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Neighborhood Planning Initiative (NPI) Near Southeast Area

Multimodal Transportation Existing Conditions

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Well Connected, Safe, and Accessible Places

Introduction

This memo describes the existing conditions for the Near Southeast (NSE) neighborhood as part of the Neighborhood Planning Initiative (NPI), providing the technical foundation for future phases of the planning initiative work. The document starts with a high-level planning review summary and overview of conditions for each mode. Travel patterns, general origin destination analysis, multimodal crash analysis, and parking provide additional information related to transportation conditions. Findings are summarized at the end to identify points of interest to investigate further in later a later NPI phase.

Planning Review

Plans Reviewed

The City and County of Denver (CCD) has several plans that are referenced throughout this document that provide existing conditions information as well as identify recommended future projects. A high level description of the plans are described below.

Denver Moves: Bikes is the primary bicycle plan for the City and County of Denver. The plan establishes two goals: providing a high ease of use bicycle facility within a quarter mile of every household; and achieving a 15% bicycling and walking commute mode share by 2030. The bicycle network map that was originally created as part of this plan is constantly being updated based on land use changes, available right-of-way, and as bicycle facility design improves.

The *Go Speer-Leetsdale Study (2017)* analyzed current and future demographic, land use, and transportation data along this key regional arterial corridor to explore existing mobility concerns and to identify future transportation issues. The study recommended improvements to transit, pedestrian, bicycle, and driving facilities. Including managed transit lanes, reversible transit lanes, new sidewalks and shared use paths, bicycle and pedestrian improvements to Cherry Creek Trail, capacity improvements, and wayfinding and signage improvements.

The *Denver Moves: Pedestrian and Trails* plan was updated in 2019 and provides a comprehensive understanding of pedestrian facilities within the city. The plan was a part of the *Denverright* process and made sure to integrate elements from previously established plans such as *Denver Moves: Bicycle* and *Denver Moves: Transit*. The plan is described as a long-term community developed and financially unconstrained plan. The plan provides sidewalk standards for different roadway types from small residential streets to dense urban areas.

The *Denver Moves: Transit* plan was updated in 2019 as a part of the *Denverright* process as well. This plan describes Denver's role in helping RTD improve transit locally by identifying existing conditions of transit service in the area as well as pedestrian and bicycle facilities. The plan helps identify priority areas where operational services would be best improved to help guide RTD Denver projects.

Blueprint Denver plan is a citywide land use and transportation plan that was first adopted in 2002 and updated in 2019 and is considered a supplement to CCD's *Comprehensive Plan 2040*. The plan covers a 20-year period and focuses on inclusive growth through complete neighborhoods and complete street networks, a measured common-sense approach to new growth, and land-use decisions through the lens of social equity. The plan includes tools, policy recommendations, and strategies to achieve the vision. Extensive community outreach was completed to ensure community input was included in the plan.

The Denver Regional Council of Governments (DRCOG) *Active Transportation Plan* was adopted in 2019 and supports DRCOG's *Metro Vision* plan. The plan envisions a safe, comfortable and connected network and highlights opportunities and implantation strategies to improve active transportation across the Denver region. DRCOG worked with partners throughout the region to develop a regional active transportation vision, tools and products to support the development of an active transportation network.

The *Regional Multimodal Freight Plan* was completed in 2020 by the Denver Regional Council of Governments (DRCOG). This plan is a supporting element of the *Metro Vision Regional Transportation Plan* and *Metro Vision Plan*. The plan offers ideas and solutions by encouraging communities to plan locally and identifying freight-related corridors, investment needs and solutions for the future. This plan acts as a precursor to more comprehensive regional freight planning and is intended to provide a framework for the region to engage on freight issues.

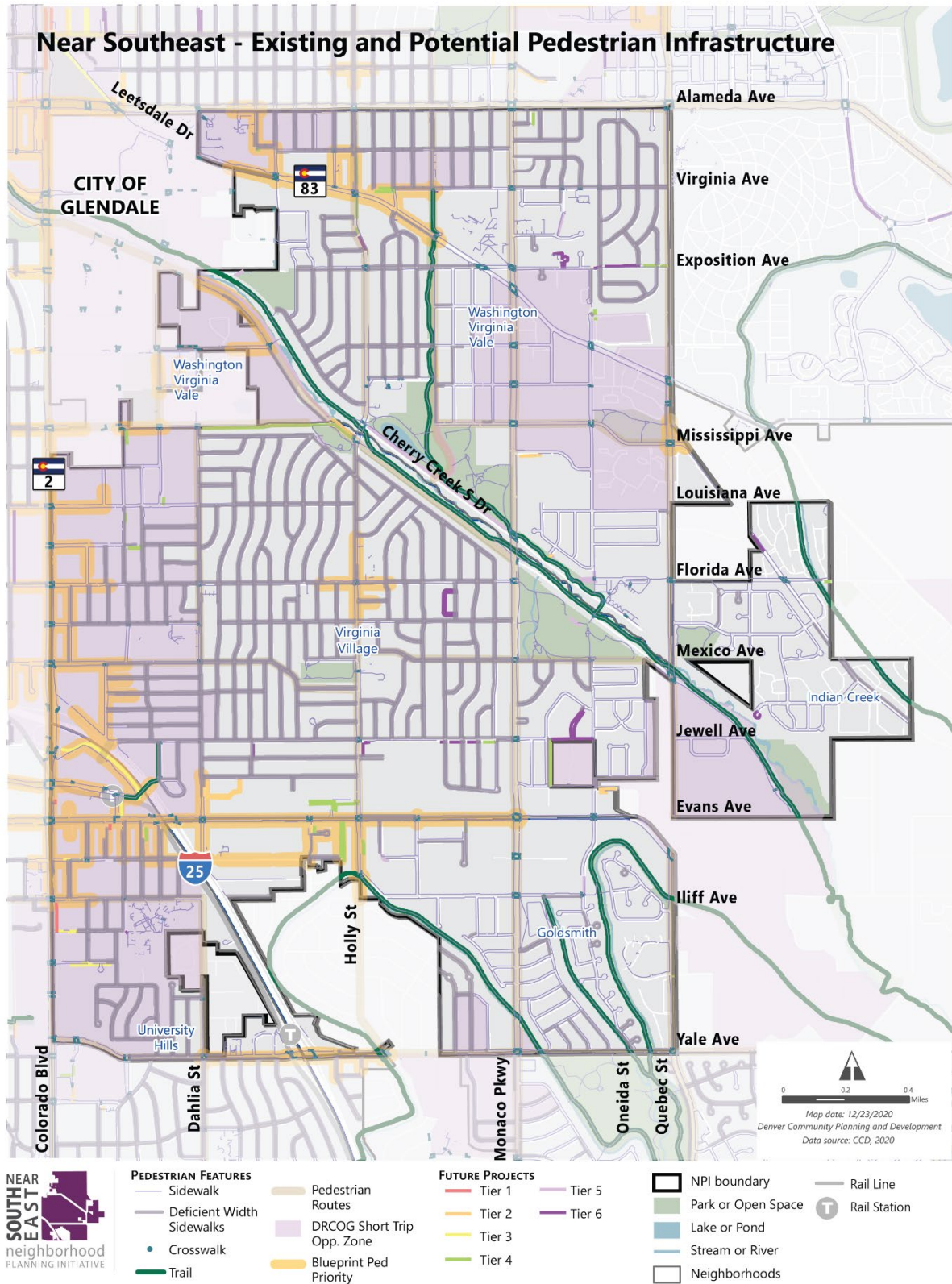
Pedestrian

Existing

The study area has sidewalk coverage throughout most of the area. The majority of the study area is residential. However substantial commercial land uses exist along major corridors and at intersections. Including Evans Avenue, Colorado Boulevard, Leetsdale Drive, and Quebec Street. Smaller, neighborhood-serving pockets of commercial uses also existing within residential communities. These locations can be found along Holly Street, Yale, and Monaco Parkway. Sidewalks in the residential areas are generally in good repair but are attached and thus provide no buffer from the road for pedestrians. CCD sidewalk standards require a five-foot sidewalk with an eight-foot tree lawn or amenity zone for a buffer. Most sidewalks in this area are three feet wide, making them too narrow for city standards. Other areas of missing sidewalks are in areas that could be classified as quiet residential areas, and sidewalks are only missing on one side. Figure 1 shows existing pedestrian infrastructure.

Most of the missing sidewalks in the study area occur near the commercial areas creating a stressful pedestrian environment. Sidewalks in these areas are attached to the roadway, creating no buffer from the roadway. Sidewalk conditions seem to vary more widely in these commercial areas. Sidewalks on Evans Avenue are narrow, measuring at 3-5 feet wide with no buffer from the road, creating a stressful pedestrian environment. CCD sidewalk standards state that arterial streets should have sidewalks that are eight feet wide with a 12-foot tree lawn or amenity zone. East of Monaco Pkwy the sidewalk on the north side of Evans Avenue measures at eight feet but lacks a buffer. Leetsdale Drive sidewalk conditions are poor due to the number of obstructions along the sidewalk and lack of buffer. This section of sidewalk was called out as a concern in the *Go Speer Leetsdale Speed Study*.

Figure 1. Existing and Potential Pedestrian Infrastructure



In addition to sidewalks, the Cherry Creek Trail also runs through the study area. The Cherry Creek Trail is a multi-use trail and provides access to bicyclists and pedestrians in the area, including to multiple parks and other amenities. The trail travels northwest-southeast through the study area.

Marked Crosswalks and Grade Separated Crossings

Crosswalks are present in the study area providing marked crossings at signalized intersections, trail crossings, and schools. Residential areas in the study have limited crosswalks due to low pedestrian volumes that are under established thresholds, however lower traffic volumes often make it easier for pedestrians to cross at these locations. CCD will continually re-evaluate the need for crosswalks where needed as residential densities increase and transportation patterns evolve.

There is a grade-separated crossing at Cherry Creek Trail and Quebec Street which provides an underpass for the trail under Quebec Street.

Recommended

Several completed CCD Plans and Studies, including the *Denver Moves: Pedestrian and Trails* plan (2019) and *Go Speer Leetsdale* plan (2017), include recommendations of pedestrian infrastructure projects. Figure 3 shows these recommended projects. CCD identified six tiers for missing sidewalk projects in *Denver Moves: Pedestrian and Trails* plan, with highest priority projects ranked as Tier 1. Tier 1 through 4 are centered around areas close to transit stops. Tier 1 projects are located along the *Vision Zero* High Injury Network (HIN), tier 2 are defined as high-frequency transit access projects (stops with 15 minute or better frequency) and high priority destinations (school, park, hospital, etc.), tier 3 are the remaining high-frequency transit access projects, and tier 4 are the remaining transit access projects. Tier 5 projects are centered around other high-priority destinations such as schools, parks, and grocery stores, and tier 6 are all other remaining projects. Most of the recommended projects in the NPI are ranked as tier 5 or 6. A few tier 2 and 3 projects are in the study area located near parks and commercial areas, including a location near Colorado Station. All tiers 1 through 3 as well as most tier 4 projects have been completed.

In addition to missing sidewalks, the same tier system is applied to narrow sidewalk projects. CCD has identified narrow sidewalk projects throughout the study area from all tiers, but the majority of the projects are tier 6. Narrow sidewalks are sidewalks less than five feet wide on residential streets or less than eight feet on arterial streets. The sidewalks with deficient width have been identified throughout the City, even if they have not yet been assigned to a project. Most of the deficient width sidewalks are located within the Virginia Village neighborhood.

The *Go Speer Leetsdale Study* recommends improving the sidewalk at Leetsdale Drive and Exposition Avenue. The study also proposes a trail just north of Evans Avenue from Dahlia Street to Oneida Street and be built during redevelopment of adjacent properties. The trail would provide an east-west connection along Evans Avenue where sidewalks are missing.

The University - Colorado Multi-Station Plan and Mobility Study (2017) outlined strategies for activating the University and Colorado light rail stations and improving connectivity to adjacent neighborhoods. Findings from this plan formed the foundation for the follow-on next

steps study that identified specific projects and improvements for the study area. These identified improvements include:

- A cycle track from Colorado Boulevard to the I-25 Pedestrian bridge
- Enhanced roadway improvements at the Colorado Boulevard / I-25 interchange
- Intersection improvements at Colorado Boulevard and Buchtel Boulevard
- A shared use path from Colorado Boulevard east to Colorado Station
- Intersection improvements for Evans Avenue and Colorado Boulevard

DRCOG identified short trip opportunity zones in their *Active Transportation Plan* (updated January 2019). These areas have a high concentration of trips less than two miles in length, which are trips that can be targeted to convert from vehicular trips to pedestrian/bicycle trips. While there aren't specific projects identified within these areas, the area is a good candidate for pedestrian and bicycle projects to increase the number of trips that are already occurring in the area.

