Places Toolkit.[01] Recommendations in blue are best practice strategies from the Building Healthy Places Toolkit. Recommendations are created for the city to provide all citizens access to healthy options. However, financial or practical restrictions may preclude certain recommendations, depending on final design and community input.

Recommendations are separated into the categories of **equity, public space & place, safe environments, and transportation choices.** Equity is defined by the national health plan Healthy People 2020 as the "attainment of the highest level of health for all people." These categories indicate different opportunities to impact different health determinants with the goal of maximizing the opportunity for all people to be healthy.

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01 Urban Land Institute. (2015) Building Healthy Places Toolkit: Strategies for Enhancing Health in the Built Environment, Washington, D.C.

STREET AND SIDEWALK RECOMMENDATIONS

Recommendations in pink are evidence-based strategies from the Building Healthy Places Toolkit. **Recommendations in blue** are best practice strategies from the Building Healthy Places Toolkit.

EQUITY

Ensure a connection to transportation, trails, and amenities to be accessible for people with all ability levels, following Universal Design principles

Engage the community in the design and implementation of new public spaces

- Solicit community ideas for design and engage community in development (such as tree planting events, soliciting local artwork for display, forums for discussion of design plans)

PUBLIC SPACE & PLACE

Incorporate design elements that facilitate social interactions

- Include features such as courtyards, outdoor seating, small storefront setbacks, unique building façades, shade, and informal gathering spaces

Encourage pedestrian activity through streetscape "texture," such as public art, street furniture, street trees, and variable

building style to maintain pedestrian interest and activity

In appropriate areas consider a minimum street side width of 9 feet (residential areas) and 12 feet (commercial areas) to accommodate sidewalk, landscaping, and street furniture to encourage pedestrian activity[01]

Consider orienting building development toward the street and sidewalk, with a setback from the sidewalk of 0 feet for commercial areas and a maximum of 10-15 feet for residential units within the mixed use development area[02]

SAFE ENVIRONMENTS

Include well-marked crosswalks, special pavers, and curb extensions to visually highlight pedestrians and slow traffic

Implement all applicable crime prevention through environmental design (CPTED) principles

- Minimize problem features, such as narrow pedestrian walkways, overgrown

vegetation, isolated or unmonitored pedestrian areas, and physical signs of disorder (garbage, graffiti, etc.)

Integrate Safe Routes to Parks design principles (comfort, convenience, safety, access & design, park quality)[03]

- Routes to parks should easily walkable with shade, visual appeal, and easy traffic crossing for youth and adults
- Multiple access points to the park should be available such that most people can access the park within a 10 minute walk

Implement "Safe Park Zones" in which traffic speeds are decreased and traffic violation fines are higher[04]

TRANSPORTATION CHOICES

Develop comprehensive street, sidewalk and bike-route network that connects neighborhoods and destination points to parks, trails, and transit

Provide amenities that support biking, walking, and transit such as bike racks/covered bike parking, fixing stations, benches, and bus shelters

Consider incentives for developers or businesses that support the use of biking and walking

Require that street land width be 10 - 11 feet on lower-speed urban streets to appropriately slow traffic and reduce pedestrian crossing distance[05]

Use a detailed traffic model to determine the appropriateness, location, and type of on-street bicycle facilities that will decrease the likelihood of collision and injury[06]

01 Institute of Transportation Engineers. Designing walkable urban thoroughfares: A context sensitive approach. Publication No. RP-036A, Washington, DC: ITE, 2010

02 Institute of Transportation Engineers. Designing walkable urban thoroughfares: A context sensitive approach. Publication No. RP-036A, Washington, DC: ITE, 2010

03 National Recreation and Park Association. Safe routes to parks: Improving access to parks through walkability. NRPA, http://www.nrpa.org/Safe-Routes-To-Parks/

04 National Recreation and Park Association. Safe routes to parks: Improving access to parks through walkability. NRPA, http://www.nrpa.org/Safe-Routes-To-Parks/

05 Institute of Transportation Engineers. Designing walkable urban thoroughfares: A context sensitive approach. Publication No. RP-036A, Washington, DC: ITE, 2010

06 Refer to Institute of Transportation Engineers. Designing walkable urban thoroughfares: A context sensitive approach
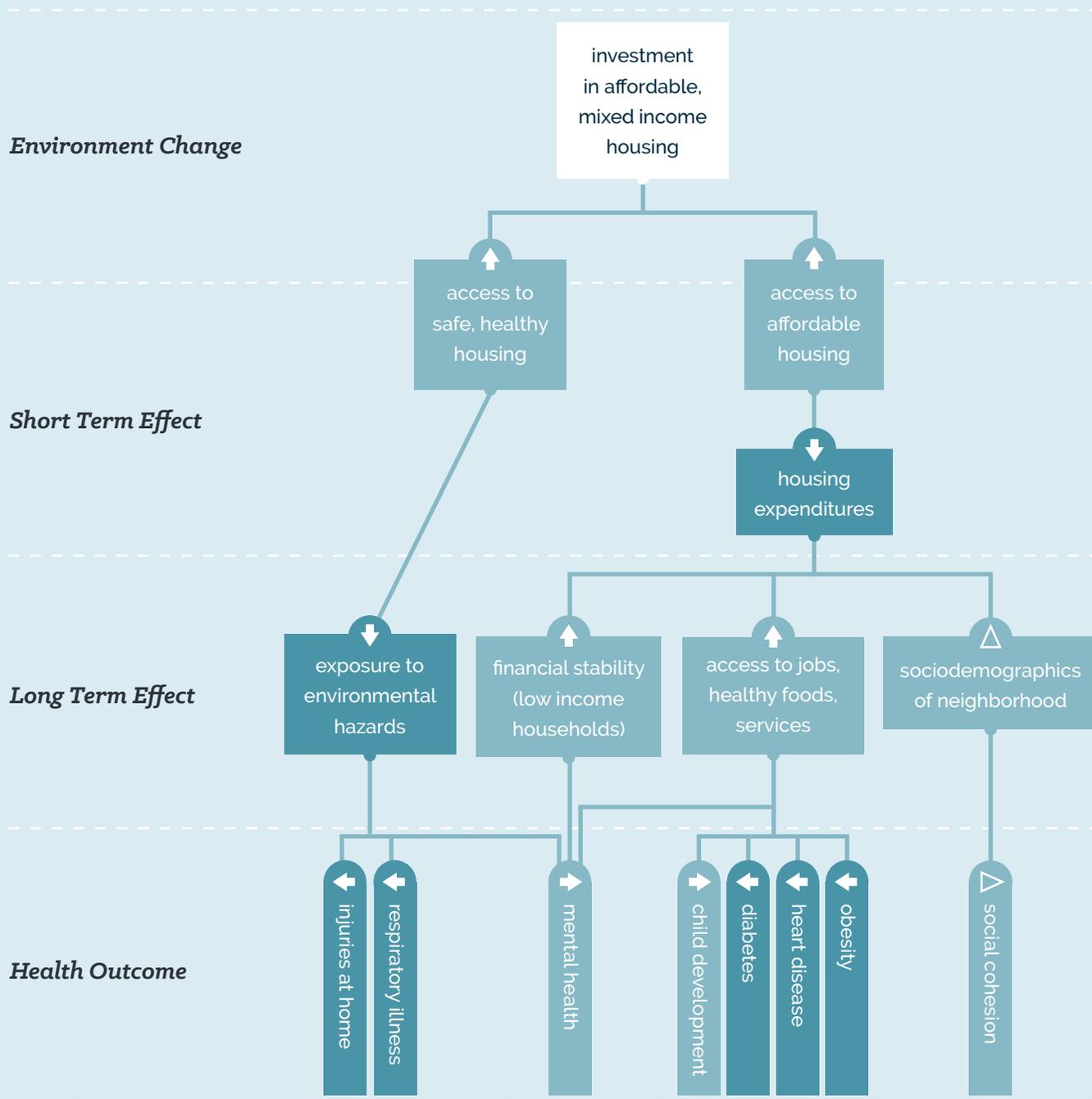
FIGURE 09. HOUSING PATHWAY DIAGRAM

Pathway diagram of the potential short term changes, long term changes, and health outcomes that could be impacted through the development of affordable and mixed-income housing in the Cannery District The Δ symbol represents "a change in". The direction of the change either cannot be established with the literature, or both positive and negative changes may be experienced by different individuals. Short-term effects are anticipated immediately after development. Long-term effects may take months to years to take effect, while impacts to health outcomes may not be realized for a number of years.

