

HARVEY PARK & HARVEY PARK SOUTH

Bus Stop Assessments and Existing Conditions Report

URPL 5010 | Fall 2019 | Kellsie Forfar-Jones, Paige Johnson, Jasmen Macdonald, Bronte Murrell





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HARVEY PARK & HARVEY PARK SOUTH



1.1 PROJECT INTRODUCTION

Introduction to *Denver Moves: Transit*

In August of 2016, the City and County of Denver (CCD) began the planning process to develop a transit system that would better support the city's rapidly growing population. This planning initiative, titled *Denver Moves: Transit*, included a two-year period of research to assess the conditions and needs of the city's public transit network. This research included a market assessment, a report outlining the current state of Denver's transit system, projections of potential future land uses, and transit needs, an evaluation of the city's transit corridors, and ongoing public engagement (*Denver Moves: Transit*, 1-11).

The conclusions for these efforts were published in the *Denver Moves: Transit Plan*, which outlines five key "big moves" towards a transit-oriented Denver (*Denver Moves: Transit*, 3-2):

1. Implement high-quality and reliable transit
2. Provide frequent service
3. Improve access and connections to transit
4. Build a sense of place
5. Make the most of our investments



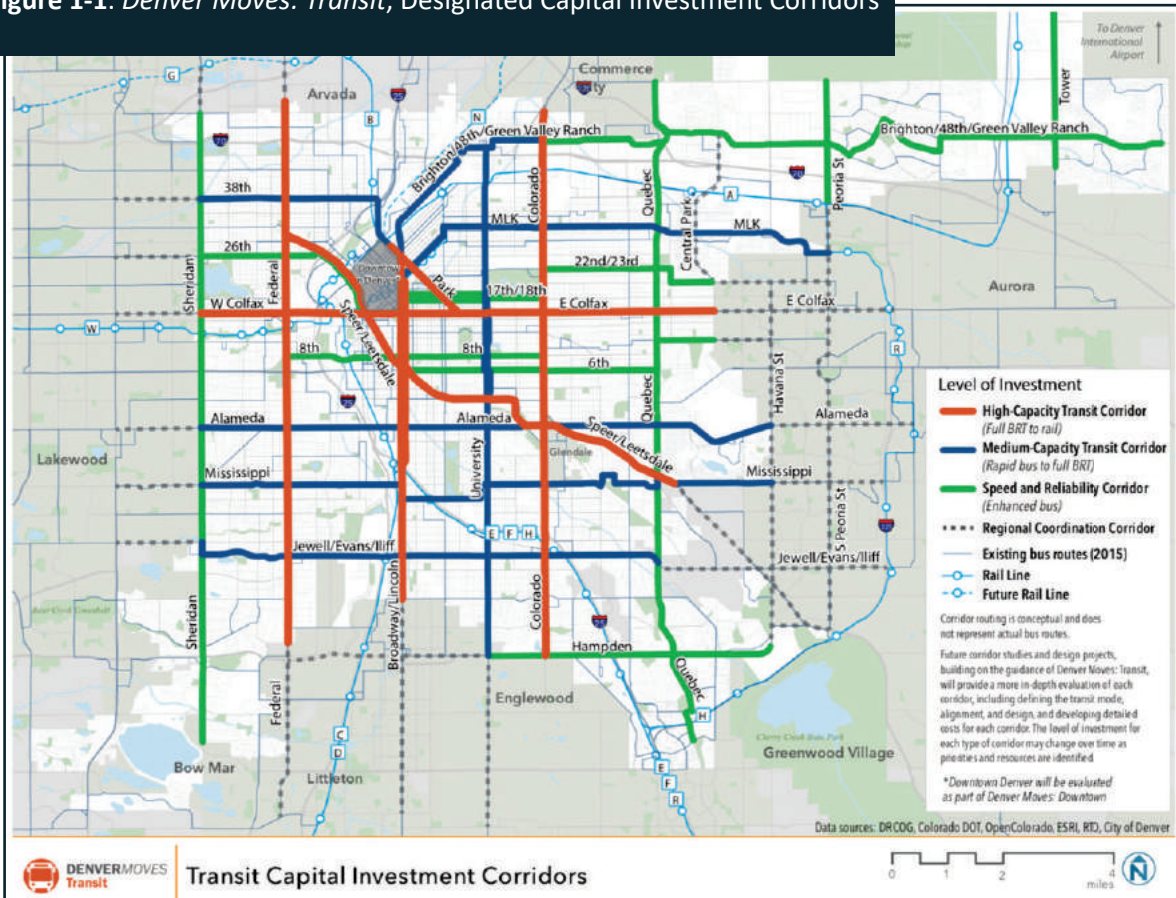


As of 2019, some of the projects included in Denver Moves: Transit are already underway, including the planning and design of Bus Rapid Transit Colfax, transit improvements on Lincoln and Broadway, improvements to some of CCD's essential corridors to increase the speed and reliability of transit, and efforts to strengthen CCD's partnership with the Regional Transportation District (RTD). As the city moves forward with implementing other components of the plan, the costs of individual projects, the ability of the city to acquire funding, and the establishment of partnerships with other Denver programs and agencies will influence which projects will be executed next (*Denver Moves: Transit Plan*, 1-11, 4-9).

Project Overview

As part of the goal to provide Denver with high-quality and reliable transit, CCD plans to upgrade transit stops and stations to ensure that they are both safe and accommodating (*Denver Moves: Transit Plan*, 3-7). Before these improvements can be made to transit stops and stations, however, their current conditions must be documented. To date, neither CCD nor RTD possesses or maintains a database documenting conditions and available amenities that are present at the over 2,000 bus stops utilized by transit riders across the city. CCD is currently working with Denver Public Works, Denver Public Health and Environment, and Colorado-based planning firm Felsburg Holt & Ullevig to survey bus stops within Denver (Schroepel, 1).

Figure 1-1. Denver Moves: Transit, Designated Capital Investment Corridors



Source: *Denver Moves: Street Guide*, p. D-4



To assist in the city's efforts to survey these bus stops, Planning Methods students at the University of Colorado Denver will be responsible for documenting the conditions at bus stops along a portion of Federal Boulevard. At 9.5 miles long, Federal is one of five roads in Denver marked as a High-Capacity Transit Corridor, as seen above in Figure 1-1. With this designation, transit stations along Federal are planned and expected to have premium amenities, including art, well-marked pedestrian crossings, real-time information displays, lighting and security, and many others. (*Denver Moves: Street Guide*, p. D-54). Students will record the conditions of existing bus stop amenities and will conduct interviews with riders to better understand preferences of users and the needs and usages of various stops (Schroepfel, p. 1)

The Planning Methods course is a core course taken primarily by students in the process of obtaining a Master's in Urban and Regional Planning (MURP) degree at the University of Colorado College of Architecture and Planning. This course aims to teach and refine skills related to data collection, communication, and analysis within a professional planning context. To this end, the projects and reports detailing Federal Boulevard's major transit stop conditions and amenities both assists students in learning these skills and benefits the client's goals and needs outlined in *Denver Moves: Transit*. For the purpose of effective data collection, the course personnel were split into smaller sub-groups, containing approximately four students each, whose goals were to evaluate the bus stops and surrounding spaces of smaller areas, typically split up by neighborhood(s). The report to follow was compiled by Kelsie Forfar-Jones, Paige Johnson, Jasmen Macdonald, and Bronte Murrell and details the conditions found in the Harvey Park and Harvey Park South neighborhoods in Denver.

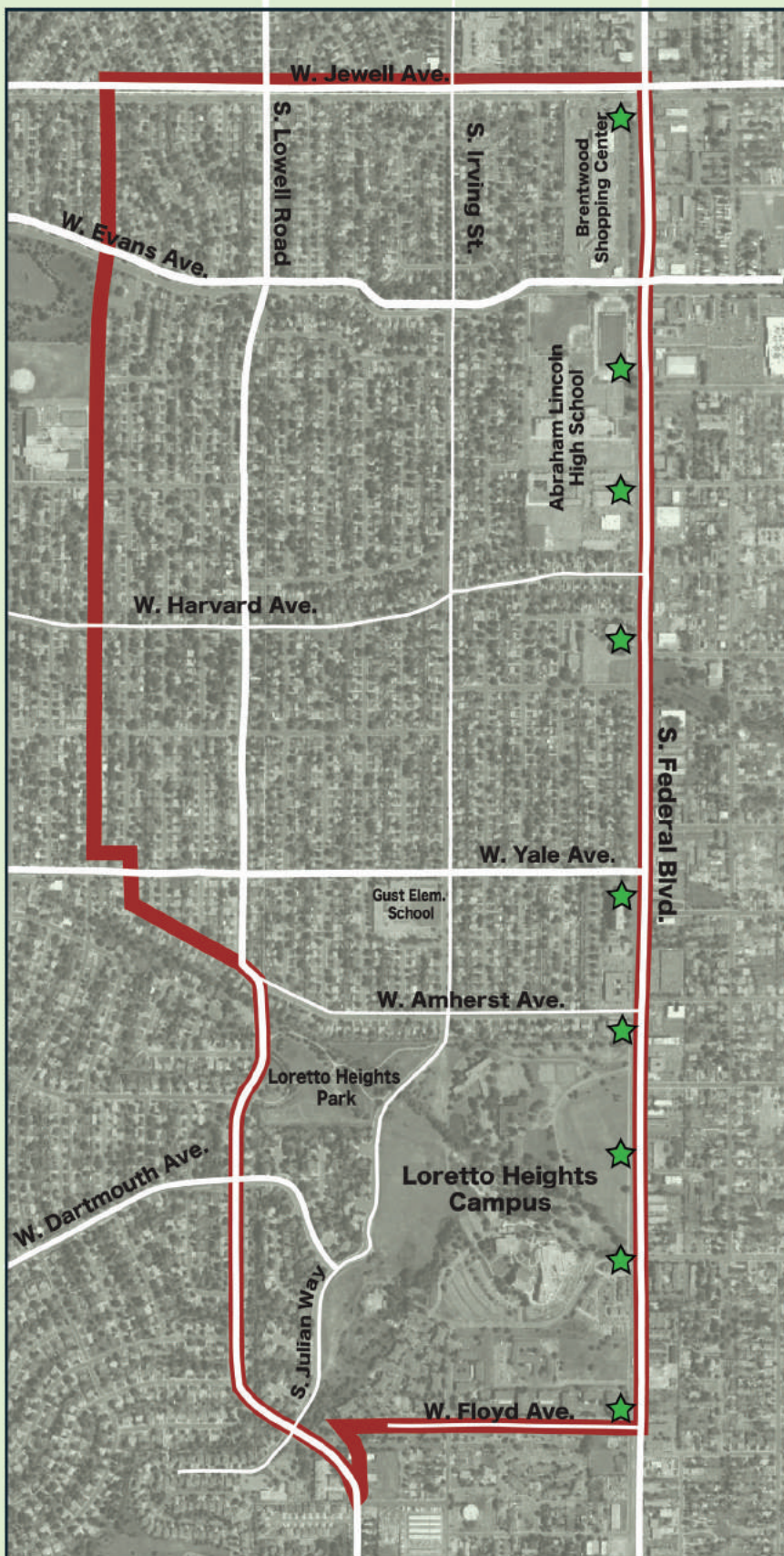
The Harvey Park and Harvey Park South study area, as defined for this project, is located in far southwestern Denver, as seen below in Exhibit 1-1. The area encompasses seven Census Tract - Block Groups (46.03-1, 46.03-2, 46.03-3, 46.03-4, 46.03-5, 157-1, and 157-4) and is bordered to the east by Federal Boulevard (which contains bus stops of interest for existing conditions), to the south by West Floyd Avenue, to the west by South Lowell Boulevard and South Patton Court, and to the north by West Jewell Avenue, shown below in Exhibits 1-2 and 1-3.

The following report aims to provide information within the confines of these boundaries regarding the demographic profile of the Harvey Park study area (Section A-2), as well as the land use, transportation make-up, and urban fabric present there (Section A-3). Information was gathered for this report using American Community Survey (2017 ACS 5-year estimates) datasets, the DenverGov.org "Open Data Catalog" and "Denver Maps" online sources, RTD's online mapping data, real estate listings and information, and in-person observations made on-site in Harvey Park.




Exhibit 1-1. Harvey Park and Harvey Park South study area displayed contextually within the larger Denver area



Harvey Park and Harvey Park South Study Area Detail Map

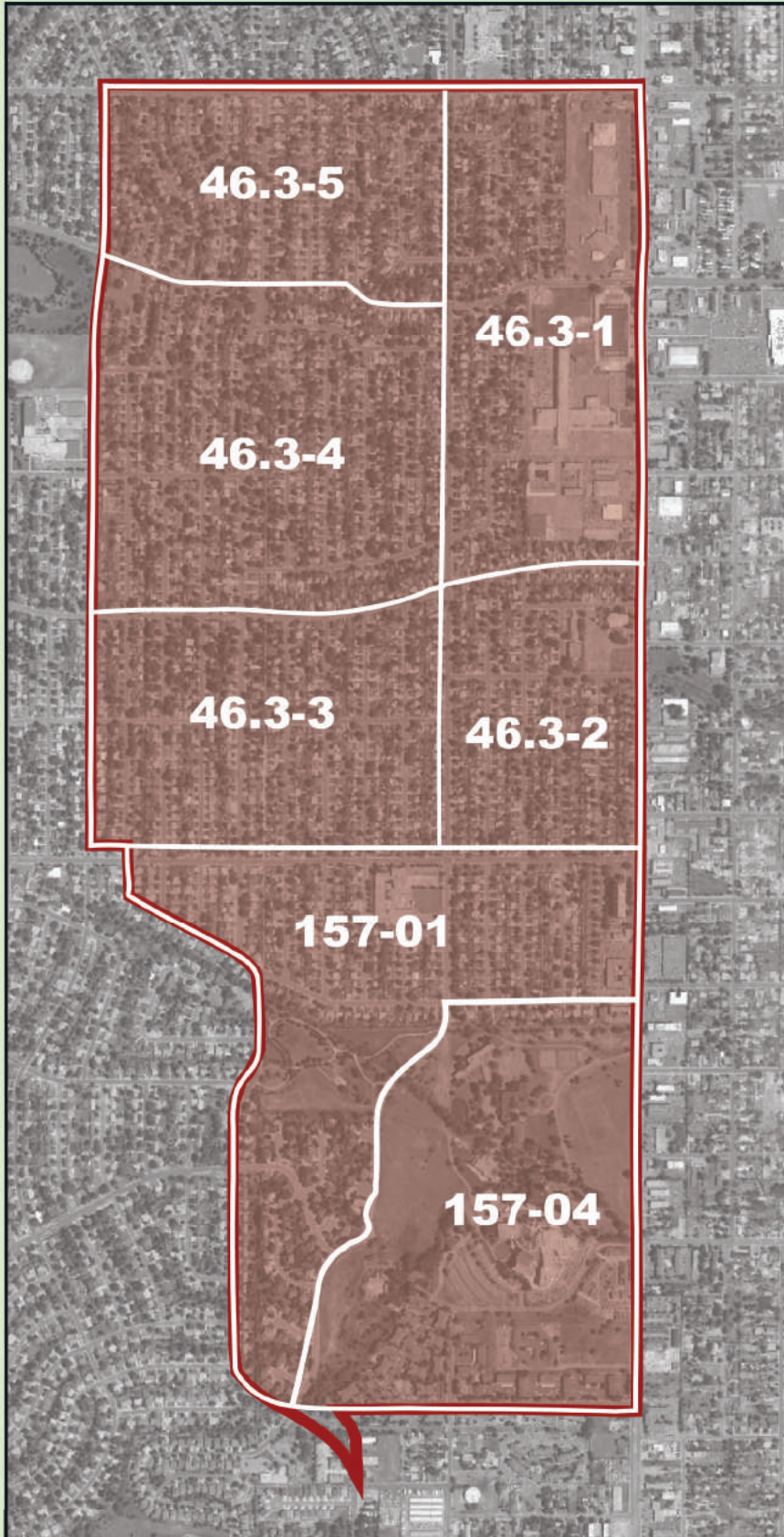


Legend



-  Study Area Boundary
-  Major Street
-  Bus Stop Included in Study

Base map sourced from Google Earth.
Bus stop locations sourced from
ArcGIS.com "RTD System Map."
Map created by Bronte Murrell.