Bicycle

As Denver builds out the bike network, there are several types of bike facilities, ranging from low ease of use to high ease of use, which are dependent on roadway characteristics, vehicular speeds, and traffic volumes. High ease of use facilities provide the greatest level of comfort, either as a low-speed, low-volume street prioritized for bicycle travel (a neighborhood bikeway) or facilities that provide a vertical separation between vehicular traffic and people biking, such as a protected bike lane or shared use path. The types of bike facilities planned for and implemented continue to be refined as industry design standards and community needs and opinions evolve. While Denver is focused on implementing high ease of use facilities, it also continues to install all types of facilities to make the network as connected as possible. Figure 2 lists the bicycle facility types according to their ease of use (comfort).

Figure 2. Bike Facility Types



Source: CCD

Blueprint Denver (2019) affirms the importance of ease of use to accommodate as many users as possible, designating all moderate and high ease of use bicycle corridors as priority corridors for implementation to help achieve the mode shift and access to high ease of use facilities goals established by *Denver Moves: Bikes*.

The following subsections summarize the existing, in-progress, and planned bicycle facilities in the study area. The facilities discussed in each can be viewed in Figure 3.

Existing Network

The study area has several major trails and shared use paths, primarily as part of or connecting to the Cherry Creek Trail, High Line Canal Trail, Garland Greenbelt Trail, Goldsmith Gulch Trail, and shared use paths along Alameda Avenue (see Figure 3 for study area existing bicycle facilities). There are several shared roadway corridors as well, most notably along Dahlia Street, Oneida Street, Iliff Avenue (between bends of the High Line Canal Trail) Quebec Street across Leetsdale Drive to Alameda Avenue, and Virginia Avenue. The shared roadways primarily provide direct connections between the regional trails and paths, which often wind along water features as they traverse the study area, making them less direct for some travel patterns, particularly users interested in high ease of use facilities.

The existing network was primarily built before *Denver Moves: Bikes*, with a few significant projects built since the plan was completed:

- The bike and pedestrian bridge over I-25 just north of E Evans Avenue (2015)
- Buffered bike lanes along Florida Avenue from S Monaco Parkway westward across Colorado Boulevard
- Bike lanes on Jewell Avenue that connects the Cook Park neighborhood to the I-25 bike and pedestrian bridge.
- Virginia Avenue bike lanes
- Valentina Avenue bike lanes

The DRCOG *Active Transportation Plan (2019)* identifies regional active transportation corridors, of which the Cherry Creek Trail and High Line Canal Trail are designated.

In-Progress Facilities

Denver Moves: Bikes and subsequent updates identify where and what types of facilities should be implemented. CCD has three primary strategies for choosing when to install these facilities from these plans: Networks, Backbones, and Paving.

- Networks (Community Transportation Networks or CTNs): focus on building out the bicycle network one area at a time before moving to the next.
- Backbones (Backbone Connection Projects): focus on building high ease of use facilities to provide critical connections within and between network areas.
- Paving projects: focus on striping bike lanes with street paving projects to more efficiently and quickly build these facilities.

While the study area is not part of any current CTNs, a neighborhood bikeway along Birch Street is recommended for 2021 as a part of the South Central CTN project. Additionally, a Backbone Connection Project crosses into the study area: building a neighborhood bikeway along Kearney Street starting at Virginia Avenue and going north out of the study area. No project status information is currently available for this project. Several Paving projects were completed in 2020 and have been added to the mapped existing bicycle network.

Future Network

The majority of planned projects for the study area are north-south bike lanes (Dahlia Street, Oneida Street south of Cherry Creek, and Forest Street/Exposition Avenue) and a neighborhood bikeway/trail primarily along Jasmine Street south of Cherry Creek. A bike facility is identified for potential near term implementation along Yale Avenue from Quebec Avenue to the High Line Canal Trail just east of I-25.

There are several segments that are designated as needing further study including Yale Avenue through the I-25 interchange, all of Monaco Parkway, Oneida Street north of Cherry Creek, and Mississippi Avenue between Colorado Boulevard and the Cherry Creek Trail.

Denver Moves: Bikes explains that corridors identified as need further study require additional operational analysis to determine the appropriate facility type.

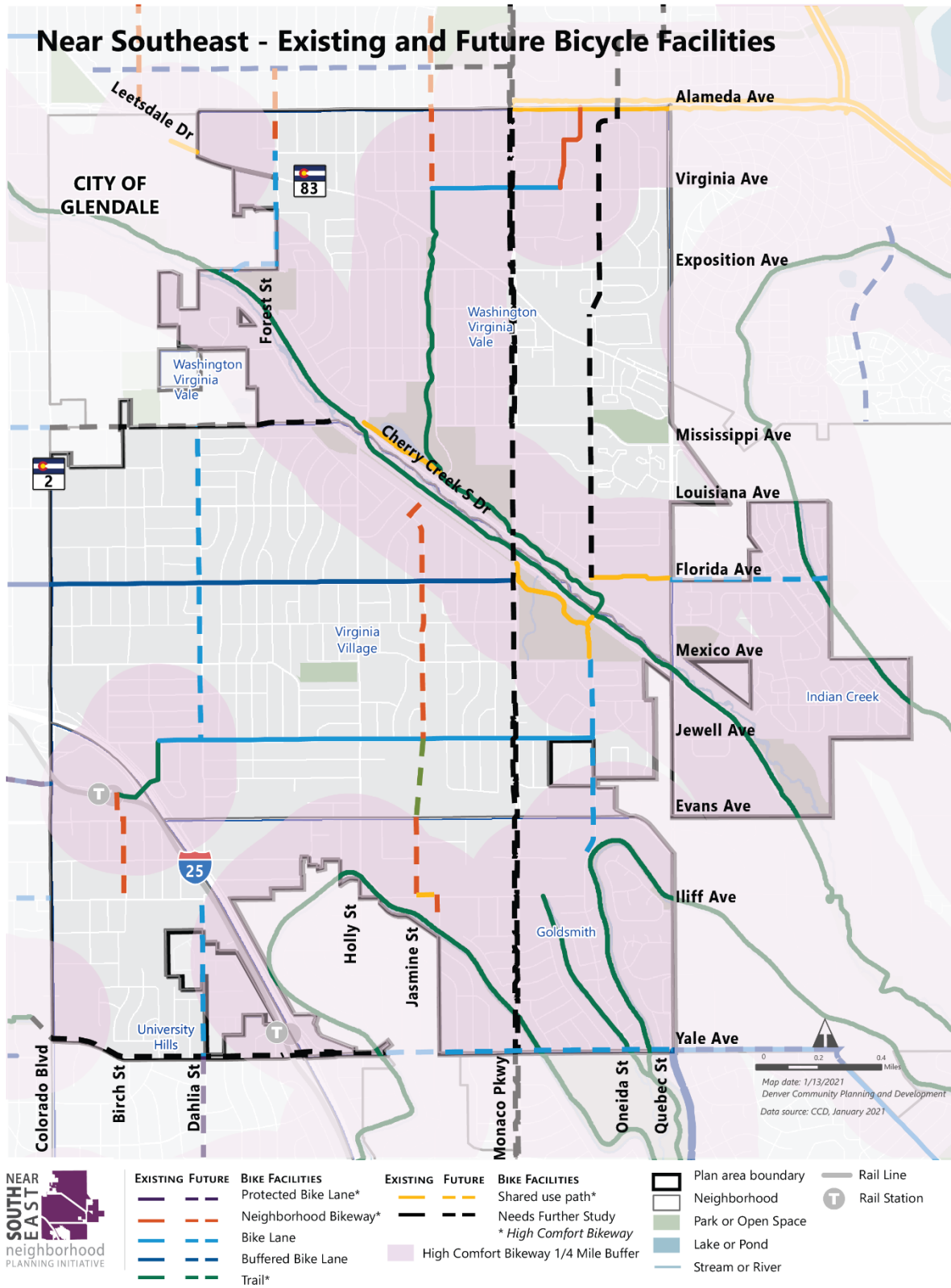
The 2019 DRCOG *Active Transportation Plan* identifies regional active transportation corridors, but does not program any facilities in the study area. Areas around Monaco Parkway and Leetsdale Drive as well as northeast of Iliff Avenue and Quebec Street are identified as a short trip opportunity zone, meaning the areas have a high concentration of trips less than two miles in length, which are trips that can be targeted to convert from vehicular trips to bicycle/pedestrian trips. While many of these areas are located in places where there is existing or recommended facilities, there is an area along Leetsdale Drive and Monaco Parkway that doesn't currently have any bicycle facilities.

Access to High Comfort Bikeways

As noted previously, *Denver Moves: Bikes* establishes the goal of providing a high ease of use bicycle facility (neighborhood bikeways, protected bikeways, and shared use paths/trails) within a quarter mile of all households. Examining the current network with current household data for the study area, approximately 58% of households¹ have access to a high ease of use bicycle facility, as shown in Figure 3.

¹ Approximately 11,493 households are in Census Block Groups that overlap with the quarter mile buffer of a high comfort bike facility. This is an approximate numbers since Census Block Groups cannot be broken down into smaller geographic areas. There is a total of 19,870 households within the NPI. 2018 ACS 5 Year Estimates were used for the household numbers.

Figure 3. Bicycle Existing and Future Facilities



Transit

Existing

Transit service, both rail and bus, is provided by the Regional Transportation District (RTD). CCD facilitates the needed infrastructure as well as first/last mile connections when possible. The study area has a network of transit providing both light rail and bus service to the area. Three light rail lines (the E, F, and H) serve the two light rail stations in the study area, the Colorado and the Yale Stations. Both stations provide parking for commuters and sheltered benches. The E line provides service from Union Station to Ridgeway Parkway, the F line provides service from 18th Street and California Street to Ridgeway Parkway, and the H line provides service from 18th Street and California Street to Florida Avenue. Local bus service runs along major roads in the study area running both north-south and east-west. The bus network in the area does not travel through the middle of Virginia Village and commuters would have to travel further to gain access to transit in this area.

Bus frequency is low in this area with many routes running at 30 minute or one-hour frequencies². However, there are a number of routes that have more frequent service during peak periods to meet demand, and then provide less frequent service during the majority of the day or late evenings. Only two routes provide 15-minute frequency.

Service frequency has been affected by COVID across the RTD region and ridership data has decreased. Service details and ridership information are included from both pre-COVID and COVID time periods. In addition to schedule modifications, two bus routes have been discontinued (3L and 27-Yale Avenue). The F line is not operating during the COVID service plan. A high-level summary of the routes serving stops within the study area is described in Table 1.

Table 1. RTD Service

Route	Service Day	Service Span	Trips (1 way)	Service Frequency	Change in Service due to COVID-19
E	Weekday	4:05am to 11:40pm	65	15 minutes except first/last hour (30 minutes)	Sunday service, additional AM peak trips for 15 minute frequency
	Saturday	4:05am to 11:40pm	65	15 minutes except first/last hour (30 minutes)	Sunday service
	Sunday	4:05am to 11:40pm	65	15 minutes except first/last hour (30 minutes)	No change
H	Weekday	5:15am to 1:25am	64	15 minutes except the first hour (30 minutes) and after 9:50pm (1 hour)	Sunday service, additional AM peak trips for 15 minute frequency
	Saturday	5:15am to 1:25am	64	15 minutes except the first hour (30 minutes) and after 9:50pm (1 hour)	Sunday service
	Sunday	5:15am to 1:25am	64	15 minutes except	No change

² Denver Moves: Transit defines high-frequency when service runs at 15 minutes or better.