HOUSING INFRASTRUCTURE AND AFFORDABILITY LITERATURE REVIEW, DATA, AND HEALTH IMPACT PREDICTIONS

The Project Team consulted the HIA advisory committees to determine the most relevant health topics related to the potential development of housing in the Cannery District. The summary of these conversations is captured in the pathway diagram shown in Figure 09. The pathway diagram presented in this section is a guide through the literature findings and implications for health discussed in the section. The pathway diagram is not exhaustive and does not illustrate every potential health impact, only those that are relevant to the scope of the HIA. An additional facet of the conversation with neighborhood residents was gentrification (i.e., the potential displacement of people from the neighborhood as development and the neighborhood's desirability lead to increased rent or homeownership costs), through this is not outlined on the pathway diagram. Three research questions evaluated for this section are:

1. **Why is safe and affordable housing important for health?**
2. **How does mixed income housing impact health?**
3. **What is gentrification and how can it be mitigated?**

RESEARCH QUESTION 1: WHY IS SAFE AND AFFORDABLE HOUSING IMPORTANT FOR HEALTH?

Literature Review

The consensus among researchers is that stable, safe, suitable, and affordable housing is an important social determinant of health (Partners, 2014, Maqbool et al., 2015). **Physical health can be directly impacted by housing conditions,** such as through exposure to environmental hazards (e.g. lead, asbestos, mold, insects, and rodents); structural defects that can serve as hazards for slips, trips, falls, fires; and radon or carbon monoxide exposure. Poor quality housing can create pathways for infectious diseases

(e.g. influenza), chronic diseases (e.g. asthma, respiratory infections), developmental delays, and lower general health status through exposure to insects and mold that thrive in damp conditions, allergens, dust or toxins in old carpets, and other pest infestations (Krieger and Higgins, 2002, Maqbool et al., 2015). Additional evidence shows that housing in safe, walkable neighborhoods can encourage physical activity, and that residents who move from high-poverty to low-poverty neighborhoods improve their weight and mental health problems (Maqbool et al., 2015).

Housing that is stable and free from defects such as overcrowding and physical defects can also play an important role for mental health (Evans et al., 2003). Poorer mental health outcomes such as anxiety, depression, psychological distress, and behavioral problems in children

have been linked to overcrowding, substandard temporary housing, and damp, moldy, and cold indoor conditions (Krieger and Higgins, 2002). The psychological stressors of substandard housing, such as perceptions of and satisfaction with one's home, are associated with one's self-rated health status (Krieger and Higgins, 2002). Additionally, research studies have concluded that children who are homeless are more vulnerable to mental health problems, developmental delays, and depression than children that are stably housed. Factors that cause instability such as frequent moves, crowding, and eviction is related to elevated stress, depression, and hopelessness. A study of low-income urban students found that **every residential move before second grade as well as frequently changing schools negatively impacted math and reading achievement for elementary students** (Partners, 2014) . Longer tenure in one location is associated with fewer behavioral issues (e.g. anxiety, aggression) among adolescents and lower depression levels among senior populations (Partners, 2014, Maqbool et al., 2015). In addition, lack of access to green outdoor spaces has been linked to poorer cognitive functioning among children (Evans et al., 2003).

Social bonds, an important component of mental wellbeing, can also be facilitated through safe and stable housing. Evidence suggests that adults who perceive their neighborhood to have strong social cohesion are less impacted by daily stresses and have better physical health (Robinette et al., 2013). Opportunities for social bonding can be increased through housing design elements such as close proximity to other living units; door orientation to high-use pathways; and visual exposure from porches, balconies, and outdoor spaces (Evans et al., 2003). Spaces for play and interaction that meet the needs of all resident

types, such as families with children of various ages to older adults, can be important to facilitate these interactions. In addition, research strongly supports that environments that include features such as mixed-use development and walkable streets encourage social interaction and sense of community (Braun et. al., 2015). Comparatively, frequent relocation, housing that lacks social areas, or housing that is of poor quality may lead to feelings of isolation among residents (Krieger and Higgins, 2002).

The strong connection between health, wellbeing, and housing amplifies the need for safe and affordable housing for families at all financial levels. The federal standard for affordable housing is that no more than 30% of a household's income is spent on rent and utilities; households paying over 30% of their income are considered cost burdened. Any family may feel resource-strained due to high housing costs, but low- and moderate-income families are especially susceptible. Affordable, safe housing can also increase housing tenure (the length of time a family remains in a home), which is associated with better health (Evans et al., 2003, Anderson et al., 2003). Harkness et al. (2005) found that poor children living in areas with more affordable housing exhibit better outcomes than those living in less affordable areas. Family residential instability is associated with children's poor attendance and performance in school, not having a primary source of medical care, lacking preventive health services, and suffering from various acute and chronic medical conditions, sexual assault, and violence (Anderson et al., 2003).

With access to affordable housing, families may live in less crowded areas and also have more financial resources available for healthy

food, health care, transportation, and child education (Partners, 2014, Anderson et al., 2003). Access to these basic items and services are important for healthy growth and development, job achievement, reduced reliance on public programs, and overall physical and mental wellbeing (Lee et al., 2003). For example, low-income families receiving housing subsidies are more likely to have access to adequate nutritious food and children who meet weight guidelines, compared to children in families waiting for housing assistance (Maqbool et al., 2015). Research has found that for every $500 that average annual rents increase in a region, food insecurity rates among low-income families increase by 10% (Partners, 2014).

Compared to similar families not in subsidized housing, children in subsidized housing have:

35% greater chance of being classified as a "well" child

28% lower risk of being seriously underweight

19% lower risk of being food insecure

SOURCE: ENTERPRISE (2014): CHILDREN'S HEALTH WATCH

Affordable and safe housing for seniors is also important. By 2050, one in five Americans will be over age 65, and the number of Americans over age 85 is expected to triple. As these populations expand, demand among older renters for larger buildings with services is likely to grow (Lipman et al., 2012). Older adults have different needs for safe and affordable housing compared to younger owners and renters. For example, older adults

are more likely to be cost-burdened compared to younger adults, as increased medical costs and declining or fixed incomes create a burden on personal finances (Lipman et al., 2012). In addition, current housing supply may not meet the evolving physical or social needs of older adults, who are at higher risk for in-home injuries, or rely more heavily on public transportation (Partners, 2014). **Housing specifically designed for older adults can be sensitive to their physical needs, encourage social interaction among mobility-limited individuals, and be affordable for fixed and low- income people.** Housing stability among older adults is linked with less emergency room use, lower rates of geriatric health problems (e.g. falls, memory loss), and lower rates of nursing home entries (Partners, 2014, Donald, 2009, Knopf-Amelung, 2013).

Community Data

The above research review provides evidence for the connections shown in Figure 9. At the time of this report, the City had no solidified plans for housing development in the Cannery District. Therefore, the remainder of this section provides details more akin to a "health lens analysis," highlighting potential development scenarios and corresponding health impacts based on what is known about the community demographics and current research.

The City of Eau Claire has demonstrated a commitment to providing safe and affordable housing in Eau Claire. The Comprehensive Plan Health Chapter Policy 3.9 states

"Encourage private developers, the City, and County to better meeting housing affordability needs within the community".

This policy also encourages mixing affordable and market rate housing with the goal of advancing economic and social equity. In addition, Objective 1 of the Comprehensive Plan Housing Chapter directs the city to

"use regulations and assistance programs to help make housing affordable for all"

and directs the continuation of programs such as rent assistance, homeownership assistance, increasing availability of public housing as funding is available, housing rehabilitation loans, and others.

