

**Crossroads Redevelopment Area Health Impact Assessment
Supplemental Information
October 2013**

The Crossroads Redevelopment Area Health Impact Assessment Brief was intentionally designed to be readable and engaging for community members and other stakeholders. To make the HIA Brief “digestible,” a large amount of the information generated during the HIA was not included. The following appendices make this information available to those who are interested in exploring these areas in more depth.

Crossroads Neighborhood Wish List.....Appendix A

Crossroads Visual Preference Report.....Appendix B

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- *Existing Parking Map*
- *Sidewalk Zones*

Additional Research Information.....Appendix D

- *HIA Scope*
- *Research Findings*

References.....Appendix E

Individuals who are interested in conducting a similar HIA – or local stakeholders who have questions or comments about the HIA methodology or findings – are welcome to contact the Douglas County Health Department to learn more.

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Yes

Wish List

Inviting/Relaxing/Comfortable Place for All Ages

Greenspace

Water (Use Creek as an Amenity)

Minimize/Disguise Parking and Concrete

People over Cars / Human Scale

Walkable

Places to Congregate
(e.g. Cafes and Outdoor Seating)

Well Done Public Art (e.g. Kansas City)

Variety of Design / Not Monolithic

Major Retailers Welcome
But Still Need to Fit w/ Design



No



Residents near Crossroads take great comfort and pride in the quality of life offered by well-established neighborhoods in the heart of Omaha. As a result, approximately thirty nearby residents gathered in late April 2013 to dialogue about their desires for Crossroad Mall and the surrounding economic development zone. Participants at each table selected pictures - either from samples provided or ones they brought themselves - that represented the type of redevelopment they wanted or didn't want. Participants then detailed their reasons for selecting particular images. What emerged was a strong consensus for how the integrity of nearby neighborhoods could be enhanced by the redevelopment of the Crossroads area.

The participants for the neighborhood wish list meeting represented Midtown Neighborhood Alliance, Aksarben-Elmwood Park Neighborhood Association, Dundee Memorial Park Neighborhood Association, Elmwood Park Neighborhood Association and Fairacres Homeowners Association. The meeting was hosted by the Douglas County Health Department as part of a Health Impact Assessment (HIA).



CROSSROADS HEALTH IMPACT ASSESSMENT

Neighborhood Wish List Meeting
Visual Preference Report



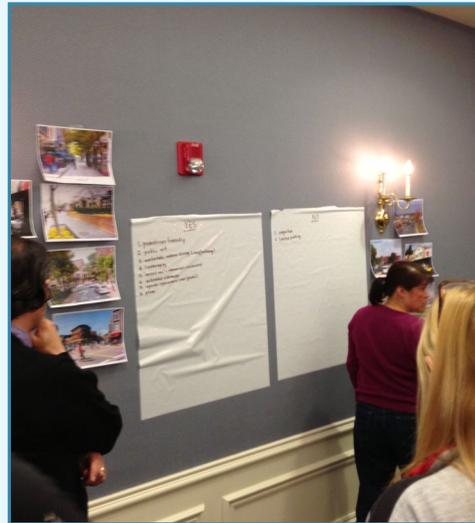
MIDTOWN
NEIGHBORHOOD ALLIANCE

Process



Approximately thirty nearby residents gathered on April 23, 2013 at the UNO Thompson Alumni Center to create a neighborhood wish list for the redevelopment of the Crossroads area. A major component of creating this wish list was a visual preference exercise in which each table selected pictures that represented the type of redevelopment they wanted and pictures that represented what they didn't want. Samples were provided but participants were also encouraged to bring their own pictures. Participants at each table then detailed their reasons for selecting particular pictures.

The participants for the visual preference exercise represented Midtown Neighborhood Alliance, Aksarben-Elmwood Park Neighborhood Association, Dundee Memorial Park Neighborhood Association, Elmwood Park Neighborhood Association and Fairacres Homeowners Association. The meeting was hosted by the Douglas County Health Department as part of a Health Impact Assessment (HIA).