Route	Service Day	Service Span	Trips (1 way)	Service Frequency	Change in Service due to COVID-19
				<i>the first hour (30 minutes) and after 9:50pm (1 hour)</i>	
1	Weekday	5:30am to 10:40pm	18	1 hour	Saturday service
	Saturday	5:30am to 10:40pm	18	1 hour	No change
	Sunday	7:30am to 8:35pm	15	1 hour	
3	Weekday	7:00am to 9:45pm	17	1 hour	Saturday service
	Saturday	7:00am to 9:45pm	17	1 hour	No change
	Sunday	7:00am to 7:40pm	14	1 hour	
11	Weekday	5:35am to 11:35pm	32	30 minutes	Saturday service
	Saturday	5:35am to 11:35pm	32	30 minutes	No change
	Sunday	5:35am to 9:40pm	17	1 hour	
21	Weekday	5:20am to 1:00am	36	30 minutes	Saturday service, additional early eastbound trip from Pierson Avenue/Jewell Avenue
	Saturday	5:20am to 1:00am	36	30 minutes	No change
	Sunday	5:10am to 1:00am	32	30 minutes	
40	Weekday	4:55am to 12:30am	68	15 minutes	No service before 5:00am, otherwise no change
	Saturday	4:55am to 12:30am	55	15-30 minutes	No change
	Sunday	4:55am to 12:30am	40	30 minutes	No change
46	Weekday	8:30am to 6:30pm	21	30 minutes	Saturday service, service only extends to Southmoor
	Saturday	8:30am to 6:30pm	21	30 minutes	Service only extends to Southmoor
	Sunday	8:55am to 6:00pm	10	1 hour	
65	Weekday	4:50am to 10:25pm	31	30 minutes	Saturday service
	Saturday	4:50am to 10:25pm	31	30 minutes	No change
	Sunday	6:50am to 7:50pm	14	1 hour	
73	Weekday	5:55am to 10:30pm	33	30 minutes	Saturday service starts at 5:30am
	Saturday	6:55am to 10:30pm	31	30 minutes	No change
	Sunday	7:00am to 10:30pm	27	30 minutes	
83	Weekday	5:55am to 12:30am	52	15 to 30 minutes	Augment Sunday service, 15 minute frequency
	Saturday	5:55am to 12:30am	38	30 minutes	Sunday service
	Sunday	5:55am to 12:30am	38	30 minutes	No change

Source: RTD Ridership Information, 12.22.2020

Notes: Schedules are impacted from COVID-19

Span of service information rounded to the nearest 5-minute increment.

Route E data taken from the Colorado Station timepoint in the schedule.

Route H data taken from the Colorado Station timepoint in the schedule.

Route 1 data taken from the Alameda Station Gate F timepoint in the schedule.

Route 3 data taken from the Alameda and Colorado timepoint in the schedule.

Route 11 data taken from Mississippi and Colorado timepoint in the schedule.

Route 21 data taken from Evans and Monaco in the schedule.

Route 40 data taken from Colorado and Alameda timepoint in the schedule.

Route 46 data taken from Colorado and Alameda timepoint in the schedule.

Route 65 data taken from Monaco and Evans timepoint in the schedule.

Route 73 data taken from Quebec and Alameda timepoint in the schedule.

Route 83 data taken from Leetsdale and Monaco timepoint in schedule.

Ridership

Pre-COVID, there were 7,357 average weekday boardings within the NSE area. With the current COVID service plan (which significantly reduced levels of service and reduced bus capacities), there are 2,497 average weekday boardings. This is an approximately 66 percent decrease in boardings. The most frequently used stops, however, remained as the most frequently used stops despite the decrease in ridership. The ridership by stops is shown in Figure 4 and Figure 5. Colorado Station had the greatest volume decrease and Yale Station had the biggest percentage decrease. Tables 2 and 3 lists the stops based on popularity from COVID ridership. Figure 4 shows boardings from pre-COVID data. Figure 5 shows COVID boardings.

Table 2. Transit Boardings - Top stops ranked by Pre-COVID boardings

Rank	Stop Name	Pre-COVID	COVID	% change
1	Colorado Station	3,118	1,001	-68%
2	Yale Station	967	156	-84%
3	Leetsdale Drive/Quebec Street	125	59	-52%
4	Leetsdale Drive/Forest Street	123	55	-55%
5	Leetsdale Drive/Monaco Pkwy	121	44	-64%
6	Colorado Boulevard/Florida Avenue	107	51	-53%
7	Leetsdale Drive/S Oneida Street	98	39	-60%
8	Monaco Pkwy/Iliff Avenue	97	33	-66%
9	Quebec Street/Leetsdale Drive	95	47	-51%
10	Evans Avenue/S Monaco Pkwy	91	46	-49%

Source: RTD, 2019 and 2020

Table 3. Transit Boardings - Top stops ranked by COVID boardings

Rank	Stop Name	COVID	Pre-COVID	% change
1	Colorado Station	1,001	3,118	-68%
2	Yale Station	156	967	-84%
3	Leetsdale Drive/Quebec Street	59	125	-52%
4	Leetsdale Drive/Forest Street	55	123	-55%
5	Colorado Boulevard/Florida Avenue	51	107	-53%
6	Quebec Street/Leetsdale Drive	47	95	-51%
7	Evans Avenue/Monaco Pkwy	46	91	-49%
8	Leetsdale Drive/Monaco Pkwy	44	121	-64%
9	Quebec Street/Parker Rd	44	78	-44%
10	Colorado Boulevard/Mexico Avenue	43	72	-41%

Source: RTD, 2019 and 2020

Figure 4. Existing Transit Service - Pre-COVID

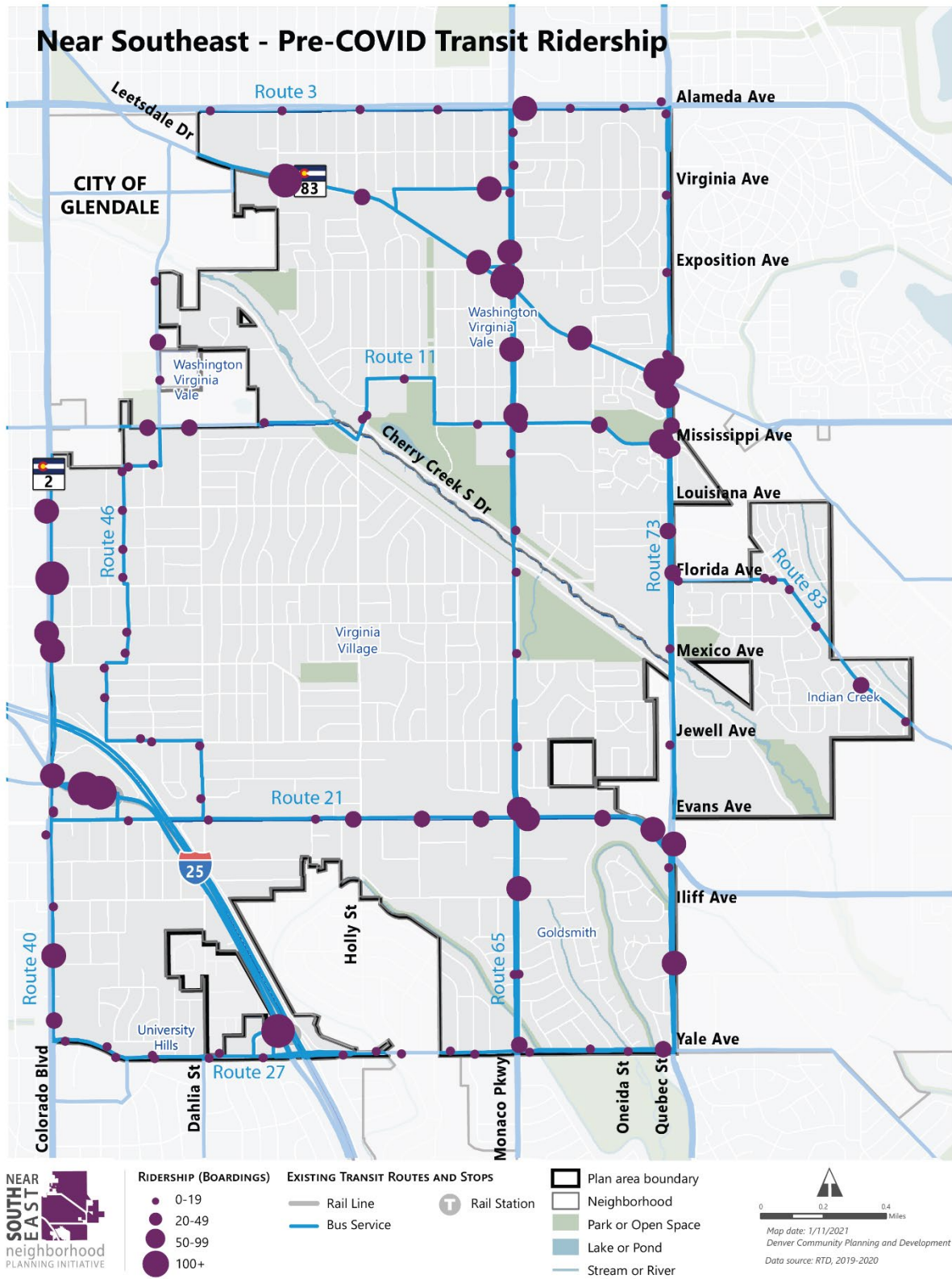
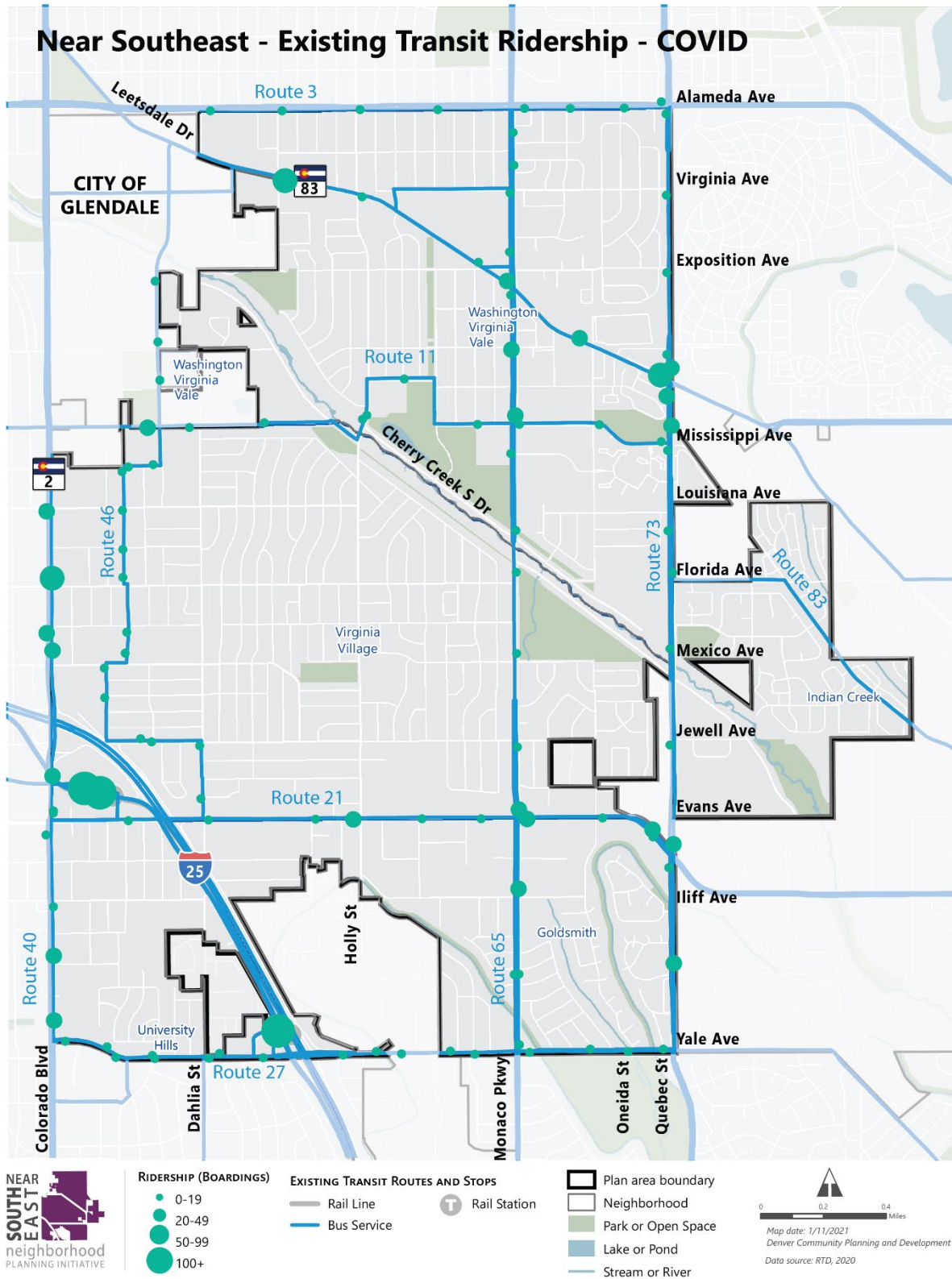


Figure 5. Existing Transit Service - COVID



Recommended

The *Denver Moves: Transit* plan has identified several transit investment capital corridors within the study area, as shown in Figure 6. The plan defines transit investment capital corridors as corridors in need of capital improvements such as dedicated bus lanes and enhanced stops, and then ranks corridors by intensity of project. Colorado Boulevard and Leetsdale Drive are identified as high-capacity transit corridors (broken into high-capacity and medium-capacity). High-capacity corridors are those with high levels of passenger capacity, very frequent service, and high-quality design. For most high-capacity corridors, the plan recommends full BRT, with dedicated lanes. In some cases rail service is recommended. Alameda Avenue, Mississippi Avenue, and Evans Avenue are identified as medium-capacity corridors. Medium-capacity corridor improvements include dedicated lanes and improved stops at key locations, BRT may be recommended for some corridors. Quebec Street was identified as a speed reliability corridor; improvements for speed reliability corridors can include improvements such as signal prioritization to help transit move through the corridor faster and more reliably.