These programs assist many individuals and families annually. However, the **2012 Analysis of Impediments to Fair Housing by the Metropolitan Milwaukee Fair Housing Council identified that in Eau Claire an inadequate supply of affordable housing exists compared to demand,** based on residents' income. The study attributed this in part to a lack of financial resources to preserve and/or rehabilitate affordable housing. Fall 2017 data from the City of Eau Claire Housing Authority indicated that over 300 applicants are on the waiting list for subsidized housing with the City's Housing Authority. Often, applicants can spend over a year on the waitlist for housing. On average, 24 housing assistance applications are received each month.

Limited local data exists related specifically to poorer health from substandard housing, though the potential risks to health from poor quality housing are well established. Since 2000, Census data has indicated that the neighborhood

population has exceeded the growth rate of Eau Claire County by more than 4% (12.5% growth in West Riverside Neighborhood, compared to 8.7% growth county wide), possibly leading to overcrowding in some residences. The median home age in the West Riverside Neighborhood is 74 years, indicating that over half of the homes were built before the 1940s and present a higher risk for lead and other physical hazards. Poor air quality is also an environmental hazard of older homes, and though neighborhood-specific data isn't available, approximately 10.3% of Eau Claire County adults self-report being diagnosed with asthma, a chronic respiratory condition.[01] Low-income populations are known to experience higher rates of asthma, and the condition can be triggered by poor indoor air quality. Finally, poor quality housing also poses a risk of injuries at home, such as burns, falls, trips, cuts, and others. County-wide data indicates that from 2011-2014, emergency department visits for falls, fire/burns, and cuts or lacerations averaged about 2.8 visits for every 100 people. Additionally, nearly one in six Eau Claire County residents experience severe housing problems, such as overcrowding, high housing costs, or lack of kitchen or plumbing facilities.[02]

47% of Eau Claire residents rated the availability of affordable quality housing as "fair" or "poor"

EAU CLAIRE NATIONAL CITIZEN SURVEY, 2016

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01 CDC Behavioral Risk Factor Surveillance System, 2013

02 County Health Rankings (2009-2013)

TABLE 03.

2015 Income limits for federal housing programs. Income limits for federal housing programs is the annual income at or below which a family qualifies for public housing. These income limits are tailored to a specific county or metro area and are not the same across the country.

| AREA MEDIAN INCOME (AMI)	FAMILY OF 1	FAMILY OF 2
80% AMI (Low Income)	$36,900	$42,200
50% AMI (Very Low Income)	$23,100	$26,400
30% AMI (Extremely Low Income)	$13,850	$15,930

Housing affordability is relative to geographic location and family size. Table 03 shows the income limits at which a family qualifies for housing assistance. It also provides some context for the income ranges that should be targeted by affordable housing developed in the Cannery to increase the availability of affordable housing for West Riverside Neighborhood residents. Sixty-eight percent of West Riverside households make less than $25,000 per year, which is within the federal income limit for very low-income two-person families.

Several types of data related to housing affordability are available from the US Census for Eau Claire County, City, and West Riverside Neighborhood. Figure 10 compares the percentage of city, county, and neighborhood residents who are renters who are cost-burdened (pay more than 30% of household income on rent and utilities). Sixty-three percent of people who live in the West Riverside Neighborhood rent their homes, compared to 47% in Eau Claire County and the city of Eau Claire. Of all the people who rent in the West Riverside Neighborhood, nine out of every ten of them are cost burdened, compared to five out of every ten renters in Eau Claire County and the City of Eau Claire. The data indicate a need for affordable rental housing in the West Riverside Neighborhood that isn't filled by the current rental housing options. In contrast, approximately 3 in 10 homeowners in the same neighborhood are cost-burdened (28%, US Census 2011-2015).

One of the contributors to renter cost burden in the West Riverside Neighborhood may be that the median gross rent is higher in the neighborhood compared to the city median. In addition, the median household income for the West Riverside Neighborhood is nearly 65% lower than the median income for the city of Eau Claire (Table 04). According to the National Low Income Housing Coalition Out of Reach 2016 report, in the Eau Claire metropolitan area, the annual

RENTING AND COST BURDENED HOUSEHOLDS
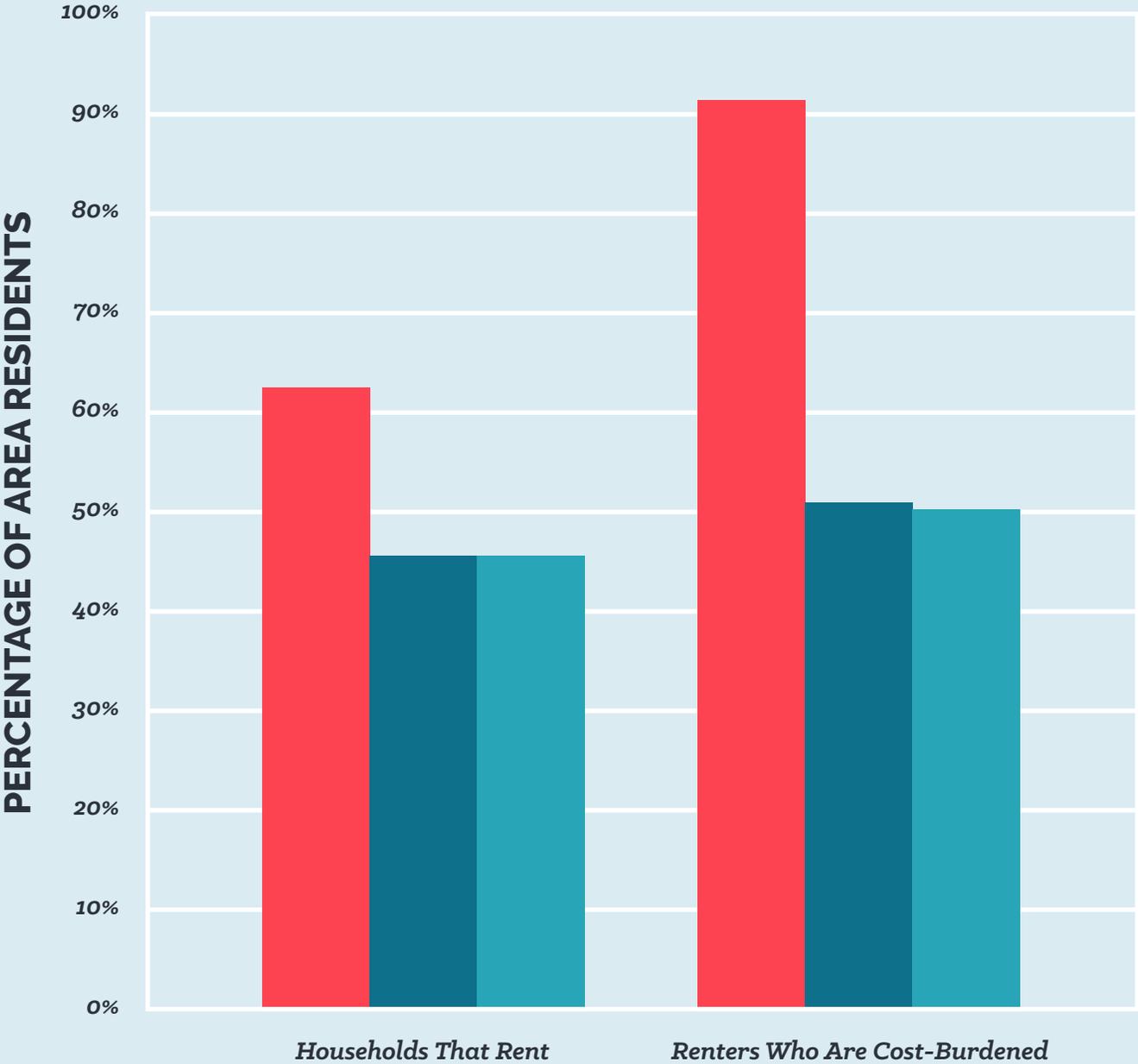
FIGURE 10.