Crossroads Health Impact Assessment

Visual Preference Results

Front Left Table

Yes

- Walkable
- Transit - Bus Lane
- Quiet
- Exclusive - Special Place
- Diverse Styles

No

- Barren
- Cluttered
- Cheesy
- Not Cohesive
- Strip Mall
- Trendy



Crossroads Health Impact Assessment

Visual Preference Results

Front Center Table

Yes

- Pedestrian Friendly
- Public Art
- Comfortable, Outdoor Dining (Cozy/Relaxing)
- Landscaping/Gardens
- “Mixed Use” = Commercial + Residential
- Activated Sidewalks
- Upscale Appearance
- Plaza
- People Space
- Beautification - flowers/ café setting/cleanliness/ trees (provide shade)/ shrubs/pots
- Texture (e.g. Brick)

No

- Congestion
- Surface Parking
- Excessive/ Dominant Signage
- Lack of Culture
- Deterioration of Buildings
- Poorly Groomed Landscape



Crossroads Health Impact Assessment

Visual Preference Results



Front Right Table



- Streetscape
- Vegetation
- Trees with Canopy
- Unconventional Layout
- Nooks, Crannies, Alleys
- Outside Dining
- Small Distinct Signage (Quaint)
- Colorful
- Upscale and Casual Atmosphere
- 2-6 Stories
- Separate Cars from "People & Shops"
- Hide Parking Garages
- Small & Staggered Building Heights and Facades
- Building Fronts on Sidewalks
- Human Scale - Old World Charm - Open Space Mixed In
- Awnings - Lamp Posts - Fencing Unique



- Corporate Signage
- Cement - Parking Lots
- Emphasize Auto Convenience Over People
- Sterile Boxy Architecture
- Simple & Cheap
- Strip Mall Look
- Overhead Power Lines
- Too Much Traffic
- Worn, Trashy



Crossroads Health Impact Assessment

Visual Preference Results

Back Left Table



Yes

- Pedestrian Friendly - Designed for It
- Places to Congregate (e.g. Piazza-style)
- Parks (as Central Focus)
- Mature Trees
- Mixed Use
- Connectivity to Bike/Transit
- Outdoor Seating
- Separation Between Peds and Vehicles
- Small, Locally-owned Businesses
- Well-designed Buildings

No

- Strip Mall
- Fast Food Chains
- No Sidewalks
- No Mixed Use
- Too Much Uniformity
- No Green Space or Trees
- Not Walkable/Bikeable
- Big Signage
- Big Surface Parking Lots
- Electrical Lines