Harvey Park and Harvey Park South Study Area Census Block Group Map



Legend

-  Study Area Boundary
-  Census Block Group Boundary

Base map sourced from Google Earth.
Census data sourced from Denver Open
Data Catalog “Census Block Groups (2010).”

Map created by Bronte Murrell.



1.2 DEMOGRAPHIC PROFILE



Overview

In order to understand the context in which the Harvey Park transit stops exist, it is important to understand the population and household attributes of the study area, as well as how those attributes compare to the City and County of Denver as a whole. These demographic characteristics are useful tools for understanding relationships between the populations and demographics present in the neighborhood, as well as the broader transit ridership and walkability of the area as a whole (Schroepfel, 6). To broadly assess the demographics of Harvey Park individually, four datasets representative of population and housing demographics were pulled from the American Community Survey “American FactFinder” on the Census Bureau website. Data was compiled on rent-to-own homes, housing values, age of individuals residing in the study area, and the means of transportation to work. All datasets were assessed individually within the context of the Harvey Park neighborhood, as well as compared to all of Denver county.





ACS Datasets



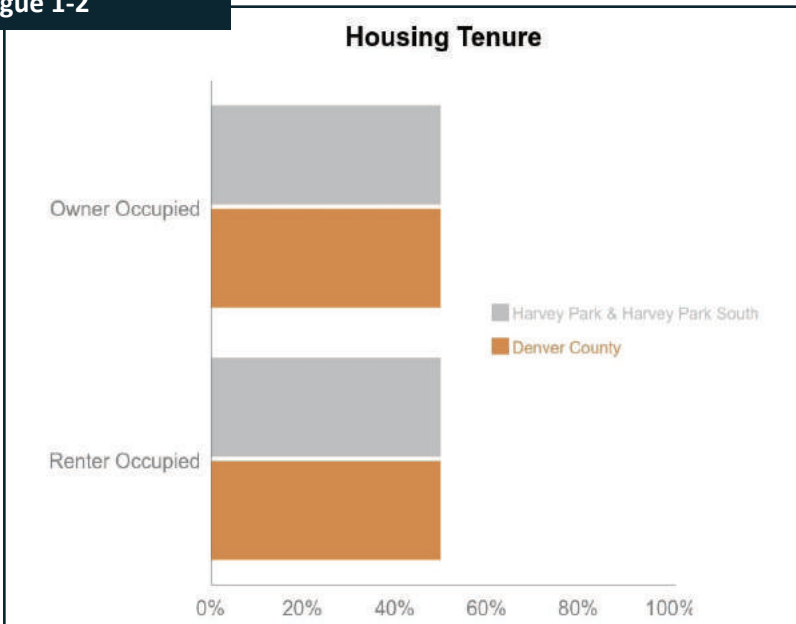
Renter/Owner Occupied Housing

Overall homeownership trends of the study area were compared to the trends of Denver County and the number of owner-occupied versus renter-occupied properties were considered, as shown in Table 1 below. Bearing in mind the data in Table 1-1 for the study area alone, it is notable that total shares of renter- and owner-occupied households is roughly 50 percent each, with 1,644 households occupied by owners and 1,667 households occupied by renters. When comparing Harvey Park’s figures to Denver County, the study area’s distribution of renter- and owner-occupied households almost identical to figures seen city-wide, a trend that can be further visualized in Figure 1-2, below.

Table 1-1

Housing Tenure for Harvey Park & Harvey Park South vs Denver County				
	Harvey Park & Harvey Park South		Denver County	
Owner occupied	1,644	50%	143,874	50%
Renter occupied	1,667	50%	143,388	50%
Total	3,311	100%	287,262	100%

Figure 1-2





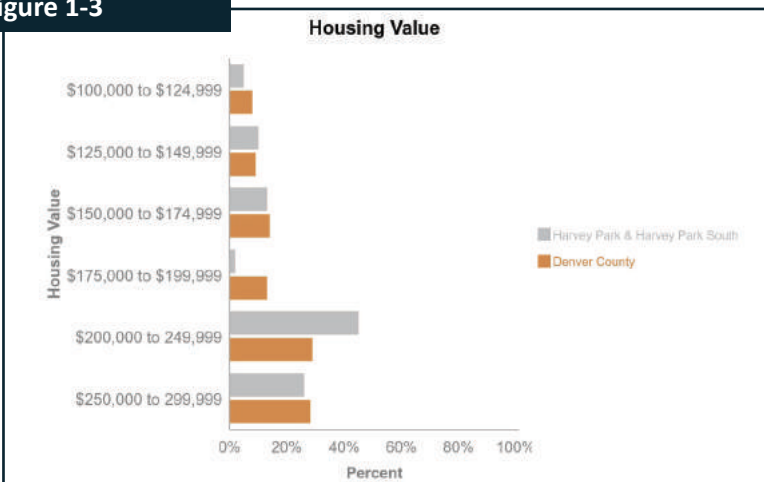
\$ Housing Values

Housing values in the study area were considered as an important factor to consider in order to understand the respresented demographics in the neighborhood. A range of housing values, from \$100,000 to \$299,999, were considered. Many home values in the study area are within the range of \$200,000 to \$249,999, with a total of 591 homes, closely followed by a range of \$250,000 to \$299,999. Interesting to note is block group 157-4, which has zero homes with values under \$250,000 and 37 homes in the \$250,000 to \$299,999 range (not pictured). This census tract block group, as seen above in Exhibit 1-3, includes the Loretto Heights Campus on the south border of the study area which may be reflected in these values. This information is important to consider in context when compared to home values in all of Denver County, shown below in Table 1-2 and Figure 1-3. In Denver County, the typical home value is significantly higher than the typical values in Harvey Park, with the highest count of homes in Denver County being valued at between \$300,000 to \$499,999. This is interesting in the context of Harvey Park as home values continue to climb in many parts of the city but many prices in the study area remain under the area average home price.

Table 1-2

Housing Values for Harvy Park & Harvey Park South vs Denver County				
	Harvey Park & Harvey Park South		Denver County	
\$100,000 to \$124,999	61	5%	4,442	8%
\$125,000 to \$149,999	132	10%	5,218	9%
\$150,000 to \$174,999	169	13%	8,071	14%
\$175,000 to \$199,999	23	2%	7,400	13%
\$200,000 to \$249,999	591	45%	16,938	29%
\$250,000 to \$299,999	349	26%	16,108	28%
Total	1,325	100%	58,177	100%

Figure 1-3





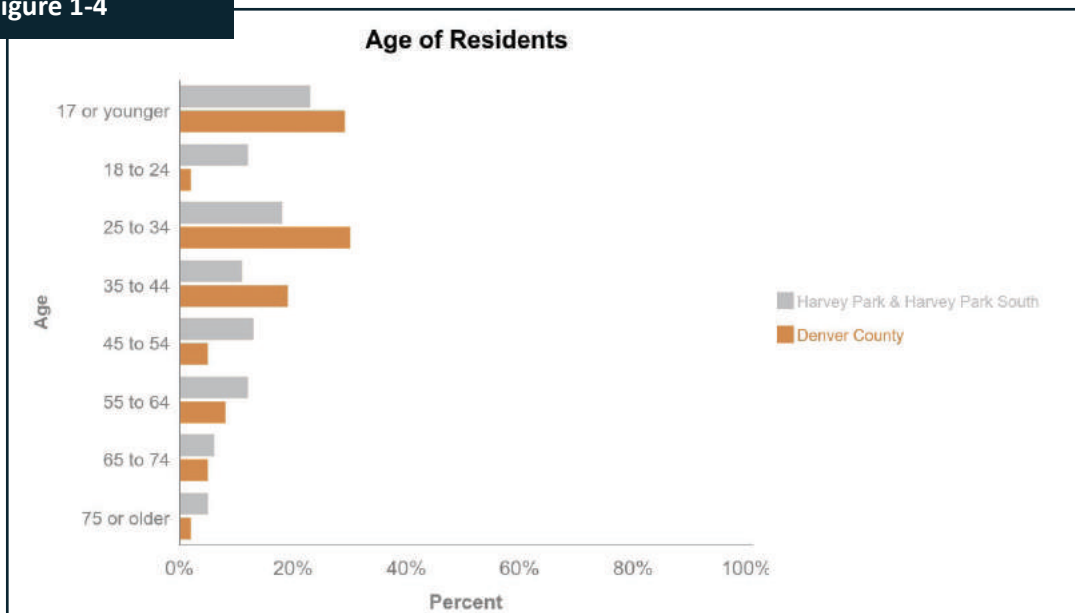
Age of Individuals Residing in Area

Ages of Harvey Park and Harvey Park South residents was looked at in comparison to Denver County as a whole, shown in Table 1-3 below. Although there are a few minor variations in populations of each age group between the study area and Denver County, the average distribution of ages is similar. This can be visualized below in Figure 1-4. Also notable in Harvey Park is the share of the population 17 years of age and younger. In Denver County over 50% of the population is made up of minors, however in the Harvey Park study area, minors make up just under 25% of the population, accounting for less than half of the share of Denver’s population of minors.

Table 1-3

<u>Age of Individuals Residing in Harvey Park and Harvey Park South vs Denver County</u>				
	<u>Harvey Park & Harvey Park South</u>		<u>Denver County</u>	
17 or younger	1,834	23%	240	29%
18 to 24	946	12%	18	2%
25 to 34	1,403	18%	252	30%
35 to 44	831	11%	158	19%
45 to 54	1,044	13%	45	5%
55 to 64	954	12%	66	8%
65 to 74	487	6%	44	5%
75 or older	380	5%	18	2%
Total	7,879	100%	841	100%

Figure 1-4





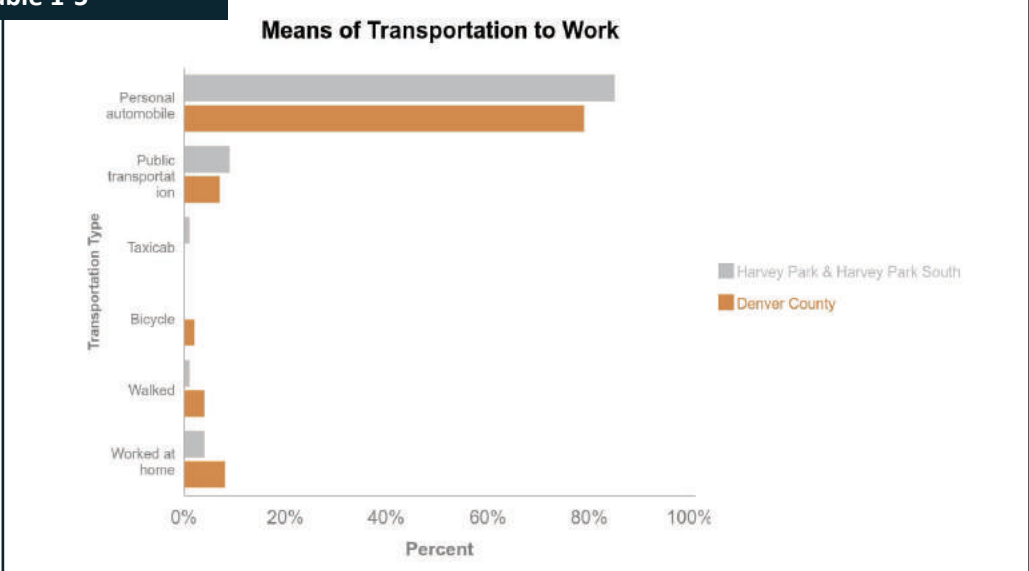
Means of Transportation to Work

When considering demographic implications on transit usage and walkability, it is important to consider the means of transportation to work compared to the City overall. In the Harvey Park study area alone, it is notable that there is an absence of individuals who bike to work, seen below in Table 1-4 and Figure 1-5. Further, most people in the Harvey Park study area and within Denver County use personal automobiles to get to work. The amount of people who use alternative means of transportation in Denver overall, however, is higher than in Harvey Park but the share of people who use public transportation in Harvey Park is higher than in Denver overall, supporting efforts to improve transit access and experiences in this area.

Table 1-4

Means of Transportation to Work for Harvey Park and Harvey Park South vs Denver County				
	Harvey Park & Harvey Park South		Denver County	
Personal Automobile	3,638	85%	286,512	79%
Public transportation	383	9%	24,960	7%
Taxicab	40	1%	597	0%
Bicycle	0	0%	8,081	2%
Walked	57	1%	16,133	4%
Worked at home	162	4%	27,869	8%
Total	4,280	100%	364,152	100%

Table 1-5





Analysis



All four of the demographic profiles created and analyzed can help to illustrate not only who lives within the neighborhoods bordering the transit stops along Harvey Park’s Federal Boulevard corridor, but also the quality of their lives based on housing infrastructure, transit ridership, and cost of living. For example, the relatively low to average housing values in the Harvey Park neighborhood could indicate that there is less money overall going into the surrounding pedestrian and safety infrastructure. Other compelling information that can be gleaned from such analyses has to do with the transit habits of individuals in and around Harvey Park as the number of people in the area who use public transit and alternative modes of transit is quite low. This could imply deeper issues with the area itself, such as the quality of roads and sidewalks and overall connectivity. From this we can guess that low quality and unreliable infrastructure can affect the individual’s willingness to use alternative modes of transit due to time constraints or barriers to access. Additionally, and especially important given the context of this report, is the fact that Federal Boulevard, the main transportation corridor in the neighborhood that houses many of the goods and services offered, is wide, oftentimes congested with automobiles, and is known for its climbing number of pedestrian deaths, further supporting efforts to improve safety, accessibility, and comfort along this major roadway.