Households that rent and renting households that are cost-burdened (defined as paying 30% or more of income on housing costs). US Census, 2011-2015

Legend:
- **WEST RIVERSIDE NEIGHBORHOOD** (red)
- **EAU CLAIRE COUNTY** (dark teal)
- **CITY OF EAU CLAIRE** (teal)

TABLE 04.

Household income, and housing affordability, US Census 2011-2015

HOUSING STATISTICS	WEST RIVERSIDE NEIGHBORHOOD	CITY OF EAU CLAIRE
Median Gross Rent (per month)	$836	$745
Median household income	$15,254	$43,541
Median home values	$121,600*	$139,900

income needed to afford a two bedroom unit at fair market rent[01] of $735 is $29,400. However, the median gross rent for the neighborhood is $836, nearly $100 greater than fair market prices for the metro area. Over 68% of West Riverside Neighborhood households make less than $25,000 annually, further compounding the difficulty to find affordable rental housing.

Rental housing affordability data (Table 05, see Figure 01 for boundaries of each zone) show that most rental units are affordable for families earning 80% AMI or greater, though fewer two- bedroom rental unit options are available for families earning less than 80% AMI. Rental affordability data in as well as cost burden data from Figure 10 both indicate the neighborhood and census tract

needs more affordable housing options for renters, especially those at lower income levels (below 80% AMI).

In contrast to the data for renters in West Riverside Neighborhood, housing for home owners in the West Riverside census tract is more generally more affordable than the county average for families at or below the area median income (Table 05).

The Federal Highway Administration defines **housing plus transportation costs to be affordable if they equal less than 45% of income** and estimates transportation to be the second largest expense for most households (after housing). The data in Table 06 show significant cost burden for very low-income individuals,

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01 Fair market rent (FMR) is typically the 40th percentile of gross rents for standard rental units, and are determined by HUD on an annual basis. They reflect the cost of shelter and utilities. FMRs are used to determine payment standards for the Housing Choice Voucher program.

TABLE 05.

Housing affordability for home owners and renters, based on available housing stock in the West Riverside Census Tract and Eau Claire County. AMI refers to area median income, the median income for a family of 4 in the Eau Claire metropolitan area. US Census, 2015.

HOUSING AFFORDABILITY FOR RENTER OF 2 BEDROOM UNIT, 4-PERSON FAMILY	WEST RIVERSIDE CENSUS TRACT [01]	EAU CLAIRE COUNTY
% units that are affordable for a family earning 30% AMI	9%	9%
% units that are affordable for a family earning 50% AMI	48%	49%
% units that are affordable for a family earning 80% AMI	92%	93%
% units that are affordable for a family earning 100% AMI	92%	93%
HOUSING AFFORDABILITY FOR HOME OWNERS, 4-PERSON FAMILY	**WEST RIVERSIDE CENSUS TRACT [01]**	**EAU CLAIRE COUNTY**
% of all homes affordable for a family earning 50% AMI	36%	19%
% of all homes affordable for a family earning 80% AMI	84%	49%
% of all homes affordable for a family earning 100% AMI	96%	71%

01 This value is for the census tract that contains the West Riverside neighborhood. This area extends further west than the boundaries of the neighborhood itself (Figure 01).

working individuals, and single-parent families who own or rent their home in the census tract containing the West Riverside neighborhood. The average American family spends 19% of their income on transportation, while families that live in car-dependent areas may spend as much as 25% of their income on transportation. These costs can be reduced to as low as 9% for people living near their workplace, shopping, and other amenities (Administration). Table 06 shows the 2014 census data estimate of the percent of income spent on housing and transportation for the following demographic groups living in the West Riverside Neighborhood census tract.

TABLE 06.

Percent of income spent on housing and transportation costs for different socioeconomic groups in the West Riverside Neighborhood census tract. Housing and Urban Development, 2014.

	PERCENT OF INCOME SPENT ON:	
	Home Ownership & Transportation	**Home Rental & Transportation**
Very low-income individual (one person, at the national poverty line, who commutes)	143%	102%
Working individual (one person, 50% of AMI, who commutes)	85%	64%
Single professional (one person, 135% of AMI, who commutes)	46%	38%
Retired couple (two people, 80% of AMI, no commutes)	51%	42%
Single parent family (three people, 50% of per capita income, one commuter)	88%	71%

Predicted Impacts for Health

The local data and existing research indicate that the development of safe and affordable housing is likely to increase access to affordable housing for a high number of people. In addition, safer housing - whether through rehabilitation of existing housing or new construction - is anticipated to reduce exposure to environmental hazards and impact physical health. Considering the age of the houses in the neighborhood, rehabilitated or new housing will lower the risk of exposure to lead due to contaminated soil or paint, or varnish in the older homes. In addition, a greater supply or higher-quality, safer homes is anticipated to reduce the incidences of asthma-related emergency department visits as well as emergency department visits for other health emergencies such as falls, cuts, lacerations, or burns. In addition, mental health and overall perceived health status are linked to housing quality, and these outcomes would be expected to improve with access to safer housing.

In addition to the need for safe housing, a demonstrated need exists for more affordable housing options, especially for people who rent their homes. By increasing the access to affordable housing, cost burden for renters in the neighborhood are anticipated to be reduced. This reduction in cost burden can reduce the financial stress on families, freeing resources for transportation to jobs, healthcare, and healthy food and providing overall more stable environments to ensure the healthy growth and development of children. Over the long term, increased access to these determinants of health and ability to live healthier lifestyles may help to reduce chronic diseases such as obesity, cardiovascular disease, and diabetes. More affordable housing options could also reduce overcrowding and increase housing tenure, leading to improved mental health and family stability, positively impacting children's development and school performance, and reducing behavior issues. More affordable housing is also anticipated to have the greatest impact on low-income families by increasing resources for healthy food, transportation, and health services, which may improve job tenure and overall financial security. All of these health determinants are linked to health outcomes such as decreased chronic diseases such as obesity, cardiovascular disease and diabetes, improved overall self-rated health, and improved mental health outcomes.

RESEARCH QUESTION 2: HOW DOES MIXED-INCOME HOUSING IMPACT HEALTH?

A consensus among urban planners and scholars has generally emerged over the past 30 years that **mixed-income housing policies have benefited communities, alleviating concentrated poverty and the related stigma and social isolation** (Jacobus, 2015). Living in neighborhoods with high rates of poverty has been connected with poorer health outcomes for children and adults. In fact, **the poverty rate of one's childhood neighborhood has been shown to more strongly predict their economic mobility as adults** than their parents' occupation or education level (Jacobus, 2015). This concentration of social disadvantage (residential disorder or limited neighborhood resources) exacerbates stress, which can further impact physical and mental health (Maqbool et al., 2015).

"The housing needs to be affordable and accommodate many different people, rich or poor."

ONE-ON-ONE INTERVIEW RESPONDENT,
REGARDING CANNERY DEVELOPMENT PLANS

Mixed income housing (housing that includes a variety of dwelling types for a range of income levels) increases the affordable housing stock (thereby increasing access by families to affordable housing) without the negative effects of concentrating affordable housing or focusing affordable housing stock in neighborhoods with higher poverty rates. In addition, **many studies have found that mixing affordable units within market rate units may have a positive or at least neutral impact to surrounding property values** (Nguyen, 2005, Policy, 2009).

The goal of many mixed income housing developments in the past has been to have social interactions among the residents prove beneficial for low-, moderate-, and high-income residents. Past theory suggested that if the housing development is designed to support social interactions, this cohesion between residents could have impacts at the community, interpersonal, and individual levels that include accountability to social norms, information

sharing and building of social networks, behavior modification, change in aspiration, and sense of success (Joseph, 2006). However, the research does not strongly support that these social interactions between residents of different income levels necessarily have strong impacts on health (Jacobus, 2015). Rather, **stronger health effects are related to the mix of income levels in a neighborhood (deconcentration of poverty) instead of to simply a stand-alone mixed-income building.** According to Joseph et al. (2007), **mixed income housing can increase the access to safe and affordable housing in neighborhoods with lower poverty rates with good amenities, providing residents environments with increased social order and better living environment than lower-income neighborhoods they may have moved from.** In a study from Chicago, parents moving out of public housing to neighborhoods of higher opportunity reported less anxiety and stress due to lower fears of crime, and a greater ability for youth to be outside by themselves (Chaskin et al., 2013). However, this move doesn't eliminate barriers to healthy growth and development that stem from unhealthy family dynamics, or structural barriers to a parent's income, such as job training and placement, or education.

