

APRIL 2021

Transportation Master Plan








Existing Conditions and Opportunities Report



ADVANCING **ADAMS**
PLANNING FOR A SHARED FUTURE



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EXECUTIVE SUMMARY



Advancing Adams: Planning for a Shared Future is a planning effort that includes the update of three plans simultaneously:

- Comprehensive Plan
- Transportation Master Plan (TMP)
- Parks, Open Space & Trails Master Plan (POST)

This trio of updates will create a coordinated vision and comprehensive set of policy goals, recommendations, and strategies that work together to encourage sensitive development, robust economic development, a connected and efficient multimodal transportation network, and parks, open spaces and trails that are used by all residents year-round.



This plan, the TMP, will set the foundation to drive County short and long-term multimodal transportation. Through the planning process, projects, programs, and policies will be identified that help create a successful multimodal transportation network for people of all ages and abilities. It will be a network that is connected, efficient, comfortable, easy to navigate, and convenient. Creating an attractive transportation system will ensure Adams County remains one of the top places to live, work, and play in the Denver metro region.

Advancing Adams Transportation Master Plan is a comprehensive process that will provide a roadmap for the Plan's vision:

The Transportation Master Plan (TMP) sets a foundation that drives County transportation investments in the short and long-term. The TMP will ensure the County remains at the top of places to live, work, and play in the Denver metropolitan region by identifying projects, programs, and policies that create a multimodal transportation network for all ages and abilities that is safe, comfortable, connected, efficient, convenient, and fiscally responsible.

This report is *Phase I: Grounding (Existing Conditions & Analysis of Opportunities)*. This report will be followed by Phase II: Plan for the Future. Phase I sets the foundation for Phase II by assessing the current


challenges and opportunities for multimodal travel within Adams County.

This report consists of five components:

- Background and context for the Transportation Master Plan
- Preliminary plan metrics that identify the drivers of success
- An assessment of the multimodal transportation network in Adams County
- An analysis of future trends in transportation locally and nationally
- An assessment of existing conditions on the five strategic corridors identified for Advancing Adams

BACKGROUND

Adams County, Colorado (1,182 square miles) is located in the northeast quadrant of the state with the Denver metropolitan areas defining the western portion of the County and agricultural rural areas in the east. Adams County abuts seven counties and has 17 member jurisdictions (incorporated and unincorporated). With a population of 530,000 and expected to grow to over 580,000 in the next five years, there is an increasing demand for transportation facilities and services to travel within and through the County. The County has an extensive transportation network that includes roadways for freight and passenger vehicles (paved and unpaved), on and off-street bicycle facilities, sidewalks and



crossings, and bus and commuter rail transit service.

PLAN METRICS

Preliminary plan metrics will be used to guide the development of the TMP by clearly identifying the drivers of success. In understanding the metrics and indicators that are important to Adams County, this Plan can recommend and prioritize infrastructure projects, programs, and policies that will lead to the achievement of those defined thresholds. The metrics include indicators on safety, access to trails, sustainability, freight, regional connectivity, and innovation.

MULTIMODAL ANALYSIS

A set of challenge and opportunity areas were identified to show specific geographies, corridors and small areas where there are opportunities to advance specific topic areas. Factors used to identify these specific areas include congestion, connectivity, safety, and barriers to multimodal travel. These opportunity areas include: SH 7, 120th Avenue, 104th Avenue, Southwest Adams County (east and west of I-25), Central Adams County, and the western edge of Commerce City.

In addition, this report assesses the existing conditions for:

- **Driving-** The Adams County roadway network is comprised of Adams County-owned roadways

and CDOT-owned roadways, as well as paved and unpaved roadways. The roadway network provides a connected and efficient means of moving vehicles, including freight, to and through Adams County.

- **Walking-** The pedestrian network in Adams County consists of sidewalks and crossing. There are 407 miles of sidewalks in the unincorporated parts of County and 13 miles of missing sidewalks.
- **Bicycling-** The bicycle network in Adams County consists of on and off-street bicycle facilities. These facilities are primarily in the western portion of the County. There are 31 miles of bike lanes as well as shared use paths for recreation and transportation
- **Transit-** Transit in Adams County consists of local and regional buses, commuter rail, FlexRide (which is RTDs first and last mile service), and human service providers. Transit investment in Adams County has been high in recent years with the addition of the B and G rail lines as well as the recent opening of the N Line. These rail lines connect various parts of Adams County to downtown Denver, greatly improving access to jobs and other amenities. However, there is no fixed route service in the eastern portion of the County.
- **Safety-** The majority of crashes take place in the southwest portion of the County. The number of

crashes resulting in severe injuries stayed close to the six-year average of 60 severe injuries per year, while the number of crashes resulting in deaths has steadily been increasing since 2013, with the exception of a decline in 2018

- **Parking-** Adams County has nearly 13 square miles of off-street surface parking, 97% of which consists of impervious surfacing. Recent studies of on and off-street parking revealed that the County generally has an excess of parking and opportunities to better match parking demand with supply.
- **Freight-** Adams County has a high level of freight activity due to its proximity to Denver, presence of distribution and logistics centers, access to multiple interstate highways, and presence of freight railroad lines. I-70 is the main freight corridor, with trucks constituting 19% of vehicle traffic on average.

INNOVATION

Adams County's vision is to be the most innovative and inclusive county in America. Transportation is a powerful and effective way to exemplify this innovation.

Transportation is changing quickly; and Plans like this one help identify potential policies and infrastructure to leverage these emerging technologies so that they support the Advancing Adams goals. Some examples of

transportation innovations that are expected to increase include:

- Shared mobility like bike share or Transportation Network Companies (TNCs)
- Electric vehicles that support Adams County sustainability goals
- Autonomous vehicles
- Mobility hubs around transit stations that make it easier to connect to commuter rail
- Dynamic, connected transportation systems, called Intelligent Transportation Systems (ITS)

FIVE STRATEGIC CORRIDORS

To highlight specific opportunities for focused improvements in key areas, Advancing Adams has selected five strategic corridors that are analyzed in greater detail as a part of this planning process—Federal Boulevard, Washington Street, Pecos Street, 104th Avenue, and 120th Avenue. Each of these corridors has varying land uses, gaps in the transportation network, and goals for moving people and goods. A summary of the transportation gaps and opportunities for each corridor is outlined in the following table:

| CORRIDOR | CHALLENGES | OPPORTUNITIES |
|--------------------------|--|--|
| Federal Boulevard | <ul style="list-style-type: none"> • Autocentric, with high speeds • High freight volume • CDOT-owned • Sidewalk gaps or inadequate sidewalks • Infrequent pedestrian crossings • Crosses multiple jurisdictions • Multiple character areas | <ul style="list-style-type: none"> • Connects to the Clear Creek Regional Trail • Commercial land uses with high bicycle/ pedestrian demand • Add pedestrian crossings • Expand pedestrian realm • Consider parallel corridor for bicycle facilities • High frequency transit (route 31); consider bus-only lanes and transit enhancements at intersections • Provides access to Clear Creek - Federal commuter rail station, and create transit-oriented development |
| Washington Street | <ul style="list-style-type: none"> • Autocentric, with high speeds • High freight volume • Sidewalk gaps or inadequate sidewalks • Infrequent pedestrian crossings • Crosses multiple jurisdictions • Multiple character areas | <ul style="list-style-type: none"> • Opportunity to become a creative district • Welby neighborhood generates demand for walking and biking • Opportunity for road diet to enhance the pedestrian realm, bicycle facilities, or transit amenities • Transit (route 12) • Add pedestrian crossings |
| Pecos Street | <ul style="list-style-type: none"> • High freight volume • Crosses multiple jurisdictions • Segments with limited bicycle and pedestrian facilities | <ul style="list-style-type: none"> • Connecting to the Clear Creek Regional Trail • High frequency transit (route 19); consider transit enhancements at intersections • Provides access to Pecos Junction commuter rail station; create transit-oriented development • Dense, mixed use development such as Midtown |
| 104th Avenue | <ul style="list-style-type: none"> • CDOT-owned roadway • Limited bicycle and pedestrian amenities • Wide crossings, uncomfortable for pedestrians • -Infrequent transit service (route 104); low ridership due to land use and first/last mile gaps | <ul style="list-style-type: none"> • Critical connection to Denver International Airport • Possible trail connection to the Front Range Trail and South Platte Trail • Could become an east-west Parkway with planted medians and rural feel • Opportunity to extend the pavement edges and install detached multiuse trails and enhanced transit amenities |
| 120th Avenue | <ul style="list-style-type: none"> • Gaps in multimodal access to Riverdale Park • Railroad crossing • Infrequent transit service (route 120) | <ul style="list-style-type: none"> • Leverage rural feel, and natural and cultural heritage • Existing adjacent multiuse trail • Become part of larger scenic trail loop • Add more multimodal connections • Critical east-west connection • Create at-grade rail crossings |



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Site Inspections
Construction Management

Timing & Scheduling
Project Meetings
Site Inspections
Construction Management

Timing & Scheduling
Project Meetings
Site Inspections
Construction Management



INTRODUCTION



This report consists of five components:

- Background and context for the *Transportation Master Plan*
- Preliminary plan metrics that identify the drivers of success
- An assessment of the multimodal transportation network in Adams County
- An analysis of future trends in transportation locally and nationally
- An assessment of existing conditions on the five strategic corridors identified for *Advancing Adams*

This introductory section provides an overview of this planning process—referred to as *Advancing Adams*. It provides a high-level review of the planning process, goals of the plan, and context under which this report was developed.

Preliminary plan metrics will be used to guide the development of Phase II of the *Transportation Master Plan* by clearly identifying the drivers of success. In understanding the

metrics and indicators that are important to Adams County, this Plan can recommend and prioritize infrastructure projects, programs, and policies that will lead to the achievement of those defined thresholds.


The existing conditions assessment analyzes infrastructure, programs, and standards for driving, biking, walking, and transit in the County. In addition to the current network for all modes, this section describes traffic safety in the County, parking inventory and utilization, and current freight patterns.

The future trends component of the report describes the TrendLab+ workshop held as a part of *Advancing Adams*. This workshop used national research to explore how the COVID-19 pandemic, its impacts on the economy, and other travel-related trends may affect short- and long-term travel behavior, traffic levels, and transit use in Adams County. The results of this workshop informed the follow-up narrative of how future innovations in transportation and mobility (such as autonomous vehicles, electric scooters, and on-demand transportation) can improve transportation options and efficiency in Adams County and across the region.

Advancing Adams has selected five strategic corridors that will be analyzed in greater detail as a part of this planning process—Federal Boulevard, Pecos Street, Washington Street, 104th Avenue, and 120th



Example of a multilane arterial



Avenue. This report describes the transportation infrastructure (bicycle, pedestrian, transit, and vehicular) that exists on each corridor. The *Comprehensive Plan* and *Parks, Open Space and Trails Plan* will evaluate the land use and open space opportunities along these corridors.

PLAN VISION AND THEMES

Advancing Adams Transportation Master Plan is a comprehensive process that will provide a roadmap for the Plan's vision:

The Transportation Master Plan (TMP) sets a foundation that drives County transportation investments in the short and long-term. The TMP will ensure the County remains at the top of places to live, work, and play in the Denver metropolitan region by identifying projects, programs, and policies that create a multimodal transportation network for all ages and abilities that is safe, comfortable, connected, efficient, convenient, and fiscally responsible.

The Plan identifies a number of key themes that serve as important pillars for the planning process and outcomes. These themes are:

- Prioritizing recommendations for all modes including walking, biking, transit, and automobiles
- Strategically upgrading rural roads to improve accessibility to services and amenities throughout the County and region
- Integrating innovation and emerging mobility such as personal scooters and self-driving vehicles
- Managing growth
- Improving safety
- Considering strategic, fiscally minded investments
- Evaluating strategic corridors

PLAN VALUES

As part of the initial work on Advancing Adams, three initial core value lenses have emerged. These will ultimately guide the final Comprehensive Plan, Transportation Master Plan, and Parks, Open Space and Trails Plan, but are included in the Existing Conditions Report as they can guide how the data is viewed. Each analysis step, recommendation, and policy will be evaluated for alignment with these values.

1. Equity: The vibrance and strength of a community emerges from diversity and equity. Equity can be measured through distribution of resources, affordability and access to services and experiences, as well as balancing land uses with environmental justice. Adams County will celebrate and leverage a diverse community through

equitable land planning as the region continues to grow in population and various ethnicities and identities.

2. Sustainability: By committing to build smarter and retrofitting existing development to include new technologies and efficiency, while embracing a holistic and metrics based approach, sustainability will be part of Adams County's identity.

3. Livability: Adams County has numerous multi-modal and walkable districts that support a human-scale, comfortable and memorable experience. This plan will help to further enhance livability through the thoughtful integration of artful placemaking strategies and urban design best practices that celebrate the culture of Adams County and further contribute to livability.

EQUITY



Just and fair inclusion into a society in which all can participate, prosper, and reach their full potential.

SUSTAINABILITY



The practice of creating and maintaining conditions to meet the needs of the present without compromising the ability to meet the same needs elsewhere or in the future.

LIVABILITY



The sum of the factors that add up to a community's quality of life—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities.

ROLE OF PHASE I AND THE PLANNING PROCESS

Advancing Adams: Planning for a Shared Future is a planning effort that includes the update of three plans simultaneously:

- **Comprehensive Plan**
- **Transportation Master Plan (TMP)**
- **Parks, Open Space & Trails Master Plan (POST)**

This trio of updates will create a coordinated vision, comprehensive set of policy goals, recommendations and strategies that work together to encourage sensitive development, robust economic development, a connected and efficient multi-modal transportation network, and parks, open spaces and trails that are used by all residents all the time. Planned thoughtfully, these updates will help to ensure Adams County will remain “the most innovative and inclusive county in America.” Advancing Adams will lead to a safer, resilient, more equitable and more prosperous county. We will integrate equity, sustainability and livability into each plan to ensure residents of today and future generations will benefit from a shared vision to Advance Adams.

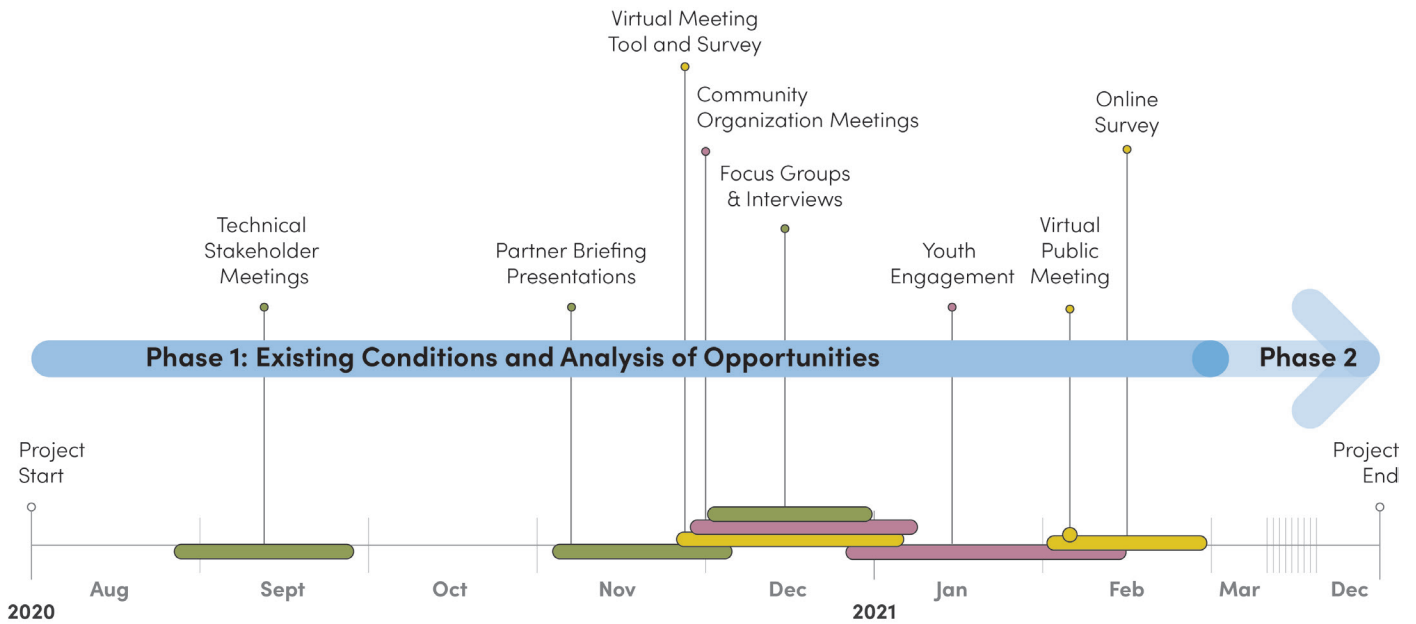
COMPREHENSIVE PLAN OVERVIEW

The Comprehensive Plan will serve as an overarching policy and operations tool to guide our county toward the vision of being “the most innovative and inclusive county in America for

all families and businesses.” It will set the tone for improving all aspects of quality of life. The plan will be an overarching and implementable document that addresses future development and land use needs, engaging the entire community, addressing economic development, equity and sustainability.

This is the “big picture” plan that lays the groundwork and provides direction for the TMP and POST updates. At the same time, work on these two plans will also help inform goals and recommendations for the Comprehensive Plan. The integration of the TMP and Comprehensive Plan acknowledges the connection between land use and transportation. The Comprehensive Plan sets a vision for an equitable, vital, and sustainable County through future development and code needs. These policies, standards, and zoning will shape, and are shaped, by existing and future transportation infrastructure, programs, and policies. Specifically, along five strategic corridors, these plans are closely integrated in order to create a comfortable and functional character and user experience that is developed holistically.

This is the plan that will help us “holistically improve quality of life.”



Grounding (Existing Conditions & Analysis of Opportunities)


TRANSPORTATION MASTER PLAN OVERVIEW

The Transportation Master Plan (TMP) will set the foundation to drive county short and long-term transportation and transit investments. Through the planning process, projects, programs and policies will be identified that help create a successful multi-modal transportation network for people of all ages and abilities. It will be a network that is connected, efficient, comfortable, easy to navigate and convenient. Creating an attractive transportation system will ensure Adams County remains one of the top places to live, work and play in the Denver metro region.

This is the plan that will “get us moving”.

PARKS, OPEN SPACE & TRAILS MASTER PLAN OVERVIEW

Adams County’s parks, open spaces and trails are fantastic amenities for residents and wildlife alike. The Great Outdoors of Colorado are one of the main reasons people come here to live. The Parks, Open Space & Trails Master Plan (POST) will provide recommendations to ensure equitable access for all residents to parks, open spaces and trails. It will point to strategies that help preserve and enhance important wildlife habitat and corridors, natural and scenic resources and agricultural lands, lay the framework for expanding trail connections and providing a richer variety of recreation opportunities for everyone.



The *Transportation Master Plan* is working closely with the *POST Plan* in both the process and Plan product. Specifically, these plans are collaborating on the trail network. The TMP is focused on providing access to key destinations and trails through on-street facilities and filling in gaps in the trail network where they primarily serve as transportation. The POST Plan is focused on trails where they primarily serve as recreation.

This is the plan that will help us all “enjoy the outdoors”.

PUBLIC ENGAGEMENT OVERVIEW

Advancing Adams is inspired and informed by residents, stakeholders and County and City staff. Moving forward together, these groups shared their concerns, visions and goals for the County as a whole, for its transportation system and its parks, open spaces and trails throughout the planning process. Engagement is divided into two distinct phases – Phase 1: Grounding and Phase 2 – Plan for the Future. During Phase 1, the project team prepared a public education campaign to inform residents about the plan updates, listened to community members to get a strong understanding of existing conditions and facilitated activities that allowed residents and stakeholders to analyze and discuss opportunities for the future. Input from these activities informed and helped guide the plan direction.

Taking place in 2020, engagement was directly impacted by the COVID-19 pandemic. Virtual engagement was used throughout the process and in-person meetings were only held when, and if, appropriate.


PHASE 1: GROUNDING (EXISTING CONDITIONS & ANALYSIS OF OPPORTUNITIES)

REACHING OUT

During the entire phase, several outreach methods were used to get the word out to the community and “meet people where they are.” A dedicated project website with an introductory video was launched at the end of November 2020, press releases were provided to local media, flyers were posted in strategic locations in English, Spanish and Burmese, local morning radio programs interviewed key project partners, social media posts were posted periodically, and email messages were sent to project partners, who in turn shared the information with their networks.

ENSURING INCLUSIVITY

During the Winter of 2020, community group meetings were held to inform those who have not been as involved in these types of planning processes historically about Advancing Adams. These meetings were held in Spanish and English with stakeholders representing community development, housing, economic development organizations, faith-based groups, aging adult advocates,



youth representatives, among others. The team also facilitated briefing presentations with various Boards and organizations representing a variety of interests. Key partners included the Community Resource Network, Tri-County Health, Adelante Community Development, local faith organizations, RISE Colorado, Cultivando, Village Exchange Center, and CREA Results. These conversations reached over 2000 underrepresented individuals in Adams County – educating about Advancing Adams and inviting them to get engaged in the process.

Youth engagement was an important component of this process. For Phase 1, the project team shared an interactive youth activity workbook with school districts and youth program partners so that young residents can share their ideas to provide a vision for the future that younger generations will support and champion.