Denver Moves: Transit also recommends improving the frequency of the transit capital investment corridors. Frequencies of 5-10 minutes is recommended for Alameda Avenue, Colorado Boulevard, and Leetsdale Drive. Frequencies of 15 minutes are recommended for Mississippi Avenue, Quebec Street, and Evans Avenue. Table 4 shows a summary of the level of investment and frequency for corridors within the NPI.

Beginning in late 2020, *Denver Moves: Transit* Phase 2 will build on *Denver Moves: Transit*, creating a prioritized work program for implementation over the next 20 years.

Table 4. *Transit Capital Investment Corridors and Frequent Transit Network Summary*

Corridor	Level of Investment	Frequency
<i>Alameda Avenue</i>	<i>Medium-capacity transit corridor (rapid bus to full BRT)</i>	<i>5-10 minutes</i>
<i>Colorado Boulevard</i>	<i>High-capacity transit corridor (full BRT to rail)</i>	<i>5-10 minutes</i>
<i>Leetsdale Drive</i>	<i>High-capacity transit corridor (full BRT to rail)</i>	<i>5-10 minutes</i>
<i>Mississippi Avenue</i>	<i>Medium-capacity transit corridor (rapid bus to full BRT)</i>	<i>15 minutes</i>
<i>Quebec Street</i>	<i>Speed and reliability corridor (enhanced bus)</i>	<i>15 minutes</i>
<i>Evans Avenue</i>	<i>Medium-capacity transit corridor (rapid bus to full BRT)</i>	<i>15 minutes</i>

Source: *Denver Moves: Transit*

Access to Transit Investment Corridors

Many people who ride transit will walk or bike to the stops, making access to the stops an important component of the transit trip. In order to look at access to bus stops, a quarter mile buffer around stops along the future transit investment corridors (TICs) shows the coverage for the NPI. The northeast area of the NPI is well covered, while portions of Colorado Boulevard and Evans Avenue are also covered. Figure 7 shows the quarter mile coverage.

Figure 6. Future Transit Service

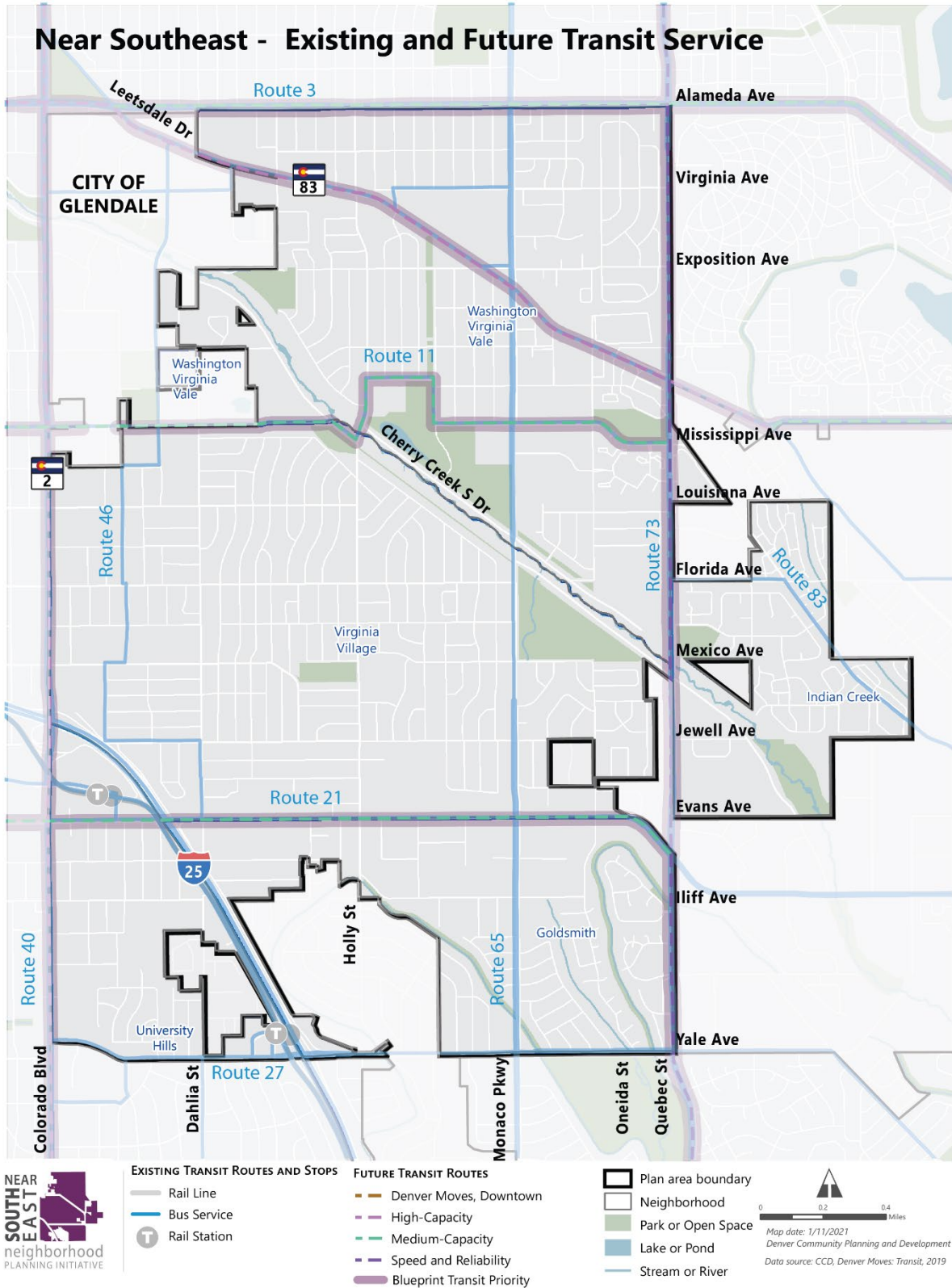
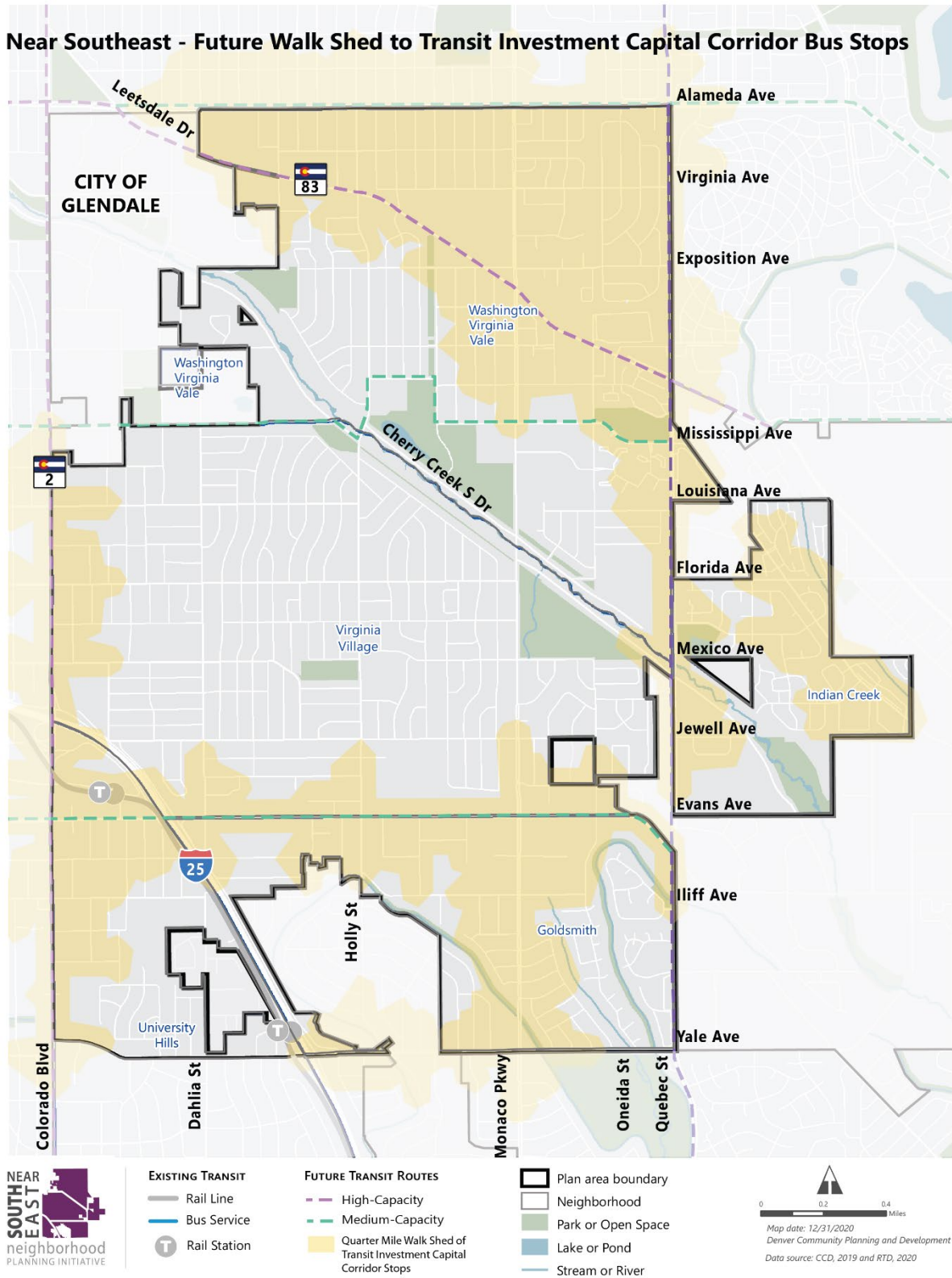


Figure 7. Bus Stop Travel Sheds



Vehicle

Overview

The NPI has a number of arterial roadways that provide regional connections on the south side of the metropolitan area. Through the neighborhood areas within the study area, collector roadways provide connections and facilitate travel between local roadways and the arterial roadways. A map of these roadway classifications is provided in Figure 8. As expected, traffic counts are higher on arterial roadways.

Roadway Classifications

A descriptive summary of the arterials is provided below with a list of the collector roadways following:

- I-25 is a major interstate that provides connectivity similar to that of an arterial roadway and has an 8-lane cross section in the vicinity of the study area. I-25 travels through the west side of the study area and provides north-south connectivity throughout the state of Colorado and beyond.
- Colorado Boulevard is an arterial roadway that provides regional north-south connectivity from Hampden Avenue in the south to Vasquez Boulevard in the north. This roadway has a 6 to 8-lane cross section in the vicinity of the study area and serves as a part of the western border of the study area.
- Monaco Parkway is an arterial roadway with a 4-lane cross section north of Cherry Creek Drive North and a 2-lane cross section to the south. This roadway provides an alternative north-south connection within the study area.
- Quebec Street is an arterial roadway that provides north-south connectivity with a 4-lane continuous cross section through the study area. Auxiliary turn lanes for both left and right turns exist along the length of this corridor.
- Yale Avenue is an arterial roadway with a variable cross section in the study area. This roadway serves as an east-west connection across the southern border of the study area. To the west of its interchange with I-25, a 4-lane cross section with auxiliary lanes provides connection to Colorado Boulevard. To the east, a 2-lane cross section expands to a 4-lane cross section as this roadway approaches the study area's eastern border.
- Evans Avenue is an arterial roadway with a 4-lane cross section and limited auxiliary lanes for right turn movements within the study area. A significant portion of the roadway along this corridor includes a center left turn lane, providing refuge for left turn movements along the corridor.
- Leetsdale Drive/Parker Road provides an arterial connection with a 4-lane cross section and auxiliary turn lanes for both left and right turn movements. This roadway provides a northwest-southeast connection for the northern portion of the study area. This section of roadway serves as a regional link between Speer Boulevard and Parker Road. It connects downtown Denver to points in the southeast metropolitan area.
- Alameda Avenue is a 4-lane divided roadway that serves as an east-west connection across the northern border of the study area. Auxiliary left turn lanes are provided at the signalized intersections within the study area.
- Holly Street provides a 2-lane cross section within the study area and includes some auxiliary left and right turn lanes provided at signalized intersections. South of Evans

Avenue it becomes a collector street/local roadway. This roadway provides an alternative north-south connection for collector roads in the vicinity.