Crossroads Health Impact Assessment

Visual Preference Results



Back Right Table

Yes

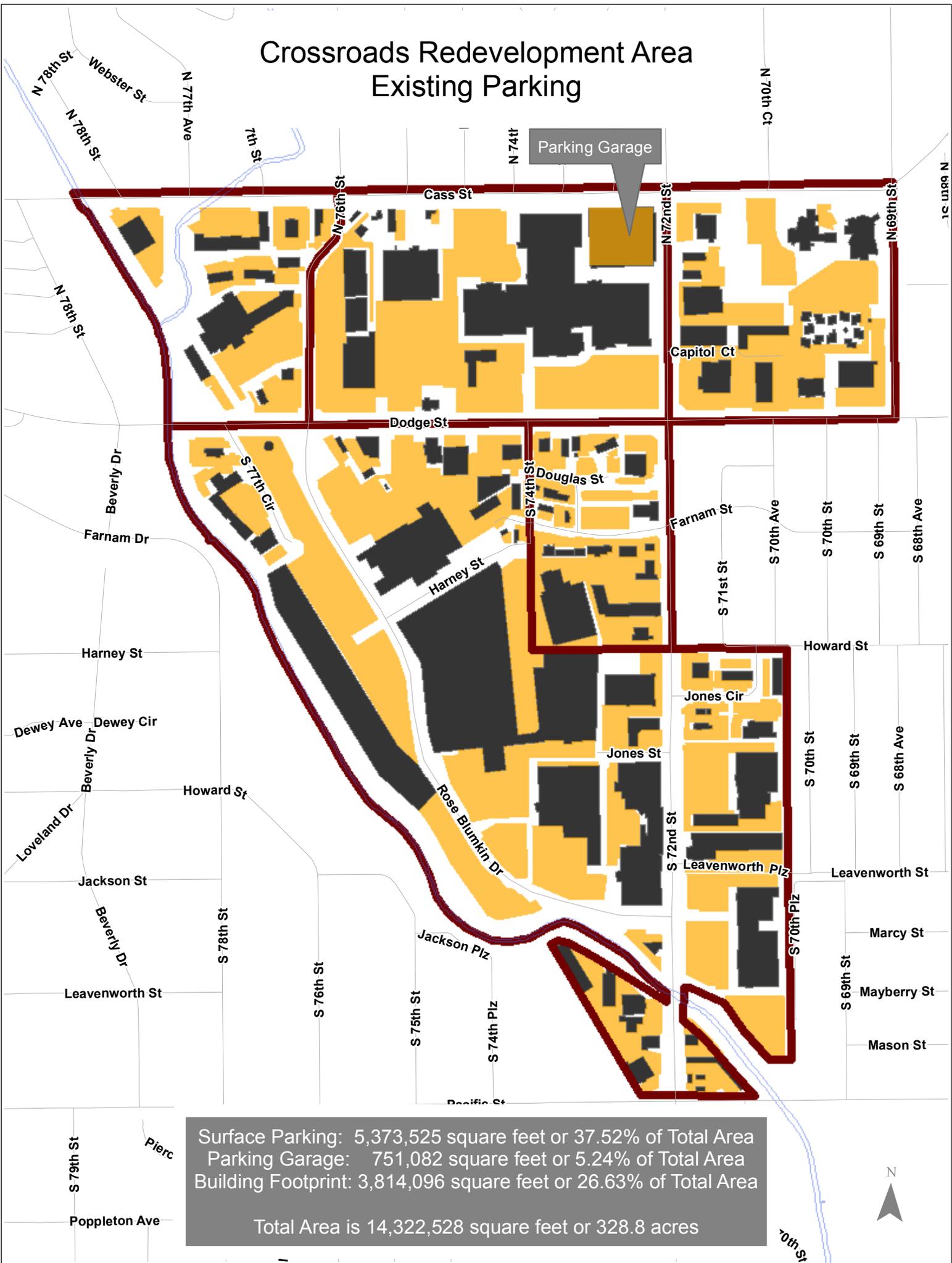
Lots of Trees,
"Green Space"
Walker Friendly
Outdoor Dining/Nature

No

Strip Mall/Old Style
All Concrete
Gaudy Signs
(Too Big)
"Too Much
Traffic Look"



Crossroads Redevelopment Area Existing Parking



Surface Parking: 5,373,525 square feet or 37.52% of Total Area
 Parking Garage: 751,082 square feet or 5.24% of Total Area
 Building Footprint: 3,814,096 square feet or 26.63% of Total Area

Total Area is 14,322,528 square feet or 328.8 acres



The diagram illustrates the zones of a sidewalk from left to right: Building Zone (adjacent to buildings), Travel Zone (open path), Utility/Furnishing Zone (containing a tree and benches), Curb Zone (at the street edge), and On-street Parking (with a yellow car). A person is shown in the Travel Zone, and a double-headed arrow labeled 'Transparency' indicates the distance from the building to the sidewalk.

Sidewalk Areas

Reference for Section 55-924

The Roadside Environment:
The area between the street curb and the building or property line is referred to as the roadside environment. It is a complex and dynamic component of any streetscape. Together, the three urban design provisions of *Sidewalks*, *Build-to-set-back Lines* and *Transparency* serve to create an enhanced pedestrian oriented roadside environment.

