120TH AVENUE
SAFETY & MULTIMODAL CORRIDOR STUDY

ADAMS COUNTY COLORADO

Brighton

Commerce CITY

June 2025

Table of Contents

Figures

Tables

Appendices

Appendix A: Concept Plan
Appendix B: Engagement Summary
Appendix C: Technical Advisory Committee (TAC) List
Appendix D: Alternative Exhibits
Appendix E: 27J Letter of Support
Appendix F: Pinyon Environmental, Inc. Survey Materials
Appendix G: Existing Conditions Report
Appendix H: Access Control and 2050 Future Traffic Analysis
Appendix I: Sustainability Alternatives Analysis
Appendix J: Conceptual Phase Envision Scorecard
Appendix K: Construction Cost Estimate

Executive Summary

The 120th Ave Safety & Multimodal Corridor Study Final Report presents a comprehensive analysis and strategic plan to enhance the safety, functionality, capacity, and reliability of the 120th Ave corridor. This corridor is a critical east-west arterial route serving Adams County, the City of Brighton, and the City of Commerce City. Conducted over 18 months, this study involved extensive community engagement and collaboration with key stakeholders to develop a unified vision for the corridor's future. The project team conducted a thorough review of existing conditions which helped to inform critical infrastructure needs. Together, the existing conditions analysis and community engagement helped to inform the development of three project alternatives, each evaluated based on a set of criteria developed by the project team. The preferred alternative, identified through community input and finalized through collaboration with a Technical Advisory Committee and agency staff, incorporates elements to improve safety, function, capacity, and reliability.

Community and stakeholder engagement were pivotal to the identification of the preferred alternative and shaping the concept plan found in Appendix A of this report. The project team hosted multiple open houses, conducted surveys, and engaged with agency stakeholders and community organizations to ensure diverse perspectives were considered. Key community priorities identified through these efforts included reducing vehicle congestion, enhancing pedestrian and bicycle safety, and improving transit facilities.

Section 1

PROJECT OVERVIEW

1 Project Overview

1.1 Study Area

This study focuses on 120th Ave between US 85 and Tower Rd and considers the adjacent land uses along the corridor. This segment is a highly traveled east-west arterial corridor traversing Adams County, Brighton, and Commerce City. It provides essential access to schools, neighborhoods, businesses, and recreational opportunities and connects two highways (US 85 and E-470) that serve the broader region. Figure 1 illustrates the project area extents and the boundaries for each of the participating agencies involved in this study.

1.2 Purpose and Goals

A primary purpose of this study was to establish a shared vision for the corridor through inter-agency coordination between Adams County, Brighton, Commerce City, and other entities.

The 120th Ave corridor has long been a focus of concern.[1] The 2012 Imagine Adams County Transportation Plan identified a number of bicycle and roadway priority projects, many of which are located within the corridor[2]. More recently, as part of the Adams County Transportation Master Plan (TMP)[3], five strategic corridors were identified for more in-depth analysis, including 120th Ave. Key challenges on 120th Ave, identified in the TMP, include gaps in multimodal access, infrequent transit service, and the at-grade railroad crossing at US 85 (western end of project corridor). Key opportunities identified include adding more multimodal connections, leveraging the limited sections of existing multi-use trail, and enhancing a critical east-west connection. As also stated in the TMP, a key opportunity for this corridor is to create partnerships with adjacent municipalities to determine a common vision for the roadway and facilitate coordinated implementation of improvements.

A list of project goals was developed to help guide the team throughout the study. These goals were developed with help from the Technical Advisory Committee (TAC), and are listed below:

1. Develop a unified vision across agencies for design of the corridor
2. Improve safety and connectivity for all users
3. Gather feedback from all stakeholders along the corridor
4. Incorporate sustainability (Envision) throughout the process
5. Move the project forward past conceptual design

In their efforts to create a shared vision for the major roadway corridor, the participating agencies prioritized community needs to ensure the goals would benefit a wide range of users.

[1] Adams County. (2012). Imagine Adams County Transportation Plan. https://adcogov.org/sites/default/files/2776.pdf

[2] Adams County. (2012). Transportation Master Plan: Appendix D Prioritization Results. https://www.adcogov.org/sites/default/files/TMP%20App%20D%20only.pdf

[3] Adams County. (2022). Transportation Master Plan. https://www.adcogov.org/sites/default/files/TMP%20Full.pdf

The following users stand to benefit from enhancements to the project corridor:

- Students and parents accessing the high school and middle school on the corridor
- Residents with limited ways of entering or exiting their community
- Heavy trucks delivering freight
- Bicyclists and pedestrians that are forced to share the road with motor vehicles for much of the corridor
- Commuters traveling to local and regional destinations

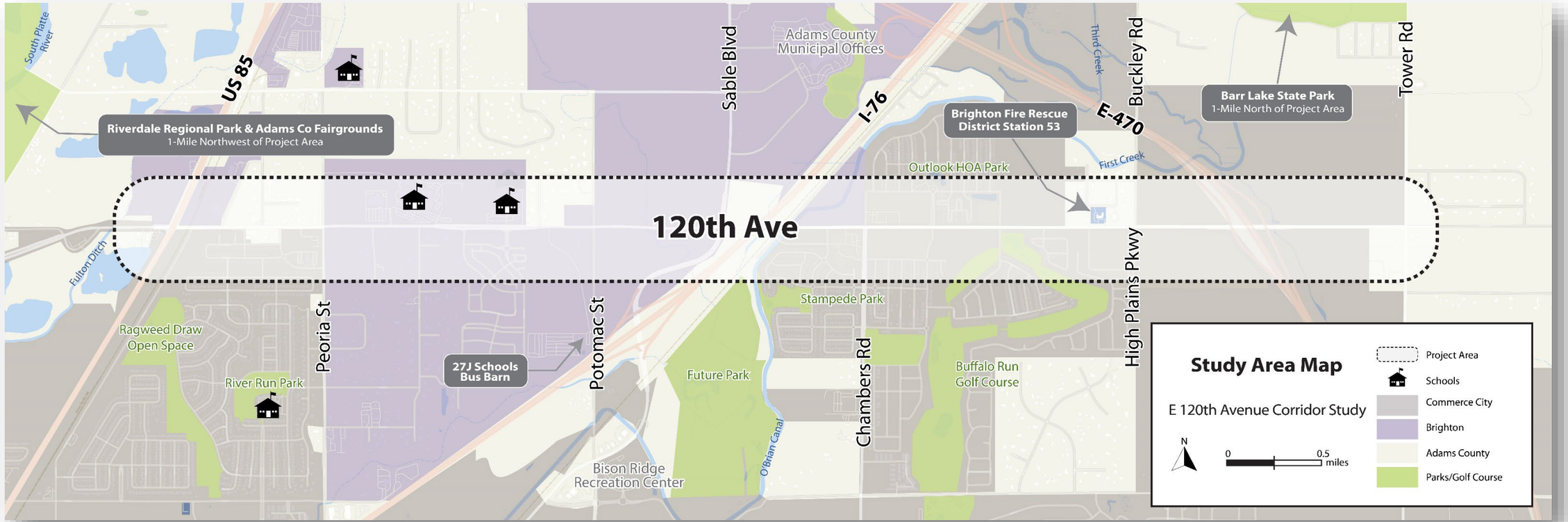
Project Sustainability Commitment Statement:

"The project team and its owners are committed to transforming 120th Ave. into a multi-modal corridor that is safe, equitable, accessible, and sustainable. We are committed to providing infrastructure to support low-emission transportation to our communities and recognize that requires focus on short-term and long-term project impacts. Collaboratively, we will explore methods to reduce long-term operation and maintenance and consider strategies to improve regional connectivity and accessibility through conceptual design."

Another key component of this study was incorporating sustainability. The county and partner agencies have made varying commitments to advance sustainability and climate resilience[4]. In response, the project team developed a project sustainability commitment statement to ensure the project would explore and pursue opportunities to advance those community-level commitments. The commitment statement specific to this project, which is shown below, was reviewed and approved by the three participating agencies and shared with the TAC.

[4] City of Commerce City. (2023). Action Plan for Sustainability. https://www.c3gov.com/home/showpublisheddocument/19883/638191487610300000
Adams County. (2022). Transportation Master Plan. https://www.adcogov.org/sites/default/files/TMP%20Full.pdf
Adams County. (2022). Sustainability Plan. https://www.adcogov.org/sites/default/files/Adams-County-Sustainability-Plan_v2022.02.08.pdf
City of Brighton. (2024). Strategic Plan. https://www.brightonco.gov/1438/Strategic-Plan

Figure 1. Study Area Map



Section 2

Engagement and Outreach

2 Engagement and Outreach

2.1 Engagement Overview

In addition to feedback from the three partner agencies, stakeholder and community input was essential in guiding the recommendations detailed in this report. The project team developed a technical advisory committee (TAC), hosted several in-person engagement events, and conducted a detailed on-line survey through MetroQuest to better understand the needs and priorities of the community. Key input is included throughout this report to highlight how the community and stakeholders informed various phases of the project. A comprehensive report of the engagement that was conducted, and what was heard, is available in Appendix B.

Engaging minority populations was vital for understanding the needs of underserved communities. Spanish translation was provided at all public open-house events and was incorporated into outreach material. Input from older adults (65+) accounted for 13% of MetroQuest survey responses and provided valuable insights on how future improvements could better meet the mobility needs of seniors.

2.2 Public Meetings

Four in-person public events were held to provide information and solicit input from community members. The events and the feedback received from the community are included in the following sections.

Open House Event #1

The first open house event was held in April 2024 and focused on understanding key concerns and priorities among community members and agency stakeholders, such as the 27J School District. Over 100 community members attended, including council members and mayors from the partner agencies. Attendees were invited to view project information boards and talk to the team to learn about the project. They also had the opportunity to vote for their top community priorities and desired corridor improvements. Community priorities included vehicle congestion, student safety, and bicycle and pedestrian safety among others, while improvement options included specific treatments such as widening the roadway, adding an eight-foot sidewalk, and enhancing overhead lighting at crosswalks.

Figure 2. Participants at Open House #1

Back to School Event

Prairie View High School hosted a back-to-school night for incoming students and their families in August 2024. Several project team members attended, setting up informational boards near the school's entrance to engage attendees and gather their input. Parents and their incoming high schoolers identified their priorities and desired improvements for 120th Ave.

What We Heard at the Back-to-School Event

- Vehicle congestion (94 votes) was the top-rated priority on the corridor followed by student safety (90 votes) and vehicle safety (61 votes).
- Families identified three congestion hot spots including the high school driveway, middle school driveway and the intersection of 120th Ave with US-85.
- Attendees indicated they would also like to see a crosswalk at the high school entrance to assist students in crossing the street.

Figure 3. Engagement at the Back-to-School Event

Open House Event #2

The focus of the August 2024 open house event was to present three project alternatives to attendees and describe how community input was represented in different elements of each. The 80 participants were asked to identify their preferred alternative through a ranking exercise. Each individual was given a form and a QR code to submit their vote and identify the pros and cons of each of the three alternatives. For more information on the three alternatives presented at the open house and the identification of a preferred alternative, see Section 5.

Figure 4. Participants Engaged at Open House #2

Figure 5. Project Team Presenting at Open House #2

Open House Event #3

The primary purpose of the third and final open house was to present a concept plan of the preferred alternative, overlaying the proposed design on an aerial map of the project corridor. Approximately 50 attendees were asked to provide feedback on an enlarged version of the concept plan. Each participant was asked to use sticky notes to provide comments, suggestions, or concerns regarding the design and associated elements. After the meeting, the plan was also made available for review and feedback online, for those who could not attend in-person. The feedback received on the concept plan is included for reference in Appendix B and will be considered during future phases of design for 120th Ave.

What We Heard at Open House #3

- **Traffic and Safety Concerns**: Residents highlighted issues with speeding, access difficulties, and emergency services along E 120th Ave, with specific concerns about semi-truck traffic on Racine Ct.
- **School Safety**: Participants were very concerned about bottlenecks caused by the schools on 120th Ave and suggested that improvements should be considered within the design. Support for the school bus pullout was expressed, as were concerns regarding kids walking across the I-76 bridge.
- **Infrastructure Improvements**: Suggestions included installing a roundabout instead of a signal at Salem St, a raised intersection at Southgate Blvd, and adding trees to medians to slow traffic. Participants expressed a desire for left turns from Cameron Drive but had mixed opinions on the safety of such a movement.

Figure 6. Open House #3 Participants Reviewing the Concept Plan

2.3 MetroQuest Survey

MetroQuest, an online survey platform, was used to gather input from residents and stakeholders. The survey asked respondents to rank priorities and respond to a series of questions related to the project corridor. A summary of the survey results is included in the subsections below and a full copy of the results is included in Appendix B.

METROQUEST SURVEY STATS

- Open for 43 days from March - May 2024
- Priority ranking, interactive mapping, and improvement ideas.

309 Participants
9,105 Data Points
530+ Comments

Community Priorities

Respondents were asked to rank their top community priorities in the MetroQuest survey. Figure 7 shows the eight different themes that were available to respondents and the number of votes received, through both the MetroQuest survey and several community events, for each.

Travel Behaviors

When asked about their current travel behavior on the corridor, 97% of survey respondents indicated that driving is their primary mode of travel. Figure 8 shows that a limited number of respondents regularly walk, bike, and take transit on the corridor. It also specifies participants' primary concerns related to each mode of travel.

