

NEIGHBORHOOD WALKABILITY ASSESSMENTS

STUDY AREA: HUDSON





INTRODUCTION

Overview

At the intersection of pedestrian experience and advocacy is where WalkDenver mobilizes. WalkDenver's goal is to make Denver a more walkable city. In doing so, WalkDenver created the WALKscope data collection tool to gather information on the pedestrian experience.

However, data for some neighborhoods in Denver are absent within the WALKscope tool. For this reason, the purpose of this assignment is for the University of Colorado Denver's (CU Denver) Planning Methods class to collaborate with WalkDenver to conduct research and walkability assessments in East Colfax in order to fill some of these gaps. In addition, recommendations from this process will help inform WalkDenver on future projects related to walkability.

Team Members

The members for this specific area are referred to as the Hudson Team and consist of the following individuals: Valeria Henao, Bradyn Nicholson, James Russell, and Rachel Nyhart.

Valeria Henao has an undergraduate degree in Architecture which she received from Universidad Nacional de Colombia Sede Medellín. Val has a strong skill set in mapping and GIS-based technologies which she learned in her career as an architect.

Bradyn Nicholson received her undergraduate degree in Public Health Physical Activity. She is currently pursuing a Masters in Public Health and Masters in Urban and Regional Planning. Bradyn is passionate about incorporating health and equity into the built environment.

James Russell earned his undergraduate degree from in Communications with a minor in Business and Sociology. He often looks at the economic viability in an area, based on his background in sales and marketing.

Rachel Nyhart received her undergraduate degrees in English and Anthropology, and has explored the realm of local government parks and recreation. Rachel is interested in planning public spaces for diverse populations. She is pursuing a Masters in Urban and

Regional Planning and Masters of Media and Public Engagement.

Summary of Project Tasks

This project comprises of the following three tasks: (1) exploring existing conditions, (2) a site assessment, and (3) analysis and recommendations.

1. In this assignment (existing conditions), the Hudson team will investigate the demographic profile of the Hudson Study Area. Using the US Census Bureau website (Census.gov), the research team will retrieve the following datasets: sex, age, race, Hispanic or Latino origin, educational attainment for the population, owner/renter tenure, household income, and means of transportation to work. The Hudson Team will also present existing land use and transportation conditions using maps.
2. The second task is broken down into the following three steps: a study area walking survey, a site assessment and walkability audit, and interviews. The walkability audit of Hudson will be conducting using the WALKscope tool. The goal of interviewing local residents is to gain insight into existing pedestrian conditions from the users' perspectives.
3. In the final task, the research team identifies what elements could be improved in order to support walkability and focus on how to improve the pedestrian experience.

Area Boundaries and Location

For this assignment, the area of south-central Denver was divided into six study areas and assigned to the CU Denver graduate students in the fall 2018 Methods Class, taught by Professor Ken Schroepfel.

The boundaries containing this entire project are East Colfax Avenue to the north, North Monaco Parkway to the east, 6th Avenue Parkway to the south, and Colorado Boulevard to the west. Inside this area host a few significant features in which the Hudson Team took into consideration when evaluating the walkability of the area.

One of the significant features is Colfax Avenue, the northern boundary for this project, which is a major highway that connects Denver's Downtown to the rest of the Denver Metro Area and is the longest highway in the United States. This highway acts as an economic corridor and contains a large variety of business, including but not limited to restaurants, dispensaries, boutique shops, and corner stores. More specifically, the Hudson Team highlights the northeastern quadrant where Colfax meets Monaco. This area contains a shopping complex with two grocery stores, King Soopers, Safeway, a pharmacy, Walgreens, a gym and financial services, Chase Bank.

In addition, the Hudson Team used The Rose Medical Center (RMC) as another significant feature in which could influence walkability. The RMC is a hub of health care services and is located along Colorado Avenue, the Westernmost boundary of the entire area. It includes a grocery store and other healthcare providers such as Stacy Folk, MD and VA Eastern Colorado Healthcare system. Just outside of this complex, where Dahlia Street meets 9th Avenue, there is also the University Children's Center Preschool.

Other notable destinations in the area include: Palmer Elementary school; Partners in Pediatrics health center; Rosemark at Mayfair Park; a Retirement Community; and World Mission Society Church Of God; multifamily housing and apartment complexes; Christ the King Roman Catholic Church; The Denver Tennis Club; The Hill Campus of Arts and Sciences; Cheeseman; Congress; and Mayfield Parks; and Denver Botanical Gardens.

Study Area Location

The Hudson Study Area is located in block group 3, census tract 43.02, and is part of 8th Avenue to the north, Holly Street to the east, 6th Avenue to the south, and Eudora Street to the west. Inside of the Hudson Team Study Area contains a few of the key destinations such as the 8th Avenue Baptist Church and The Church of Jesus Christ of Latter-day Saints, and two bus stations along East 6th Avenue Parkway. It is important to note, however, that there are a plethora of walkable destinations outside of the Hudson Study Area.

Demographic Area

The demographic data retrieved and used in this analysis consist of a larger area than that of the Hudson Study Area. The boundaries for the demographic data expand east on Hale Parkway to the north, while the east, west, and southern boundaries are the same as the Hudson Study Area.

Census Tract map

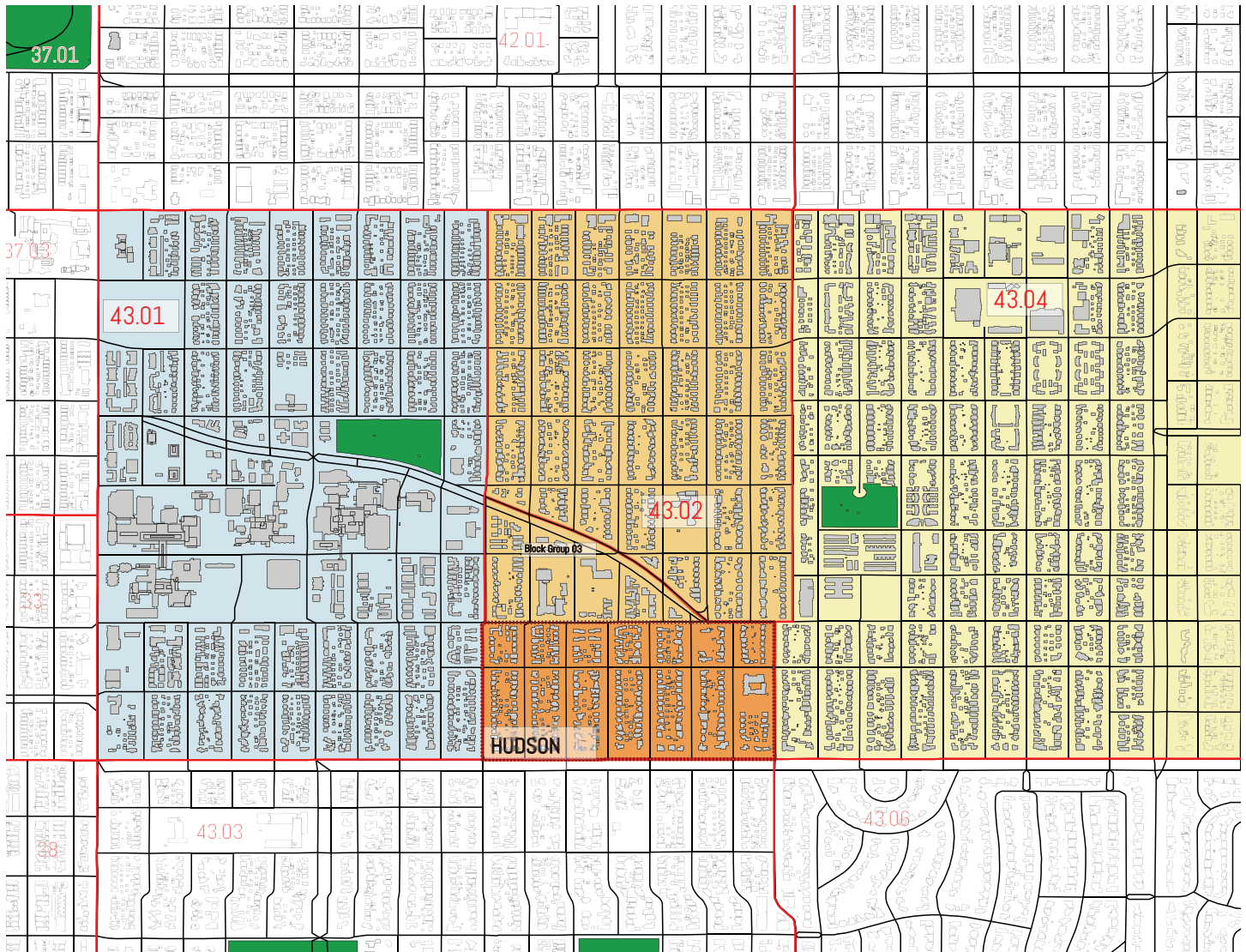
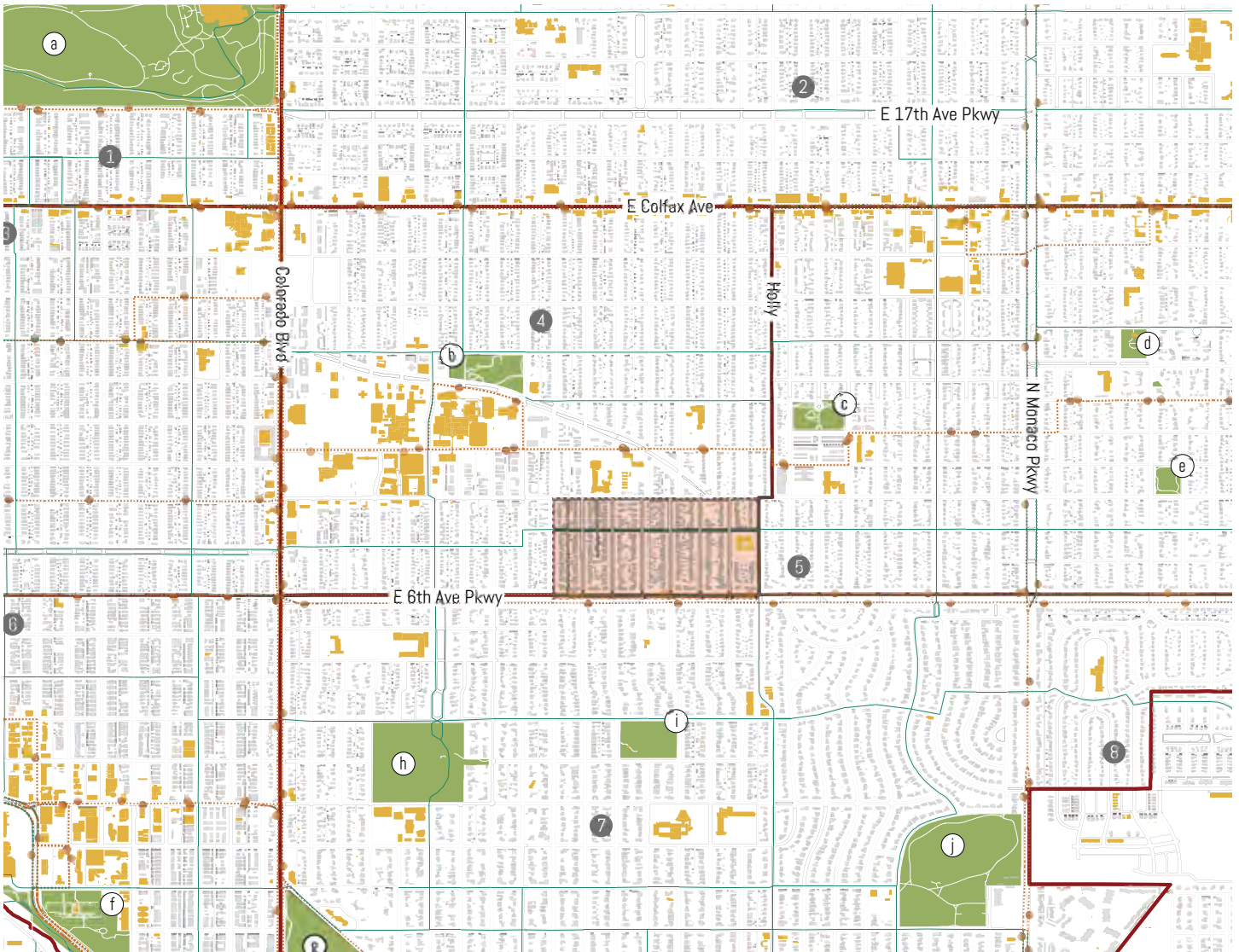


Exhibit 1: Census Tract Map with Study Area Location

Study Area: Hudson



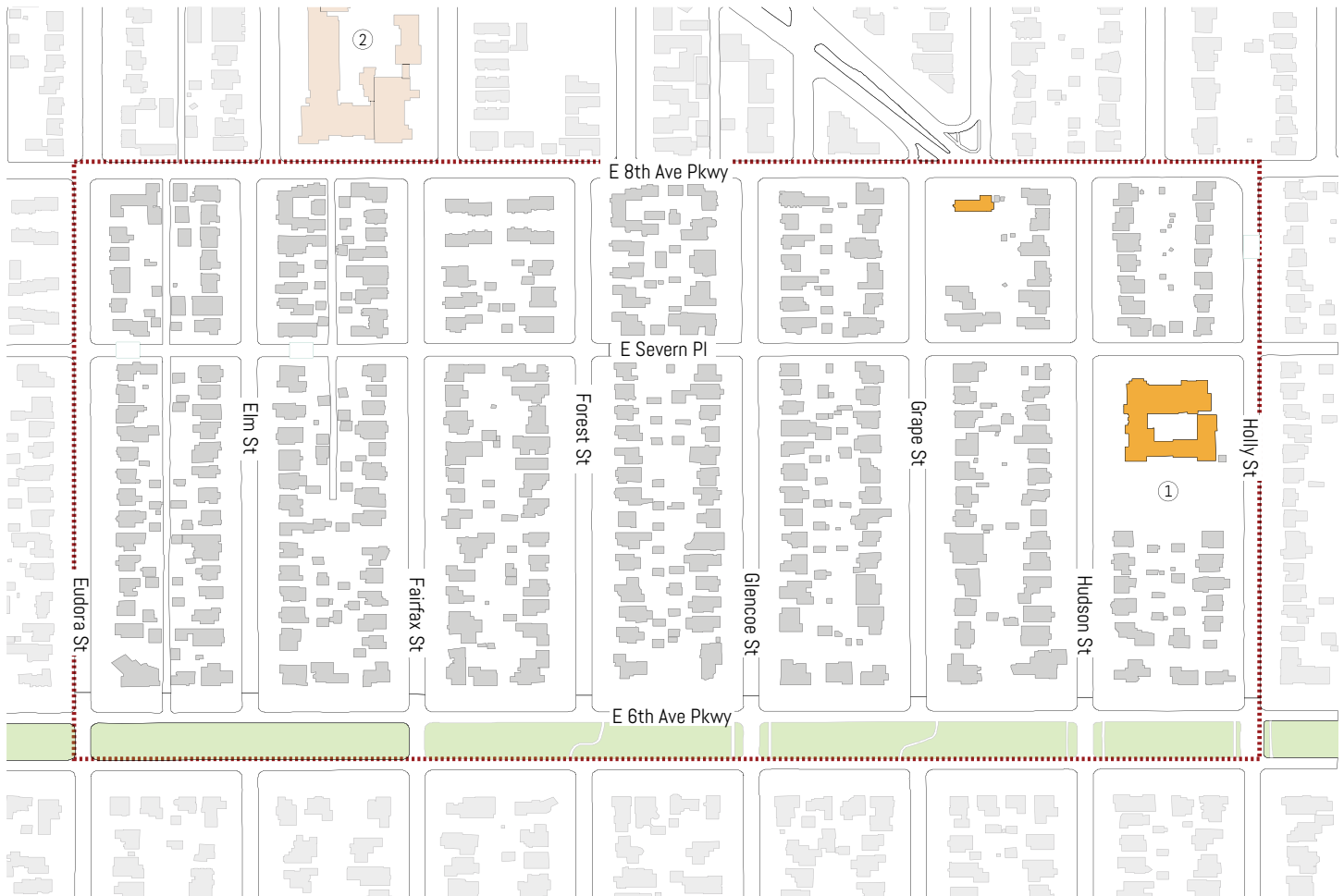
NEIGHBORHOODS LIST

- 1 City Park
- 2 South Park Hill
- 3 Congress Park
- 4 **HALE**
- 5 Montclair
- 6 Cherry Creek
- 7 Hilltop
- 8 Lowry Field

KEY FEATURES

- a City Park
- b Lindsley Park
- c Mayfair Park
- d Monclair Park
- e Kittredge Park
- f Cherry Creek Park
- g Burns Park
- h Cranmer Park
- i Robinson Park
- j Crestmoor Park

Study Area: Hudson - Detail



Key Features

- ① Eighth Avenue Baptist Church
- ② Christ the King Roman Catholic Church

Residential

Study Area

Exhibit 3: Study Area Location-Detail

A photograph of a residential street scene. In the foreground, a concrete sidewalk leads to a metal storm drain. The street is paved with asphalt and curves to the right. On the left side of the street, there is a stop sign on a tall pole. In the background, there are several large, leafy trees and a white fence. The sky is clear and blue. A semi-transparent dark blue horizontal band is overlaid across the middle of the image, containing the text "EXISTING CONDITIONS" in white, uppercase letters.