The collector streets within the study area almost exclusively provide 2-lane cross sections with limited auxiliary turn lanes. These collectors are listed below:

- Bellaire Street
- Dahlia Street
- Glencoe Street
- Holly Street
- Iliff Avenue
- Jewell Avenue
- Mexico Avenue
- Florida Avenue
- Louisiana Avenue
- Mississippi Avenue
- Exposition Avenue
- Virginia Avenue

Blueprint Denver creates a vision for the future roadway classifications. There are a variety of subgroups for arterial and collector classifications (commercial, downtown, industrial, main street, mixed use, and residential). For the purposes of this study, the subgroups were combined to show all arterials and collectors to allow comparison with existing classifications. There are no changes identified in Blueprint Denver for these major classifications.

Traffic Counts

A review of available traffic count data shows historic average daily traffic (ADT) volumes within the study area. These counts were extracted from the DRCOG Regional Traffic Count program, which were collected by CCD. In an effort to summarize the most current traffic count data available, only data collected during 2015 and after was included in this summary. Figure 9 depicts the location of the traffic count data available within the study area.

Generally, the surface roadways within the study area handle the daily traffic volumes with varying levels of congestion. Colorado Boulevard experiences the most significant congestion for a corridor in the study area during peak hour periods. Traffic congestion is also concentrated at the signalized intersections within the study area, particularly at the intersection of busy 4-lane arterial roadways. A list of intersections estimated to have higher levels of congestion is shown below:

- Colorado Boulevard/Yale Avenue
- Colorado Boulevard/Evans Avenue
- Colorado Boulevard/I-25 Interchange
- Monaco Parkway/Yale Avenue
- Yale Avenue/Quebec Street
- Quebec Street/Evans Avenue
- Leetsdale Drive/Monaco Parkway
- Leetsdale Drive/Quebec Street
- Evans Avenue/I-25 Interchange
- Evans Avenue/Monaco Parkway

Figure 8. Roadway Classifications

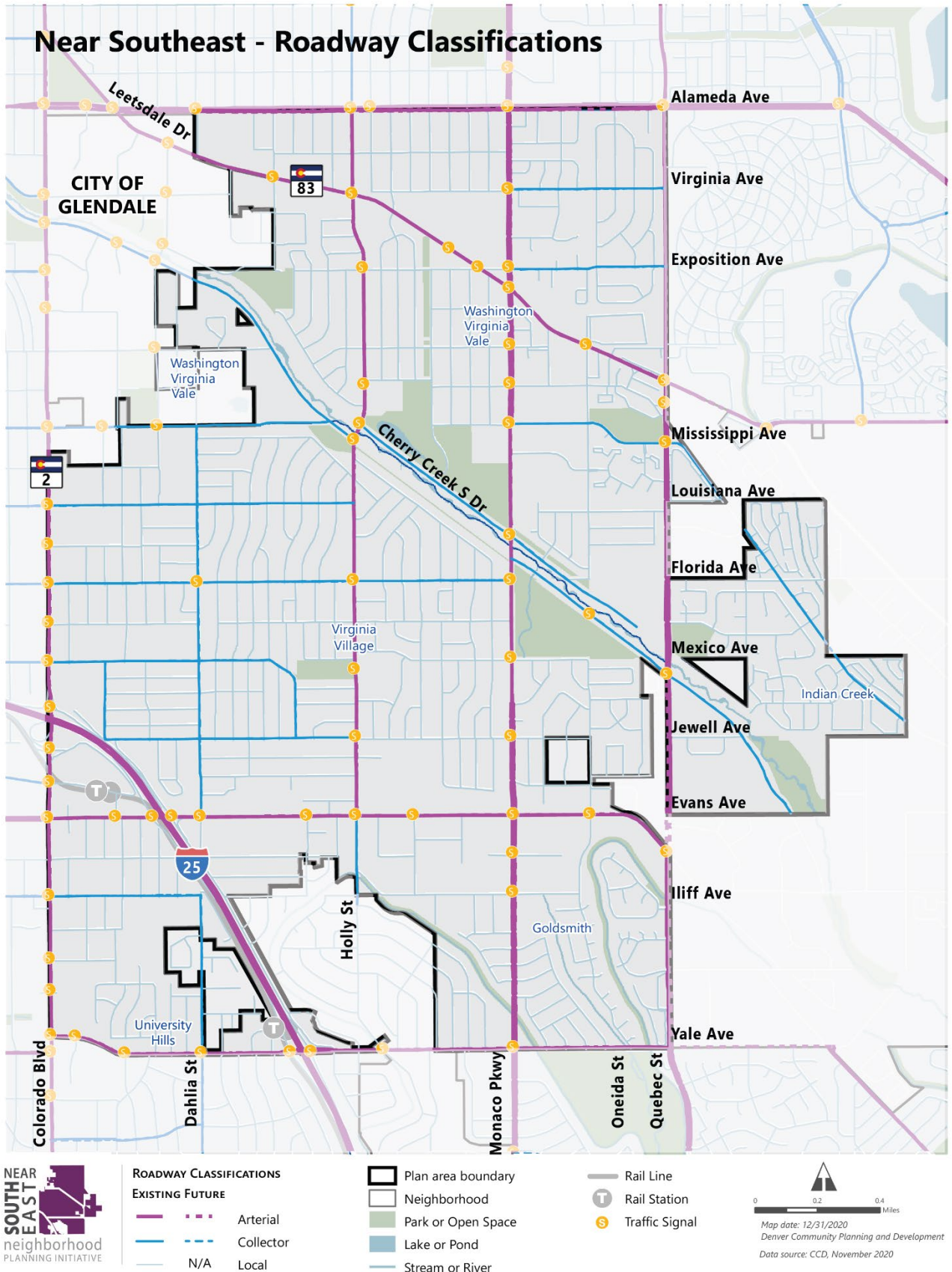
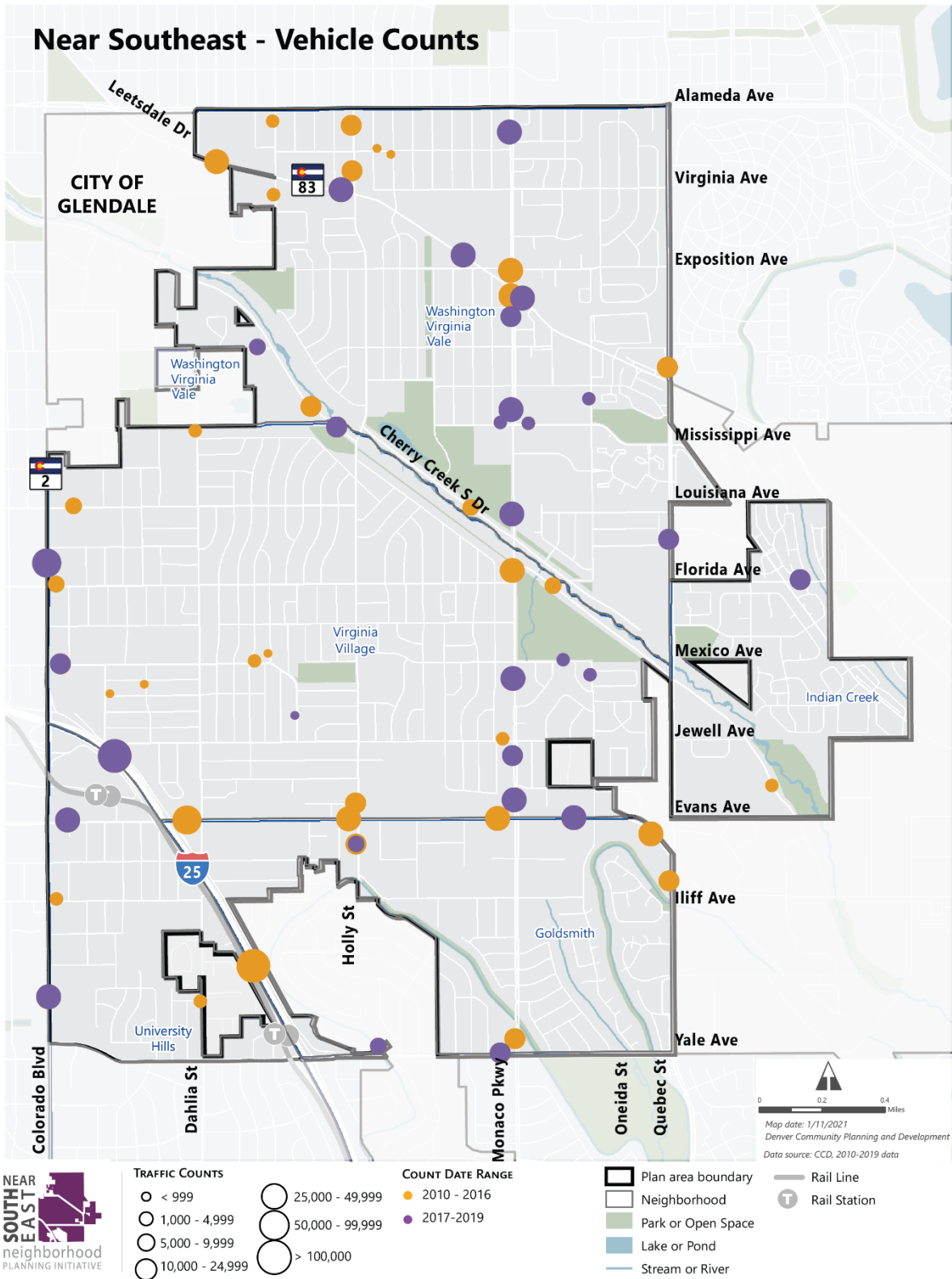


Figure 9. Vehicle Counts



Freight

In addition to commuter and local traffic, freight traffic is present within the study area. Blueprint Denver has identified one Industrial Collector in the NPI area. This industrial corridor is located along Cherry Creek Drive South east of the drive's intersection with Quebec and is designated an Industrial Collector until reaching the Arapahoe County boundary to the south and east. DRCOG does provide a regional freight vision. The *Regional Multimodal Freight Plan* identifies routes within the Denver metropolitan area that are planned freight corridors. The volume and data-based criteria used for this evaluation were daily truck traffic greater than 2,500 vehicles per day and average percentage of trucks within peak hour traffic of greater than 10%. Proximity to intermodal facilities, local input, and engineering judgement was also used to define these corridors.

From the Regional Multimodal Freight Plan, Tier 1 corridors represent nationally strategic roadways that connect DRCOG to the country and international trading partners. These corridors are best identified by existing National Highway Freight Network designations. Tier 2 corridors are regionally significant roadways that link the region with other areas of the state and offer important connections for moving goods within the DRCOG region. These corridors are best represented by the existing National Highway System designation. Tier 3 corridors include local connectors that provide access to intermodal facilities and local roads and connectors identified by advisory committee members as important connectors to major regional freight origins and destinations.

For the study area, six specific freight corridors are identified. Of the regional highway freight routes identified, I-25 is identified as a Tier 1 highway freight route and Colorado Boulevard, Evans Avenue, Leetsdale Drive/Parker Road, Mississippi Avenue, and Alameda Avenue are identified as Tier 2 highway freight routes. No Tier 3 highway freight routes exist within the study area.