Community Data

Limited local data is available that indicates the diversity of income within neighborhoods in the city of Eau Claire. As of 2016, 1.9% of the population living in the West Riverside Neighborhood census tract lived in subsidized housing.[01] Across the city

of Eau Claire, 3.1% of people lived in subsidized housing, which is equivalent to the national average for 2016. The census tract containing downtown Eau Claire exhibits the highest percentage of people living in subsidized housing, with 11.4%. Figure 03 compares household income in the West Riverside Neighborhood compared to the city and county. This data demonstrates the disparities in income among those who live in the West Riverside Neighborhood and the rest of the city and county.

One-on-one conversations with neighborhood residents highlighted some general concerns regarding the current housing stock and development of new housing:

- One resident indicated that people move in and out of the neighborhood often, potentially impacting their lasting relationships with their neighbors
- People in the neighborhood generally felt that by having better housing conditions they would fare better
- Some discussed the need for affordable housing as more housing units are developed in the area
- A few respondents discussed gentrification and concerns about how new development would impact the current housing and business values in the area

Though data is limited, what has been collected indicates that the West Riverside Neighborhood does exhibit some characteristics of a higher concentration of lower-income people than other neighborhoods and the city of Eau Claire as a

01 US Department of Housing and Urban Development

HOUSEHOLD INCOME

FIGURE 03.

Household income for West Riverside Neighborhood and Eau Claire City and County Residents. US Census, 2011-2015. The West Riverside Neighborhood has a much higher concentration of low-income residents compared to the city and county.

Example of high-density housing that orients living areas toward shared outdoor spaces, a feature that can foster social connectedness and place attachment

whole. In addition, it is apparent from the one-on-one conversations that neighborhood residents recognize the benefits of affordable and stable housing, and are interested in the development of housing that suits the needs of current residents of the area.

Predicted Impacts for Health

Since "mixed-income housing" doesn't have one definition, the health impacts that are realized may vary with the populations that are able to live in a mixed-income neighborhood. At the very least, the development of mixed-income housing in the Cannery District is anticipated to increase access to safe and affordable housing, which would result in all of the same predicted health impacts discussed in Research Question 1 of this section, including decreased chronic disease, improved child development, and better mental health outcomes. For people who move from neighborhoods of high poverty, transition to a neighborhood with lower poverty will likely increase a family's exposure to a neighborhood with more amenities and a lower crime rate, both factors that can positively impact mental health outcomes and social connectedness. Mixed-income housing can provide opportunities for families to live in a neighborhood with desirable

amenities that support healthy living such as nearby shops, services, healthcare, pedestrian-friendly sidewalks and development, and a variety of park facilities.

In addition, health outcomes will likely depend in part on whether people in the new housing development move from the adjacent neighborhood or from neighborhoods that are farther away. If many new residents move into a neighborhood, regardless of their socioeconomic status, the socio-demographic characteristics for the neighborhood may change, which may in turn have mixed results for social cohesion. A variety of income levels and demographics provides a healthy foundation for supporting community engagement, social cohesion, and the development of social capital; reducing feelings of isolation; and bolstering positive feelings about living conditions. At the same time, high turnover among residents may strain existing social connections or neighborhood values. A sharp increase in income inequality (difference in earnings between highest and lowest earners) may also impact social cohesiveness. With these changes, neighborhood residents (current and future) must have the opportunity to provide input into plans for development in the Cannery District. As discussed in the first two sections of this assessment, design of public formal and informal gathering spaces strongly supports interactions between neighbors and place attachment, which can further cultivate social cohesion (Peters et al., 2010).

The final design of the housing development will determine the most likely health impacts, though people who greatly improve their housing conditions are most likely to realize the greatest health impacts. Depending on the changes to the neighborhood characteristics and demographics with the development of new housing, however,

existing residents who remain in their homes may also experience some health impacts, most likely related to social connectedness.

RESEARCH QUESTION 3: WHAT IS GENTRIFICATION AND HOW CAN IT BE MITIGATED?

Both advisory committees engaged in the HIA process brought up the concern for gentrification in the West Riverside neighborhood. This concern arose from the potential scenario in which development of the Cannery District would increase the desirability of the area to new residents, thereby increasing rental costs and property values for homeowners. Further, the advisory committees were concerned that theses increased rates would potentially displace renters or owners who are already cost-burdened and that they would be forced to relocate to neighborhoods of lower opportunity. As a result, gentrification became part of the scope of the HIA. Indicators of and some potential mitigation techniques for gentrification are discussed here, summarizing Kennedy & Leonard's (2001) discussion paper prepared for the Brookings Institution Center on Urban and Metropolitan Policy.

The creation of greater income mixing in neighborhoods, in the hopes of better outcomes for families & high-quality jobs for workers, is a fundamental tenant of much of urban policy today

KENNEDY & LENARD (2001)

Gentrification is defined here as the process by which higher income households displace lower income residents of a neighborhood, physically upgrading the housing stock and changing the essential character and flavor of that neighborhood (Kennedy and Leonard, 2001). According to this definition, gentrification does not necessarily occur solely because new economic activity occurs or because higher-income residents move into a neighborhood at a small scale in which no displacement of current residents happens. The effects of gentrification may be both positive and negative for impacted neighborhoods and households, which increases the need for a solid understanding of what gentrification is and how to act on it. In a review of gentrification studies, Zuk et al. (2015) found that generally neighborhoods do not change quickly, but overtime many cities experience increasing segregation by income, partly due to increases in income inequality (the difference between the highest and lowest income earners in a community).

No single clear indicator of gentrification is evident, but some conditions that have been considered "indicators" in a neighborhood include:

- High rates of renters
- Easy access to job centers & rapid job growth
- High architectural value
- Comparatively low housing values

Gentrification studies consistently show that rent appreciation predicts displacement (Zuk et al., 2015). However, economic forces are not the only driving factor of gentrification, and government policies can promote or hinder gentrification. Tax incentives, public housing revitalization, and local economic development tools can all play a role in bringing residents of different incomes into

new neighborhoods. Gentrification studies have found that in general, residents moving into a neighborhood are typically wealthier, whiter, and more highly educated than the neighborhood average. Residents who leave a neighborhood are more likely to be renters, poorer, and people of color (Zuk et al., 2015). However, as stated in the earlier housing discussion in this section, a mix of income within a neighborhood can provide positive health benefits to families.

The overall consequences of gentrification are mixed and will impact different people in different ways. As an example, increased property values and property taxes may increase rental prices for renters but provide additional revenue for a municipality. Additional potential consequences of gentrification may include:

- Displacement of residents (renters or homeowners) and local businesses
- Increased real estate values and equity for owners
- Greater income mix and deconcentration of poverty
- New commercial activity
- Conflicts between old and new residents
- Perceived increase in the value of a neighborhood

In the instance of displacement or increased cost burden as a result of gentrification, residents may find access to affordable healthy housing, healthy food choices, transportation choices, quality schools, exercise or recreation facilities, and social networks becomes limited. Resulting health outcomes of this limited access may include increase stress, injuries, violence and crime, and poorer mental health outcomes (CDC, 2013b). However, residents who are not displaced or can

benefit from increased real estate values may experience increased purchasing power, allowing greater access to educational opportunities, healthy food, property improvements, community amenities, and neighborhood diversity.