Sidewalks: The roadside extends from curb to the building face or property line and is characterized by four zones; the curb zone, the utility/furnishing zone, the travel zone and the building zone. The curb zone is typically a 2-3 foot area allowing for movement parallel to the curb for access to parking meters and street parking. The utility/furnishing zone is an 8-10 foot section allowing for a variety of street activities and infrastructure including but not limited to street trees and landscaping, seating, bike parking, and public art. The travel zone may vary in width dependent on location and should range in width between 5-10 feet. The travel zone should provide clear, unobstructed movement meeting the requirements for ADA. The building zone is a 2-3 foot area along the face of adjacent buildings. Since people typically do not walk directly next to buildings, walls or edges this area allows for people to stop or browse retail. In some cases this area may become much wider to allow for sidewalk seating and or dining. Roadside may vary in width and accommodations and should be designed according to their context, the intended use and in conjunction with urban design regulations and guidelines.

URBAN DESIGN HANDBOOK
City of Omaha Planning Department



Frontage Zone
Throughway Zone
Furnishing Zone
Edge Zone

Source: Institute of Transportation Engineers

Crossroads Economic Development Zone HIA Scoping Worksheet

Key Health Determinants	Baseline Research Questions	Impact Research Questions	Research Tasks	Data Sources
Transportation Connectivity	<ul style="list-style-type: none"> Where are the existing connections into & within the CEDZ for each transportation choice? How safe and convenient are these connections? What is the current split between transportation choices? What is the existing amount of surface parking? 	<ul style="list-style-type: none"> What is the planned number of connections into & within the CEDZ for each transportation mode? How could these connections be made safer and more convenient? How can connectivity to nearby neighborhoods be improved (especially without using a car)? What options exist for each mode serving more people to minimize congestion? How can positive impacts of parking on walkability be maximized and negative impacts minimized? 	<ul style="list-style-type: none"> Map existing connections by mode. Take pictures and note characteristics (number of lanes, time to cross, etc.) of existing connections Map planned connections by mode. Collect travel counts for car Collect travel count for transit. Research ways to improve safety and convenience of street crossings Research different models for incorporating parking 	<ul style="list-style-type: none"> GIS Site Visit City Planning Public Work Metro Transit Lit Review Lit Review
Mix of Uses & Density	<ul style="list-style-type: none"> What is the current mix of uses? What is the current density? 	<ul style="list-style-type: none"> What will the likely mix of uses be under the Crossroads Area Redevelopment Plan? What will the likely density be under the Crossroads Area Redevelopment Plan? What levels of mix and density are needed to support walking and transit? 	<ul style="list-style-type: none"> Determine likely mix and density under Crossroads Area Redevelopment Plan Research necessary levels of mix and density to supportive walking and transit 	<ul style="list-style-type: none"> City Planning Lit Review
Pollution (esp. Air, Noise, & Heat)	<ul style="list-style-type: none"> What are the safe levels of air pollution, noise and heat island effect? What are the existing levels of air pollution, noise and heat island effect for the CEDZ? 	<ul style="list-style-type: none"> How is the increased number of people likely to impact levels of pollution? How could different transportation choices be used to mitigate levels of pollution? How could green space be used to mitigate levels of pollution? 	<ul style="list-style-type: none"> Research recommended pollution levels for safety Research trade-offs in terms of pollution between cars and transit Research uses of green space to mitigate pollution 	<ul style="list-style-type: none"> Lit Review Lit Review Lit Review
Outdoor Public Space and Green Space	<ul style="list-style-type: none"> What places to congregate exists in the CEDZ? What green space exists in the CEDZ? 	<ul style="list-style-type: none"> What places to congregate (outdoor public spaces) are planned for the CEDZ? What characteristics of outdoor public spaces (streets / plazas) create social connections and reduce stress? What green spaces are planned for the CEDZ? What characteristics of green space (nature) are most beneficial to improving health? How much outdoor public space and green space is needed to have a health benefit? 	<ul style="list-style-type: none"> Determine if any public spaces currently exist. Map if necessary. Map green space in CEDZ Determine what places to congregate / green space are planned for the CEDZ Research characteristics of outdoor public spaces and green space for creating social connections and reducing stress 	<ul style="list-style-type: none"> Site Visit / GIS GIS City Planning Lit Review