EXISTING CONDITIONS

Analysis

Demographic data used in this analysis were retrieved from the US Census Bureau's website (Census.gov). Datasets were downloaded into Excel spreadsheets, and cleaned and organized to complete the tables and charts

presented below. Data for margin of error was included as part of these retrieved datasets but were removed and not included in this analysis.



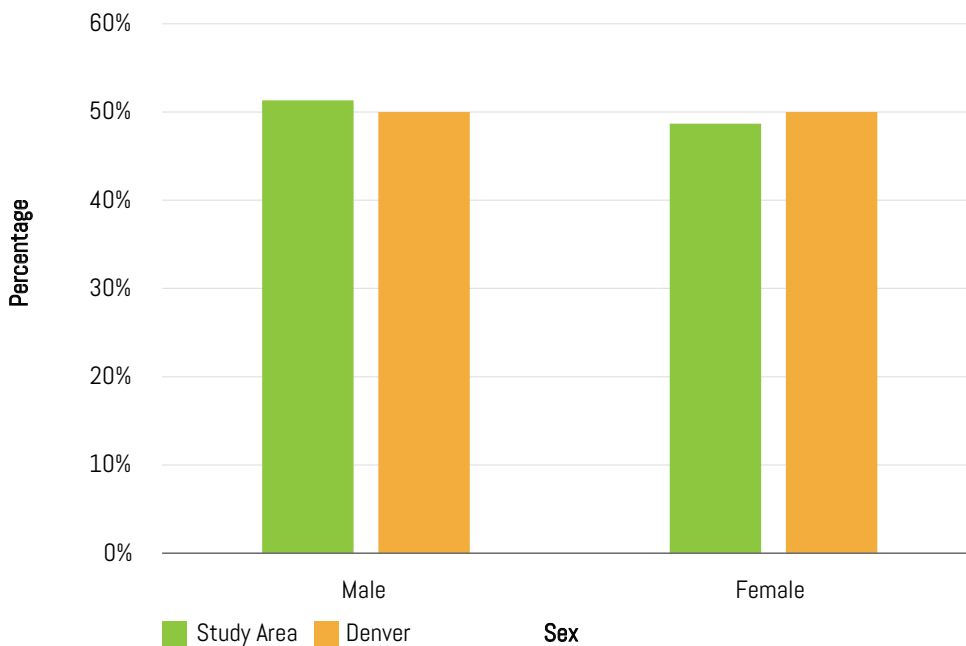
In this dataset, sex is based on the biological attributes of men and women including chromosomes, anatomy, and hormones, and therefore, captures biological sex and not gender. The Hudson area block group and Denver county have similar percentages of male and female residents. Historically, there have been different perceptions of safety when looking at sex and the pedestrian experience

depending on whether an individual is male or female. What is perceived as safe within a walking environment for females can be very different than that of males. For this project, the Hudson team will consider a safe pedestrian experience that has the potential to engage all of the population, which includes safety as seen from both female and male perspectives.

Table 1: Count of Females and Males by Tract and County

Sex	Study Area		Denver	
	Count	Percentage	Count	Percentage
Male	385	51.3%	331,602	50.0%
Female	365	48.7%	331,701	50.0%
Total	750	100.0%	663,303	100.0%

Chart 1: Percentage of Females and Males by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B01001)



Age

Age is determined by asking birth month, date, and year, as well as age. The most notable difference between the Hudson Study Area and Denver County is the higher number of adults over the age of 25. More than 85% of the Hudson Study Area’s population is between the ages of “25 to 74.” However, Denver County only has a little more than 65% of residents within that same age range. While the Hudson Study Area has very few residents between the ages of “0 to 24,” that age range accounts for over a fourth of Denver County’s population.

The age range categories of “25 to 34 years” and “35 to 44 years” consists of 43% of the total population of the Hudson Study Area. These categories fall into the age range where individuals typically have young children and start families. A walkable landscape is important for these groups to be able to push strollers on sidewalks,

play outside, and have the opportunity to commute to Palmer Elementary School by foot. In addition, 26% of the Hudson Study Area population is over the age of 65. Furthermore, right outside the study area, is Rosemark at Mayfair Park Retirement Community. To be able to create walkable places for older adults, the walkable environment should be one that meets their specific needs.

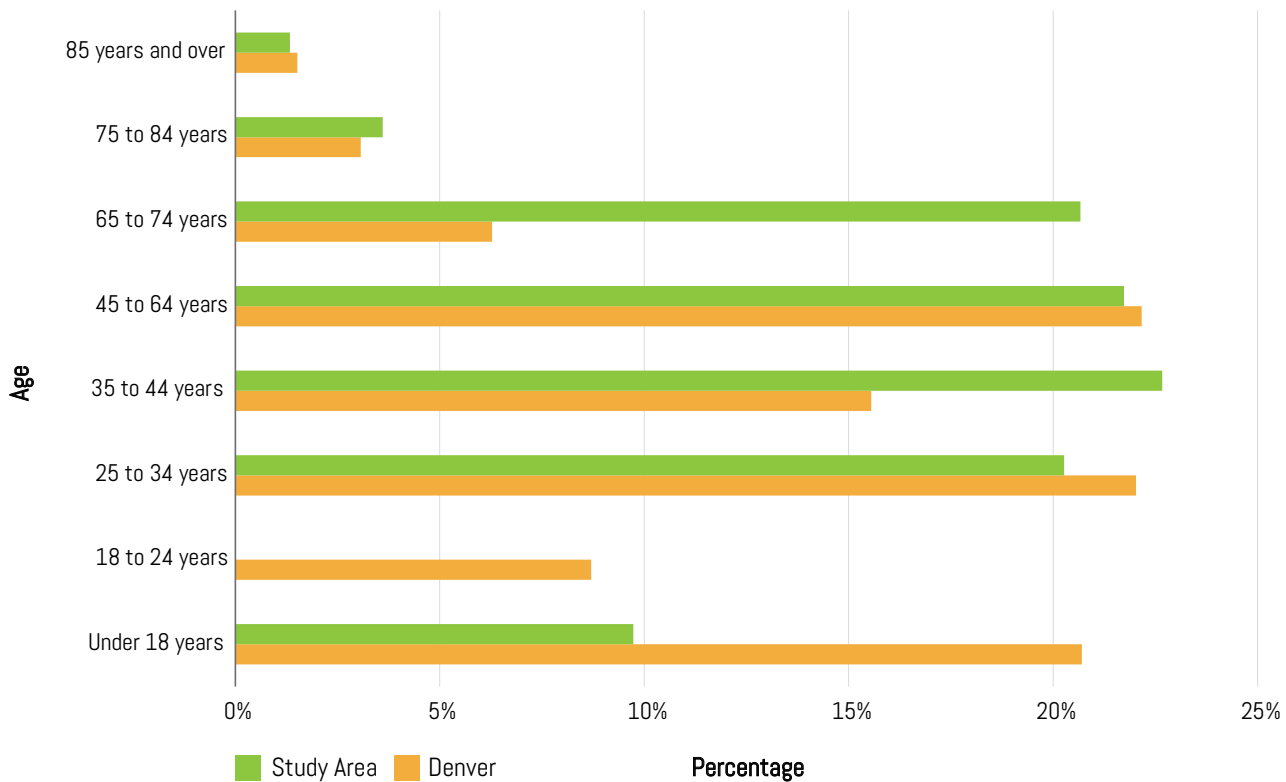
The Hudson team’s study area has a much higher percent of its population who have already reached retirement age. It is also interesting to note that because there were no people surveyed in the 18 to 24 age range, and there are no retirement communities in the study area to account for the high retiree populations, it may mean that the community is made up of a few families with young children but is potentially families living with retirees.

Table 2: Count of Age by Tract and County

Age	Study Area		Denver	
	Count	Percentage	Count	Percentage
Under 18 years	73	9.7%	137337	20.7%
18 to 24 years	0	0.0%	57703	8.7%
25 to 34 years	152	20.3%	146081	22.0%
35 to 44 years	170	22.7%	103126	15.5%
45 to 64 years	163	21.7%	147006	22.2%
65 to 74 years	155	20.7%	41654	6.3%
75 to 84 years	27	3.6%	20331	3.1%
85 years and over	10	1.3%	10065	1.5%
Total	750	100.0%	663,303	100.0%

Data Source: 2012-2016 American Community Survey 5-year Estimates (B01001)

Chart 2: Percentage of Age by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B01001)

Race

Race is based on self-identification and defined as how it is recognized within the United States. When comparing race between the Hudson Study Area and Denver County, here are similar distributions among the population in the categories of “American and Alaska natives alone”, “Native Hawaiians and other Pacific islanders alone”, “Asian alone” and “two or more races”.

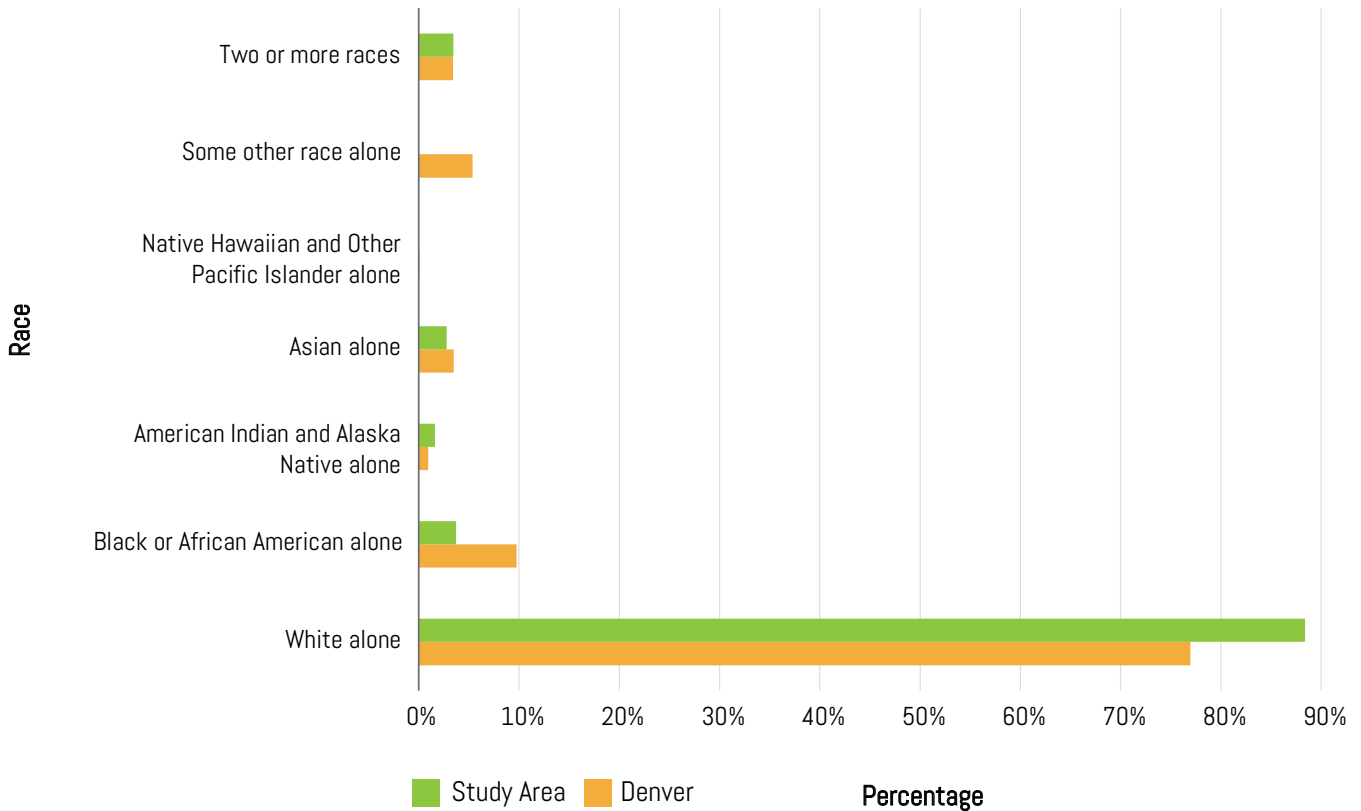
However, a difference is seen when comparing the population who identifies as White and Black or African American between the two areas. In the Hudson Study

Area, 88% of its population self-identify as White, while only 77% of the population in Denver County self-identify as White. In addition, only 4% of the Hudson Study Area self-identify as Black or African American while there is 10% of Denver County who self-identify in the same category. This shows that there are more individuals who self-identify as White, and fewer individuals who self-identify as Black or African American and Some Other Race in the Hudson Study Area compared to Denver County as a whole.

Table 3: Count of Race by Tract and County

Race	Study Area		Denver	
	Count	Percentage	Count	Percentage
White alone	663	88.4%	510,441	77.0%
Black or African American alone	28	3.7%	64,805	9.8%
American Indian and Alaska Native alone	12	1.6%	6,203	0.9%
Asian alone	21	2.8%	23,191	3.5%
Native Hawaiian and Other Pacific Islander alone	0	0.0%	406	0.1%
Some other race alone	0	0.0%	35,547	5.4%
Two or more races	26	3.5%	22,710	3.4%
Total	750	100.0%	663,303	100.0%

Chart 3: Percentage of Race by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B02001)



Hispanic or Latino

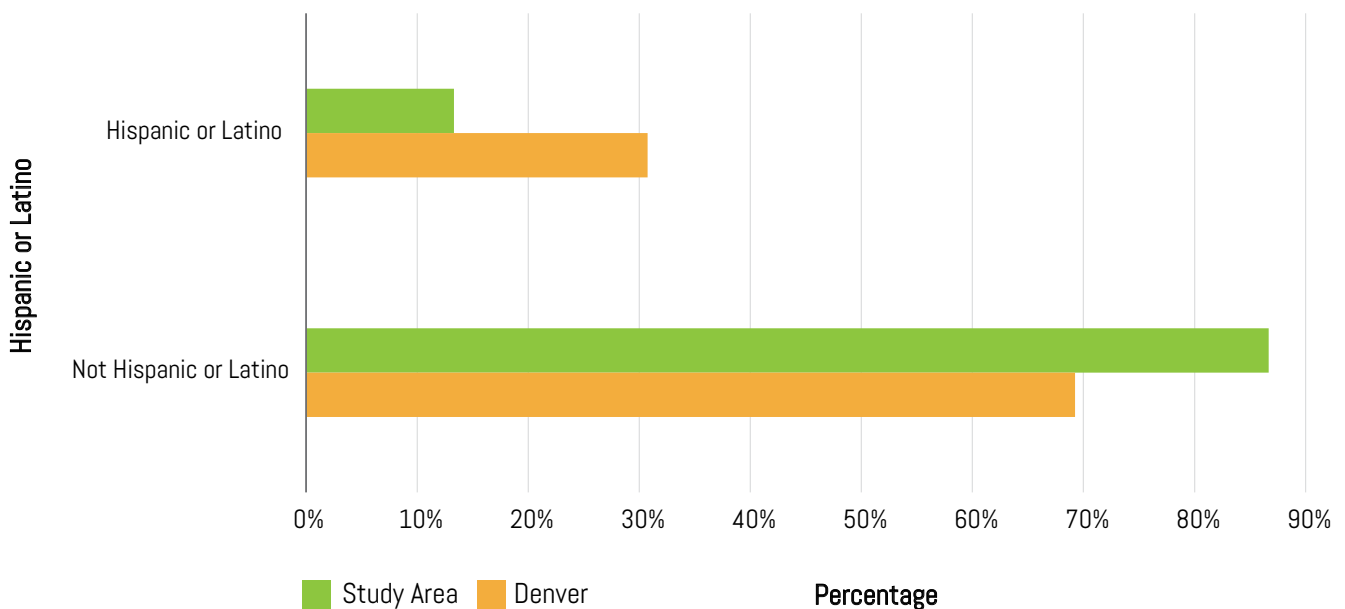
Hispanic or Latino is defined as a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. When interpreting Hispanic or Latino data in the Hudson Study Area, there are less individuals who identify as Hispanic or Latino in the Hudson Study Area compared to Denver County as a whole. Due to its inverse nature, the Hudson neighborhood also is 18 percentage points lower than Denver County when it comes to the Hispanic or Latino population.