The Centers for Disease Control and Prevention (CDC, 2013a) provide recommended action steps to minimize gentrification effects. These recommendations have been adapted for this HIA and include:

1. Creating affordable housing for all incomes
2. Approving policies to ensure continued affordability of housing units and the ability of residents to remain in their homes
3. Increasing individuals' assets to reduce dependence on subsidized housing (e.g. homeownership programs)
4. Ensuring that new housing-related investments benefit current residents and will minimize displacement
5. Involving the community in the design or redevelopment of their neighborhood

RECOMMENDATIONS FOR CANNERY DISTRICT HOUSING DEVELOPMENT

Data collected by the Project Team for the city of Eau Claire and West Riverside neighborhood support the need in the community for greater access to affordable housing. To help realize the anticipated benefits and positive changes to health outcomes, recommendations on the following pages provide suggestions that will help to create equitable access for most populations groups to realize the potential health benefits. Recommendations were developed through research of best practices, healthy design guidance documents, and consultation with advisory committees. Specifically, recommendations in pink are evidence-based strategies from the Building Healthy Places Toolkit.[01]

Recommendations in blue are best practice strategies from the Building Healthy Places Toolkit. Recommendations are created for the city to provide all citizens access to healthy options. However, financial or practical restrictions may preclude certain recommendations, depending on final design and community input.

Recommendations are separated into the categories of **equity, public space and place, and transportation choices.** Equity is defined by the national health plan Healthy People 2020 as the "attainment of the highest level of health for all people." These categories indicate different opportunities to impact different health determinants with the goal of maximizing the opportunity for all people to be healthy.

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01 Urban Land Institute. (2015) Building Healthy Places Toolkit: Strategies for Enhancing Health in the Built Environment, Washington, D.C.

HOUSING RECOMMENDATIONS

Recommendations in pink are evidence-based strategies from the Building Healthy Places Toolkit. **Recommendations in blue** are best practice strategies from the Building Healthy Places Toolkit.

EQUITY

Allocate a portion of new housing development to include affordable housing (housing available for families at 50% and 80% of AMI)

Explore policies that ensure continued affordability of housing units within the neighborhood and ability of residents to remain in their homes

Engage in strategies that help to mitigate or offset the potential effects from gentrification, such as:

- Mixed-income housing, in which affordable and market rate units are in the same structure, housing development, or neighborhood
- Inclusionary zoning policies[01]
- Homeownership or job programs to increase individuals assets

Solicit community ideas for design and engage community in development

Evaluate housing plans or proposals

to ensure new investments will benefit current residents

If a tax increment district (TID) is created for the Cannery District, consider allocating increment to improvements for the neighborhood within a 1/2 mile from the TID boundary.

PUBLIC SPACE & PLACE

Develop open spaces and green areas that are readily accessible by housing residents, such as gardens, community rooms, fitness areas, and playgrounds

Encourage design features that encourage social interactions, such as:

- Play areas for young families
- Home entrances oriented toward high-use pathways
- Visual exposure of common spaces from porches or balconies

Adopt pet friendly policies and amenities

TRANSPORTATION CHOICES

Locate housing developments near commercial/retail areas that allow people to walk or bike to access basic services and/or job opportunities

Implement way-finding signs to orient visitors and highlight area amenities

- Create visible and safe pedestrian and bike routes to nearby destinations such as schools, senior center, farmer's market, hospitals, university

- Ensure connection for residents to trails and public transit services

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01 Inclusionary zoning allocates a percentage of the rental or for-sale units in housing developments to low- and moderate-income residents

LANGE CANNING CO. PLANT, EAU CLAIRE, WIS.
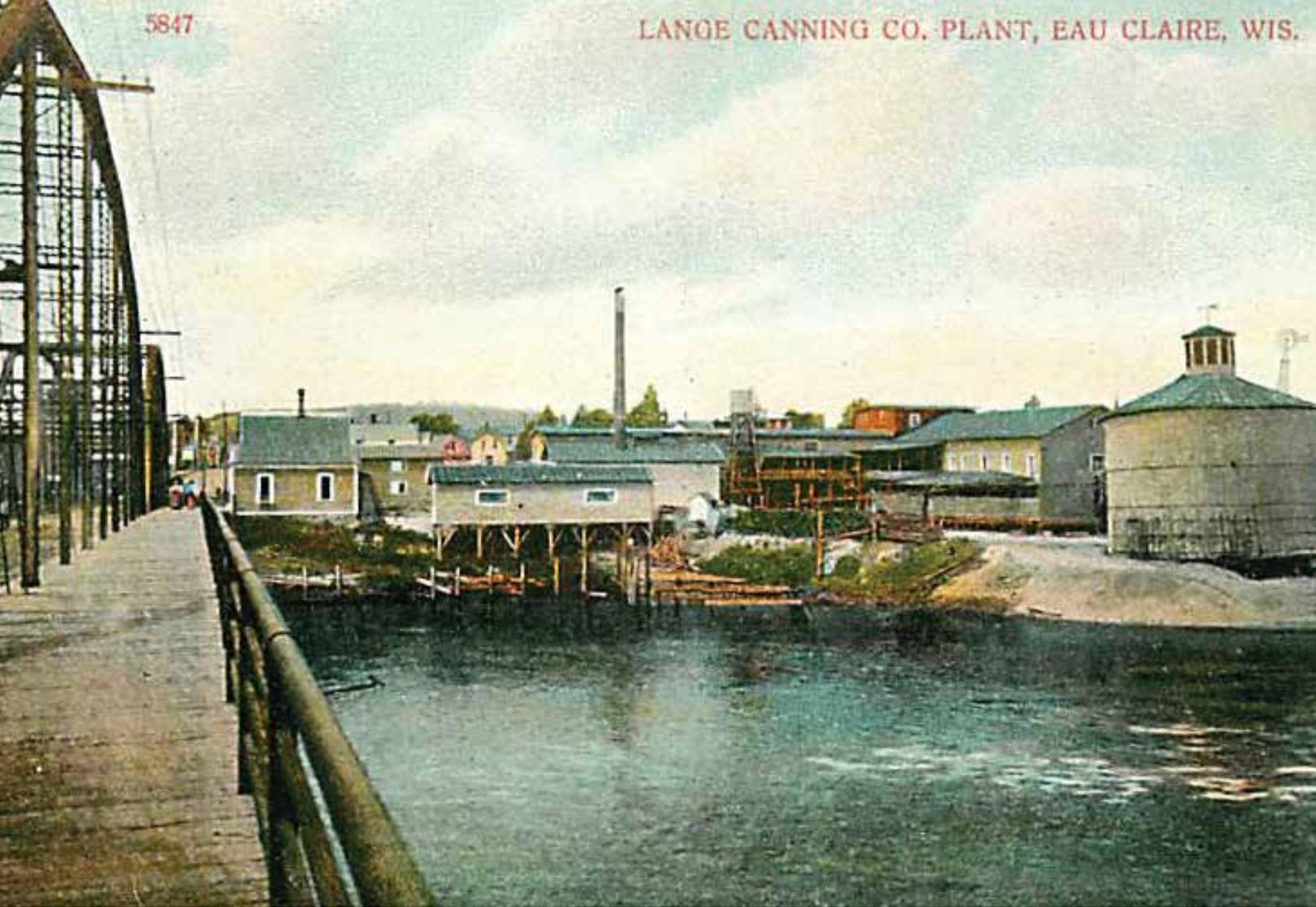
05
SUMMARY OF HIA FINDINGS AND RECOMMENDATIONS

The predicted health impacts for each of the three potential development components are summarized in Table 07. The table also summarizes the strength of the evidence from which the conclusions were drawn.

TABLE 07.

Summary of HIA Findings, based on literature review, primary data, and secondary data. The direction, likelihood, and magnitude of the described effects are anticipated if the major recommendations in this report are adopted.

	DIRECTION	LIKELIHOOD	MAGNITUDE	STRENGTH OF EVIDENCE
PARK & TRAIL DESIGN				
Physical Activity	↑	Likely	High	★ ★ ★
Social Cohesion	↑	Likely	Medium	★ ★ ★
Safety	↑	Likely	Medium	★ ★ ★
STREET & SIDEWALK DESIGN				
Physical Activity	↑	Likely	High	★ ★ ★
Social Cohesion	↑	Possible	Medium	★ ★
Safety	↑	Likely	High	★ ★
HOUSING AFFORDABILITY & INFRASTRUCTURE				
Access to Affordable Housing	↑	Likely	High	★ ★ ★
Social Cohesion	↑↓	Possible	Medium	★ ★
Mental Health	↑	Possible	Low	★ ★

LIKELIHOOD

Unlikely – Little evidence effects will occur

Possible – Effects may occur

Likely – Evidence suggests these effects commonly occur in similar projects

Uncertain – Unclear if any impacts will occur

DIRECTION:

↑ (Positive health impact)

↓ (Negative health impact)

↑↓ (Mixed health impacts)

MAGNITUDE:

Low – A few people will be impacted

Medium – A moderate number of people will be impacted

High – A lot of people will be impacted

STRENGTH OF EVIDENCE:

★ ★ ★ = Many peer reviewed articles

★ ★ ☆ = Studies have mixed results

★ ☆ ☆ = Generally consistent with public health concepts

TABLE 08.
Summary of HIA recommendations.