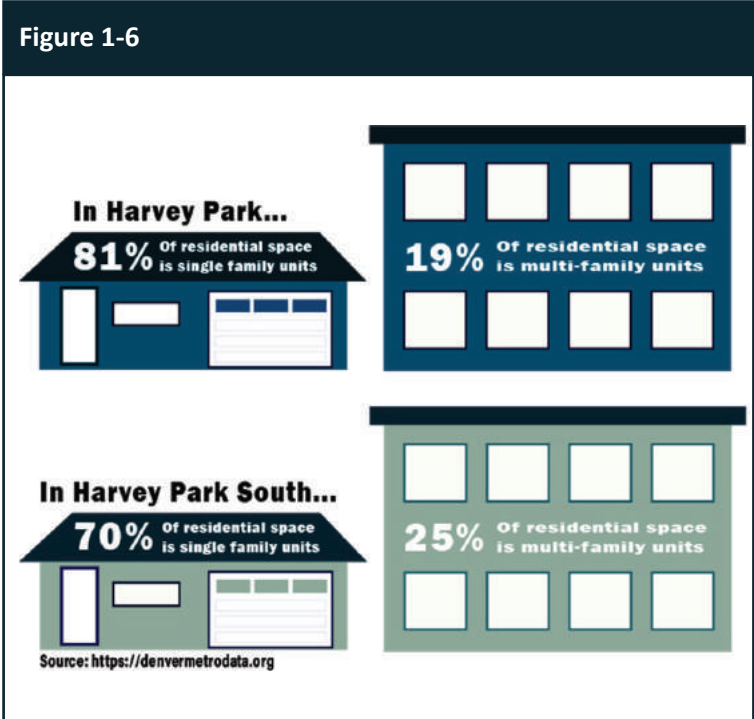




1.3 LAND USE, TRANSPORTATION, & URBAN FABRIC

Land Use

A general land use assessment of the study area can be referenced below in Exhibit 1-4. A cursory glance at the categories displayed shows that the overwhelming land use within the Harvey Park area is residential, followed by public/community use, parks/open space, and commercial use. This land use was confirmed following an on-site visit to the study area and the neighborhoods adjacent to the Federal Boulevard corridor. In the study area, most of this residential space is comprised of single-family homes, with 81% of residential space in Harvey Park and 70% of residential space in Harvey Park South being single family units (Fig. 1-6 below; DenverMetroData.org). There are no two-unit residences within the study area and nearly all multi-unit residences are distributed along Federal Boulevard. Exhibit





1-4 also displays the land use in surrounding neighborhoods, giving context to the Harvey Park study area and how it compares to neighboring communities. Housing in these surrounding areas are primarily single-units as well with some multi-units and two-units congregated along Federal Boulevard.

Several other land uses, such as commercial, community spaces (i.e. schools and churches), industrial, office, and entertainment are also oriented along or around Federal Blvd, with the exception of an elementary school and two churches that are oriented along other minor traffic corridors within the neighborhood. Community spaces, in particular school campuses, seem to be a big component of the non-residential built environment in the Harvey Park area. Abraham Lincoln High School occupies space along Federal Boulevard and is a noticeable feature of the neighborhood when driving south through the Federal corridor. Additionally, a large portion of the southern half of the study area is occupied by the Loretto Heights Campus, which holds both College View High School and Southwest Early College. Next to the campus is also Loretto Heights Park and while this is the only park within the boundaries of this study area, Harvey Park lies just outside bordering to the west and is also accessible to residents and visitors.

Commercial units within the Harvey Park and Harvey Park South study area include a variety of businesses. The Brentwood Shopping Center along the northeast offers a small grocery store, a hair salon, an optometrist, sports stores, a liquor store, two phone stores, tax services, a Mexican bakery, and some other non-essential commercial spaces. Additional commercial units within the study area house automobile parts and service locations and fast food restaurants. Other than a small auto repair shop called Lube Shop, there are no industrial usage in the Harvey Park area. It is important to note, however, that there are some industrial spaces in the College View neighborhood directly to the east of Harvey Park, as well as more commercial space, some of which is occupied by a Walmart Supercenter.

Transportation

The Harvey Park and Harvey Park South study area's most prominent roads are Jewell Avenue, Evans Avenue, Harvard Avenue, Yale Avenue, Dartmouth Avenue, Lowell Boulevard, Irving Street, and Federal Boulevard (Exhibit 4). Federal Boulevard, which runs along the entire eastern border of the study area, provides access to many larger roads and interstates, such as US Highway 285, Alameda Avenue, 6th Avenue, and Interstate 70. Denver Moves: Transit has identified Evans Avenue as a Medium Capacity Transit Corridor (Fig. 1), meaning it will receive improvements to increase the speed of bus service (Denver Moves: Transit, Street Guide, D-4). Evans Avenue connects the study area to Santa Fe Drive and Broadway.

Within the Harvey Park and Harvey Park South study area, there are 29 bus stops, nine of which are included in this study. The twenty other bus stops are located along Evans Avenue, Yale Avenue, Lowell Boulevard, and three additional stops on Federal Boulevard. The bus stops along Federal Boulevard that are within the study area, but not included in this study, are all concentrated at Abraham Lincoln High School, along with one stop that is included in the study. There is an additional high concentration of stops surrounding the intersection of Lowell Boulevard and Yale Avenue. There is a total of eight bus



routes that connect with the bus stops included in the study. While there are no rail stations within the study area, RTD's Facilities Map shows buses that run to Englewood Station and Evans station, which are both within 2.5 miles of Federal Boulevard and connect with two rail lines and additional bus routes.

Along the part of Federal Boulevard within the study area, there is a nearly complete provision of sidewalks except for a few noticeable places where sidewalks have been forgone for parking lot coverage. Much of the sidewalk space along Federal Boulevard has a furniture zone that includes tree coverage, but these buffers fade at the northern and southern extremities of the study area. There is also better sidewalk access on the westside of Federal Boulevard, which is in the study area, than the eastside of Federal Boulevard, which is excluded from the study area. Furniture zones are absent from the interior of the study area, except for along Lowell Boulevard, however, there is still consistent sidewalk coverage throughout the neighborhood.

Compared to other areas of Denver, there is little bicycle infrastructure within the Harvey Park and Harvey Park study area. Lowell Boulevard features an unprotected bicycle lane that runs through much of the study area and eventually connects with another unprotected bicycle lane on Dartmouth Ave (Exhibit 3). The only bicycle facilities in the study area include bicycle racks located at schools and Lucky-Bikes, which is a nonprofit located in the Brentwood Shopping Center that trains children to develop retail skills while repairing and selling bicycles. Bicycle infrastructure is sparse within neighboring areas, except for a bike lane along Florida Avenue, connecting with a bike trail that runs up to the South Platte River and eventually to Denver's central business district (Denver Public Works).



Urban Fabric

Qualitatively, the Harvey Park and Harvey Park South neighborhoods feel quiet and highly residential. The majority of the space is occupied by single-family homes, many of which are 1970's mid-century modern ranch-style homes that do not exceed 1-1.5 levels, as seen below in Exhibit 1-6. These homes feel low to the ground and wide. Although many of them the homes are older, there is evidence that many of the homes are being renovated for resale, especially along South Lowell Boulevard. Due to the nature of these ranch-style homes, many of the lots in the neighborhood have a garage or car port with a large setback from the street and/or sidewalk along with quite a bit of space on either side of the home so as to establish space for a yard. The neighborhood is very green due to the large setbacks, ample yard space and well-established tree canopy. Homes that do not fit into this classical mid-century modern architectural period often do not exceed one story and appear small in scale.



Multi-family residences, such as apartment complexes, occur in the study area primarily along and adjacent to Federal Boulevard. These apartment buildings do not often exceed 2-4 stories and blend relatively well with the surrounding landscape of single-family homes and single-story commercial space. There is one noticeably large senior housing building along the Federal Boulevard corridor that is taller than the tree canopy and, with approximately ten stories, feels unfit for the rest of the environment.

Aside from the obvious commercial spaces that populate Federal Boulevard, such as the Save-A-Lot store and various restaurant spaces, the most noticeable and prominent public spaces and monuments are campuses for schools and churches. If driving south through the Federal corridor, Abraham Lincoln High School is very noticeable. The school itself is long and has a variety of sports fields that border Federal next to the sidewalks and bus stops outside of the school. South on Federal there are multiple churches ranging from large to small, and further south is the Loretto Heights Campus – the former location of Loretto Heights College and Colorado Heights University, visualized in Exhibit 1-6 below. The red sandstone administration building towers over the rest of the Harvey Park neighborhood with its Romanesque architectural style, large central tower, and bright stone materials and is a focal point for residents and those just passing through. The neighborhood appears to value this building and campus as historic, however the active uses of the campus do not appear to be entirely utilized outside of school activities. Other public spaces within the study area include the Loretto Heights Park, which sits on a hill and overlooks the campus, as well as the mountains to the west and south of the neighborhood. This park along with the surrounding spaces is incorporated into rolling hills and appears to have the feel of open space with tall grasses and big trees as well as some trails for people to enjoy.