The Hudson Study Area has less individuals who identify as Hispanic or Latino and Black than Denver County as a whole, and is an area where the majority of the individuals living there identify as Not Hispanic or Latino. Walkability is often a social justice issue, meaning that neighborhoods that are predominantly comprised of people of color may need to travel by foot for transportation because they may not own a car compared to non-Hispanic or Latino neighborhoods. For the Hudson Study Area, community members may walk for leisure or recreational purposes instead of for transportation because the majority do not identify as Hispanic or Latino.

Table 4: Count of Hispanic or Latino by Tract and County

Hispanic or Latino	Study Area		Denver	
	Count	Percentage	Count	Percentage
Not Hispanic or Latino	748	86.7%	459,261	69.2%
Hispanic or Latino	115	13.3%	204,042	30.8%
Total	863	100.0%	663,303	100.0%

Chart 4: Percentage of Hispanic or Latino by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B03003)



Educational Attainment

Educational attainment refers to the highest level of education that an individual has completed. The population of the Hudson Study Area is more educated compared to the County of Denver. While the majority of residents in the Hudson Study Area have a Bachelor's Degree or Higher, less than half of the population in Denver County falls into this category. For Denver County, 14% report No High School Diploma, while the Hudson Study Area has only 3% of the residents reporting that they don't have a high school diploma.

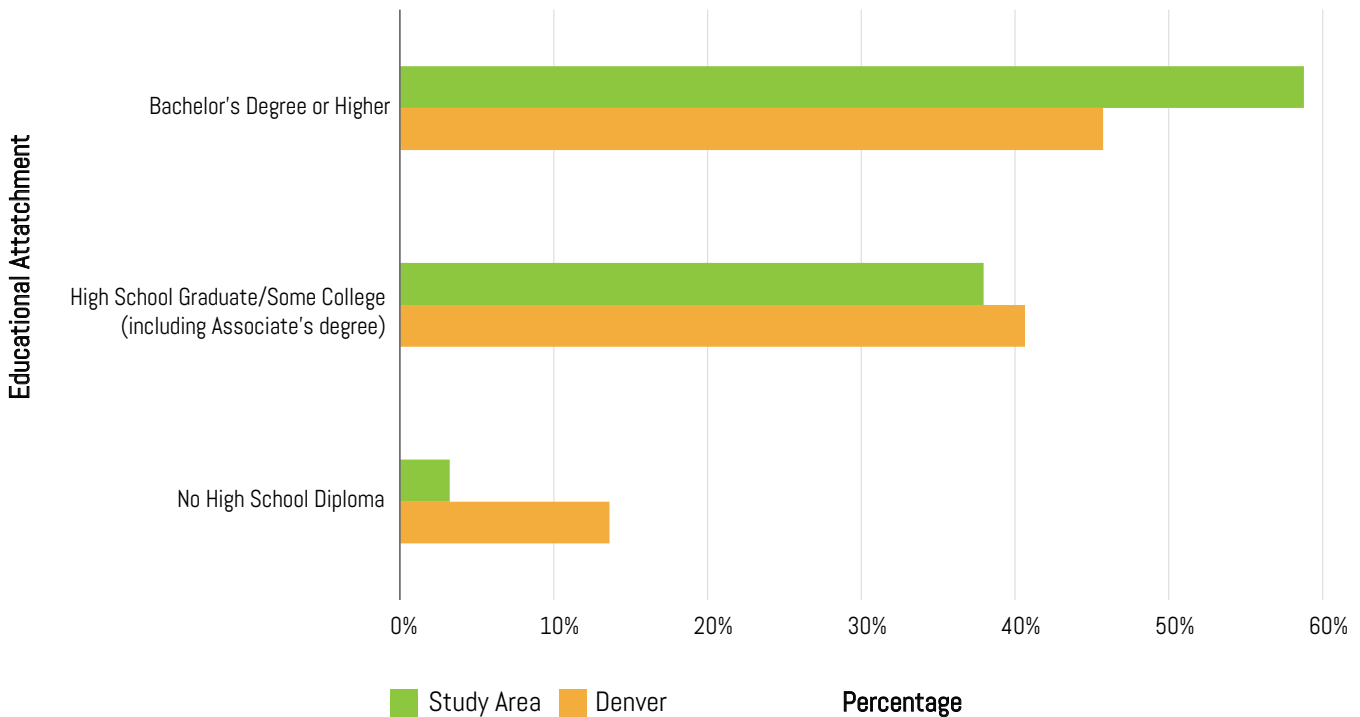
activity levels. The more education an individual has, the more physically active that individual is. Walking is one form of physical activity and can, therefore, be influenced by the amount of education a community has attained. Since the Hudson Study Area is more educated compared to the population of Denver County, one might argue that those living in this area could be more physically active and could benefit from a pedestrian-friendly neighborhood specifically for leisure and recreational activities.

In general, education has been linked with physical

Table 5: Count of Educational Attainment for the Population 25 Years and Older by Tract and County

Educational Attainment	Study Area		Denver	
	Count	Percentage	Count	Percentage
No High School Diploma	22	3.2%	63,865	13.6%
High School Graduate/Some College (including Associate's degree)	257	38.0%	190,313	40.6%
Bachelor's Degree or Higher	398	58.8%	214,085	45.7%
Total	677	100.0%	468,263	100.0%

Chart 5: Percentage of Educational Attainment for the Population 25 Years and Older by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B15003)



Tenure

A unit is owner occupied if the owner or co-owner lives in the unit, even if it is mortgaged or not fully paid for. A cooperative or condominium unit is “owner occupied” only if the owner or co-owner lives in it. All other occupied units are classified as “renter occupied”, including units rented for cash rent and those occupied without payment of cash rent.

The Hudson Study Area shows a slightly higher Owner occupancy percentage as compared to the County of Denver. This could imply that more owners are living in their home as opposed to renting out the entirety of their

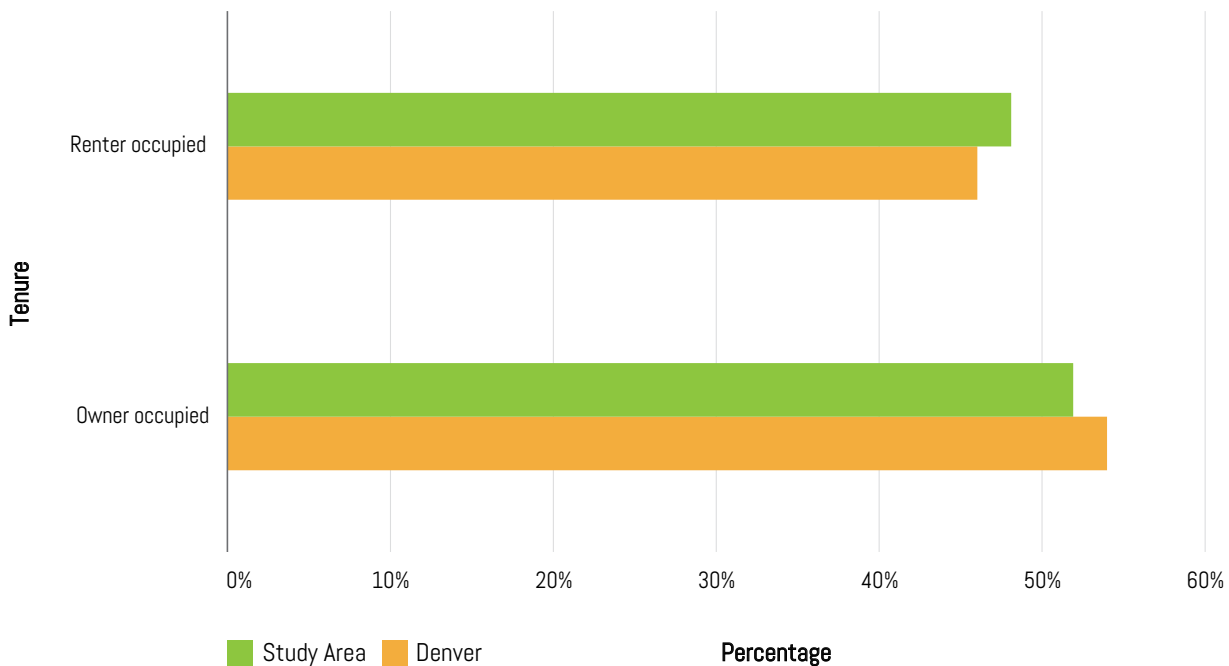
home for supplemental income. However, it is not fair to say that all those who are categorized as Owner occupied are not renting out at least one room of their house, while still living in the residence themselves.

Due to the very large majority of single-family zoning classification in the Hudson Study Area, it appears that Housing Tenure is similar to that of Denver County. Owner/renter tenure relates to walkability because it answers the question of who is responsible for the maintenance of sidewalks and the features of a walkable environment.

Table 6: Count of Owner/Renter Tenure in Occupied Units by Tract and County

Tenure	Study Area		Denver	
	Count	Percentage	Count	Percentage
Owner occupied	386	54.0%	336,443	51.9%
Renter occupied	329	46.0%	311,735	48.1%
Total	715	100.0%	648,178	100.0%

Chart 5: Percentage of Owner/Renter Tenure in Occupied Units by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B25003)



Household Income

Household income includes income of the householder and all other people 15 years and older in the household, whether or not they are related to the householder. Household income in the Hudson Study Area is similar to Denver County for the “Less than \$20,000” household income category and the “\$75,000 to \$99,000” income categories, with neither showing more than one and a half percentage point difference. Not so similar is the Household Income category of “\$40,000 to \$59,000” which is about four percentage points from Denver County. For the household income level “\$20,000 to \$40,000” there is a 12 percentage point difference between Denver County and the Hudson Study Area which means the Hudson Study Area has a lower overall income.

The number of households within the income category of “\$60,000 to \$74,999” also stands out as the

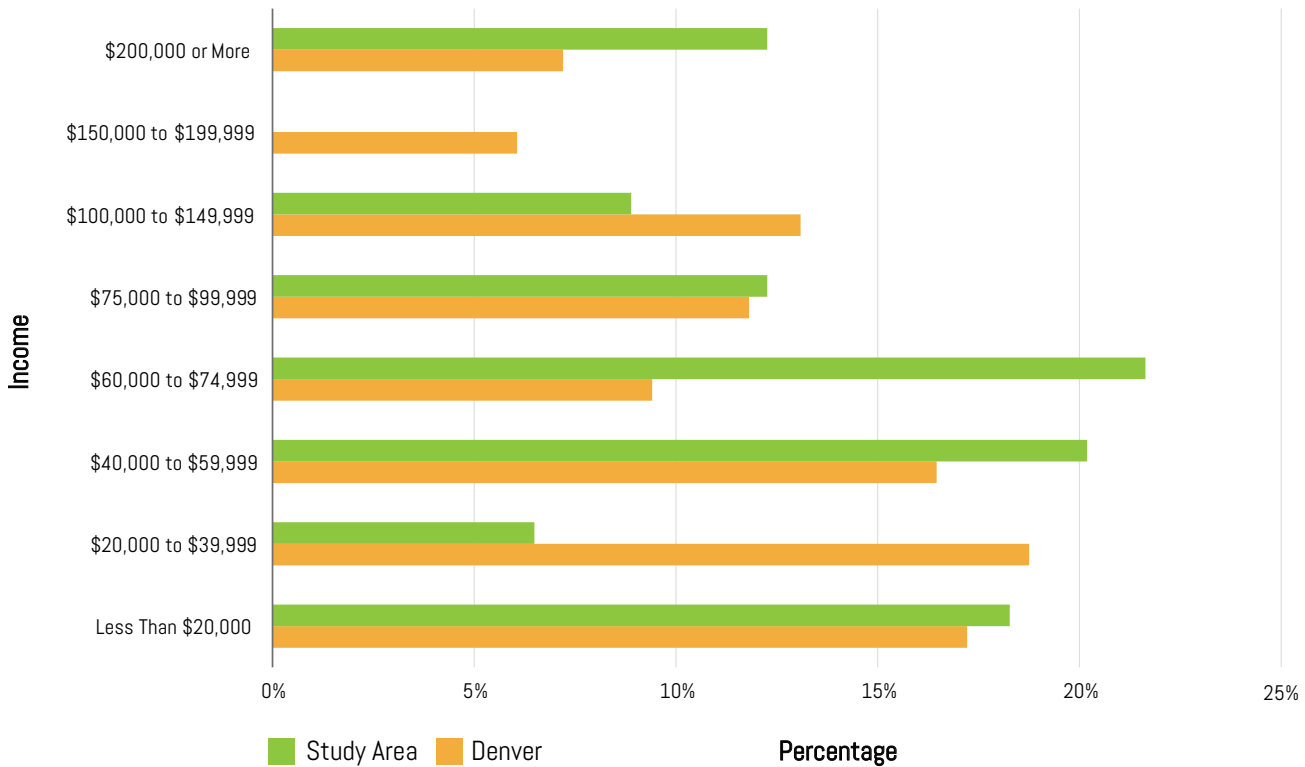
demographic area contains 12 percentage points higher than Denver County. About 22% of the households within the Hudson Study Area is within this income category while only about 10% of the entire population of Denver live within these means.

For the income category of “\$100,000 to \$149,000”, Denver County has about 13% of all households falling into this category, while only about 9% of the households in the Hudson Study Area fall within these parameters. Household income affects and is affected by walkability. Property values are affected by the present or absence of sidewalks and walkability is considered a desirable feature when deciding on whether to move into a neighborhood. Car ownership and the use of public transit may also be affected by income.

Table 7: Count of Household Income in the Past 12 Months in 2016 Inflation-Adjusted Dollars by Tract and County

Household Income	Study Area		Denver	
	Count	Percentage	Count	Percentage
Less Than \$20,000	76	18.3%	48,389	17.2%
\$20,000 to \$39,999	27	6.5%	52,713	18.8%
\$40,000 to \$59,999	84	20.2%	46,268	16.5%
\$60,000 to \$74,999	90	21.6%	26,441	9.4%
\$75,000 to \$99,999	51	12.3%	33,193	11.8%
\$100,000 to \$149,999	37	8.9%	36,785	13.1%
\$150,000 to \$199,999	0	0.0%	17,034	6.1%
\$200,000 or More	51	12.3%	20,249	7.2%
Total	416	100.0%	281,072	100.0%

Chart 7: Percentage of Household Income in the Past 12 Months in 2016 Inflation-Adjusted Dollars by Tract and County



Data Source: 2012-2016 American Community Survey 5-year Estimates (B19001)