DEEP LISTENING

In December 2020, the project team conducted technical focus groups with staff, regional partners, representational business owners and other stakeholders throughout the County. With over 150 attendees total, these sessions covered topics including Agriculture, Economic Development, Outdoor Recreation and Programming, Housing, Open Space Funding, the Pecos Street corridor, and the Federal Boulevard corridor. Fifteen deep dive individual stakeholder interviews were also conducted to understand the specific concerns of

those involved with economic growth, recent development, multi-modal transportation, concurrent planning efforts, sustainability, and recreation.

ENGAGING ALL

In November 2020, the first community-wide bilingual public survey was posted online utilizing an interactive dashboard which let the public explore the process and existing conditions in depth. Over 1000 people have engaged with the dashboard to date, and this interactive dashboard will remain live to continue educating residents about the existing conditions of the County.

In February 2021, a virtual public meeting was held in English and Spanish to give the public an update on the planning process and provide an opportunity for residents to share their thoughts on plan topic areas with County staff and the project team. Nearly fifty members of the public gave their input via live polling during the meeting and engaged with the project team during the Q&A portion of the meeting. These recordings were then posted online with the second community-wide bilingual public survey.

KEY ENGAGEMENT FINDINGS

Through the variety of outreach and engagement methods mentioned above, the project team was able to receive valuable input to integrate into the existing conditions reports for each of the three plans. While some feedback was specific to each

individual plan, other comments were applicable to Advancing Adams as a whole. Below are some key engagement findings sorted by theme that were heard by multiple stakeholder groups over the last four months.

- Adams County Today and Tomorrow

- » When asked what one word best describes Adams County today, popular responses were: growing, diverse, and progressing. These words capture the spirit of *Advancing Adams: Planning for a Shared Future* as this planning process aims to plan for the growing and diversifying population of the County with innovative recommendations. As the population of Adams County continues to grow, residents and stakeholders feel that the top considerations that should be used in future decision-making include inclusivity, affordability, equity, and resiliency. These are not only reflected in the three value lenses of the plans (Equity, Livability, and Sustainability) but also key ideas addressed in each individual plan.

- Recreation and Trails

- » Providing equitable access to recreation and parks is a priority for many. Some suggestions heard multiple

times on how this could be achieved include expanding program options, working with partners, and addressing the quantity and quality of facilities in all areas.

- » Trails should better serve transportation and recreation purposes, and therefore also better connect to community locations like schools, libraries, residential areas, etc.
- » Riparian areas and other critical habitats are a notable County asset. The opportunity to combine preservation with recreation should be considered.

- Agriculture

- » Zoning and development considerations will be important in order to incentivize sustainable agricultural practices.
- » Partnerships in the County could expand opportunities for urban food access and agritourism.

- Arts and Culture

- » Diversity in Adams County deserves to be celebrated with more cultural festivals, a better focus on local art and music, and recognition of the rich history of the County.

- Housing

- » Housing needs to be better developed concurrently with

transportation so residents can utilize transit to commute.

- » Diversity of housing type is paramount when discussing affordable housing options.

Key Transportation Engagement Findings

During the public outreach process for the initial phase of Advancing Adams, some common themes relating to transportation emerged from the public survey, listening sessions, focus group meetings, and stakeholder interviews. In general, outreach participants shared that the County does not currently offer a fully connected, multimodal transportation network.

Community members experience travel challenges due to traffic congestion, which some community members perceive is caused by population growth in the County, and feel there are not adequate alternatives to driving. Walking trips can be difficult due to an incomplete sidewalk network, traveling by bicycle is not always feasible due to a lack of available bicycle lanes and trails, and the existing transit system does not provide efficient connectivity for many trip purposes. In addition, improving travel safety emerged as a top theme in the public survey. In response to this community input, the Existing Conditions and Opportunities report focuses on identifying the key locations where more multimodal connectivity could provide additional travel options so that community

members feel less reliant on driving. The analysis conducted for this report includes identification of sidewalk gaps, an overview of transit service and ridership in the County, and a review of traffic safety issues based on recent crashes.

In addition to receiving input on the Countywide transportation network, focus group sessions were conducted to learn more targeted insights on the five strategic corridors. Focus group participants shared that enhancing walkability near the newly built RTD commuter rail stations is key to providing more walkable, connected communities. Specific suggestions included wider sidewalks along Pecos Street and Federal Boulevard, more marked crossing opportunities so pedestrians can limit out of direction travel, traffic calming measures to make walking trips more pleasant, and addition of bicycle facilities that make traveling by bicycle within neighborhoods and for regional trips more feasible. Participants would also like to see bus transit become a more reliable option on the corridors.

The initial opportunities highlighted in this Existing Conditions and Opportunities report are informed by the community input received to date. Preliminary opportunities like adding multimodal accommodations to the strategic corridors through reallocating vehicle travel lanes or adding dedicated transit facilities like bus lanes were partially envisioned in response to community feedback. The final TMP will provide a full set of

recommendations for enhancing the travel experience in Adams County for all users that addresses community concerns and ideas as expressed during the outreach process.

PLAN PURPOSE

This Plan serves as an update to the *Imagine Adams County Transportation Master Plan* adopted in December 2012. That plan provided an update to the multimodal transportation plan of 1996, intended to continue guiding the implementation of transportation expansions and upgrades through the year 2035. The goals of the 2012 Plan were to:

- Coordinate with local and adjacent municipalities on local and regional transportation efforts
- Develop a prioritization process to guide implementation of transportation projects
- Pursue methods to finance transportation improvements by working with private developers and local municipalities to obtain regional, statewide, and national funding
- Coordinate locally, regionally, and with Regional Transportation District (RTD) to improve public transportation in Adams County
- Coordinate human services transportation so it is more efficient and affordable and provides Countywide coverage for people with mobility challenges
- Coordinate County, city, and regional commuter and recreational bicycle and pedestrian travel through dedicated on and off-street facilities
- Establish and implement County design standards including “complete streets”
- Preserve the unique character of selected scenic roadways
- Coordinate land use and transportation

As the transportation industry and the travel demands and patterns within Adams County have changed dramatically over the last eight years, the *Advancing Adams* TMP update will be important for setting a revised vision and priorities for the County in both the short-term and looking forward to 2040. The most significant updates will include:

- Integration with the current and future land use for the County, by understanding the type and magnitude of travel demand
- Incorporation of evolving preferences of the community, including a desire for increased transportation options that include bicycling, walking, and riding transit
- Leveraging of new assets within the County such a commuter rail and regional trails
- Adoption of policies and programs that leverage and plan for new technologies, so they can be

implemented in a way that is in-line with the County's goal

- Developing a project prioritization methodology that reflects the community's goals
- Successfully positioning the County for new and evolved funding sources

ADAMS COUNTY CONTEXT

Adams County, Colorado (1,182 square miles) is located in the northeast quadrant of the state with the Denver

metropolitan areas defining the western portion of the County and agricultural rural areas in the east. Denver International Airport is not located within the County boundary, but the County surrounds the airport almost entirely on the western portion of the County, northeast of Denver. Adams County abuts seven counties and has 17 member jurisdictions (incorporated and unincorporated).

The County has an extensive transportation network that includes roadways for freight and passenger vehicles (paved and unpaved), on and off-street bicycle facilities, sidewalks and crossings, and bus and commuter rail transit service. This network moves users within and through Adams County. The County contains a comprehensive network of roadways from local roads to arterials to interstates. There are also 700 miles of unpaved roadways, primarily in the central and eastern portions of the County. The existing bicycle lane network Countywide is approximately 31 miles; bicycle lanes are predominantly found on roadways in Adams County's local incorporated cities. The multiuse trail network consists of over 385 miles of infrastructure, most of which is hard-surface, concrete paths. The system's backbones are comprised of four regional trails—Little Dry Creek Trail, Clear Creek Trail, South Platte Trail, and Niver Canal Trail. There are approximately 57 miles of sidewalk gaps in the County, about 13 miles of which are located along roadways

DID YOU KNOW?

COMMUTING PATTERNS




138,000 PEOPLE COMMUTE INTO THE COUNTY

156,000 ADAMS COUNTY RESIDENTS COMMUTE TO JOBS OUTSIDE THE COUNTY

65,000 RESIDENTS WORK IN ADAMS COUNTY

(APPROXIMATE DAILY VALUES)



within unincorporated County land. The Regional Transportation District (RTD) is the regional agency operating public transit services in Adams County and the surrounding Denver-Aurora-Boulder Combined Statistical Area in Colorado. The agency operates 30 local buses and three commuter rail lines within western and central Adams County.

PREVIOUS PLAN REVIEW

This section summarizes the previously completed transportation planning documents in Adams County. This information is important to understanding the current framework in place related to planning in the County. *Advancing Adams* will build off of the analyses and recommendations in these planning efforts.

CURRENT FEDERAL BOULEVARD MULTIMODAL TRANSPORTATION STUDY

Adams County, the City of Federal Heights and the City of Westminster are currently collaborating on the Federal Boulevard Multimodal Transportation Study. The goal of the project is to develop recommendations for safety, mobility and accessibility in order to create a community-serving boulevard.

This project is a partnership of local governments to address the challenges of safety for all users, the volume and speed of vehicular traffic, inconsistent pedestrian and bike

facilities, limited connectivity to trails and first and final mile destinations, and need for improved transit service and amenities.


The process is engaging community members and stakeholders to develop recommendations to improve safety, functionality, and options to travel along and to Federal Boulevard. The study will identify opportunities that may include lighting, crosswalks, intersection and vehicle lane modifications, higher frequency bus service, transit amenities to provide protected waiting areas, and enhanced connections or wayfinding to trails and on-street bike lanes.

Advancing Adams is working closely with this process to ensure these efforts are coordinated in their recommendations and priorities.

2019 DRCOG 2050 METRO VISION REGIONAL TRANSPORTATION PLAN OVERVIEW

The Denver Regional Council of Governments (DRCOG) is set to update its regional transportation plan to the 2050 horizon year through the 2050 Metro Vision Regional Transportation Plan. This 2019 overview was provided as part of the July 2019 Adams County Transportation Forum to provide a summary of the upcoming planning effort and a guide for how the plan will impact Adams County.

Regional Transportation Plans are federally required documents that



provide a regional transportation vision at the Metropolitan Planning Organization level, determine a list of transportation projects that will promote regional connectivity, and compile a fiscally constrained plan that can be implemented using anticipated revenues. The overview provides both a profile of Adams County and a snapshot of how the region is tracking on meeting performance targets.

Adams County plays a significant role in advancing regional transportation goals. As an area of the DRCOG region that has many undeveloped pockets and room for growth, local transportation planning is especially important in helping the region become a safer and more connected place.

2018 TOWN HALL: NEIGHBORHOOD SNAPSHOT REPORT; SOUTHWEST CORRIDOR NEIGHBORHOODS: SHERIDAN BOULEVARD TO PECOS STREET AND 76 AVENUE TO 52 AVENUE

The Southwest Corridor neighborhood is in unincorporated Adams County and bordered by Sheridan Boulevard to the west, 76th Avenue to the north, Pecos Street to the east, and 52nd Avenue to the south. At the time this plan was written there was a high rate of new development due to three new RTD rail stations having been added to the neighborhood as part of the FasTracks program. The

report profiles the neighborhood demographics, profiles recent and significant projects like an office/warehouse development along I-25, and also looks at development trends in the neighborhood. Since the area is zoned primarily for high-intensity commercial and small lot single-family residential, the existing land uses are mostly auto sales and repair, retail, and single-family homes.

In addition to recent trends, the report summarizes neighborhood, subarea, and corridor plans nearby, discusses code enforcement, building permit activity, and provides an oil and gas well inventory. The parks and open space portion of the report details trail enhancements in the area, including replacement of a portion of the Clear Creek Trail, and enhanced neighborhood connections to the trail. The report also discusses improvements like new sidewalks and ADA ramps, as well as a streets paving program that would impact the study area.

The Southwest Corridor has potential to become a thriving residential and commercial core within unincorporated Adams County. Its position just north of Denver and its access to high quality transit and trail connections make it a desirable and promising area.



2017 CLEAR CREEK CORRIDOR MASTER PLAN

The 2017 Adams County Clear Creek Corridor Master Plan is an amendment and update to the 2012 Adams County Open Space, Parks, and Trails Master Plan, which provided recommendations on: land acquisition to fill missing trail segments; identified connections to the trail from roadways like Lowell Boulevard and Tennyson Street that could connect residents with the trail; and also identified infill park opportunities to provide more recreation space adjacent to the trail. By 2017, the County had received numerous reports of safety concerns relating to existing recreational spaces along the trail, which had not been thoroughly addressed in the 2012 plan. In addition, new commuter rail stations at Sheridan Boulevard, Federal Boulevard, and Pecos Street could alter development patterns along the creek corridor. Adams County undertook the Clear Creek Corridor Master Plan in response to these safety and development concerns.

The Clear Creek Corridor Master Plan divided recommendations into four categories: 1. basic needs, 2. recreation planning, 3. circulation and access, and 4. development guidelines. Basic needs recommendations covered safety, access, and stewardship issues while development guidelines recommendations covered experience enhancements, habitat expansions, and integration of

resilient infrastructure. The other two categories provided geographically focused recommendations based on three zones: Sheridan Boulevard to Zuni Street (Zone 1), Zuni Street to Washington Street (Zone 2), and Washington Street to the South Platte River Confluence (Zone 3).

This plan summary focuses on the plan recommendations that pertain to trail access and circulation. To meet basic needs expressed by public engagement participants, the plan recommended an integrated signage program to improve wayfinding, additional parking at trailheads, bike racks/bike share stations, and bicycle repair stations. High priority circulation and access recommendations included a Pedestrian-Hybrid Beacon installation for the trail crossing at Tennyson Street, an on-street trail connection to Clear Creek Valley Park and Jim Baker Reservoir at Lowell Boulevard, a pedestrian bridge east of Federal Boulevard connecting to the rail station, and a dedicated multi use path from Pecos Station to the Clear Creek Trail.

The Clear Creek Trail is one of the most significant multimodal corridors in Adams County. It provides strong opportunities for building out a regional trail network.

MAKING CONNECTIONS: SOUTHWEST ADAMS COUNTY PLANNING AND IMPLEMENTATION PLAN

This Plan focuses on formulating a sound and rational basis for guiding development, redevelopment and supporting infrastructure for unincorporated Southwest Adams County. The Plan includes projects ideal for multi-jurisdictional and public-private partnership and investment. It includes 10 implementation-focused “Projects” that poise Southwest Adams County for the future. These include: a Complete Streets policy/standard, a sidewalk program to complete critical links, completing connections to the G Line Sheridan Station, enhancements on Federal Boulevard, and multimodal enhancements along Clear Creek and in the Welby neighborhood.

2016 ADAMS COUNTY / BRIGHTON DISTRICT PLAN


“Adams County and the City of Brighton partnered to draft the District Plan to study the feasibility of preserving farmland in southern Brighton that remains valuable for food production, while allowing for a range of development opportunities that consider the most efficient and sustainable use of the land. This plan helps decision-makers guide investment in the area for compatible residential, commercial, and industrial development, as well as farmland conservation, and local food and agritourism promotion.”

(page 11) The District Plan highlights recommendations from previous plans for road alignments and improvements in Southern Brighton that would enhance connectivity and safety while accommodating new development and more economic activity.

The District Plan is chiefly centered on preserving a unique section of Brighton, it does include a focus on ensuring future transportation demand can be met through multimodal enhancements.

2014 THE FEDERAL BOULEVARD FRAMEWORK PLAN

In anticipation of the two new rail transit stations planned for Federal Boulevard, Federal Station on the Gold Line and Westminster Station, the Federal Boulevard Framework Plan was developed in order to manage growth on the corridor that will occur as a result of the transit improvements. The study area is a 2.25 mile segment of Federal Boulevard between 52nd Avenue and 72nd Avenue. Plan recommendations included: using a variety of zoning mechanisms to facilitate different types of development; improving the balance between different transportation modes so that vehicular access is maintained while pedestrian and bicycle connectivity is enhanced; and aligning east-west streets that cross Federal Boulevard to create more direct paths of travel.



This plan was created to thoughtfully manage the growth and redevelopment that is anticipated from the infrastructure developments in southwest Adams County. The plan focuses on urban design and streetscape environments, bicycle and pedestrian safety, the context of market feasibility, and engagement of the many communities along the corridor. The findings helped set 20 recommendations to be considered in future developments.

2014 WELBY: WHERE DEEP ROOTS GROW. A COMMUNITY PLAN FOR FUTURE DEVELOPMENT


“Welby: Where Deep Roots Grow, a Community Plan for Future Development (Welby Plan) focuses on the urban, historic, and important southwest Adams County community of Welby, located just east of I-25 and north of I-76. Welby’s beginnings were very much tied to its rich lands supporting many years of robust agricultural production and later truck farms. With time, however, this production was not as viable and with the construction of the Valley Highway (I-25) in 1958 and later I-76, industrial uses began emerging in the area. The transition from agriculture to industrial was the beginning of major changes to the community, especially to its infrastructure and lack of amenities (e.g. grocery store, recreation center, etc.) for residents. The Welby Plan represents the product of hard work and innovative ideas on how to build

on and transform existing assets, reinvest, and maintain a vibrant community that attracts investments from both inside and outside of Welby.”
(Page 1 of Plan)

The Welby Plan builds upon the study area’s existing connections while also identifying opportunities for improving internal circulation and external connectivity. Plan recommendations should be inventoried to determine implementation status.

2012 IMAGINE ADAMS COUNTY TRANSPORTATION PLAN

The 2012 Transportation Plan, a part of the Imagine Adams County 2012 Comprehensive Plan, served as an update to the 1996 multimodal transportation plan. This plan coordinated the transportation plans from participating communities and developed a regional implementation strategy. The 2012 Transportation Plan identified multimodal improvements to be implemented by three planning horizons: 2018 (short-range), 2025 (mid-range), and 2035 (long-range). Plan recommendations reflected a set of 11 policies pertaining to integration of local and Adams County planning efforts including: development of a prioritization process for cross-jurisdictional projects; pursuing cooperative funding agreements; coordinating transportation services to achieve greater efficiency; and preserving the functional integrity of the County roadway system through right of way coordination.



The 2012 Transportation Plan also established five sets of strategic corridors, each with a modal focus. The corridors included the freeways that serve the County, the passenger rail corridors being implemented as part of the Denver Regional Transportation District (RTD) FasTracks system, regional arterial roadways, road corridors that serve local commercial needs but provide fewer regional connections, and trail corridors.

Recommendations were divided into five plan elements: roadway, bicycle, transit, pedestrian, and Travel Demand Management (TDM). The first four elements highlight infrastructure enhancements and new facilities that would accommodate users of each travel mode. The TDM element highlighted opportunities to increase transportation system efficiency by modifying land use policies to allow for more developments that are conducive to travel without driving, preserving right of way for future transit projects, and promoting alternative commuting options in the region. In addition to project recommendations and implementation phasing, the Transportation Plan provides a list of potential funding sources.

Adams County has a mix of both urbanized and rural areas, which poses interesting transportation planning challenges. The update to the 2012 plan is an opportunity to build upon those efforts to bring more multimodal transportation options


to the County and to emphasize the need for mode choice as a tool for meeting both local and regional goals.

2009 CLEAR CREEK VALLEY TOD PLAN

The Clear Creek Valley TOD Plan was published to plan for new transit stations in southwest Adams County: Federal Station on the Gold Line and Pecos Junction Station. TOD, or Transit Oriented Development, is based on the concept of focusing development that is walkable and combines a variety of uses within ½ mile of a transit station in order to help provide meaningful alternatives to driving. The Clear Creek Valley TOD Plan sought to maintain and enhance the existing commercial corridors around the two stations while promoting new sustainable and mixed-use developments, improving connections to surrounding areas, improving open space, and enhancing the area's role as a gateway to southwest Adams County.

The plan offered two options for shaping the future of the two station areas: Option 1 was the Clear Creek Parkway, a set of two east-west roadways that would connect the two station areas, and Option 2 was the Clear Creek Open Space, which would provide a collector road between Federal and Pecos Stations while setting aside land for additional recreational spaces along Clear Creek.

The Clear Creek Valley provides a significant opportunity to add dense residential and commercial



development on a corridor with rail transit that recently went into service. This plan envisions a transformation from a currently industrial corridor.

2008 WELD/ADAMS COUNTY LINE CROSSROADS ALIGNMENT STUDY

East 168th Avenue/Weld County Road 2 is a boundary line between Adams and Weld Counties, respectively. The Weld/Adams County Line Crossroads Alignment Study was undertaken as a joint venture by Adams County, Weld County, the City of North Northglenn, and the City of Thornton to correct for five off-set intersections along East 168th Avenue/Weld County Road 2. The study analyzed existing conditions at the five intersections and provided three alternative designs for each. Alternatives were evaluated and scored based on community input, community impacts, geometrics, safety, environments impacts, and construction costs. A preferred alternative was identified for each plan and provided to each jurisdiction to preserve the rights-of-way for future implementation of the new alignment.

2006 ADAMS COUNTY: TRANSIT ORIENTED DEVELOPMENT AND RAIL STATION AREA PLANNING GUIDELINES

The guidelines document outlines Adams County's strategy for Transit Oriented Development (TOD), which

includes designating rail station areas and corridors, creating policies to guide TOD, and establishing a standardized process and format for Station Area Plans. These are land use decisions that were not included in the Adams County Comprehensive Plan at the time of publication. While specific station area plans are still needed, these guidelines establish basic guidance including: that a Station Area would be defined as the half-mile radius around a station; the Station Area Core would be considered the quarter-mile radius around a station; and that transit corridor designation would apply to unincorporated County land within 1,500 feet of transit lines.