Crossroads Redevelopment Area Health Impact Assessment

Appendix D – Research Findings

The environments that human beings create can have profound effects on how healthy people are who live in those environments. One hundred years ago, public health, planning and public works agencies partnered to build new systems for water, sewage, and sanitation. The resulting decrease in infectious diseases played a huge role in the 30-year increase in life expectancy that occurred over the 20th century.^{1 2}

Today, public health is looking to how systems that shape the places we live, work, and play can be improved to overcome chronic disease epidemics and rising healthcare costs. As a result, research into the connections between health and the built environment has accelerated substantially in the past 10 years. For example, 675 research articles linking these two areas were published from 2003 to 2013 compared to only 39 in the previous decade.³

The Crossroads Redevelopment Area HIA examined the research between health and four areas: walkability, public space, greenspace, and parking. The following paragraphs summarize the research findings for this HIA.

Walkability

Research shows that the overall amount of time people spend being physically active has dropped significantly in recent decades.^{4 5} While the amount of time people exercise during their leisure time has remained steady or increased in recent decades, physical activity as part of transportation or work activities has been greatly diminished. It is well-established in the research that being physically active prevents or reduces the effects of a wide range of chronic diseases including heart disease, obesity, and diabetes. Physical activity also improves mental health by reducing depression and anxiety.

The most common form of physical activity is walking. As mentioned above, one major reason for the drop in the amount of time people are active is the decline in walking for transportation.⁶ Several trends since World War II have contributed to this decline in walking. Streets were designed to be wider and faster to accommodate the growing number of cars. Locations of homes, work, and shopping became more separated from one another by zoning requirements. Newer forms of commercial real estate – like strip malls and big box stores – built parking lots in front of the buildings instead of sidewalks. Scientists have since studied if designing places to make walking more viable might be one way to counter the rising physical and economic costs of poor health (as well as traffic congestion).

The subsequent research has consistently found that the design of the built environment is associated with the amount of walking and physical activity.^{7 8} For example, a study conducted in Atlanta found that people who live in walkable neighborhoods were twice as likely to get the recommended amount of physical activity compared to people who lived in neighborhoods where it was difficult to walk.⁹

One major limitation in this body of research has been the possibility of a self-selection bias, which means that the observed higher level of physical activity may be due to more active people choosing to live in a walkable place (instead of the environment itself leading to the increase in activity).¹⁰ At least 38 studies have attempted to control for self-selection. They have found that taking self-selection into account does diminish the effect that the built environment has on walking, but that there is still “resounding” evidence supporting a strong association between transportation choices (e.g. walking vs. driving) with the way places are designed.¹¹

For these reasons, leading public health organizations including the Centers for Disease Control and Prevention (CDC), the Robert Wood Johnson Foundation, the National Association of County and City Health Officials (NACCHO), the National Prevention Council, and the Surgeon General have all emphasized the importance of designing places to be walkable.

In a 2010 meta-analysis, the built environment factors found to most strongly increase walking were mix of uses (especially closely linked jobs and housing), intersection density (which is related to having short blocks to walk), and the number of destinations within walking distance.¹² These factors all create shorter distances between places which generates more walking. Interestingly, density had only a weak association to travel behavior once other factors were taken into account.

Public Space

Besides the impact on physical activity, researchers have also focused on the built environment’s influence on how connected people are socially – including how sidewalks, plazas, and squares can best function as public spaces that bring people together. Social relationships are very important to health – a review of over 148 studies on social support and health found that the difference in mortality between people with good social connections and those lacking in it was equivalent to quitting smoking.¹³

One hypothesis is that walkable neighborhoods better allow people the opportunity to engage with friends and neighbors and to make new acquaintances. Researchers attempting to test this theory have found mixed results. While some studies have found that walkability does promote increased social connections, others find no effect or only a minimal impact. The research conducted to date is quite limited and it is difficult to know if these mixed results are because: 1) there is only a weak association between walkability and social connections or 2) if the challenges of measuring factors like social capital and sense of community are interfering with discovering a clear connection.