Means of Transportation to Work

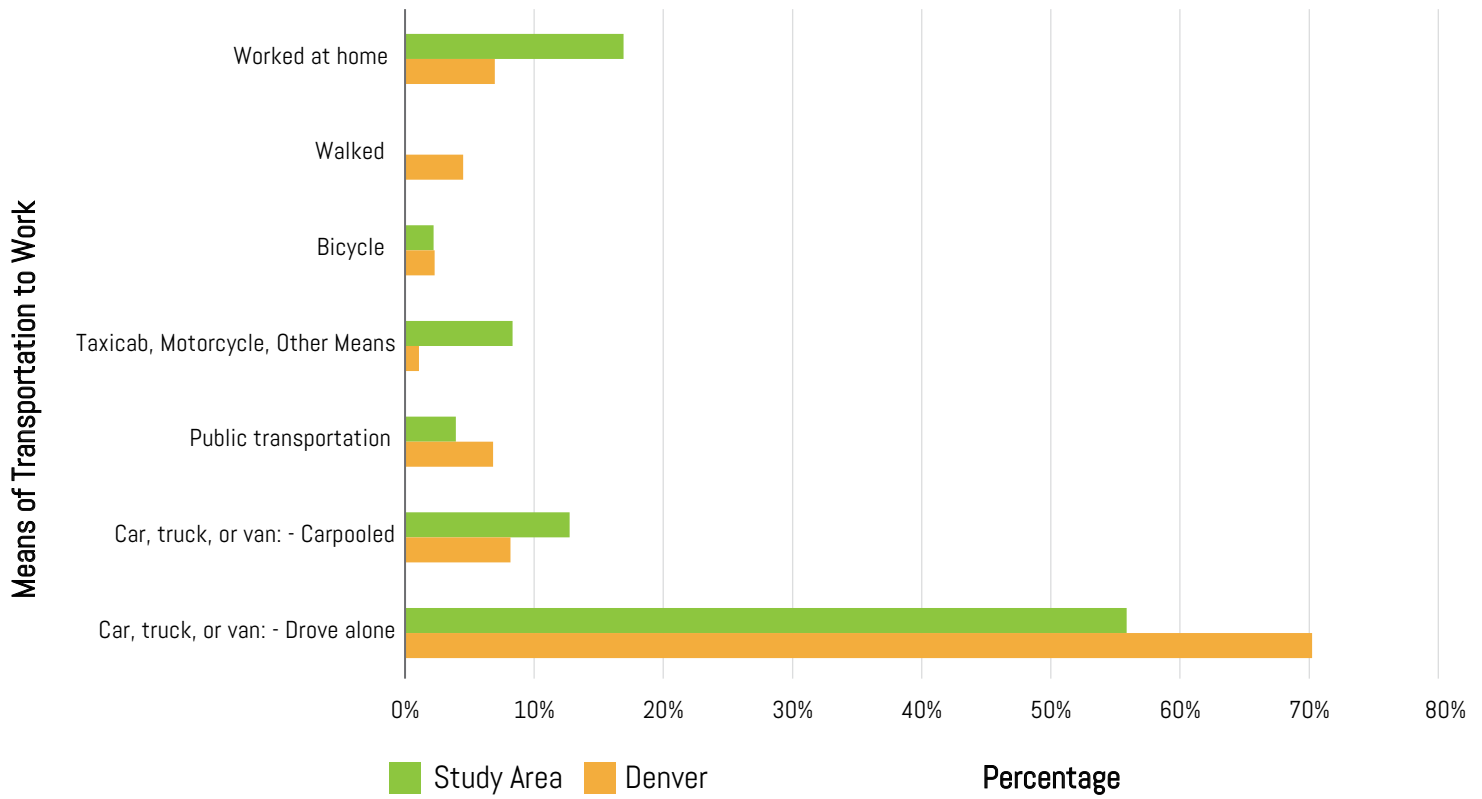
There are stark differences between the Hudson Study Area and Denver County for means of transportation to work. Denver County has more residents who drive alone as a means of commuting to work, while the Hudson Study Area has more individuals who carpool. Although bicycling is relatively similar between the two groups, the amount of residents who fall into the category of "Taxicab, Motorcycle, and Other" means is notably more in the Hudson Study Area than in the County. In the Hudson Study Area, 17% of residents work from home, which is higher than Denver County as a whole. Additionally, 0% of residents within the Hudson Study Area reported that they walk to work, compared to 5% within Denver County.

Even though no one in the Hudson Study Area reported walking to work, walkability in the neighborhood is still important for supporting a healthy neighborhood. Individuals living in this area may still benefit from a walkable neighborhood for leisure and recreational activities such as taking a stroll around the neighborhood. Furthermore, over 81% of Hudson's population commutes to work by means of a motor vehicle. This means there are more cars on the streets in the neighborhood and that safety may be a top priority when creating a more walkable environment in this area.

Table 8: Count of Means of Transportation to Work by Tract and County

Means of Transportation to Work	Study Area		Denver	
	Count	Percentage	Count	Percentage
Car, truck, or van: - Drove alone	228	56%	248,551	70%
Car, truck, or van: - Carpooled	52	13%	28,872	8%
Public transportation	16	4%	24,092	7%
Taxicab, Motorcycle, Other Means	34	8%	3,805	1%
Bicycle	9	2%	8,100	2%
Walked	0	0%	15,968	5%
Worked at home	69	17%	24,588	7%
Total	408	100%	353,976	100%

Chart 8: Percentage of Means of Transportation to Work by Tract and County

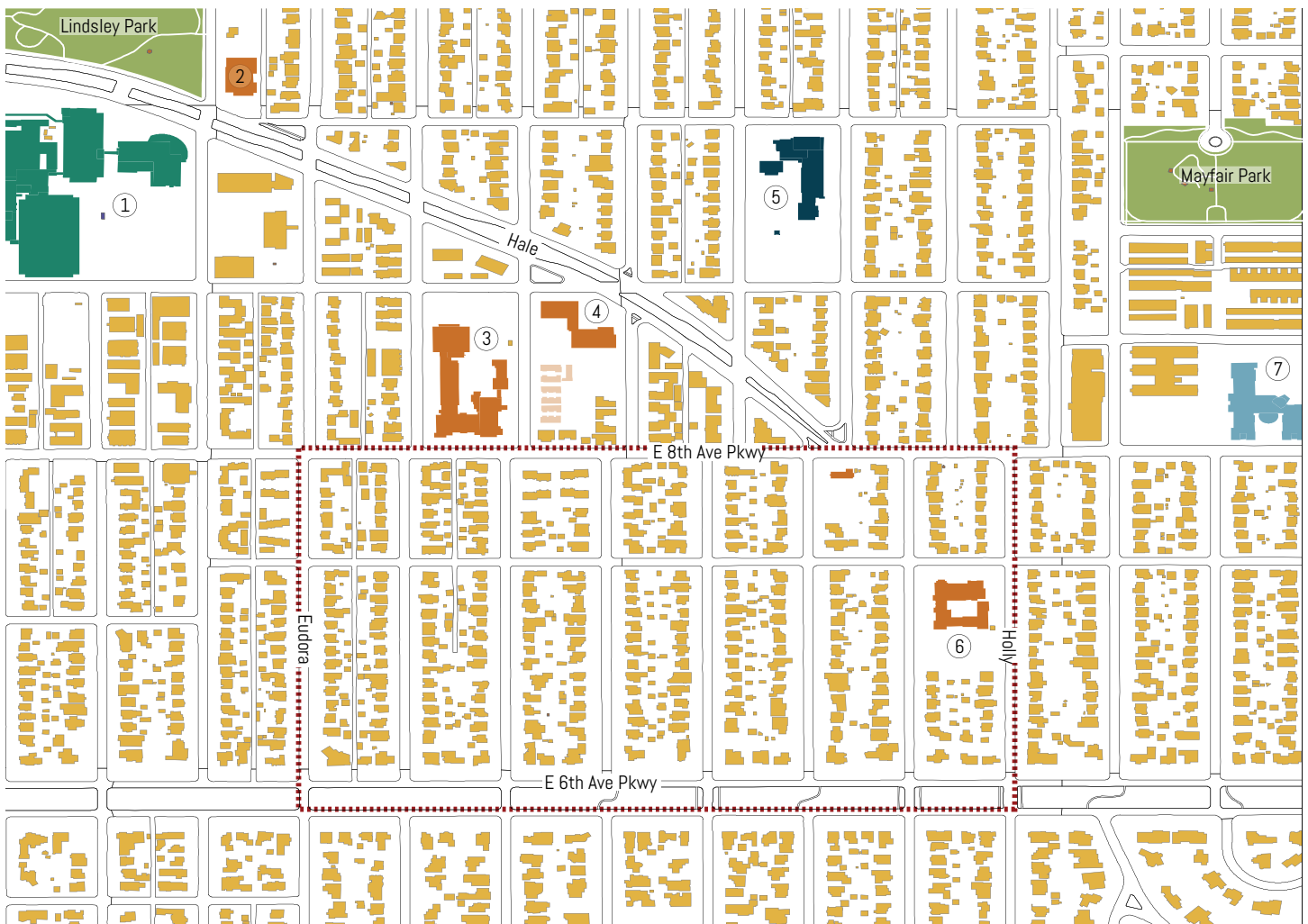


Data Source: 2012-2016 American Community Survey 5-year Estimates (B08301)

Land Use

With the Hudson Study Area in close proximity to hospitals and medical care centers, and due to the high levels of land use designated as residential, it makes sense that the Hudson neighborhood is attractive for highly educated, more wealthy, aging adults who own their own home. The community is also attractive due to its proximity to an elementary school and churches in the community. Due to the Hudson Study Area's proximity

to schools, churches and grocery stores, it may seem possible that some of the families living in the area are living with or near their aging parents. It is also possible that the area contains people who are preparing to enter the retirement age. Either of these possibilities, coupled with the higher education rate, could account for higher income levels.



KEY FEATURES

- ① Rose Medical Center
- ② Church of Christ
- ③ Christ the King Roman Catholic Church
- ④ Friendship Baptist Church of Christ Jesus
- ⑤ Palmer Elementary School
- ⑥ Eighth Avenue Baptist Church
- ⑦ Rosemark At Mayfair Park
- Study Area

LAND USES

- Residential
- Medical Center
- Public
- Educational
- Neighborhood Center
- Foundation/Ruin
- Park
- Commercial

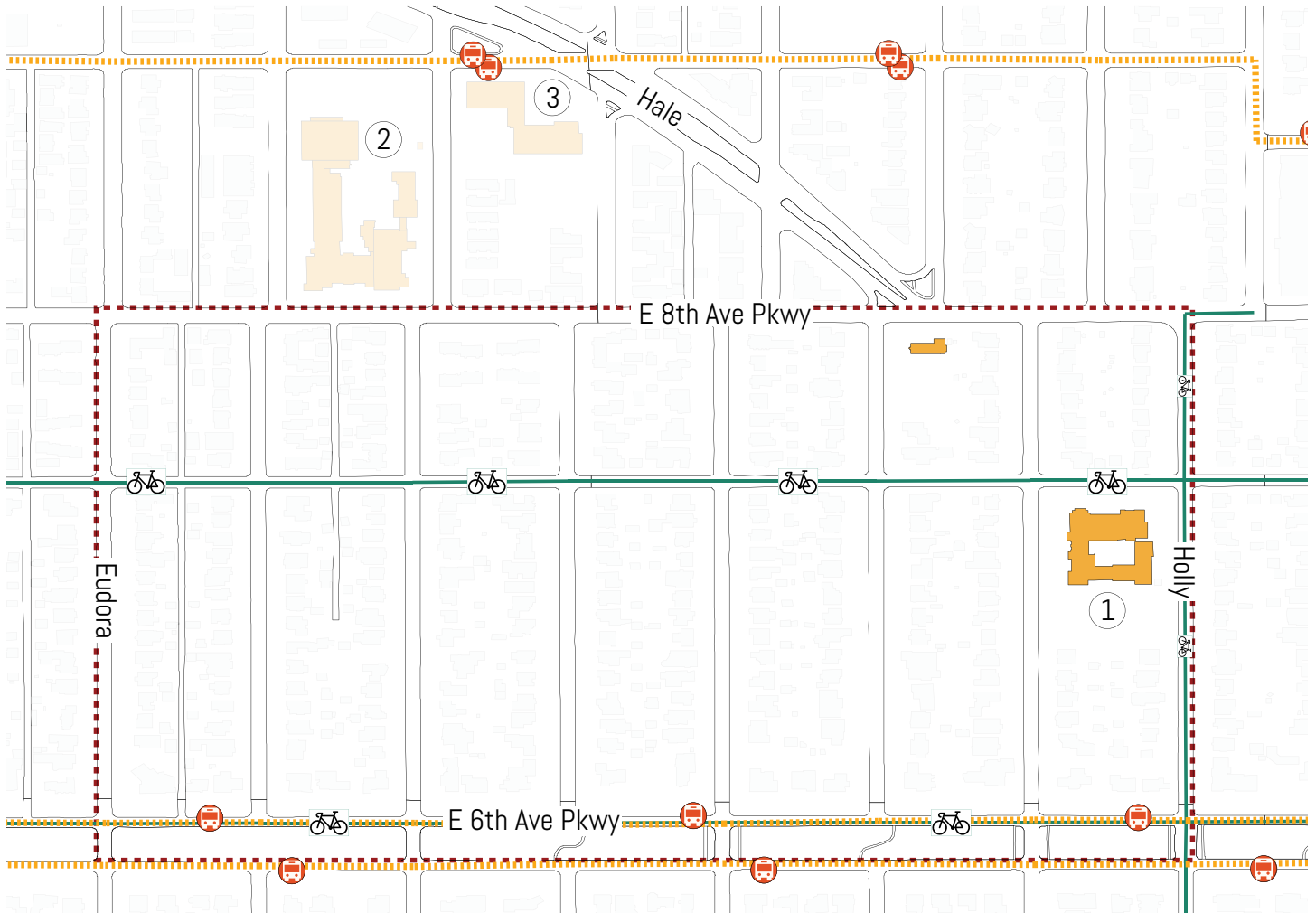
Exhibit 4: Land Use Map



Transportation

This community does not have a high minority or young adult population. Instead, the population of young adults are those under the age of 18. The lack of people walking may be accounted for by this age demographic. As the under 18 population ages, it is possible that we will see an increase in the people who walk as there are still parks

and churches in the vicinity to visit. Noting that although there are bus stations and routes located on the eastern and southern boundaries, many individuals are not taking the bus or driving to their destinations. It seems that most are using rideshare as a way to travel to and from destinations.



KEY FEATURES

- ① Eighth Avenue Baptist Church
- ② Christ the King Roman Catholic Church
- ③ Friendship Baptist Church of Christ Jesus
- Residential
- Key features

TRANSPORTATION

- Bus Station
- Bicycle Facilities
- Bus Routes
- Study Area

Exhibit 5: Transportation Map



SITE ASSESSMENT



Walkability Audit Findings

Based on the Hudson Team's walkability assessment, The Hudson Study Area has an average walkability score of 3, as shown in Exhibit 9. Overall, the immediate Hudson neighborhood appears to be an area in which would be enjoyable to walk in for those who live there.

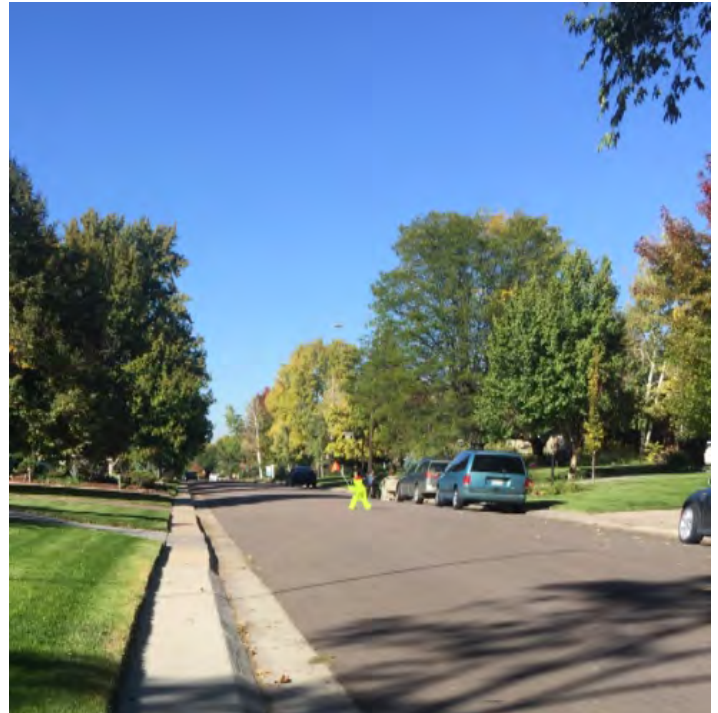
Key Strengths

Sidewalks are present on the majority of streets in the neighborhood with the exception of East 6th Avenue Parkway, where no sidewalks are present. The sidewalks that are present in the immediate Hudson neighborhood are flat with minimal or no bumps and cracks and connected and continuous (Exhibits 6 and 7). Since there are a lot of trees in the neighborhood, shade is provided in most places. Homeowners also have aesthetically pleasing yards consisting of green grass, plants, flowers, shrubs, and gardens. The absence of trash and graffiti in the area contributes to a more favorable pedestrian environment. Additionally, cars were traveling at low speeds and using caution when pedestrians were crossing or nearby on sidewalks. This

may be due to speed dips and stop signs throughout various intersections in the neighborhood. All intersections examined in the immediate neighborhood were ADA compliant. There is a Little Free Library book exchange present which supports social connectivity and can increase creativity among neighborhood residents (Exhibit 8). A slowdown figure was on Grape Street near East 6th Avenue Parkway to help reduce traffic speeds of cars coming from East 6th Avenue parkway into the neighborhood on Grape Street (Exhibit 9). A group of moms in the area put the slow down figure out in the street because their kids did not have school that day. Their kids were out playing in the street during the day, and the moms wanted to make sure they stayed safe.