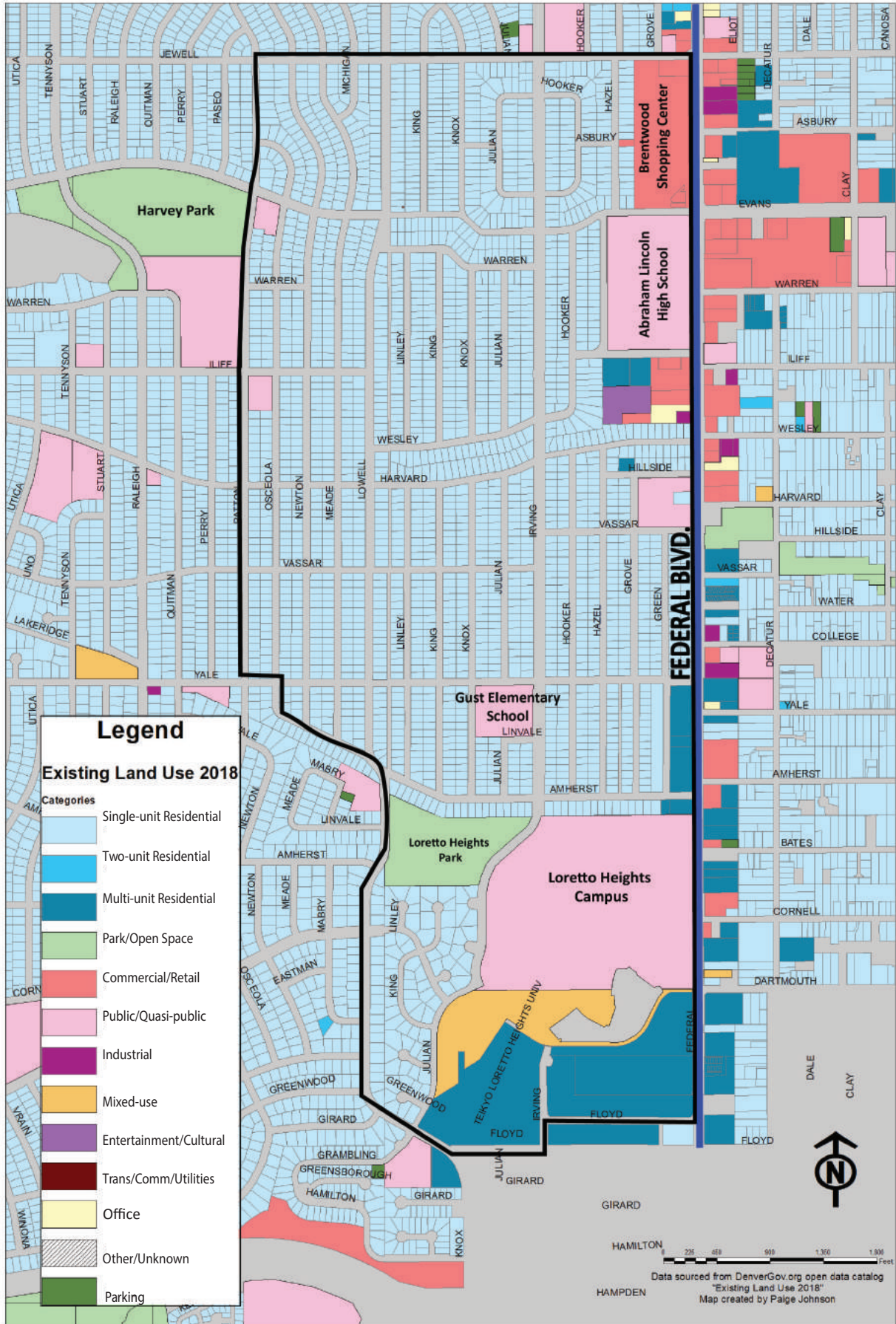


Conclusions

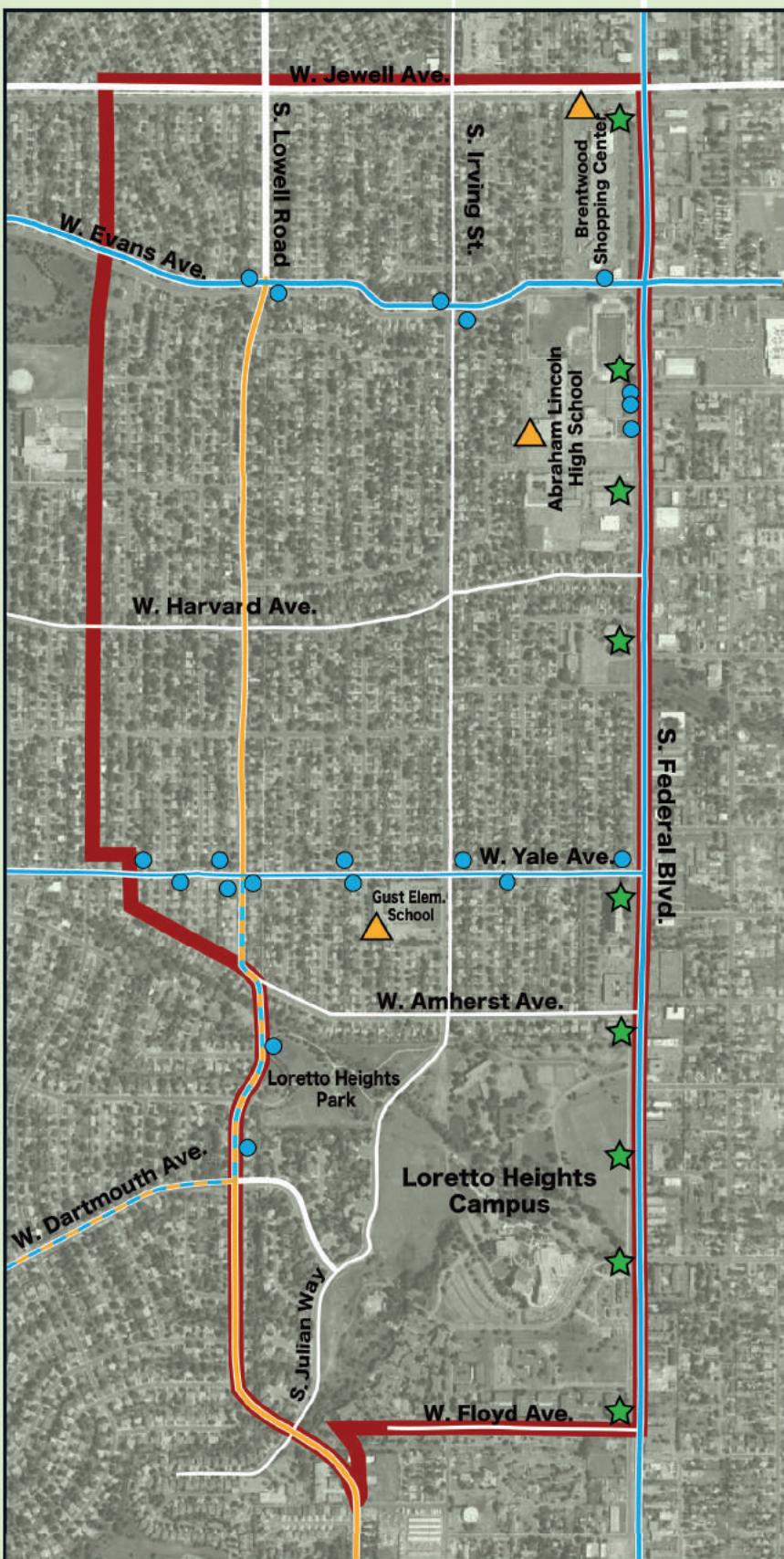
This introductory analysis of the Harvey Park and Harvey Park South Neighborhood has provided context for understanding the study area's nine bus stops that will be included in the transit improvements made to Federal Boulevard as part of the Denver Moves: Transit Plan. This research phase has helped the team understand a few key features of the Harvey Park and Harvey Park South Neighborhood: 1) the demographic makeup of the study area shows diverse age groups, meaning this neighborhood is not exclusively home to families, young people, or the elderly, but might provide a home for many types of people, 2) Federal Boulevard greatly affects the morphology of this community, attracting businesses and other development while also being an undesirable feature for residential areas, and 3) while automobiles are the dominant form of transportation within the neighborhood, transit ridership is still high when compared to the entirety of Denver, so improvements to bus stops and other transit features has the potential to greatly improve convenience within the study area. Going forward, this information, along with interviews of local transit users, will be used to guide our approach towards evaluating the bus stops along Federal Boulevard.



Harvey Park & Harvey Park South Area Land Use Map



Harvey Park and Harvey Park South Transportation Infrastructure Map



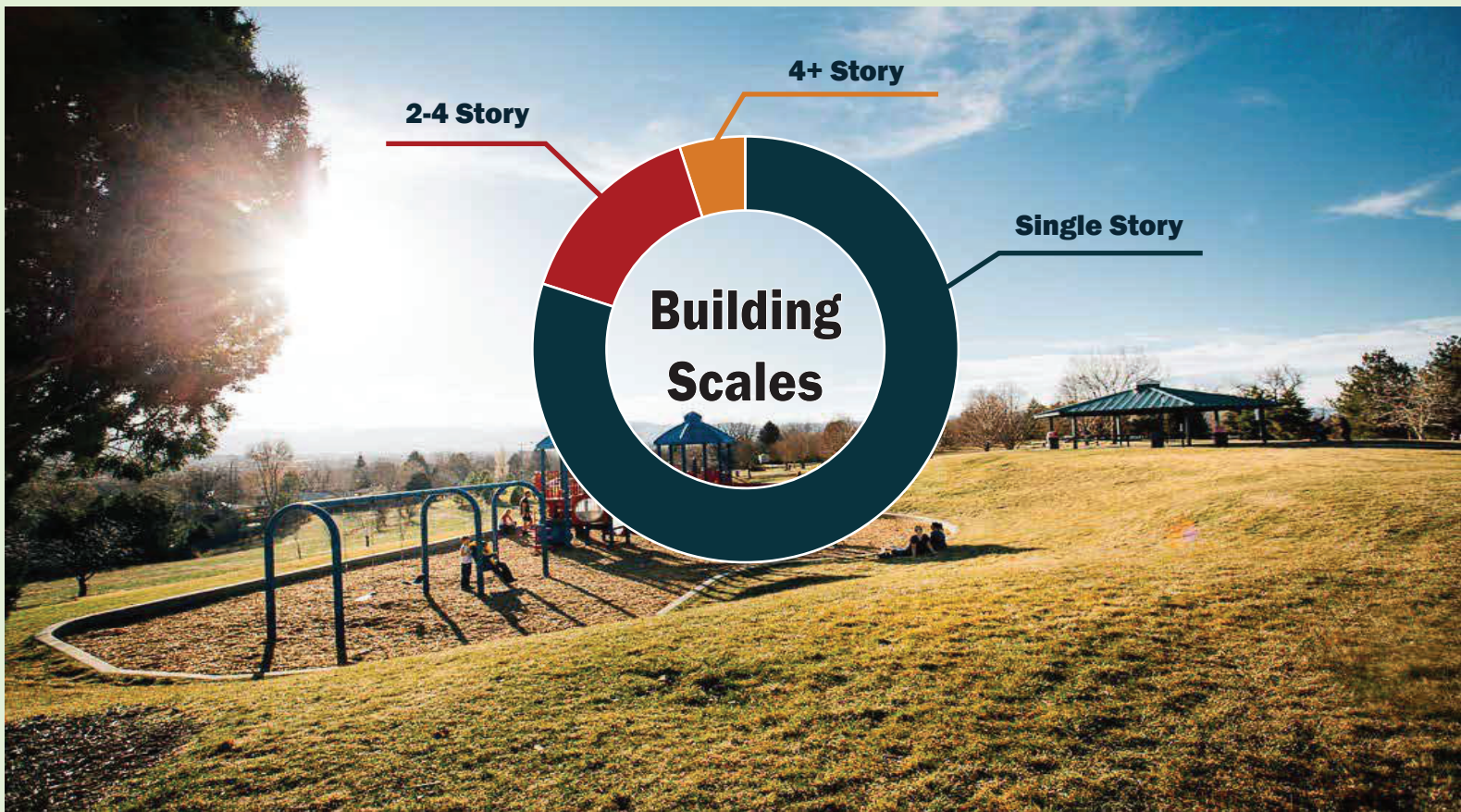
Legend

- Study Area Boundary
- Major Street
- Bus Route
- Bicycle Lane
- Road with Bus Route and Bicycle Lane
- Bus Stop Included in Study
- Bus Stop
- Bicycle Facilities

Base map sourced from Google Earth.
Bus stop locations sourced from ArcGIS.com "RTD System Map."

Map created by Bronte Murrell.

Harvey Park & Harvey Park South: Urban Fabric



<https://www.usarealty.com/areas/harvey-park-south>





2.1 STUDY AREA WINDSHIELD/WALKING SURVEY

Before beginning on-site assessments and in-person interviews in the Harvey Park area, the project team briefly assessed the study area boundaries, maps, and headlines in the local news. Although the bus stop assessments and intercept interviews with transit riders were planned only along the Federal Boulevard corridor, it is important to understand the context of the entire study area and the areas surrounding the Harvey Park and Harvey Park South neighborhoods. By assessing maps, the group began to re-familiarize themselves with the study area boundaries and major roads in the area as well as bus routes beyond Federal Boulevard. Additionally, by assessing the online media presence and news coverage of the Harvey Park neighborhoods, it became evident that the area’s plethora of single-family homes on streets adjacent and parallel to the Federal corridor have received attention in 2019 for being affordable housing options in the booming Denver housing market (Samuelson). The area has also recently received city-wide attention for the new Loretto Heights Small Area Plan, a plan that focuses on the historic and towering Loretto Heights educational campus, seen below in Figure 2-1, on the southern border of the neighborhood (Fleming). These headlines lend themselves to the notion that the South Federal area is facing changes in investment and development, and this study neighborhood is no exception. Keeping these geographical elements in mind, as well as the current events within that context, the group proceeded to walk and drive through the study area, recording information about the elements and patterns present.

Figure 2-1. Loretto Heights Educational Campus



Source: <https://www.thedenverchannel.com/news/our-colorado/new-development-coming-to-loretto-heights-after-city-council-approval>



Figure 2-2



The most prominent and notable feature of the study area that was surveyed is the Federal Boulevard corridor itself. Displayed below in Figure 2-2, the corridor is four lanes across, with two lanes of traffic traveling in each direction (north or south), as well as a middle turn lane. The direction of traffic on the side of Federal Boulevard that directly borders the Harvey Park study area travels south through the corridor. As stated in the *Denver Moves: Transit Plan*, the corridor is known to be heavily trafficked by automobiles and buses, and is designated as a high capacity transit corridor (*Denver Moves: Transit, D-4*). Additionally, Federal Boulevard extends far north of the study area as well as south, beyond Harvey Park and into the bordering municipalities of Sheridan and Englewood, making it an important corridor for transportation both inside and outside of Denver’s boundaries.

Along the land bordering the corridor there is a blend of apartment buildings, single family residences, school and church campuses, and commercial space (for more information, reference “Land Use” and “Urban Fabric” in Chapter One, as well as a Walmart Supercenter located in the College View neighborhood directly east of the neighborhood on West Evans Avenue. Although not a direct part of Harvey Park’s urban fabric, the Walmart seems to be a key feature of the Harvey Park area, providing many in the neighborhood with proximate amenities as well as full grocery services. Another prominent space in the neighborhood is Abraham Lincoln High School, which borders the intersection of West Evans Avenue and Federal Boulevard to the west. The high school campus is noteworthy for its size and prominence

Figure 2-3



Figure 2-4





along the corridor, however one of the characteristics that makes it stand out is the large, four-gate long bus stop that stretches half a block south of the intersection, as seen below in Figures 2-3 and 2-4. In addition to this large bus stop, early observations of the area suggested that there were some other bus stops with benches and shelters along the route, as well as sidewalks and/or paths present for much of the route along Federal. Some of the sidewalks appeared to be more worn down than others while other segments appeared to be of average width and condition, as displayed below in Figures 2-6 and 2-7. One noticeable segment of paved sidewalk was that bordering the Loretto Heights Campus. This segment appeared to be wide and newly paved, such as displayed in Figure 2-5. The extent of the sidewalks and bus stop amenities will be determined in more detail when assessing each of the bus stops specifically.

Beyond the Federal Boulevard corridor and streetscape, the streets and sidewalk infrastructure to the west of Federal Boulevard within the study area are largely residential and are much quieter than the busy, high-capacity corridor nearby. Many of the streets are lined with trees and there appeared to be ample space for vehicles to drive and park along the curb. The sidewalks, however, are much narrower within the neighborhood and often border the street directly, as seen below in Figure 2-8 and 2-9, lacking the grass buffer, or “furniture zone”, that was present for much of the Federal Boulevard sidewalk segments. It also appeared that the residential sidewalks frequently intersected with driveways protruding from single-family lots as well as occasionally connecting small residential blocks to small businesses, schools, and churches scattered throughout the study area interior.





Figure 2-8



Figure 2-9



2.2 EXECUTION & SAFETY PLAN

Bus Stop Assessments

Schedule for conducting the assessments and who will be performing which functions in the field:

Bus stop assessments will be completed on Sunday, October 20th, 2019. The plan will be to meet at 10:00 AM as a group at the Brentwood Shopping Center. From there, the group will walk north to south through the study area down Federal Boulevard conducting assessments at each of the nine assigned stops, beginning at Jewell and Federal and ending at Floyd and Federal.

Each group member will be present for the assessments. One team member will complete the online form for each bus stop using a smartphone, while two others will take written notes with either a pen and paper or a notes app on a smartphone. The fourth team member will take photos with a smart phone of each study bus stop in order to visually document, the conditions at each location.

Modes of transportation to be used:

Group members will meet at Brentwood Shopping Center (located at West Jewell Avenue and Federal Boulevard) and will plan on walking north to south through the study area down Federal Boulevard, from West Jewell Avenue and Federal Boulevard to West Floyd Avenue and Federal Boulevard. Group members will use the sidewalk located on the west side of the Federal corridor to move through the study area on foot. If the weather does not permit walking (i.e. due to ice, snow, or rainstorm), the group will meet at Brentwood Shopping Center and will take one car to each location, parking on perpendicular or parallel residential streets and walking the short distance to each location to conduct assessments.

Methods used to observe and record data:

The team will complete in-person site visits as a team for each of the nine study area bus stops along Federal Boulevard. In order to record visual information about each site, photographs will be taken using a smartphone camera and uploaded to a shared group folder for analysis and use in exhibits. Informative



data about each of the nine stops will be recorded using the WalkDenver online survey form created for this project. This data will be entered by one group member using a smartphone device. Written notes about in-person observations may be taken where the online form does not allow for them using paper and pen or a digital note taking application. In-person observations recorded (photographical, online survey form, or other) will be discussed with the group, allowing for input from each group member, and a total consensus about what should be recorded and how will be agreed upon by all group members present.

Potential methodology problems and backup plans:

It is possible that weather and individual schedules will impede the group from adhering to all of the established plans outlined above. If inclement weather conditions occur and do not allow for walking to and from each bus stop site, the first backup plan will be to use a personal vehicle. If the inclement weather is too severe to drive through the site (i.e. in the case of a snow or ice storm), then the group will reschedule in-person site observations to be completed on an alternative day, preferably during daylight hours. Additionally, if one group member is not able to be present for the in-person site observations as scheduled, the group will continue with three members in order to complete each task. If more than one person can no longer attend in-person observation activities than the group will plan to reschedule in order to allow for each on-site task to be covered by a group member.

Another possible problem that may occur is inadequate cellular data and the inability to perform online data entry using a smartphone device. In this event, the group will have each field required for data entry recorded on paper and each bus stop study site will have data recorded manually and entered after the fact into the online forms. Similarly, there may be cell phone battery problems. For this reason, each team member will try to ensure that their cellular device is adequately charged, and each team member will carry their cellular device with them for the duration of the site visit. If a team member's phone were to die, this would allow for another team member to take over the duties of online data collection.

Specific steps taken to ensure personal safety:

Weather will be reviewed the week prior to the scheduled meeting time on site, as well as the morning of the meeting time. Proper measures will be taken to prepare for any foreseeable weather conditions (i.e. rain, snow/sleet, wind, etc.). Good walking shoes will be worn to allow for comfortable walking through the study area, should the weather permit and CU Denver institution badges will be worn when conducting field research in the study area.

If the group feels the need to split up to perform on-site tasks, each group member will walk in a pair and no one will walk around the study area alone for any period of time. Additionally, the group has scheduled in-person bus stop assessments to take place in the morning in order to avoid nighttime issues of limited visibility. All group members will use designated crosswalks, when available, to cross streets. If none are present, group members will wait for the green traffic signal before proceeding. All group members will use sidewalks and established paths, when available, to travel along the Federal Boulevard corridor and the neighborhood interior and the group will try to maintain at least a two foot distance from the curb, as Federal Boulevard is a heavily trafficked corridor.