The guidelines seek to ensure that any development resulting from the new transit facilities is compatible with established County character and that community benefits are provided through increased services, more housing, and enhanced walkability. The guidelines encourage a mix of land uses, higher density development in station areas, an integrated transportation system that includes bicycle and pedestrian-scale design, and provision of parks and open space.

At the time the guidelines were completed, Adams County was looking to transit investments through FasTracks to help urbanize certain pockets of the County and leverage transit investments with first and final mile connections.

2005 RIVERDALE ROAD CORRIDOR PLAN

The Riverdale Corridor Plan documents efforts to preserve the South Platte River Valley by creating development agreements, coordinating development along the corridor, guiding investment in infrastructure, and creating trail connections between existing and future parks and neighborhoods.

This plan proposes a multitude of strategies to prevent the urban growth and development in the area surrounding Riverdale Road from causing harm to its natural and scenic beauty. The plan includes a vision and an implementation policy framework to better guide development and conservation efforts in the corridor.

2005 SOUTHWEST ADAMS COUNTY FRAMEWORK FOR FUTURE PLANNING

“Southwest Adams County contains part of the “first ring” suburbs developed around Denver during the post-WWII era. This diverse area is showing its age and the fact that more investment dollars have been spent elsewhere in past decades. Various land use types can be found in southwest Adams County, including most varieties of residential housing, commercial districts, and industrial areas. Many neighborhoods have evolved to contain a mix of land uses. Each area has its own unique set of circumstances, issues and needs, and stakeholders. This calls for many

different approaches to the planning process. The Southwest Adams County Framework Plan was created to guide and organize the multiple planning efforts needed in this area.” (page 3 of plan)

This area of the County contains the confluence of the interstate highways that serve the County and also contains five of the rail stations funded through FasTracks. As a result, much of the population and economic growth that will occur in unincorporated Adams County is likely to occur in the Southwest portion.

The 2005 Southwest Adams County Framework Plan provided an outline for future planning and redevelopment efforts in southwest Adams County. It is intended to serve as a guiding document throughout the many years it would take to complete the neighborhood plans, corridor plans, and other redevelopment efforts needed to improve southwestern Adams County. It sets the stage for the planning efforts needed for ensuring transportation demand resulting from growth in this section of the County is accommodated through a multimodal network.

RTD N LINE PROGRESS

The N Line is a commuter rail line that operates between Denver and North Thornton, in Adams County. The N Line, which is also known as the North Metro Rail Line, is part of the 2004 FasTracks plan. The N Line was

expected to be completed in 2018 but has incurred delays. Service started on the first 13 of 18.5 planned miles on September 21, 2020.

The N Line provides a direct and rapid transit connection between various municipalities in northern Adams County and Denver. This will create opportunities for shifting development patterns, more dense development along the corridor, and additional economic development opportunities in Commerce City, Northglenn, and Thornton.





PLAN METRICS



METHODOLOGY AND APPLICATION

Preliminary plan metrics will be used to guide the development of the TMP by clearly identifying the drivers of success. In understanding the metrics and indicators that are important to Adams County, this Plan can recommend and prioritize infrastructure projects, programs, and policies that will lead to the achievement of those defined thresholds.



The set of plan metrics identified in this report were compiled based on inputs from the following factors:

- Review of previous plans (see previous section)
- Staff input as a part of the Transportation Strategic Kick-off meeting and monthly Project Manager check-ins
- Best practices in long-range planning and regional transportation planning efforts across the country

This report synthesized these documents and meetings in order to identify key transportation-related goals for the County.

PLAN METRIC AND INDICATORS

Table 1 shows a set of preliminary plan metrics, identified through the methodology described in the previous section. The column on the left identifies the general topic areas. The column on the right provides specific examples of quantifiable metrics that can measure the success of each respective topic area. These indicators will be refined and expanded as a part of this planning process but serve as an initial example of ways to track each topic area.

Table 1: Preliminary Plan Metrics

| TOPIC | VISION INDICATOR |
|---|---|
| Safety | <ul style="list-style-type: none"> • Reduce the number of fatal and severe injury collisions • Reduce the number of bicycle/pedestrian-related collisions • Reduction in the annual crash rate (number of crashes/ volume or vehicle miles traveled) on key corridors or city-wide |
| Transportation options for all ages and abilities | <ul style="list-style-type: none"> • Implement low-stress, connected bicycle facilities • Complete sidewalk gaps and ensure pedestrian facilities are ADA compliant • Employee and resident participation in Transportation Demand Management programs/strategies • Increase awareness of the availability and benefits of alternative transportation options (walking, biking, transit) • Prioritize first and last mile connections to commuter rail stations • Provide transportation options where the older population can age in place, when driving is no longer an option |
| Access to trails for recreation and transportation | <ul style="list-style-type: none"> • Implement bicycle and pedestrian facilities that connect to trails and trailheads |





| | |
|---|--|
| Upgrade and maintain rural roadway network | <ul style="list-style-type: none">• Develop a prioritization system for paving rural roadways that reflects a balance of access and maintenance costs |
| Sustainability | <ul style="list-style-type: none">• Reduce vehicle miles traveled per capita• Reduce single occupancy vehicle mode split by providing infrastructure and programs to support people walking, biking and taking transit• Reduce PM10 from urban, unpaved roadways• Allow the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations• Minimize consumption of non-renewable resources to the sustainable yield level• Reduce vehicle miles traveled by employees for work purposes by 10%• Increase number of residents with access to multi modal transportation options, including on/off road bike routes, sidewalks, and alternative transportation within ¼ mile of their residence by 30% |
| Align transportation and land use | <ul style="list-style-type: none">• Increase density and mix-uses along transit corridors• Implement planned Transit Oriented Developments• Continue to identify policy, regulations and locations that support the transit center concept and TODs |
| Regional connectivity | <ul style="list-style-type: none">• Leverage partnerships with local jurisdictions and neighboring communities to implement projects that cross boundaries and create a consistent experience for users; leverage the South Platte River Vision and Implementation Plan and Coalition |
| Freight | <ul style="list-style-type: none">• Plan for an intermodal freight hub |
| Travel reliability | <ul style="list-style-type: none">• Travel time along major corridors in both the peak and non-peak hours remains consistent each year |
| Equity | <ul style="list-style-type: none">• Ensure investments are made in areas of the County with more vulnerable populations |
| Innovation | <ul style="list-style-type: none">• Implement partnership, technology or policy that leverages innovation to improve mobility• Conduct temporary pilot projects that test out new technologies and providers• Identify innovative opportunities through this Plan (e.g. signage, ITS, counts, signalization, Big Data) |





WEST



44

The Ride



ANALYZE AND IDENTIFY OPPORTUNITIES



This section takes a deeper look into analyzing and identifying opportunities in Adams County. These categories are:

- Demographics and Employment Trends and Projections
- County-wide Challenge and Opportunity Areas
- Modal Maps and Analysis

DEMOGRAPHICS AND EMPLOYMENT TRENDS AND PROJECTIONS

According to data from the state demographer, the population of Adams County in 2020 was expected to be 528,857, which is approximately 16.4 percent higher than 2010, or a growth rate of 1.6 annually. Growth is projected to remain steady over the next five years at 1.8 percent annually (8.9 percent overall) reaching a population of 580,775 by 2025. The population of unincorporated Adams County in 2020 was 100,558. That number has grown by around 16 percent since 2010. Population growth is expected to occur most significantly and rapidly in the westernmost portions of Adams County that are closer to Denver and other urban centers. Adams County residents are predominantly white, with 70% of the population reporting being white alone, although 40% report Hispanic origin. The Hispanic population is expected to continue growing and account for 41.7% of the population by 2025. 10% of households receive food stamps

and 10% of households are below the poverty line. Nearly 30% of households reported English as a second language with the majority of those residents speaking Spanish.

With abundant land available for new development, ideal location in Central Colorado and exceptional infrastructure in place to serve a diverse range of businesses, Adams County has potential for increased economic capacity. According to 2020 data from ESRI Business Analyst, there are 14,172 businesses in Adams County employing 196,673 total employees. The unemployment rate, without accounting for COVID-19 impacts, is relatively low at 7.3% (264,459 people) of the County's population over the age of 16 being employed. The work distribution is mostly white collar, which accounts for 54.4% of total employment, followed by blue collar and services, which make up 27.4% and 18.2% respectively.


The County's Median Household Income (MHI) is relatively low at \$70,282 compared to the State at \$73,219. The County's MHI is expected to increase at the same rate as statewide MHI, growing by 1.7% annually (8.4% overall) over the next five years reaching \$76,194 by 2025.



Example of vacant property

COUNTY-WIDE CHALLENGE AND OPPORTUNITY AREAS

A set of challenge and opportunity areas were identified to show specific geographies where there



are opportunities to advance specific topic areas. This section describes the methodology used to select the areas and provides a summary describing the characteristics of each location that presents challenges and opportunities that will be addressed in the TMP.

This analysis considers a range of factors for informing the selection of challenge and opportunity areas. The following factors were used to identify the seven specific areas of mobility challenges and opportunities highlighted in **Figure 1** and described in **Table 2**. Locations where one or more factors were found to be especially prevalent were considered for the selection of challenge and opportunity areas.

BARRIERS TO MULTIMODAL TRAVEL

Adams County is currently conducive to travel by motor vehicle. Presence of railroad crossings, arterials with high volume and high speed, and major highways create the need for out of direction travel or uncomfortable crossings for people walking and biking. This factor informed selection of specific locations where travelers are likely to be most comfortable traveling by vehicle, rather than walking or biking.

SAFETY

Figure 1 shows the Denver Regional Council of Governments Vision Zero High Injury Network (HIN) that are on roadways in unincorporated Adams

County. The HIN are the roadways with the highest density of fatal and severe injury collisions. The presence of the HIN informed selection of challenge and opportunity areas; the following section (Section C) includes a deeper look at the data to understand specific areas where traffic safety is a major concern and locations where the TMP can make recommendations for countermeasures that improve safety outcomes and increase comfort.

CONGESTION

Using traffic count data available for 2010–2019, this analysis identified specific locations where traffic volumes are growing the fastest in unincorporated Adams County and used these locations to inform selection of the challenge and opportunity areas. Changes in Average Daily Traffic (ADT) reported in **Table 2** are for specific locations along the corridors where year over year traffic data is available.

TRANSIT

The proposed Bus Rapid Transit (BRT) service on SH 7, the two new commuter rail stations in unincorporated Adams County, and the future Park and Ride stations all contribute to Adams County having opportunities for multimodal travel enhancements in the western portion of the County. This analysis also identified challenge areas outside the RTD service area where future transit options are needed to provide residents with mobility options.

MAP OF CHALLENGE AND OPPORTUNITY AREAS

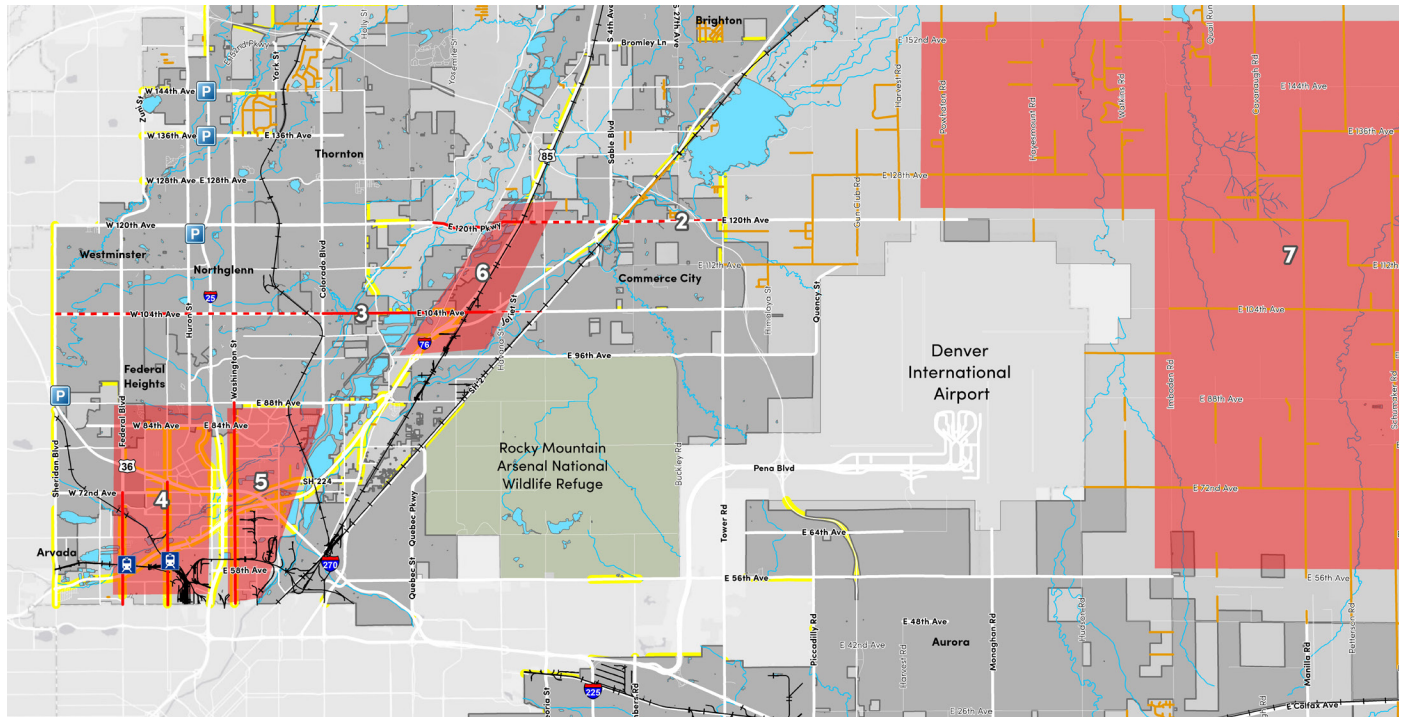


Figure 1: Map of Challenge and Opportunity Areas for the Adams County Transportation Plan

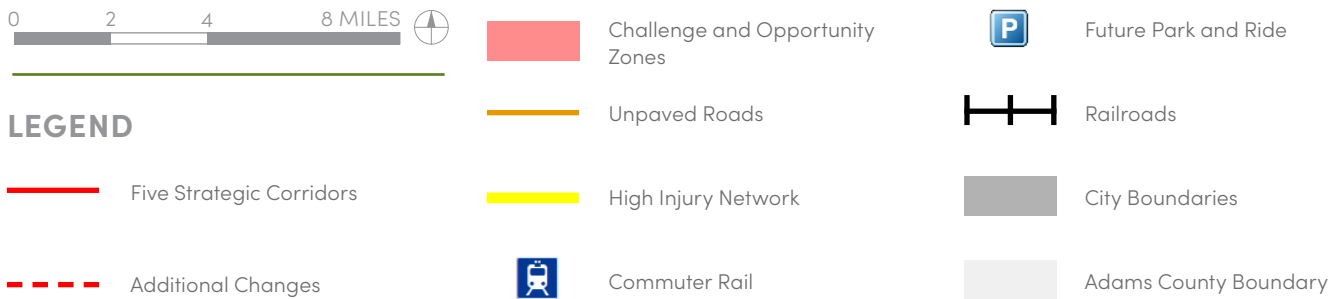


Table 2: Description of Challenge and Opportunity Areas

| | DESCRIPTION | VISION INDICATOR |
|--|---|--|
| 1: SH 7 | SH 7 is a major east-west corridor through unincorporated Adams County and will grow in significance with upcoming BRT service. | <ul style="list-style-type: none"> Proposed BRT corridor Traffic congestion: ADT increased 4% from 2016 to 2018 (though fell slightly in 2019) Need for multimodal facilities On High Injury Network |
| 2: 120th Avenue (part of 5 Strategic Corridor discussion) | In addition to the segment identified as a strategic corridor for the TMP, 120th Avenue connects to areas of unincorporated Adams County east of Commerce City. This corridor has challenging travel conditions for non-drivers, growing travel demand, and documented safety issues. | <ul style="list-style-type: none"> Challenging railroad crossings Traffic congestion: ADT increased 19% from 2012 to 2019 On High Injury Network Future bicycle corridor Future Parks/Open Space along the corridor |

| | | |
|--|--|--|
| 3: 104th Avenue <i>(part of 5 Strategic Corridor discussion)</i> | <p>In addition to the segment identified as a strategic corridor, the wider extent of 104th Avenue crosses between incorporated cities and unincorporated Adams County and brings travelers through difficult barriers like railroad crossings and travel segments with high crash rates.</p> | <ul style="list-style-type: none"> • Traffic congestion: ADT increased 7% from 2017 to 2019 • On High Injury Network • Railroad crossings are a barrier |
| 4: Southwest Adams County (west of I-25) | <p>Southwest Adams County west of I-25 is the area of unincorporated Adams County with the highest population density and the site of two TMP strategic corridors (Federal Boulevard and Pecos Street). Recent transit investments have been focused in this area, which create a need for multimodal transportation planning that will support walkable environments. Safety and traffic congestion issues are also prevalent in this area.</p> | <ul style="list-style-type: none"> • The two commuter rail stations in unincorporated Adams County are in the Southwest. There are opportunities for targeted pedestrian network enhancements in these station areas that will support walkable Transit Oriented Development (TOD) and first and last mile solutions. • Traffic congestion • Most major roadways are on the High Injury Network • General need in this area for upgrading pedestrian facilities, adding on-street bicycle facilities, and ensuring trail connections are prevalent and comfortable |
| 5: Southwest Adams County (east of I-25) | <p>Southwest Adams County east of I-25 is dense with commercial and industrial land uses and the site of a TMP strategic corridor (Washington Street). This area has a high amount of freight activity and poor connectivity for people walking.</p> | <ul style="list-style-type: none"> • Heavy freight traffic • General need in this area for upgrading pedestrian facilities, adding on-street bicycle facilities, and ensuring trail connections are prevalent and comfortable • Barriers for circulation including highways, a disconnected street grid, and large industrial sites. |
| 6: Western edge of Commerce City where railroad and highways converge | <p>This area of the County presents general travel barriers due to the convergence of freight railroads as well as major roadways like US-85.</p> | <ul style="list-style-type: none"> • Railroad crossing barriers • Major roadways that create challenges for non-vehicle travel |
| 7: Central Adams County | <p>This portion of the County has mostly unpaved roads and a rural character. However, with development pressures that may cause population growth to extend east, consideration for how to enhance multimodal travel opportunities is needed.</p> | <ul style="list-style-type: none"> • Strategic prioritization of roadway paving is needed including future development cost participation • Most of this area is just outside the RTD service area. Planning is needed to determine what expanded transit and human services transportation in central and eastern Adams County might look like. • Considerations for a future bicycle network are needed. Would this network serve future parks? There are currently no key destinations in this area, will that change? |

MODAL MAPS AND ANALYSIS

TRAFFIC SAFETY

This section summarizes the safety performance of the existing transportation network in Adams County. Crash records have been analyzed from 2013 through 2018, the most recent complete six-year period for which records were available through the Denver Regional Council of

Governments (DRCOG). Crashes were analyzed based on several factors:

- Location within unincorporated Adams County
- Severity: More specifically at trends for crashes that resulted in death or severe injury
- Mode: More specifically at trends for crashes involving a bicyclist or pedestrian

TOP CRASH LOCATIONS IN UNINCORPORATED ADAMS COUNTY

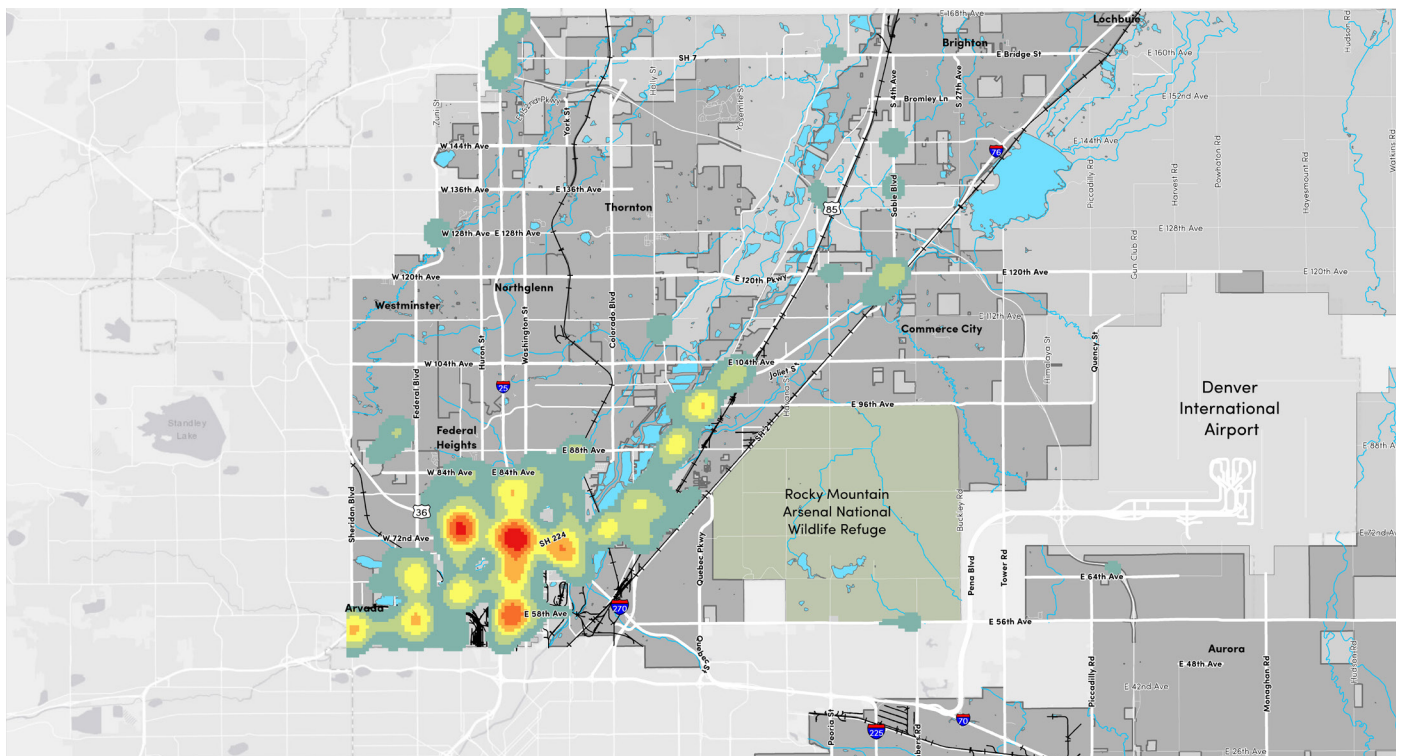
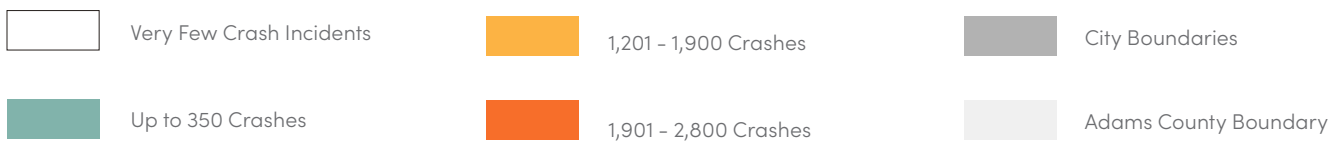


Figure 2: Top Crash Locations in Unincorporated Adams County



LEGEND



From 2013 to 2018, there were 16,422 crashes that occurred on roadways in unincorporated Adams County. The majority of those crashes were concentrated in the southwest part of the County, with many of the crashes occurring on I-25 (Figure 2). Of the crashes in unincorporated Adams County, 457 resulted in death or severe injury. The yearly number of crashes sharply increased from 2013 to 2014 and, with the exception of 2016 when there was an especially high number of crashes, the number of incidents has remained relatively flat since 2014 (Figure 3). The number of crashes resulting in severe injuries stayed close to the six-year average of 60 severe injuries per year, while the number of crashes resulting in deaths has steadily been increasing since 2013, with the exception of a decline in 2018 (Figure 4).