Exhibits 6 and 7: Continuous and Connected Sidewalks with Pleasing Pedestrian Environments along Hudson Street



Exhibits 8 and 9: Little Free Library and Slow Down Figure to Reduce Traffic Speeds on Grape Street

Key Weaknesses

The width of the sidewalks in the neighborhood are either less than 5 feet or less than 3 feet, and all are roll-over sidewalks (Exhibits 6 and 7). Runners and those pushing strollers were observed using the street for traveling by foot instead of the sidewalk since the width of the sidewalks are too small. The roll-over sidewalks allow for parked cars and trees/shrubs to impede the sidewalks, limiting the amount of space pedestrians have on the sidewalk even more (Exhibit 10). No individuals with wheelchairs were observed during the assessment period, but these individuals would not be able to use most of the sidewalks because of their small width. There are no physical barriers between streets and sidewalks resulting in pedestrians being placed right next to traffic. Crosswalks at intersections are not present at all. Trash cans, benches, and wayfinding are not present in the neighborhood either. On East 6th Avenue Parkway and East 8th Avenue, traffic speed limits are 30 mph, and traffic volume was observed as being high during the assessment period. Although speed limits are posted as 30 mph, traffic was perceived by Team Hudson as going much faster than this. On East 8th Avenue, sidewalks are present while on East 6th Avenue Parkway sidewalks stop abruptly when arriving from adjacent

streets (Exhibits 11 and 12). Therefore, sidewalks are no longer connected and continuous with one another when pedestrians go outside the immediate Hudson neighborhood.



Exhibit 10. Obtrusion to Sidewalk on East 8th Avenue Near Busy Road



Exhibits 11 and 12 Absence of Sidewalks Along East 6th Avenue Parkway

Additional Findings

Pedestrian Counts

During the assessment period, 65 pedestrians were observed while conducting pedestrian counts. Fourteen were counted at the intersection of Severn Place and Grape Street on Friday, October 12th and 51 pedestrians were observed at the intersection of Severn Place and Holly Street on Saturday, October 13th. The observation periods totaled two hours between all four team members (each set of team members counted pedestrians for one-hour increments at the same intersection on opposite sides of the streets).

Transportation

Bus stops are located on East 6th Avenue Parkway. Since there are no sidewalks along this parkway, pedestrians must walk on homeowners' lawns or in dirt to get to the bus stops right next to high traffic speeds and volumes (Exhibits 11 and 12). Bicyclists were seen traveling along East Severn Place, a regional bike route called D12, during the assessment period and all were wearing helmets.

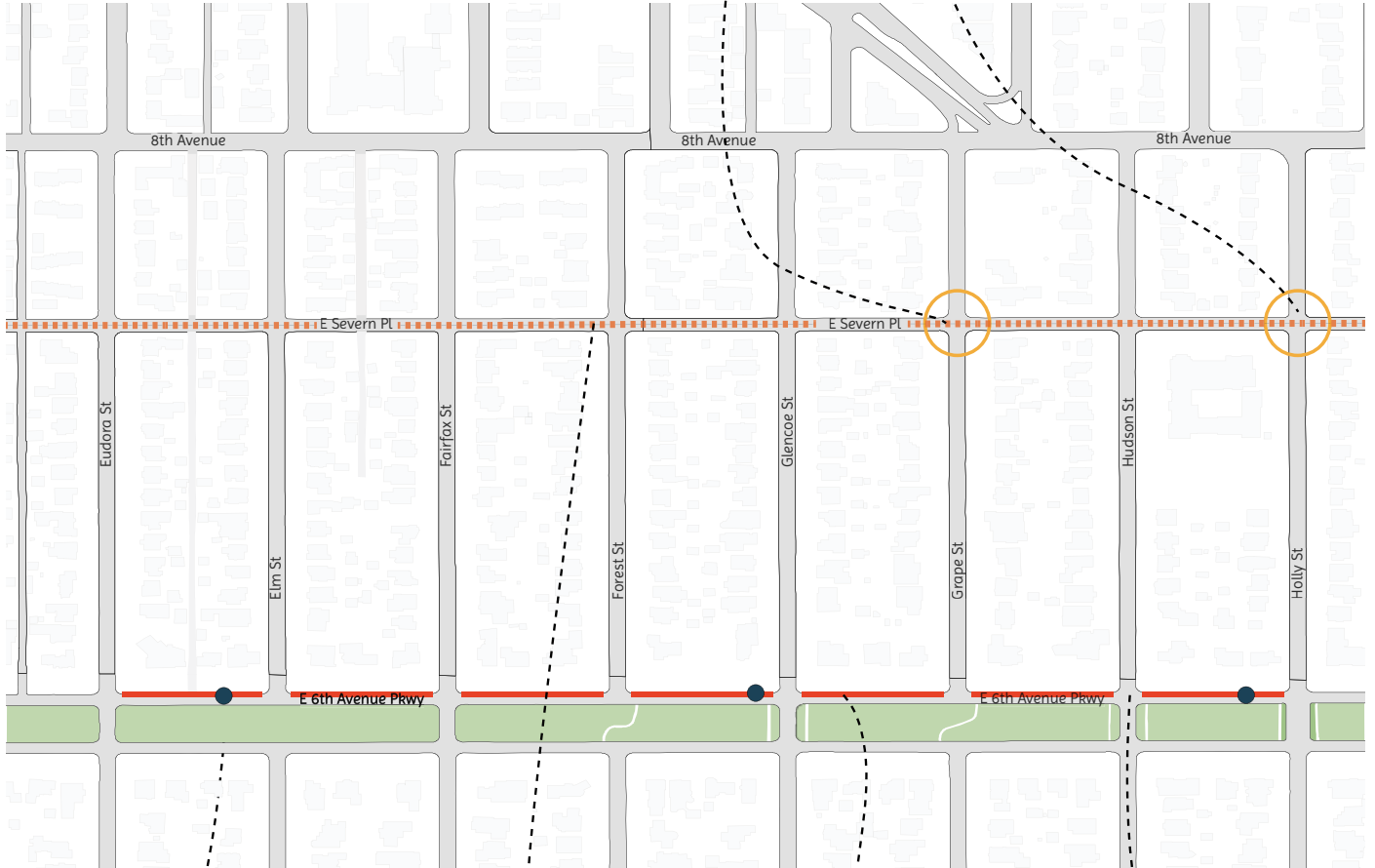
Leisure Activities

Quite a bit of individuals were seen during the assessment period as either walking, running, or hanging outside their homes with family, friends, and neighbors either playing, talking, or gardening.

Pedestrian Counts

14
Friday

51
Saturday




Unsafe Bus Stops




Regional Bike route



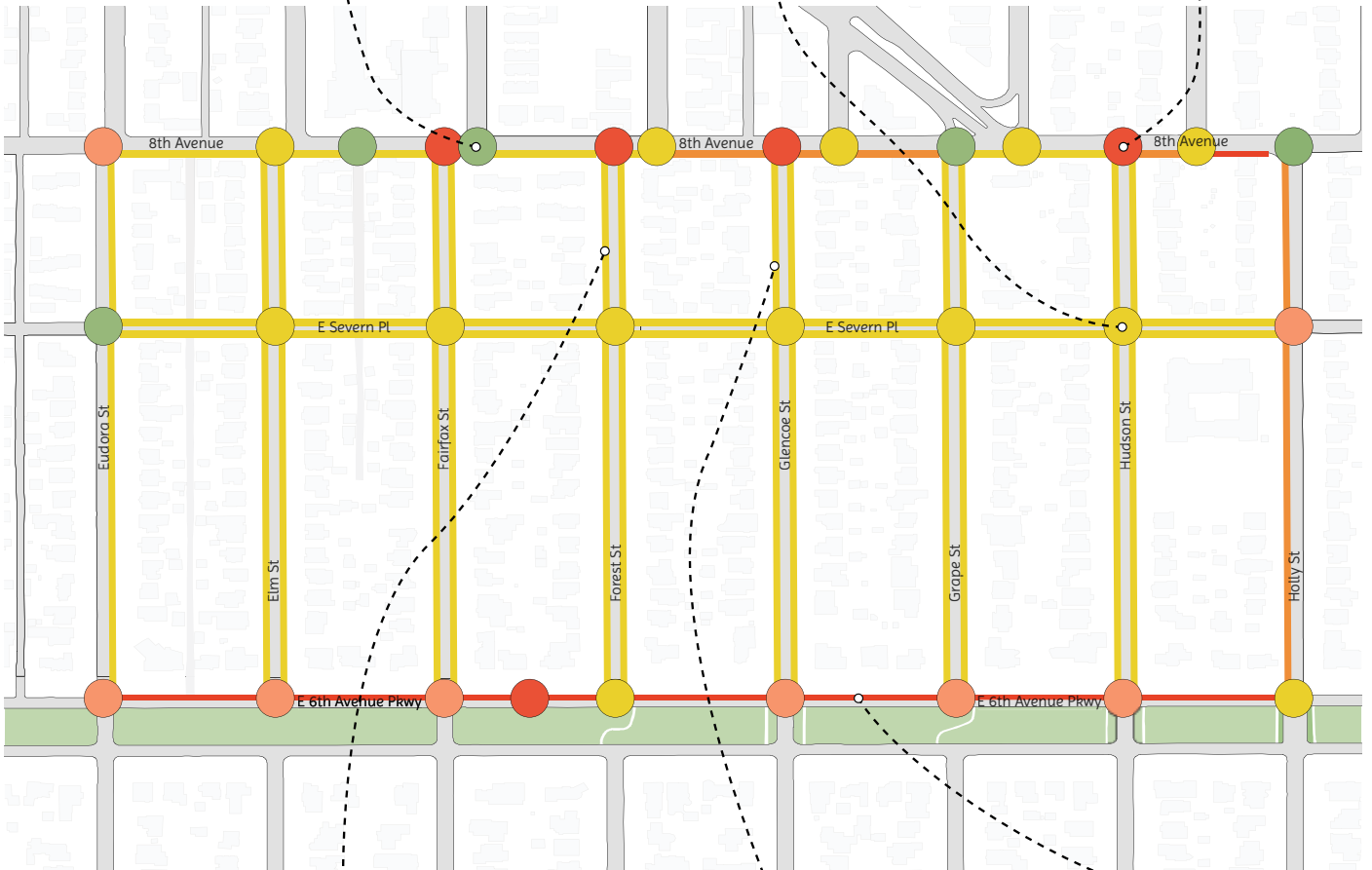

No sidewalk next to
a main road




No crosswalk in most
of the intersections

Exhibit 13: Key Findings

Intersection



Sidewalk



Exhibit 14: Walkability Assessment

Intercepted Interview Findings

Interviewee Characteristics

The Hudson neighborhood research team interviewed a total of 21 people. The trends from these interviews suggested that this sample population is comprised of an active community that is largely focused on fitness/recreation and leisure time physical activity such as walking ranging from once a week to once a day.

Ages of interviewees ranged from the category "20-29" to the category of "60-69". Ninety percent of respondents were White, and the remainder identified as Hispanic/Latino. While all participants were traveling through the Hudson neighborhood, the majority did not live in the area. After conducting the interviews, researchers identified the strengths and weaknesses of the pedestrian experience in the Hudson neighborhood.

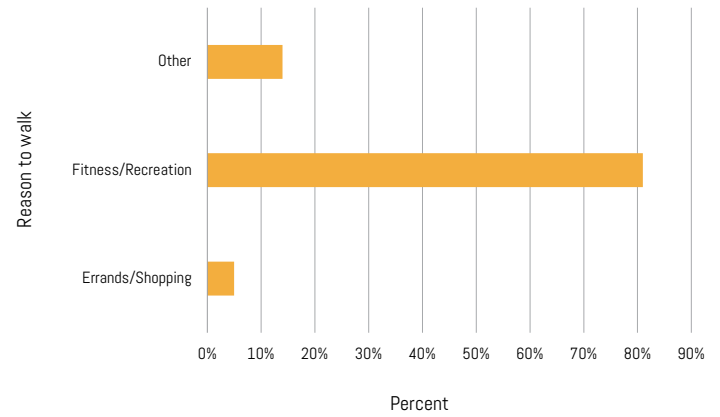
Key Strengths

Out of the 21 pedestrians interviewed, 81% were engaging in fitness/recreation activities when approached for an interview by researchers. Most of the interviewees were runners or walkers, wandering their neighborhood more commonly via the streets than using the sidewalks. One interviewee was walking her dog on her way to get groceries at Trader Joe's.

Table 9. Why are you walking today?

Responses	Count	Percent
Errands/Shopping	1	4.8%
Fitness/Recreation	17	81.0%
Other	3	14.3%
Total	21	100%

Chart 9. Why are you walking today?

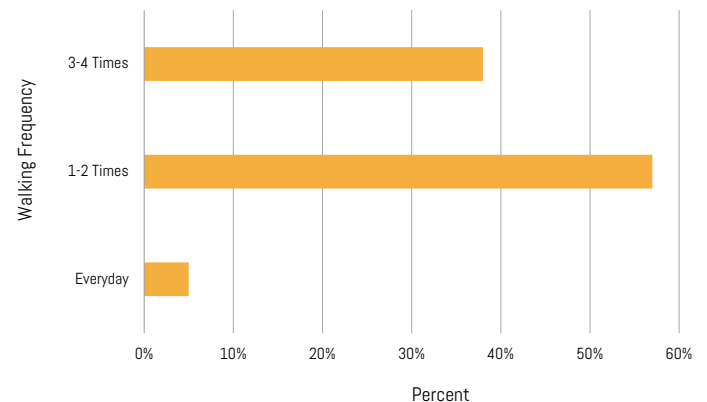


The majority of interviewees walk at least one to two times a week. The remaining respondents walk more often, ranging from three times a week to every day.

Table 10. How often do you walk in a typical week?

Responses	Count	Percent
Everyday	1	4.8%
1-2 Times	12	57.1%
3-4 Times	8	38.1%
Total	21	100%

Chart 10. How often do you walk in a typical week?

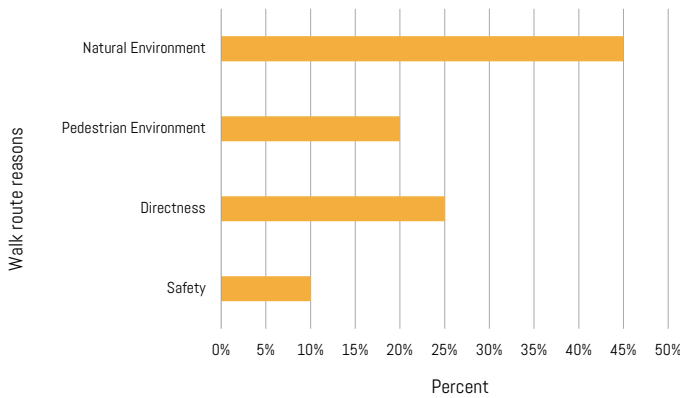


The table below reflects the various factors that affect how interviewees choose which routes to walk. Most pedestrians stated that the natural environment is the most significant factor to deciding where they chose to walk, 25% of respondents were more interested in the route's directness, 20% make their decision based on features in the pedestrian environment, and 10% choose their walking routes based on safety concerns.

Table 11. How do you choose which routes to walk?

Response	Count	Percent
Safety	2	10.0%
Directness	5	25.0%
Pedestrian Environment	4	20.0%
Natural Environment	9	45.0%
Total	20*	100%

Chart 11: How do you choose which routes to walk?



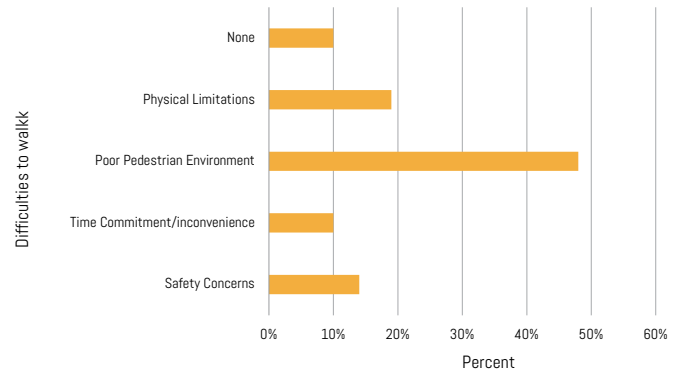
Key Strengths

When asked what issues make it difficult or unsafe for residents to walk, the most frequent answer was a criticism of the poor pedestrian environment in the Hudson neighborhood. These critiques ranged from comments about the narrow sidewalks that prompt pedestrians to walk istreets and poor lighting that reduces the visibility of pedestrians to overgrown yards that further reduce the size of the sidewalks.

Table12. Are there issue that make it difficult or unsafe for you to walk?