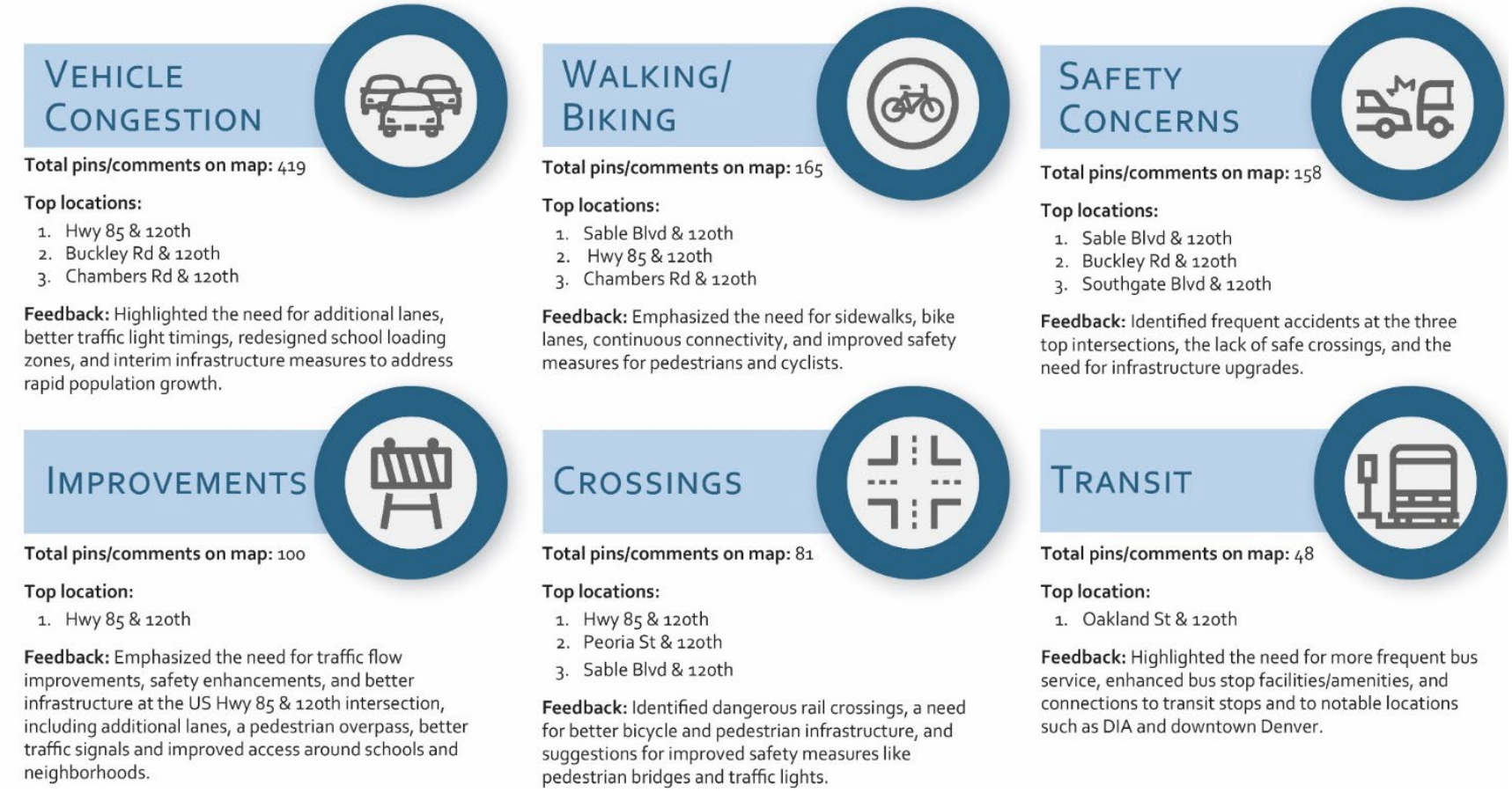
Figure 7. Community Priority Voting

Figure 8. Travel Behaviors and Concerns

Interactive Map

Survey respondents were asked to identify areas of concern along the corridor by placing a pin on a digital map. This resulted in a visual representation of key hot spots within the project area. The concerns were categorized into six issues as shown in Figure 9. Mapped comments by category are included in Appendix B.

Figure 9. Feedback Received from On-Line Interactive Map



2.4 Technical Advisory Committee (TAC)

This study was also informed by a Technical Advisory Committee (TAC). The TAC was comprised of 40 individuals representing Adams County, the City of Brighton, the City of Commerce City, 27J Schools, law enforcement, Regional Transportation District (RTD), and Denver Regional Council of Governments (DRCOG). A list of TAC members and their affiliations is shown in Appendix C.

The TAC convened virtually six times during the study to discuss key project elements, ask questions, and review technical assumptions, processes and documents. For the seventh and final meeting, the project team summarized the final report just prior to requesting the TAC's review. This committee was also utilized to help disseminate information about the plan and community outreach opportunities to their respective organization/community. Through group discussions, the TAC emphasized the importance of school access and safety, sustainability, and mitigating traffic congestion.

2.5 Coordination with 27J (School District)

As primary destinations along 120th Ave, both Prairie View Middle School and Prairie View High School were identified as areas of concern by parents, students, residents and partner agencies.

The project team held three virtual meetings with the 27J School District to better understand concerns and constraints near the schools and evaluate multiple options for improvement. Representatives from 27J included members of the Bond Committee, Communications Staff, Executive Leadership, and Emergency Operations. The District identified the following primary concerns: traffic congestion at and near school entrances during pick up and drop off, lack of safe ways for parents and students to turn left out of the high school, and pedestrian safety when crossing 120th Ave.

The project team proposed four intersection improvement options for the District's consideration at various locations on 120th and the southern boundary of the high school property. Each alternative addressed user needs differently and included features such as bus pullouts, roundabouts, and signalized intersections. Roundabouts were proposed for the schools' west entrance, at Salem Street, and at the schools' east entrance. Conceptual exhibits of the four proposed alternatives can be found in Appendix D. Ultimately, the District expressed a preference for installing a full-movement traffic signal at 120th Ave and Salem St, with the intent that the high school parking lot would be reconfigured in the future to allow direct access to the signal. This solution was considered the most practical within the current planning horizon, benefiting drivers, bicyclists, and pedestrians alike. 27J wrote and signed a letter of

support (found in Appendix E) to Adams County documenting this preference.

2.6 Coordinated Regional Sustainability Commitments

The project team reviewed the latest sustainability plans for Adams County, Commerce City, and Brighton[5] to identify opportunities for the project to support the fulfillment of regional sustainability commitments and anticipate infrastructure updates in and near the study area. The review identified that the agencies had various levels of commitment to the adoption of renewable energy and electric vehicles, preservation and development of community amenities, and protection of open space for climate resilience purposes. Key stakeholders within each agency were also surveyed to build consensus on the project's goals and test motivations and attitudes surrounding various sustainability and resilience topics. Insights from the sustainability review and survey were discussed by the project team as they considered design strategies to support these goals and developed performance metrics to compare the project alternatives' performance. The survey was also used to inform which Envision credits (which is discussed later in Section 5.2) to focus on during the concept design phase and to help contribute to recommendations for later phases. Survey results are provided and summarized in Appendix F.

[5] City of Commerce City. (2023). Action Plan for Sustainability. https://www.c3gov.com/home/showpublisheddocument/19883/638191487610300000

Adams County. (2022). Sustainability Plan. https://www.adcogov.org/sites/default/files/Adams-County-Sustainability-Plan_v2022.02.08.pdf

City of Brighton. (2024). Strategic Plan. https://www.brightonco.gov/1438/Strategic-Plan

Section 3

Existing Conditions Data Collection and Analysis

3 Existing Conditions Data Collection and Analysis

3.1 Multimodal Conditions

The following analysis documents the location and extent of transportation facilities in the project area that are primarily used for walking, bicycling, and transit. Figure 10 illustrates where these facilities exist along the corridor today. The purpose of the analysis is to document where functional facilities exist, where they are deficient, and where gaps occur.

Sidewalks

4.55 Mile-long corridor
1.33 Miles of Sidewalk
15% Sidewalk Coverage

The majority of 120th Ave between US 85 and Tower Rd lacks paved sidewalks. Where sidewalks don't exist pedestrians must walk on roadway shoulders, the majority of which are not Americans with Disabilities Act (ADA) compliant. Where sidewalks do exist, they vary between 6 to 10-ft wide and are generally in good condition.

Crosswalks

There are several marked crosswalks along the corridor as can be seen in Figure 10, and all but two are at signalized intersections. The two non-signalized crosswalks along the corridor both run parallel to vehicle travel on 120th Ave.

Traffic Signals

There are a total of nine traffic signals on the project corridor. Five of the nine signalized intersections have pedestrian signal heads and pedestrian push buttons, but the location of these pedestrian push buttons does not comply with the Manual of Uniform Traffic Control Devices, ADA Standards for Accessible Design, or Public Rights of Way Accessibility Guidelines.

Six of the nine signalized intersections are missing signal heads for motorized vehicles. The observed missing signal heads are considered supplemental but help to provide added visibility for approaching traffic as well as reduce red light running and associated crashes.

9 Traffic Signals on the Corridor
- 5 have pedestrian signal heads & push buttons
- 6 are missing signal heads for vehicles

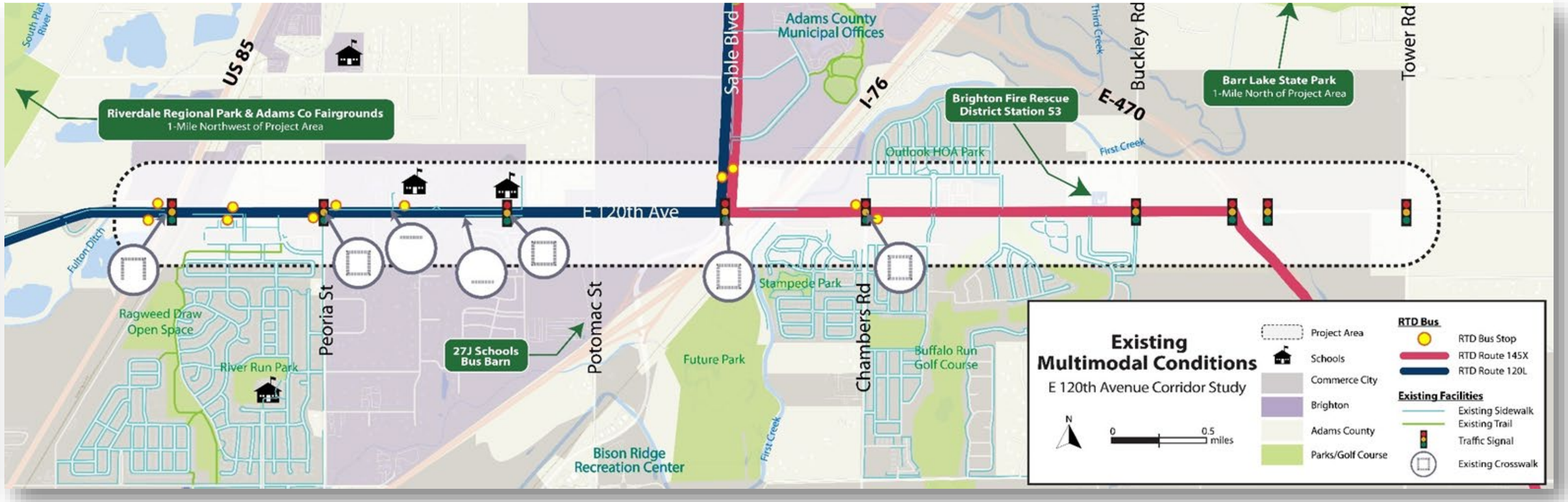
Bicycle Facilities

While bicyclists are permitted to use the vehicle travel lanes and shoulders along any portion of the corridor, there are currently no designated on-street bike facilities, such as a bike lane. Bicyclists can use sidewalks but are required to share them with pedestrians.

Trail Connection

Just over a mile to the west of the US 85 & 120th Ave intersection, at Riverdale Regional Park, there is a connection to the Platte River Trail which is a 30.3-mile trail providing access to many destinations within the Denver metro area. Between the trail and the US 85 & 120th Ave intersection, there is a 10-ft sidewalk that runs along the north side of 120th Ave and can be used by bicyclists and pedestrians, but ADA compliant bicycle/pedestrian facilities are lacking to safely travel through the US 85 intersection.

Figure 10. Multimodal Existing Conditions



Lighting

The existing roadway lighting on 120th Ave between US 85 and Tower Rd is minimal and inconsistent. The majority of overhead lighting is located at signalized intersections. Without consistent illumination along the corridor and at decision points, safety and visibility for all users decreases. The current lighting layout lacks uniformity, as some sections of 120th Ave have ample lighting, while other sections have none.

Transit Access

Although the project corridor is currently served by two RTD bus routes (see Figure 10), transit access is currently deficient. The existing routes that operate along the corridor are 120L and 145X. 120L extends from Thornton to Brighton City Hall, allowing for intercity connections. At the west terminus, 120L connects to the N-line commuter rail which travels south all the way to Union Station in downtown Denver. 145X connects Brighton City Hall to Denver International Airport (DEN). On the north end, riders can connect to the RX bus route, which operates along US 85, ending in Commerce City where connections can be made at the Commerce City / 72nd Ave commuter rail station. The 145X route is aimed at carrying DEN employees to and from work, but only operates four times a day, making it difficult to rely on for consistent work travel.

In addition to poor transit operations, transit stop amenities and connections along the corridor are inadequate. Most transit stops are not ADA-compliant and are located on a dirt shoulder next to the road with limited separation from passing vehicles. Sidewalk connections to most of the stops don't exist as illustrated in Figure 10.

Intersection Curb Ramps

The condition and completeness of intersection curb ramps significantly vary throughout the corridor. Most intersections don't have sidewalks or curb ramps, and some have ramps that are not fully ADA-compliant. Figure 11 provides an example of a typical intersection along the corridor that does not have curb ramp or crosswalk infrastructure. In some cases, like the Southgate intersection just south of Prairie View Middle School, curb ramps are fully ADA-compliant and connect to ADA-accessible sidewalks, but these are typically limited to where recent development has occurred.

Figure 11. Typical Non-ADA Compliant Intersection on 120th

Freight Connections

DRCOG's Regional Multimodal Freight Plan[6] identifies a network of freight roadways throughout the region that are vital for moving goods and supporting industries and businesses. The freight network is made up of three tiers to categorize the varying degrees of connectivity. Tier 1 corridors represent nationally strategic roadways that connect the region to the rest of the country and international trading partners.

Tier 2 networks link the region with other areas of the state, and Tier 3 include local connectors that provide access to intermodal facilities. As seen in Figure 12, the corridor is identified as a Tier 2 freight network, meaning this segment of 120th is a regional freight connector. US 85, E-470 and Hwy 2 are also identified as Tier 2 networks, and I-76 is identified as Tier 1 network. East of Tower Rd, 120th Ave is identified as a Tier 3, local freight connector.

Given the corridor's status as a Tier 2 freight network, it is important to separate modes of transportation, manage the impacts of growth on the roads, and improve safety for all users. This approach ensures that regional freight connectors can efficiently support the movement of goods while minimizing congestion and enhancing overall road safety.