Crashes involving pedestrians remained relatively steady from 2013 to 2018, with an average of approximately 23 crashes per year. The number of bicyclist-involved crashes has varied more significantly (Figure 5). The leading cause of crashes are rear end collisions, which accounted for 37% of all crashes from 2013 to 2018. In addition, 29% of crashes occurred on County-owned roadways. The TMP will explore opportunities to pursue engineering and programmatic safety countermeasures on high-crash roadways managed by Adams County in order to improve the comfort and safety for all users on those corridors. We will consider specifically countermeasures to the most common causes of crashes.

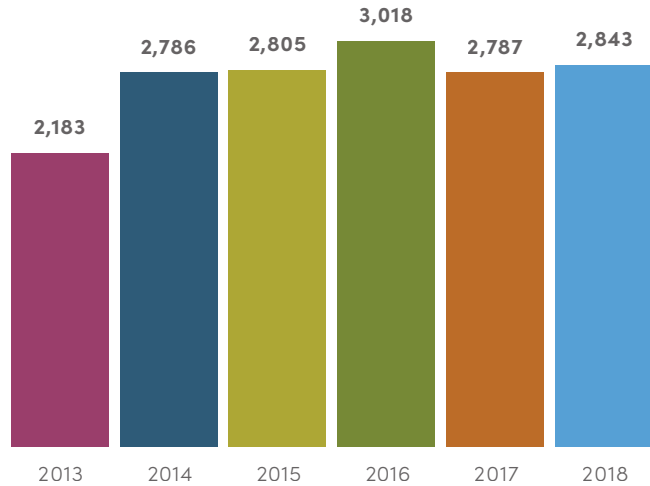


Figure 3: Crashes on Roadways in Unincorporated Adams County, 2013-2018 (Source: DRCOG)

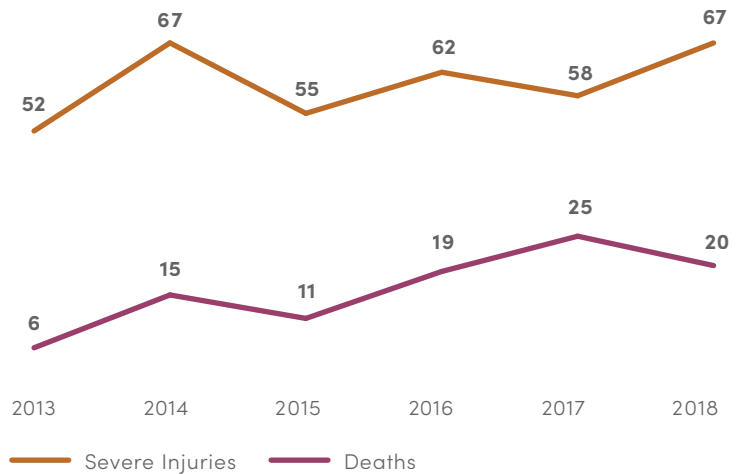


Figure 4: Crashes Resulting in Death or Severe Injury, 2013-2018 (Source: DRCOG)

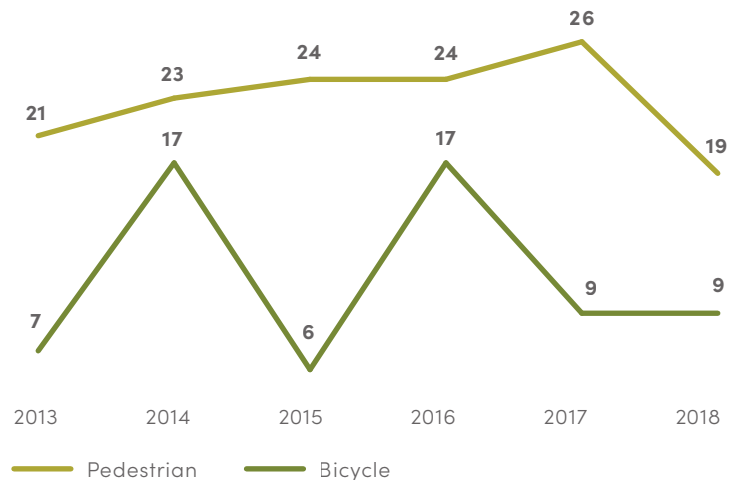


Figure 5: Crashes Involving Bicyclists and Pedestrians, 2013-2018 (Source: DRCOG)

PEDESTRIAN NETWORK

Figure 6 shows the existing sidewalk network in Adams County. There are approximately 57 miles of sidewalk gaps in the County, about 13 miles of which are located along roadways within unincorporated County land. For perspective, there are 2,901 miles of sidewalk Countywide, 407 of which are located in unincorporated Adams County. The majority of the gaps in sidewalks are located in the southwest portion of the County. Locations like 70th Avenue and Pecos Street have a number of sidewalk gaps adjacent to higher density residential land uses and commercial properties with higher pedestrian activity. *Advancing Adams* will include a prioritized list of pedestrian improvement areas that builds off of the *Americans with Disabilities Act (ADA) Transition Plan* which considers adjacent projects, proximity to destinations with high pedestrian volumes, and locations with significant barriers to accessibility. .

The *Transportation Master Plan* will coordinate closely with the *Comprehensive Plan* to determine how proposed land use changes will impact transportation recommendations, such as pedestrian improvements, more specifically. In addition to areas for development of new sidewalks, Adams County has sidewalks that do not meet the County standards described in the following section. Examples include the portion of Federal Boulevard between 63rd Avenue and 64th Avenue where the existing sidewalk width is three feet (narrower than the 5.5 foot

standard) (**Figure 7**). . Because Adams County has a number of state-owned roadways, some of these sidewalk gaps should be completed in coordination with CDOT.

Advancing Adams will also include guidance for upgrading sub-standard sidewalks and crossings. There is not data available on sidewalk quality, but qualitatively, there are many areas where sidewalks are present but are of poor quality (e.g. with cracks or inconsistent grades). Rehabilitating these sidewalks is important, in addition to filling in sidewalk gaps. The County utilizes an asset management database known as Cartegraph to identify and prioritize sidewalk repairs. *Advancing Adams* will identify strategies to ensure that development standards and regulations are met not only along property frontages, but continue beyond these parcels to provide connectivity and continuity for people walking.

The Adams County *ADA Transition Plan* provides guidance not only on the prioritization of implementing projects within the pedestrian realm, but on the approach to implementation. As outlined in the plan, accessibility improvements should first occur in conjunction with other projects (new construction, new improvements, major maintenance and rehabilitation) and then as a part of routine maintenance. Funding for these projects is identified in the Annual Capital Improvement Plan Projects but can also be obtained through Federal grants, bonds, or taxing districts.

MAP OF SIDEWALK NETWORK

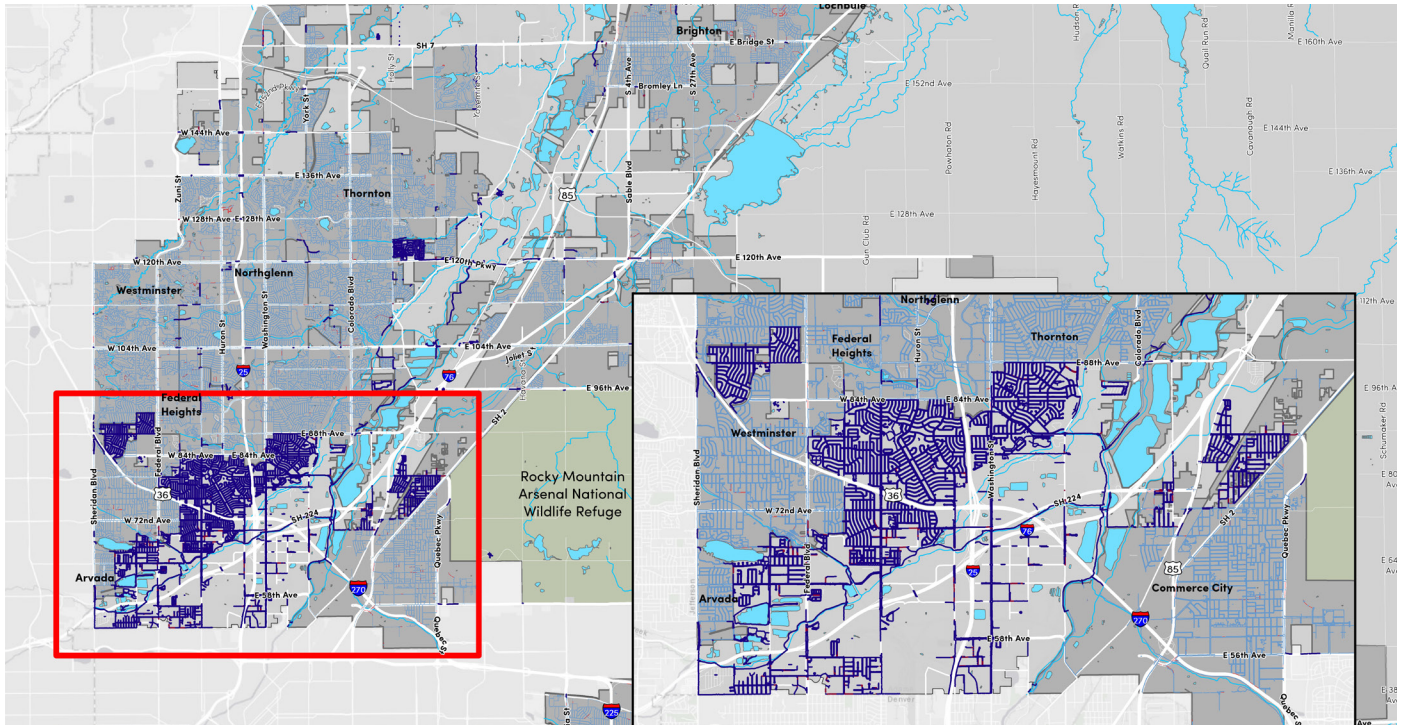


Figure 6: Adams County Sidewalk Network



LEGEND

- County Sidewalks
- City Sidewalks
- Missing County Sidewalk
- Missing City Sidewalk
- Rivers
- Lakes
- City Boundaries
- Adams County Boundary



Figure 7: Example of Narrow Sidewalk on Federal Boulevard

SIDEWALKS

Chapter 7 of the *Adams County Development Standards and Regulations* requires that all new sidewalks have a minimum width of 5.5 feet. This standard denotes that sidewalk widths may be required to be wider than 5.5 feet in areas of heavy pedestrian traffic, although definitions of areas with ‘heavy pedestrian traffic’ are not defined. *Advancing Adams* will explore opportunities for further defining the widening of sidewalks and adding a landscaped buffer in locations with vulnerable populations (e.g., seniors, youth, those with mobility challenges) and high pedestrian activity. This Plan will also explore how sidewalk standards will vary based

on available right of way in order to mitigate impacts to property owners.

Although the County does not specify the width of sidewalks or buffers as they vary across street classifications, the Development Standards includes typical cross sections for various street classifications. **Figure 8** shows a major arterial with a detached ten-foot sidewalk. Typical cross sections for each street classification are shown in **Table 3**. Transit Oriented Development (TOD) areas were discussed conceptually in the *2012 Transportation Master Plan* as areas that should reflect complete street designs that emphasize pedestrian and bicycle movements. The 2012 Plan did not identify specific standards for sidewalks within TOD areas, but the *Advancing Adams*

Table 3: Typical Sidewalk Widths Based on Street Classification

| STREET CLASSIFICATION | SIDEWALK WIDTH | ATTACHED/DETACHED |
|-------------------------------|------------------------|-------------------|
| Major Arterial | 10' | Detached |
| Minor Arterial | 10' | Detached |
| Minor Arterial (rural) | 0' (6' paved shoulder) | N/A |
| Major Collector | 5.5' | Attached |
| Minor Collector | 5.5' | Attached |
| Minor Collector (rural) | 0' (8' paved shoulder) | N/A |
| Local (industrial/commercial) | 5.5' | Attached |
| Local (residential) | 5.5' | Attached |
| Local (residential, rural) | 0' (6' paved shoulder) | N/A |

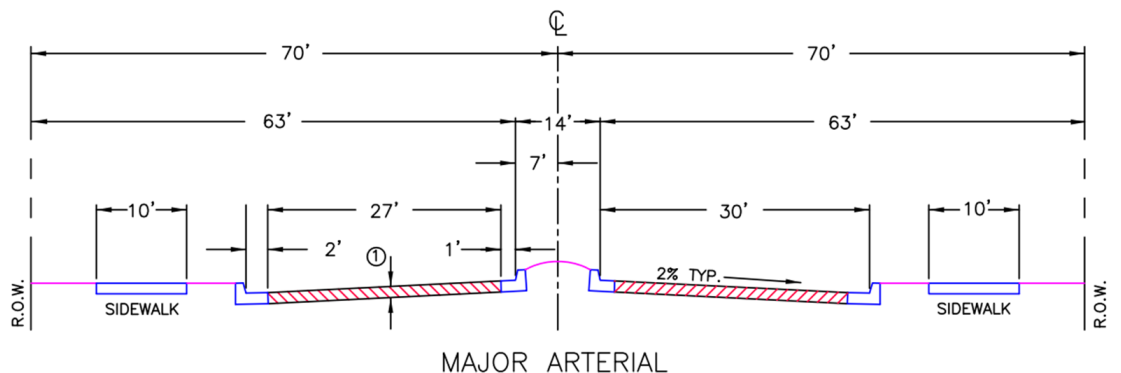


Figure 8: Major Arterial Typical Cross Section

process will specify sidewalk widths and specification for these overlay areas.

The identified sidewalk widths and standards provide a consistent and ADA-accessible network for pedestrians. However, a buffer between the sidewalk and roadway on major and minor collectors would provide additional comfort by providing a space between high volume, high speed vehicles and people walking. The buffer would also allow for snow storage, so snow does not accumulate in the sidewalk.

Advancing Adams will build off the *ADA Transition Plan* for guidance on filling in missing gaps and upgrading deficient segments in the sidewalk network.

CROSSINGS

The *Public Rights-of-Way Accessibility Guidelines* requires ADA-compliant curb ramps at all intersections and midblock locations with marked pedestrian crossings. The County utilizes Community Development Block Grant monies to install ADA-compliant curb ramps in conjunction with other projects such as new construction, new improvements, major maintenance and rehabilitation. Grade separated pedestrian crossings may be required when regional/neighborhood trails cross collectors and arterials, as determined by the Parks Department. Barriers throughout Adams County, such as highways, rivers, and railroads, decrease connectivity for pedestrians.



Intersection of Washington Street and E 88th Avenue

Pedestrian crossings of these barriers result in out of direction travel and are high stress. Additional grade separated crossings and upgrades of inadequate pedestrian amenities on bridges and underpasses will be considered as a part of *Advancing Adams*.

Pedestrian crossings on arterials in Adams County are often infrequent and uncomfortable. Increasing the frequency of crossings to reduce out of direction travel for pedestrian will create a more connected and comfortable pedestrian environment. Crossings at signalized intersections should have pedestrian accommodations including ADA-accessible directional curb ramps, a pedestrian signal head, high visibility marking, and a median refuge island for long crossings.

BICYCLE NETWORK

Adams County's bicycle network consists of three primary bicycle facility types, discussed in further detail in the following sections—bicycle lanes, paved multiuse trails, and unpaved multiuse trails. Facilities are defined in greater detail in this section. **Figure 9** shows the County's existing on and off-street bicycle network. The existing bicycle lane network Countywide is approximately 31 miles; bicycle lanes are predominantly found on roadways in the incorporated cities like the bike lane on Colorado Boulevard through Thornton. Some bicycle lanes, like the one on 88th Avenue, serve the border roadways of cities and unincorporated Adams County. The

trail network consists of over 385 miles of infrastructure, most of which is hard-surface, concrete paths. The system's backbones are comprised of four regional trails—Little Dry Creek Trail, Clear Creek Trail, South Platte Trail, and Niver Canal Trail. These trails provide low stress local and regional connections for people bicycling for recreation and transportation. They provide access to locations including Jefferson County, City and County of Denver, light rail stations, and regional parks. The *Parks, Open Space and Trails Plan* provides additional detail on the existing multiuse trail network in Adams County. The County currently has a number of bicycle facilities within current capital improvement projects that are under design or construction; these include Pecos Street improvements, York Street safety improvements, 62nd Avenue safety improvements, and Dahlia Street bike lanes.

Advancing Adams will build on the existing bicycle network, especially the strong system of multiuse trails, to provide direct and comfortable bicycle access to commercial corridors and large employers. This expansion of the network will make bicycling a more viable transportation option for Adams County residents and employees. The *Adams County Development Standards and Regulations* do not contain specifications for bicycle facilities. There are, however, requirements for providing bicycle parking at multi-family developments and commercial areas.