Response	Count	Percent
Safety Concerns	3	14.3%
Time Commitment/inconvenience	2	9.5%
Poor Pedestrian Environment	10	47.6%
Physical Limitations	4	19.0%
None	2	1.5%
Total	21	100%

Chart 12. Are there issue that make it difficult or unsafe for you to walk?

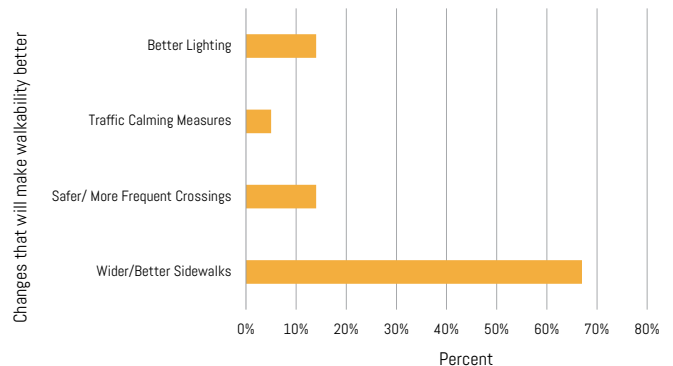


The majority of the interviewees recommended that wider sidewalks would make it easier and safer for pedestrians. Safer and more frequent crosswalks, better lighting, and traffic calming measures were also suggested.

Table 13. What change to the sidewalks or streets would make it easier or safer for you to walk more often?

Response	Percent
Wider/Better Sidewalks	66.7%
Safer/ More Frequent Crossings	14.3%
Traffic Calming Measures	4.8%
Better Lighting	14.3%
Total	100%

Chart 13. What change to the sidewalks or streets would make it easier or safer for you to walk more often?

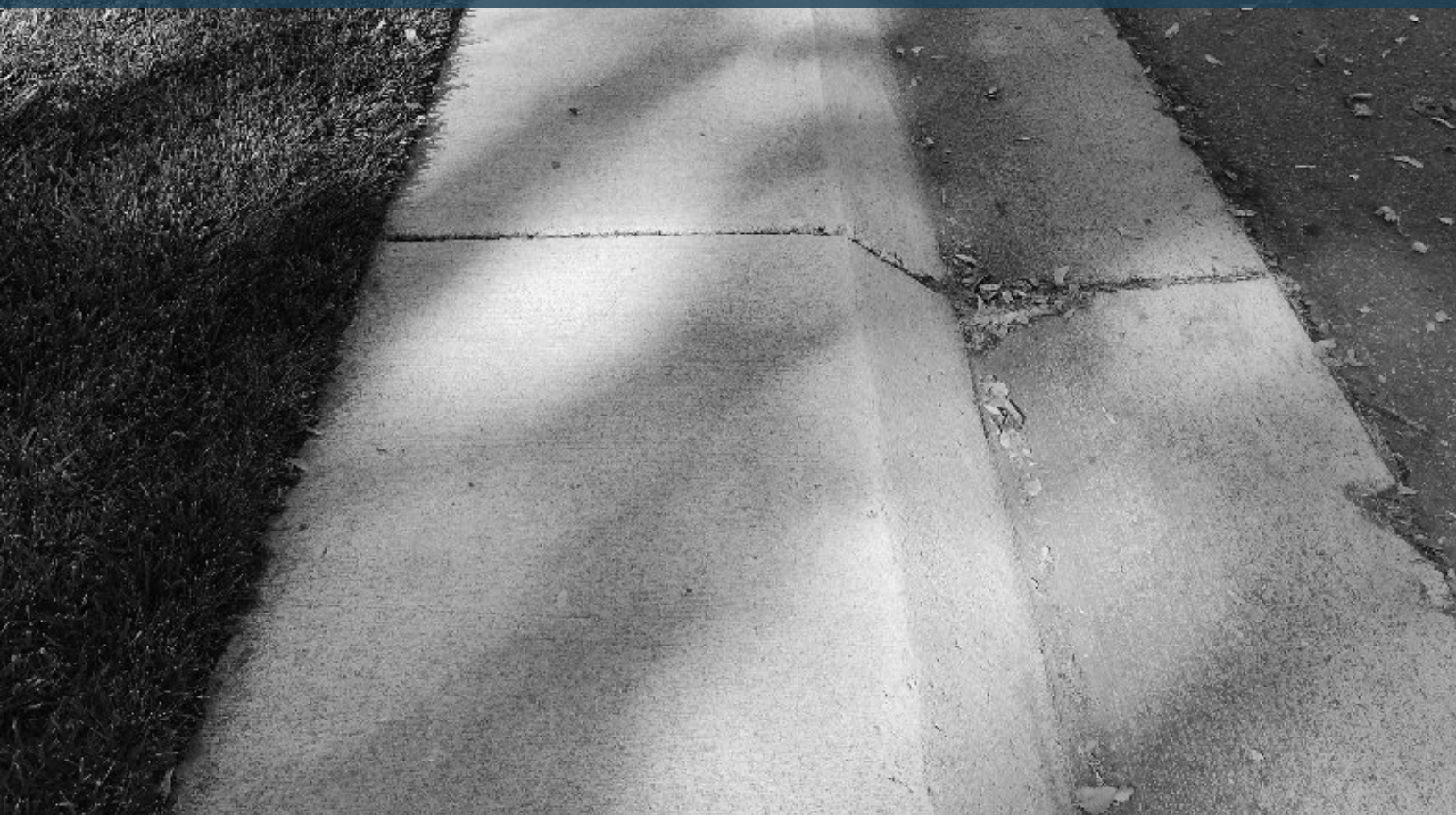


Walkability and audit intercept interview methodology critique

The two days Team Hudson conducted assessments, the weather was between the 50's and 60's and therefore, great days for doing assessments. The Friday night assessment was a good time to go out since there were a lot of resident's engaging in different activities around the neighborhood. Specifically for the WALKscope tool, Team Hudson would recommend that the tool allow users to see their location in real time to know where users are located on the map in relation to different streets and intersections. After conducting the windshield/walking surveys and the site investigation, these data collection efforts can help better understand a study area including how it feels, the barriers and incentives to walking at the physical environment level, and how residents behave due to the physical environment for social and physical purposes. If Team Hudson had to do the assessments all over again, the team would also split the surveys between all four team members instead of just having James and Rachel doing them. Bradyn and Valeria had the opportunity to survey residents during the walkability assessment, and pedestrian counts since a lot of residents were out and about. Lastly, asking residents in the area during the pilot test when residents are out in the neighborhood the most would have provided important insights to help determine the days and times team members could go out to do the intercept surveys.



GAPS ANALYSIS AND RECOMMENDATIONS



GAPS ANALYSIS AND RECOMMENDATIONS

Team Hudson evaluated the existing pedestrian infrastructure, access and connectivity, and the pedestrian experience in the immediate Hudson neighborhood and surrounding areas. General and specific gaps were identified for the area and are presented below. Based on these gaps, Team Hudson identified micro- and macro-recommendations which are also provided below.

EXISTING PEDESTRIAN INFRASTRUCTURE

Gaps

General Gaps

The following general pedestrian infrastructure gaps exist in the Hudson Study Area: roll-over curbs, small sidewalk widths, and poor quality of road surfaces and bus stops. Roll-over curbs were found on all sidewalks within the immediate Hudson study area allowing for parked cars to impede the sidewalks which further limit the amount of sidewalk space for pedestrian use. In addition, some sidewalks in the neighborhood are less than three feet. Interviewees reported that the narrow sidewalks served as a barrier to using the sidewalk because it causes them to walk or run in the street and suggested that wider sidewalks would make it easier and safer for them. The road surfaces at intersections along East 8th Avenue are of poor quality with cracks, bumps, and uneven surfaces that reduce safety for pedestrians trying to cross this road. The bus stops that are present along East 6th Avenue parkway are of poor quality, with only a stick in the ground indicating the bus stop number. Interviewees also suggested easier and more frequent crosswalks.

Specific Gaps

The information presented below provides specific area needs related to small sidewalk widths impeding pedestrians from using sidewalks, and poor-quality bus stops for WalkDenver to prioritize. All sidewalks in the immediate Hudson neighborhood have roll-over curbs. All of East 8th Avenue that spans the neighborhood boundaries from North Eudora to North Hudson streets includes a priority area where improvements need

to be made related to the quality of the surfaces for intersections along this road. Only one specific priority area with poor bus stop quality was found spanning East 6th Avenue Parkway between North Holly Street and North Eudora Street. However, this does include more than one bus stop. Additionally, priority areas where sidewalk widths are less than three feet are located on the following street segments:

- East 8th Avenue between Forest Street and North Glencoe Street
- East 8th Avenue between North Glencoe Street and North Grape Street



Exhibit 15: Sidewalk less than 3 feet roll-over curb

Recommendations

Micro Terms

In compliance with the National Association of City Transportation Officials Urban Street Design Guide, sidewalks should have a minimum pedestrian “through zone of six feet” (NACTO 40). Since the width of sidewalks on East 8th Avenue between Forest and North Grape streets are less than three feet wide, the Hudson Team recommends that WalkDenver prioritizes widening the sidewalk to reach the width suggestion of six feet, as listed in NACTO’s guidelines. Furthermore, since the sidewalk would be adjacent to moving traffic, the research team also suggests a minimum desired width of eight feet, which would include a “minimum two-foot buffer for street furniture and utilities” (Nacto 40). This buffer from adjacent traffic would increase pedestrian safety. The surface quality for intersections along East 8th Avenue should be improved by removing bumps, cracks, and uneven surfaces while also ensuring they are ADA compliant. Safe and accessible crosswalks at major intersections within the immediate Hudson neighborhood and those that connect the neighborhood to other places such as those along East 6th Avenue Parkway and East 8th Avenue should be installed. Sidewalks located in the immediate Hudson neighborhood should be extended to at least six feet, and straight curbs should be installed at a recommended height of 6-inches. This will help to reduce parked cars from impeding sidewalks and increase safety.

Macro Terms

As a whole, East 8th Avenue lacks sidewalks with widths of a minimum of six feet and buffers of two feet. The research team suggests WalkDenver increase pedestrian safety on East 8th Avenue by exploring options to widening the sidewalks and adding a buffer zone. Additionally, the Hudson Team noticed that small sidewalks, lack of sidewalks, and lack of buffers were problems throughout the Hudson neighborhood. While not prioritized as highly as East 8th Avenue and 6th Avenue Parkway, the Hudson Team suggests consideration throughout the whole Hudson neighborhood. Doing so would also help serve the unique needs of older adults

and people with disabilities living or traveling through the neighborhood and increase their overall walkability/wheelchair rolling.

During the site assessment, Team Hudson noticed the poor bus stop quality along East 6th Avenue Parkway. While NACTO recommends that “bus stops must have safe access via sidewalks and appropriate street crossing locations,” the bus stops along East 6th Avenue rarely satisfy this critical design feature (NACTO 63). In addition to the recommendations above, the Hudson Team also suggests the implementation of accessible landing pads, accessible shelters, and adequate lighting in order to “ensure personal safety and security” (NACTO 63).

Because we found that the Hudson Area is experiencing extremely low ridership when looking at means of transportation to work, the Hudson Team suggests that Walk Denver could use this opportunity to also incorporate art installations for the bus stops along 6th Avenue Parkway. Art installations have been shown to slow traffic which can help increase perceptions of safety for those walking along this road or for those accessing the bus stops. In addition, it can encourage the use of public transportation by making bus stops more interesting and engaging. In order to include these art installations, however, WalkDenver would need to work with RTD to instill public art into spaces and think about creative ways for gaining additional funds to do so. One funding mechanism could be to use the Section 5309 Bus and Bus Facilities “Ladders of Opportunity” Initiative Project from the Federal Transit Administration, which provides funding for constructing bus-related facilities. Although RTD has already earned a grant for increasing connectivity from this source, they could focus on enhancing bus stops in the future.

Source: National Association of City Transportation Officials. “Urban Street Design Guide.” Nacto.org, 2013, pdf

EXISTING PEDESTRIAN INFRASTRUCTURE

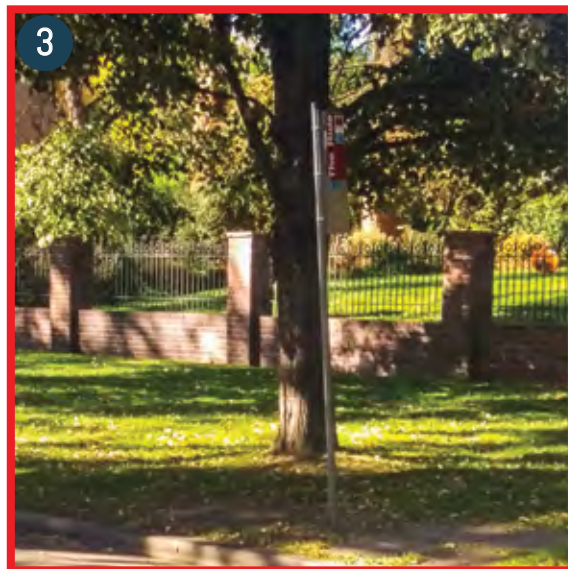
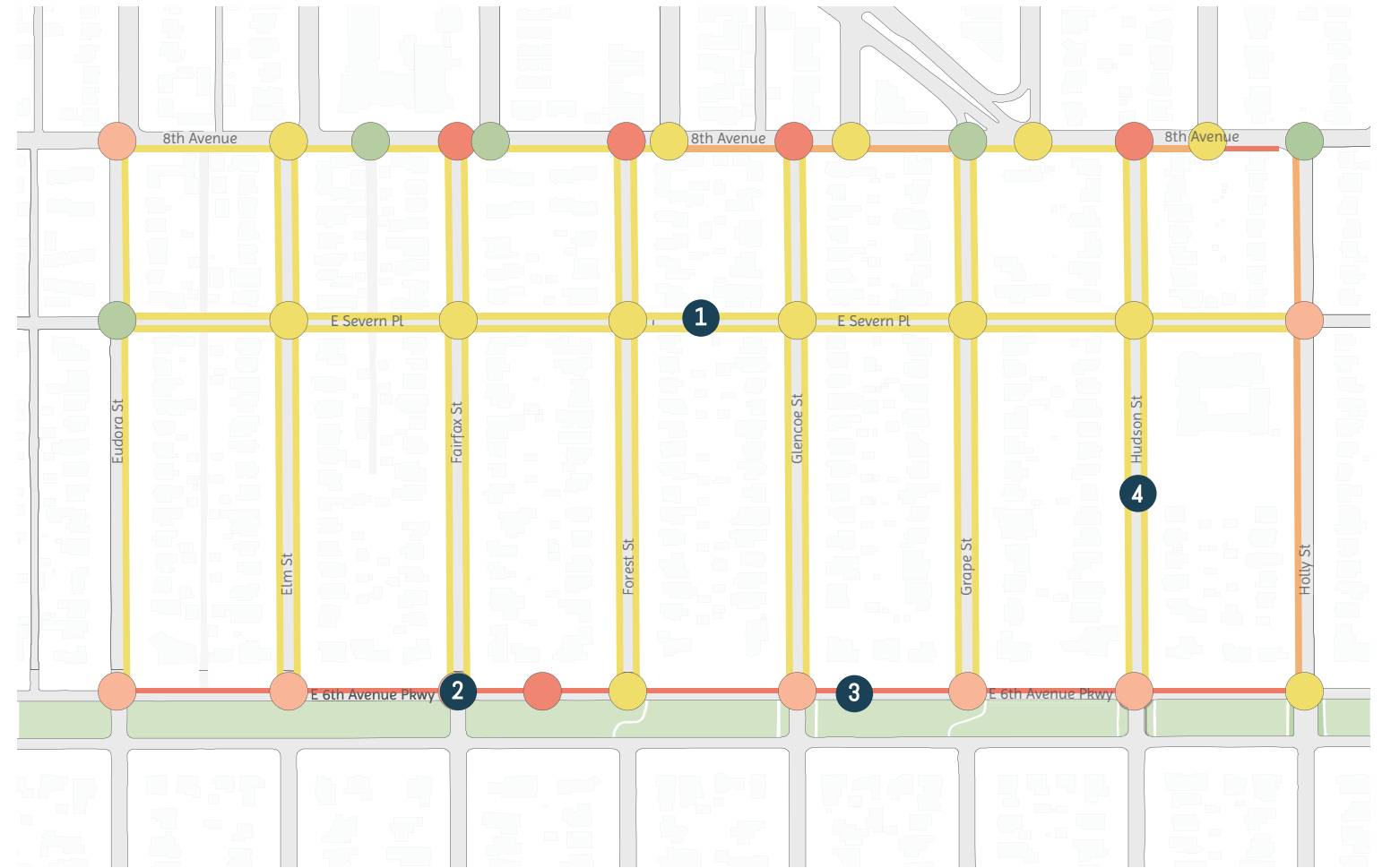
GAPS