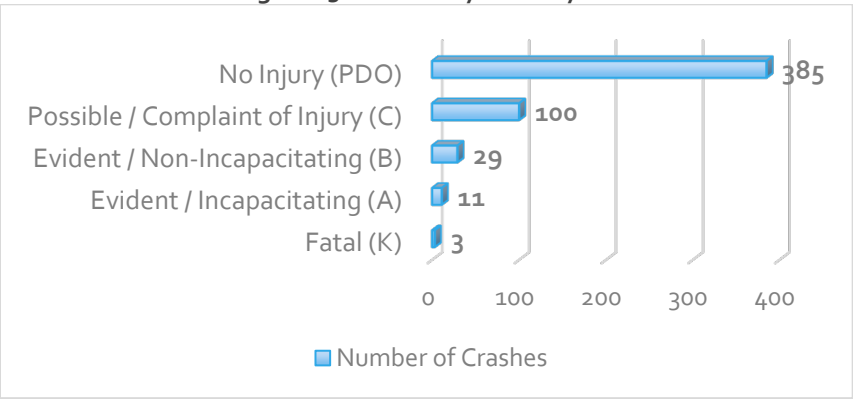
[6] Denver Regional Council of Governments. (2016). *2050 Metro Vision Regional Transportation Plan: Appendix M*. Retrieved from https://www.drcog.org/sites/default/files/acc/TPO-RP-2050RTPAPPXM-EN-ACC-24-05-16-V1.pdf

Figure 12. DRCOG Freight Network Routes

3.2 Crash Summary

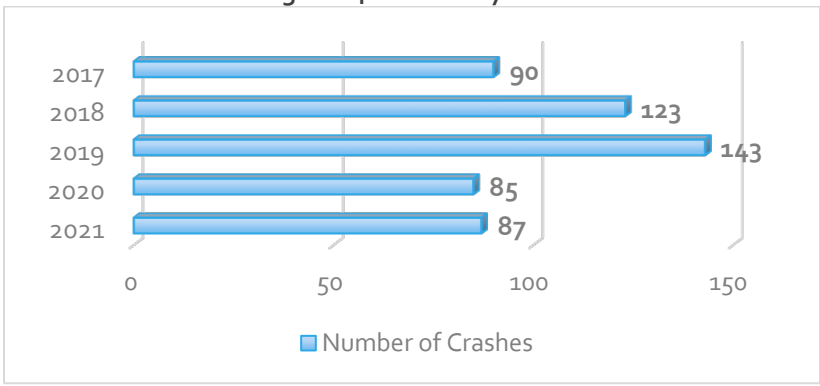
The analysis of crash data along the corridor provides a comprehensive overview of incidents during the 5-year period between 2017 and 2021. Figure 13 shows the number and severity of crashes that occurred within this timeframe. On average, about 106 total crashes occurred each year.

Figure 13. Crashes by Severity



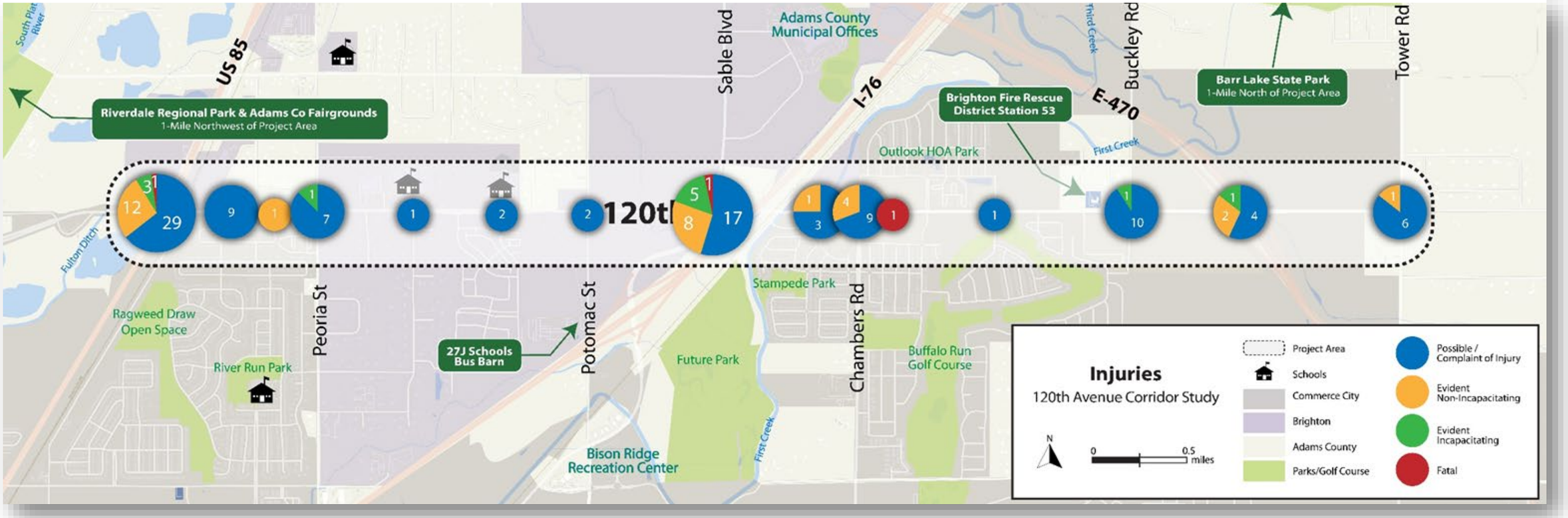
Yearly trends revealed fluctuations in total crashes, with 2018 and 2019 experiencing large surges and a sharp decline in 2020, possibly influenced by the COVID-19 pandemic. Notably, crash locations were concentrated at key intersections along 120th Ave as can be seen in Figure 14.

Figure 14. Crashes by Year



Most crashes (58%) occurred at an intersection or were intersection-related, and the most prevalent types were rear-end crashes (48.9%), approach turn crashes (18%), and broadside crashes (12.1%). Sixty four percent of broadside and 52% of approach turn crashes resulted in a fatality or serious injury, while only 23% of rear-end crashes resulted in a fatality or serious injury. The magnitude of safety problems at the signalized intersections was evaluated and the Level of Service of Safety (LOSS) for each was identified. More information on LOSS is provided in the Existing Conditions Report included in Appendix G. A LOSS of III or IV, indicating moderate to high potential for crash reduction, was identified for the intersections of Peoria Street, Sable Street, Cameron Drive, Chambers Road, Buckley Road, and Tower Road. These intersections were then tested for the presence of patterns related to crash type, severity, direction of travel, road conditions, spatial distribution of crashes, time of day, and behavioral attributes, and a pattern of approach turn crashes was identified at the intersections of Sable Boulevard and Chambers Road.

Figure 15. Crash Severity at Corridor Intersections



3.3 Environmental, Cultural, and Social Resources

An analysis to identify potential biological, cultural, and social resources within the project area was conducted using publicly available information. The purpose of this review was to address existing conditions that align with federal and state regulations or policies and evaluate the potential impact of this project on these resources. For a more in-depth summary of the findings and a description of potential impacts, see the Existing Conditions Report in Appendix G.

Biological Resources

Federally-listed, State-listed and State Special Concern Species[7]

Based on a review of the online US Fish and Wildlife Service's Information for Planning and Consultation tool (IPaC), there are federally listed threatened (FT), federally listed endangered (FE), proposed endangered (PE), and proposed threatened (PT) species with the potential to be impacted by this project.

The majority of the Colorado state-listed, and special concern species are not expected to occur in the project area because it is outside of their range or appropriate habitat is not present. The Colorado Natural Heritage Program's Conservation Data Explorer (CNHP CODEX) was reviewed to identify state-listed and special concern species with the potential to occur in the project area. The findings and description of potential impacts on Black-tailed prairie dog (Cynomys ludovicianus; SC) colonies, Burrowing Owls (Athene cunicularia; ST), and common garter snake (Thamnophis sirtalis; SC) can be found in Appendix G.

Migratory Birds

Trees, shrubs, tall grasses, and human-made structures such as bridges within and near the project area could be used as nests for raptors and/or non-raptor birds. There is a potential nesting raptor habitat within 0.5 miles of the project area, and the project area falls within Bald Eagle winter concentration and winter foraging. Additionally, there is a mapped Bald Eagle nest approximately 1.4 miles south of the project area.

Aquatic Resources

Section 404 of the Clean Water Act regulates the placement of dredge or fill material into Waters of the United States (WOTUS), which includes non-wetland waters and wetlands.

Colorado passed House Bill 24-1379 (signed May 30, 2024) which says that the state will continue to regulate discharges of fill and/or dredged materials into waters of the state that, since the Sackett decision, are no longer federally protected (i.e., "Sacket Gap Waters").

There are several potential WOTUS and/or Sackett Gap Waters within the project area as well as several potential National Wetland Inventory (NWI) mapped wetlands.

Noxious Weeds

The Colorado Department of Agriculture (CDA) classifies noxious weed species into three categories: List A, List B, and List C. Adams

[7] Federally listed and State-listed species information based on information obtained from the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) and Colorado Natural Heritage Program's Conservation Data Explorer (CNHP CODEX) on February 25, 2025, and is subject to change/updates.

County has its own noxious weed management plan which generally defaults to the State list; there are no species listed in the Adams County plan that are not also listed as noxious by the CDA[8]. Noxious weeds typical of Front Range roadside habitats are likely present in the project area.

Cultural Resources

The Cultural Resource study area generally consisted of the project's limits of disturbance within the 120th Ave right of way (ROW), between US 85 in the west and Tower Rd to the east. The study area included a 300-foot buffer to identify previously evaluated and newly identified, potentially historic resources within, adjacent to, or intersecting the project.

Previously evaluated resources and newly identified, potentially historic resources were identified through a file search and desktop review.

As a result of the review, 29 previously evaluated resources were identified within, adjacent to, or intersecting the study area. Of these, 5 resources have been demolished since they were last surveyed. Twelve newly identified, potentially historic resources constructed in 1980 or earlier were identified within, adjacent to, or intersecting the study area. Of those potentially historic resources, none are expected to qualify as historic based on research completed with this study. For more information on these sites see Appendix G.

Socioeconomic Indicators

The term "Socioeconomic Analysis" refers to the analysis of the benefits and the burdens of specific projects and/or programs on people and communities from economic and social perspectives.

The Council on Environmental Quality (CEQ) guidance states that minority and low-income populations occur where either:

- The minority or low-income population of the affected area exceeds 50%; or
- The population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis.

This evaluation compared the percentage of minority, low-income, and Limited English Proficiency (LEP) populations within the four GEOIDs (Geographic Identifiers) in the project area with the Adams County percentages to determine if there are higher levels of each socioeconomic indicator. As summarized in Table 1, this analysis didn't show any significant populations with socioeconomic concerns within the project area when compared to the county.

Table 1. Socioeconomic Indicator Results

GEOID/County	People of Color	Low-Income	Linguistic Isolation
80010085231	11%	0%	0%
80010085232	16%	8%	0%
80010085361	42%	8%	0%
80010085371	42%	18%	3%
Average	28%	9%	<1%
Adams County	51%	29%	5%

[8] Adams County CSU Extension, 2020

3.4 Traffic Conditions

Existing Conditions

Access Points

A total of 71 existing access points were identified along the corridor. Figure 16 illustrates the breakdown of access points by type. The high number of full movement unsignalized intersections on 120th Ave is directly correlated to the lack of raised medians. Generally, a high number of this type of access results in a higher frequency and severity of crashes. Details regarding specific access points can be found in the Existing Conditions Report in Appendix G.

Geometry & Traffic Counts

Existing lane configurations and TMC's were collected at 23 key intersections along the corridor. Average daily traffic counts and vehicle classification counts were collected at eight (8) locations along the corridor on October 11, 2023 and October 12, 2023. Table 2 shows the existing vehicles per day (VPD) and truck percentages by location. On average, a truck percentage of four percent is typical on State-maintained arterial roads within the Denver Regional Council of Governments (DRCOG) planning area. Truck traffic on 120th Ave is significantly higher than this, ranging from 5.2% up to 11.1%.

Figure 16. Access Points Along the Corridor

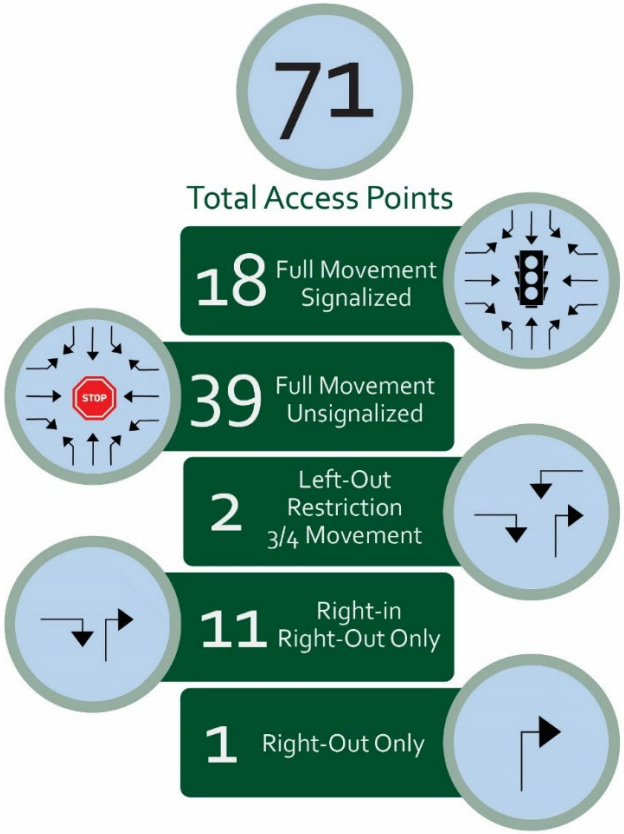


Table 2. Existing Vehicles Per Day and Truck Percentages

Site location	VPD	Truck Percentage
East of Havana	13,600	5.7%
East of Peoria	14,700	6.5%
West of Sable	16,100	5.2%
West of Cameron	25,500	7.1%
East of Laredo	15,500	11.1%
East of Buckley	20,600	8.5%
West of Tower	18,200	10.1%
East of Tower	3,700	18.8%

Existing Operations

Traffic analyses were conducted in accordance with procedures outlined in the *Highway Capacity Manual, 6th Edition* (*HCM*). Level-of-Service (LOS) is a measure of the quality of traffic flow, and ranges from LOS A (nearly ideal traffic conditions with very little delay for motorists) to LOS F (poor traffic conditions with long motorist delays). LOS C is typically considered a "good" traffic condition. LOS D or better conditions are typically desirable during peak traffic periods. *HCM* Signalized Intersection evaluation methods were used to estimate LOS at intersections along 120th Ave.

Stop-controlled intersections and signalized intersection traffic operations were evaluated using Synchro, a traffic operations software that applies the methodologies of the HCM.

Stop Controlled Intersection LOS

LOS and volume-to-capacity (v/c) ratios were calculated for the worst-case movement at the unsignalized intersections along the corridor. Six of the fifteen stop-controlled intersections operate at LOS E or worse during at least one of the peak periods. However, none of the intersections operate with a v/c worse than 0.9, indicating that long queues should not develop for these movements.

Signalized Intersection LOS

The LOS for signalized intersections along the corridor were also calculated. However, field observations suggested that corridor operations are worse than calculated at the intersections of 120th Ave with Peoria St, Southgate Blvd, and Buckley Rd. As a result, these intersections were identified as having a LOS 'F'. Chambers Rd currently operates under split signal phasing resulting in LOS 'E' and LOS 'F' during the AM and PM peak hours respectively. The remaining signalized intersections operate under LOS 'D' or better. At signalized intersections where a LOS 'E' or 'F' is reported, intersection lane improvements are required per Adams County standards. Where overall intersection LOS is 'D' or better, small timing changes may improve the operations of individual movements.

Section 4

Future Development

4 Future Development

4.1 Planned Land Use Development

Adams County is poised for substantial growth in the coming years, and significant development is anticipated along the corridor. This growth could have a profound impact on the roadway network, which necessitates careful planning and strategic improvements to manage increased traffic volumes and ensure safety.