MAP OF ADAMS COUNTY BICYCLE FACILITIES

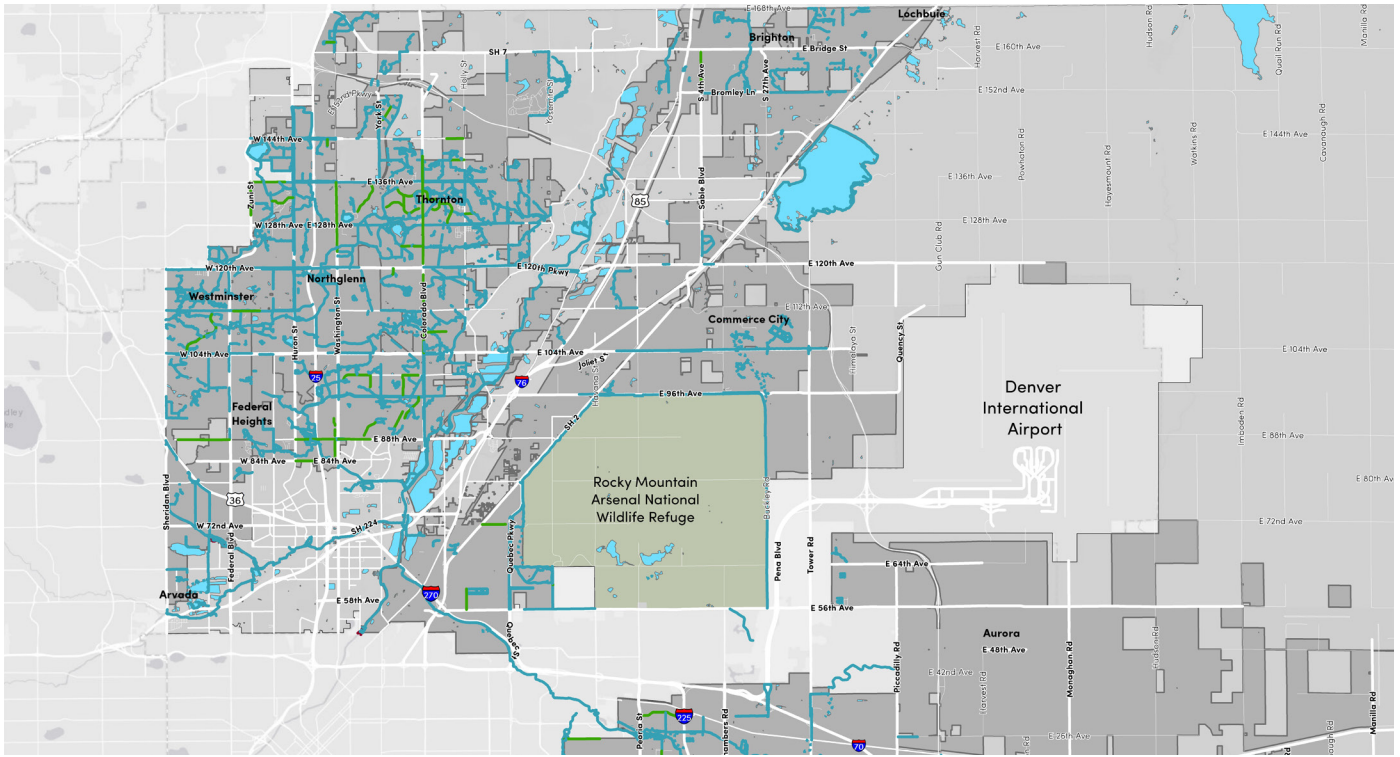


Figure 9: Adams County Bicycle Facilities

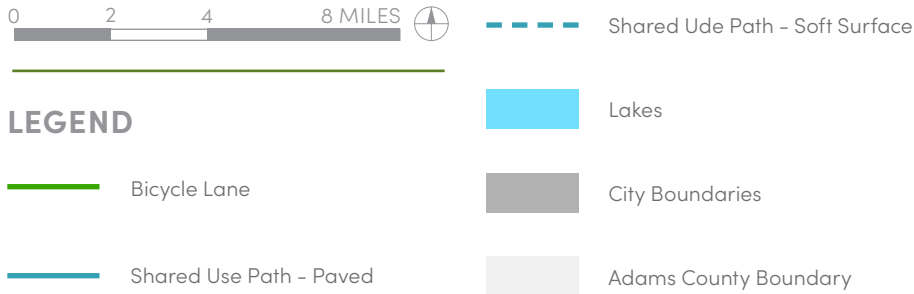




Figure 10: Example of a Bicycle Lane (88th Avenue at Downing Street)

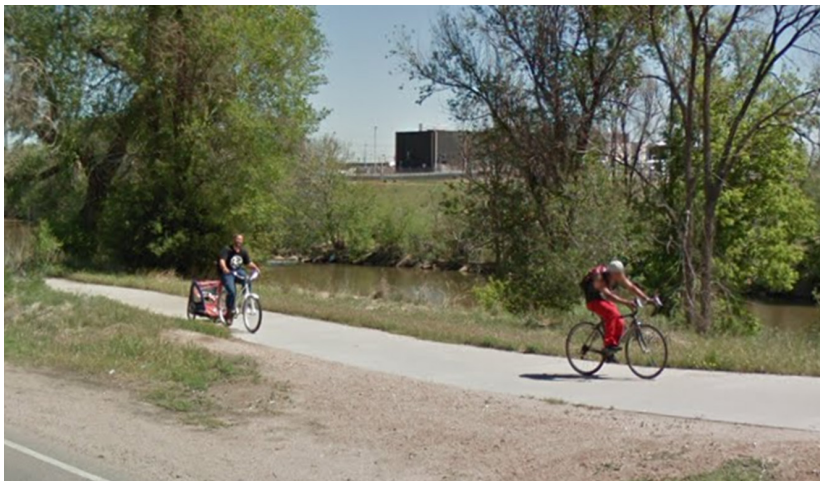


Figure 11: Example of a Paved Multiuse Trail (South Platte River Trail) (Source: Google Maps)



Figure 12: Example of a Multiuse Trail (Clear Creek Trail) (Source: TrailLink)

BICYCLE LANES

A bicycle lane is a designated space for bicyclists, separated from the general-purpose travel lane or parking lane by a single painted white line. This provides a comfortable place for people biking on corridors where vehicle volumes and speeds are too high for many riders to comfortably share the travel lane with vehicles. On roadways with even higher speeds and volumes, a horizontal or vertical buffer is recommended between the bicycle lane and vehicle lane. **Figure 10** shows an example of a bicycle lane, on 88th Avenue, in Adams County.

PAVED MULTIUSE TRAILS

A multiuse trail is a low stress facility that supports opportunities for both recreation and transportation. People who walk, bicycle, skate, or use wheelchairs such as mobility devices can experience increased comfort and safety on a multiuse trail because it is entirely separated from motor vehicles. Paved multiuse trails are preferred over unpaved paths for corridors that are likely to be used for transportation or regional connections. This allows for more versatility in the types of users who can safely and comfortably travel. **Figure 11** shows an example of a paved multiuse trail in Adams County—the South Platte Trail.

UNPAVED MULTIUSE TRAILS

Unpaved multiuse trails can be composed of a range of material (gravel, crusher fines, dirt) and may be narrower than paved trails. They

provide valuable opportunities for equestrian use, connector trails, and recreation through open space. **Figure 12** shows the Clear Creek Trail, a trail with sections that are soft surface.

LEVEL OF TRAFFIC STRESS METHODOLOGY

In addition to evaluating the presence of bicycle or pedestrian facilities, assessing their level of comfort, known more formally as Level of Traffic Stress, is important. This concept acknowledges that although there may be an existing bicycle or pedestrian facility present, it may not effectively serve users of all ages and abilities. *Advancing Adams* will recommend additional bicycle and pedestrian facilities that are low stress, but also opportunities to upgrade existing facilities so that they are comfortable for all ages and abilities.

In 2012, Mekuria, Furth, and Nixon developed the original Level of Traffic

Stress (LTS) framework with guidance from the National Association City of Transportation Officials (NACTO) and the American Association of State Highway and Transportation Officials (AASHTO). As a national best practice, LTS is used to inform the appropriate bicycle facility type for a roadway that will be comfortable for all ages and abilities, based on street characteristics, including speed limit, traffic volumes, the number of travel lanes, and the bike facility type. Scores range from LTS 1 to LTS 4. LTS 1 and LTS 2 are considered low stress bicycle facilities, while LTS 3 and LTS 4 are considered high stress. **Figure 13** displays and describes the four types of bicyclists considered within the LTS framework.

Adams County multiuse trails, such as the South Platte Trail, are a great example of an LTS 1 facility, given their separation from vehicular traffic and width to accommodate bidirectional traffic of people walking and biking.



Figure 13: Bicycle Rider Types and Corresponding Levels of Traffic Stress

The existing bicycle lanes on roadways in unincorporated Adams County are predominantly higher stress. For example, the bicycle lane on 88th Avenue shown in **Figure 10** is considered high stress since the facility is four lane arterial with a 35 mph speed limit. Decreasing the speed limit and/or implementing bollards on the bicycle lane would help increase the comfort level for bicyclists.

STRAVA HEATMAP ACTIVITY PATTERNS

Strava Global Heatmap data was used to examine bicycling activity patterns in Adams County from 2018 to 2020. Strava is an internet service with a smartphone application that enables users to track their physical activity; it is popular among active transportation users. **Figure 14** and **Figure 15** show bicycling activity in Adams County, on the west and east sides of the County respectively, as recorded by Strava users. It is important to note that this Strava data represents only bicyclists who have chosen to record their activity using the Strava application and many people bicycling, especially commuters, do not use Strava and are not being captured in this data; however, the data provides an opportunity to understand the rate of travel on different roadways and paths. The lighter and thicker blue lines represent more popular biking routes while the thinner purple and blue routes represent less-used routes.

The data shows the most bicycling activity on the trails within the County. On the east side, there is a notable amount of activity on the County Roads, likely from recreational bicyclists.

DID YOU KNOW?

BICYCLE

35 MILES OF ON-STREET BICYCLE FACILITIES (AND GROWING)

14.5 MILES OF EXISTING TRAILS (CONCENTRATED IN WESTERN ADAMS COUNTY)

STRAVA HEATMAP OF BICYCLING ACTIVITY (WEST)

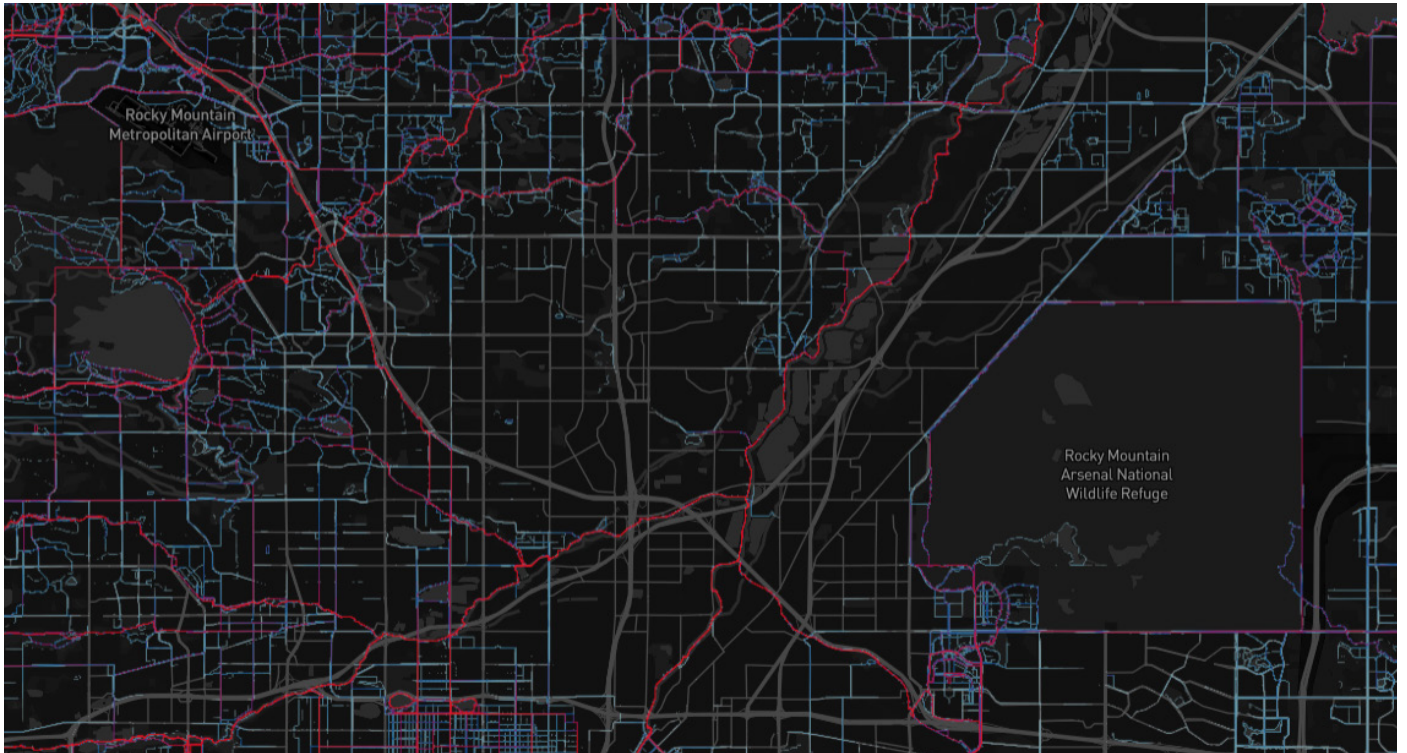


Figure 14: Strava Heatmap of Bicycling Activity (West)

STRAVA HEATMAP OF BICYCLING ACTIVITY (EAST)

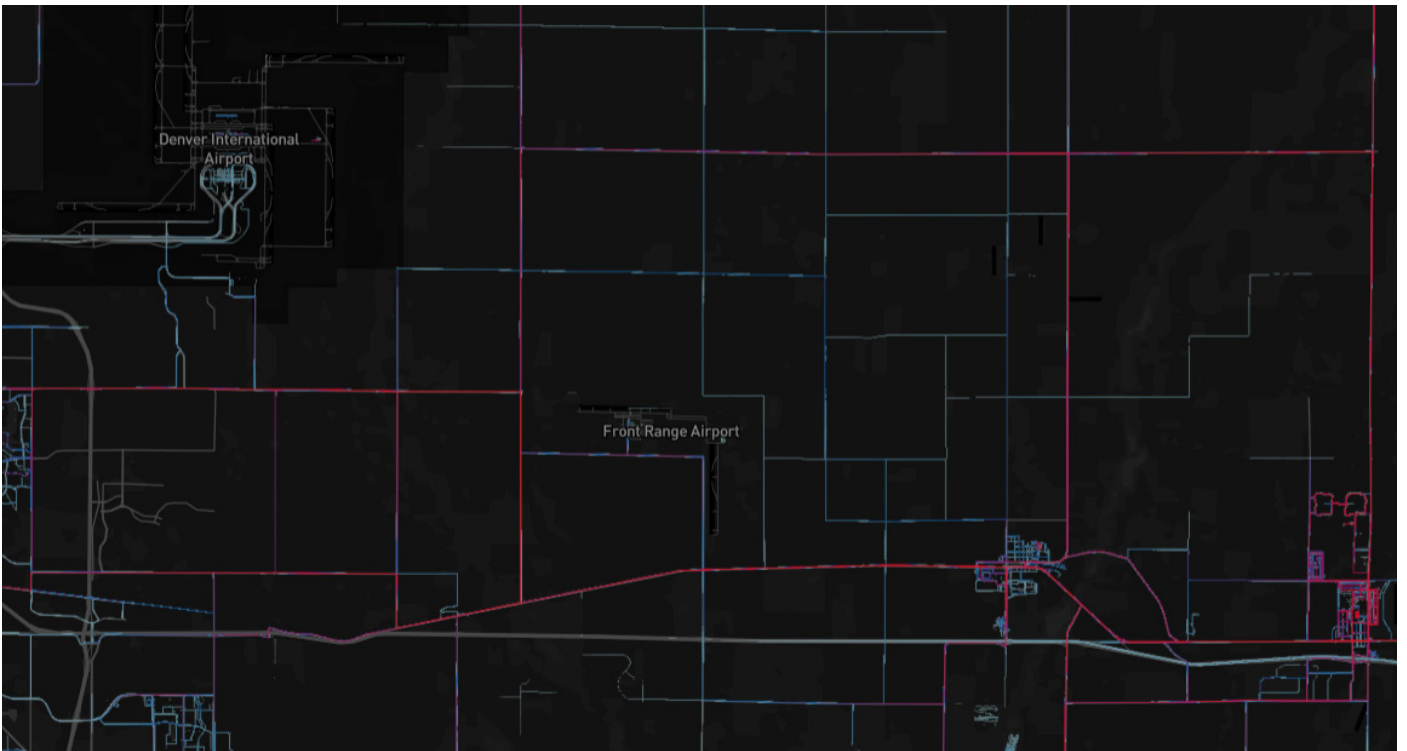


Figure 15: Strava Heatmap of Bicycling Activity (East)

TRANSIT

Adams County is served by RTD, which offers a variety of transit service types (Figure 16 and Table 4). The service boundary for RTD is located in central Adams County, which dictates that there is no fixed route transit service in the eastern portions of the County.

Table 4: Adams County RTD Transit Service

| SERVICE TYPE | NUMBER OF ROUTES |
|---------------|-----------------------------|
| Local Bus | 30 |
| Regional Bus | 6 |
| Commuter Rail | 3 |
| Light Rail | 1 (a portion of the R Line) |
| Airport Bus | 2 |
| FlexRide | 3 |

MAP OF RTD TRANSIT SERVICE

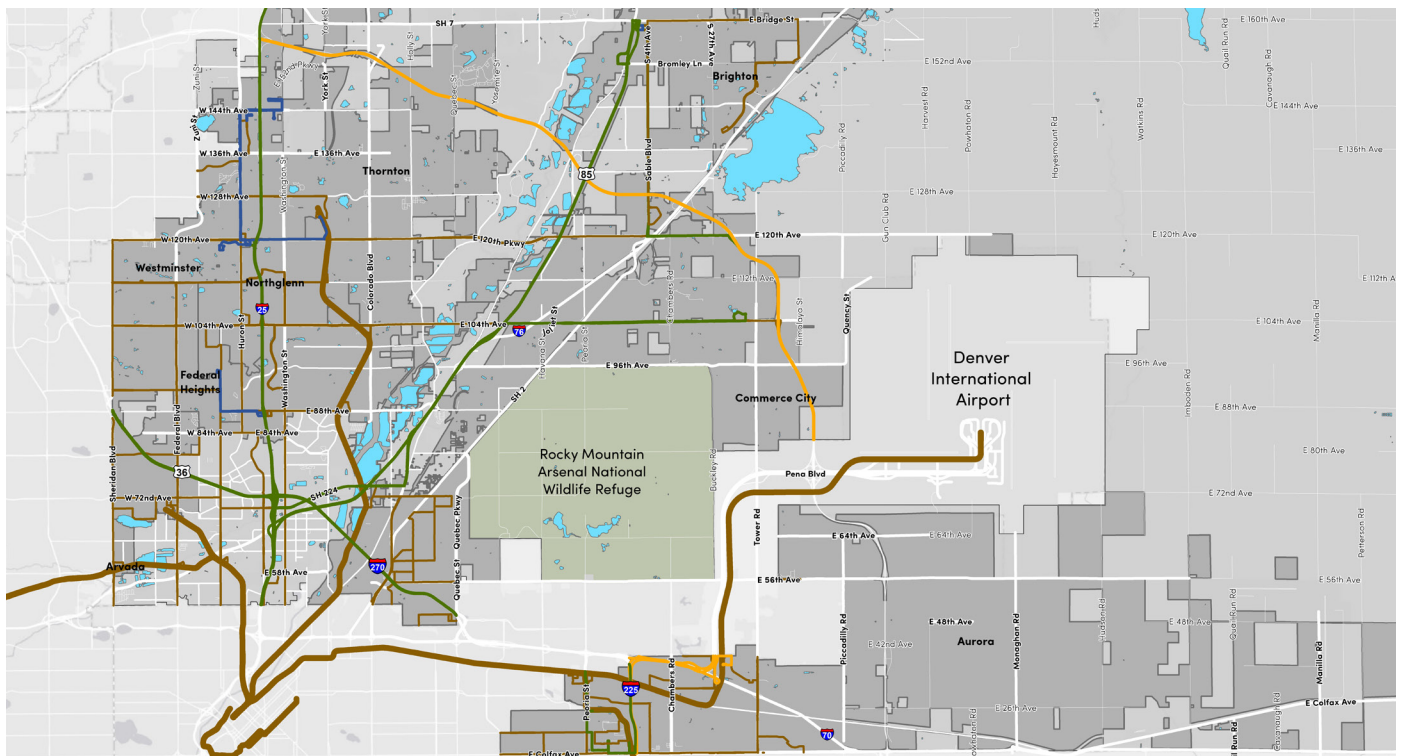


Figure 16: Adams County RTD Transit Service



Transit investment in Adams County has been high in recent years with the addition of the B and G rail lines as well as the recent opening of the N Line. Average weekday transit ridership for stops serving Adams County was approximately 53,400 riders in January 2019. Ridership fell in 2020 due to public health agency restrictions on transit operations to help mitigate the transmission of the COVID-19 virus. April 2020 ridership in Adams County was 49% lower than January 2019 levels. Compared to the national average of an 81% decline in ridership due to the COVID-19, demand for transit has remained comparatively strong in Adams County (National Transit Database).

Of all transit stops in Adams County, ten stops account for approximately one-third of the County's transit ridership. These stops are located in incorporated Adams County communities serve the A and R rail lines and the 120X and 15 bus routes, which are some of the highest ridership routes in the RTD system. Transit stops in unincorporated Adams County tend to have lower ridership than stops in Adams County municipalities, with the majority of stops serving fewer than 25 riders per day (**Figure 18**). It should be noted that the G Line had not yet started service in January 2019. Ridership by stop was likely differently distributed in January 2020. Advancing Adams will include an updated ridership analysis. As of January 2019, the highest ridership stops in the unincorporated portion of the County are Pecos Street & W 72nd



Figure 17: RTD G Line Clear Creek Station at Federal Boulevard

Avenue, Pecos Street & W 70th Avenue, and Federal Boulevard & W 56th Avenue. These stops serve the following routes:

- 19 – The North Pecos route, offering service between Civic Center Station in Denver and 106th & Melody Transfer Center in Northglenn
- 31 – The Federal Boulevard route, operating between Evans Avenue and Front Range Community College
- 72 – The 72nd Avenue route, operating between Arvada and the 72nd Avenue N Line station in Commerce City

The high ridership on bus routes serving Pecos Street suggests that additional service may be needed on the corridor to accommodate demand. Major transfer points and routes serving rail stations tend to have higher ridership. *Advancing Adams* will explore opportunities to enhance transit service where demand is highest while

determining whether service changes are needed at lower ridership stops. Alternatives include on-demand service or schedule adjustments.

As transit investments evolve, transit planning in Adams County will continue to adapt. For example, the addition of commuter rail lines result

in the need for first and last mile connections to improve access to this reliable transit service. Additionally, as funding and services provided by RTD evolve, Adams County should consider additional opportunities to fill in gaps in transportation services that RTD is unable to provide.

