

# **West Colfax and Villa Park Bus Stop Assessments**



**Sarah Crump, Matthew Duchan, Ryan Handy, David King**

**URPL-5010 Planning Methods  
December 11, 2019**



University of Colorado **Denver**

# Table of Contents

Chapter One - Introduction and Existing Conditions.....	3
A-1: Project Introduction.....	3
A-2: Demographic Profile.....	6
A-3: Land Use, Transportation, and Urban Fabric.....	12
Chapter Two - Site Assessments .....	17
B-1: Study Area Windshield/Walking Survey.....	17
B-2: Bus Stop Assessments Site Investigation.....	18
B-3: Intercept Interviews.....	21
B-4: Bus Stop Assessment and Intercept Interview Methodology Critique.....	26
Chapter Three - Gaps and Recommendations.....	27
C-1: Transit/Pedestrian Infrastructure Gaps.....	27
C-2: Transit/Pedestrian Infrastructure Recommendations.....	30
Appendix: WalkDenver Bus Stop Intercept Survey.....	33

# CHAPTER ONE: INTRODUCTION & EXISTING CONDITIONS

## A-1: PROJECT INTRODUCTION

The City and County of Denver and WalkDenver want to improve pedestrian and transit amenities in West Denver by collecting data on existing bus stops. Bus stop amenities along the Federal Boulevard corridor are often lacking benches, lighting, shelter and protection from heavy traffic. This study, on the West Colfax/Villa Park sections of Federal, is part of the fall 2019 semester project, Federal Bus Stops Assessment, for URPL 5010: Planning Methods with Professor Ken Schroepel.

The team consists of four masters of urban planning students at the University of Colorado Denver: Sarah Crump, Matt Duchan, Ryan Handy and David King. The boundaries of the study area are Perry Street to the west, West 19th Avenue to the north, Federal Boulevard to the east, and West 6th Avenue to the south. The city of Lakewood begins west of the study area, while downtown Denver is to the east and can be accessed via West Colfax Avenue.

Chapter 1 of this report will provide a summary of the local study-area context including a profile of the study area's existing land uses, transportation system, urban fabric and key demographics. Chapter 2 will detail the findings of student-led site assessments of current bus stop amenities, physical area and surrounding conditions, as well as the results of in-person transit rider intercept surveys. Finally, Chapter 3 will describe any shortcomings for existing bus stop amenities and infrastructure and produce recommendations for improving amenities and enhancing the ridership experience within the study area.

West Colfax Avenue functions as the main throughway in the study area. The study area shares an immediate border with Lakewood to the west, and Downtown can be accessed via the I-25 overpass on West Colfax, passing by Mile High Stadium in neighboring Sun Valley. The northern portion of the study area (West 17th-19th Avenues) converges on Sloan's Lake Park. There are two Denver RTD Light Rail stations on the W line in or bordering the study area; there is one bus stop immediately outside the study area, on Knox Court, which connects West 6th Avenue and West Colfax Avenue. The study area's major bus stops are:

- 13699: Federal Boulevard & West 10th Avenue
- 13701: Federal Boulevard & West Holden Place
- 13702: Decatur/Federal Station Gate F
- 13758: Federal Boulevard & West 7th Avenue
- 13768: Federal Boulevard & West 8th Avenue
- 13820: Federal Boulevard & West 17th Avenue

Figure A-1, Study Area Location Map

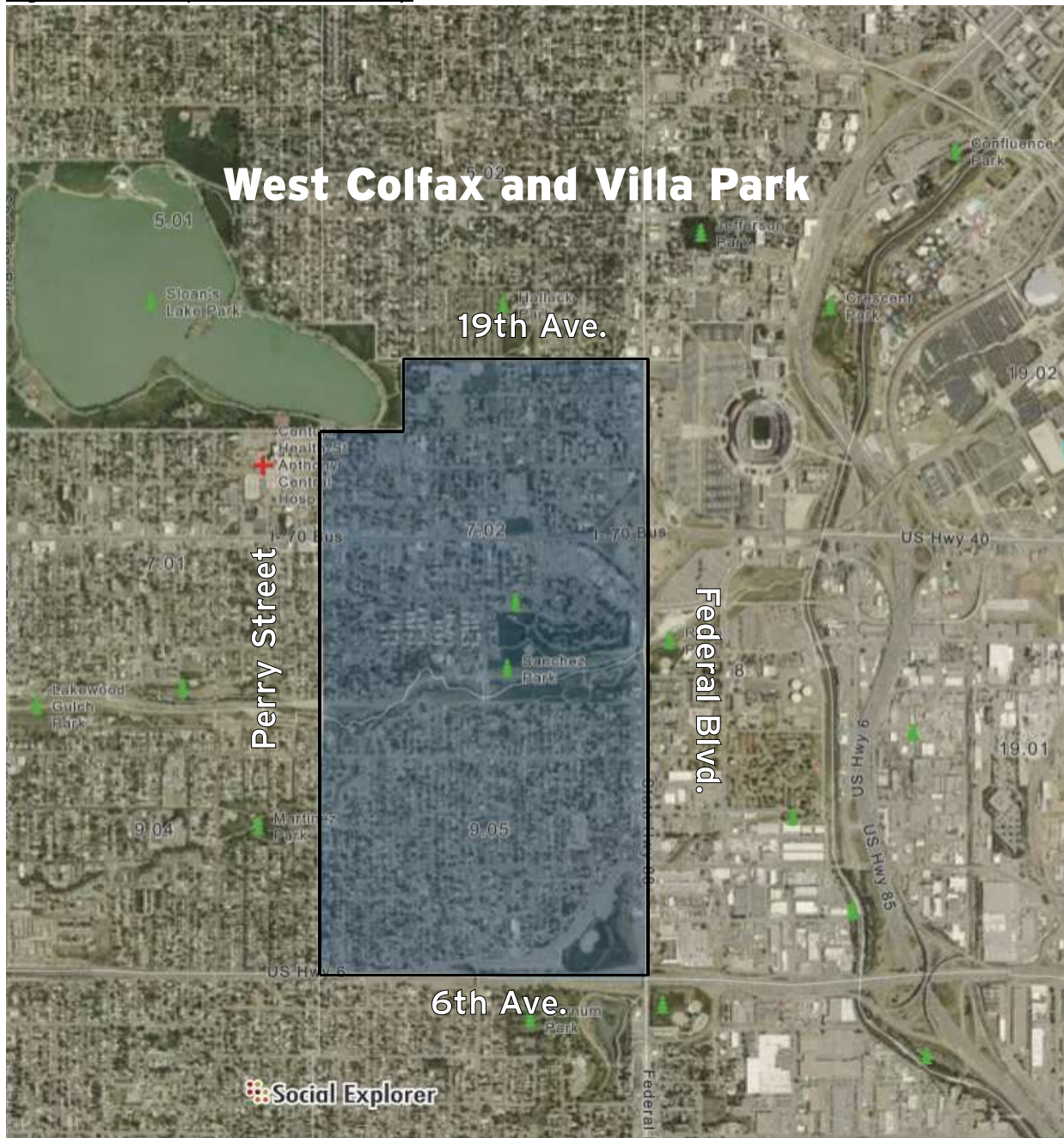
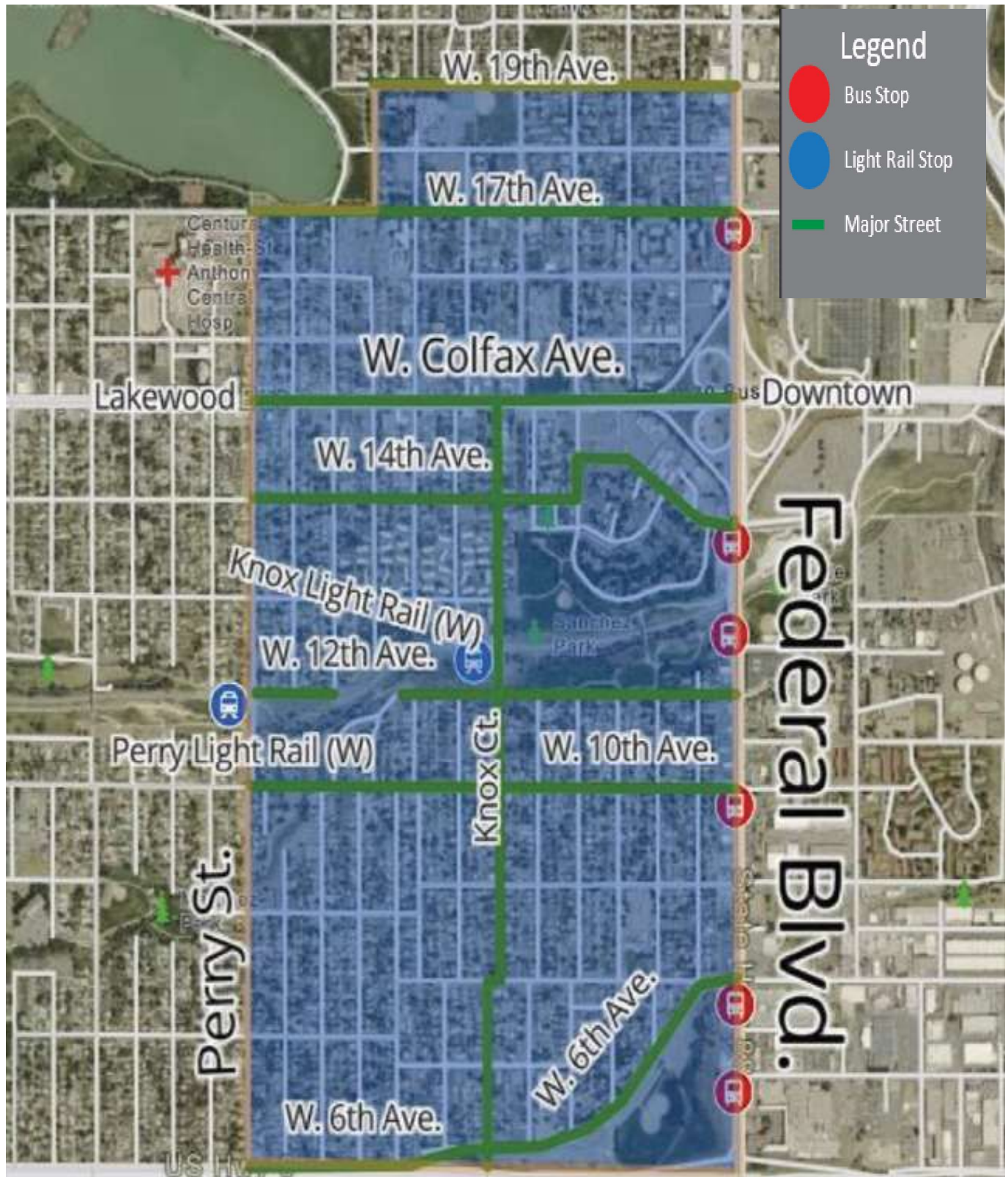