Figure 17 illustrates where planned development is expected to occur along the corridor. Depending on the location, staff from Commerce City, Brighton, or Adams County will work with developers to ensure transportation improvements are made as construction occurs. These improvements may include intersection upgrades, sidewalk installation or enhancements, and construction to improve access management along the corridor. This is not an exhaustive list, and additional improvements may be requested by the governing jurisdiction should they be determined that they are needed.

As can be seen in Figure 17, planned development includes a diversity of proposed land uses. While the scale and timing of these developments will vary, they will significantly increase travel demand on the corridor over time.

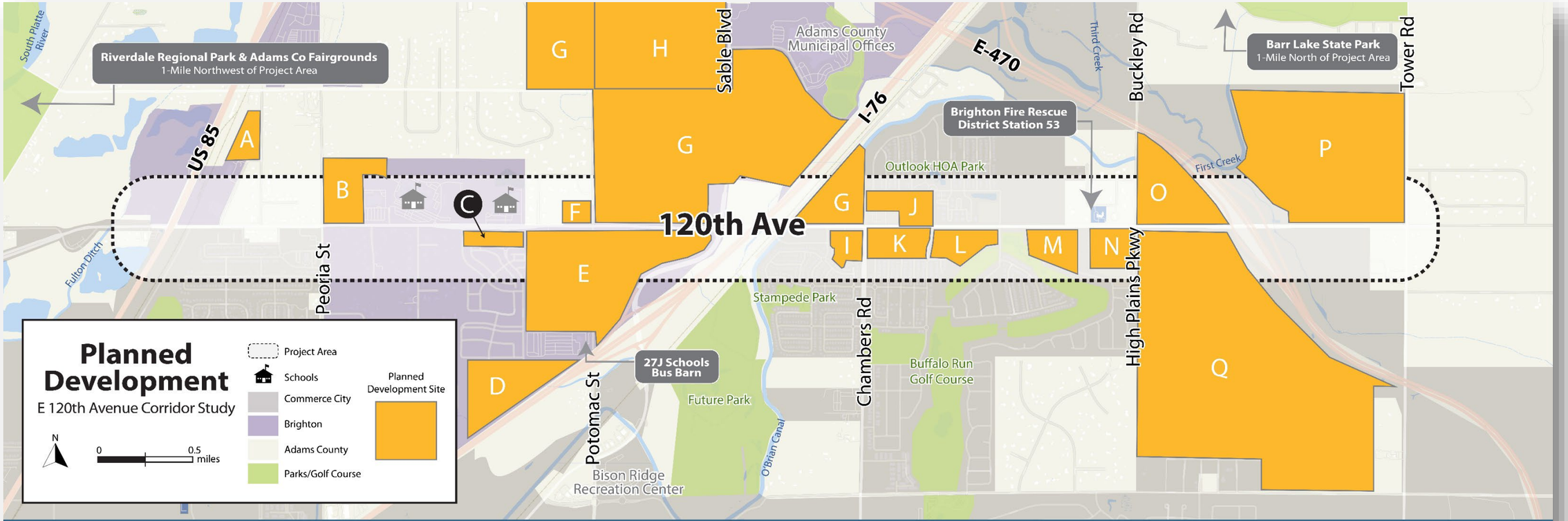
4.2 Future Transportation Projects

As travel demand increases as a result of new development along the corridor, transportation improvements will be planned and implemented to reduce congestion, enhance safety, and provide a more connected, reliable, and multimodal corridor. These enhancements are crucial for accommodating new growth and ensuring efficient mobility for all users. Several key projects, which are summarized below, are anticipated in the coming years.

Table 3. Planned Transportation Projects

Project	Description	Lead Agency	Timing
US 85 Interchange	Design of a grade-separated interchange that will elevate 120th Ave over US 85 to improve multimodal operations, access, and safety for both roadways.	Commerce City	30% design is complete, with additional progress expected in 2025 and 2026. Full design and construction are not currently funded.
Chambers to Buckley	Widening of roadway to include new thru lanes, turn lanes, center median, and sidewalk.	Commerce City	Construction to start in 2025 and complete in 2027
E-470 Multi-Use Trail & Interchange	Construction of a new, off-street shared use path paralleling but separated from the west side of E-470.	Commerce City, CDOT, E-470	TBD

Figure 17. Planned Development Map and Table



Development *Desarrollo*	Proposed Land Use *Uso de la tierra propósito*
A. Tierra Business Park	Industrial | *Industrial*
B. Kestrel	Single Family Residential | *Residencial unifamiliar*
C. Southgate	Mixed Uses | *Usos mezclados*
D. Brighton Ridge	Multi-family, single family or duplex, and commercial | *Multifamiliar, unifamiliar, dúplex, commercial*
E. Adams Crossing	Mixed Uses | *Usos mezclados*
F. Buffalo Run Filing 2	Commercial / Retail | *Commercial / minorista*
G. The Village Commercial Filing 3 & 4	Commercial / Retail | *Commercial / minorista*

Development *Desarrollo*	Proposed Land Use *Uso de la tierra propósito*
H. Buffalo Run Village Center	Commercial / Retail | *Commercial / minorista*
I. Avilla Buffalo Run	Single Family Residential | *Residencial unifamiliar*
J. TGL Buffalo Run	Single Family Residential | *Residencial unifamiliar*
K.Villages at Buffalo Run Filing 3	Residential | *Residencial*
L. Buckley One	Mixed Uses | *Usos mezclados*
M. Cutler Farms	Mixed Uses | *Usos mezclados*
N. Buckley Crossing	Mixed Uses | *Usos mezclados*

This information is current as of August 2024 and subject to change.
Esta información está actualizada a agosto de 2024 y está sujeta a cambios.

The transportation projects identified in Table 3, above, are part of a comprehensive strategy to create a more functional and reliable corridor and surrounding roadway network. By addressing both current and future transportation needs, these projects will not only reduce congestion and improve safety but also enhance the overall quality of life.

4.3 Access Control

Access management modifications were proposed along 120th Ave to enhance safety and improve traffic operations. As defined by the *Access Management Manual, TRB, Second Edition 2014*, "Access management is the coordinated planning, regulation, and design of access between roadways and land development. It involves the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway." Although 120th Avenue is not a Colorado Department of Transportation (CDOT) highway, the manual's best practices were used as a guiding reference due to the proven benefits of access control detailed later in this section.
For Colorado State Highways, access management is typically administered by CDOT on a case-by-case basis, following the State Highway Access Code, March 2002 Amendment (SHAC). The Access Management Plan (AMP) considers factors like intersection spacing, traffic movements, land use, and topography. While it doesn't specify funding sources, capacity improvements, or off-network improvements, local governments may include these in their planning. Access management balances efficient highway mobility with the local access needs of businesses and residents and the AMP outlines access conditions to be implemented as highway and land-use characteristics evolve over time.
Long-term benefits to Access Management:

- **Improves safety**: Ensures safe access to businesses and residences by minimizing decision points and conflict points, thereby reducing crashes.
- **Increases traffic thruput**: Limits full movement access to favor through movements, reducing congestion, travel times, and air pollution, while improving traffic flow and reducing delays on local streets.
- **Preserves property values and economic viability**: Creates a more efficient roadway system, predictable development environment, and well-defined driveways, making it easier for customers to access businesses.
- **Encourages local street use and development**: Provides alternative routes for local traffic, reducing highway volumes and offering convenient local access and circulation.

Guiding Principles

Access management focuses on limiting and consolidating access along major roadways while directing development access to a supporting local street network. The guiding principles applied in the 120th Ave Plan include:

- Limit the number of direct access points to major roadways
- Locate major intersections (potential future signals) to favor thru movements and accommodate infrastructure for turning movements
- Minimize the number of locations where vehicles merge, split, or cross
- Remove turning vehicles from through traffic lanes
- Provide a supporting local street network and circulation system

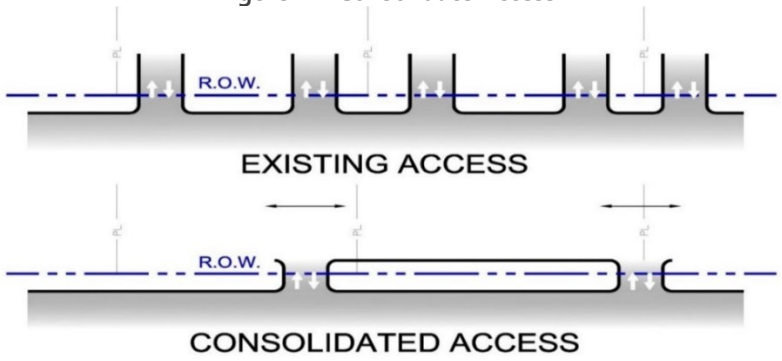
Techniques

To achieve the outlined principles and realize the benefits of access management along 120th Ave, various techniques can be employed. These techniques are illustrated in Figures 18-20.

Principle: Limit the number of direct access points to major roadways

Technique: Consolidate Access

Figure 18. Consolidate Access



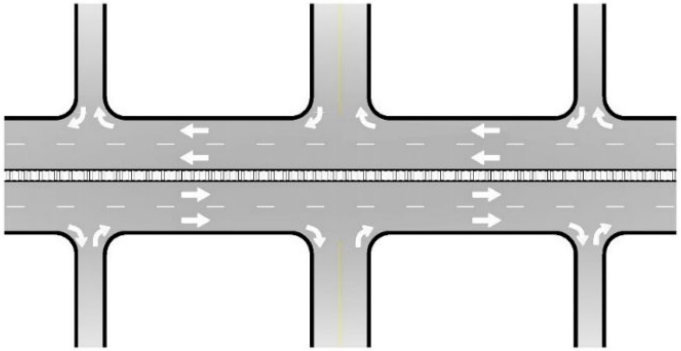
Consolidate access points by:

- Reducing the number of access points that serve a single property
- Reducing frontage road access points to the main highway Providing shared access for multiple properties at or near a property line

Principle: Minimize the number of locations where vehicles merge, split, or cross

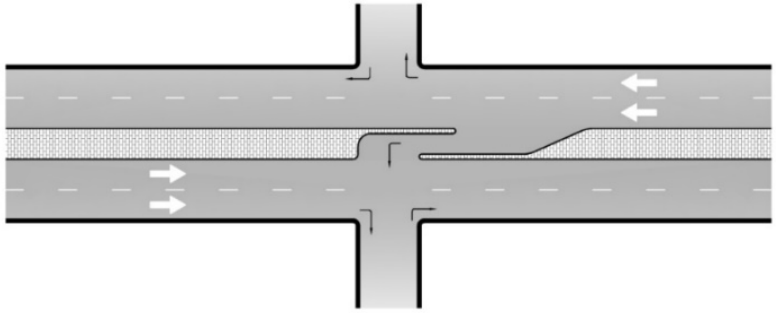
Technique: Install Medians and Islands

Figure 19. Medians and Islands



Right-in/right-out with a raised median eliminates left-turn movements between major intersections throughout a corridor.

Figure 20. Directional Median

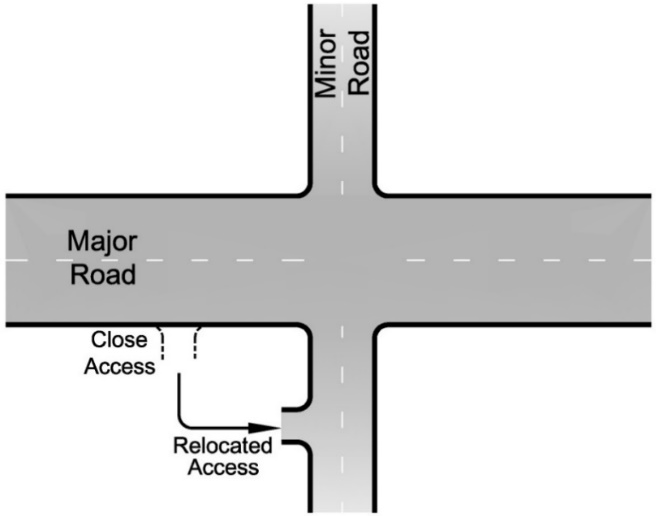


Directional median opening or a ¾ movement limits left turn movements to one direction at strategic locations where increased access is beneficial for safety or operational reasons.

Principle: Provide a supporting local street network and circulation system

Technique: Provide Cross Street Access

Figure 21. Provide Cross Street Access



Relocate access to a side street to:

- Reduce direct access points to the major roadway
- Ensure safe and easy access to minor roadway intersections with the major roadway
- Offer alternate local routes to avoid using the major roadway

4.4 Access Management Plan

The AMP for the 120th Ave corridor aims to improve safety and traffic flow by modifying access points and traffic control measures. The plan reduces the number of access points from 82 to 67, affecting both residential and commercial access. The revised scheme mitigates congestion and enhances operational efficiency.

The proposed changes to access are noted below and shown in the figures provided in Appendix H.

US 85 to Peoria St

- **Moline St North of 120th Ave**: Proposed for closure.
- **Moline St South of 120th Ave**: Restricted to Right-In/Right-Out.
- **Oakland St North of 120th Ave & Oakland St South of 120th Ave:** Potential for future signal if traffic demand increases.

Peoria St to Potomac St

- **New Access North of Salem St (Prairie View High School)**: Proposed new access connecting to high school parking lot.
- **Access #37 (Wheeling St)**: Restricted to a Right-In/Right-Out.
- **Potomac St Intersection**: Proposed for signalization.

Sable Blvd to Buckley St

- **Jasper St Intersection**: Proposed change to a ¾ movement.
- **Laredo St Intersection**: Proposed new traffic signal.
- **Nucla St Intersection**: Restricted to Right-In/Right-Out.

Buckley St to Tower Rd

- **Access Points #63.5, #64.5, #68.5, #69.2, #69.5, #69.7**: New access points associated with future development. All are recommended as either right-in/right-out or ¾ movement.

4.5 2050 Future Traffic Analysis

Future 2050 traffic analysis was completed to evaluate future operations on 120th Ave. The analysis accounted for planned improvements identified in the 2050 (DRCOG) Regional Transportation Plan and geometric changes planned to accommodate new developments. Summaries of the 2050 No-Build and Build operations are discussed below. More detailed information regarding the analysis and results are provided in Appendix H.

No Build Operations

The No-Build scenario identifies future operational challenges and demonstrates the need for improvements. The analysis includes planned future geometric changes associated with known developments and uses DRCOG traffic forecasts to project future traffic volumes on the corridor.

The 2050 No-Build scenario's roadway geometry improvements were based on input from the DRCOG travel demand model, regional transportation plans, and planned developments along the 120th Ave corridor. Key changes included expanding 120th Ave to a four-lane highway, constructing a signalized intersection at Potomac St, and adding a south leg to Buckley Rd, making it a major arterial. Auxiliary lanes were added to 120th Ave and side streets as indicated by regional transportation plans or planned developments.

The Level Of Service (LOS) analysis indicated that 13 out of 14 stop-controlled intersections operate at LOS E or worse during at least one peak period and eleven stop-controlled intersections have volume / capacity (V/C) ratios exceeding 1.0, indicating significant queues on the side streets.