TRANSIT RIDERSHIP BY STOP IN UNINCORPORATED ADAMS COUNTY

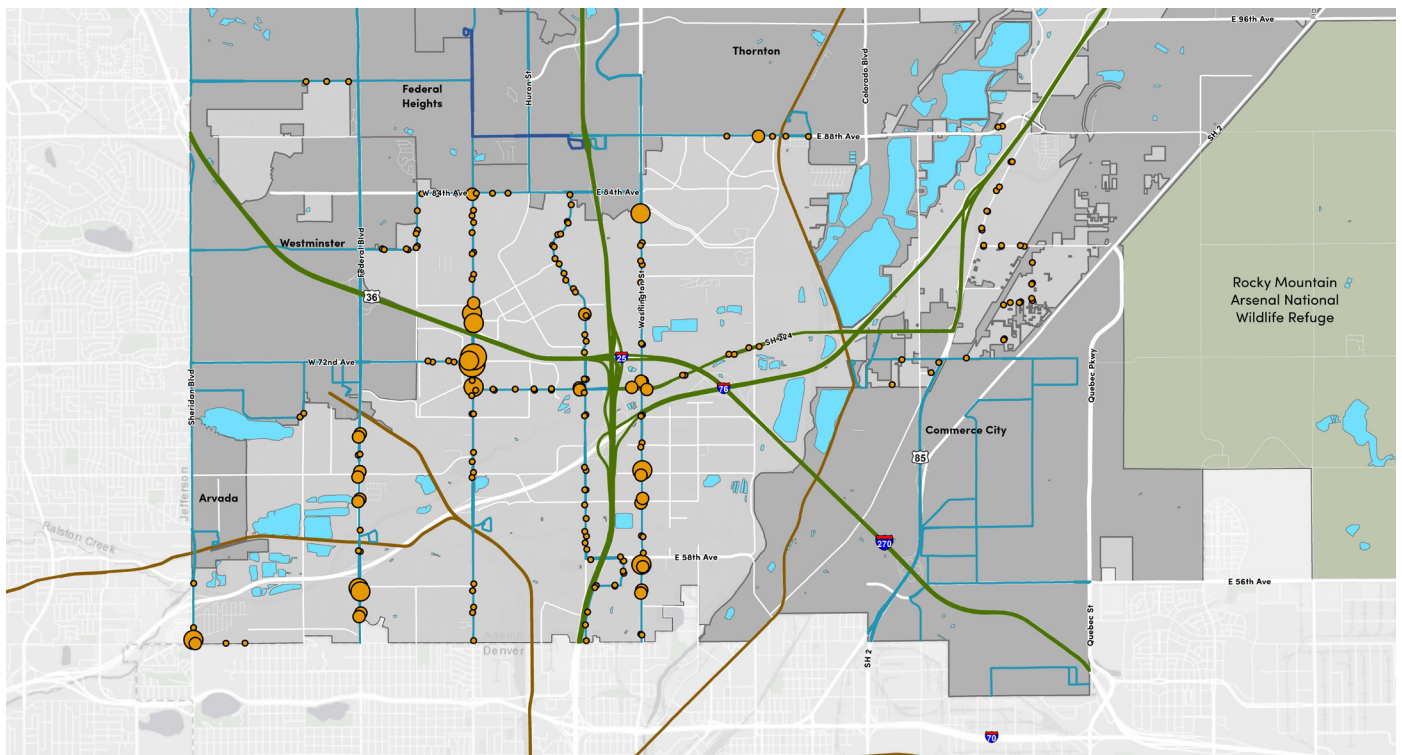


Figure 18: Transit Ridership by Stop in Unincorporated Adams County



Average Weekday Ridership (January 2019)

- Less than 25
- 25 - 50
- 51 - 100
- 100 - 205

Service Type

- Regional Bus
- FlexRide
- Local Bus
- Commuter Rail

- Lakes
- City Boundaries
- Adams County Boundary

HUMAN SERVICE PROVIDERS

Human service transportation supplements traditional fixed route public transit to provide transportation services for disadvantaged populations that may have unique transportation needs. These populations include older adults, people with disabilities, veterans, and/or those with lower income. Human service transportation providers accommodate these needs through such characteristics as on-demand booking, door to door service, or fare free systems. The operational models of these providers may vary and could include taxi vouchers, reimbursement of mileage for friends and family of users, or volunteer driver programs. There are many different providers and programs in the region that serve these populations. Many of these services have limited eligibility or only operate during limited times for defined service areas.

Service providers and programs in the Adams County region include:

- A-Lift
- Amazing Wheels
- American Cancer Society, Road to Recovery
- Care-a-Van Transport/A1 Non-Emergency Transport
- Colorado Non-Emergent Medical Transportation
- RTD's Access-a-Ride
- Seniors' Resource Center
- Servicios de La Raza
- Via Mobility Services
- Volunteers of America Veteran Services Center

DID YOU KNOW?

TRANSIT

3 NEW COMMUTER RAIL LINES
THE N LINE BEING THE MOST RECENT

47 BUS ROUTES

Advancing Adams will further explore the breadth of these services, their geographies, and eligible populations to better understand where there are gaps in human service transportation.

VEHICULAR NETWORK

The Adams County roadway network is comprised of Adams County-owned roadways and CDOT-owned roadways. The roadway network provides a connected and efficient means of moving vehicles, including freight, to and through Adams County. The County applies a methodical approach, using the Capital Improvement

Program (CIP), to maintain and upgrade Adams County-owned streets.

The state highway system within Adams County provides key connections for the County and provides an important role by prioritizing mobility, in order to allow for parallel corridors to prioritize access to destinations. However, Adams County dedicates a lot of our resources and advocacy towards missing or

EXISTING ADAMS COUNTY ROADWAY NETWORK (WESTERN)

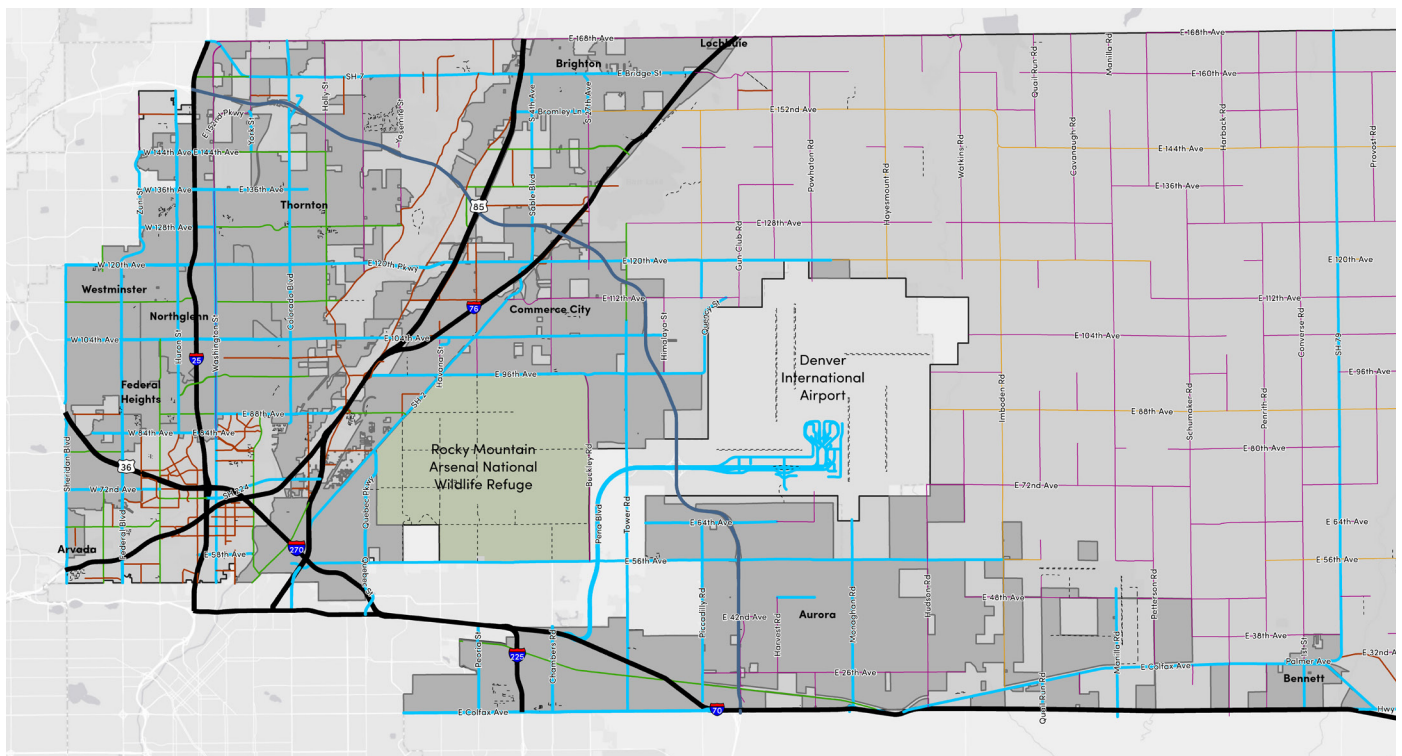


Figure 19: Existing Adams County Roadway Network (Western Portion of County)



Roadway Classifications

| | | | |
|------------|--------------------|-----------------------|-----------------------|
| Expressway | Principal Arterial | Section Line Arterial | City Boundaries |
| Freeway | Minor Arterial | Collector | Adams County Boundary |
| Tollway | Rural Arterial | Private | |

EXISTING ADAMS COUNTY ROADWAY NETWORK (EASTERN)

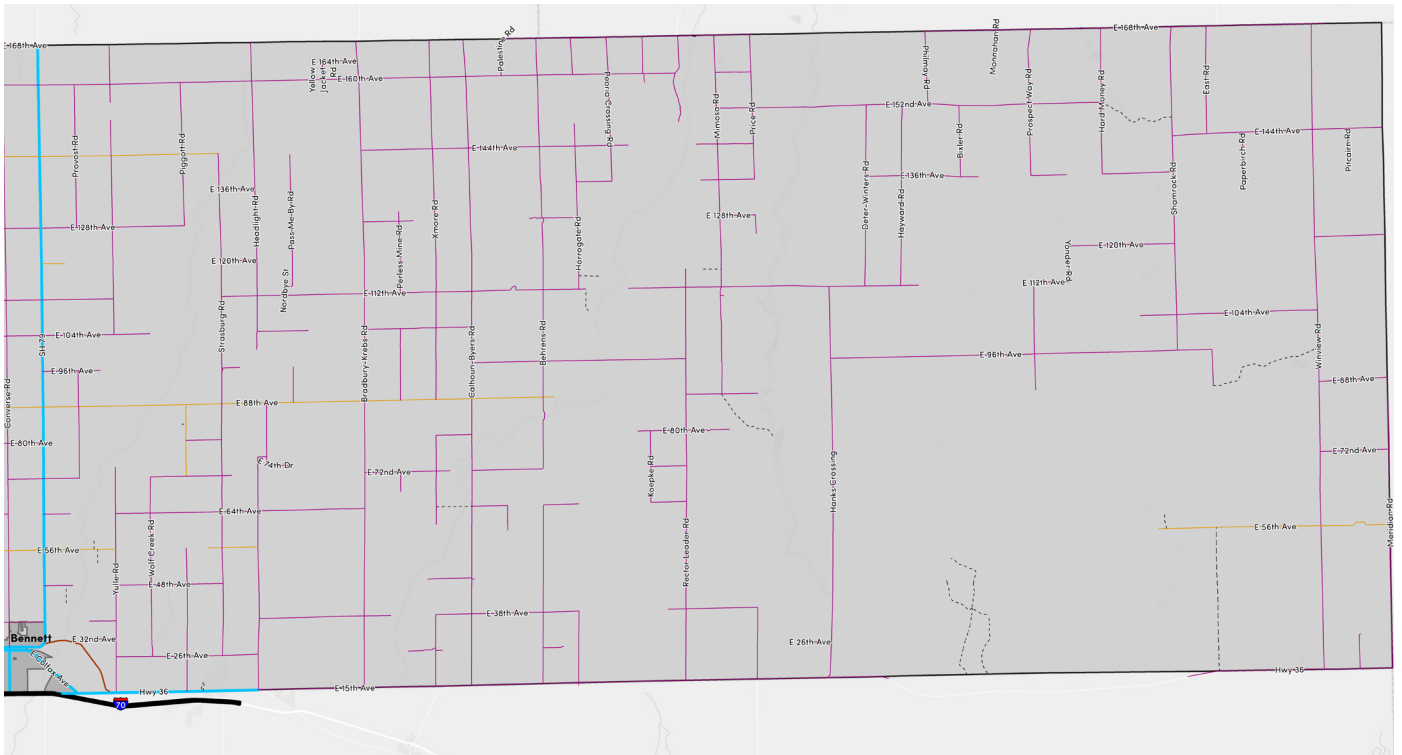
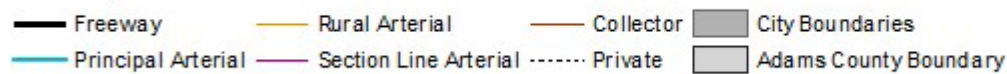


Figure 20: Existing Adams County Roadway Network (Eastern Portion of County)



Roadway Classifications



functionally deficient portions of the CDOT system. Tate-owned roadway locations with deficiencies include Federal Boulevard, Sheridan Boulevard, SH 224, 104th Avenue, I-270, US-85, and interchanges along I-70, SH 79. These deficiencies include potholes, maintenance needs, inadequate lighting, and insufficient bicycle and pedestrian facilities.

Figure 19 and **Figure 20** show the existing roadway network in Adams County.



Example of a multilane arterial running through Adams County

Adams County Development Standards and Regulations includes a street classification system based on traffic volumes and surrounding existing and future land use. Roadway types consist of:

- Local - Residential
- Local - Residential, Rural
- Local - Industrial/Commercial
- Minor Collector
- Minor Collector, Rural
- Major Collector
- Minor Arterial
- Minor Arterial, Rural
- Major Arterial
- Transit Oriented Development Parkway
- Transit Oriented Development Collector



N Pecos Street and W 70th Avenue

The *Development Standards and Regulations* outline design standards for each street classification. The standards were developed and should continue to be updated based on *AASHTO, A Policy on Geometric Design of Highways and Streets* (“Green Book”) and the latest edition of the Colorado Department of Transportation Design Guides may also be used for roadway design. **Figure 21** and **Figure 22** shows Adams County typical cross sections for each of the identified street classifications, per the County’s Development Standards and Regulations as of December 2020. In addition to design standards, the Development Standards include specifications on street characteristics including width, curb and gutter, traffic control, access conditions and function. Transit Oriented Development (TOD) areas were discussed in the 2012 Transportation Master Plan as areas that should be considered in designing streets in TOD areas and other appropriate neighborhoods that reflect complete street designs that emphasize pedestrian and bicycle movements. These corridors are shown in **Figure 22** and will be refined as a part of the Advancing Adams process.

The County utilizes an asset management database known as Cartegraph to identify street paving and street seal programs for maintaining paved roadways.

TYPICAL CROSS SECTIONS BY STREET CLASSIFICATION

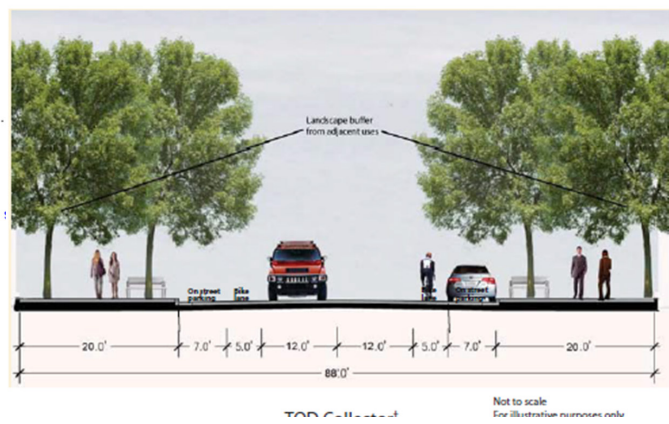
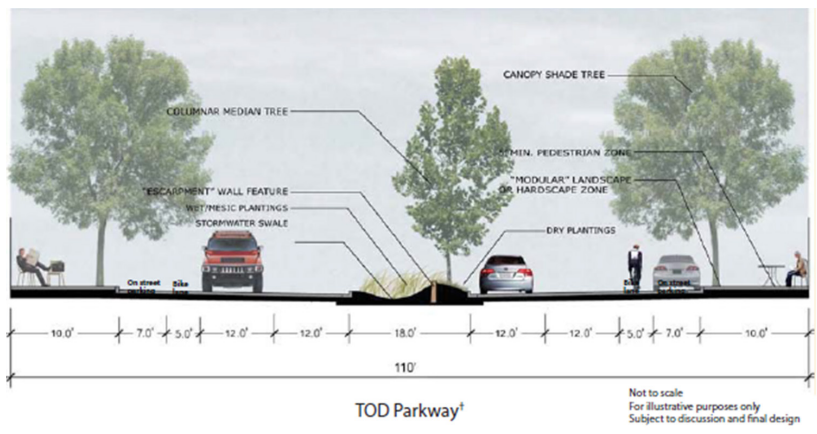
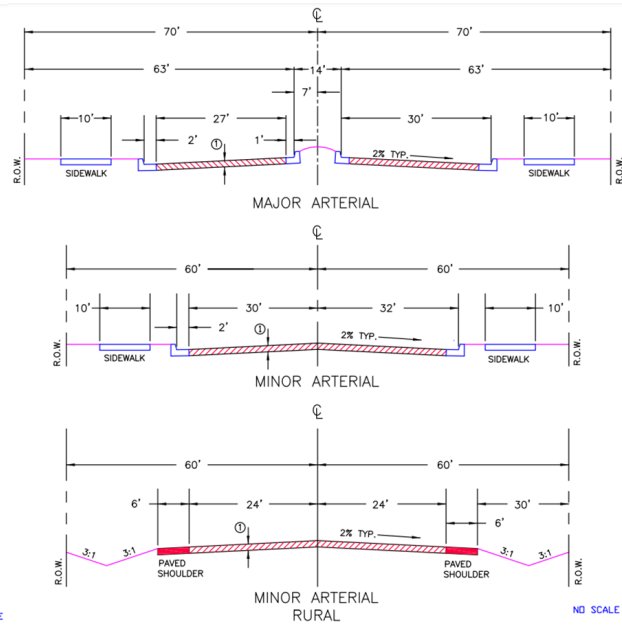
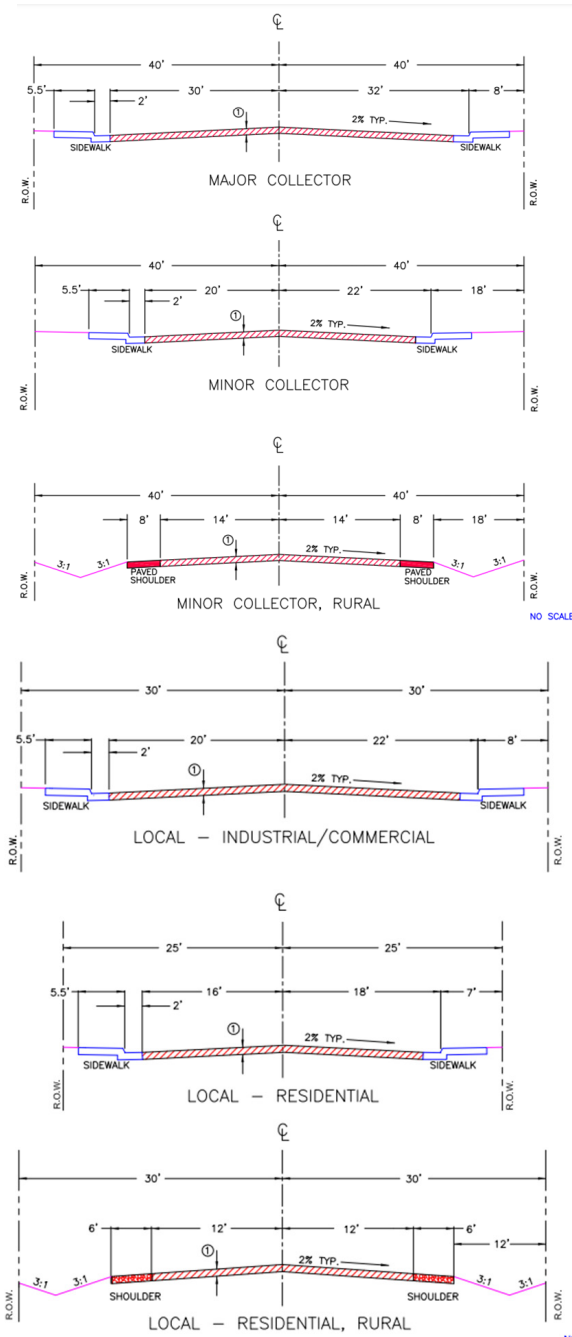


Figure 21: Typical Cross Sections by Street Classification (Source: Adams County Development Standards and Regulations Appendix C)

Figure 22: TOD Cross Sections (Source: 2012 TMP)

The County has approximately 700 miles of unpaved roadways (**Figure 23**). These roadways are primarily in the central and eastern portions of the County. **Figure 24** shows an example of an unpaved section of 104th Avenue near Denver International Airport. Adams County currently has a successful Gravel Road Program that invests in the unpaved road network in the County to ensure roadways are safe and efficient. This program not only informs the prioritization of roadways for repaving but applies an innovative approach to maintenance of existing unpaved roads. This innovative approach resulted in the development

of a mixture of materials for unpaved roads that that requires less maintenance and uses fewer resources to improve the quality of roads. While some roadways are periodically upgraded to accommodate new development, improve safety, and eliminate hazards, the high cost of upgrading and maintaining roadways dictates that the County should strategically upgrade unpaved roadways. Advancing Adams will provide an update the existing Gravel Road Program’s prioritization process for paving roads based on land use, safety, and traffic volume trends.