Intercept Interviews

Schedule for conducting interviews and who will be performing which field tasks:

The project team has scheduled two days to conduct interviews: Thursday, October 17 and Sunday, October 20, 2019. The goal is to interview both weekday and weekend riders as they will likely have different reasons for using transit. The team hopes to conduct most of the interviews on Thursday, October 17 from 3:00 PM until roughly 7:00 PM, which will ideally provide the team with access to different types of riders, such as students at the local high school and adults commuting to or from work. Any remaining interviews will be conducted after the final October 20 date, then the group will discuss which remaining days will work for another visit to the study area, so long as it is not later than October 25 to allow group members enough time to synthesize and analyze data collected in the field.

The team of four will split up into two groups so that interviews are conducted in pairs. For each interview, there one person in the pair will lead the conversation and interview while the other group member in that pair assists by taking supplemental notes and recording or photographing, if the interviewee allows.

Specific locations in the study area to target for interviews:

Four different bus stops were strategically selected based on the surrounding and adjacent locations. The team hopes to gain access different groups of riders at these stops:

- 1. West Jewell Avenue and Federal Boulevard (Bus Stop ID #13828).**
 - a. Located at a busy intersection
 - b. Located next to the Brentwood Shopping Center
- 2. West Evans Avenue and Federal Boulevard (Bus Stop ID #26184)**
 - a. Located in close proximity to Abraham Lincoln High School and the Evans bus route
 - b. Known to be a large bus stop with multiple gates that is likely to be a busy stop with a variety of riders
- 3. West Yale Avenue and Federal Boulevard (Bus Stop ID #13856)**
 - a. Located near the Yale bus route, which will potentially expose the team to riders travelling through the study area as well as along the Federal Boulevard corridor
 - b. Located outside of an apartment building that houses elderly and disabled residents and could potentially have riders that are from an older age demographic
- 4. West Dartmouth Avenue and Federal Boulevard (Bus Stop ID #13805)**
 - a. Location is close to the Loretto Heights Campus, which contains more than one educational institution and might have riders leaving the campus in the evening
 - b. Located near the southeastern corner of the Harvey Park study area neighborhood and may have riders who commute into or out of the neighborhood

***Methods for identifying potential interviewees and how to describe the purpose of the interviews:***

The project team aims to target a diverse group of agest including adults and some teenagers, likely from Abraham Lincoln High School which appears to have a well-utilized bus stop nearby. According to the most recent ACS 2017 5-year estimates found on Social Explorer’s website, the Harvey Park neighborhoods are roughly 39% white alone, 4% Black/African American alone, 54% Hispanic or Latino alone, and 3% Asian alone. We are hoping to be as reflective of this population as possible with whom we choose to talk to, along with making an effort to talk to equal numbers of Male and Female riders. It is important to note that, while we are trying to be reflective of the overall demographics of the neighborhood, we recognize that these may not be perfectly reflective of transit riders in the neighborhood overall.

When approaching potential interviewees, we plan to greet them warmly and directly, state the institution we represent, and our role as students at CU Denver. We will convey that we are conducting anonymous surveys of transit riders’ experiences, not collecting money or signatures. To further describe the purpose of the interviews to interested parties, we will convey to each potential interviewee that our surveys are for WalkDenver and the City of Denver to help provide data on existing conditions at bus stops along South Federal. We recognize that not everyone will want to participate in interviews and if someone declines to be interviewed or appears skeptical or uncomfortable, we will be sure to thank them for their time and allow them to move along. If an interview participant is particularly enthusiastic we may ask if they would allow us to take their picture for our final report.

Methodology for recording the interview metadata and interviewees’ responses:

To accommodate interview responses, each interview team will have printed versions of the English, Spanish, and Vietnamese interview questions to be completed during the interviews. Due to the demographic make-up of our study area, we will have equal amounts of English and Spanish surveys and 3-4 Vietnamese surveys as well. The teammate that is assisting in the interview will be taking supplementary notes that they believe to be relevant, both during and in between interviews. At the end of the interview the two team members will discuss their notes and record the date, time, location, and weather conditions for the survey.

Specific steps that will be taken to ensure personal safety:

Several measures will be taken to ensure that everyone stays safe and is prepared in case of emergency. Since teams will be split up into pairs, team members will share emergency contact information to a shared online document in case of emergency. Team members will also only cross streets where there are crosswalks or posted signals. Additionally, team members will work in pairs, at the very least, at all times during intercept interviews. If a team member does encounter unfriendly or difficult people, they will leave the conversation and area as quickly and politely as possible. If interviews need to be conducted after dark, only bus stops with well-lit surroundings and nearby services will be selected for those interviews, and no interviews will be conducted after 8:00 PM. If the weather is cause for concern and becomes hazardous (i.e. thunderstorms, snow, intense cold temperatures, etc.), then field work will end or be postponed and rescheduled for another day at a similar time before October 25, 2019. Similar to the bus stop assessments safety plan, group members will also prepare for any weather changes that may require additional attire or accessories (i.e jackets, umbrellas, hats and gloves, etc.).



2.3 ON-SITE BUS STOP ASSESSMENTS

There are several factors that are known to contribute to the transit rider experience. Among the list of factors is overall safety, sidewalk and street connectivity, accessibility for persons with disabilities, cleanliness, comfort, and amenities present. In Denver, the City set a goal of reducing the number of single-occupant vehicle commuters to 50% and, in turn, increase the number of commuters using the existing public transit network (*Denver Moves: Transit*, 1-6). A way to work toward this goal is to enhance the rider experience by improving upon any the above list of contributing factors which riders deem important. Bus stops along Federal Boulevard are considered a high priority for enhancing the rider experience, and therefore the Harvey Park project team took a measured approach to assess existing conditions at neighborhood transit stops along this major corridor. Using the data gathered, combined with personal rider experiences (see Section B-4 below), the project team was able to assess and report on the condition of bus stops in the area, accessibility and connectivity at and around stops, and the state of cleanliness and amenities present at each.

On-site transit stop assessments were performed on Sunday, October 20th, 2019 during mid-morning. Team members gathered at the northernmost Federal Boulevard bus stop in the neighborhood (Bus Stop ID #13828, located at West Jewell Avenue and Federal Boulevard) and proceeded to walk the length of the study area from north to south, analyzing sites and connectivity along the way. Each site was rated and assessed using a custom mobile-friendly website platform made specifically for the project by the City and County of Denver (CCD) and WalkDenver. The online form recorded measurements for a variety of attributes for each stop and distinguished each by the unique Bus Stop ID number assigned to it by the Regional Transit District (RTD). Attributes that were measured ranged from physical conditions and amenities present to measured ratings of safety and connectedness. The full list of attributes measured for each Bus Stop ID is as follows:

- Physical condition of surface(s) present (i.e. concrete pad, asphalt, dirt/grass, etc.)
- Presence or absence of public art
- The relative functional distance to the nearest marked crosswalk
- Amenities present (i.e. bench, trash can, standard or enhanced shelter, lighting, shade trees, route information and/or schedules)
- Safety rating (scale of 1-5)
- If relevant, factors that contribute to a stop feeling unsafe
- Physical condition/state of good repair rating (scale 1-5)
- Cleanliness rating (scale 1-5)
- Accessibility to people with disabilities rating (scale 1-5)
- Pedestrian connectivity (scale 1-5)
- Cumulative/Overall rating (scale 1-5)*

* On a scale of 1-5:

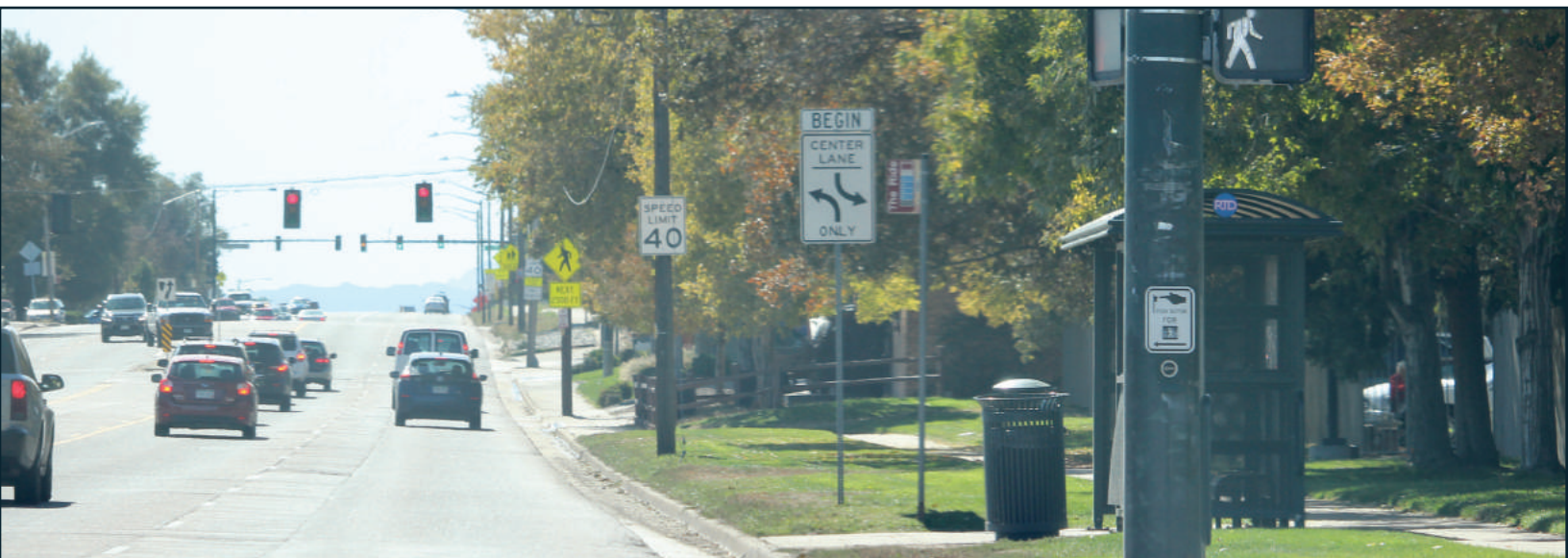
1 = Terrible, 2 = Poor, 3 = Acceptable, 4 = Good, 5 = Great



Figure 2-10



The overall ratings of each bus stop varied greatly throughout the study area, as seen above in Figure 2-10. A complete breakdown of individual stop ratings and amenities present at each can be found below in Exhibit 1. Out of nine total transit stop sites, three were rated “Terrible”, one was rated “Poor”, two were rated “Acceptable”, two were rated “Good”, and only one was rated “Great”. Although the majority of Harvey Park transit stops are rated between “Poor” to “Good”, the category with the most bus stops assigned to it was a one out of five rating, or “Terrible”. The three stops that were rated “Terrible” (Bus Stop ID #13820, #13784, and #13802), consistently scored poorly on ratings of safety, state of good repair, cleanliness, accessibility to persons with disabilities, and connectivity to sidewalks and pedestrian infrastructure. Adding to these low ratings, all of the stops were found to have just dirt, grass and/or crumbling asphalt surfaces present at the site, zero amenities available for transit riders, and two out of the three had no marked crosswalks nearby, were disconnected from sidewalks, and were located along the curb (See Fig. 2-11), leading to poor safety conditions for those waiting for transit or needing to cross the busy Federal Corridor. Exhibit 2-1 shows that, while there was one other transit stop that had zero amenities present (Bus Stop ID #13823), this stop scored higher overall, with a rating of “Poor” instead of “Terrible”, due mostly to a conveniently located nearby crosswalk resulting in better safety, connectivity and accessibility from the paved sidewalk nearby.



SITE ASSESSMENTS



Figure 2-11. Rated “Terrible”



Figure 2-12. Rated “Good”



Figure 2-13. Rated “Good”



Two sites, located near the Brentwood Shopping Center, at the cross streets of West Jewell Avenue and Federal Boulevard (Bus Stop ID #13828) and near the Loretto Heights Campus at the cross streets of West Floyd Avenue and Federal Boulevard (Bus Stop ID #13815), received an “Acceptable” rating of three out of five stars. Both sites rated highly in safety due to their proximity to street lighting and nearby services, with a score of four or higher. They also were found to be acceptable in their state of repair with ratings of three and four, respectively, and were highly accessible and connected due to their paved concrete pads and connectedness to sidewalks. Although lacking in cleanliness and amenities, both stops contain a bench for transit riders to use while waiting, as well as nearby and convenient crosswalks

Two transit sites were rated “Good” by the project team. Stops that were rated a four out of five, or “Good”, were located at West Yale Avenue and Federal Boulevard (Bus Stop ID #13856) and at West Dartmouth Avenue and Federal Boulevard (Bus Stop ID #13805, Fig. 2-12). Both of these sites were found to have concrete waiting pads and also scored a four or higher on safety ratings and state of repair, fives on accessibility and connectedness, and each contained amenities. Stop #13856 (Fig. 2-13) had a trash can, a bench, a standard shelter, and route information present. According to RTD, this stop has bus routes that intersect with it and travel through the neighborhood outside of the Federal corridor as well. Bus stop #13805, at Dartmouth and Federal, has fewer amenities than those present at #13856, with only a bench available at the stop. However, the site proved to be much cleaner than the previous one and was slightly closer to the nearest crosswalk, lending favorably to a safety rating of “Great”.