The LOS results for signalized intersections indicate that most signalized intersections, except the E-470 ramps and Tower Rd, will operate at LOS F during peak hours by 2050, indicating that vehicular demand will exceed capacity even with four lanes.

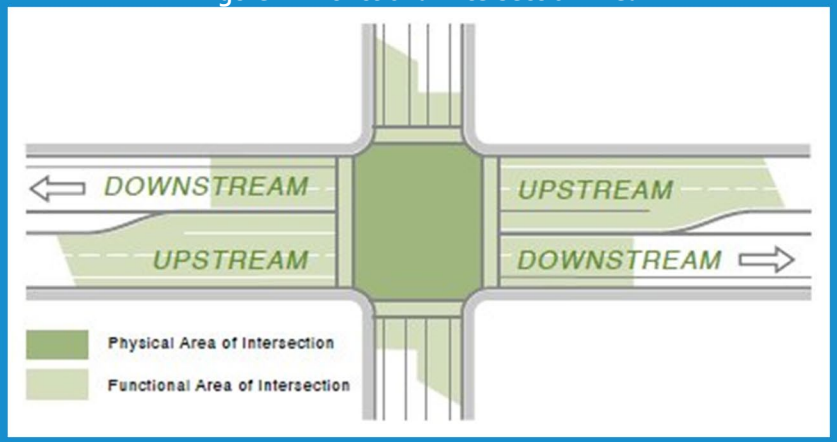
2050 Build Operations

The 2050 Build scenario for 120th Ave includes geometric recommendations from the AMP, such as auxiliary lanes, access point closures, and movement restrictions at intersections. When deciding where it would be appropriate to close an access or restrict movements at an intersection, the functional intersection area of each intersection within the study area was evaluated. More detail on the functional intersection area is included in Figure 22. Additionally, the build scenario assumed that 120th Ave was a four-lane highway through the study area and included auxiliary lanes or dual turn lanes where warranted or appropriate.

Functional Intersection Area

According to the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* (2011) and the **Access Management Manual, TRB, Second Edition (2014)**, access points should be separated by a distance that is at least the functional area of the intersection (Figure 22, below), which extends both upstream and downstream from the physical intersection. This methodology ensures that intersection spacing allows for adequate time to perceive and react to other vehicles or users of the road and to merge safely into traffic based on the speed of the segment. The functional intersection area criteria for all three participating agencies were evaluated and the criteria harmonized for consistent traffic flow and safety to ensure proper separation of access points in alignment with each jurisdiction's standards. More information on how to calculate the functional intersection area, the benefits of following this methodology and criteria used can be found in Appendix G.

Figure 22. Functional Intersection Area



Source: Federal Highway Administration (FHWA) Access Management in the Vicinity of Intersections Technical Summary

Access Modifications

Many side streets were modified from full movement to Right-In/Right-Out (RIRO) or ¾ movement configurations to improve operations and safety. For example, Nucla St west of Buckley Rd transitioned to RIRO due to increased left-turn traffic at Buckley Rd.

Other access modifications include:

- A new full movement connection for Prairie View High School (PVHS) north of Salem St will improve traffic operations, driver and pedestrian safety, and circulation within the vicinity of the school. Left turn movements at the unsignalized school entrances will be restricted with future improvements. The new full movement intersection at the high school will reduce the need for U-turn movements on 120th Ave or diverting of trips to alternate routes. In addition, this intersection will provide a safe crossing of 120th for bicyclists and pedestrians.
- Between Jasper St and Chambers Rd a median island will improve safety and reduce illegal turning conflicts. Additionally, a traffic signal was proposed at Laredo St to fill a gap in the existing signal network, ensuring evenly spaced signals that enhance corridor timing.

2050 Build Results

The analysis of unsignalized intersections along 120th Ave showed that 8 out of 10 stop-controlled intersections operate at LOS E or worse during at least one peak period. Five intersections have a volume to capacity (v/c) ratio over 1.0, indicating significant queue formation, mainly due to difficulties for left-turning side street vehicles. While movement restrictions would reduce side street delays and v/c ratios compared to the No Build scenario, operational problems persist.

The LOS for signalized intersections indicated that only Salem St, the E-470 ramps, and Tower Rd intersections achieved a LOS of E or better. Despite reduced delays in comparison to the 2050 No Build scenario, the study area is expected to be over capacity during peak hours in the 2050 Build scenario. Buckley Rd and Sable Blvd experience significant delays due to side street left turn volumes. However, all signalized intersections showed improvement compared to the no build scenario.

While the analysis indicates that future conditions will experience poor levels of service at intersections along the corridor, traffic analysis is known to be flawed and safety was the primary focus of this study. The travel demand models that were used to forecast future traffic volumes are generally more appropriate for forecasting growth within a city or region rather than precise locations, such as a left turning movements from a side street. Additionally, future traffic projections may change as new development and new roads are built, so decisions about the total number of left or right turn lanes that should be built in the future was restricted based on existing data about the safety impacts of too many turn lanes. As such, the traffic analysis conducted for this study intends to ensure that the proposed access management plan does not negatively impact traffic operations. Over time, the partner agencies may choose to conduct separate traffic analyses for locations of concern, to evaluate potential mitigation measures.

Alternative Analysis (Salem St and PVHS-East)

An alternative analysis was conducted at the intersections of Salem St and PVHS-East access to explore options for vehicles turning east out of the school. Salem St was modeled as a signalized intersection, while PVHS-East access was modeled as a two-lane roundabout. The analysis, using HCS for forecasted 2035 and 2050 volumes, showed that the roundabout at Salem St will operate at LOS C or better in 2035 but will operate at LOS F and exceed capacity by 2050.

Table 4 and Table 5 below detail the results of the analysis for the years 2035 and 2050. Due to better accommodation of forecasted volume growth, a signalized intersection was recommended over the roundabout.

Table 4. Alternative Analysis 2050 Delay and LOS

Approach	PVHS-East		Salem St	
	Roundabout		Signal	
	AM	PM	AM	PM
EB	F	F	B	D
WB	F	F	A	C
NB	-	-	E	E
SB	A	D	-	-
Intersection Average	F	F	B	D

Table 5. Alternative Analysis 2035 Delay and LOS

Approach	PVHS-East		Salem St	
	Roundabout		Signal	
	AM	PM	AM	PM
EB	B	C	A	A
WB	B	C	A	A
NB	-	-	E	E
SB	B	E	-	-
Intersection Average	B	C	A	A

Section 5

Alternatives Development and Evaluation

5 Alternatives Development & Evaluation

5.1 Initial Alternatives

A key objective of this study was to develop and evaluate a set of community and stakeholder informed alternatives for how the corridor could be improved. The valuable input gathered through the MetroQuest engagement platform and Open House #1 played a key role in development of the three initial alternatives. Input received from the TAC also played an important part.

Taken together, input revealed a desire to address and balance needs for reducing congestion, improving safety for all modes, and enhancing access for pedestrians, bicyclists and transit users. The cross sections for the three alternatives are shown in Figures 23-25 and reflect the integration of these key issues. Tables 6-8 summarize attendees' opinions of the alternatives, and what elements they liked or disliked with the number in parentheses representing the number of times that item was selected by an attendee.

To ensure the feasibility of the draft alternatives, a thorough evaluation of existing and proposed right-of-way, and roadway functional classifications were considered. Based on a review of existing agency plans, it was determined that the typical section for 120th Ave, west of Sable Blvd would need to fit within a 140-ft right-of-way width. East of Sable Blvd, a wider typical section of 150-ft would be feasible.

Sustainability Elements

When the project alternatives were developed, careful consideration was given to how or if elements could be included to advance the project sustainability goal. It was determined that the following elements could be applicable to any of the alternatives and should be considered as the project progresses into future phases of design and construction.

- EV charging stations for bikes/EV cars
- Solar installations to power utilities
- LED lights
- Tree canopy
- Bioswales
- Micromobility options
- Pavement type
- Permeable pavement
- Facilities to better accommodate non-motorized travel
- Secure bike parking

Figure 23. Alternative #1 Scoring Results

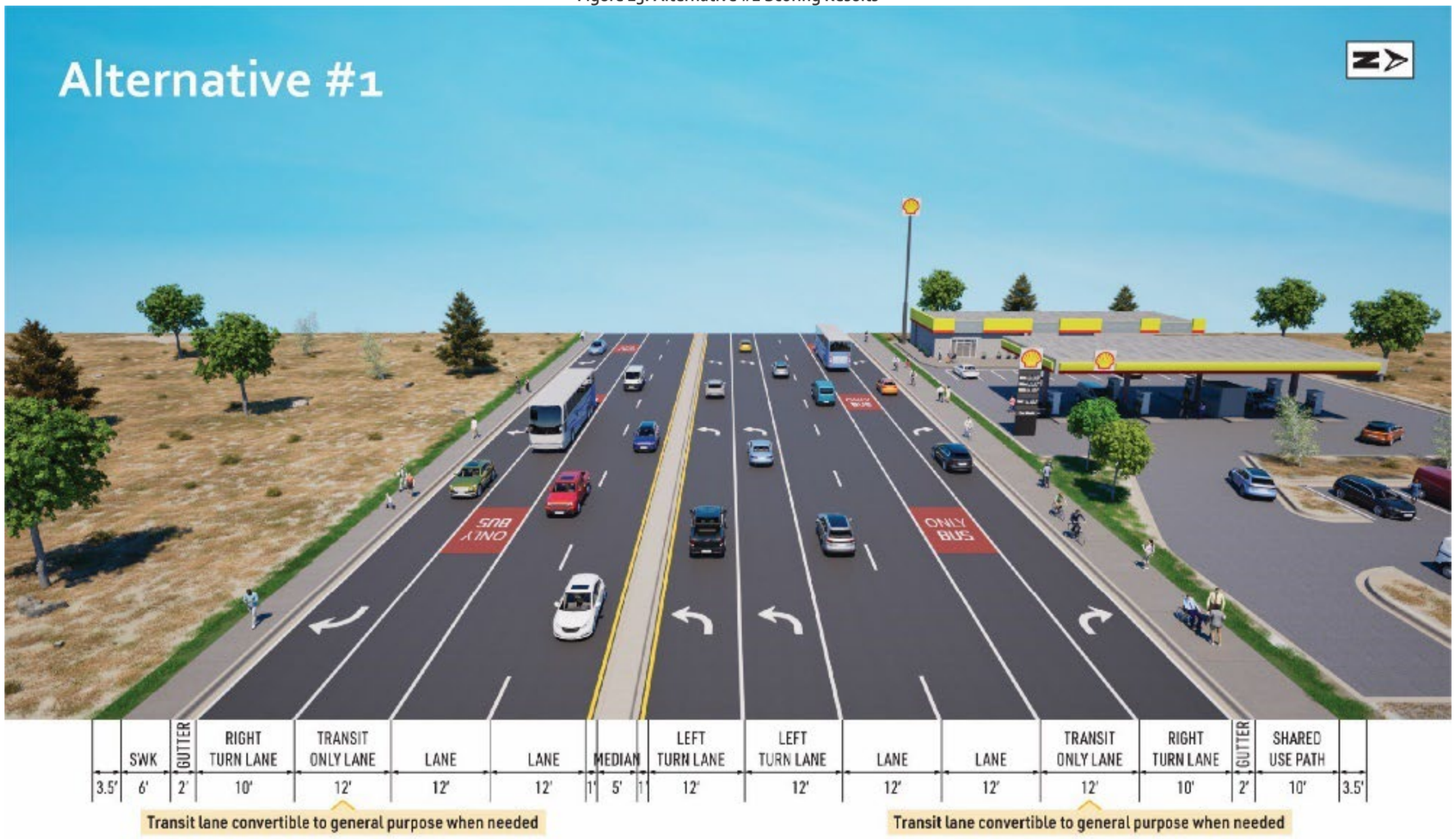


Table 6. Alternative #1 Open House Feedback

	Likes	Dislikes
Alternative #1 **Number in parentheses represents the number of times that item was selected by an attendee.*	Number of vehicle travel lanes (12)	Transit only lane (7)
	Presence of right turn lanes (6)	Separation between cars and sidewalk/shared use path (2)
	Sidewalk/shared use path widths (4)	Number of vehicle travel lanes (1)
	Transit only lane (2)	Sidewalk/shared use path widths (1)
	Separation between cars and sidewalk/shared use path (2)	-

Figure 24. Alternative #2 Scoring Results

Table 7. Alternative #2 Open House Feedback

	Likes	Dislikes
Alternative #2 **Number in parentheses represents the number of times that item was selected by an attendee.*	Separation between cars and sidewalk/shared use path (15)	Number of vehicle travel lanes (3)
	Presence of right turn lanes (12)	Protected/buffered on-street bike lane (2)
	Protected/buffered on-street bike lane (10)	Trees (1)
	Sidewalk/shared use path widths (10)	Sidewalk/shared use path widths (1)
	Number of vehicle travel lanes (9)	Presence of on-street bike lane (1)
	Trees (5)	-
	Presence of on-street bike lane (2)	-

Figure 25. Alternative #3 Scoring Results

Table 8. Alternative #3 Open House Feedback

	Likes	Dislikes
Alternative #3 **Number in parentheses represents the number of times that item was selected by an attendee.*	Number of vehicle travel lanes (8)	Transit only lane (4)
	Separation between cars and sidewalk/shared use path (7)	Number of vehicle travel lanes (2)
	Sidewalk/shared use path widths (6)	Trees (1)
	Protected/buffered on-street bike lane (5)	-
	Trees (3)	-
	Presence of on-street bike lane (2)	-
	Transit only lane (1)	-

5.2 Alternatives Evaluation

The second phase of outreach was primarily focused on an evaluation of the three alternatives, in part, through engagement of the TAC and community members.

Guideposts

The following guideposts were used to facilitate discussion and provide context for the TAC when evaluating draft alternatives. They were specifically utilized during the 3rd TAC meeting to encourage conversation and get the TAC members to think about and discuss their preferred elements of the alternatives. By using these guideposts, the TAC was able to engage in a more structured and productive dialogue, ensuring that all perspectives were considered in the evaluation process.

- The alternatives are less about what is today and more about what could be.
- What do our communities want the facilities and mode choice on this corridor to look like?
- How will the preferred alternative effect competitiveness for final design and construction grants?
- Initial reactions to the project alternatives?
- Activity: Identify elements in the alternatives that should be carried forward for screening at Community Open House #2.

Alternatives Evaluation Criteria

Establishing a set of criteria by which to evaluate the three alternatives was an important step in the process. Table 9 describes the 10 different criteria that were used for the evaluation, including how they were defined and measured.