Figure A-2, Study Area Detail Map

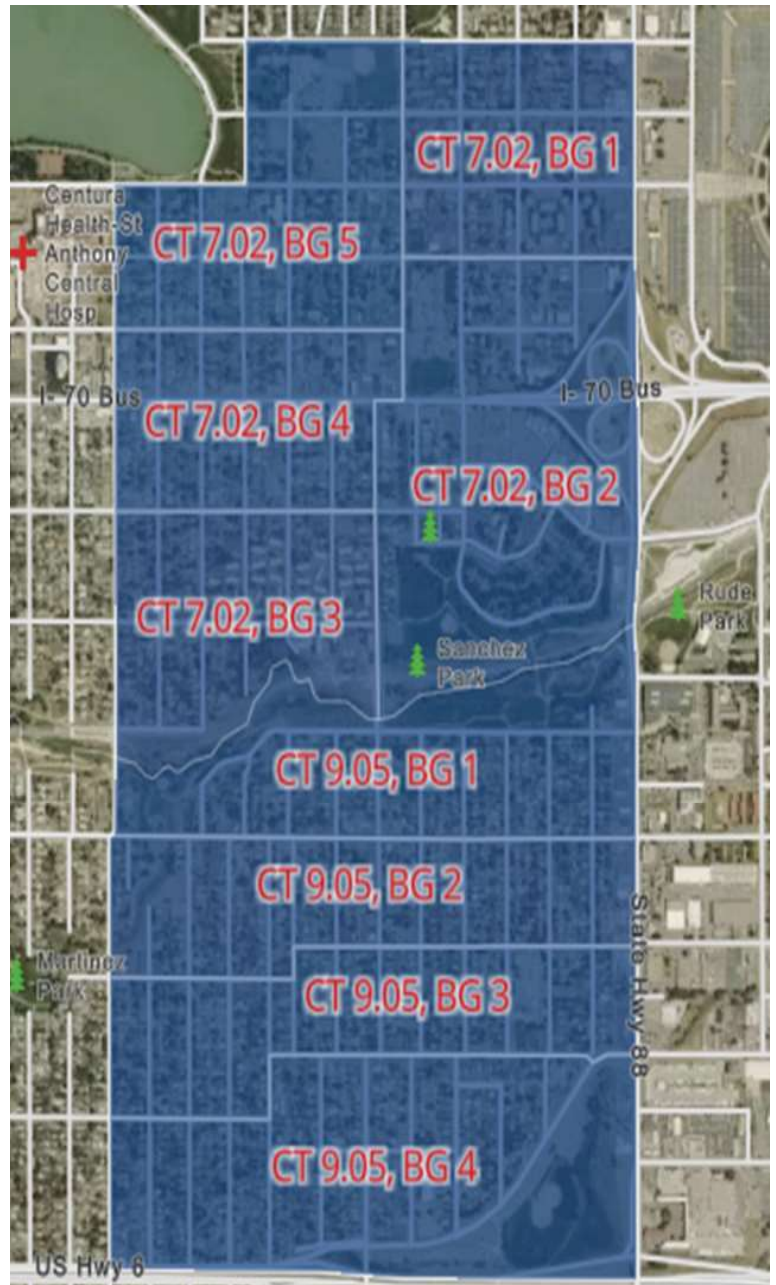


## A-2: DEMOGRAPHIC PROFILE

The population of West Colfax and Villa Park is more ethnically diverse and uses public transportation at a higher rate than the overall population in Denver County. The study area also has a greater percentage of renters than homeowners and residents dedicate a higher percentage of their monthly incomes to rental payments.

Figure A-3, on the right, Census Tract Map, shows the study area which includes the Census Tract 7.02, Census Block Groups 1-5 and Census Tract 9.05, Census Block Groups 1-4. Throughout the following figures, “study area” data are defined as a consolidation of Census Tract 7.02, Census Block Groups 1-5 and Census Tract 9.05, Census Block Groups 1-4 data derived from the US Census Bureau.

Figure A-3, Census Tract Map





## Race and Ethnicity

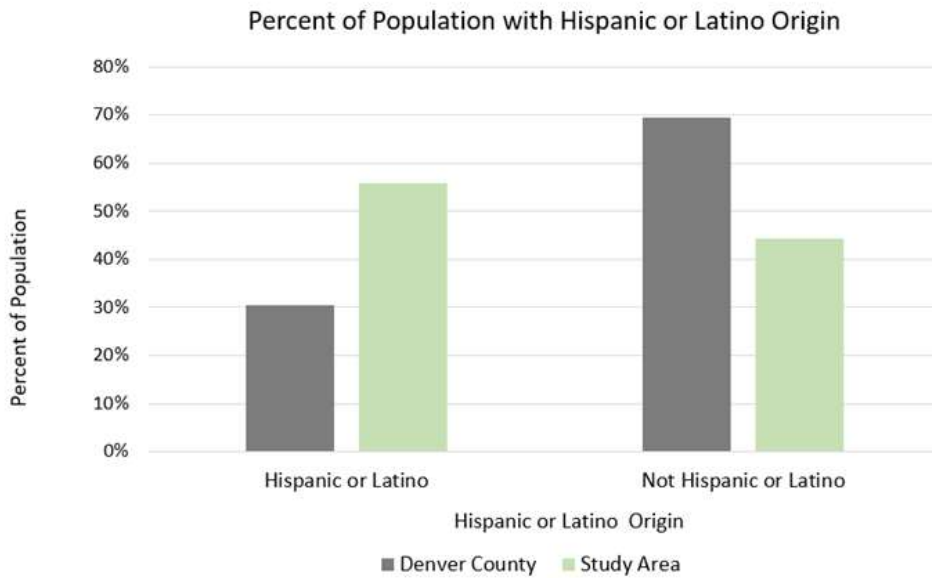
As shown in Figure A-4, Hispanic or Latino Origin, and Figure 5, Percent of Population with Hispanic or Latino Origin, the study area has a more ethnically diverse population than Denver County. The population of the study area is majority Hispanic or Latino, with 25 percentage points more Hispanic/Latino residents than in Denver County.

Figure A-4, Hispanic or Latino Origin

Hispanic or Latino Origin				
Race or Ethnicity	Denver County	Percent Total	Study Area	Percent Total
<b>Not Hispanic or Latino Origin:</b>				
White alone	363,712	54%	2,953	32%
Black or African American alone	62,166	9%	751	8%
American Indian and Alaska Native alone	3,479	1%	68	1%
Asian alone	23,967	4%	124	1%
Native Hawaiian and Other Pacific Islander alone	693	<1%	12	<1%
Some other race alone	1,431	<1%	15	<1%
Two or more races	15,919	2%	214	2%
<b>Not Hispanic or Latino Origin Total</b>	<b>471,367</b>	<b>69%</b>	<b>4,137</b>	<b>44%</b>
<b>Hispanic or Latino Origin:</b>				
White alone	157,769	23%	3,897	42%
Black or African American alone	2,300	<1%	159	2%
American Indian and Alaska Native alone	3,058	<1%	32	<1%
Asian alone	466	<1%	0	0%
Native Hawaiian and Other Pacific Islander alone	300	<1%	0	0%
Some other race alone	35,785	5%	1,072	11%
Two or more races	7,422	1%	52	1%
<b>Hispanic or Latino Origin Total</b>	<b>207,100</b>	<b>31%</b>	<b>5,212</b>	<b>56%</b>
<b>Total</b>	<b>678,467</b>	<b>100%</b>	<b>9,349</b>	<b>100%</b>

Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

**Figure A-5, Percent of Population with Hispanic or Latino Origin**



Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

### Means of Transportation

The study-area population is more likely to use public transportation as a means of transit to work than Denver County residents. The percentage of study-area residents, 77 percent, who drive personal vehicles to work is roughly equal to the percentage of Denver County residents who drive, at 78 percent. As shown in Figure A-6, Means of Transportation to Work, 11 percent of the study-area population relies on public transportation to get to work, four percentage points higher than Denver County’s use of public transportation to reach work. The study-area population is also more likely to bike to work.

**Figure A-6, Means of Transportation to Work**

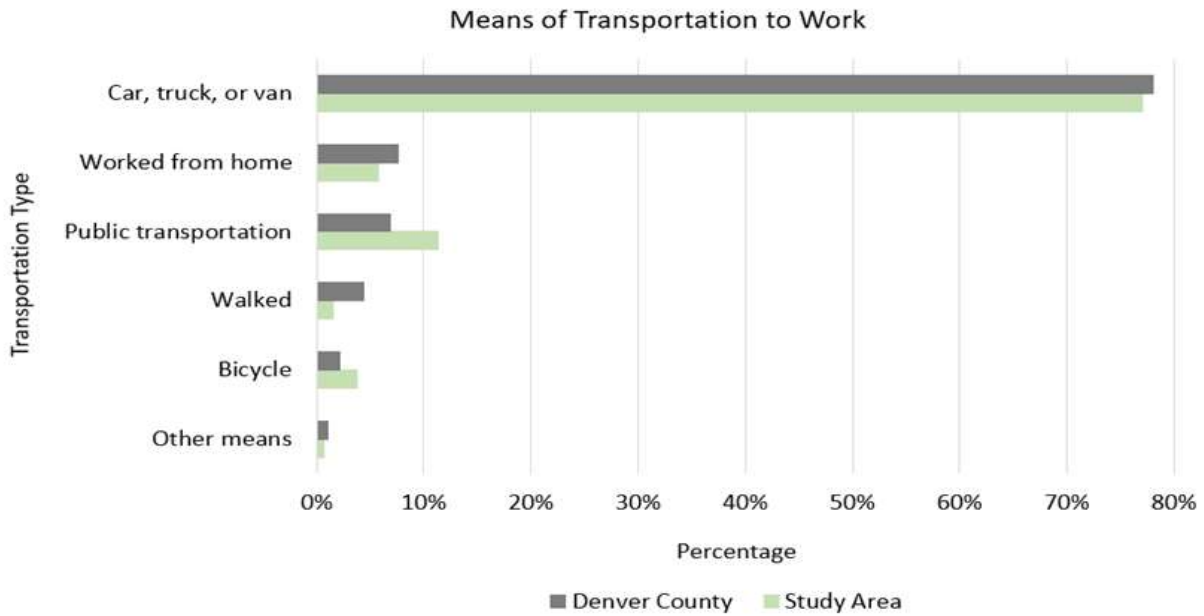
Transportation Type	Denver County	Percent Total	Study Area	Percent Total
Car, truck, or van	286,512	78%	3,408	77%
Public transportation	24,960	7%	502	11%
Bicycle	8,081	2%	164	4%
Walked	16,133	4%	65	1%
Other means	3,865	1%	28	1%
Worked from home	27,869	8%	256	6%
<b>Total</b>	<b>367,420</b>	<b>100%</b>	<b>4,423</b>	<b>100%</b>

Source: US Census Bureau, American Community Survey, 2017 5-year Estimates



Although they are more likely to use public transportation and bike, the study-area population is less likely than Denver County’s population to walk to work or work from home. This could indicate that the study-area population cannot walk to work because of commute distance or that they are more likely to choose public transportation over walking. Improving bus stop amenities could support the existing ridership and improve the image of bus transportation as a practical transportation option.