- Roll-over curbs and small sidewalk widths (Less than 3 feet)
- No crosswalks on major intersections
- Poor quality of bus stops
- Parked cars impede the amount of space for pedestrian use



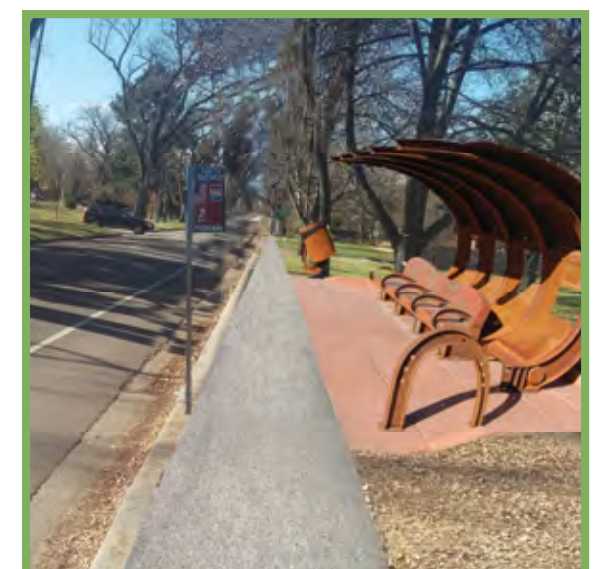
Overall Pedestrian Environment

- 4 (Highest) 3
- 2 1 (Lowest)



RECOMMENDATIONS

- New sidewalk widths width of six feet, as listed in NACTO's guidelines
- Improve bus stops with sidewalks and art installations



ACCESS AND CONNECTIVITY

Gaps

General Gaps

Missing pedestrian infrastructure in the Hudson study area includes the absence of sidewalks on East 6th Avenue Parkway, poor wayfinding, lack of connectivity between East 6th Avenue Parkway and the green space in the median on this road, and the absence of crosswalks. The lack of sidewalks on East 6th Avenue Parkway makes it difficult for pedestrians to walk to the bus stops located along the road and could limit the amount of people who ultimately decide to use the bus for transportation purposes. For regulatory items, there is no wayfinding on the regional bicycle route, D12 which runs through the neighborhood, and there are no pedestrian signals to cross East 6th Avenue Parkway to access the green space mentioned above or cross this parkway. The lack of connectivity and pedestrian signals to connect pedestrians from East 6th Avenue Parkway to the green space located on this road further induces safety concerns, and therefore, overall disinterest for pedestrians to actually use the green space. In addition, crosswalks are not present on the majority of the intersections in the Hudson neighborhood besides the two crosswalks on East 8th Avenue (between North Hudson Street and North Grape Street, and North Hudson Street and North Holly Street).



Exhibit 17: Sidewalk disconnection

Specific Gaps

The information presented below provides specific area needs related to the absence of sidewalks, lack of pedestrian connectivity, and poor wayfinding for WalkDenver to prioritize. There is only one priority area in need of pedestrian connectivity such as sidewalks, crosswalks, and signals for pedestrians to access the green space on East 6th Avenue Parkway and is located on East 6th Avenue Parkway between North Eudora Street and North Holly Street. In addition, there is only one priority area in need of pedestrian wayfinding for the regional bicycle route, D12, located on East Severn Place between North Eudora Street and North Holly Street. Other specific priority areas that are in need of sidewalks for pedestrians to better access bus stops are located on the following street segments:

- East 6th Avenue Parkway between North Holly Street and North Hudson Street
- East 6th Avenue Parkway between North Grape Street and North Forest Street
- East 6th Avenue Parkway between North Eudora Street and North Fairfax Street

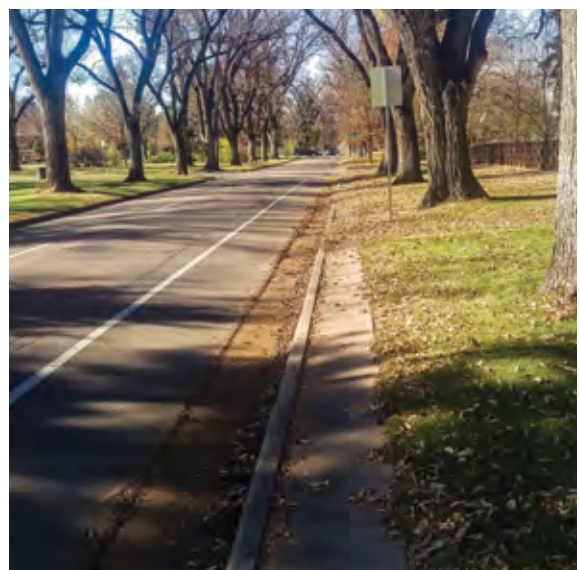


Exhibit 18: Absence of sidewalks

Recommendations

Micro Terms

Within the Hudson Neighborhood, East Severn Place is home to the regional bicycle route, D12. However, as Team Hudson has mentioned, East Severn Place is in need of pedestrian wayfinding to denote the expected presence of cyclists. Effective bicycle wayfinding markings should “reinforce route direction using shared-lane markings” (NACTO 99). Therefore, Team Hudson suggests the placement of shared lane markings or sharrows which are painted bicycle symbols to denote a shared road, along both directions of East Severn Place. The Hudson Team also suggests the addition of warning signage, such as modified shared street signs, in order to inform vehicular traffic of a potentially high cyclist population along East Severn Place (NACTO 26).

Macro Terms

Increasing pedestrian connectivity features on East 6th Avenue parkway would provide better access not only for the neighborhood of Hudson, but also for those utilizing the bus stops between Holly and Hudson streets, Grape and Forest streets, and Eudora and Fairfax streets. The Hudson Team suggests a key infrastructure project of increasing sidewalk presence, adding crosswalks, and activating East 6th Avenue parkway’s median.

NACTO’s Urban Street Design Guide states that in “accordance with ADA accessibility guidelines, sidewalks should be provided on all streets in urban areas” (NACTO 40). The Hudson Team suggests the development of sidewalks with an adequate width along East 6th Avenue Parkway. Not only would the sidewalks make the bus stops more accessible, but they’d also improve pedestrian connectivity across East 6th Avenue Parkway.

East 6th Avenue Parkway is a four-lane road divided by a median of green space. According to NACTO, this number of lanes in a road combined with the higher speeds and higher vehicular volumes due to a largely unsignalized road, makes “pedestrians feel more exposed and less safe entering the intersection” (NACTO 116). In order

to increase safety and connectivity, the Hudson Team suggests the development of crosswalks with actuated signalization at every intersection that completely intersects East 6th Avenue parkway’s median (NACTO 132). This would be where the parkway intersects with Eudora, Fairfax, Glencoe, Hudson, and Holly streets. Due to the fact that Elm, Forest, and Grape streets do not intersect through East 6th Avenue parkway’s green space, midblock crosswalks are suggested for pedestrians at those locations as well.

To improve connectivity between the median green space and the neighborhoods along 6th Avenue Parkway, we must first work to decrease speeds along the road. As noted in our previous section, the addition of art-based bus stations would serve as one way to help slow traffic speeds. We also recommend taking out one lane of traffic and adding a protected bicycle lane along East 6th Avenue Parkway. The far-right lane would be utilized as street parking, the protected bicycle lane would be in the middle, and the far left would remain a lane for cars. In addition, we suggest adding safe crosswalks, markings, and crossings at each street that intersects with East 6th Avenue Parkway. The addition of a protected bike lane, safe crosswalks and crossing, and bus stations with art installations would help to slow speeds along the parkway and increase connectivity and access to the median pedestrian island. It could also improve connectivity and ridership for bicyclists traveling between the regional bicycle route, D12 and this parkway.

The final recommendation regarding connectivity is encouraging WalkDenver to explore options that further modify the green space on 6th Avenue parkway into a pedestrian safety island. This includes a paved trail traversing the middle of the median, where a pedestrian-created dirt path currently lays. This will help to improve connectivity features along East 6th Avenue Parkway while also providing a safer pedestrian experience and increase walking behaviors.

Source: National Association of City Transportation Officials. “Urban Street Design Guide.” *Nacto.org*, 2013, pdf

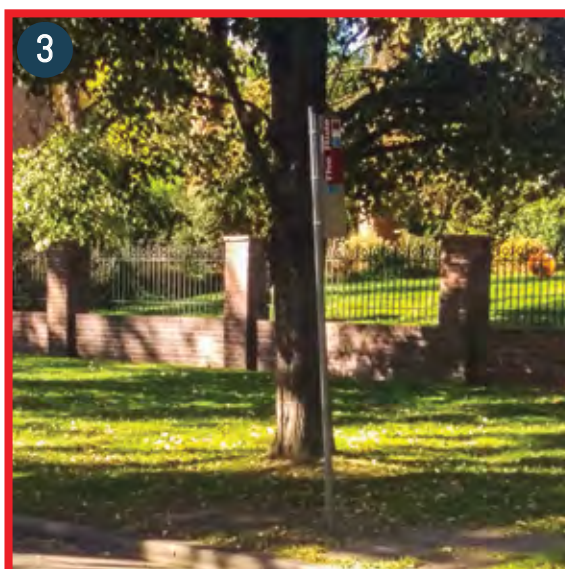
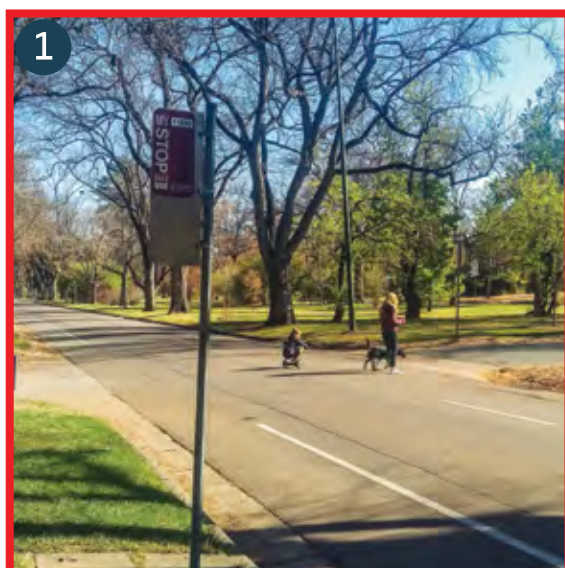
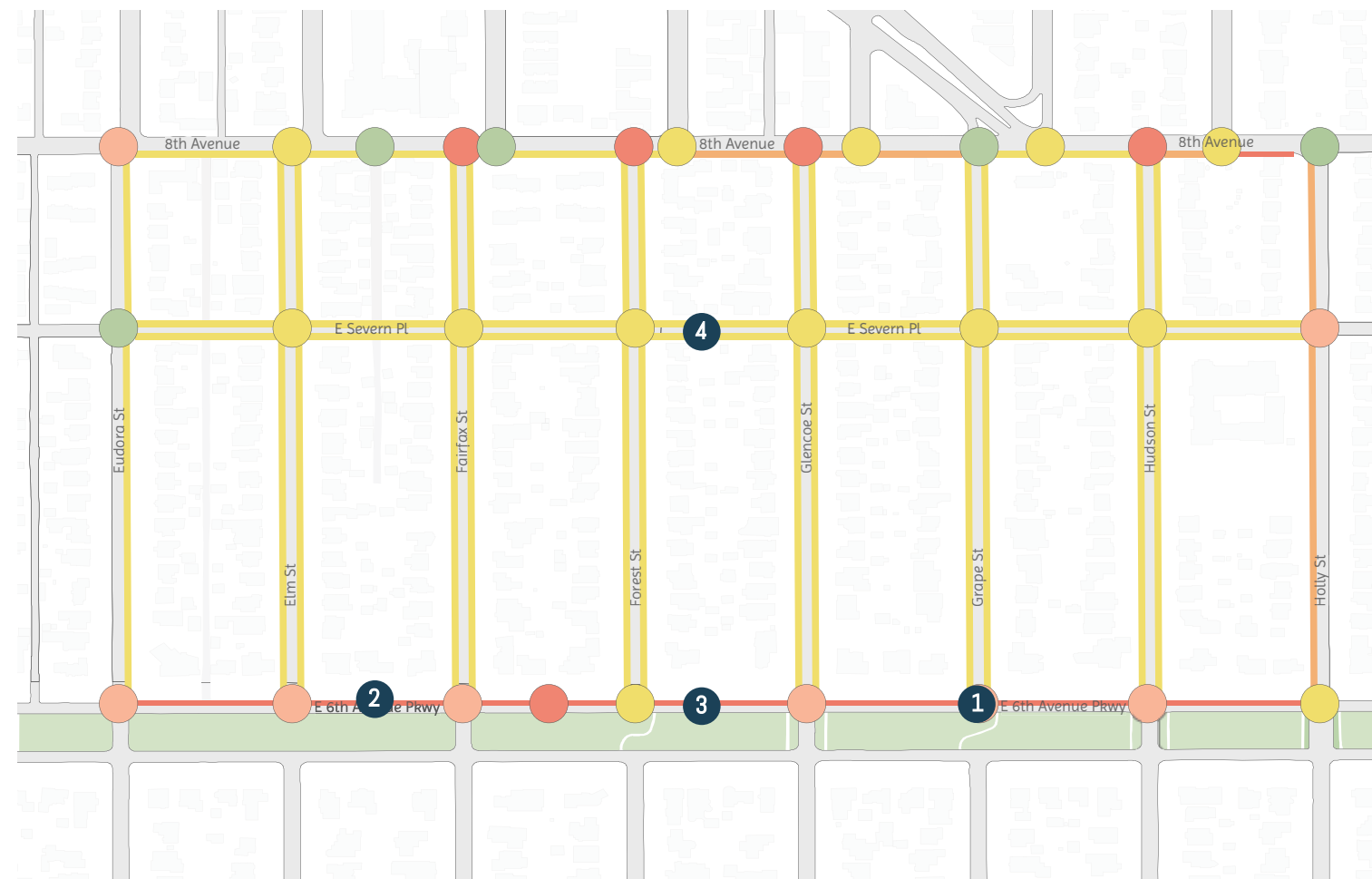
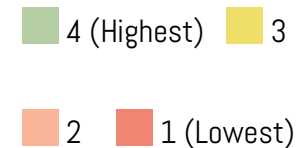
ACCESS AND CONNECTIVITY

GAPS

1. Absence of sidewalks on east 6th Avenue Parkway and lack of connection with the green space on this road
2. Lack of sidewalks makes it difficult for pedestrians to walk to the bus stop
3. There is no pedestrian signals to cross East 6th Avenue
4. No signs for D12 regional bicycle route



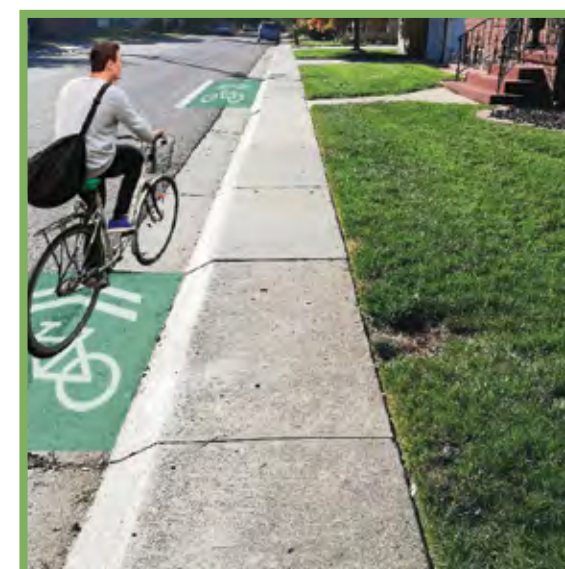
Overall Pedestrian Environment



RECOMMENDATIONS



- Placement of shared lane markings, such as painted bicycle symbols along both directions on East Severn Place
- Addition of warning signage, such as modified shared street sign
- Key infrastructure project of increasing sidewalk presence, adding crosswalks, and activating East 6th Avenue's median



PEDESTRIAN EXPERIENCE

Gaps

General Gaps

The pedestrian experience in the Hudson Study Area is diminished because of a few factors. Overgrown vegetation was noticed along East 8th Avenue, and North and interviews reported that this served as a barrier to using the sidewalks. Poor lighting is also present throughout the neighborhood, and interviewees stated this reduces the visibility of pedestrians and suggested having better lighting. No benches were observed in the neighborhood either.