Table 9. Alternatives Analysis Criteria

Criteria	Defined	Measured
Travel Time (Motorized)	How long does it take to travel the corridor by motor vehicle, not including transit, from Tower to US 85.	Sim traffic model runs.
Multimodal Safety	Reduces risk to all modes on the corridor including vulnerable users, such a bicyclists and pedestrians.	Segment vs intersection safety.
Bicyclist / Pedestrian Experience	The ability for bicyclists and pedestrians of all ages, physical abilities, and confidence levels to travel on the corridor reliably and comfortably.	Accommodations for multimodal users.
Right of Way Impacts	Physical impacts to privately owned land and physical structures (residential or other) on that land.	Existing property lines.
Air Quality	Reductions in greenhouse gas emissions through conversion of motorized vehicle trips to walk, bike, transit trips and reductions in congestion.	Greenhouse gas emissions from Sim traffic model runs and feasibility of converting single occupancy vehicle (SOV) trips to other modes.
Cultural and Biological Impacts	Potentially significant impacts on culturally and biologically sensitive resources identified in the Existing Conditions report.	Width of typical section.
Sustainability	Degree to which the alternative would balance and simultaneously advance ecology, economy, and equity as a result of construction and operation.	Envision Tool / Scoring Worksheet.
Funding Competitiveness	How competitive would the project be for regional, state, federal, and other grants for final design and construction?	Grant emphasis and priority.
Cost Estimates	Cost of design and construction of each alternative.	Planning level cost estimates.
Public Support	Community input collected through the on-line project survey, a digital comment map, and the April and August 2024 open houses.	Feedback from engagement efforts.

Alternatives Evaluation Scoring

Using these ten criteria, the project team scored the three alternatives and shared the results with the TAC before sharing them with the community at Open House #2. Table 10 shows the results of the evaluation, and that Alternative #3 was the most aligned with the criteria. It should be noted that the scores for the right-of-way impacts and environmental impacts were the same for all three alternatives. This is due to the fact that the assumed right-of-way widths did not change between alternatives.

Envision Framework

With sustainability being one of the key criteria for the alternatives evaluation, the Envision framework scoring tool was utilized to analyze the alternatives based on key sustainability and resilience metrics. For each alternative, the tool assessed 22 metrics (Envision credits), generating a total score out of 431. It also provided specific subtotals and performance summaries across five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resilience. A copy of the tool, including its methodology and final scoring, is provided in Appendix I.

TAC Feedback

At the fourth TAC meeting, the project team presented the results of the alternatives evaluation. During the meeting, TAC members were invited to ask questions and share their opinions in relation to the scoring results and specific elements of the alternatives. For example, some committee members voiced that a lack of vertical separation between the vehicular lane and the bike lane in Alternative #3 presented safety concerns that would likely limit its use.

Community Open House Feedback

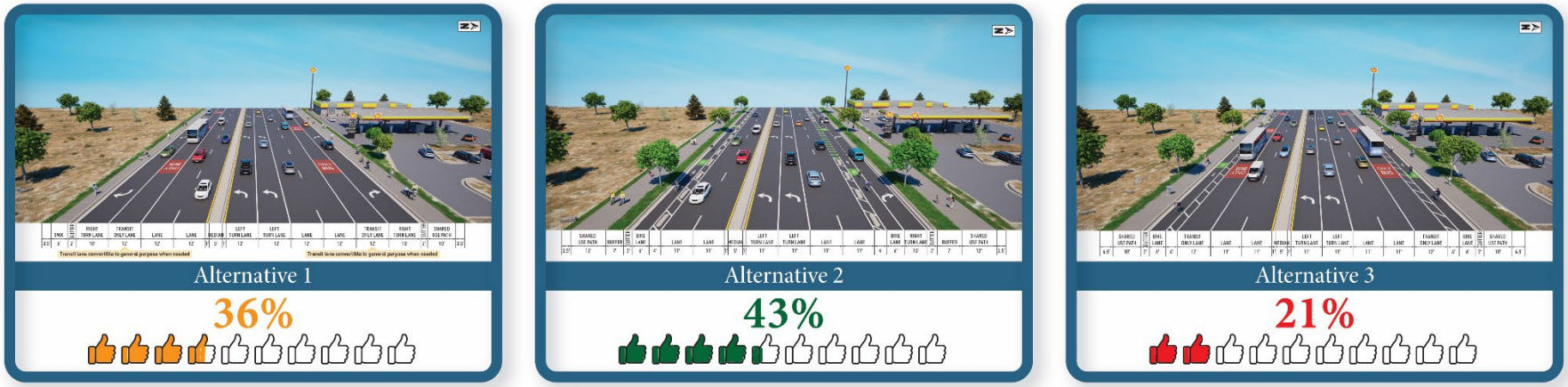
After making updates to the alternatives based on input from the TAC, the project team then presented three final alternatives at the project's second open house. The team presented the results of the alternatives evaluation and how the alternatives scored in certain categories. Participants of the open house were given a voting sheet so that they could review each alternative on a poster board, describe which elements they liked or disliked, and vote on their preferred alternative. Figure 26 shows the results of the voting exercise, and that Alternative 2 won the most votes.

Table 10. Alternatives Scoring Matrix

	Alternative #1	Alternative #2	Alternative #3
Critieria category	**Score**	**Score**	**Score**
Travel time (motorized)	3	2	2
Multimodal safety	2	3	1
Bicycle / Pedestrian travel experience	1	2	3
Right of way Impacts	1	1	1
Air quality	1	2	3
Environmental impacts	1	1	1
Sustainability	1	2	3
Funding competitiveness	1	2	3
Cost estimates	2	1	3
Public / Community support	3	2	2
Totals	**16**	**18**	**22**
Alignment with criteria	Least	Somewhat	Most

3 - Most Aligned | 2 - Somewhat Aligned | 1 - Least Aligned

Figure 26. Alternative Voting Results from Open House #2



5.3 Preferred Alternative

A key priority of this study was to identify a singular, preferred alternative (or cross-section) and prepare a concept plan to illustrate how it could be constructed on the project corridor. Following extensive engagement with the TAC and community members, the project team developed a final project alternative, or "preferred alternative". Through a collaborative and inclusive process, this alternative reflects the collective input and priorities of the stakeholders and residents who engaged in the study process. Key elements of the typical section that changed as a result of feedback from the TAC and community members include:

- Relocation off the on-street bike lane to an off-street cycle track.
- Inclusion of shade structures in lieu of water intensive trees and non-native landscaping. However, during future design of this project the urban island effect will be considered along with the incorporation of drought tolerant street trees where feasible.
- Ability for school buses to use the transit only lane.
- The shared use of the transit lane for right turning vehicles, and,
- The ability for the transit only lane to be converted to a general-purpose motor vehicle lane if needed in the future.

As shown in Figure 27, the preferred alternative includes an 8-ft sidewalk and a 10-ft bi-directional cycle track on each side of the road that are separated from the travel lanes by a 4-foot landscape buffer. In addition, it includes a shared transit-only / right turn lane, four thru lanes (two in each direction), a center median, and left turn lanes. The right and left turn lanes will not be provided at every intersection. Lastly, a 3-ft area back of sidewalk can be used for shade structure footings, lighting fixtures, or other features to enhance comfort and visibility on the corridor.

Right-of-way widths will vary along the corridor, with the segment west of Sable Blvd measuring 140' and east of Sable measuring 150'. Where the roadway is narrower, adjustments to the typical section will be required. Figure 28 shows an example of the narrower typical section where a single left turn lane is shown in place of dual left turn lanes.

Note that Figures 27 and 28 are conceptual in nature and are not intended to depict finalized or planned RTD amenities. The varying shade colors depicted in the figures are intended to conceptually distinguish bus stop locations from non-stop areas; however, they do not prescribe or imply specific bus stop designs or colors.

Figure 27. Final Preferred Alternative – 150' Right-of-Way Shown East of Chambers

Figure 28. Final Preferred Alternative - 140′ Right-of-Way Shown East of Southgate

Envision Framework Evaluation

The preferred alternative focuses on mitigating safety and capacity needs for the corridor and aligns with regional transportation and sustainability plans by offering comprehensive multimodal facilities. This alternative supports regional carbon reduction and energy use goals[9] by encouraging travel by transit, walking, and biking, which may reduce overall emissions, decrease operational energy consumption, and improve air quality while providing benefits more equitably across ages, abilities, and incomes.

Through the process of developing and evaluating preliminary alternatives, identifying the preferred alternative and creating the concept plan, the project team closely coordinated with the partner agencies with the intention of realizing shared benefits. The preferred alternative plans for long-term operations and economic growth of the corridor by incorporating strategies for increased accessibility for active and shared transportation modes. Connectivity between commercial land uses within and outside the project area are also enhanced, potentially promoting economic competitiveness of the entire corridor. This alternative has potential to increase foot traffic along the corridor, encouraging the establishment of retail centers and further contributing to economic prosperity.

While future design phases may address the sustainable selection of materials and management of existing resources, the project team considered how various design elements may impact the project's overall footprint and operational use. The preferred alternative is also committed to protecting natural habitats where possible and it limits the replacement of terrestrial habitats with hard surfaces.

[9] City of Commerce City. (2023). Action Plan for Sustainability. https://www.c3gov.com/home/showpublisheddocument/19883/638191487610300000
Adams County. (2022). Sustainability Plan. https://www.adcogov.org/sites/default/files/Adams-County-Sustainability-Plan_v2022.02.08.pdf
City of Brighton. (2024). Strategic Plan. https://www.brightonco.gov/1438/Strategic-Plan
Adams County. (2022). Transportation Master Plan. https://www.adcogov.org/sites/default/files/TMP%20Full.pdf

Section 6

Concept Design

6 Concept Design

6.1 Concept Plan

The final concept plan, which can be referenced in Appendix A, applies the preferred alternative to the corridor while considering the access management plan and the 2050 traffic analysis completed with this study. The 2050 traffic analysis was generally used to determine geometry of 120th Ave and the cross streets, except in the case of dual right turn lanes. For purposes of safety and crossing distances the project team elected not to include more than a single right turn lane despite the large right turn volumes forecasted for the eastbound right at Sable Blvd, the northbound right at Sable Blvd, and the eastbound right at Buckley.

Additionally, it should be noted that individual property accesses were not included in the concept plan and will be considered during future phases of design.

As would be expected, the preferred alternative was adjusted at a few locations on the corridor to account for existing right-of-way constraints or other existing conditions.

1) In order to minimize the impact of a new wider bridge over I-76, bicycle and pedestrian facilities on the bridge were combined into a single 8-10' wide facility.
2) In order to accommodate the bridge piers for the E-470 bridge, a wider median than shown in the preferred alternative was provided.
3) Dedicated right turn lanes were added and bicycle and pedestrian lanes were combined into a shared use facility of no less than 8' at two locations along the corridor. Just west of the Chambers Rd intersection and just west of the Nucla St intersection.

6.2 Key Elements

Many of the key design elements in the concept plan were included to address the existing pattern of crashes and poor driver / pedestrian behaviors identified during the existing conditions analysis. Those elements and associated behaviors are outlined below.

Roadway Geometry & Operations

As confirmed through the study's traffic analysis, field work, and extensive input from community members and the TAC, many portions of the corridor currently experience significant congestion. As travel demand increases with new development, it could worsen if the current volume to capacity imbalance is not addressed.

Typical Section

The concept plan features a four-lane typical section designed to provide additional capacity and mitigate worsening congestion. As detailed in Section 4.5, the 2050 traffic analysis shows worsening congestion over time and it is not anticipated that four motor vehicle lanes will be adequate to accommodate future queues and congestion. Although intended to exclusively serve transit vehicles (and allow school buses), the transit only lane could be converted to a general-purpose motor vehicle lane in the future if volumes and demand warrant it. The transit lane also serves as a right turn lane, but in locations where the traffic analysis identified the potential for over 700 feet of traffic queuing in the right turn lane, right turn only lanes were included. Additionally, the cross section includes up to two left turn lanes per movement and single right turn lanes in select locations, that will improve intersection capacity.

Access Control

Access control is critical to the efficient movement of traffic and reducing the potential for crashes. The access plan discussed above was fully integrated into the concept plan along with the elements discussed below.

Raised Medians

The concept plan includes raised medians along the entire corridor. The medians restrict left turn movements except where it is designed to safely accommodate those movements. Under existing conditions, drivers were seen making illegal left turn and U-turn movements which impacts the safety of all drivers on the road. Where the medians are wide enough to accommodate it, low maintenance landscaping is proposed. This was requested by the TAC in order to align with their local landscaping ordinances.

Traffic Signals

Three new traffic signals (at Salem, Potomac, and Laredo) were proposed along the corridor at locations where signal spacing is long and safe crossings for pedestrians are limited. In February 2024, a fatal crash occurred between a vehicle and a pedestrian at the Salem St intersection. These signals will reduce the distances pedestrians must travel to cross 120th Ave, provide protected crossings, and more safely accommodate left turn vehicle movements. The consistent signal spacing will also allow for more effective signal timing, traffic progression, and traffic calming in the future.

Access to Homes/Businesses

While not depicted on the concept plan, access to individual homes or businesses on the corridor will be a key consideration and will be further evaluated as part of final design. Engagement conducted during future design will include the property owners on the corridor whose access would be affected.

Transit and Bus Stop Improvements

Transit and bus stop improvements are essential to addressing traffic congestion and enhancing overall mobility. Upgrading transit systems can increase capacity, improve reliability, and provide a more efficient and attractive alternative to driving. Specifically, this concept promotes upgraded transit service that will enhance connections with the existing N and DEN bus routes, serving downtown Denver and the airport, respectively. Currently, the 120L operates at 1-hour headways and its schedule is not coordinated with the N line to facilitate transfers. As such, the 120L does not provide a reliable or convenient alternative to driving for most people.

Enhancing amenities like shelters, seating, and lighting make transit more comfortable, encouraging increased ridership. Digital displays can provide passengers with real-time arrival / departure information and incorporate elements such as raised platforms and tactile paving in boarding areas to enhance accessibility for all users. The following transit elements were considered during this study.

Shared Transit/Right Turn Lane

The concept plan includes a shared transit / right-turn lane that will allow transit buses and school buses to have designated space for picking up and dropping off passengers. Currently, transit vehicles and school buses are required to share lanes with other motorized vehicles. The addition of this lane will increase the efficiency of buses traveling on the corridor and reduce congestion by removing buses from the general purpose lanes.

Bus Rapid Transit

Bus Rapid Transit (BRT) would help to provide safe, fast, and reliable bus service both on the corridor and to points east and west. BRT is a high-capacity, efficient bus service that incorporates elements of light-rail. The inclusion of a transit lane in the concept design would facilitate the future provision of BRT service on the corridor, making travel by bus a more convenient and reliable option for residents, employees, and visitors.

Adams County Commissioners have been vocal in their support for BRT along 120th, and this plan supports the commitment demonstrated by elected officials. This preferred alternative reflects the Commissioners' support for improved transit even when the 2022 RTD System Optimization Plan (SOP)[10] does not include recommendations that would increase service and operation for the two existing routes.