Figure A-7, Means of Transportation to Work



Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

## Housing

The study-area residents are more likely to rent their homes than the residents in Denver County. Figure A-8, seen to the right, shows that 61 percent of occupied housing units in the study area are rental units, compared to Denver where only 47 percent of Denver County’s occupied housing units are occupied by renters. Figure A-9, Percentage of Occupied Housing by Tenure, also to the right, shows that the status housing tenure for occupied units in the study area is an inverse of the housing tenure status for occupied units in Denver, with study-area residents being more likely to rent than own.

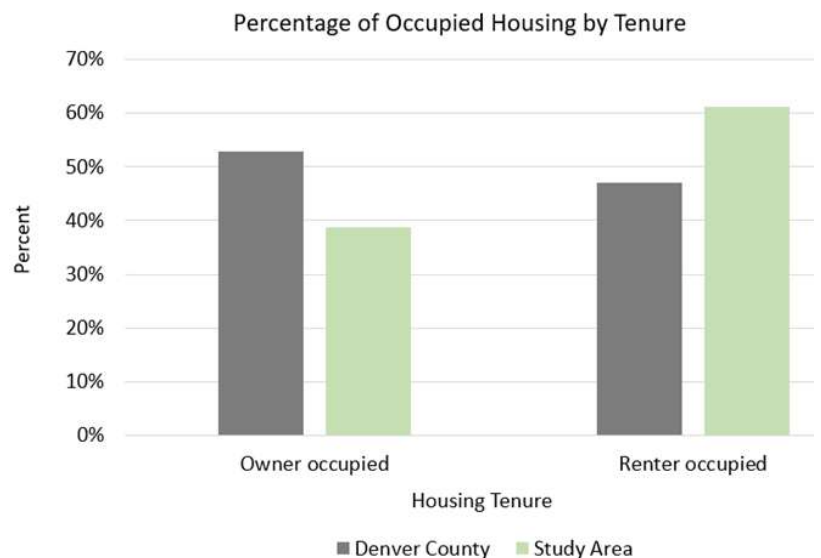
Residents of the study area are more cost-burdened by monthly rent expenditures than the residents of Denver County. According to the National Low Income Housing Coalition (NLIHC), residents are cost-burdened if they spend more than 30 percent of their monthly income on rent and severely cost-burdened if they spend more than 50 percent of their monthly income on rent. Cost-burdened residents have limited means to spend on other necessities like food, clothing, or healthcare and they are less likely to put money toward savings. They have less disposable income, which can inhibit national GDP growth (NLIHC, 2019).

**Figure A-8, Housing Tenure**

Housing Tenure				
Tenure	Denver County	Percent Total	Study Area	Percent Total
Owner occupied	351,332	53%	3,582	39%
Renter occupied	312,181	47%	5,664	61%
<b>Total</b>	<b>663,513</b>	<b>100%</b>	<b>9,246</b>	<b>100%</b>

Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

**Figure A-9, Percentage of Occupied Housing by Tenure**



Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

**Figure A-10, Gross Rent as a Percentage of In-**

**Gross Rent as a Percentage of Income**

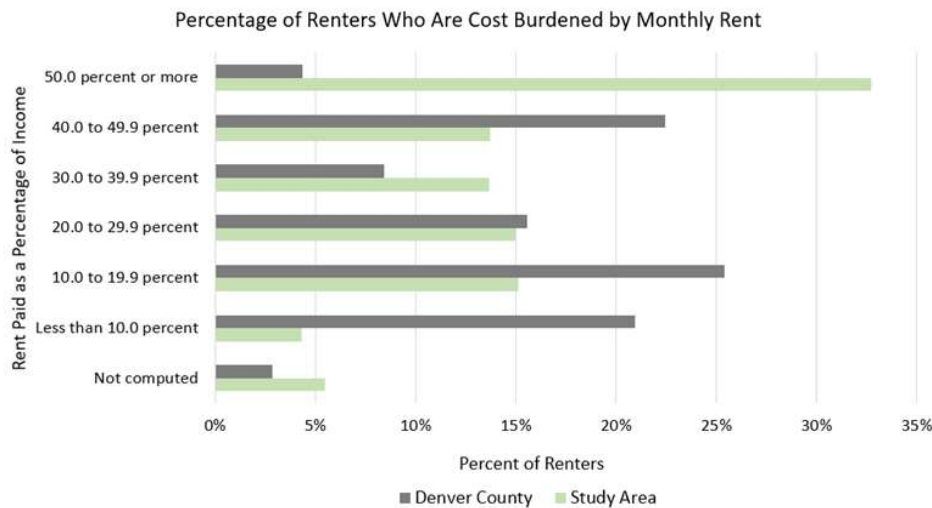
Percent of Income Paid to Rent	Denver County	Percent Total	Study Area	Percent Total
Less than 10.0 percent	4,099	3%	81	4%
10.0 to 19.9 percent	30,019	21%	284	15%
20.0 to 29.9 percent	36,398	25%	282	15%
30.0 to 39.9 percent	22,321	16%	257	14%
40.0 to 49.9 percent	12,106	8%	258	14%
50.0 percent or more	32,199	22%	616	33%
Not computed	6,246	4%	103	5%
<b>Total</b>	<b>143,388</b>	<b>100%</b>	<b>1,881</b>	<b>100%</b>

Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

Figure A-10, Gross Rent as a Percentage of Income, and Figure A-11, Percentage of Renters Who are Cost Burdened by Monthly Rent, both show the number of West Colfax/Villa Park renters who spend between the range of less than 10 percent and more than 50 percent of their monthly income on rent. Well over half, or 61 percent, of study-area renters are cost-burdened, compared to 46 percent of Denver County renters. More than a third of study-area renters, or 33 percent, of this cost-burdened group are severely cost-burdened and spend more than 50 percent of monthly income on rent.

Figure A-10 and Figure A-11 outlined financial characteristics of renters within the study area. The median income of all residents in the study area is approximately \$49,000 (U.S. Census, 2010), but there are Census block groups with extremely low-income residents (as designated by the U.S. Department of Housing and Urban Development) who make a median income of approximately \$9,600 a year. Improving bus stop amenities may improve the public transportation experience for a population who cannot afford other options, like bikes or personal vehicles.

**Figure A-11, Percentage of Renters Who are Cost Burdened by Monthly Rent**



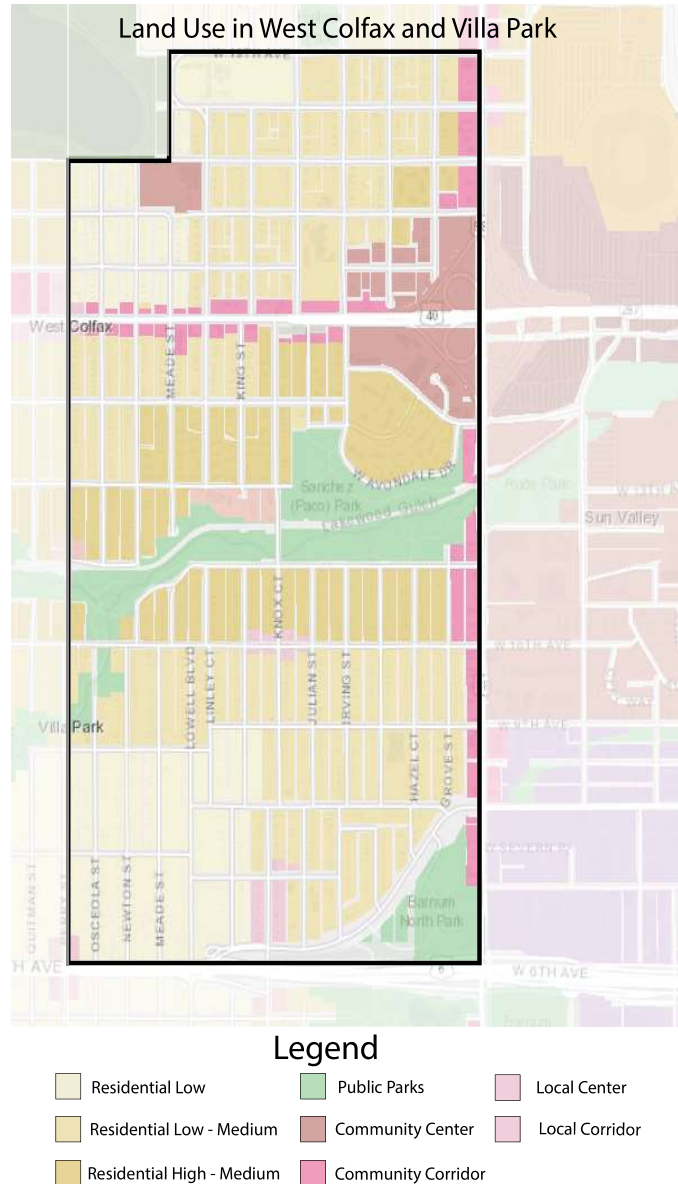
Source: US Census Bureau, American Community Survey, 2017 5-year Estimates

## A-3: LAND USE, TRANSPORTATION, AND URBAN FABRIC

### Land Use

There is a diversity of land uses in the neighborhoods of West Colfax and Villa Park. The Blueprint Denver plan calls for increasing use variety within the neighborhoods and considering the various transportation needs of those areas. The neighborhood interiors have varying concentrations of residential use -- low, medium and high. The areas of low use are typically within walking distance of a transit stop, with the proximity to a stop increasing as transit use increases. Predominant residential land use means the population will commute to work and other activities via the main corridors in the neighborhoods. These residential areas also contain local centers or corridors with commercial uses that have limited transit access but are reachable by walking or biking. As evidenced by Figure A-6, fewer people work from home or walk to work in these neighborhoods as compared to Denver County, indicating that residents are leaving their neighborhood for their jobs. There is an opportunity to decrease car trips and increase residential transit use by improving the accessibility of stops and providing better amenities for residents who commute to and from work.