Figure 2-14



Figure 2-15



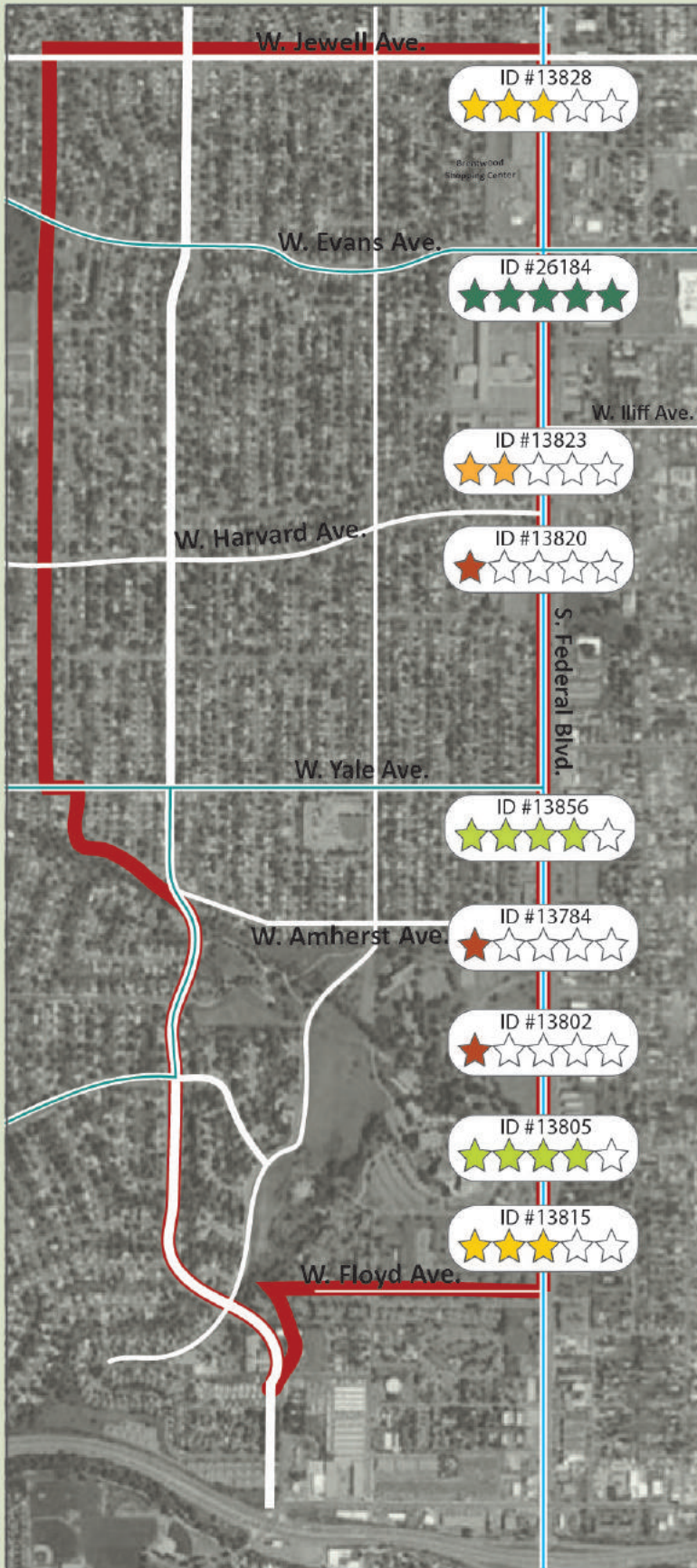
The only bus stop given a score of five out of five stars, or “Great” overall, was the large stop located at the intersection of West Evans Avenue and Federal Boulevard (Bus Stop ID #26184). The stop is oriented along the front of the Abraham Lincoln High School and has four separate gates and pull-off points for bus loading and unloading, separate from the lanes of traffic (see Figures 2-3 and 2-4, above; Figure 2-14, above). The stop was relatively clean, easily accessible, and well connected to the surrounding infrastructure, while providing transit riders and pedestrians with ample space for waiting and boarding. It also provided nearly all of the basic amenities, including enhanced and standard shelters containing route information and benches (as seen above in Figure 2-15), stand-alone benches, trash cans, designated lighting, and even shade trees and landscaping.

Although site visits and assessments varied greatly from one stop to the next, some broad conclusions can be drawn from the Harvey Park bus stop assessments. One consistent finding throughout most of the study area, irrespective of overall rating, was the presence of trash or litter at stops along the corridor, even at stops that had trash cans present. As illustrated below in Exhibit 2-2, over 50 percent of the study area’s bus stops had trash or litter present while only 22 percent featured trash cans on site. This condition could impact perceptions of cleanliness at stops, and therefore could be impacting the rider experience and, ultimately, ridership. Additionally, Denver’s overall shelter numbers, as only 25 percent of high passenger volume bus stops (40+ daily boardings) have shelters present (*Denver Moves: Transit*, 1-5). In the Harvey Park study area, only 22 percent of transit sites have shelters, a figure that is consistent with the city-wide figure, however, needs improvement in order to enhance the rider experience.

Out of the nine total study area sites, only 33 percent were found to have crosswalks within a very close and convenient distance. Further, 78 percent of the sites had one or fewer amenities available for rider use. These are important figures to consider given that over 40 percent of survey respondents for the *Denver Moves: Transit* team’s “Build Your Own Transit System” survey stated more amenities at transit stops as being important to them. In the pool of preliminary responses, survey takers indicated shelters as one of the five most desired improvements for standard transit stops throughout the city, as well as safe crossings (*Denver Moves: Transit*, 2-11).

Harvey Park & Harvey Park South

South Federal Boulevard RTD Bus Stop Assessments



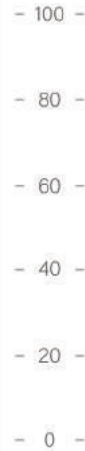
Base map source: Google Earth

Author: Paige Johnson

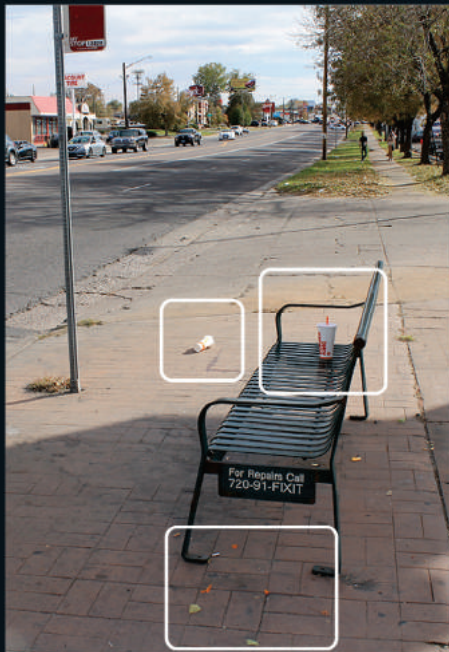
Harvey Park and Harvey Park South: Trash at Bus Stops

Based on bus stop assessments performed on 10/20/19

22 PERCENT
of Harvey Park
Bus Stops
FEATURE
TRASH CANS



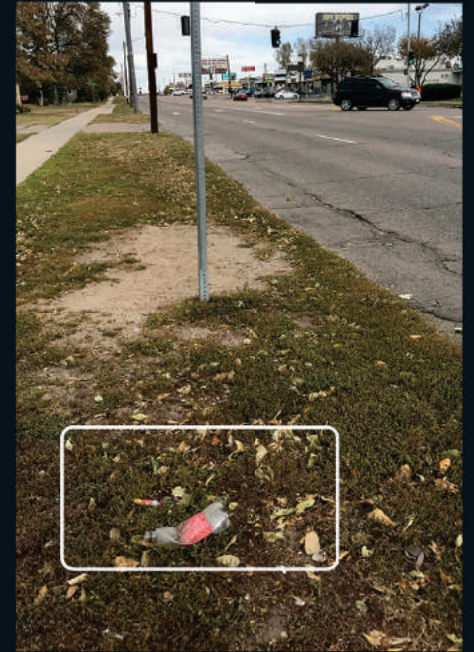
55 PERCENT
of Harvey Park
Bus Stops
HAVE LITTER



Federal Boulevard and Jewell Avenue
(Bus Stop #: 13828)



Federal Boulevard and Harvard Avenue
(Bus Stop #: 13820)



Federal Boulevard and Cornell Avenue
(Bus Stop #: 13802)

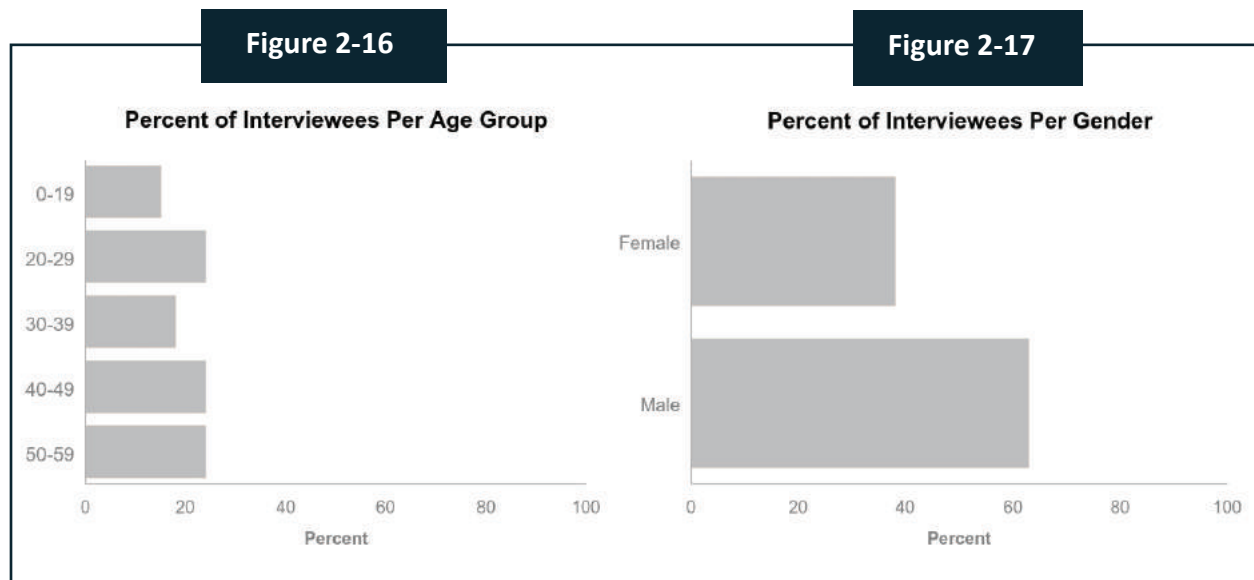


2.4 INTERCEPT INTERVIEWS

Interviewee Demographics

Interview respondents were asked various demographic questions, including age, race/ethnicity, gender, and whether they live and/or work in the neighborhood. As shown in Figure 2-16 (below), the gap between each age group is rather small, which suggests that the groups represented use transit rather equally. The data also shows the lack of transit users over the age of 60. The distribution of age presented in this data aligns well with the age distribution for all of Harvey Park. The only difference worth noting is that, while 12 percent of the respondents are minors, the population of minors in Harvey Park and Harvey Park South neighborhood is 23 percent.

When asked about which gender the respondents identify with, the possible attributes included, female (6 of 16), male (10 of 16), and other (0 of 16). It is evident from Figure 2-17 that there was a significant gender difference within the population of respondents. However, 4 of the 20 interviewees did not answer the gender question, meaning the data could be more or less evenly distributed than presented.

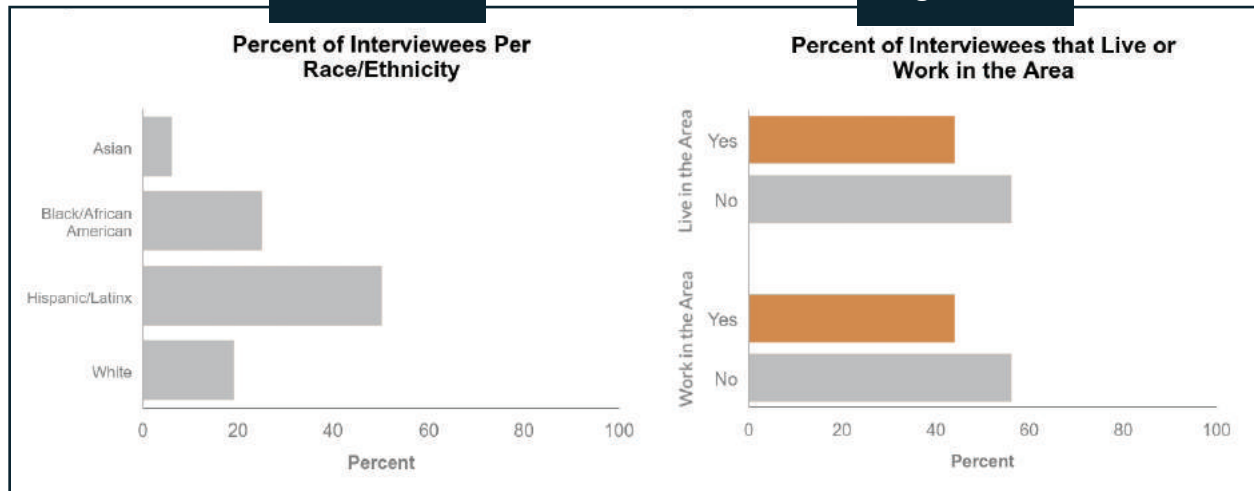


When asked about race/ethnicity, 16 of the 20 interviewees responded and summarized responses can be seen below in Figure 2-18. The results are as follows, Asian (1 of 16 respondents), Black/African American (4 of 16 respondents), Hispanic/Latinx (8 of 16 respondents), and white (3 of 16 respondents). This data shows that the majority of transit users in Harvey Park and Harvey Park South are Hispanic/Latinx. The data, however, does not reflect the demographics of the neighborhood as Harvey Park and Harvey Park South are predominantly White, with Hispanic/Latinx population as the second largest and the Black/African American community the third largest population within the neighborhood. This analysis shows a possible disparity between Harvey Park’s census demographics and the race and ethnicity of area transit users.



Interviewees were also asked whether or not they live or work in the Harvey Park area, with results also shown below in Figure 2-19. Out of the 20 respondents, 16 answered, with 44 percent answering “yes” to both and 56 percent answering “no” to both. Despite the parallelism, not every respondent who lived in Harvey Park worked there as well. Three interviewees who answered “yes” to living in the neighborhood, responded no to working in the neighborhood. Similarly, three of the interviewees who responded no to living in Harvey Park, responded yes to working in the neighborhood. With that said, 63 percent of the respondents both live and work in Harvey Park, indicating that many transit riders use the bus to travel within the neighborhood to and from work.

Figure 2-18



Interview Insights on Automobile Ownership and Walkability

Interviewees were asked the question “Why are you taking transit today?” Out of 20 survey respondents, 19 answered the question, with 68 percent taking transit due to not having a car, 5 percent for a commute, 5 percent for recreation, and 21 percent for some “other” reason. Below in Figure 2-20 there is a visual difference between the interviewees who answered “no car” and the interviewees who responded with one of the other three options. While some categories may be situational, not having access to a car is often a continuous variable affecting some transit users. In other words, those who answered “no car” are most likely using transit as their sole means of transportation.

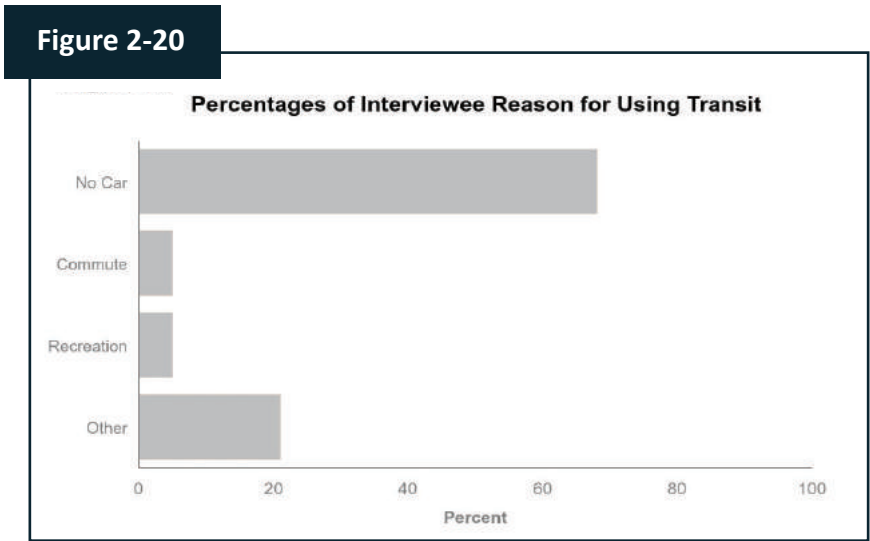
Similarly, when asked about car ownership during the demographic portion of the survey, an overwhelming majority (88 percent) responded “no”, that they do not own a car. This result also supports the indication that many of the transit riders in Harvey Park and Harvey Park South are reliant on public transit as their primary source of transportation.