Current and Forecasted Travel Patterns

An analysis of vehicular trips from the Near Southeast NPI area to metro Denver's regional destinations will provide an understanding of where people from within the NPI area are traveling for work and entertainment. To understand these travel patterns a high-level, model-based assessment of vehicular trips was conducted for the years 2020 and 2040 for both AM and PM peak hours. Destination-specific trips were then compared between the years to understand:

- Potential changes in trips at both AM and PM peak hours between the modeled years 2020 and 2040
- The regional destinations most traveled to by residents in the Near Southwest NPI area

Origin-Destination Analysis

TAZ's within the Near Southeast NPI area were grouped together into larger zones based on land use similarities, neighborhoods boundaries, and proximity to major corridors. In the study area, TAZ's were grouped around areas like Leetsdale Drive, Evans Avenue, the Colorado Light Rail Station, and large residential areas like Virginia Village. Four metro Denver regional destination were then identified as destinations. These included:

- Denver International Airport (DEN)
- Downtown Denver

- Denver Tech Center (DTC)
- Boulder

Identification of metro Denver regional destinations was based on each area’s employment concentrations, entertainment options, and transportation characteristics. Once origins and destinations were identified modeling was conducted for 2020 and 2040 for both AM and PM peak hour trips. Identified destination areas listed above are preliminary, identification of additional metro area destinations will occur during work completed for the CCD’s forthcoming Strategic Transportation Plan (STP). Other regional destination to consider include Cherry Creek, the US 36 Business Corridor, Denver West, River North Art District (RiNo), and Colorado Springs.

AM Peak Hour Analysis

In both 2020 and 2040 the DTC regional destination encompasses that largest volume of trips generated at the AM peak hour from the Near Southeast NPI area. This total number of trips is greater than DEN, Downtown, and Boulder combined. This is true for both 2020 and 2040 and could be attributed to the NPI area’s proximity to the DTC. In 2040 the number of trips during the AM peak hour to all destinations is expected to grow except for the Boulder regional destination area, where a 12 percent reduction in trips is forecasted. The largest percentage growth in trips is to the DIA regional destination area. Table 5 represents the number of AM peak hour trips in both 2020 and 2040.

Table 5. AM Peak Hour Trips for NPI

Destination	2020	2040	2020 vs. 2040	
	Volume	Volume	Change	Percent
Downtown Denver	670	713	43	6%
Denver International Airport (DEN)	143	176	33	23%
Denver Tech Center (DTC)	2,986	3,187	201	7%
Boulder	53	42	-11	-19%

PM Peak Hour Analysis

PM peak hour volumes are higher than the AM peak hour. This is consistent with typical findings when comparing AM and PM peak hours. Like the AM peak hour analysis, trips to the Boulder regional destination area are projected to decrease from 2020 to 2040. Trips during the PM peak hour to DEN are higher than those found during the AM peak hour and represent the largest percentage change in trips among the four regional destinations.

The second most traveled destination is Downtown Denver. This combined with the number of trips between the Near Southeast NPI area and the DTC points to many trips originating due to employment. Table 6 represents the number of PM peak hour trips in both 2020 and 2040.

Table 6. PM Peak Hour Trips for NPI

Destination	2020	2040	2020 vs. 2040	
	Volume	Volume	Change	Percent
Downtown Denver	1,151	1,412	261	23%
Denver International Airport (DEN)	267	376	109	41%
Denver Tech Center (DTC)	3,286	3,537	251	8%
Boulder	84	79	-5	-6%

Multimodal Crash Analysis

Crash Data Overview

An overview of citywide and study area crash data available from 2016 to 2019 was analyzed at the request of CCD staff. One focus of this crash review is a comparison of study area crashes to citywide crashes as well as a comparison of the number of crashes located along the High Injury Network (HIN) and Non-HIN Streets. HIN network streets in the study area include Colorado Boulevard, Leetsdale Drive, Evans Avenue, Alameda Avenue, Yale Avenue, and Quebec Street.

Other strategies used in this crash data review include spatial mapping of crashes to identify the areas with the most crashes, review of lower volume roadway crash locations, and a comparison of crash clusters by mode. This was facilitated by using GIS to identify intersections and locate crashes within a 100-foot radius. This allowed for a review of crash clusters and a comparison of crash clusters by mode.

Since the methodology involving the spatial analysis of crash data points relies heavily on the number of crashes occurring within an area, crash cluster locations identified are weighted toward high-volume roadways. However, the existing conditions evaluation is focused on neighborhood multimodal transportation. In order to focus on local transportation issues, some regional transportation routes may be excluded from the crash cluster summaries.

Figure 10 shows a heat map of all crashes in the study area and provides an overview of the 2016 to 2019 crash data.

All Crash Data

For the years 2016-2019, the study area represents approximately 6% of all citywide crashes. There is approximately 125 miles of one-way roadway, accounting for approximately 5% For pedestrian crash data, the study area represents approximately 6% of citywide crashes. For bicycle crash data, the study area represents approximately 3% of citywide crashes. For the vehicle crash data, the study area represents approximately 6% of citywide crashes. The crash data information is summarized in Table 7.

Table 7. Total Crashes

	<i>Pedestrian-Related Crashes</i>	<i>Bicycle-Related Crashes</i>	<i>Vehicular-Only Crashes</i>	<i>Total Crashes</i>
<i>Near Southeast</i>				
<i>HIN Crashes</i>	90	31	4,359	4,480
<i>Crashes on Non-HIN Streets</i>	48	18	2,074	2,140
<i>Total Crashes</i>	138	49	6,433	6,620
<i>% of crashes within NPI</i>	2%	1%	97%	100%
<i>Citywide</i>				
<i>Total Crashes</i>	2,369	1,428	110,428	114,225
<i>% of crashes in CCD</i>	6%	3%	6%	6%

Source: CCD, 2016-2019³

³ Crash data was downloaded from the City of Denver as contained in the traffic_accidents.gdb. The contained feature class was then filtered by the REPORTED_DATE field, using a definition query to select out only those crashes having occurred between Jan 1, 2016 and Dec 31, 2019. To select the

A closer inspection of the citywide crash data also shows that approximately 2% of crashes involve pedestrians, 1% of crashes involve bicyclists, and 97% of crashes involve only vehicles. The HIN crash data broken down by mode is the same for all crashes (2% pedestrian crashes, 1% bicyclist crashes, and 97% vehicle-only crashes). The study area data breaks down to these percentages as well, showing a very similar split to the citywide trends. The breakdown of crashes that occur on the HIN and on non-HIN streets is very similar to the citywide data, with a little more than 60% occurring on the HIN and a little less than 40% occurring on the non-HIN. A summary of HIN crash percentages is shown in Table 8.

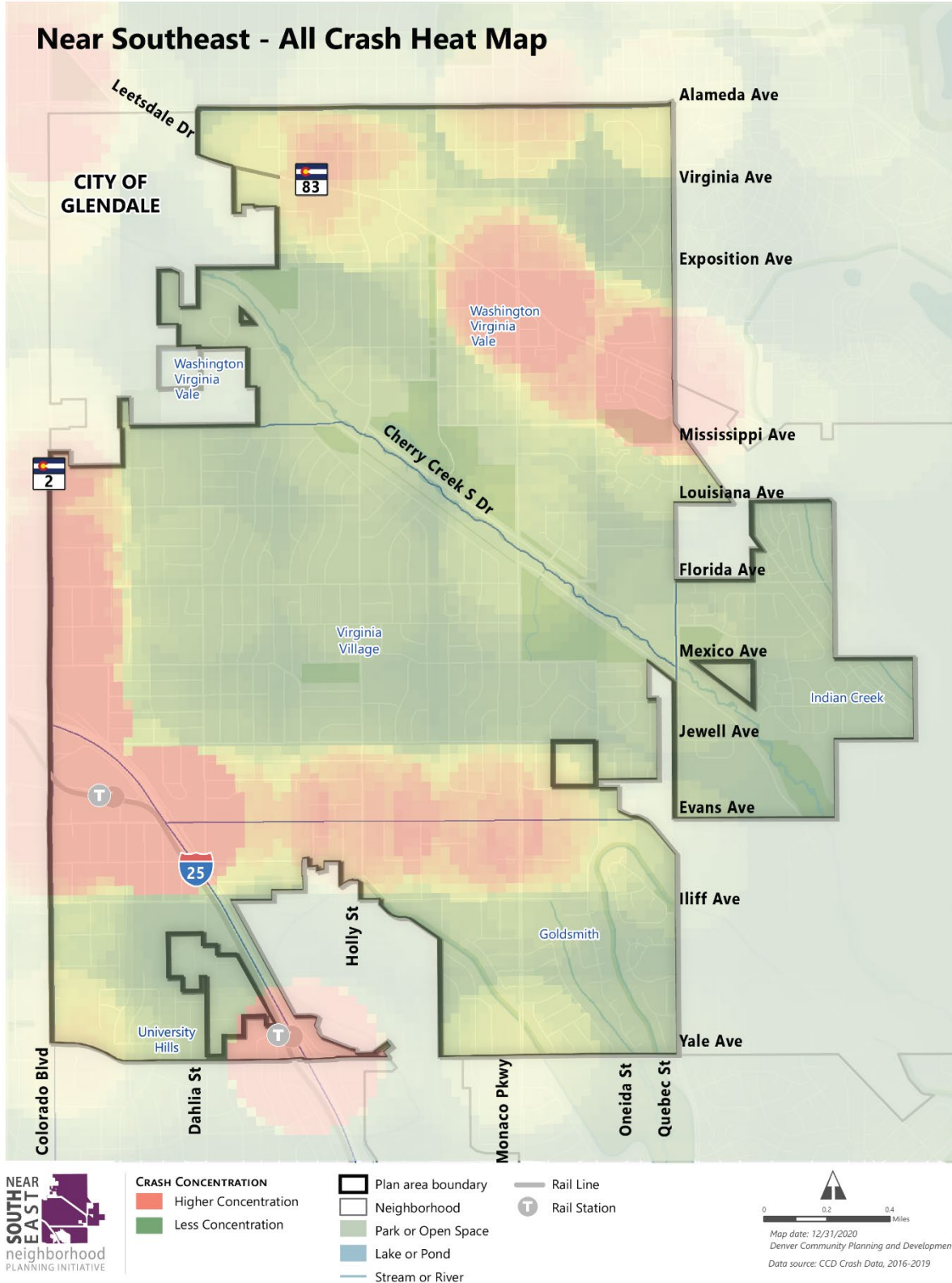
Table 8. HIN Crashes

	<i>Pedestrian-Related Crashes</i>	<i>Bicycle-Related Crashes</i>	<i>Vehicular-Only Crashes</i>	<i>Total Crashes</i>
Near Southeast				
<i>HIN Crashes (value)</i>	90	31	4,359	4,480
<i>HIN Crashes (%)</i>	65%	63%	68%	68%
<i>Crashes on Non-HIN Streets</i>	35%	37%	32%	32%
Citywide*				
<i>HIN Crashes (value)</i>	1,500	865	68,709	71,074
<i>HIN Crashes (%)</i>	63%	61%	62%	62%
<i>Crashes on Non-HIN Streets</i>	37%	39%	38%	38%

Source: CCD, 2016-2019³

individual subsets (vehicle accidents, bike accidents, pedestrian accidents), the data were queried using the BICYCLE_IND and PEDESTRIAN_IND fields. All features for which BICYCLE_IND > 0 were treated as bicycle accidents. All features for which PEDESTRIAN_IND > 0 were treated as pedestrian accidents. All features for which BICYCLE_IND = 0 and PEDESTRIAN_IND = 0 were treated as vehicle accidents. There may be some cases in which the text descriptor fields for a given crash indicate the involvement of a pedestrian or bicycle in an accident, however the BICYCLE_IND and PEDESTRIAN_IND fields both equal zero. These edge cases may exist, however their impact on the overall spatial trends in the data are likely negligible. These could be accounted for using detailed text queries of the event description fields in the feature class. These are included within the “Other” category within the vehicle data set.

Figure 10. All Crashes Heat Map



Pedestrian Crashes

Pedestrian crashes in the study area are concentrated along the High Injury Network. Crash data shows that most of the crashes occurred due to vehicles failing to yield at intersections or careless driving. Pedestrian crashes are more frequent along Colorado Boulevard, Evans Avenue, Leetsdale Drive, Monaco Parkway, and Quebec Street. Only one fatal crash was reported and it was located at Leetsdale Drive and Quebec Street. A list of locations with statistically significant crashes (one or more per year) are shown in Table 9.

Figure 13 shows the spatial location of pedestrian related crashes within the study area. Included on the map are crash cluster locations that indicate increased frequency of pedestrian crashes. From the map, a number of cluster locations can be identified, with a significant number of crash clusters along the following corridors:

- Colorado Boulevard
- Evans Avenue
- Monaco Parkway
- Leetsdale Drive
- Quebec Street

Crash clusters identified in Figure 11 directly correspond with HIN corridors identified at part of Denver’s Vision Zero Action plan. Applicable HIN corridors include Leetsdale Drive, Colorado Boulevard, and Evans Avenue. As expected, intersections of major arterials are most often the location for crashes.