Figure A-12, Land Use Map



Data courtesy of Blueprint Denver

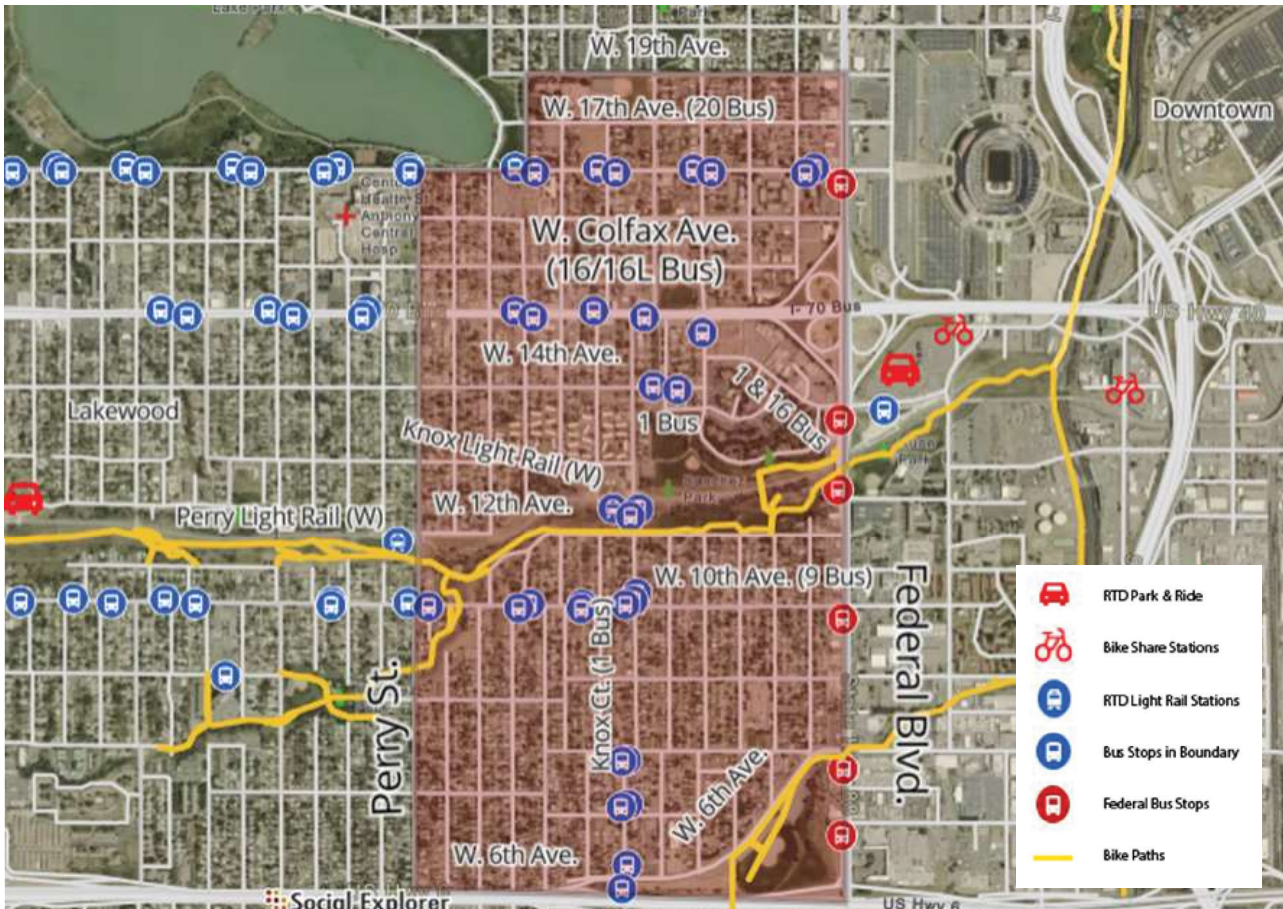


## Transportation

Only two of the six assigned stops are near other bus stops within the West Colfax/Villa Park study area. Bike trails run from the northeast to the southwest. The Platte River Trail runs through the area from north Denver to west of downtown and then southward along the I-25 and South Santa Fe Drive corridors. The Lakewood Gulch Trail runs along Paco Sanchez Park and connects to the Dry Gulch Trail, which runs west towards Sheridan Boulevard and diverts southwest to Villa Park.

The study area has two RTD Park-n-Ride areas just outside of its bounds; one is at the Decatur/Federal Station and the other at the Sheridan RTD station. There are also two bike-sharing stations east of the study area, one at the Decatur/Federal RTD station and another on Zuni. There is sidewalk access throughout the area.

Figure A-13, Transportation Map



## URBAN FABRIC

### West Colfax Avenue

Colfax began as an independent town with its own main street lined with stores, saloons and a restaurant and hotel. Denver annexed the town in 1897 and named the main avenue, West Colfax, for Schuyler Colfax, a 19th century Congressman. Twentieth century Denver residents would have known West Colfax as “No Man’s Land,” a sparsely populated neighborhood with a mix of mansions squatters’ shacks. The neighborhood became a haven for Eastern European and Jewish immigrants. Growth in the West Colfax neighborhood stalled during the Depression but thrived in the 1940s and 1950s during a housing boom. The 1960s brought waves of Latino immigrants to the area, followed by southeast Asian immigrants in the 1970s. Today, Central and South American restaurants and supermarkets line Federal Boulevard, and markets specializing in Asian cuisine are just a short drive from West Colfax. (Denver Public Library, 2016). West Colfax neighborhood is home to just over 9,000 people (U.S. Census).

### Buildings

#### *Federal Boulevard to West Colfax intersection*

This area has a mix of commercial buildings and multi-unit residences that run along Federal Boulevard, behind Mile High Stadium. Buildings in this corridor are limited to five stories and give the area a dense urban look. The city of Denver classifies it as an Urban Center – Mixed Use area, with high levels of pedestrian and bicycle traffic and the best access to multi-modal transportation. (The city labels this district C-MX-5.) Building types allowed in this area are townhomes, drive-thru services and restaurants and a general category.

Only town homes have setbacks – 10 feet from primary streets, 7.5 feet from side streets and 5 feet from interior streets. All other buildings have no setbacks from primary, side or interior streets, unless they are adjacent to a protected district (Denver Zoning Code, 2019).

#### *Central West Colfax*

Denver declared the majority of the West Colfax portion of the study area a General Urban multi-use district, which allows urban houses, duplexes, row houses, garden courts, town homes and apartments. Zoning maps divide this district into three main sections, north and south of West Colfax Ave., where the city limits building heights to three stories in the purely residential district and five stories in the mixed-use district. Lot sizes and setbacks vary based on building type. (The city labels these districts as General Urban – Multi-Unit 3, or G-MU-3, as well as G-RH-3.) Building types allowed in this area are urban homes, duplexes, row homes, garden courts, town homes and apartments. Primary street setbacks vary between 20 and 30 feet, except for garden courts, town homes and apartments, which have 10-foot setbacks from primary streets (Denver Zoning Code, 2019).

#### *Colfax Main Street*

West Colfax Avenue, once the main street of the town of Colfax, has been preserved in the city of Denver zoning code as a main street. As an Urban Center district, buildings here are typically between two and eight stories high, and setbacks and lot sizes vary based on building type. (The city labels this district as C-MS-8.) Building types allowed in this area are town homes, drive thru services and restaurants and shopfronts. Town homes are the only category with a primary street setback – in this case, 10 feet. All other building types have no primary street setbacks but have interior street setbacks of 10 feet (Denver Zoning Code, 2019).

## Historic Buildings

The study area of West Colfax is home to the historic Lake Middle School, which opened its doors in September 1926 to accommodate the neighborhood's growing population, according to the school's website. The city of Denver recognized the school as a local historic landmark in 1996, although it does not appear on the National Register of Historical Places. The school was designed by renowned Denver architects and natives, brothers Merrill and Burnham Hoyt, who together designed several Colorado buildings listed on the National Register (Denver Public Library, 2016).

## Villa Park

Villa Park's convoluted history begins as a real estate prospect as early as 1865, when an investor bought 160 acres southwest of Denver, the first of many deals made to build Villa Park. By 1871, after another group of developers purchased 1,000 acres in the area, the Denver Villa Park Association planned to develop the land featuring landscape designs by Frederick Law Olmstead, the designer of New York City's Central Park. But lawsuits drove the association into bankruptcy and the land became a cattle brokerage until 1891. Later, members of Barnum circus family purchased it (Denver Public Library, 2016).

Villa Park itself was slow to develop. By 1900, the Census shows it had only around 60 buildings; over the next 40 years, only 577 homes would be built (Denver Public Library, 2016). But in 2016, the Denver Business Journal declared Villa Park the city's least expensive neighborhood, where the median home value was \$192,000 and where a quarter of the residences were designated affordable housing. The neighborhood's southern border was the site of a \$98 million overhaul of 6th Avenue. Like West Colfax, Villa Park is home to just over 9,000 people (U.S. Census).

## Buildings

### *Federal Boulevard*

Collector and arterial streets serve this strip of Federal, where buildings are between one and three stories high. The city of Denver has labeled this area as part of the Urban Edge, or a mix of buildings from urban and suburban neighborhoods, to include single family homes, duplexes, row or town houses, apartments, commercial buildings with shopfronts or single-use buildings. The city of Denver permits town homes, drive-thru services and restaurants, general single-use buildings and shopfronts on this section of Federal, which stretches from West 12th Avenue to Barnum Park. Building types allowed in this area are urban homes, which have a 20-foot setback from primary streets.

### *Central Villa Park*

The city of Denver has zoned most of the Villa Park portion of the study area as Urban Edge – Single Unit, meaning only urban homes are allowed on lots of a minimum 6,000 square feet. There is a small section of this area – between Julian Street and Knox Court along W 7th Ave. – that has been zoned as a main street corridor. Building types allowed in this area are town homes, drive-thru services and restaurants and shopfronts. Townhomes alone have a setback of 10 feet (Denver Zoning Code 2019).

### *Historic Buildings*

The City and County of Denver named the 7th Avenue Congregational United Church of Christ as a local historic landmark in 1998. The church was built in 1913. It is now home to the Church of the Advent, an active Anglican congregation that purchased the building in 2016.