All 20 interviewees were also asked about their means of transportation getting to and from the bus stops (see Figure 2-21, below). The majority of respondents (60 percent) walked to the transit stop, 30 percent took a bus transfer, 5 percent answered drove, 5 percent answered biked, and 0 percent used a scooter or mobility device. These results support work being done to improve pedestrian infrastructure in areas surrounding South Federal Boulevard as it seems that most transit riders walk to their transit stop to board transit and, similarly, most transit riders in the area do not own or have access to a car.

Lastly, 15 respondents were asked if they would rather have a longer walk to a nicer stop with less time riding or a shorter walk to a stop with fewer amenities and more time riding. Only 27 percent of the interviewees preferred a longer walk, nicer stop, and less time riding. The majority of respondents, 73 percent, preferred a shorter walk to a stop with fewer amenities and more time riding. From this it is evident that interviewees value shorter walks to the bus stop and longer rides, indicating that they may prefer convenience over amenities. As 88 percent of the respondents walk to the bus stop, a shorter walk would cut down on time and energy spent on first and last mile connections. It is also relevant to note that this preference for shorter walks and therefore longer bus rides may contradict *Denver Moves: Transit* recommendations for Bus Rapid Transit (BRT) on Federal Boulevard, as BRT requires a reduction in the number of bus stops and an increase in the speed of bus travel (*Denver Moves: Transit*, D-4). If these preferences are shared by a majority of riders along the Federal transit corridor then the development of BRT on Federal Boulevard within the Harvey Park and Harvey Park South study area might not fit the needs of the community.



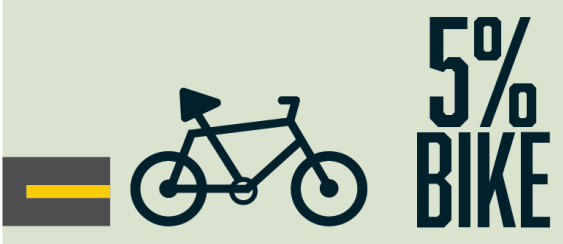
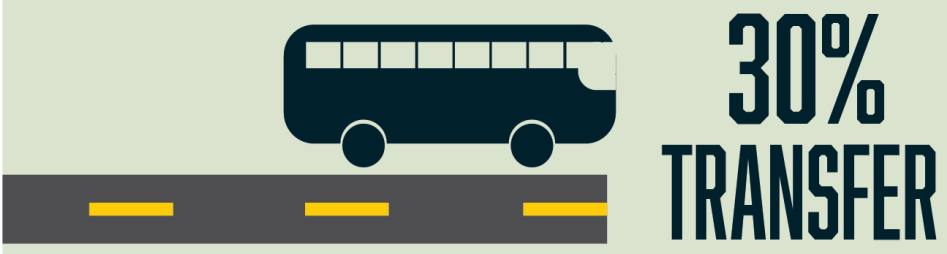
Interviewee Transit Usage

Interviewees were asked about the nature of their transit use, such as destination and frequency of use. Of the respondents, 41 percent answered that they were going home. Interviewees were also asked to identify the nearest intersection to their home, with 63 percent living near Federal Boulevard and 31 percent living near an intersection within the study area. Taking into account the low car ownership amongst the interviewees (see Figure 2-20, above), it is evident that the bus service along Federal Boulevard is important, and likely essential, to connecting these riders to their destinations.

Figure 2-21



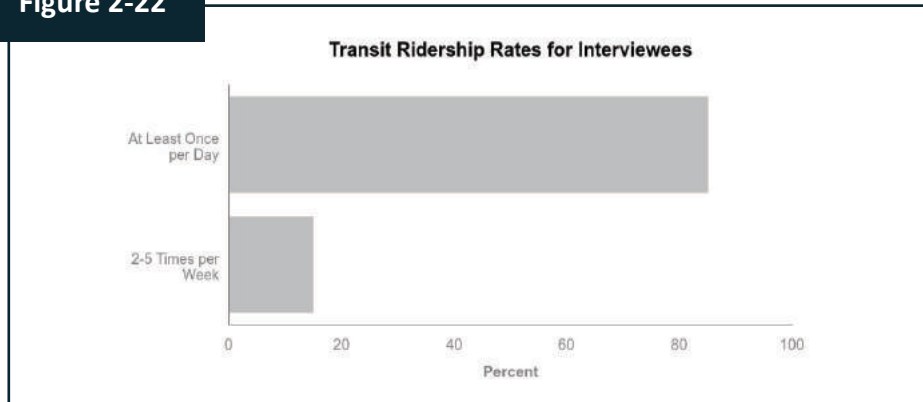
Harvey Park & Harvey Park South Means of Transportation to the Bus Stop





The importance of the bus service on Federal Boulevard can be further demonstrated by the high-utilization of transit by the interviewees. Out of the 19 interviewees who responded with the frequency of their transit use within a typical week, 85 percent said that they use transit at least once per day and 15 percent said that they use it 2-5 times per week. None of the respondents used transit once a week or less, indicating that most transit riders in the area ride at least on a weekly basis, as summarized in Figure 2-22 below.

Figure 2-22



Interview Insights on Bus Stop Quality

The team conducted interviews at four different bus stops in the Harvey Park and Harvey Park South study area, with 16 of the 20 interviews conducted at Bus Stop #26184 at the corner of Evans Avenue and Federal Boulevard. Because of the station’s proximity to Abraham Lincoln High School and its connection to the bus routes that run on Evans Avenue, Bus Stop #26184 is the busiest bus stop within the study area. While the team attempted to spread interviews more evenly across the four selected bus stops, the scarcity of riders at stops #13828, #13856, and #13805 during field work required the team to conduct interviews almost entirely at Bus Stop #26184.

Of the 16 interviewees from Bus Stop #26184, 14 of them responded to Question 7, which asked “How would you rate this bus stop on a scale of one to five?” Twenty-nine percent of interviewees gave the bus stop a rating of three and 43 percent rated it at four. While the ratings of the bus stops were mostly positive, riders still mentioned amenities that they would like to have added to the bus stop. As can be seen in Exhibit 2-1, this bus stop already features benches, shelters, shade trees, bus schedules, trash cans, and lighting. Figure 2-23 shows that the interviewees at Bus Stop #26184 (15 of 16) were largely interested in more shelters and bus schedules, and the additions of heating, route maps, and security cameras.

Of the four people that were interviewed at other bus stops in the study area, two were interviewed at Bus Stop #13828, with one giving the bus stop a rating of four and the other a rating of one. Both interviewees were concerned about trash at the bus stop, with one wanting a trash can added to the stop and the other wanting trash to be cleaned. These concerns match observations from the team’s bus stop assessment (see Exhibit 2-2) where there was noticeable litter at several stops and a limited provision of trash cans at the bus stops in the Harvey Park and Harvey Park South study area.

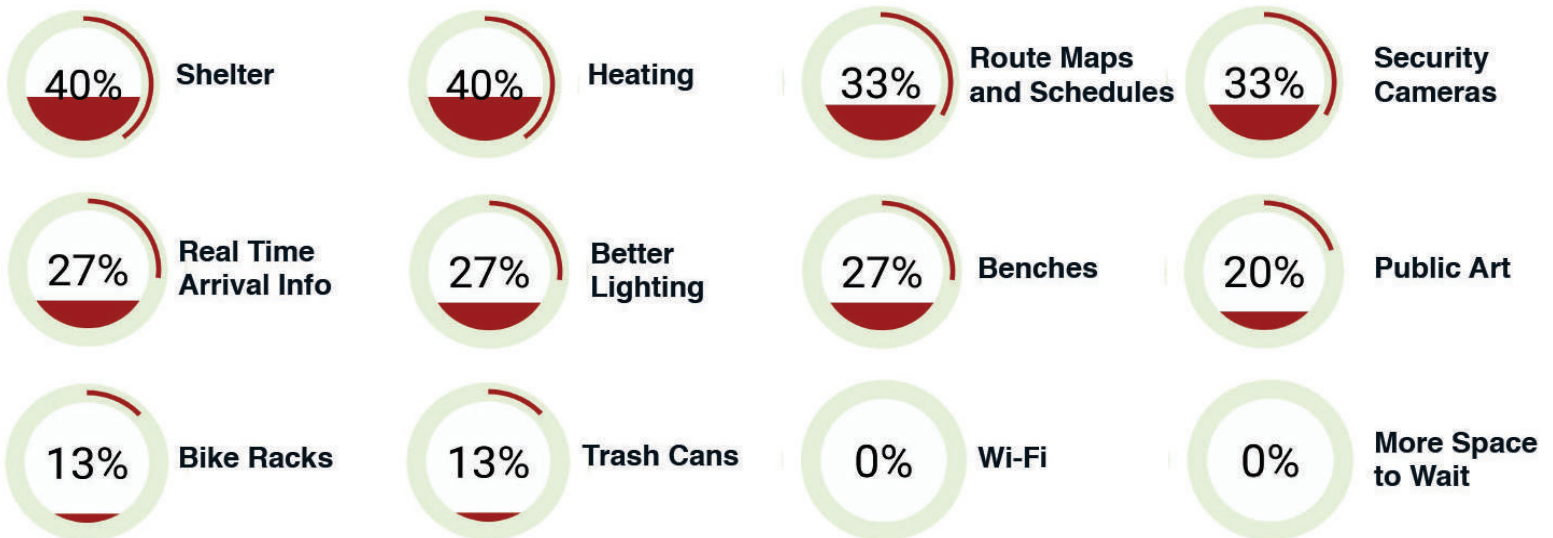


When asked whether or not riders feel safe at these bus stops, 10 of 13 interviewees at Bus Stop #26184 said they felt safe and the other three said they felt safe sometimes, citing night time (1 of 3) and the lack of other people around (2 of 3) as the conditions for them feeling unsafe. According to the responses shown in Figure 9, interviewees are interested in improvements in lighting and the addition of security cameras at the bus stop, which could have potential impacts on the safety of the stop. Of the two other interviewees that answered the question about safety, both said they felt safe at their bus stops.

Figure 2-23

Interviewee Opinions on Adding Amenities for Bus Stop #26184

Percent of Interviewees at Bus Stop #26184 That Want The Following Amenities Added:



Other Suggested Amenities





2.5 ASSESSMENT & INTERVIEW METHODOLOGY CRITIQUE

For the bus stop assessment and intercept interviews methodologies, the project team had initially scheduled visits for two different days. On October 17, 2019, the team went out to complete the interviews and on October 20th, 2019 another round of interviews was scheduled to complete the interview task. Due to low ridership on Sunday October 20th, however, the team only interviewed three riders and therefore needed to schedule a third day of interviews for October 22nd. Some additional issues the team came across in the field are listed as follows:

1. Traffic was too loud to complete audio recordings. To correct this, the team adjusted their methodology to take more thorough notes of interviewee responses.
2. There was a Broncos home game on Thursday, which could have affected ridership as fans were likely watching the game.
3. Several riders were wearing headphones, which made it difficult to approach them for an interview.
4. The team did not consider that most interviews would be done at one bus stop, which affected what kind of riders would be available to be interviewed, including high numbers of teenagers at the bus stop near Lincoln High School (#26184). The team adjusted by limiting the number of interviewees below the age of 19 to five.
5. The team failed to interview anyone above the age of 55 even though people 55 years and older represent about percent of the study area's population. Two attempts were made to interview elderly women, but their buses arrived before the interviews could begin

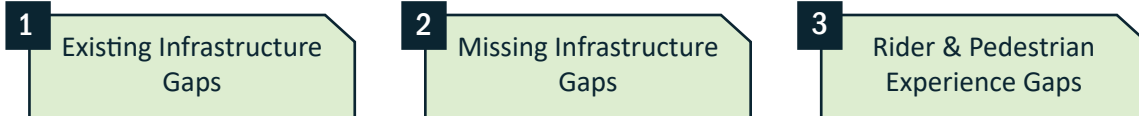
There were some things that did work for the team on their field visit. The methodology for the bus stop assessment went according to plan. Some of the interviews also surprised the team along the study area. Though no one on the Harvey Park team speaks much Spanish, the team did try to speak with Spanish-speaking riders and conducted interviews with three Spanish-speaking individuals. People in the community were very polite and willing to speak to the team and complete the survey despite language barriers. Some individuals were extremely open about their opinions on public transit and offered supplementary information.

The team learned a lot from conducting their first site investigation and interviews as a data collection effort in planning. A key success from the site investigation was the community's willingness to help students understand what their needs are. As previously mentioned in the, there is a lot of change coming to the Harvey Park neighborhoods. With the bus stop assessments and intercept interviews the team can only hope that the neighborhoods' viewpoints are considered in the next steps for the Denver Moves: Transit Plan and bus stops and transit improvements along the Federal Boulevard.



3.1 TRANSIT & PEDESTRIAN INFRASTRUCTURE GAPS

Based on a culmination of data collected within and around the study area, the Harvey Park team was able to identify gaps in key areas related to transit and pedestrian infrastructure. These gaps were identified by analyzing existing conditions and demographics, observing area bus stops and pedestrian environments, and conducting intercept interviews with transit riders and drivers. Transit and pedestrian infrastructure gaps were ultimately divided into three categories:



Existing Transit/Pedestrian Infrastructure Gaps

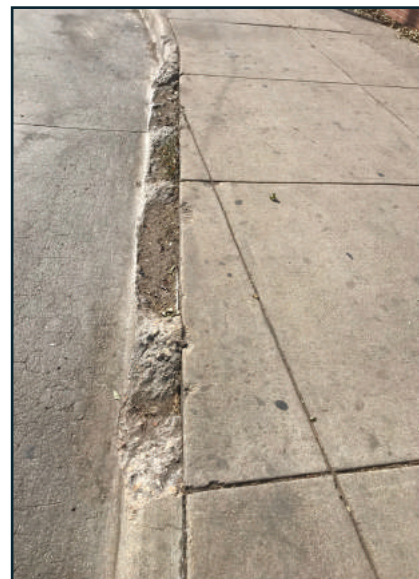
Existing infrastructure gaps refer to the physical and spatial conditions of infrastructure already built and in existence in the study area. These gaps may relate to such things as missing transit stop elements, damaged sidewalk infrastructure, and broken street safety elements, to name a few. Based on multiple site visits to the Harvey Park study area, as well as notetaking and bus stop assessments, the team identified three areas that need improvement within the realm of existing infrastructure:



1. Pedestrian Infrastructure Upkeep
2. Crosswalk Convenience
3. Bus Stop Amenity Upkeep
4. Residential Sidewalk Width

Pedestrian Infrastructure Upkeep

Existing Harvey Park sidewalks and adjacent areas, such as curbs and furniture zones, were found to be in need of maintenance and upkeep. Although there is almost 100 percent sidewalk provision in the neighborhood along Federal Boulevard, many of the sidewalks in place are of poor quality due to elements such as pavement cracks, uneven surfaces, drop-offs, overgrown weeds, and disconnected bus pads. Not only do these elements negatively affect the visual appeal of the transit stops, they also contribute to discontinuity and inaccessibility of pedestrian and transit infrastructure.