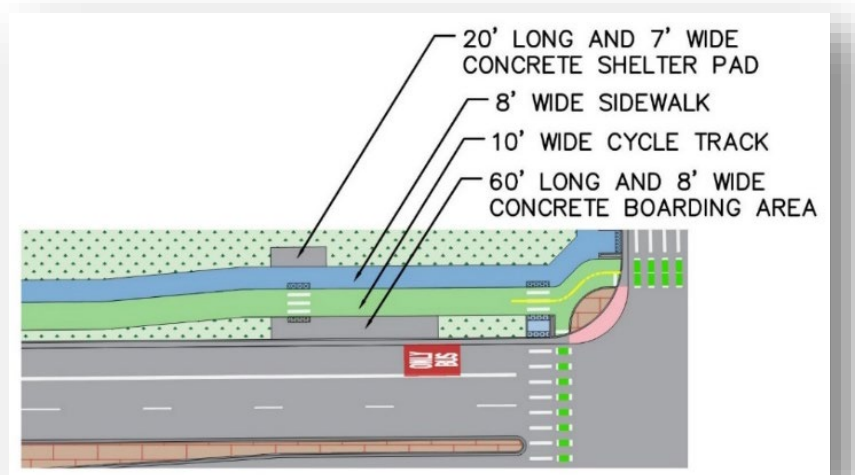
School Bus Pullout

As part of discussions with the 27J School District, a new school bus pullout, located between Prairie View Middle School and Prairie View High School, on the north side of 120th Ave is included to provide safer and more efficient access for buses. Under existing conditions, buses have difficulty exiting from the eastern Prairie View Middle School driveway so this pullout will improve safety and reduce delays.

Bus Stop Design

A bus stop adjacent to a cycle track requires careful design to ensure safety and efficiency for both cyclists and transit users. The details of how the cycle tracks will interface with bus stops and passenger boarding / alighting zones will be addressed through future design. Figure 29 shows an example of an identifiable crosswalk for transit users to safely cross the cycle track and sidewalk to get to the bus stop. Additionally, new transit stops were not included in the concept plan, but it is expected that the location of existing and proposed stops will be evaluated in future phases of design, and that they will comply with federal ADA and RTD engineering design standards.

Figure 29. Bus Stop Design Example



[10] RTD. (2022). *System Optimization Plan (SOP)*. Retrieved April 22, 2025, from https://storymaps.arcgis.com/stories/50913e9081614ff69898f299cd84fbdc

Bicycle and Pedestrian Improvements

Bicycle and pedestrian improvements such as dedicated bike lanes, wider sidewalks, and safer crossings encourage active transportation, reduce traffic congestion, and lower emissions. Trips made by walking and biking, instead of driving, can help reduce traffic congestion, lower carbon emissions, and promote healthier lifestyles. Moreover, having mobility choice for everyday trips helps to improve residents' and employees' overall quality of life.

Cycle Tracks and Sidewalks

10-ft bi-directional cycle tracks and 8-ft sidewalks will be added on both sides of the road to provide designated spaces for cyclists and pedestrians. These facilities will be separated from the roadway by 4-ft landscape buffers, allowing pedestrians and bicyclists to travel more safely and comfortably. Under existing conditions, pedestrians and bicyclists are required to use the shoulder or share the vehicle travel lane for the majority of the corridor.

Safety Improvements

The concept plan includes design elements chosen to improve safety for all users on the corridor. In addition to the improvements listed below, better lighting, improved signage, and traffic calming measures, can also significantly decrease the risk of crashes and should be considered as part of future design.

Raised Intersections

Raised intersections are proposed near the two schools, at Salem St and Southgate Blvd. An example of this type of treatment is shown in Figure 30. Raised intersections help to slow motorized traffic through the intersection, while improving safety for pedestrians by making them more visible to oncoming motorists. Under existing conditions, school staff and safety resource officers indicated that drivers do not comply with the reductions in posted speeds for the school zone, resulting in reduced safety for bicycles and pedestrians crossing. Some sources indicate that raised intersections can reduce crashes by 45%[11]. While these are typically seen at intersections of collector, local, and residential streets, they can also be applied to low-speed arterials where there is significant pedestrian activity. As discussed later in this section, a lower posted speed limit is recommended adjacent to the schools on 120th Ave, consistent with the recommendations of the US 85 interchange plans west of Peoria St.

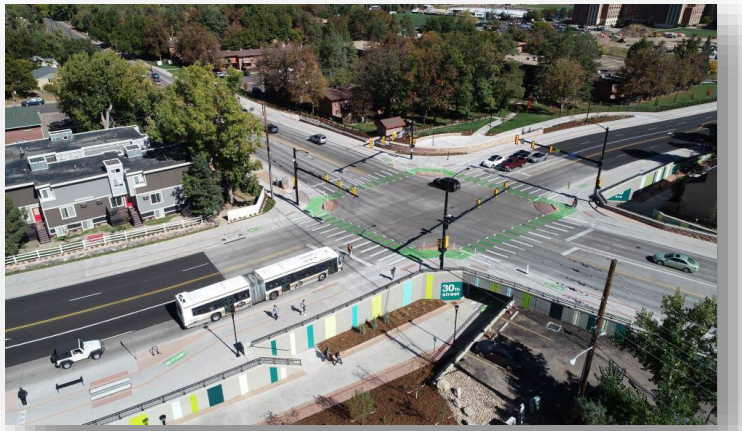
Figure 30. Raised Intersection Example

[11] Connecticut Transportation Institute. (2022). Raised Crosswalks and Intersections Technical Brief. https://www.cti.uconn.edu/images/cti/documents/T2Center/SHSP/CT%20SHSP_Tech%20Brief_Raised%20Crosswalks-Intersections.pdf

Protected Intersections

Protected intersections enhance safety for bicyclists and pedestrians by physically separating them from motor vehicles, reducing conflict points, and improving visibility through features like corner islands and curb extensions. One study of protected intersections indicated that motorists yielded to bicyclists 98% of the time and to pedestrians 100% of the time. An example of a protected intersection at 30th and Colorado in Boulder is shown in Figure 31. Protected intersections are proposed at Potomac, Sable, Chambers, Laredo, and Buckley. This treatment should also be considered at Peoria as part of future design, but it was not included in the concept plan because it will require coordination with the US 85 interchange project that extends to Peoria Street.

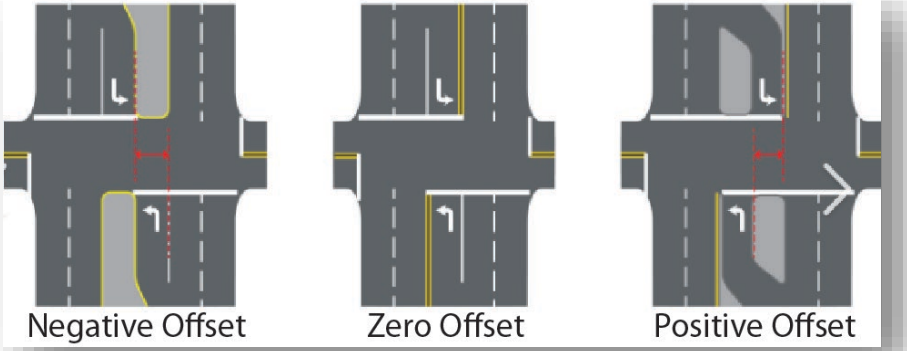
Figure 31. Protected Intersection Example in Boulder, CO



Positive Left Turn Offsets

Positive left turn offsets are especially beneficial for signal and stop controlled intersections where left turns are not protected. As shown in Figure 32, sight lines to approaching vehicles improve as you modify an intersection design from a negative offset to a positive offset. Left turn offsets are applied to all intersections in the concept plan and will help to improve options for future signal timing if permissive left turns are implemented. Positive left turn offsets are shown to reduce left turn crashes by 38 percent[12].

Figure 32. Left Turn Offset Scenarios

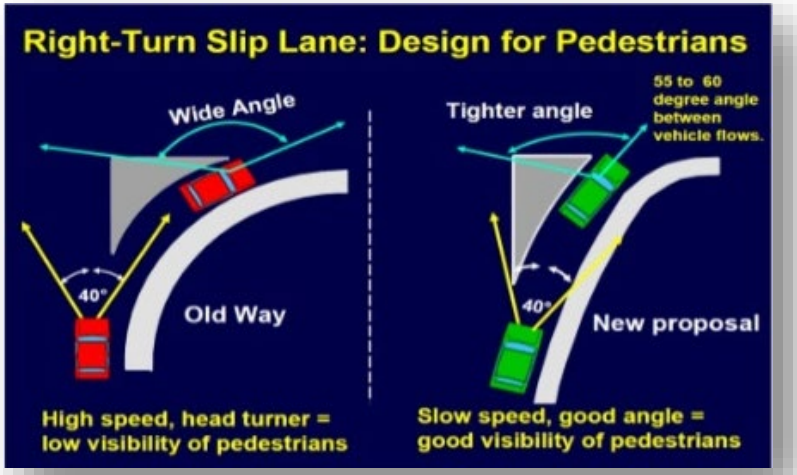


[12] Federal Highway Administration. (2014). CMF ID 6097 Improve Left-Turn Lane Offset to Create Positive Offset. https://cmfclearinghouse.fhwa.dot.gov/detail.php?facid=6097

Modified Right Turn Lane Design

Modified right turn lane designs are proposed at Sable Blvd and the E-470 interchange. As shown in Figure 33, this design promotes slower speeds, increases the visibility of pedestrians crossing the lane, and improves driver comfort, making it easier for drivers to see approaching vehicles. Modified right turn lanes are proven to reduce all crashes by 44.2%[13].

Figure 33. Channelized Right Turn Lane Design



Raised Crosswalks

While raised crosswalks are not proposed at a specific location along the corridor, if channelized right turn lanes are implemented as part of the future design, the evaluation of raised crosswalks should be considered. This treatment is proven to reduce pedestrian crashes by 45%[14] and is shown in Figure 34.

Figure 34. Raised Crosswalk Example

Posted Speed Limit

Speed increases both the frequency and severity of crashes. Unsafe speeds are well documented, and safe speeds should be promoted on all roadways. The risk of death for a pedestrian hit by a vehicle traveling at 32 MPH is 25% lower than when hit by a vehicle traveling at 42 MPH as shown in Figure 35[15]. In areas where

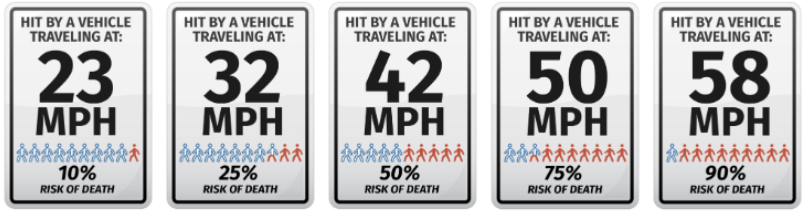
[13] Federal Highway Administration. (2014). CMF ID 8496 Change Right-Turn Lane Geometry to Increase Line of Sight (Intersection Level). https://cmfclearinghouse.fhwa.dot.gov/detail.php?facid=8496

[14] Connecticut Transportation Institute. (2022). Raised Crosswalks and Intersections Technical Brief. https://www.cti.uconn.edu/images/cti/documents/T2Center/SHSP/CT%20SHSP_Tech%20Brief_Raised%20Crosswalks-Intersections.pdf

[15] AAA Foundation for Traffic Safety. (2011). Impact Speed and a Pedestrian's Risk of Severe Injury or Death.

vulnerable users including bicyclists and pedestrians are present, reduced speed limits should be considered.

Figure 35. Risk of Pedestrian Death Based on Speed



Lower Posted Speed Limit

The 30% design plans for the US 85/120th Ave interchange propose a reduced posted speed limit of 35 MPH west of Peoria St. Considering the land use context surrounding 120th Ave between Peoria St and Potomac St, it is recommended that the posted speed limit align with the US 85 interchange plans and continue the reduced posted speed limit of 35 MPH east to Potomac Street. In order to ensure compliance with a reduced speed limit, additional measures will be required, such as implementation of the raised intersections and/or coordinated signal timing that provides vehicles with a green light if they are traveling at the desired speed.

Modified School Zone

Reduced speed school zones help to protect children (students) who are among the most vulnerable road users. Slower speeds give drivers more time to react to unexpected movements, such as children crossing the street in an unprotected (unsignalized) location. Existing guidance suggests that the design of the school zone (length and placement) are equally as important as the reduced speeds selected for the zone. Some guidance on evaluating school speed zones is noted below.

- Data shows that reduced speed school zones are most important for elementary and middle school students, as high school students are generally expected to have sufficient judgment and maturity to choose adequate gaps in traffic and to drive vehicles themselves[16].
- Some data suggests that school speed limits should not exceed 35 MPH [17] and speed differentials of 15 MPH or greater typically result in decreasing compliance[18].
- Minimum speeds in school zones typically occur at the beginning of the school zone. Additionally, speeds increase approximately 1 MPH for every 500 feet in a school zone[19]. So, the length of school speed zones is directly correlated with driver compliance of the speed within the school speed zone. Identifying an appropriate speed zone length can improve compliance. If there is one crossing location, the school zone should typically begin/end approximately 200-300 feet from the crossing for a total length of 400-600 feet.

https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/

[16] Safe Routes Partnership. (2012). *Safe Routes to School: State Program School Safety*. Retrieved from https://www.saferoutespartnership.org/sites/default/files/pdf/Lib_of_Res/SRTS_State_Program_SchoolSafety_120106.pdf

[17] Texas Transportation Institute. (2009). Speeds in School Zones. http://tti.tamu.edu/documents/0-5470-1.pdf

[18] U.S. Federal Highway Administration, Khattak, Aemal and Yashu Kang. "Research on School Zone Safety," SPR-PI (19) M092 (Lincoln: UNL Nebraska Transportation Center, 2020).

[19] Fitzpatrick, "Comprehensive Guide to Traffic Control"

Interim School Zone Recommendations

Construction of the preferred alternative on the 120th Ave corridor is expected to take years to fully implement, but safety of existing parents and students at Prairie View Middle School and High School is critical. As such, a short-term recommended improvement for the corridor is to evaluate the existing school zone speed, location, signage and striping. The existing posted speed on the corridor is 45mph. As noted above, a reduced speed of 35mph is recommended for the corridor and implementation of that reduced speed is recommended as soon as traffic calming elements are in place that can help to provide compliance of the reduced speed, such as a raised intersection at Southgate and/or a new signal at Sable Blvd with coordinated timing that reduces speeding.

In conjunction with a reduced posted speed on 120th Ave, modification of the school zone length and/or reduced school zone speed is recommended adjacent to the middle school and high school. The following were discussed with staff as potential options for improvement:

1) Shortening the school zone so that it only covers the middle school and posting the reduced school zone speed at 25 mph. Based on the data this is expected to result in better compliance within the actual school zone.

2) Maintaining a longer school zone that covers both schools, with a reduced school speed zone of 20mph, in hopes that motorists will travel at the target speed of 25mph.

6.3 Envision Analysis

Using the Envision framework, the project team conducted a final analysis of the concept plan to determine its sustainability performance. The results are provided in Appendix J. According to this analysis, the concept earned 157 out of 1,000 points with the framework. It's important to note this evaluation was limited to credits with applicable criteria developed during the conceptual design phase and does not account for credits typically achieved in later phases, such as final design, construction, and operations. Additionally, scoring was based on project knowledge and did not involve the collection of supporting documentation as required by the Institute for Sustainable Infrastructure (ISI) Envision verification process. Valuable insight was gained in using this process. Another key finding was confirming through this study that the Envision process can be effectively and beneficially applied at the planning level.