## Parks

### *Paco Sanchez Park*

In 2018, Denver Parks and Recreation officials said Paco Sanchez Park serves communities that are “historically underserved in access to parkland and recreation amenities, with some of the lowest household incomes and highest obesity rates in the city.” The park named for former Colorado legislator Francisco Sanchez, features a playground, baseball/softball field and basketball court. It also contains sections of the paved Dry Gulch Trail (0.8 miles) and the Lakewood Gulch Trail (2.0 miles).

### *Lakewood/Dry Gulch Park*

The study area contains sections of the Lakewood/Dry Gulch Park, at 1100 Perry Street, which connects to Paco Sanchez park and features a community garden, playground, basketball court and a disc golf course. It also shares sections of the Dry Gulch and Lakewood Gulch trails.

## Conclusion

The neighborhoods of West Colfax and Villa Park are prime areas for the City and County of Denver and WalkDenver to focus on expanding pedestrian and transit access. The neighborhoods have higher numbers of residents who are more likely to rely on transit and who tend to be lower income – both groups that would benefit from an expanded transit system with improved access to bus stops.

Figure A-14, Paco Sanchez Park



Photo Courtesy David King



## CHAPTER TWO: SITE ASSESSMENTS

### B-1: STUDY AREA WINDSHIELD/WALKING SURVEY

#### Windshield Survey

The project team went on a windshield survey on October 9 just after 12:15 p.m. The windshield survey established that construction in the area was significant and blocked access to at least two stops of the six assigned stops. The construction was heaviest between 9th Avenue and Holden Place along Federal Boulevard.

Traffic cones blocked one stop, which was located next to the bus buffer lane. The next stretch of Federal Boulevard was under heavy construction, and the next stop was inaccessible by foot or car. The sidewalk on Federal's southbound side adjacent to the stop was closed. The project team located the bus stop sign pole but noted there was no sign. The remaining bus stops were outside of the heaviest construction zone and did not appear to be affected by the work.

While driving through the residential part of the study area, the team saw new apartment and condominium buildings popping up between bungalow and craftsman-style single-family units. The project team noted the development as a potential signal of changing demographics that could shift the transit needs of the neighborhoods. The team noted that certain neighborhoods of the study area have a perfect view of the downtown Denver skyline.

Much of the study area seems prime for future development with the skyline view as an asset. The survey continued as the team turned north on Federal Boulevard, leaving the study area. The project team returned to campus via Federal Boulevard and 6th Avenue.

Figure B-1, Federal Boulevard and 7th Avenue Northbound



Photo Courtesy David King

Figure B-2, Denver Skyline from Federal Boulevard



Photo Courtesy David King

## B-2: BUS STOP ASSESSMENTS SITE INVESTIGATION

### Analysis and Results

The team returned to the study area together on October 19 from 8-11 a.m. to perform bus stop assessments and conduct interviews. The project team assessed all six stops together and agreed upon each rating and detail prior to submission.

Data was collected for a variety of attributes. First, safety was evaluated based on a few factors including, but not limited to, traffic, lighting and visibility, cleanliness, access and weather. Physical condition, cleanliness, accessibility for people with disabilities and general pedestrian connectivity were rated on a scale from one to five. Finally, the team rated crosswalk accessibility and amenity identification for each stop.

Aside from Bus Stop 13699, all stops in the West Colfax and Villa Park portion of Federal Boulevard were rated at a three or better. While many of the stops lacked amenities other than a concrete pad, they were all serviceable to riders, who later mostly said they felt comfortable taking the bus on most days.

Figure B-3, Bus Stop 13701: Federal Boulevard & West Holden Place



Photo Courtesy Sarah Crump

*Bus Stop 13699: Federal Boulevard & West 10th Avenue*

This bus stop was unusable at the time of the assessment. Therefore, the project team rated it at one, the lowest score, by default. Construction prevented buses and pedestrians from accessing the stop.

*Bus Stop 13701: Federal Boulevard & West Holden Place*

Construction had just been completed at the West Holden Place bus stop. No riders were seen waiting at this stop during the project team's assessment. This may have been because of its recent re-opening and its location in the spatial context of the area. The team gave this station a three overall. The station was dirty but safe, thanks to a lane buffer. It is near the Lakewood Gulch bike path so bicyclists could easily access this stop. Its pedestrian connectivity and accessibility for people with disabilities was rated a three, as there was a crosswalk nearby but not close enough to where most would consider the stop "conveniently located." There are no amenities at this stop.

### *Bus Stop 13702: Decatur/Federal Station Gate F*

While it was without amenities, stop 13702 was the busiest of all the stops during the team's assessment. Due to its popularity, this station should see some improvements in the future. This stop did not feel safe, given its proximity to a liquor store where people loiter throughout the day. The stop 13702 was located at the bottom of an overpass so cars sped by this stop (shown in red on Figure 5 below). The stop was in decent physical condition, but also had a lot of litter in the vicinity. There was excellent pedestrian connectivity and disability accessibility as the stop was next to a crosswalk. This stop is also considered a gate, where buses wait for a few minutes to serve transfers -- a connectivity plus. The team gave this stop a three.

### *Bus Stop 13758: Federal Boulevard & West 7th Avenue*

This stop was on an island in the context of the study area. While close to stop 13768, it also was located close to 6th Avenue, so the rest of the stops felt farther away as a result. Accessibility was rated at a two, due to decent connectivity but a lack of accessibility. While this stop has no amenities, it is well lit and received a score of three. High traffic presence and proximity to a major arterial are likely deterrents for transit riders.

### *Bus Stop 13768: Federal Boulevard & West 8th Avenue*

Stop 13768 shared the same conditions and qualities of 13758. However, pedestrian connectivity and disability accessibility were exceptional in comparison. The stop was clean, but there were no amenities other than a concrete pad as was the case for most of the other stops. This stop was also rated a three overall.

### *Bus Stop 18820: Federal Boulevard & West 17th Avenue*

This stop had several unique amenities, including two benches, an enhanced shelter and trash cans. It also had great connectivity for able-bodied pedestrians and people with disabilities alike. This stop was located up the hill from Mile High Stadium and was at the north end of the study area, approaching the Sloan Lake and West Highland neighborhoods. It was also close to several restaurants and shops -- including KFC and A&W, a Denny's and a new Mexican restaurant. But the stop was not clean, so the team rated it a four.

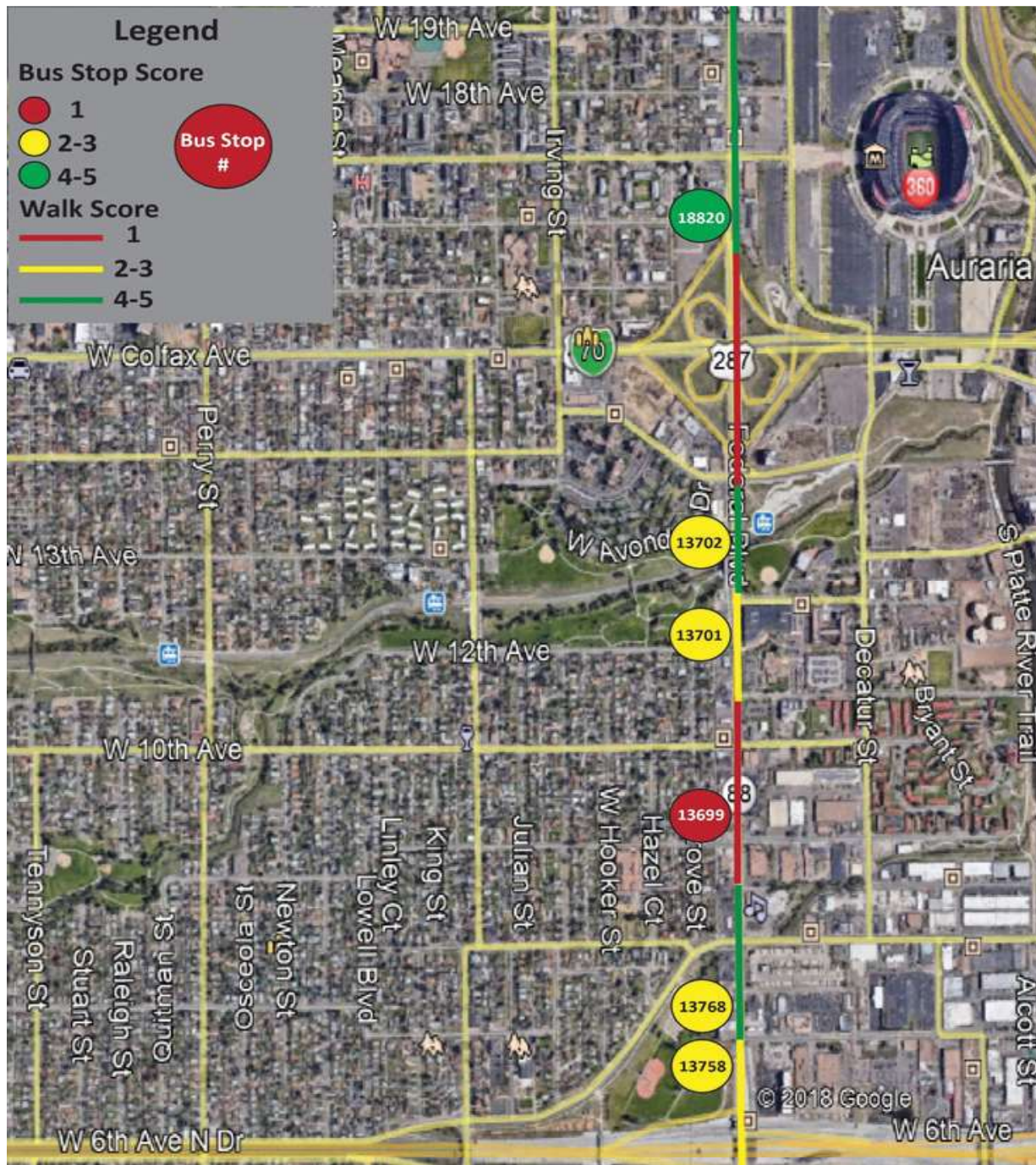
Figure B-4, Bus Stop 18820: Federal Boulevard & West 17th Avenue