Crosswalk Convenience

For a high capacity transit corridor such as Federal Boulevard, pedestrian crossing safety is a major concern when designing and implementing infrastructure improvements. Existing crosswalk locations were found to be inconvenient at various points throughout the study area along Federal Boulevard. Out of nine total bus stops assessed, one had no crosswalk in sight, two were identified as being so far away that most people would be unlikely to use them, and three were identified as being close for some but inconvenient for others. Only three crosswalks were identified as close enough that most people would use them. Additionally, the Harvey Park team witnessed multiple pedestrians crossing Federal Boulevard between crosswalks, as seen in the top right figure.



Bus Stop Amenity Upkeep

Many existing amenities that were present at study area transit stops, such as curbs, shelters, and benches, showed signs of damage and neglect. The bus stop located at Federal Boulevard and West Jewell Avenue, for example, had a bench in place that was bent and unbolted to the ground, as seen in the figure to the right and Exhibit 3-1 below. The figure to the right also shows a shelter located along Federal Boulevard at West Yale Avenue with broken and missing panels, and stops with route information often have damaged and opaque plexiglass in front of the signs, making it difficult to read. These elements could affect the overall experience of transit riders at stops by discouraging and impeding the use of existing amenities.



Narrow Residential Sidewalks

The City of Denver's sidewalk width standard for local and residential streets is currently five feet and the minimum standards to meet American Disabilities Act design guidelines is greater than four feet (Fehr and Peers, 8-9). Many of the local sidewalks connecting the interior of the Harvey Park neighborhoods to the Federal Boulevard corridor are less than both of these accepted standards, as seen in the figure on the bottom right, and present problems for mobility within the neighborhood and for overall connectivity between residential land uses and the Federal transit corridor.





Missing Transit/Pedestrian Infrastructure Gaps

Missing infrastructure gaps represent aspects of the study area’s pedestrian and transit infrastructure that do not exist or are missing elements that may enhance the rider and pedestrian experience. This includes things such as missing signs, crosswalks, shelters and benches, among others. The majority of such gaps were identified by the Harvey Park team during in-person bus stop assessments as well as site visits, during which the team walked the entirety of the bus stop study area. Gaps were found relating to:

1. Lack of Transit Stop Amenities
2. Missing and Disconnected Sidewalk Segments
3. Bicycle Infrastructure

Lack of Transit Stop Amenities

Much of the missing pedestrian infrastructure in the Harvey Park study area was related to bus stop amenities. A summary of amenities present in the study area can be found to the right in Table 3-1. Only 22%, or two out of nine total stops, featured trash cans, while trash was present at over half of the stops. Additionally, four out of nine total stops did not have simple concrete waiting pads and benches, seven out of nine stops did not have maps and route information or shelters, eight out of nine total stops were missing shade trees and designated lighting, and four out of the nine total stops lacking amenities altogether. The *Denver Moves: Transit* plan identified higher-capacity transit corridors as priority areas for capital investments in areas such as stops and stations and therefore it these gaps are necessary to consider in order to meet established citywide goals (*Denver Moves: Transit*, 4-9).

Amenity	# Stops (out of 9)
Bench	5
Concrete Pad	5
Trash Receptacle	2
Shelter	2
Map/Route Info	2
Landscaping/Trees	1
Lighting	1
No Amenities	4

Missing and Disconnected Sidewalk Segments

As stated, there is almost 100 percent sidewalk provision in the Harvey Park neighborhoods along Federal Boulevard, however portions of the study area have sidewalk segments that are disconnected or missing from the greater infrastructure. Disconnected segments, such as that which can be found at the West Amherst Avenue and Federal Boulevard transit stop, are uneven with the surrounding infrastructure and impede travel for pedestrians, especially those with disabilities or mobility impediments. Similarly, the study area is lacking sidewalk infrastructure between West Dartmouth Avenue and West Floyd Avenue. In place of sidewalk this section of the corridor has a dirt path that has been worn down from pedestrian traffic over time. As with disconnected segments, the lack of sidewalk makes travel less



efficient and effective for many people using the network and disproportionately affects individuals with mobility impairments.

Bicycle Infrastructure

The City of Denver identified the need for transit stops and stations to be accessible and connected to pedestrian and bicycle infrastructure (*Denver Moves: Transit*, 3-35). Transit stops along the study area corridor showed no signs of bicycle infrastructure, with zero designated bicycle racks or storage options at transit stops and no marked bicycle route options along the corridor. Additional bicycle route options within the interior of the Harvey Park neighborhoods provides only one shared-lane route connecting South Irving Street west of Federal Boulevard to the Federal corridor (Denver Public Works). More investment is required to improve connectivity between the residential interior of the neighborhood and bordering transit corridors.

Transit Rider Experience Gaps

From observations and interviews conducted with transit riders, the project team identified gaps that influence the experience of transit riders in Harvey Park and Harvey Park South study area.

Crime and Safety

Crimes reported at and around transit stops in Denver are generally related to drug use and robbery (Denver Police Department). While the crime rate in Harvey Park is relatively low when compared to other Denver neighborhoods, concern for crime is reflected in the interview results from riders, with one rider mentioning concern about drug use at the stop and another specifically mentioning the desire to have more surveillance present. When asked about new or improved amenities for bus stop #26184, 33 percent (5 of 16) of riders said they would like to have security cameras at the bus stop.

Figure 3-1





Another rider expressed concern about the opacity of bus shelters, stating that it is difficult to see if there is someone in the shelter when she is walking by it. After this comment, the project team considered how the current design of shelters could impact the visibility of people inside or next to the shelters. Potential safety concerns with shelters is compounded when considering the narrowness of the sidewalk and the placement of shelters against the concrete wall at this stop, as can be seen above in Figure 3-2. This further impacts visibility and forces pedestrians to walk near the shelters behind which they cannot see. The project team also considered how the transition to night time could affect these factors. In addition, 27 percent (4 of 16) interviewees at bus stop #26184 stated they would like better lighting at the stop. Further, beyond stop #26184, no other area bus stops had designated pedestrian lighting present, relying mainly on street, intersection, and residential lighting which does a poor job of illuminating the bus stop and surrounding infrastructure, as seen above in Figure 3-2. The project team considered all of the mentioned crime and safety concerns when making recommendations for improvements to each bus stop.

Bus Schedules and Maps

Riders expressed a desire for more amenities that will increase their comfort and improve convenience at bus stops. 33 percent (5 of 16) of interviewees at bus stop #26184 stated that they would like to have bus routes and schedules at the stop. Currently, this bus stop only has a schedule for routes, which does not properly support the riders that use this stop to connect with other bus routes. While the current schedule provides the times that riders can expect each bus, it does not provide a list or map of destinations for each bus route. While many riders can use smartphones to access real time route information, riders who do not have access to those resources are left without information. For this reason, bus routes and

Infrastructure Gaps



Infrastructure and transit amenities requiring upkeep



Disconnected and missing sidewalk segments



6 of 9 transit stops with inconveniently located crosswalks



Many transit stops exposed to traffic and missing basic amenities





3.2 TRANSIT & PEDESTRIAN INFRASTRUCTURE RECOMMENDATIONS

After identifying major areas for improvement for the bus stops and surrounding infrastructure within the Harvey Park study area, the project team outlined the recommended improvements that should be made to rectify these gaps. This section discusses the specific changes that should be made to each bus stop and recommendations for infrastructural improvements that will make transit more accessible to riders in the study area. The proposed changes consider both project team and interviewee concerns.

Bus Stop Improvements

The project team recommends that each bus stop included in the study should feature a few basic amenities: a concrete waiting pad to create a designated bus stop area, trash cans to reduce littering, and benches to make waiting more comfortable. For bus stops that are not already well lit, new lighting should be installed to make the bus stop safer at night. From conversations with riders and through the team’s assessments, the project team believes that the current metal shelters should be replaced with more transparent materials, which will improve the readability of the bus schedules on the inside of the shelters and will make the shelters safer. In addition, the team recommends a further set back for some bus stop waiting areas to provide better separation between transit riders and the heavy traffic on Federal Boulevard. The following section provides specific recommendations for each bus stop within the Harvey Park waiting area.

ID #13828: West Jewell Avenue and Federal Boulevard

Figure 3-3



- Replace or repair current bench to provide adequate and stable seating
- Add a trash can to reduce littering
- Add a bike rack to accommodate people shopping at the Brentwood Shopping Center
- Add a simple shelter structure with route and schedule information

ID #26184: West Evans Avenue and Federal Boulevard

Figure 3-4



- Replace current shelters with transparent shelters to increase visibility and safety.
- Add new shelters to accommodate the high number of riders that use the bus stop.
- Add new street art along concrete retaining wall (Opportunity to partner with the high school)
- Install route maps to assist riders who do not own smartphones



ID #26184: West Evans Avenue and Federal Boulevard (CONTINUED)

- Add real-time arrival information to accommodate riders waiting and transferring routes
- Add heating at the bus stop to make a more comfortable waiting experience
- Add new security features, such as cameras, to increase safety.

ID #13823: West Iliff Avenue and Federal Boulevard



Figure 3-5

- Add a new bench to provide adequate seating
- Add a trash can to reduce littering
- Add a lighting feature to increase visibility and safety in the evening
- Repair asphalt or create a concrete waiting pad to provide a safe waiting space away from the traffic

ID # 13820: West Harvard Avenue and Federal Boulevard



Figure 3-6

- Add a new bench to provide adequate seating
- Add a new trash can to reduce littering
- Add a lighting feature to increase visibility and safety in the evening
- Add a new waiting pad to create a designated waiting space

ID #13856: West Yale Avenue and Federal Boulevard



Figure 3-7

- Repair the current shelter OR add a new open or transparent shelter to increase visibility and safety
- Add a lighting feature to increase visibility and safety in the evening



ID #13784: West Amherst Avenue and Federal Boulevard

Figure 3-8



- Consider relocating the stop to a location set back from the street and less blockaded by private parking lot and fencing
- Add a new bench to provide adequate seating
- Add a trash can to reduce littering
- Add a lighting feature to increase visibility and safety in the evening
- Add a new waiting pad to create a designated waiting space off of the nearby sidewalk
- Note: If the proposed changes cannot be made, the project team recommends consolidating this stop with bus stop #13802.

ID # 13802: West Cornell Avenue and Federal Boulevard

Figure 3-9



- Add a new bench to provide adequate seating
- Add a new trash can to reduce littering
- Add a lighting feature to increase visibility and safety in the evening
- Add a new waiting pad that is set behind the sidewalk to protect riders from oncoming traffic.
- Add a ramp from the bus stop to provide unencumbered bus access to riders

ID #13805: West Dartmouth Avenue and Federal Boulevard

Figure 3-10



- Add a new trash can to reduce littering.
- Add a lighting feature to increase visibility and safety in the evening
- Add a simple shelter structure with route and schedule information



ID #13815: West Floyd Avenue and Federal Boulevard

Figure 3-11



- Add a new trash can to reduce littering
- Add a lighting feature to increase visibility and safety in the evening
- Add a simple shelter structure with route and schedule information

Infrastructural Improvements

Sidewalks

Macro-Level Recommendations:

- Complete sidewalk connectivity along Federal Boulevard within the study area
- Improved sidewalks connecting to other bus stops and major streets within the study area

Micro-Level Recommendations:

- Repave the sidewalk ends located at 3131 S Federal Boulevard (Figure 3-12)
- Repave the sidewalk located between 3131 S Federal Boulevard and 3101 S Federal Boulevard (Figure 3-13)
- Provide adequate transition between sidewalk and parking lot at 2801 S Federal Boulevard (Figure 3-14)

Figure 3-12



Figure 3-13

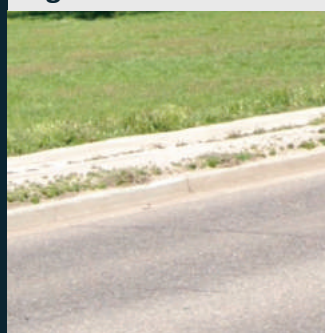


Figure 3-14





Roads

Macro-Level Recommendations:

- Increase the number of crosswalks and locate new crosswalks near bus stops to increase the safety of riders when crossing Federal Boulevard.
- To increase the efficiency of the location of crosswalks, the city should explore aligning the bus stops on both sides of Federal Boulevard and placing crosswalks near those stops.
- Employ local artists to beautify crosswalks in order to slow down traffic and increase pedestrian use.
- Add medians along federal boulevard to create a refuge for pedestrians that do choose to cross Federal Boulevard without a crosswalk.

Micro-Level Recommendations:

- Add a crosswalk near bus stop #13802 to reduce the isolation of this stop and discourage pedestrians from illegally crossing the street.
- Add a crosswalk near bus stop #13815 to reduce the isolation of this stop and discourage pedestrians from illegally crossing the street.
- Employ a local artist to beautify the crosswalks at the intersection of Federal Boulevard and Evans Avenue to increase pedestrian utilization of crosswalks.

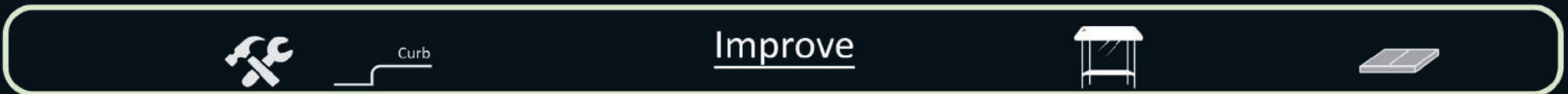
Challenges to Implementation

When the mayor's office was accepting recommendations for the 2020 budget for the City and County of Denver, the Denver Streets Partnership proposed the mayor allot \$15 million for new sidewalk construction and \$7 million for the implementation of the Denver Moves: Bicycles plan. The final budget allocates less funding for both requests, with \$3 million dedicated to new sidewalk construction and \$5 million for Denver Moves: Bicycle implementation. (Denver Streets Congress). It is clear that the city budget does not necessarily reflect what mobility advocates and organizations see as a need for the community, which will affect the extent to which recommendations made in this report can be implemented.

Currently property owners in Denver are the entities responsible for building and maintaining sidewalks on or adjacent to their property. This can cost upwards of thousands of dollars to the property owner. According to WalkDenver, lax enforcement of current sidewalk policy, regulations, and standards has led to many neighborhoods having substandard or non-existent sidewalks (Walk Denver). The private ownership of sidewalks might impact the implementation of infrastructural improvements to the Harvey Park and Harvey Park South study area.



HARVEY PARK: RECOMMENDATIONS





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