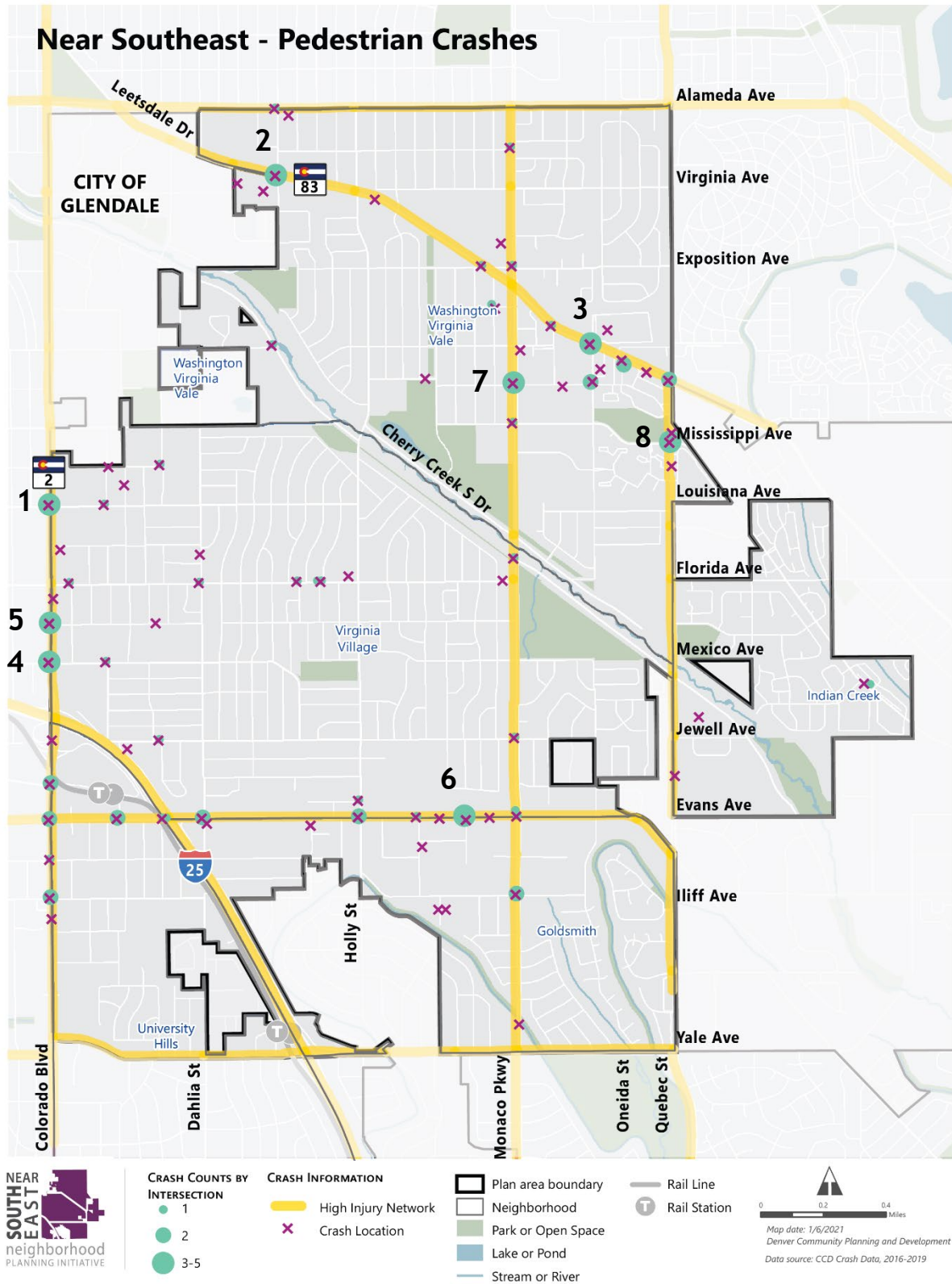
Table 9. Top pedestrian-related crash intersections

# on map	Location	Neighborhood	Total Pedestrian-Related Crashes
1	Colorado Boulevard / Louisiana Avenue	Virginia Village	5
2	Leetsdale Drive / Forest Street	Washington - Virginia Vale	5
3	Leetsdale Drive / Oneida Street	Washington - Virginia Vale	5
4	Colorado Boulevard / Mexico Avenue	Virginia Village	3
5	Colorado Boulevard / Iowa Avenue	Virginia Village	3
6	Near 6300 Block Evans Avenue	Goldsmith	3
7	Monaco Street / Tennessee Avenue	Washington - Virginia Vale	3
8	Quebec Street / Mississippi Avenue	Washington - Virginia Vale	3

Source: CCD, 2016-2019⁴

⁴ To calculate crashes per intersection, first a network data set was created using the City of Denver street_centerline feature class in order to generate a point feature class containing all of the junction locations within the roadway network. This point layer was then buffered to 100ft. The resulting polygon layer contained 100ft circular polygons located at each intersection, modeling the approximate area of each intersection. This polygon layer was then spatially joined to the different subsets of crash data (one to one cardinality) in order to count the number of crashes, of each type, within each circle.

Figure 11. Pedestrian Crashes



Bicycle Crashes

Bicycle crashes occur throughout the study area but are more concentrated along the HIN. Crash data showed that most of the crashes occurred due to a vehicle failing to yield or lane violations. Like pedestrian crashes, bicycle crashes occur primarily along Colorado Boulevard close to the Colorado Station and at Colorado Boulevard and Florida Avenue. Crash data also shows a cluster of bicycle crashes at the Cherry Creek Trail crossing at Holly Street.

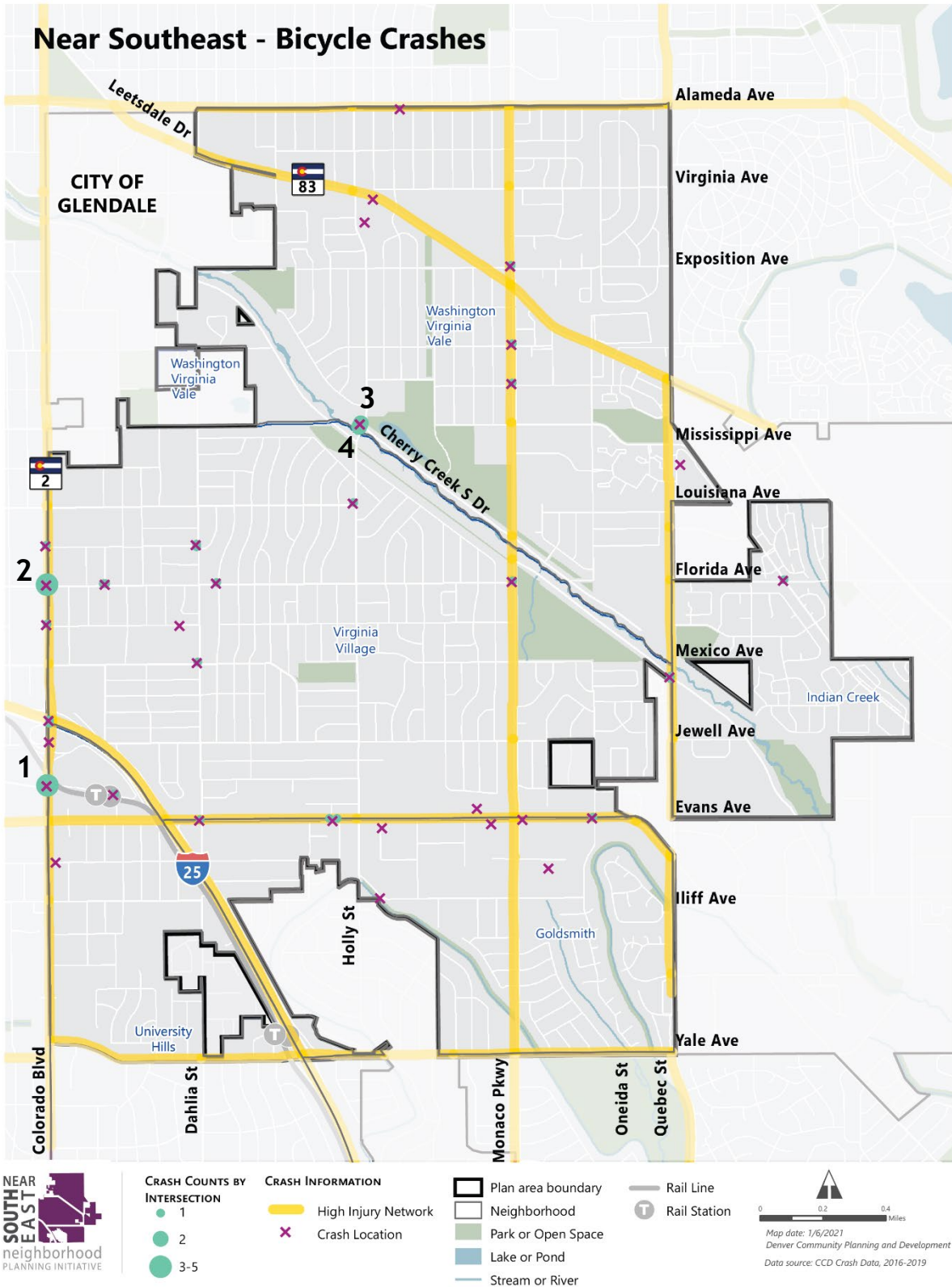
Figure 12 shows the spatial location of bicycle related crashes within the study area. Included on the map are crash cluster locations that indicate increased frequency of bicycle crashes. For this data set, a limited number of crash clusters are identified. As a result, all locations with two or more crashes can be displayed in tabular form. These locations are shown in Table 10.

Table 10. Top bicycle-related crash intersections

# on map	Location	Neighborhood	Total Bicycle-Related Crashes
1	Colorado Boulevard / Buchtel Boulevard	University Hills	5
2	Colorado Boulevard / Florida Avenue	Virginia Village	4
3	Holly Street / Cherry Creek Drive North	Washington - Virginia Vale	2
4	Holly Street / Cherry Creek Drive South	Washington - Virginia Vale	2

Source: CCD, 2016-2019⁴

Figure 12. Bicycle Crashes



Vehicle-Only Crashes

Figure 13 shows the spatial location of vehicle-only related crashes within the study area. Included on the map are crash cluster locations that indicate increased frequency of vehicle-only crashes. From the map, a number of crash clusters can be identified (excluding I-25 related crashes), with a significant number of crash clusters located along the following corridors:

- Colorado Boulevard
- Evans Avenue
- Monaco Parkway
- Leetsdale Drive
- Quebec Street
- Florida Avenue
- Holly Street

A list of the top 10 crash locations are shown in Table 11. Crashes involving I-25 have been excluded from the table to focus on the neighborhood crash review.