Photo Courtesy Sarah Crump



Figure B-5, Bus Stop Assessment Summary Map

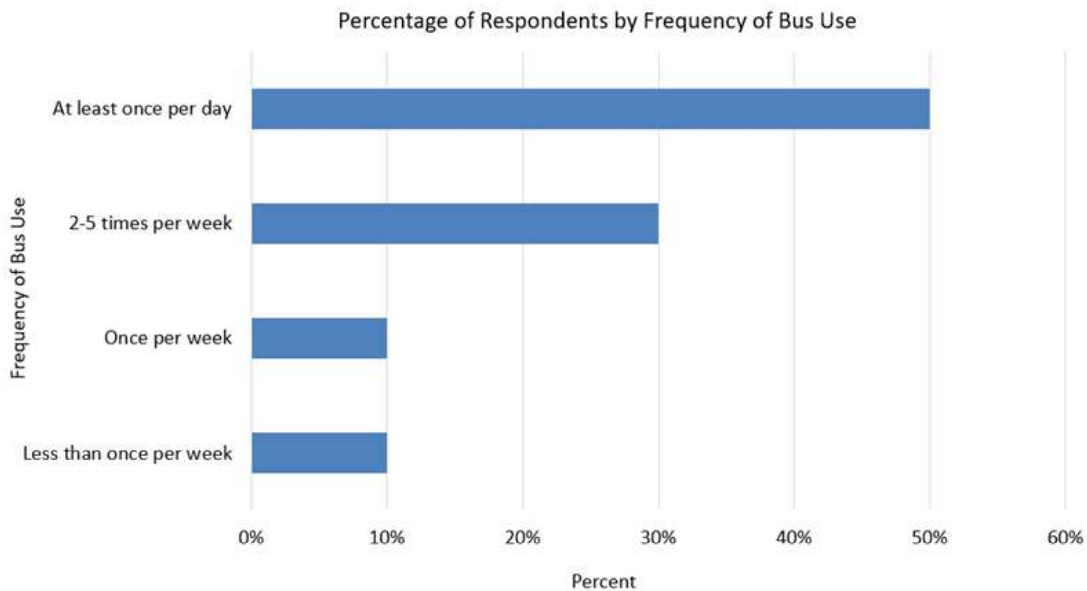




### B-3: INTERCEPT INTERVIEWS

On the week of October 19, the team surveyed 20 local transit users on a range of questions concerning bus ridership and bus stop amenities. WalkDenver provided survey questions and respondents were using the stops during the survey. See the questions in the attached Appendix. Seventy-five percent of respondents said that “no car access” was their primary reason for choosing to take the bus; all those same respondents also reported that they did not own a car. Fifteen percent stated “convenience” and 10 percent stated “cost savings” as their primary reasons for taking transit. Most of the respondents were frequent riders. Figure 6, Percentage of Respondents by Frequency of Bus Use, shows the frequency with which the survey respondents use the bus.

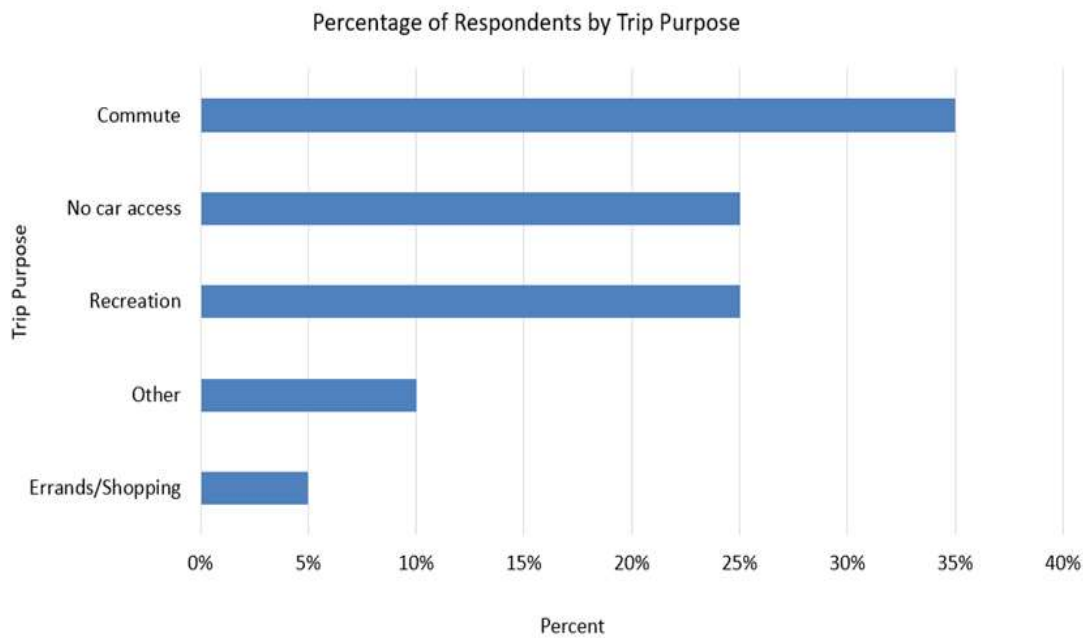
Figure B-6, Percentage of Respondents by Frequency of Bus Use



Fifty percent of respondents use the bus at least once per day. Respondents who answered a question about what distance they were traveling (65 percent of respondents) said they were traveling between three to five miles. Respondents had varying reasons for taking their current trip as shown in Figure 7 below.

Commuting was the most popular reason for taking transit at 35 percent. The least common reason was errands and shopping at only five percent. The impression of the condition of the bus stops by survey respondents was mixed and ranged from ratings of one to five. The average ranking of the bus stop condition by respondents was 3.5.

**Figure B-7, Percentage of Respondents by Trip Purpose**



Survey respondents identified numerous bus stop amenities that they would like to see present in the neighborhood. Figure B-8 shows the desired amenities by popularity. Respondents could identify multiple amenities that they desired. Twenty five percent of respondents did not identify any amenities or said no new amenities were needed.

The most popular amenity that was desired were shelters, which were missing from five out of six bus stops in the neighborhood. The amenities listed from most requested to least requested are as follows: shelters, benches, security cameras, improved lighting, trash cans, a buffer from traffic, and heaters. Anecdotally, multiple respondents were happy that removing benches from several of the bus stops had prevented people from sleeping or loitering at stops. Only 15 percent of respondents claimed that they do not feel safe at the bus stop where they were surveyed. The reasons given for safety concerns were people loitering at both the bus stops and an adjacent liquor store. Ninety percent of respondents said that they would prefer a shorter walk to a bus stop with fewer amenities and a longer bus ride, while 10 percent preferred the opposite, a longer walk to a bus stop with better amenities and a shorter bus ride. The below Figures B-9 through B-12 show the demographic breakdown of the 20 survey respondents.