Section 7

Implementation

7 Implementation

7.1 Phasing Considerations

Although the corridor is prioritized for improvement in local and regional transportation plans, a varied development pattern and uncoordinated capital investments over time have resulted in notable gaps and inconsistencies in its transportation infrastructure. This concept plan and its future construction will deliver long-needed improvements and a cohesive, connected, safe, equitable, and resilient corridor that will better accommodate the multimodal travel needs of residents, students, employees, and visitors.

Given the physical extent of the project corridor and the probable construction costs, the project team identified how implementation could occur across distinct phases. The locations covered by each phase are shown in Figure 36. The numbers correspond to the recommended sequence for implementation with "0" being most immediate and "4" being last. Key considerations related to each phase are provided along with Interim Recommendations; improvements that could occur ahead of or without the entire segment being constructed. As the project evolves into final design and environmental clearance, the partner agencies should revisit the plan to determine whether the recommended sequence or interim recommendation should be adjusted.

The cost estimate for the concept plan, which is included in Appendix K, outlines the estimated costs (in 2025 dollars) to complete final design and environmental clearance. This estimate is subject to change based on the final design process and what is ultimately included in the contractor bid package, but it provides an order of magnitude reference point that the county and partner agencies can consider in strategizing for future grant pursuits and planning investments within their local capital improvement programs.

7.2 Funding

The partner agencies are actively pursuing grant funding for the completion of final design and high-priority improvements on the corridor. Below are the details of the three grant applications currently under consideration.

Table 11. Grant Applications Under Review as of March 2025

Project	Description	Status
US 85 Diverging Diamond Interchange	Commerce City submitted a BUILD Grant application to the US Department of Transportation (DOT) for final design, engagement, and environmental clearance for a grade-separated interchange at the intersection of US 85 and 120th Ave.	Under review with decision expected June 2025.
Signal at Salem	Adams County submitted a Highway Safety Improvement Program (HSIP) grant application to CDOT to install a signalized intersection at 120oth Ave and Salem St.	Under review with decision expected summer 2025.
Design and Environmental Review for 120th Ave Final Plan	Adams County, with support from municipal and agency partners, submitted a BUILD grant application to the US DOT to complete final design and environmental clearance for 120th Ave from Peoria St to Tower Rd.	Under review with decision expected June 2025.

Figure 36. Construction Phasing Plan, Key Considerations, and Interim Recommendations

120th Avenue Corridor
Construction Phasing Plan

Phase 0: US 85 to Peoria

Key Considerations	Interim Recommendations
• The US 85 intersection was identified as a high-priority for improvements several years ago as a result of significant congestion. • US 85 was identified as the highest crash location on the corridor. • Requires vehicles, bicyclists, and pedestrians to cross railroad at-grade.	• Peoria intersection improvements

Phase 1A: Signal at Salem

Key Considerations	Interim Recommendations
• A primary crossing point for high school students, but it is not protected. A fatal pedestrian crash occurred at this intersection in 2024. • Current distance between protected crossings for students is 3,500 feet. • Would include a temporary span wire signal, crosswalk markings, and associated curb ramps.	• N/A

Phase 1B: Segment from Peoria to Potomac

Key Considerations	Interim Recommendations
• Improving access, safety, and circulation to-from the Middle and High School is a leading priority.	• Evaluate the existing school zone and update signage and striping accordingly. • Construct new sidewalk on the south side of 120th between Southgate and Potomac (dependent on developer improvements). Shift the sidewalk close to the right-of-way line to avoid removal when the remainder of roadway is constructed. • Construct temporary sidewalk using crusher fines, within existing right-of-way, on the north side of 120th, from the eastern middle school entrance to Potomac, that would be replaced with permanent sidewalk under ultimate project construction.

Phase 1C: Segment from Potomac to Sable

Key Considerations	Interim Recommendations
• Complexities and costs associated with bridge replacement could have an impact on the schedule for construction of this segment. • Ideally this phase would occur as close as possible to the completion of Phase 1B.	• Construct a new bridge west of Sable Blvd. • Construct sidewalk on the south side of 120th (dependent on developer improvements). Shift this sidewalk close to the right-of-way line to avoid removal when the remainder of roadway is constructed. • Construct temporary sidewalk using crusher fines on the north side of 120th within existing right-of-way, along this segment (not including the bridge) that would be replaced with permanent sidewalk under ultimate project construction.

Phase 2A: Intersection Upgrades at Sable

Key Considerations	Interim Recommendations
• Improvements at this intersection could be constructed within the existing right-of-way. • As one of the highest crash intersections on the corridor, redesign of this intersection would improve safety for all users. • The modified design of the channelized right turn lanes improves visibility of pedestrians and for vehicles merging into traffic.	• N/A

Phase 2B: Segment from Sable to Chambers

Key Considerations	Interim Recommendations
• Widening by Commerce City of 120th between Chambers and Buckley will shift the bottleneck on this corridor to the I-76 bridge. • Complexities and cost to replace the bridge over I-76 make this a lower priority than the school segment (Phase 1B).	• Construct temporary sidewalk using crusher fines, within existing right-of-way, on the north side of 120th (on both sides of the bridge) that would likely be removed and replaced when the bridge is widened. • Widening intersection and upgrading signal at Chambers.

Phase 3: Segment from Buckley to Tower

Key Considerations	Interim Recommendations
• There is a significant amount of planned, mixed-use development in this segment among the Buckley One, Cutler Farms, and Buckley Crossing developments. • The majority of this segment remains as the original two-lane roadway. • Future traffic forecasts, which include planned developments, indicate a high level of need.	• E-470 underpass widening and connect to the future E-470 trail south of 120th. • Widening intersections and upgrading signals at Buckley and Tower. • Upgrade signals at E-470 interchange once the underpass (120th) is widened.

Phase 4: Segment from Chambers to Buckley

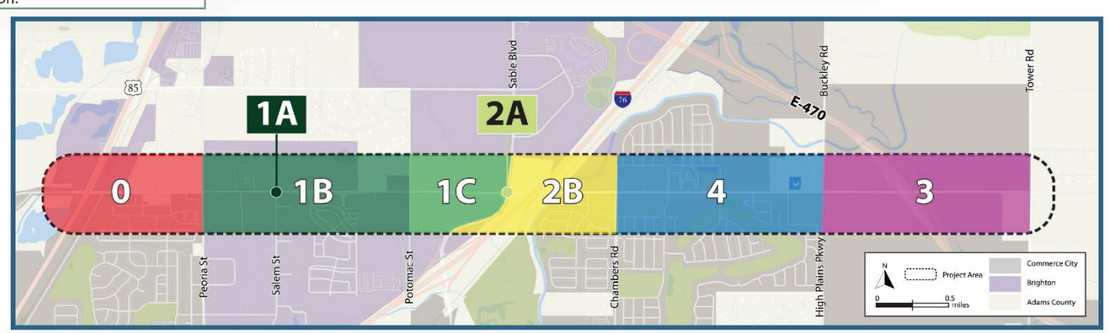
Key Considerations	Interim Recommendations
• Commerce City is proceeding in 2025 / 2026 with a roadway widening project for this segment, which will include four thru lanes, turn lanes, and a 12-foot sidewalk on the south side of 120th Avenue. • While these improvements would not construct the ultimate cross-section, the project will make improvements addressing some of the key safety and capacity needs identified in the Corridor Study.	• Interim span wire signal, crosswalks, and curb ramp improvements at Laredo may be needed until such time that the full segment is rebuilt and signal upgraded.

Lead Agencies Responsible for Implementation

Commerce City

Adams County

Brighton



To finalize design and construct the project, Adams County, Commerce City, and Brighton will actively explore future grant funding opportunities. These may include regional Transportation Improvement Program (TIP) grants administered by DRCOG, Transportation Alternatives Program (TAP) grants administered by CDOT, or Better Utilizing Investments to Leverage Development (BUILD) grants administered by the U.S. Department of Transportation.

7.3 Environmental and Cultural Resource Recommendations

As part of the final design process and prior to construction, additional environmental review and clearances will be required. Building on the initial assessment, as documented in the Existing Conditions report, recommendations have been provided in Appendix G to help guide the scope of the environmental review and permitting when it occurs. A summary of potentially significant or sensitive resources in the project and guidance on next steps are provided below.

Biological Resources

Federally Listed Species

Based on a preliminary habitat assessment of the project area, there is potential for the Suckley's cuckoo bumble bee (PE) and monarch butterfly (PT) to occur within the project area. An updated US Fish and Wildlife Service's Information for Planning and Consultation tool (IPaC) list should be obtained for the project, and a biologist should conduct a site visit during the design/NEPA phase to confirm that there is no potential for federally listed species to occur within the project area. Potential impacts to federally listed species would require Section 7 consultation (assuming federal nexus) or Section 10 consultation (assuming no federal nexus) with the U.S. Fish and Wildlife Service (USFWS).

State-listed Species

Based on a preliminary habitat assessment, there is potential for black-tailed prairie dog (SC), Burrowing Owl (ST), common garter snake (SC), and Bald Eagle (SC), to occur within the project area. There are currently no statutory requirements for SC species; however, Colorado Parks and Wildlife (CPW) may require additional mitigation at their discretion.

Aquatic Resources

A formal delineation of non-wetland waters and wetlands per U.S. Army Corps of Engineers (USACE) protocols should be completed for the project. Depending on jurisdictional status and impact amount and type, Section 404 permitting or Temporary Authorization through Colorado House Bill 24-1379 may be required.

Noxious Weeds

Noxious weeds typical of Front Range roadside habitats are likely present in the project area. An inventory and mapping of noxious weeds should be completed. Depending on the species and densities of noxious weed species, best management practices (BMP) or an Integrated Noxious Weed Management Plan may be required.

Cultural Resources

Twenty-nine previously evaluated resources and 12 newly identified, potentially historic resources were identified within, adjacent to, or intersecting the study area. Review and potential regulatory compliance with state or federal statutes is dependent on the nexus triggered by the project. Potential state and federal nexus include, but are not limited to, access permits through CDOT or the Federal Highway Administration (FHWA) to access a state

highway or interstate, project funding through CDOT or FHWA, and Section 404 permitting through the USACE. The level of documentation is dependent on applicable state and federal regulations including, but not limited to, Section 106 of the National Historic Preservation Act (NHPA), as amended (per 36 CFR § 800) and the State Register of Historic Places (SRHP) consistent with CRS § 24-80.1 and 8 CCR § 1504-5. Additional guidance for documenting cultural resources during future phases of the project are included in Appendix G.

7.4 Final Design Sustainability Recommendations

The Conceptual Phase Envision Scorecard provided in Appendix J identifies opportunities for the continued integration of sustainability elements into final design, construction, and operation. While the design phases proposed by the project team prioritize addressing immediate community safety needs and interests, maintaining a cohesive sustainability approach across all phases may be challenging. To support this phased approach, the partner agencies could manage projects through a program-level approach, strategically applying individualized goals for each project. This would create opportunities for intentional experimentation, shared learning, and continuous improvement. For these reasons, developing a Sustainability Implementation Plan for the entire corridor is recommended.

A Sustainability Implementation Plan could guide the implementation of individualized sustainability strategies for all design phases, and establish systems for information sharing across projects. Using the Conceptual Phase Envision Scorecard and other resources developed during this corridor study, the plan could include:

- Coordinated program-level goals and commitments from applicable agencies and stakeholders to support capital planning and grant funding efforts
- An assessment of all Envision credits for each design phase including applicability and baseline performance based on conceptual design and jurisdictional requirements
- Project-level goals to be pursued by design teams tailored to specific elements of each phase including permitting requirements
- A value assessment of formal Envision verification with the Institute for Sustainable Infrastructure[20]
- A performance monitoring plan to ensure information sharing across projects and encourage continuous improvement with subsequent projects and phases.

Once adopted by the County and applicable agencies, the plan should be managed by an individual or small team responsible for 1) updating and adapting the plan as needed, 2) supporting the planning and RFP development for applicable projects, and 3) working directly with selected design teams to ensure the plan's adoption at a project-level. Proper coordination between the plan manager and project teams may reduce the need for Envision qualifications on design teams and mitigate project-level sustainability planning and management costs. Furthermore, several credits within the Envision framework align with the NEPA planning process, allowing applicable projects to gain efficiencies

[20] The Institute for Sustainable Infrastructure (ISI) provides third-party verification to confirm a project meets the sustainability criteria in the Envision framework and provides awards to qualifying projects based on achievement.

by assigning NEPA and sustainability responsibilities to the same parties.

Required resources for the development and operationalization of the Sustainability Implementation Plan are estimated in Table 12. Project owners have implemented similar approaches by assigning responsibilities internally, utilizing existing on-call consulting services agreements, and/or hiring a third-party owner's representative.

Table 12. Estimated Labor Hours for Sustainability Implementation Plan[21]

Activity	Labor Hours	Qualifications
Plan development	80-120	ENV SP[22]/ equivalent Envision experience, program management, stakeholder engagement
Plan management	4 per RFP development, 25-40 per project	ENV SP/ equivalent Envision experience, project management/planning experience

[21] Estimated hours are based on the assumption that ISI third-party verification will not be pursued.

[22] Envision Sustainability Professionals (ENV SPs) are individuals certified by the Institute for Sustainable Infrastructure to administer the Envision Sustainable Infrastructure Framework.

Section 8

Conclusion

8 Conclusion

As explained in this report, the project corridor is experiencing notable change. A significant amount of new development has been completed in the last 10 years, and more is currently under construction and planned for the future. As the corridor continues to change and traffic demand increases, so too does the need for safe and reliable multimodal travel options. Yet, the corridor is not keeping pace with changing demand. As identified through this study process, existing deficiencies are contributing to worsening congestion and a minimal number of trips being made by foot, bicycle, or bus. Travel on the corridor could adequately be described as imbalanced.

This study sought to identify and evaluate options for improving mobility on the corridor and providing more balanced, safer, and reliable travel options for all modes, ages, and abilities. The study demonstrated how collaborative planning and community engagement can deliver a unified vision for the corridor's mobility future; a vision and design concept that provides all users with a variety of options for everyday trips, regardless of their mode, age, or physical ability. A process involving on-line engagement, a series of community open houses, and collaboration with a Technical Advisory Committee were all critical to informing the end result.

Adams County, Commerce City, and Brighton are now well-positioned to pursue funds for final design, environmental clearance, and construction. Through implementation, the project corridor will be transformed. Today, it is an inconsistent roadway defined by several deficiencies that negatively impact safety and reliable access for all users. Following construction, the corridor will allow residents, employees, customers and visitors to more comfortably and reliably travel by car, foot, bike, and bus. For the partner agencies and the northeast Denver region, it will be a significant improvement to the transportation network providing benefits for years to come.