RECOMMENDATIONS

As plans for the park and multi-use development design become finalized and requests for development proposals sought, this report should be consulted and recommendations considered so that design elements that are protective of health for all populations may be incorporated.

EQUITY

Ensure a connection to transportation, trails, and amenities that is accessible for people with all ability levels, and follows Universal Design principles

- Allow playgrounds, picnic areas, sport courts to be accessible from multi-use trails and by children and adults of all abilities
- Provide benches for rest at regular intervals along trail and sidewalk networks. Place benches where natural surveillance is maximized to increase safety

Engage the community in the design and implementation of new public spaces

- Solicit community ideas for design and engage community in development (such as tree planting events, soliciting local artwork for display, forums for discussion of design plans)

Consider a portion of new housing development to include affordable housing (housing available for families at 50% and 80% of AMI)

Explore policies that ensure continued affordability of housing units within the neighborhood and ability of residents to remain in their homes

Engage in strategies that help to mitigate or offset the potential effects from gentrification, such as

- Mixed-income housing, in which affordable and market rate units are in the same structure, housing development, or neighborhood
- Inclusionary zoning policies
- Homeownership or job programs to increase individual assets

Evaluate housing plans or proposals to ensure new investments will benefit current residents

If a tax increment district (TID) is created for the Cannery District, consider allocating increment to improvements for the neighborhood within a 1⁄2 mile from the TID boundary.

PUBLIC SPACE & PLACE

Incorporate design elements that facilitate social interaction

- Design and support the use of parks or surrounding streets for community gardens, festivals, events, or gatherings
- Include features such as courtyards, outdoor seating, small storefront setbacks, unique building façades, shade, and informal gathering spaces

Adopt pet friendly policies and amenities

- Consider pet watering stations, pet waste stations, and pet-friendly park programming

Encourage pedestrian activity through streetscape "texture," such as public art, street furniture, street trees, and variable building styles to maintain pedestrian interest and activity

In appropriate areas consider a minimum street side width of 9 feet (residential areas) and 12 feet (commercial areas) to accommodate sidewalk, landscaping, and street furniture, to encourage pedestrian activity

Consider orienting building development toward the street and sidewalk, with setback from the sidewalk of 0 feet for commercial areas and a maximum of 10-15 feet for residential units within the mixed use development area

Develop open spaces and green areas that are readily accessible by housing residents, such as gardens, community rooms, fitness areas, and playgrounds

Encourage design features that encourage social interactions, such as:

- play areas for young families
- home entrances oriented toward high-use pathways
- visual exposure of common spaces from porches or balconies

RECREATION CHOICES

Intermix active spaces (playgrounds, sport courts) with passive spaces (benches, pavilions, picnic tables, barbeque grills)

Provide a variety of high-quality spaces for multigenerational play and recreation for all ability and socioeconomic levels

- Provide a variety of programming such as group exercise classes, educational programs, and unique or special events
- Consider adaptive playgrounds for children with varied ability levels

- Locate areas for adult fitness near the children's playground so adults can be active while visiting the park with children
- Provide separation between different park uses, such as sport areas (for groups/social gatherings) and natural quiet areas (for individuals/solitude)

SAFE ENVIRONMENT

Include well-marked crosswalks, special pavers, and curb extensions to visually highlight pedestrians and slow traffic

Align neighborhood streets along park boundaries to increase natural surveillance or visibility of park users by people in cars and on sidewalks

Include entrances and windows in adjacent buildings that face the park or trail

Implement all applicable crime prevention through environmental design (CPTED) principles

- Minimize problem features, such as narrow pedestrian walkways, overgrown vegetation, isolated or unmonitored pedestrian areas, and physical signs of disorder (garbage, graffiti, etc.)
- Plan for events/activities to be held at different times of the day, so there is a citizen presence from early morning to evening

Provide formal surveillance by law enforcement and/or cameras in and around park

Integrate Safe Routes to Parks design principles (comfort, convenience, safety, access & design, park quality)

- Routes to parks should easily walkable with shade, visual appeal, and easy traffic crossing for youth and adults
- Multiple access points to the park should be available, such that most people can access the park within a 10 minute walk

Implement "Safe Park Zones" in which traffic speeds are decreased and traffic violation fines are higher

Conduct a safety audit of the park and trail space, to gather perceptions of safety from users of the space (after development)

TRANSPORTATION CHOICES

Develop a comprehensive street, sidewalk and bike-route network that connects neighborhoods and destinations to parks and trails

Coordinate transit stops with park access points

Implement way-finding signs to orient visitors and highlight area amenities

- Create visible and safe pedestrian and bike routes to nearby destinations such as schools, senior center, farmer's market, hospitals, university

Develop the multi-use trail with a width of 12 – 14 feet

Provide amenities that support biking, walking, and transit such as bike racks/ covered bike parking, fixing stations, benches, and bus shelters

Consider incentives for developers or businesses that support the use of biking and walking

Ensure a street land width of 10 - 11 feet on lower-speed urban streets to appropriately slow traffic and reduce pedestrian crossing distance

Use a detailed traffic model to determine the appropriateness, location, and type of on-street bicycle facilities that will decrease the likelihood of collision and injury

Locate housing developments near commercial/retail areas that allow people to walk or bike to access basic services and/or job opportunities

Ensure a connection for residents to trails and public transit services

06
MONITORING AND EVALUATION

In alignment with the Minimum Elements and Practice Standards for conducting HIAs, monitoring and evaluation will be conducted through partnership with the University of Wisconsin – Eau Claire (UWEC). Faculty and students from UWEC will provide short term evaluation and long term monitoring capacity, with ongoing assistance of the Project Team. The project funder, Healthier Wisconsin Partnership Program, has also provided evaluation throughout the project, and will conduct a separate evaluation in early 2018.

Evaluation by UWEC faculty and students will focus on three areas:

1. **Process**

2. **Impact**

3. **Outcome (also referred to as Monitoring)**

EVALUATION TOPIC	DESCRIPTION	EXAMPLES OF EVALUATION QUESTIONS
Process	Assesses the HIA against the minimum practice standards and the original plan for the project	• Did the HIA follow practice standards and guidance? • Were key stakeholders engaged, and how? • Was the project able to meet the original deadline? Was it adaptable to changing community dynamics and timelines? • Were HIA goals achieved? • How was the HIA disseminated?
Impact	Measures the HIA's impact on decision-making and its success based on the project objectives	• How were HIA recommendations integrated into community practice and design? • How have knowledge or attitudes toward the connection between health and the built environment changed? • Were any processes or protocols implemented to institutionalize the incorporation of health considerations in community development projects? • How has local capacity for conducting HIAs changed?
Outcome (also referred to as Monitoring	Continually reviews the changes in health status and health determinants and how they relate to the conclusions and recommendations in the HIA	• What changes to health determinants (physical activity, social cohesion, safety, access to affordable housing) have occurred since the redevelopment was completed? • How has the health status of people that live and work near the Cannery District changed from pre-development?

Available reports from monitoring and evaluation activities will be provided on the project website: http://www.ci.eau-claire.wi.us/departments/health-impact-assessment

07
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08
APPENDIX I

Rapid Health Impact Assessment (HIA) for the West Bank Redevelopment

District in Eau Claire, Wisconsin

Laura K. Stephens

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2015

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Thank you to everyone who helped make this project a success!