Specific Gaps

Only one priority area was found where sidewalks had physical barriers such as trees and shrubs that impede pedestrians ability to use the sidewalks and is located on East 8th Avenue between North Hudson Street and North Holly Street.



Exhibit 20: Poor quality intersections

Recommendations

Micro Terms

As mentioned previously, Team Hudson recommends activating the green space median along East 6th Avenue Parkway. Activating this space positively impacts the pedestrian experience. Team Hudson invites WalkDenver to consider fostering a pedestrian-friendly space within the study area by providing more, as NACTO would say, “street furniture” (NACTO 26). Benches and bicycle parking should be placed along East 6th Avenue parkway’s median and at designated bus stops.

Macro Terms

NACTO states that “sidewalk design should go beyond the bare minimum in both width and amenities” and should provide sufficient lighting scaled to the pedestrian realm (NACTO 40). Throughout the neighborhood, the Hudson Team suggests that WalkDenver advocate for adequate lighting. Lighting affects the pedestrian’s perception of a safe environment, and during the team’s research, interviewees responded with comments about poor lighting within the Hudson neighborhood serving as a barrier to walking. Another way to improve the pedestrian environment and safety throughout the Hudson neighborhood would be to propose a policy that governs vegetation growth over sidewalks.

PEDESTRIAN EXPERIENCE

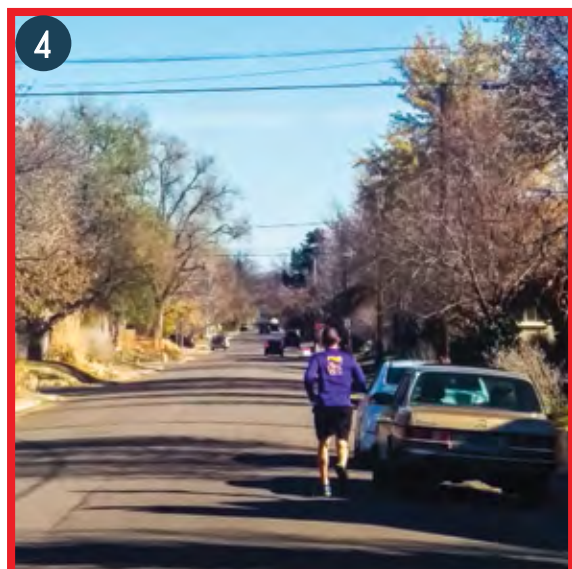
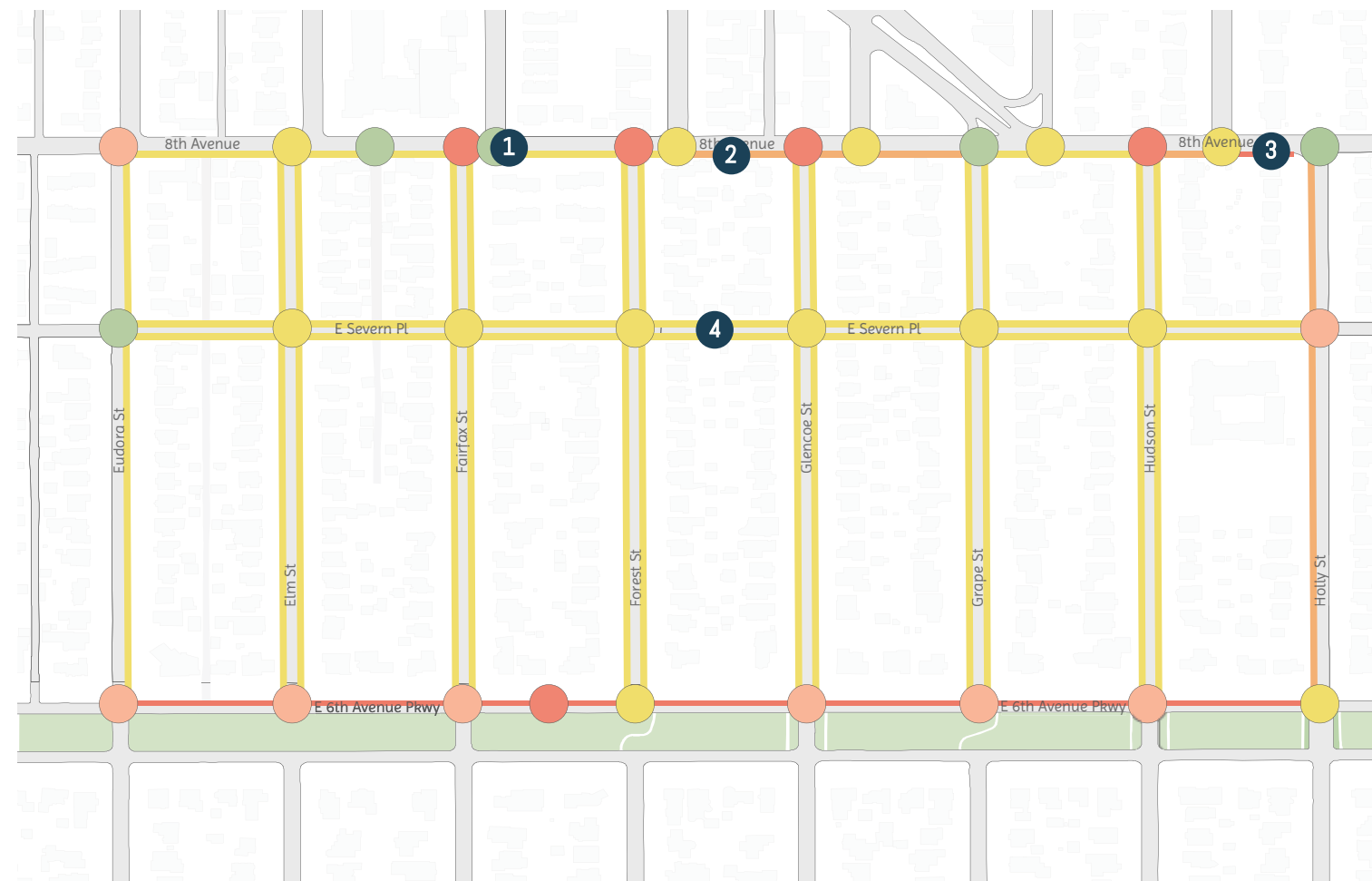
GAPS

- Pedestrian experience diminished
- Overgrown vegetation along east 8th Avenue
- Poor lighting and no benches
- Some trees but not many that gave shadows



Overall Pedestrian Environment

- 4 (Highest) 3
- 2 1 (Lowest)



RECOMMENDATIONS

- Activating the green space median along East 6th Avenue Parkway
- Provide more street furniture (benches and bicycle parking)
- Adequate lighting
- Policy that governs vegetation growth over sidewalks

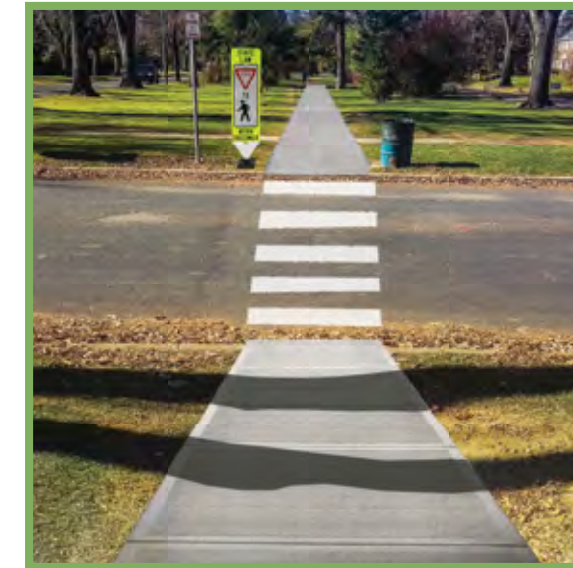
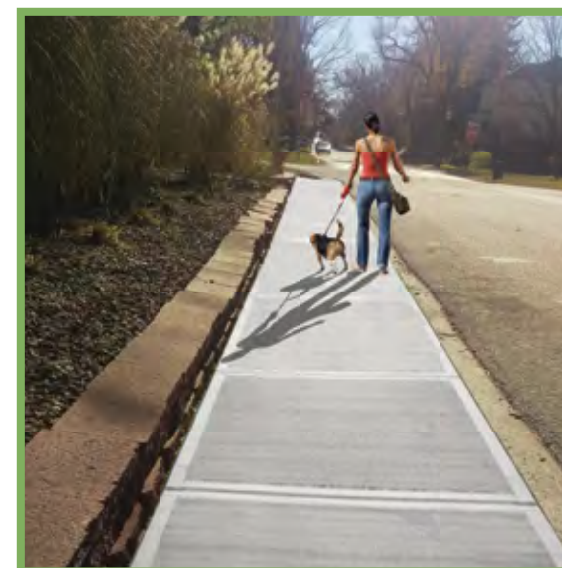


Exhibit 21: Pedestrian experience gaps and recommendations
WalkDenver 2018

Additional Recommendations

The majority of the recommendations provided above have focused specifically on policy changes and infrastructure improvements. However, to increase walking in this neighborhood for transportation and leisure purposes so that residents are utilizing new and existing infrastructure more, other neighborhood programs and initiatives could be included. In addition to these recommendations, WalkDenver could work with residents in Hudson and nearby neighborhoods to form supportive walking groups or discuss other programs they might be interested in. Walking groups have been shown to increase walkability while also providing residents an opportunity to meet new neighborhoods and enhance their sense of community. Residents could be appointed as Walking Ambassadors for their neighborhood to help build support for advocating for walking, engage with other residents on the importance of walking, and increase overall walking rates. Walking school buses can also serve as another way to increase walking behaviors, particularly among youth. Lastly, hosting neighborhood events and campaigns that support walking and promote new infrastructure improvements, can help build support and make the case for improved walkability in the neighborhood.

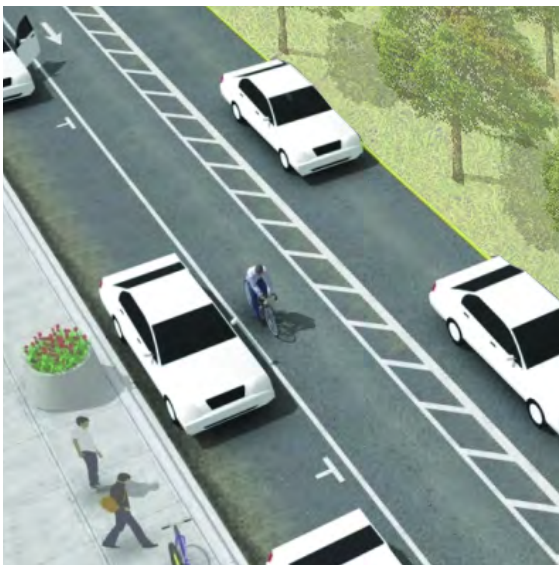


Exhibit 22: Proposal for East 6th Avenue Parkway bike lane

Overall Recommendations

Based on the gaps mentioned above, we recommend that WalkDenver first prioritize improvements along East 6th Avenue parkway including installing sidewalks; transforming the streetscape using a road diet; and improving bus stops by adding benches, public art, and overhead covers. This will help to increase connectivity for accessing the green space along the parkway and additional places from the Hudson neighborhood. Another key priority for WalkDenver would be to expand sidewalks that are less than five feet along East 8th Avenue so that widths are a total of eight feet. This would provide a two foot buffer between pedestrians and this busy road to help increase safety. We also suggest improving the quality of the roads along East 8th Avenue such as bumps, cracks, and uneven surfaces, to allow pedestrians and specifically those in wheelchairs to cross more safely. Lastly, sharrows and wayfinding could be installed in the neighborhood along the regional bicycle route, D12, to increase its usage and to help drivers prepare for the presence of bicyclists and reduce their speeds. Lower priorities consist of widening the sidewalks from three feet to six feet in the immediate Hudson neighborhood; and activating the green space along this parkway by adding benches, a sidewalk to serve as a pedestrian walkway, and bike parking. Other recommendations include improving lighting and policies around vegetation growth that will help enhance the pedestrian experience. Lastly, additional programs and initiatives, such as walking groups and walking school buses, can also help support overall walkability for the neighborhood.



CONCLUSION



Conclusion

When comparing demographic data for the Hudson neighborhood to that of Denver County as a whole, the Hudson neighborhood has a higher percentage of residents who are between the ages of 25 to 75 years old, identify as White and Not Hispanic or Latino, have higher education and income levels, and report carpooling to work and working from home. However, there were no respondents in the Hudson neighborhood who reported walking to work.

The WALKscope tool and intercept surveys allowed Team Hudson to better understand the walkability of the neighborhood in addition to the demographic data retrieved. Using these data collection methods, Team Hudson was able to identify gaps and provide recommendations for WalkDenver to help inform future projects related to walkability. After using the WALKscope tool to rate each sidewalk in the neighborhood, an average total score of three was found on a scale from one being the worst to five being the best. Key strengths in the neighborhood identified by the Hudson Team included: flat, smooth, connected, and continuous sidewalks present on the majority of streets; cars traveling at slow speeds; and shade and pleasing aesthetics such as shade, green grass, plants, flowers, shrubs, and gardens. A few key weaknesses for the area included: small width of sidewalks, roll-over curbs for parked cars and shrubs to impede sidewalks, the absence of buffers between the sidewalk and a busy road along 8th Avenue, and the absence of sidewalks on East 6th Avenue Parkway. Based on the intercept interviews, the majority were engaging in fitness/recreation activities, using the sidewalks more than the streets, and reported walking at least one time a week with some reporting walking every day. In addition, the most significant factor for deciding where they chose to walk was the natural environment. However, residents felt that poor lighting and narrow sidewalks made it difficult or unsafe for them to walk.

Based on these findings, Team Hudson recommends that WalkDenver prioritize improvements along East 6th Avenue parkway such as installing sidewalks, adding street lighting to the immediate Hudson neighborhood, expanding the width of the sidewalks to eight feet along East 8th Avenue, and adding sharrows and wayfinding to the regional bicycle route, D12, to improve connectivity, perceptions and real levels of safety, and increase walkability. As residents living in the Hudson neighborhood age, and because there may be a high population of older adults already living in the area who are choosing to age in place, walkability is and will continue to be important for maintaining access to essential services and daily living activities for older adults currently living in the neighborhood and for those that choose to stay long-term.

Work Cited

- City and County of Denver. "Denver Data Catalog."
<https://www.denvergov.org/opendata>. Accessed September 18, 2018
- Denver Regional Council of Governments. "Regional Data Catalog."
<https://data.drcog.org/>. Accessed September 18, 2018.
- National Association of City Transportation Officials. "Urban Street Design Guide." Nacto.org, 2013, pdf
- Oak Park. Madison Street goes on a road diet. <http://www.oakpark.com/News/Articles/10-30-2018/Madison-Street-goes-on-road-diet/>. Accessed December 8, 2018
- Regional Transportation District. "Open Data."
<http://www.rtd-denver.com/Developer.shtml>. Accessed September 18, 2018.
- South Mountain Studios. Public Art Projects. <http://www.southmountainstudios.com/sculpture/public-art-projects.htm>. Accessed November 30, 2018
- United States Census Bureau. "Educational Attainment for the Population 25 Years and Over 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B15003&prodType=table. Accessed September 18, 2018.
- United States Census Bureau. "Educational Attainment for the Population 25 Years and Over 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B15003&prodType=table. Accessed September 18, 2018.
- United States Census Bureau. "Hispanic or Latino Origin 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B03003&prodType=table. Accessed September 18, 2018.
- United States Census Bureau. "Hispanic or Latino Origin 2012-2016 American Community Survey 5-Year Estimates." American FactFinder https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B03003&prodType=table. Accessed September 18, 2018.
- United States Census Bureau. "Household Income in the Past 12 Months in 2016 Inflation-Adjusted Dollars 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B19001&prodType=table. Accessed September 18, 2018.
- United States Census Bureau. "Household Income in the Past 12 Months in 2016 Inflation-Adjusted Dollars 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B19001&prodType=table.

Accessed September 18, 2018.

United States Census Bureau. "Means of Transportation to Work 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B08301&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Means of Transportation to Work 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.zxhm?pid=ACS_16_5YR_08301&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Race 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B02001&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Race 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B02001&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Sex by Age 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B01001&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Sex by Age 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B01001&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Tenure 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B25003&prodType=table. Accessed September 18, 2018.

United States Census Bureau. "Tenure 2012-2016 American Community Survey 5-Year Estimates." American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B25003&prodType=table. Accessed September 18, 2018.

Walk Denver. "About WalkDenver." www.walkdenver.org/about-walkdenver/