While not typically published in peer-reviewed journals, there is more consistency for what makes public spaces work effectively. One of the pioneers in this work is William (Holly) Whyte, who used time-lapse photography and other direct observation methods to rigorously observe pedestrian behavior in downtown settings. His work – published in a book and companion film that are both entitled “The Social Life of Small Urban Spaces” – documents how amenities like a large number of places to sit and congregate, street trees, access to food, and interesting views draw people in and enliven places.¹⁴ Another leader in the field is Jan Gehl, a Danish architect who has focused on how casual and

undemanding contacts between people – “life between buildings” – can be facilitated or undermined by the design of places.¹⁵ This research has led to a focus on designing places that have a “human scale” – meaning they have proportions and speeds that better meet the needs of people to feel safe, comfortable, and engaged. Design components that create places on a “human scale” are similar to those that make places walkable.

Greenspace

The University of Washington has collected and organized 40 years worth of research on the connections between nature and health at their website Green Cities: Good Health (<http://depts.washington.edu/hhwb>).

Highlights from this body of research that are particularly applicable to health and the Crossroads Redevelopment Area include:

- People tend to dislike and thus avoid places that are barren of trees and other forms of nature.¹⁶
- Exposure to nature is effective in reducing stress and restoring the ability to focus.¹⁷ This effect is strong enough that scientists can document stress recovery benefits through just seeing images of nature.¹⁸
- People who make use of parks are three times more likely to get the recommended amount of physical activity than people who do not make use of parks.¹⁹
- Street trees and other greenspaces filter air pollution and reduce the heat island effect of urban areas.^{20 21}

Parking

Following World War II, as the demand for parking increased with the rising prominence of the automobile, cities responded by creating requirements for the amount of off-street parking provided to ensure new buildings had sufficient parking. One result of these parking minimums was the increased use of large surface parking lots leading to the familiar pattern of big box and strip mall development.

As the impact of parking minimums has been studied by researchers and observed in practice, a number of concerns have been raised. Minimums are established to ensure enough parking supply which in turn often leads to larger and more numerous parking lots than are actually needed. For example, a 2011 parking study of downtown Omaha found that even during the daytime peak, only 53% of parking spaces were being used.²² Building more parking than is necessary is a waste of land and financial resources, and also has implications for other quality of life issues including health.

Beyond aesthetics, the connections between the amount of parking provided and quality of life factors are not obvious. The foremost researcher in this area is Donald Shoup, an economist at UCLA, who has written extensively on the effects parking has on cities.²³ One area he has studied has been the

phenomenon of “cruising” to find a parking space. Where this occurs, it increases traffic congestion, which then increases air pollution and stress.

Frequently, this situation of congestion created by drivers circling the block to find a parking space is not actually due to a shortage of parking but comes from a pricing imbalance. For example, the Parking Management Plan created for downtown Omaha found that even during a Friday evening, only 54% of the parking available in the Old Market was being used. The perception that no parking is available comes from on-street parking being free while off-street parking costs \$5-\$8 which means that motorists will circle until finding one of the on-street spots.

Shoup and others have found that providing too much parking – especially in the form of surface parking lots – has negative health consequences.^{24 25} Because parking increasing the distances and separation between buildings, people have to drive more and are less able to walk or use another mode of transportation, which decreases physical activity. This increase in driving also increases congestion and thus air pollution and stress. The additional pavement required for parking in excess of what is needed also contributes to the heat island effect as well as poor water quality from runoff.²⁶

Additionally, the two basic types of parking (on-street vs. off-street) have different effects on walkability. The parallel and diagonal parking seen with on-street provides a buffer between pedestrians and moving traffic which creates more inviting conditions for walking²⁷. The surface lots and garages that make up off-street parking typically have the opposite effect by creating an environment that is felt by pedestrians to be boring and unsafe. Putting parking lots between the main sidewalk and the buildings is especially detrimental to walkability because it increase distances between buildings while making walking less interesting and safe.²⁸ These negative effects can be mitigated through design decisions such as putting parking behind or to the side of a building and by including retail and restaurants on the ground floor of a parking garage.