Table 11. Top 10 intersections for vehicle-only crashes

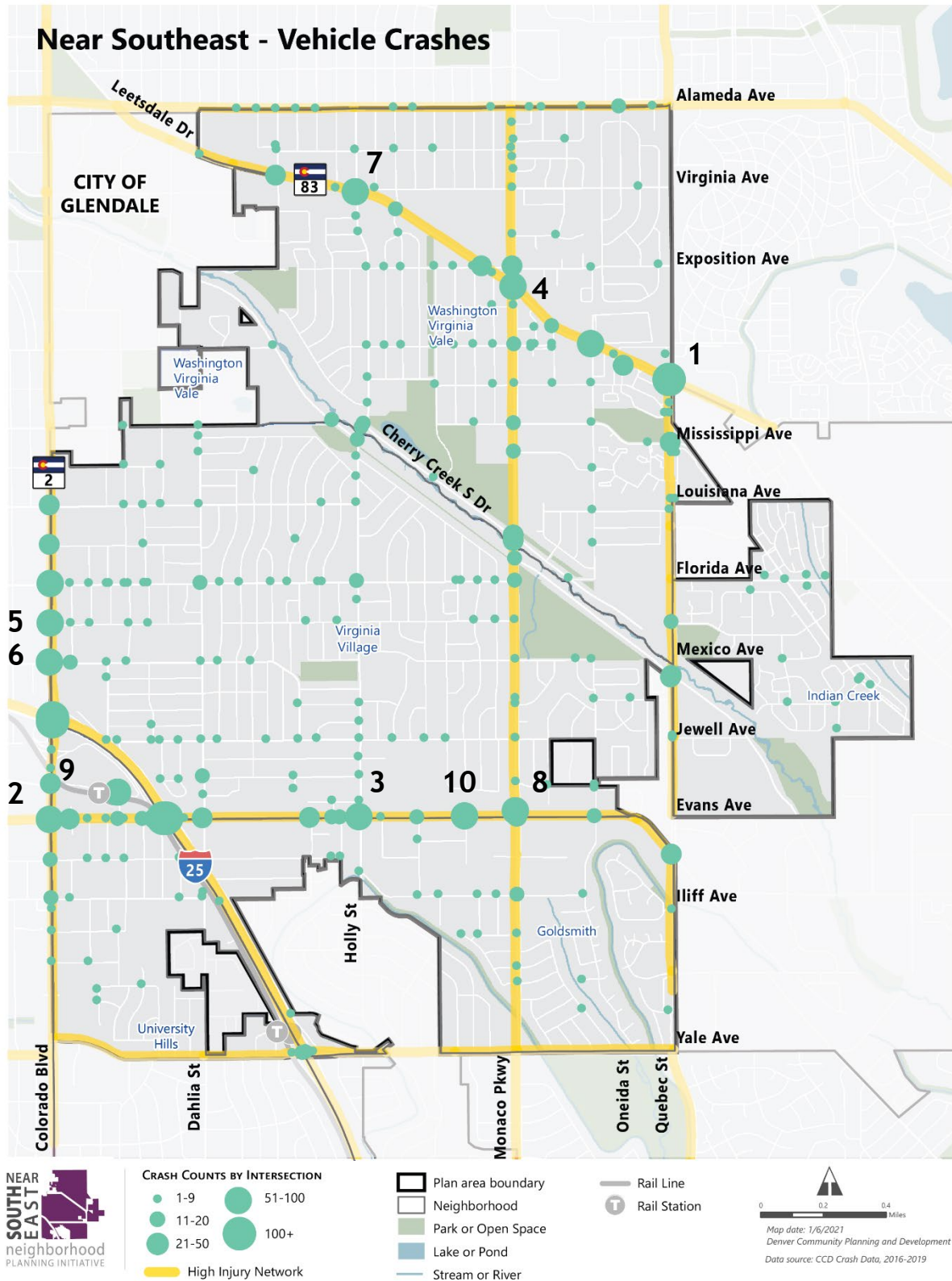
# on map	Location	Neighborhood	Total Crashes**
1	Leetsdale Drive / Quebec Street	Washington - Virginia Vale	107
2	Colorado Boulevard / Evans Avenue	University Hills	83
3	Evans Avenue / Holly Street	Goldsmith	83
4	Leetsdale Drive / Monaco Street	Washington - Virginia Vale	68
5	Colorado Boulevard / Iowa Avenue	Virginia Village	62
6	Colorado Boulevard / Mexico Avenue	Virginia Village	59
7	Leetsdale Drive / Holly Street	Washington - Virginia Vale	58
8	Evans Avenue / Monaco Parkway	Goldsmith	57
9	Colorado Boulevard / Colorado Center Drive	University Hills	56
10	Near 6300 Block Evans Avenue	Goldsmith	53

Source: CCD, 2016-2019⁴

Other notable areas with crash clusters along lower volume roadways within the study area that did not make the top 10 list include:

- Holly Street / Cherry Creek Drive North and South
- Quebec Street / Cherry Creek Drive South
- Evans Avenue between Grape Street and Jasmine Street
- Monaco Parkway / Cherry Creek Drive North and South

Figure 13. Vehicle-Only Crashes by Intersection



On-Street, Public and Private Parking Facilities

Vehicular travel is heavily reliant on available parking. Since parking represents the beginning and end of vehicle trips, it plays an important role in the transportation infrastructure of a neighborhood. Within the study area, there are pockets of commercial development and residential development. The commercial land uses in the study area provide ample surface parking and structured lots for their parking demand. In the few areas that surface parking is not as common, street parking fills any gaps in parking capacity. Street parking is generally located within one to two blocks of these commercial uses on adjacent collector and local streets. Most parking in the study area consist of surface parking lots and street parking. Some structured parking is present and is mostly associated with new multifamily development. Commercial surface parking is ample and abundant due to the classic suburban form of most commercial land uses in the study area. Further investigations should re-evaluate parking needs of these commercial uses and the potential of underutilized parking to be repurposed for new development or community improvements. For example, the parking lot for the suburban center located at the southeast corner of Leetsdale Drive and Monaco Parkway is often half-full.

Residential land uses in the study area also appear to have sufficient parking available. Higher density residential developments provide structured or surface parking lots. Low density residential land uses utilize private parking facilities (driveways and garages) or have street parking available within a short distance.

Since both commercial and residential land uses have ample parking available to them, parking utilization issues do not occur due to these land uses in isolation. However, potential capacity issues can occur where residential and commercial demand overlaps. Examples of this occurring within the study area are near the intersections of Dexter Street/Cherry Creek Drive South and Jewell Avenue/Holly Street. During peak periods, restaurant land uses may begin to overflow into residential parking capacity. These occurrences are short lived, and enough parking capacity exists on adjacent streets to handle these peak periods of parking demand.

Street level parking restrictions are not common within the study area. Loading areas and accessible parking are the most common restrictions. Some areas have overnight parking restrictions, but these restrictions are only in commercial areas. Limited sections of two-hour parking exist in the northern portion of the study area. A comprehensive inventory of parking restrictions would allow for a more thorough review of the parking conditions within the Near Southeast study area.

Findings

This section summarizes the findings of this existing conditions summary for consideration as the NPI enters the next phase of the project.

Pedestrian

The NPI does not have many destinations within walking distance. This could be a function of the area's post-war street layout and built environment which highly segregated land uses and is based on a collector/arterial system. The demands for cars over walking may be greater than in pre-war and neo-traditional mixed-use neighborhoods. Although Evans Avenue and Leetsdale Drive have commercial uses, they are too far for most residents to walk to.

The lack of sidewalks and the predominance of small, attached sidewalks in the area further deters convenient pedestrian movements. Small areas of neighborhood serving commercial located along Holly Street are more walkable for proximal residents. However, sidewalk conditions make pedestrian connections more difficult even in these cases.

Many sidewalks are categorized as having deficient width, but not along main corridors. While deficient width sidewalks are not ideal, many of these are identified on residential streets where traffic volumes are lower and wide sidewalks are not as necessary. Some collectors in the area (Louisiana Avenue, Florida Avenue, Mexico Avenue, Jewell Avenue, and Dahlia Street) have sidewalks of deficient widths. The pedestrian priority identified within Blueprint Denver is focused on segments of Evans Avenue, Colorado Boulevard, and Leetsdale Drive. While many of the pedestrian crashes are located on the HIN, there are a number of other crashes throughout the NPI, with a number occurring along Florida Avenue.

To note in next phase:

- Complete analysis to identify areas that may need improved conditions. This includes identifying barriers and level of pedestrian stress that contribute to connection issues throughout the NPI.
- As part of investigating the recommended projects, highlight the funded projects to distinguish between recommended projects and recommended projects that will be implemented and funded.
- Consider recommendations that will:
 - Identify top priority projects to improve pedestrian conditions. Given the large geographic area of the NPI and relatively high mileage of deficient width sidewalks, this will be important to determine top priorities for pedestrians.
 - Improve access along major corridors like Evans Avenue, Colorado Boulevard, and Leetsdale Drive.

Bicycle

The regional trails and light rail stations along I-25 are the focal points of travel in the study area. Aside from some of the trail and shared use path facilities, the study area is lacking bike facilities. Existing crossings of Cherry Creek are not connected to any on-street facilities and do not easily facilitate north-south travel because they are primarily for the Cherry Creek Trail which runs at a northwest-southeast diagonal. The lack of north-south crossing of Cherry Creek is also experienced with Leetsdale Drive, which is a major regional arterial roadway that creates a barrier to north-south travel for bicycles.

Since there are limited on-street facilities (currently facilities are located along Jewell Avenue and Florida Avenue), implementing recommendations will be important for this area. The recommended facilities are almost all north-south connections along Dahlia Street, Birch Street, Jasmine Street, Monaco Parkway, Forest Street and Oneida Street. Similar to the pedestrian crashes, many are located on the HIN, but there are a number of other crashes within the NPI, with a number occurring within the Virginia Village neighborhood.

To note in the next phase:

- Due to the Community Networks project, it is possible that the recommended bike facilities will change throughout the project. It will be important to coordinate with that team to integrate changes as they occur.
- As part of investigating the recommended projects, highlight the funded projects to distinguish between recommended and recommended projects that will be implemented and funded.
- Consider recommendations that will:
 - Local bike connections between residential neighborhoods and local nodes and multimodal centers. These include community serving commercial nodes, transit station, employment centers, and existing and new entertainment districts.
 - Improve access across major barriers.
 - Identify potential facility types for Monaco Parkway, Oneida Street, Yale Avenue, and Mississippi Avenue.

Transit

Given the uncertainty surrounding future service plans due to COVID, the immediate future of transit is not known. Service planners at RTD anticipate sticking with the COVID service plan at least through August 2021, with most routes operating on a Saturday schedule for weekdays. The May 2021 service change is anticipated to update existing routing opposed to modifying level of service. How COVID affects transit on a larger scale is still unknown, but the stops throughout this area have experienced lower boardings throughout, especially at the two light rail stations within the NPI at Colorado Station and Yale Station.

Although boarding numbers dropped across the NPI, transit locations at major transfer locations still had more ridership than stops along one route. This includes the transfer opportunities at Monaco Parkway (Route 65) / Leetsdale Drive (Route 83), Leetsdale Drive (Route 83) / Quebec Street (Route 73), Evans Avenue (Route 21) / Quebec Street (Route 73), and Evans Avenue (Route 21) / Monaco Parkway (Route 65). Many of the future transit improvements have been identified for these corridors.

To note in the next phase:

- The analysis completed as part of this project was based on boardings by stop opposed on a route level. Analysis for overall routes can provide information on where people are traveling. Initial analysis of a quarter mile buffer around bus stops along Transit Investment Capital Corridors show a good coverage of the NPI area.
- As part of investigating the recommended projects, highlight the funded projects to distinguish between recommended and recommended projects that will be implemented.
- Consider recommendations that will:
 - Support future transit investments on recommended transit corridors, but specifically Colorado Boulevard, Leetsdale Drive, Quebec Street, Alameda Avenue, and Evans Avenue.

Vehicle

There are major roadway corridors within the NPI area that provide important connections within the area as well to other areas within the City. Due to the post-war arterial/collector

street network, these corridors primarily function as vehicle corridors. But they also often function as important corridors for transit and provide short connections to bike facilities. Integrating multiple modes throughout major corridors will be an important consideration for this NPI area. Overall mobility along these major corridors would be increased by enhanced by transit, bike, and pedestrian connections along major arterials.

To note in the next phase:

- In order to better identify how vehicles are moving through the NPI area, data related to local vs. regional trips will be investigated for consideration to include as part of the next phase of the project.
- Provide an analysis associated with the land use generators and road classification as well as a larger discussion between the intersection of land use with transportation.
- Analyze level of service for intersections to determine level of congestion.
- Investigate further to see if additional existing conditions freight information is available.
- Consider recommendations that will:
 - Improve intersection operations at the most congested locations.

Transportation System

Based on the existing conditions summary, origin-destination analysis, and crash summary, a number of findings about the overall transportation system can be made:

- Account for post-COVID changes to vehicular volumes and transit boardings. During COVID, traffic and boarding volumes have decreased due home working options and reduced mobility due to public health measures. Post-COVID numbers will increase, but it is yet to be determined if volumes will return to pre-COVID levels. If this rebound is minimal there is the opportunity to increase mobility through the incorporation of alternative modes along these corridors.
- Recommendations should be developed for locations with high numbers of crashes from more than one mode. Crash cluster locations that overlap between pedestrian crashes and vehicular crashes include:
 - Colorado Boulevard / Mexico Avenue
 - Colorado Boulevard / Iowa Avenue
 - Near 6300 Block Evans Avenue
- The proximity of the NPI to the DTC and the increasing number of trips highlights the need to increase multimodal transportation opportunities from the NPI to the DTC.
- Major vehicle corridors also experience a number of crashes for all modes, with pedestrian crashes clustered along Colorado Boulevard, Evans Avenue, and Leetsdale Drive. While transit boardings have decreased overall, the light rail stations are still the most popular stops within the NPI. The stops located along Leetsdale Drive at Monaco Parkway and Quebec Street experienced a significant decrease in boardings.