Figure B-8, Respondent Identified Desired Bus Stop Amenities

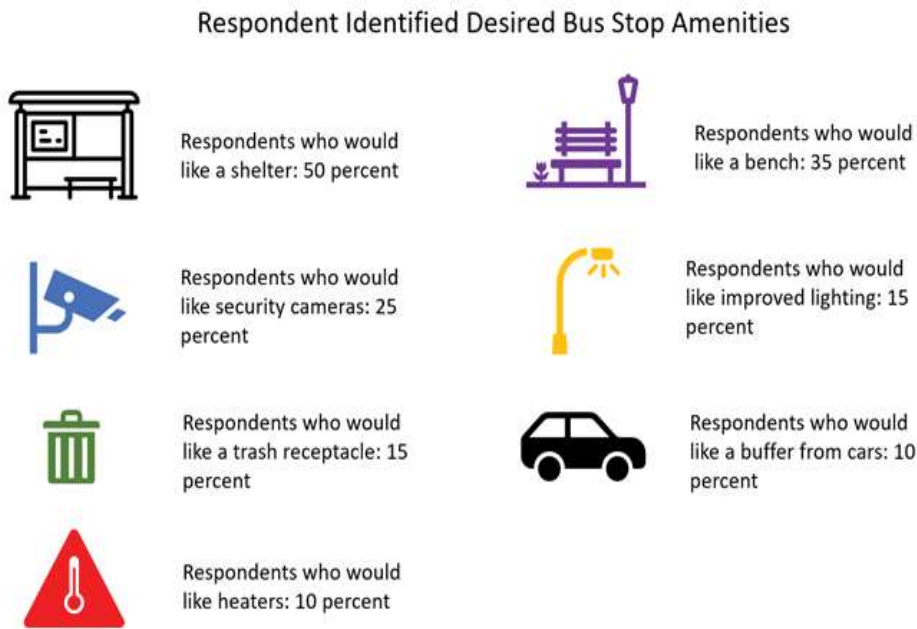


Figure B-9, Percentage of Respondents by Age

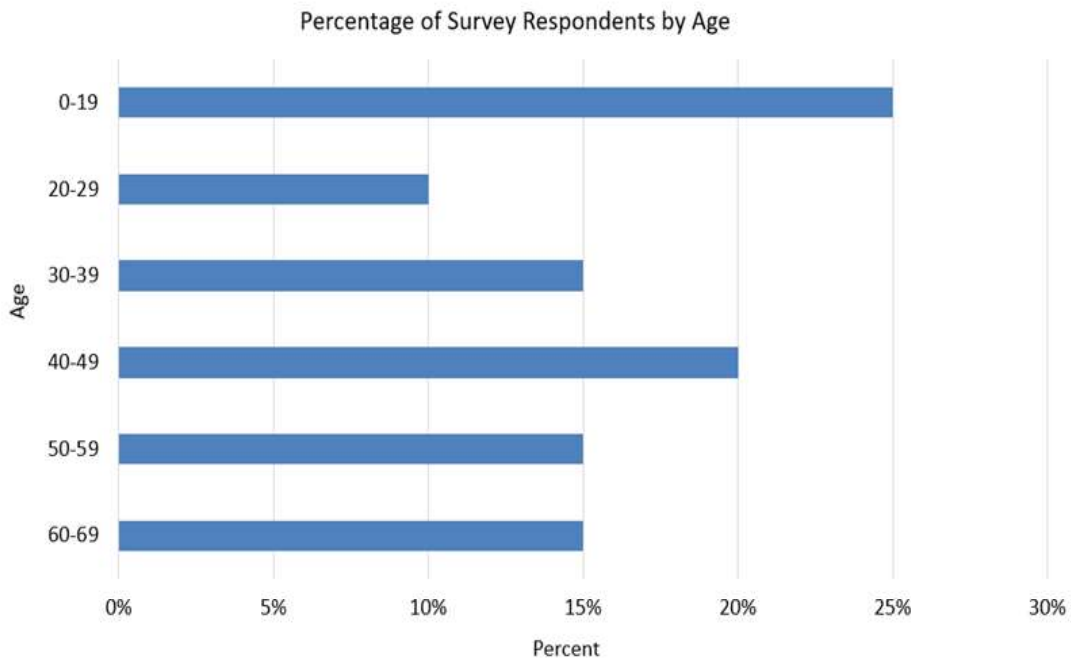


Figure B-10, Percentage of Respondents by Race or Ethnicity

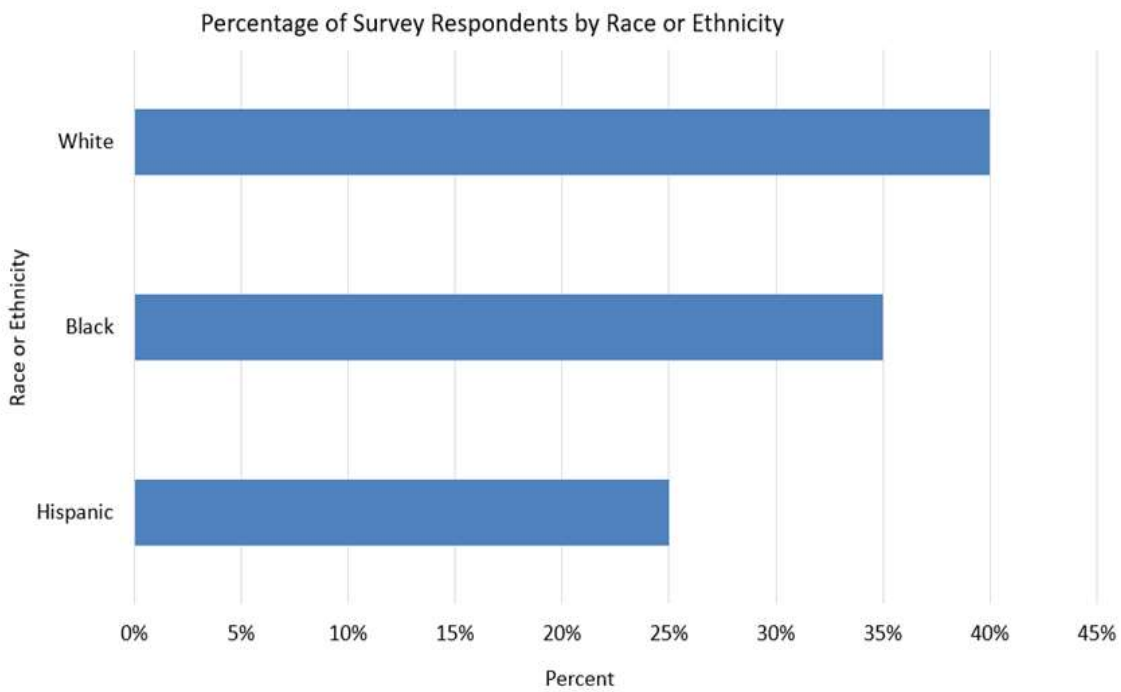




Figure B-11, Percentage of Respondents by Gender

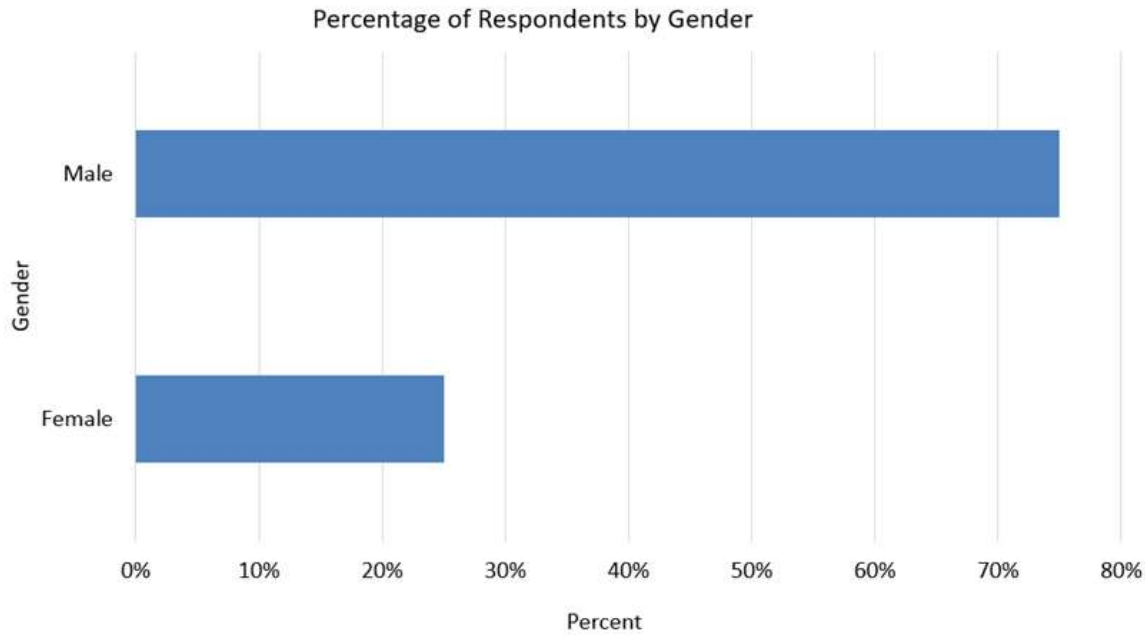


Figure B-12, Percentage of Respondents Living or Working in the Area

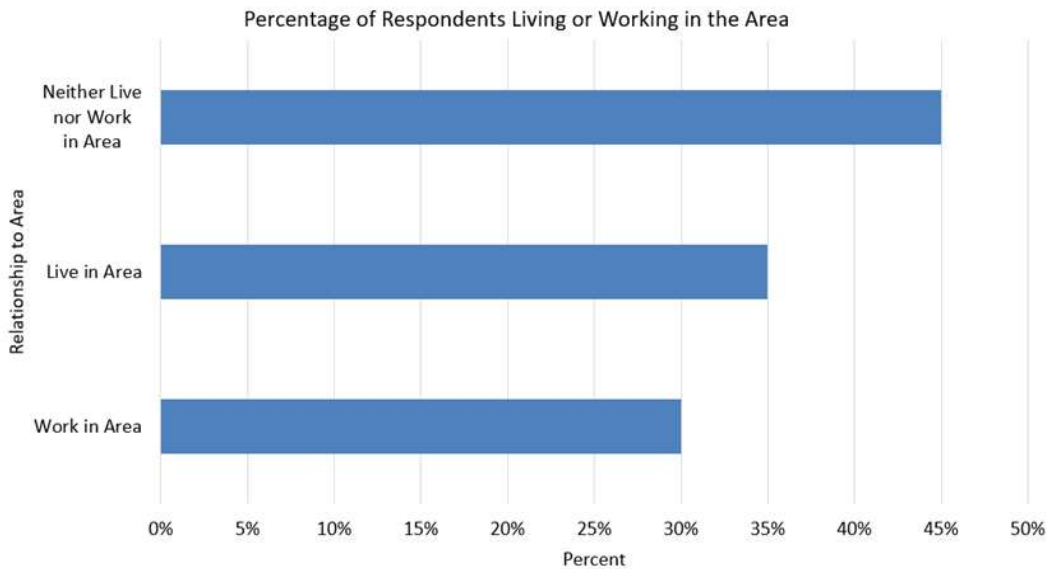


Figure B-11 shows that 75 percent of survey respondents were male. The project team noted that finding female respondents was challenging.

Note that several respondents both live and work in the area and therefore the percentages in Figure B-12 above total more than 100 percent.

## **B-4: BUS STOP ASSESSMENT AND INTERCEPT INTERVIEW METHODOLOGY CRITIQUE**

While the project team adhered to the execution and safety plan, there were unexpected challenges with intercept interviews and confusion over questions on the survey. See the attached Appendix for the interview questions. The execution plan did not anticipate the random or systematic errors in the team's data collection and did not put in place safeguards against the team's mistakes.

For example, not all respondents had time to complete the 17-question survey. As a result, some members of the project team opted to skip some questions in favor of others in the interest of completing as much of the survey as possible. The team did not anticipate this and did not discuss beforehand how to prioritize questions to save time. The first survey question -- "why are you taking transit today?" -- was often interpreted differently by various respondents. Some people answered "because I don't have a car" while others gave their destination or goal of their ride (i.e. to get downtown or to go get a haircut). The data values for this question, then, will be inconsistent.

Interviewees seemed less interested or confused by the redundant questions -- such as "where are you going today?" and "how far are you going today?" Some members of the project team skipped these redundant questions, introducing more holes in the data collection. Question nine was often too complicated to squeeze into a short interview or too confusing for the interviewee. But, the team's choice to eliminate the question from many interviews likely introduces more holes into the data and will make WalkDenver's analysis of rider preferences less accurate.

The majority of the project team's interviewees did not own cars and said they had no choice in transit -- making question three ("why did you choose transit today over another mode of transportation") irrelevant. The premise of the overall bus stop assessment -- that bus stops could be improved with more amenities -- did not bear out for all interviewees. Finally, WalkDenver's individual surveys did not indicate which bus stop the team was assessing.

## CHAPTER THREE: GAPS AND RECOMMENDATIONS

### C-1: TRANSIT/PEDESTRIAN INFRASTRUCTURE GAPS

#### Existing Transit/Pedestrian Infrastructure Gaps

*Bus Stop 18820: Federal Boulevard & West 17th Avenue*

In the team's study area, Bus Stop 18820 had the most amenities, including two benches, an enhanced shelter and trash cans. It was near a crosswalk, and sidewalks in the area were wide and in good condition. But the stop was also the dirtiest the study area; the two trash cans were small and chained to one of the benches.

*Bus Stop 13702: Decatur/Federal Station Gate F*

*Bus Stop 13758: Federal Boulevard & West 7th Avenue*

*Bus Stop 13768: Federal Boulevard & West 8th Avenue*

These three stops had no amenities beyond signs and concrete pads. Bus Stop 13702 was near a liquor store, where people tended to loiter. Bus Stop 13758 was farther away from other stops and not as accessible.

*Bus Stop 13699: Federal Boulevard & West 10th Avenue*

*Bus Stop 13701: Federal Boulevard & West Holden Place*

Bus Stop 13699 was unusable at the time of the assessment due to construction. Bus Stop 13701 had also been under construction and was not accessible by bus during the assessment.

#### Missing Transit/Pedestrian Infrastructure Gaps

*Bus Stop 13699: Federal Boulevard & West 10th Avenue*

While this stop was inaccessible due to construction at the time of the assessment, the team ascertained that there were no visible amenities other than the sign and a concrete pad. Other than the obvious lack of accessibility, this stop would benefit from the presence of a shelter, bench, and a trash can at the minimum.