UNPAVED ROADS IN ADAMS COUNTY

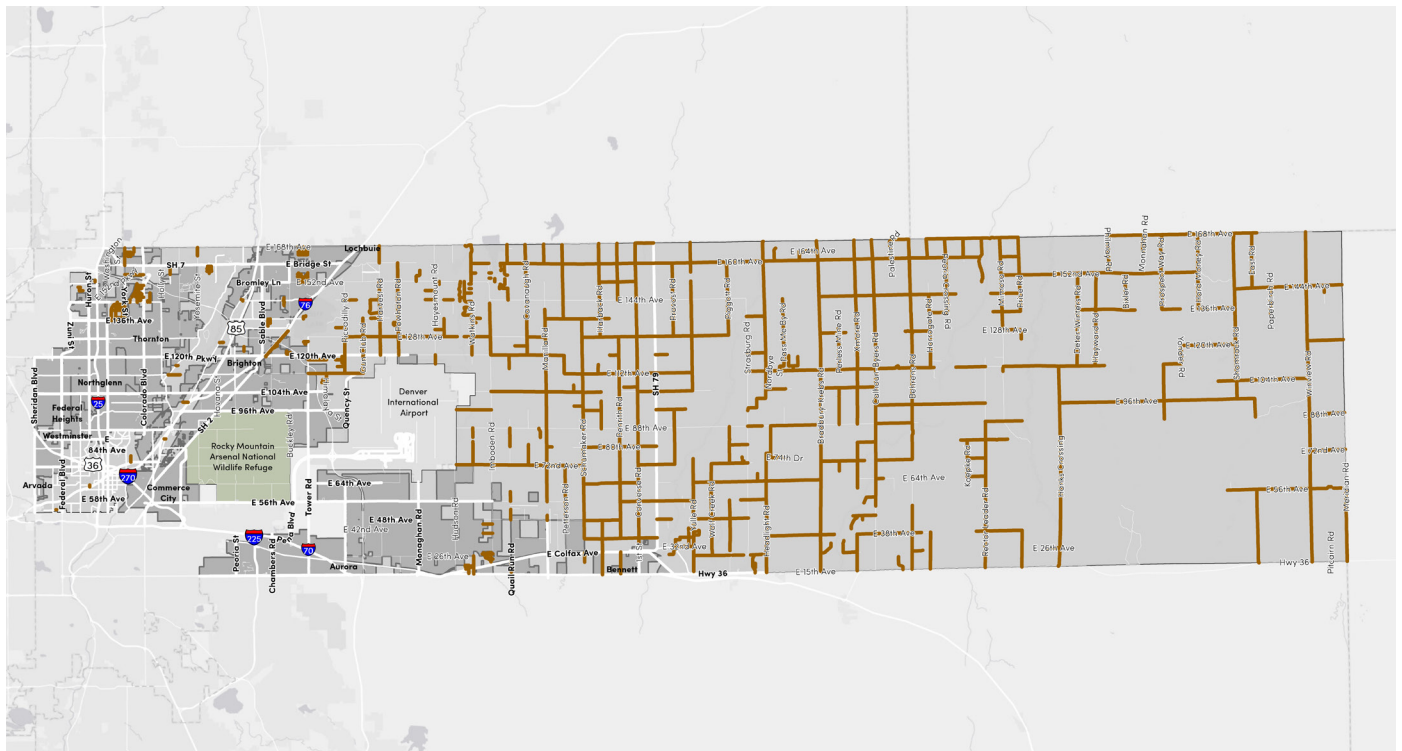


Figure 23: Unpaved Roadways in Adams County

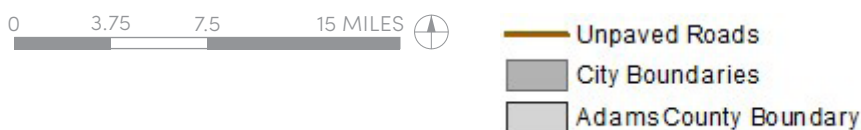




Figure 24: Unpaved Section of Imboden Road

CDOT monitors traffic volumes on major roadways in the County. **Figure 25** shows the average annual daily traffic for 2019. I-25 and I-270 are the highest traffic volume roadways in Adams County.

ANNUAL AVERAGE DAILY TRAFFIC IN ADAMS COUNTY

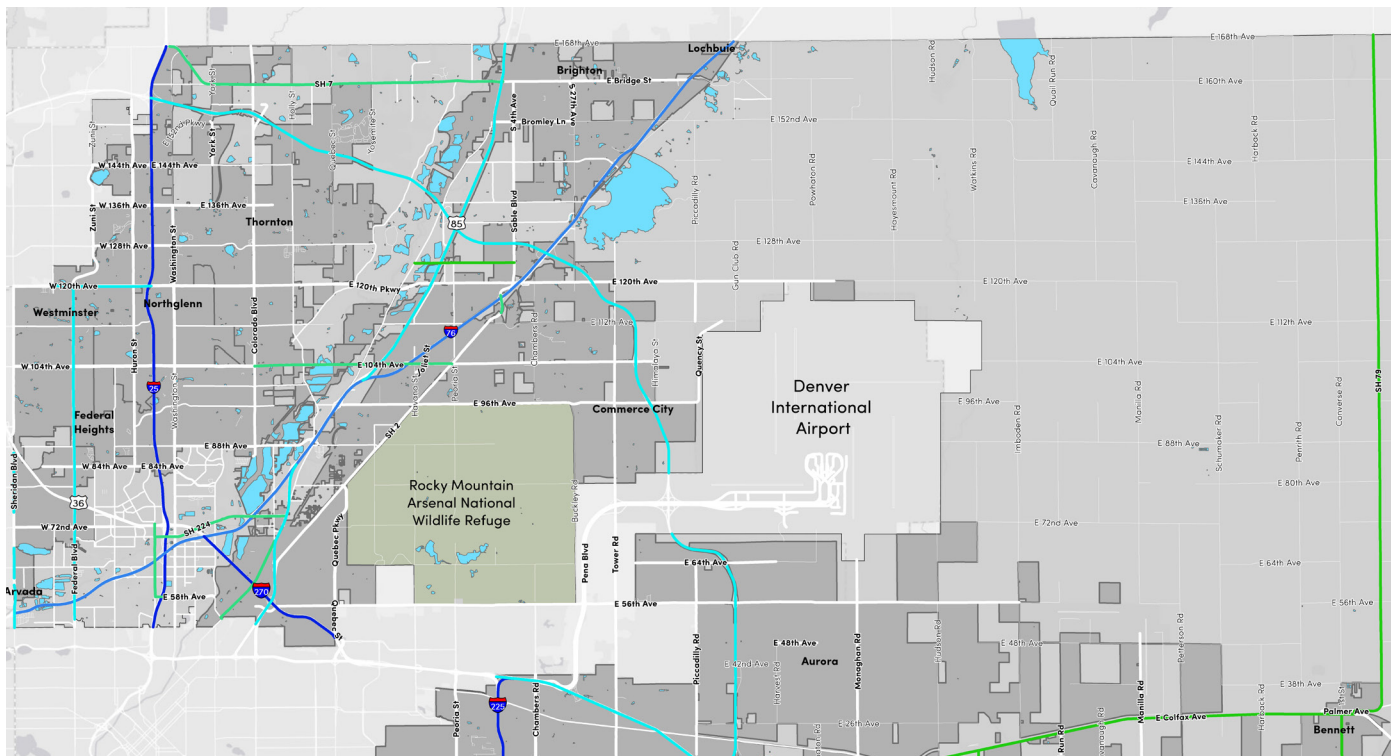
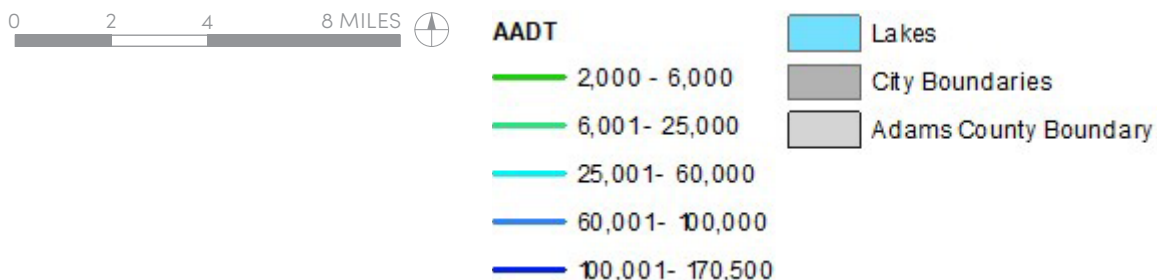


Figure 25: 2019 Annual Average Daily Traffic (Source: CDOT)



PARKING

OFF-STREET PARKING

Adams County has nearly 13 square miles of off-street surface parking, 97% of which consists of impervious surfacing (**Figure 26**). Utilization data for some off-street parking is available through the 2019 *Adams County Southwest County Parking Study*, which examined parking in 15 neighborhoods. The study included a review of five off-street parking facilities in Perl Mack, Goat Hill, Lakeshore Estates, Welby, and Fairview. The Study found that of the five lots, the Perl Mack lot had a peak weekday occupancy rate of 42% while the other four lots ranged from 2% to 4% occupancy. While this study represents a small sample of the available off-street parking in Adams County, the analysis suggests that there may be an excess of surface parking in Adams County.

Advancing Adams will explore opportunities to repurpose underutilized surface parking for other uses, expand opportunities for shared use parking, or absorb the high demand for on-street parking in certain neighborhoods, as discussed in the following section.

ON-STREET PARKING

According to the 2019 parking study, demand for on-street parking is relatively low, with an average peak of 25% occupancy on weekdays. However, some communities do experience challenges with spillover parking, which occurs when land

uses generate parking demand in excess of the number of spaces available and parking spills over to adjacent properties. While the average occupancy is 25%, there may be certain locations where the occupancy is closer to 100%. The study found this phenomenon to be most prevalent in the Berkeley, Perl Mack, and Welby neighborhoods. *Advancing Adams* will evaluate opportunities for managing on-street parking demand in those communities by leveraging available surface parking.

PARKING REQUIREMENTS

Chapter 4 of the County's *Development Standards* identifies parking requirements and restrictions for various developments and overlay zones in the County. Minimum parking requirements are identified depending on the land use type and size of the development. Standards make additional specifications for on vs. off-street parking, design and layout, lighting, signs, landscaping within parking lots, location of parking, paving material, parking space size, access requirements, and handicap parking spaces. There are opportunities for developments to provide fewer parking spaces than is specified in the standards. Developers can capitalize on these exceptions through the implementation of: Transportation Demand Management strategies such as transit passes, bike share, or Van Pool; demonstrable pedestrian, bicycle, or mass transit facilities; shared parking; or electric vehicle charging parking.

SHARED PARKING

Shared parking is a strategy that optimizes parking capacity by allowing complementary land uses to share parking spaces, rather than producing separate spaces for separate uses. For example, a church that uses parking

primarily on Sundays could share parking spaces with a bank, who uses spaces primarily Monday through Friday. The County's Development Standards support opportunities for shared parking, with some restrictions on the nature of the land use types and proximity of parking.

ADAMS COUNTY SURFACE PARKING

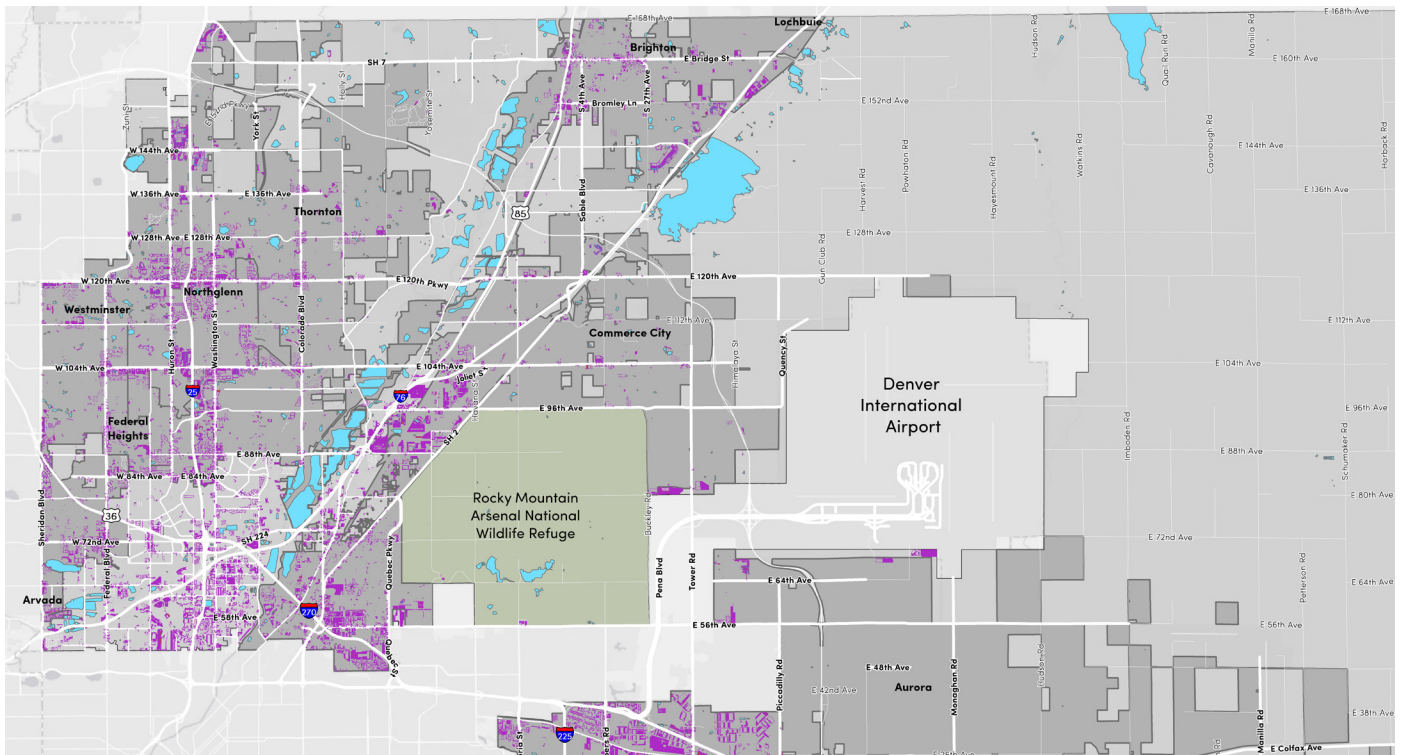








Figure 26: Surface Parking in Adams County (Source: DRCOG)



LEGEND

| | |
|--|---|
| Parking Surface Type |  Lakes |
|  Impervious |  City Boundaries |
|  Mixed |  Adams County Boundary |
|  Pervious | |

FREIGHT

Adams County has a high level of freight activity due to its proximity to Denver, presence of distribution and logistics centers, access to multiple interstate highways, and presence of freight railroad lines. I-70 is the main freight corridor, with trucks constituting 19% of vehicle traffic on average (Figure 27). SH 79 and I-76 are the second and third largest carriers of freight vehicles respectively.

Demand for freight movement has grown in recent years due to industrial land uses that are increasingly being added to the southwestern and central portions of Adams County (Figure 28). In addition, companies like Amazon have established distribution and fulfillment centers in Adams County that serve the regional demand for consumer goods. Amazon has a significant presence in unincorporated Adams County, Thornton, and Aurora.

FREIGHT ROUTES AND TRUCK TRAFFIC IN ADAMS COUNTY

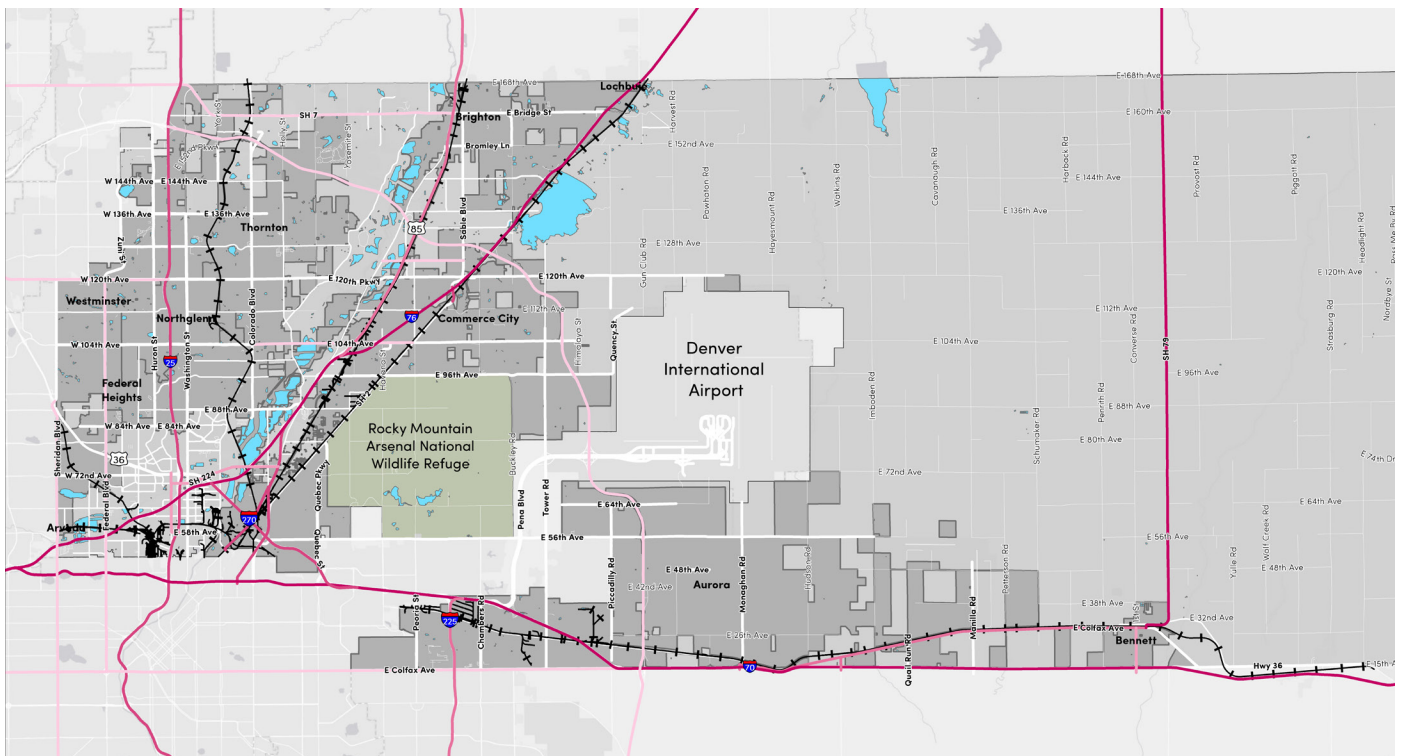
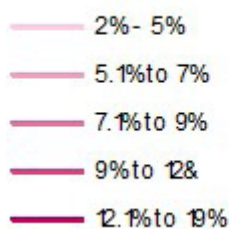


Figure 27: Freight Routes and Truck Traffic in Adams County (Source: DRCOG)



Percent Truck Traffic (2019)



Legend



The area around the US-85 and I-76 corridors is home to a number of industrial uses and logistics centers.

Adams County contains many of the freight bottlenecks identified in the CDOT 2019 Colorado Freight Plan (**Figure 29**). Bottlenecks are defined as areas where traffic slows due to roadway design rather than congestion caused by the number of vehicles exceeding roadway capacity. As the presence of industrial activity and associated freight demand increases in Adams County, the County should continue to work with CDOT to address the freight bottlenecks and support more efficient movement of goods. Adams County contains many of the freight bottlenecks identified in the CDOT 2019 Colorado Freight Plan (**Figure 29**). Bottlenecks are defined as areas where traffic slows due to



Figure 28: Examples of Industrial and Warehousing Land Uses Increasing Freight Traffic

roadway design rather than congestion caused by the number of vehicles exceeding roadway capacity. As the presence of industrial activity and associated freight demand increases in Adams County, the County should continue to work with CDOT to address the freight bottlenecks and support more efficient movement of goods.