Executive Summary

The West Bank Redevelopment District is a 30 acre area along the Chippewa River in Eau Claire, WI that has been identified for redevelopment. The area used to be largely industrial and has experienced a lot of neglect in recent years. Redevelopment recommendations have been made, but the redevelopment is still in progress. The Redevelopment Authority of Eau Claire has been buying properties in the area and plans to accept proposals for redevelopment in the next couple of years. In order to improve the health of the community and promote health equity through the redevelopment process, an abbreviated or "rapid" Health Impact Assessment was conducted. This HIA addresses economic disparities that exist within the community and provides recommendations on how to facilitate positive health outcomes.

The goal of the HIA was to include the voices of key stakeholders and identify key research questions to address during the development process. These questions focus on how changes to the built environment have potential effects on the health of the community. Five key areas of focus were identified by the steering committee and through key informant interviews: housing, green space and trails, neighborhood safety, access to fresh foods, and social cohesion. This report provides an overview of the relevant literature review on the impacts of the built environment on health, describes the results of local demographic data and the results of media analyses, and presents the perspective of key informants. The conclusion outlines how aspects of the redevelopment would likely impact the health of the community. The abbreviated recommendations are listed below.

Recommendation 1: Housing
1. Develop mixed use, mixed income housing.
2. Rehabilitate current homes.
3. Address the potential for gentrification and displacement of current residents.

Recommendation 2: Green Space and Trails
1. Construct bike/walking path at proposed location along the Chippewa River.
2. Develop park space along the Chippewa River for mixed use.
3. Promote walkability throughout the district.

Recommendation 3: Neighborhood Safety

1. Improve current street lighting.
2. Add fences or other security measures around homes and buildings.
3. Create a Neighborhood Watch Group.

Recommendation 4: Access to Fresh Foods

1. Build grocery store in the West Bank District.
2. Establish year round public market.
3. Implement community gardens.

Recommendation 5: Social Cohesion

1. Construct multiple community gathering locations in the West Bank District.
2. Develop a Neighborhood Association.

These recommendations will be reported to the City of Eau Claire. If the recommendations and

considered the implemented, a monitoring plan was developed to evaluate the outcomes of the HIA.

The full 2015 rapid HIA for the West Bank Development is available here:

www.ci.eau-claire.wi.us/departments/health-impact-assessment

09
APPENDIX II

Neighborhood Environment Walkability Scale (NEWS) - Abbreviated

We would like to find out more information about the way that you perceive or think about your neighborhood. Please answer the following questions about your neighborhood and yourself.

A. Types of residences in your neighborhood

Please circle the answer that best applies to you and your neighborhood.

1. How common are <u>detached single-family residences</u> in your immediate neighborhood?

1	2	3	4	5
None	A few	Some	Most	All

2. How common are <u>townhouses or row houses of 1-3 stories</u> in your immediate neighborhood?

1	2	3	4	5
None	A few	Some	Most	All

3. How common are <u>apartments or condos 1-3 stories</u> in your immediate neighborhood?

1	2	3	4	5
None	A few	Some	Most	All

4. How common are <u>apartments or condos 4-6 stories</u> in your immediate neighborhood?

1	2	3	4	5
None	A few	Some	Most	All

5. How common are <u>apartments or condos 7-12 stories</u> in your immediate neighborhood?

1	2	3	4	5
None	A few	Some	Most	All

6. How common are <u>apartments or condos more than 13 stories</u> in your immediate neighborhood?

1	2	3	4	5
None	A few	Some	Most	All
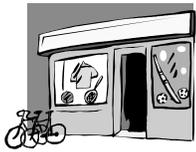
B. Stores, facilities, and other things in your neighborhood

About how long would it take to get from your home to the nearest businesses or facilities listed below if you walked to them? Please put only one check mark (√) for each business or facility.

	1-5 min	6-10 min	11-20 min	20-30 min	30+ min	don't know
example: gas station	1. ____	2. ____	3. √	4. ____	5. ____	8. ____
1. convenience/small grocery store	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
2. supermarket	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
3. hardware store	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
4. fruit/vegetable market	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
5. laundry/dry cleaners	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
6. clothing store	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
7. post office	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
8. library	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
9. elementary school	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
10. other schools	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
11. book store	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
12. fast food restaurant	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
13. coffee place	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
14. bank/credit union	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
15. non-fast food restaurant	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
16. video store	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
17. pharmacy/drug store	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
18. salon/barber shop	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
19. your job or school	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____

[check here ____ if not applicable]

	1-5 min	6-10 min	11-20 min	20-30 min	30+ min	don't know
20. bus or train stop	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
21. park	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
22. recreation center	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____
23. gym or fitness facility	1. ____	2. ____	3. ____	4. ____	5. ____	8. ____

C. Access to services

Please circle the answer that best applies to you and your neighborhood. Both <u>local</u> and <u>within walking distance</u> mean within a 10-15 minute walk from your home.

1. Stores are within easy walking distance of my home.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

2. Parking is difficult in local shopping areas.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

3. There are many places to go within easy walking distance of my home.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

4. It is easy to walk to a transit stop (bus, train) from my home.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

5. The streets in my neighborhood are hilly, making my neighborhood difficult to walk in.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

6. There are major barriers to walking in my local area that make it hard to get from place to place (for example, freeways, railway lines, rivers).

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

D. Streets in my neighborhood

Please circle the answer that best applies to you and your neighborhood.

1. The streets in my neighborhood <u>do not</u> have many cul-de-sacs (dead-end streets).

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

2. The distance between intersections in my neighborhood is usually short (100 yards or less; the length of a football field or less).

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

3. There are many alternative routes for getting from place to place in my neighborhood. (I don't have to go the same way every time.)

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

E. Places for walking and cycling

Please circle the answer that best applies to you and your neighborhood.

1. There are sidewalks on most of the streets in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

2. Sidewalks are separated from the road/traffic in my neighborhood by parked cars.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

3. There is a grass/dirt strip that separates the streets from the sidewalks in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

F. Neighborhood surroundings

Please circle the answer that best applies to you and your neighborhood.

1. There are trees along the streets in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

2. There are many interesting things to look at while walking in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

3. There are many attractive natural sights in my neighborhood (such as landscaping, views).

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

4. There are attractive buildings/homes in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree
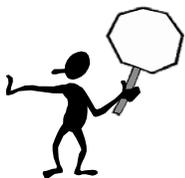
G. Neighborhood safety

Please circle the answer that best applies to you and your neighborhood.

1. There is so much traffic along <u>nearby</u> streets that it makes it difficult or unpleasant to walk in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

2. The speed of traffic on most <u>nearby</u> streets is usually slow (30 mph or less).

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

3. Most drivers exceed the posted speed limits while driving in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

4. My neighborhood streets are well lit at night.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

5. Walkers and bikers on the streets in my neighborhood can be easily seen by people in their homes.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

6. There are crosswalks and pedestrian signals to help walkers cross busy streets in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

7. There is a high crime rate in my neighborhood.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

8. The crime rate in my neighborhood makes it unsafe to go on walks <u>during the day</u>.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

9. The crime rate in my neighborhood makes it unsafe to go on walks <u>at night</u>.

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

What type of residence do you live in? (please circle one).

      1. Single family house
      2. Multi-family house
      3. Apartment
      4. Condominium/townhouse
      5. Other _____

Do you rent or own your home? 1. Own/buying _____ 2. Rent _____

How long have you lived at your current address? _____ year(s); _____ month(s)

Please indicate your age group
    A.   prefer not to answer
    B. 20-29
    C. 30-39
    D. 40-49
    E. 50-59
    F. 60-69
    G. 70 or older

Please indicate your race
    A. prefer not to answer
    B. Black or African American
    C. American Indian or Alaskan Native
    D. Asian
    E. White
    F. Two or more races

Please indicate your sex
    A. male
    B. female
    C. prefer not to answer

Please indicate your household income range (before taxes)
    A. prefer not to answer
    B. less than $15,000
    C. $15,000 - $24,999
    D. $35,000 - $49,999
    E. $50,000 - $74,999
    F. $75,000 - $99,999
    G. $100,000 or more

THANK YOU