*Bus Stop 13701: Federal Boulevard & West Holden Place*

Despite this stop having a large buffer protecting riders, the only other amenities were a concrete pad and a visible sign. Like the stop above, a shelter, bench, and chain-link tethered trash can would likely encourage a greater number of riders. This stop is near the Decatur/Federal station below, which is more central, enabling riders to choose that station over stop 13701.

*Bus Stop 13702: Decatur/Federal Station Gate F*

The Decatur stop competes with the gate across the street in that the gate across the street has an enhanced shelter and multiple benches. Because buses wait longer for passengers at this stop, the team witnessed many riders cross the street to board, taking advantage of the exceptional amenities that Gate F lacked. The pedestrian infrastructure, therefore, is the best in the West Colfax and Villa Park study area. This stop would benefit from comparable amenities to the stop across the street. The liquor store behind the fence at this stop is also a deterrent for many.

*Bus Stop 13758: Federal Boulevard & West 7th Avenue*

Lighting and a concrete pad were present at this stop. However, traffic coming from/going towards US-6/6th Avenue were moving at excessively high speeds. Therefore, a buffer would be a welcome addition to this bus stop. This stop would certainly benefit from a shelter, as it would deter winds created by high-speed traffic. Lighting helps riders identify this stop, but this was one of a few stops where the team did not experience any ridership.

*Bus Stop 13768: Federal Boulevard & West 8th Avenue*

Only a sign and a concrete pad was present at this stop. This stop shares many of the same issues as Federal Boulevard & West 7th Avenue, just being a block farther away from the fastest traffic in the immediate area. This was another stop where the team did not see a single rider board. Improving amenities by adding a bench and/or a shelter would likely encourage greater ridership. However, the 7th, 8th, and 10th Avenue stops are so close to each other, that it might not be necessary to maintain all three stops. For those that need accessibility, this stop was also close to a crosswalk, so the 7th Avenue stop would probably be the odd one out.

*Bus Stop 18820: Federal Boulevard & West 17th Avenue*

This stop had an enhanced shelter, a bench, and a trash can. This stop also encourages a buffer, as there are only a few feet of space between the road and the benches, let alone standing room. There were a few restaurants and bars near this stop, which encouraged greater ridership than all the other stops, aside from the Decatur/Federal stop. This stop has no pressing missing gaps, especially compared with other stops in the study area.

## **Transit-Rider/Pedestrian Infrastructure Gaps**








There were several gaps in the transit-rider/pedestrian experience throughout the study area. The area around Colfax Avenue was particularly problematic, as there are several on and off ramps without adequate pedestrian-crossing signage. It is dangerous for pedestrians to walk along Federal Boulevard to either the northern or southern side of Colfax Avenue. Additionally, there were piles of trash in the greenspace around Colfax Avenue and Federal Boulevard, adding to the unsafe atmosphere. At the Holden Place stop, there was a liquor store directly behind the bus stop, with people waiting outside the store for it to open on a Saturday morning. The presence of the liquor store could lead to a less safe bus stop.

At the same stop, it was noted that many people wait across the street at the northbound stop, presumably because of the enhanced amenities, and make their way over to the southbound stop once the bus arrived. This led to pedestrians crossing the street in an unsafe manner, both in and out of the crosswalk. There is a general lack of shade along southbound Federal Boulevard. There is a constant presence of speeding vehicles, often only a step away from transit-riders and pedestrians. The aesthetics of the corridor seem to be on the verge of a shift, as there is increased road and building construction throughout. The construction, ranging from 6th Avenue to 12th Avenue, appeared to serve as a deterrent to transit-riders and pedestrians, as sidewalks were closed, and a bus stop was inaccessible.



Figure C-1, Bus Stop Gaps

# Bus Stop Gaps

Legend	
	Construction
	Closed
	Disability Access
	Pedestrian Access
	Lighting
	Trash can
	Bench or Shelter



## C-2: TRANSIT/PEDESTRIAN INFRASTRUCTURE RECOMMENDATIONS

Based on the previous chapter's rider surveys and the gaps identified above, the team is making the following recommendations for improvements to the overall study area bus stop experience.

The team believes there should be improved connectivity and walkability between stops. Specifically, the sidewalk between stops 18820 and 13702 is not well connected and requires pedestrians to cross an area of poor visibility, with no crosswalk, that is an on-ramp for vehicles entering Interstate-70. This area should have an improved sidewalk and added crosswalk at this on-ramp. The remaining portion of Federal Boulevard in the study area should have complete sidewalk connectivity from north to south.

In addition to improved connectivity, the bus stops should be better buffered from the traffic in this neighborhood with a minimum setback or lane pull-over at each stop. The current conditions of the bus stops which are directly adjacent to a lane of traffic travelling at speeds in excess of 50 mph is unsafe.

The team is also recommending that each stop be required to have minimum standards for upkeep and amenities. These minimum standards should include a shelter, adequate lighting, and a permanent trash receptacle.

Our final recommendation, albeit costly for the city, is that the City of Denver take over the responsibility for stops that do not possess or inadequately provide the recommended minimum standards as outlined above. The city should apply a uniform minimum standard to all stops in the transit network.

Based on the previous chapter rider surveys and the gaps identified above, the team is making the following recommendations for the individual bus stops.

*Bus Stop 18820: Federal Boulevard & West 17th Avenue*

This bus stop should have permanent trash bins installed that would not tip over and would be secured at the bus stop site without being chained to the waiting area bench. This would improve the overall cleanliness of the site and improve the experience of sitting on the bench.

*Bus Stop 13699: Federal Boulevard & West 10th Avenue*

*Bus Stop 13701: Federal Boulevard & West Holden Place*

*Bus Stop 13702: Decatur/Federal Station Gate F*

*Bus Stop 13758: Federal Boulevard & West 7th Avenue*

*Bus Stop 13768: Federal Boulevard & West 8th Avenue*

The team's suggestion for all five of these stops is to recommend the installation of a shelter and permanent trash receptacle at each location. The team is recommending the installation of a shelter which would protect from the elements, but not recommending benches be installed. It was suggested during the team's site visits that members of the community feel benches would encourage loitering at the stops, but shelters would be less inclined to promote loitering by non-riders. See Figure 2, Bus Stop Recommendations Exhibit, below as an example of bus stop 13702 with added shelter and trash receptacle amenities.

Although a busy bus corridor, many of the stops seem neglected and have varying degrees of quality, despite their high use. But the neighborhood has the potential to develop into a diverse transit corridor, with its proximity to downtown Denver, bike trails, a multitude of bus stops and proximity to residential areas.

Figure C-2, Bus Stop Recommendations

## Bus Stop 13702 Mockup of Recommendations



**Before**

**Construction Zone**



**With Recommendations**

**Shelter Added**

**Construction Complete**

**Trash Receptacle Added**

## Works Cited

- City and County of Denver. "Denver Zoning Code." Denver Zoning Code, City and County of Denver, 2018, pp. 1–1406. <https://www.denvergov.org/content/denvergov/en/community-planning-and-development/zoning/denver-zoning-code.html>
- Denver City Council, et al. "Blueprint Denver." Blueprint Denver, Denveright, 22 Apr. 2019. [https://www.denvergov.org/media/denvergov/cpd/blueprintdenver/Blueprint\\_Denver.pdf](https://www.denvergov.org/media/denvergov/cpd/blueprintdenver/Blueprint_Denver.pdf)
- Denver Public Library. "Barnum Neighborhood History." Denver Public Library History, 26 Aug. 2016, <https://history.denverlibrary.org/barnum-neighborhood-history>.
- Jensen, Kelly. "A Look at Denver's Villa Park Neighborhood." 9News.com, KUSA, 26 Feb. 2016, <https://www.9news.com/article/news/local/features/9neighborhoods-a-look-at-denvers-villa-park-neighborhood/56653961#targetText=The%20Villa%20Park%20neighborhood%20got,It%20was%20still%20largely%20undeveloped>.
- Lotus, Jean. "New Paco Sanchez Park Makeover Unveiled In Denver." Denver, CO - Patch, Patch, 19 June 2018, <https://patch.com/colorado/denver/new-sanchez-park-makeover-unveiled-denver>.
- Miller, Ben. "Denver's Most Expensive Neighborhood for Renters Is near Downtown." Bizjournals.com, Denver Business Journal, 1 Dec. 2015, <https://www.bizjournals.com/denver/news/2015/12/01/denvers-most-expensive-neighborhood-for-renters-is.html>.
- National Low Income Housing Coalition (NLIHC). 2019. Out of Reach 2019: The High Cost of Housing. [https://reports.nlihc.org/sites/default/files/oor/OOR\\_2019.pdf](https://reports.nlihc.org/sites/default/files/oor/OOR_2019.pdf)
- The Piton Foundation. "Villa Park." Extreme Community Makeover, 2019, <https://www.extremecommunitymakeover.org/villapark/>.
- US Census Bureau. American Community Survey. 2017. 2013-2017 5-Year Estimates. [Factfinder.census.gov](https://factfinder.census.gov)



**Appendix: WalkDenver Bus Stop Intercept Survey**



## Survey Questions:

### Opening (icebreaker):

1. Why are you taking transit today?

### Current Transit Habits

2. How often do you take transit to get somewhere in a typical week?

- At least once per day
- 2-5 times per week
- Once per week
- Less than once per week

3. Why did you choose transit today versus another mode of transportation?

4. How did you get to this bus stop today?

- Walk
- Mobility Device
- Bike
- Bus transfer
- Scooter
- Car (including Lyft/Uber)

5. Where are you going today? (destination/location)

6. How far are you going today on transit? (distance)

### Transit/Bus Stop Issues

7. How would you rate this bus stop on a scale from 1-5? (1 = terrible, 5 = great) \_\_\_\_\_

8. What would make this bus stop better?

- Shelter
- Route maps and schedules
- Public art
- Heating
- Security cameras
- Real time arrival information
- Bike racks
- Wifi
- Better lighting
- Benches/seating
- Trash cans
- More space to wait
- Other? \_\_\_\_\_

9. Would you rather have:

- A longer walk to a nicer stop and less time riding?
- A shorter walk to a stop with less amenities and more time riding?

10. Do you feel safe at this bus stop? Why or why not?

### Demographics

11. What is your age? \_\_\_\_\_

12. What is your race or ethnicity? \_\_\_\_\_

13. What gender do you most identify with? \_\_\_

14. Do you live in the neighborhood? (Y / N)

15. Do you work in the neighborhood? (Y / N)

16. What is the nearest intersection to where you live? \_\_\_\_\_

17. Do you own a car? (Y / N)