Instead of only focusing on ensuring sufficient supply, many cities – including Omaha – are increasingly using a “parking management” approach that seeks to better optimize the amount of parking by focusing on balancing both supply and demand. Under a parking management system, the goal is to set a performance measure for parking occupancy levels – typically close to 85% which translates to maintaining one available space out of every eight or roughly one per block.

One approach that seems particularly innovative and effective is to create parking benefit districts in which revenue generated by parking is invested back into the area to pay for public improvements that increase transportation choices, reduce congestion, and revitalize the neighborhood. A comparison between two places in Los Angeles (Old Pasadena and Westwood Village), which took different approaches to parking makes a strong case for the potential value of parking benefit districts.²⁹

Conclusion

The best available evidence makes a strong case that built environments can be designed in ways that would reduce chronic disease epidemics and rising healthcare costs. The research around walkability, public space, greenspace, and parking indicate strategies for improving the health of people who work, live, and visit the Crossroads Redevelopment Area. In particular:

- Creating shorter distances between places and uses is essential to increasing walking. Having a mix of uses, short blocks, and relying more on on-street parking all help decrease distances.
- Setting performance goals for parking better balances parking supply and demand, which improves walkability while decreasing congestion and environmental hazards.
- When sidewalks in mixed use areas are wide enough and contain amenities such as seating and street trees, they can function as a source of public space and greenspace. Reinvesting parking revenue has been a success means of enhancing these types of amenities over time, leading to a more vibrant destination.

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³ Jackson R et al. *Health and the Built Environment: 10 Years After*. American Journal of Public Health. 2013; 103 (9): 1542-1544.

⁴ Brownson R, Boehmer T. *Patterns and Trends in Physical Activity, Occupation, Transportation, Land Use, and Sedentary Behavior*. Transportation Research Board Special Report 282. 2005. Washington, DC: National Academy of Sciences.

⁵ Brownson et al. *Declining Rates of Physical Activity in the United States: What Are the Contributors?* Annual Review of Public Health. 2005; 26: 421-43.

⁶ Centers for Disease Control and Prevention. *Vital Signs: Walking Among Adults – United States, 2005 and 2010*. Morbidity and Mortality Weekly Report. 2012; 61 (31): 595-601.

⁷ Saelens B, Handy, S. *Built Environment Correlates of Walking: A Review*. Medicine & Science in Sports & Exercise. 2008; 40 (7 Suppl): S550-S567.

⁸ Bauman A, Bull F. *Environmental Correlates of Physical Activity and Walking in Adults and Children: A Review of Reviews*. 2007. London, UK: National Institute of Health and Clinical Excellence.

⁹ Frank L, et al. *Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings from SMARTRAQ*. American Journal of Preventive Medicine. 2005; 28 (2S2): 117-125.

¹⁰ Transportation Research Board & Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use. *Does the Built Environment Influence Physical Activity? Examining the Evidence*. Special Report 282. 2005. Washington, DC: National Academy of Sciences.

¹¹ Cao X, et al. *Examining the Impacts of Residential Self-Selection on Travel Behaviour: A Focus on Empirical Findings*. Transport Reviews. 2009; 29 (3): 359-395.

¹² Ewing R, Cervero R. *Travel and the Built Environment: A Meta-Analysis*. Journal of the American Planning Association. 2010; 76 (3): 265-294.

¹³ Holt-Lunstad J, et al. *Social Relationships and Mortality Risk: A Meta-analytic Review*. PLoS Medicine. 2010; 7 (7): 1-20.

¹⁴ Whyte W. *The Social Life of Small Urban Spaces*. New York, NY: Project for Public Spaces. 2001. Print.

¹⁵ Gehl J. *Life Between Buildings: Using Public Space*. Washington, DC: Island Press. 2011. Print.

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- ²⁰ Nowak D, et al. *Air Pollution Removal by Urban Trees and Shrubs in the United States*. Urban Forestry & Urban Greening. 2006; 4 (3-4):115-123.
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Note: Because URL addresses change often and most users rely on search engines for finding information online, URLs and access dates have not been included unless it would be difficult to find the source without the URL.

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