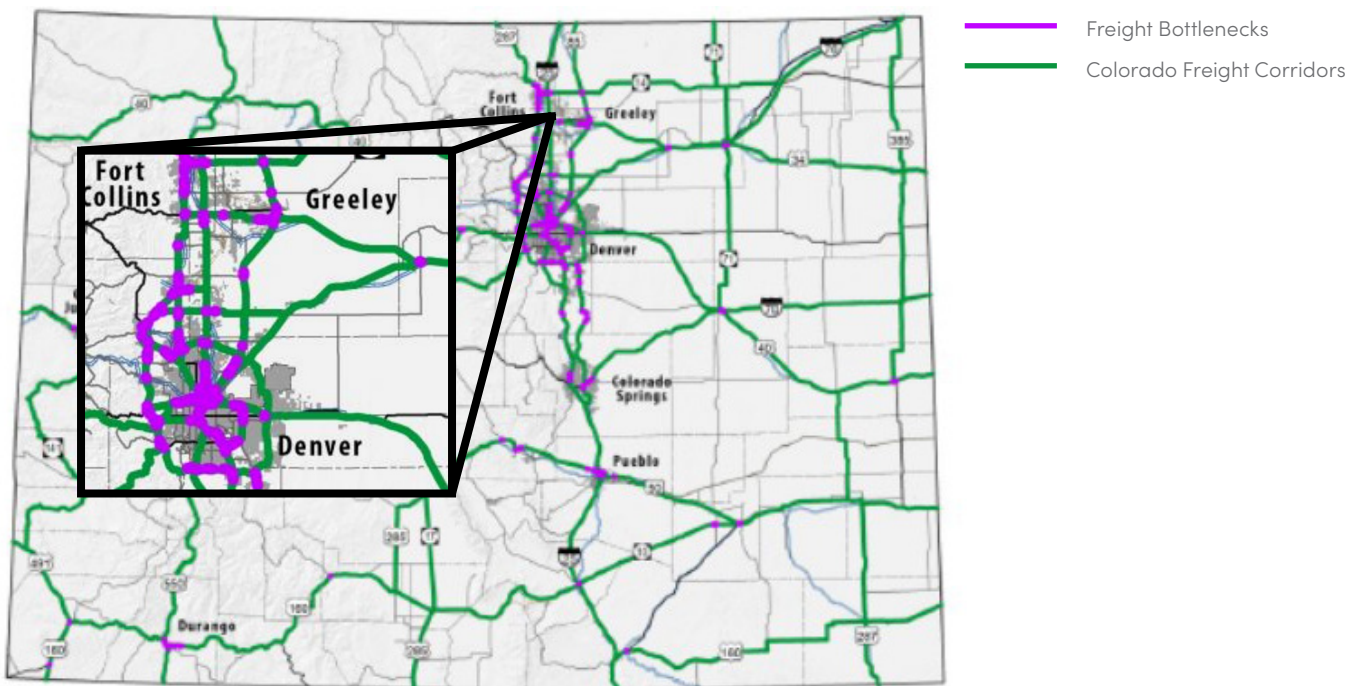


Figure 29: Colorado Freight Bottlenecks (Source: Colorado Freight Plan, 2019)



Image caption



INNOVATION & EMERGING MOBILITY

This section takes a deeper dive into Innovation & Emerging Mobility in Adams County by looking at:

- TrendLab+ Outcomes
- The Role of Future Mobility Strategies

SUMMARY OF TRENDLAB+ OUTCOMES


The COVID-19 pandemic and associated recession has altered nearly every aspect of daily life, including travel patterns. COVID-19 is a highly contagious disease that spread across the United States beginning in March 2020, and continues to spread at the time of publication of this report. Due to the highly contagious nature of the disease, local and state guidelines have restricted travel, business operations, and severely limited in-person to person contact. This has had significant impacts on transportation trends. Associated impacts like increasing rates of telecommuting, public health concerns leading to a possible increase in suburban-style development, and increased rates of home deliveries for goods have converged to quickly change how much we drive or how often we take transit. The *Advancing Adams* team held a TrendLab+ workshop with Adams County government representatives in October 2020 to explore how local travel behavior in Adams County will change following the recovery from the COVID-19 pandemic.

TrendLab+ is a Fehr & Peers tool that uses both national research and local trends in Adams County to explore how the response to the COVID-19 pandemic, its impacts on the economy, and other travel-related trends may affect short- and long-term travel behavior, traffic levels, and transit use

in the County. This includes changes such as labor force participation, working from home, goods and service delivery, technology, and micromobility. The following summary describes the topics that were discussed at the workshop along with the implications for Adams County as described by County transportation stakeholders.

ECONOMIC CONSEQUENCES

By mid-May 2020, unemployment reached almost 15% nationally and 11% in Adams County; in October 2020 the national unemployment rate was 6.9% and Adams County unemployment rate was 7%. To provide perspective, the unemployment rate during the Great Depression was about 25% and during the 2008 recession it was about 10%. Even though the economy began to partially reopen after the most stringent lockdown policies were lifted in mid-May 2020, concerns linger about a second drop in unemployment, and some economists forecast unemployment could exceed that of the Great Depression further into the pandemic. According to the Wall Street Journal (WSJ) economic survey, retail and hospitality employment losses have been at least five percentage points greater than total employment; this economic survey projects that it will take 24 to 30 months for total unemployment to return to 2019 levels (approximately 3% in Adams County). Some companies have established



smaller satellite offices rather than requiring employees to commute to large offices in central cities. The rise in unemployment has also brought lower household incomes, which can lower travel demand. On the other hand, behavior in response to COVID-19 has led to a decrease in fuel consumption, causing a drop in gas prices. A prolonged decrease in fuel prices will lower auto-operating costs, which may result in higher amounts of driving.

A significant portion of the Adams County economy is dedicated to fossil fuels. The Suncor refinery in Commerce City is a major employer, but with the recent drop in demand for oil, the refinery's future is in question. At the time of writing, the refinery had reduced its staff size by 15%. Meanwhile, the County is adding freight and logistics employment opportunities through new Amazon distribution centers and through both the Rocky Mountain Rail Park and the Pecos Logistics Center.

BUSINESS RESPONSE AND CHANGE IN LAND USE


Concerns about compact living and demand for a home office could increase suburban migration, reduce development density, place an emphasis on single-family rather than multi-family development, and lead to a decline in the number of urban commercial development. TrendLab+ workshop participants identified high local demand for detached single-family homes instead of apartments,

which would suggest higher rates of vehicle travel. Adams County offers residential development opportunities that are relatively more affordable than in Denver or other neighboring jurisdictions, which suggests there may be a future increase in vehicle travel due to the growing availability of lower density housing.

A national trend of embracing technologies that support almost universal remote work has been accelerated by the reaction to an increase in working from home in response to COVID-19. Some businesses are stating that they will not bring employees back to physical offices for considerably more time. Dramatic reductions in traffic volumes and transit use since shelter-in-place orders took effect show that for many companies, telecommuting is a viable way to conduct business. However, the trend is not as pronounced in Adams County, where 60% of workers are considered essential and have continued regular commute patterns throughout the COVID-19 pandemic.

Nationally, many schools have not reopened for the Fall 2020 semester; those that do reopen, may be alternating remote learning with in-class participation in order to prevent the spread of the virus. However, in Adams County, schools have resumed in-person learning in almost all instances.

While the reaction to the COVID-19 pandemic is causing many communities to envision land use



differently, the large share of essential workers in Adams County, along with the continuation of in-person learning, suggests that the County is less likely to experience the type of land use change that would impact transportation patterns long-term. Instead, the growing demand for single-family homes is more likely to generate an increased demand for vehicle travel.

TRANSIT AND MULTIMODAL MEASURES

Changes in work habits and travel patterns in reaction to the COVID-19 pandemic has caused a shift in how multimodal transportation options are provided and used. Some communities have designated streets exclusively or primarily for pedestrian and bicycle use. Bike share and electric scooters were gaining popularity in urbanized areas before the COVID-19 pandemic but have dropped in use since March 2020. Bike share and scooter companies may continue to consolidate and adjust their business models to take advantage of the desire for an alternative to transit for short-distance travel and more comfortable streets for biking and walking. There is growing demand for more multimodal connectivity in Adams County and the TrendLab+ participants identified local political support for expanding bicycle and pedestrian facilities.

The immediate future of transit in Adams County is unclear. RTD may attempt to return to its pre-COVID-19

pandemic operating frequencies or revenue loss may require sustained service reductions and/or fare increases. However, ridership in Adams County has proven relatively more resilient than in other areas. RTD ridership is at approximately half of pre-COVID-19 pandemic levels compared to an 80% decline in transit use nationally. New transit service, like the N Line commuter rail, is being added and the County's workforce has a high share of essential workers who may continue to rely on transit. Due to these factors, the workshop participants predicted that transit ridership in Adams County in the long-term will exceed pre-COVID-19 pandemic levels.

VEHICLE AVAILABILITY AND RIDE-HAILING

Concerns about shared vehicles and transit crowding could increase auto ownership and lead to a greater preference for services like Lyft and Uber over transit in more urban settings. For example, upon the reopening of China's economy in the spring of 2020 about 60% of Volkswagen purchasers were first-time car buyers. At the time of the TrendLab+ workshop, it was yet to be seen whether the reaction to the COVID-19 pandemic was causing an increase in vehicle purchases in Adams County.

GOODS AND SERVICE DELIVERY

INRIX (a phone-based big data source) recorded a 13% reduction in long-distance freight between March and April 2020, and StreetLight and Boston Consulting reported drops in FedEx and UPS delivery truck movements of about 20%. They also reported an increase of 25% in USPS vehicle deliveries. Reductions in deliveries to office buildings, restaurants, and other retail establishments seem to be offset by increases in home deliveries. As the economy recovers, these patterns may return to pre-COVID-19 pandemic patterns, but some needs may continue to be met by electronic (e.g. drone) versus tangible product deliveries.

SOCIAL NETWORKING AND IN-PERSON INTERACTION

Social networking platforms like Twitter and Instagram have served as substitutes for in-person gatherings when restrictions on in-person gatherings associated with COVID-19 are in place. It remains to be seen whether there is a new age of virtual socializing or if in-person gatherings will return post-COVID-19 pandemic. At the time of the TrendLab+ workshop, the Tri-County Health Department, which represents Adams, Arapahoe, and Douglas Counties, issued an order limiting in-person gatherings. As the COVID-19 pandemic continues, ongoing restrictions on in-person gatherings will naturally reduce

DID YOU KNOW?

COVID-19 IMPACT

In October, RTD ridership was at approximately **1/2** of pre-pandemic levels ↓


National decline was at **80%** ↓

New transit service, like the N Line commuter rail, is being **added** and the County's workforce has a high share of essential workers who may continue to rely on transit.

demand for vehicle travel and likely replace those gatherings with online interactions.

CONSUMER CONFIDENCE AND SPENDING

Consumer spending often declines during periods of economic shock such as the 2008 recession and the dot com bubble. Retail sales dropped 16% between March and April 2020, twice as much as they dropped during the 2008 recession. Deloitte forecasts that disposable income and consumer spending will not



return to pre-COVID-19 pandemic levels until at least 2022. Several months after reopening, stores in China have recovered less than 40% of their retail sales. While local consumer spending data for Adams County was not available at the time of the workshop, the Bureau of Labor Statistics reported that the consumer price index (a weighted average of the price of goods) for the Denver-Aurora-Lakewood area, which neighbors Adams County, was up 1.1% year over year in September 2020, with more pronounced increases of 4.5% for items like food. Rising prices during a time of higher unemployment likely means lower consumer spending locally.

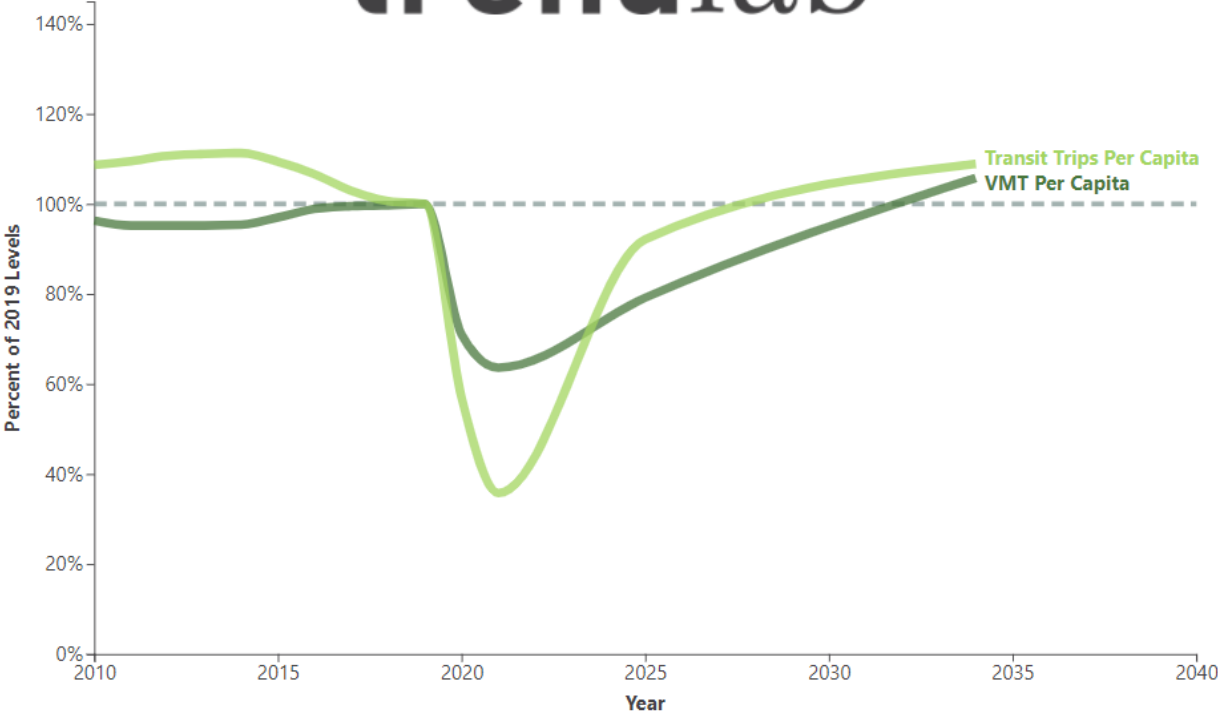
TRAVEL TRENDS

Vehicle miles traveled dropped 80% to 90% in coastal cities and 70% to 80% in many inland cities during the first two months of shelter-in-place orders. As some states have begun reopening their economies, traffic levels have begun to rise again slightly. Once equilibrium is reached, the new normal may still show lower traffic volumes due to increased telecommuting, remote learning, and social telecommunications; Alternatively, traffic levels may be higher than pre-recession levels as more people move to remote locations or replace carpooling and transit with single occupancy trips. If the outcome results in lower congestion levels, more discretionary travel may be induced.

SUMMARY

TrendLab+ workshop participants provided predictions for each of the trends discussed in this section. The participants identified that Adams County will continue to witness travel behavior related impacts related to responses to COVID-19 into 2021. However, in the coming years, the high share of essential workers and preference for lower density housing will cause a rise in VMT and transit ridership that will near pre-COVID-19 levels by 2025 and begin exceeding those levels in 2030 (Figure 38). When considering future travel demand, Advancing Adams will take into account the trends that local transportation stakeholders shared during the workshop and also factor some of the forces that will impact transportation locally.

trendlab+



Based on your predictions, we think VMT per capita and transit ridership per capita will change as shown above. The table to the right indicates the net effect of your predictions (all values are shown as a percentage of 2019 levels).

| | 2020 | 2021 | 2025 | 2030+ |
|--------------------------|------|------|------|-------|
| VMT Per Capita | 71% | 64% | 79% | 106% |
| Transit Trips Per Capita | 57% | 36% | 92% | 109% |

Powered by FEHR & PEERS

Figure 30: Adams County TrendLab+ Workshop Results

MOBILITY STRATEGIES' ROLE IN ADAMS COUNTY IN THE FUTURE

When the *2012 Adams County Transportation Plan* was developed, the concept of individuals using smartphones to rent shared electric scooters seemed far off. Less than ten years later, scooter share and other technology-enabled transportation options are becoming ubiquitous throughout the region. This section identifies both emerging technologies and approaches to leveraging these technologies for improving future mobility in Adams County.

SHARED MOBILITY


Shared mobility, which is the shared use of a motor vehicle, bicycle or scooter, represents a growing segment of the wider mobility network. Users have short-term access to a mode of transportation on an as-needed basis rather than relying on private ownership of the mode. Shared mobility provides a broader set of transportation options for users that reduces reliance on the private automobile, therefore reducing congestion and carbon emissions. Shared mobility is a key component of Mobility-as-a-Service, described later in this section. Shared mobility options require relatively high population densities to be successful, since the providers need to serve a large volume of users making frequent, relatively short trips in order to be financially viable. While shared mobility might not be appropriate for

areas like eastern Adams County, the southwestern portion of the County is a potential area where it might play a role.

RIDE-HAILING

The best known form of shared mobility is ride-hailing, which is provided primarily by Transportation Network Companies (TNC), like Uber and Lyft. At its most basic level, ride-hailing is simply the modern version of a taxi, using website and smartphone apps that match passengers with drivers. TNCs operating within Adams County and the surrounding region are Uber and Lyft.

Nationally, TNCs/ride-hailing represent the fastest growing transportation mode. Ride-hailing services meet a wide range of travel needs including evening and weekend trips when transit does not operate, airport trips that can be easily timed, or trips to locations where parking will be difficult or expensive. Ride-hailing also has some negative impacts. TNC drivers must spend time driving alone between trips, which can lead to increased cars on the road, energy use/greenhouse gas emissions, and traffic congestion. This problem is especially prevalent in lower density areas where riders are spread out. In more urbanized settings, TNC vehicles compete for curbspace with freight vehicles, people seeking to park, bicyclists, and other users. Ride-hailing is also not always equitable, since lower income households cannot rely on ride-hailing. This is



predominantly due to TNC providers using dynamic pricing, which causes trips during periods of higher demand to also be a higher price. Without being able to predict the price of a trip, lower income households cannot know in advance whether a TNC trip will be affordable.

Because Adams County residents have a high rate of reliance on their vehicles, it is unlikely that TNC trips will replace a significant share of trips in a personal vehicle. As the southwestern portion of the County continues to densify and receive more transit service, however, TNCs may begin to play a larger role.

BIKE/SCOOTER SHARE

Bike share systems for both human-powered and electric bicycles, and more recently electric-scooter share, have been a rapidly evolving trend over the last decade and have become a growing presence in communities around the country. Bike share and scooter share have the potential to increase transportation options available in Adams County, especially in the areas surrounding transit stations. For example, the new Pecos Junction Station is close to the Midtown development, but far enough away to make walking access difficult for some users. With the addition of more comfortable multimodal facilities – something that can be planned through *Advancing Adams* – bike share or scooter share can serve as a first and last mile solution for accessing transit. Introducing

these types of mobility options would require the County to manage the services so they complement land use and transportation goals, while mitigating potential issues. Up-to-date policies on where and how users can operate these mobility devices are needed to ensure that users are safely using these devices and integrating with other modes. The integration of scooters into the network would have an impact on the maintenance needs and even design of roadways, sidewalks and bicycle facilities; the small wheels of the scooter are more sensitive to potholes, cracks, and debris.

CAR-SHARE

Car-sharing is a model for car rental, similar to bike share or scooter share, which allows users to pay for access to vehicles for limited periods of time. Car-share systems tend to have vehicles dispersed throughout an area, and can be reserved through a few clicks on a webpage or smartphone app. Adams County can support car-share in the future by dedicating parking spaces for car-share providers both on-street and partnering with RTD to provide car-share services at rail stations. In addition, the County can provide incentives or requirements for new developments to provide car-share and/or car-share parking. The appetite for introducing car-share depends on the extent to which people can travel by foot, bicycle, and transit, all of which afford the ability to choose not to own a car.



ELECTRIC VEHICLES


Electric vehicle (EV) technology continues to advance at a rapid pace with increasing regulatory and financial incentives to encourage production and use at both the State and Federal level. While EVs do not reduce traffic congestion, they do reduce emissions, which would be an important outcome for Adams County. The presence of oil and gas refineries as well as other industrial land uses causes Adams County to have somewhat poor air quality. The United States Environmental Protection Agency reported that in 2019, Adams County had the third highest number of days with a moderate Air Quality Index in Colorado. Moderate air quality is defined as air quality being acceptable, though people who are unusually sensitive to air pollution, like individuals with underlying health conditions or older adults, may be at risk. In Adams County, Air Quality Index was in the moderate range for nearly 39% of days in 2019. Achievement of lower emissions through EVs can partially offset the air quality impacts caused by these other users. In planning for future EV integration, Adams County can consider provision of on-street and off-street EV parking and increasing the number of charging stations on public property as well as incentives and requirements for provision of EV charging stations and infrastructure by developers. In addition, I-25 is a federally recognized alternative fuel corridor, where infrastructure

upgrades are being made to support the use of electric and other alternative fuel vehicles.

MOBILITY AS A SERVICE

Mobility as a Service (MaaS) describes the shift away from privately owned automobiles and toward transportation that is offered as a service. This includes both public and private providers that can work together to provide a holistic landscape of transportation options, either as a subscription or pay-as-you-go service. MaaS provides reliable and comprehensive transportation options and information that can reduce the reliance on or eliminate the need for private automobiles. Instead of incurring auto ownership related costs, like loan payments, insurance, and fuel, MaaS instead shifts personal transportation spending to paying for access to transportation services, which reduces the “sunk costs” of automobile ownership, decreases congestion, reduces emissions, increases the use of public infrastructure, and provides transportation providers with the data they need to be more cost-effective. MaaS can become increasingly appealing and viable through an integration of modes that includes payment integration, a trip-planning app and mobility hubs.

Adams County can promote MaaS by working with private transportation providers to share data with the County, which would facilitate



providing trip planning resources to County residents. This may include working with a third party vendor to create a trip planning smartphone app for Adams County. Alternatively, the County can promote existing applications that give travelers access to trip planning information for RTD. In areas beyond the RTD service area, the County can explore public-private partnerships that use private providers to provide public transit. These partnerships can also help improve human service transportation provision.

AUTONOMOUS AND CONNECTED VEHICLES

Autonomous and Connected Vehicles (AV/CV), are two technologies that are rapidly evolving with the potential to impact travel patterns and trip choices in the future. AVs are capable of sensing the environment and moving through the street network with little or no human input. CVs are vehicles that communicate with other vehicles on the road, as well as connected infrastructure, to improve roadway use and safety. As discussed in the TrendLab+ workshop summary, near-term use of AVs in Adams County is not likely, but the County can use *Advancing Adams* as an opportunity to prepare for this new mode and its associated challenges. For example, research on travel behaviors suggests that AVs may decrease transit usage except for high-frequency transit services like trains or bus rapid transit that operate on a dedicated facility.

AVs may pose new risks to pedestrian safety or implications for lower income communities who are not able to adopt the new technology as quickly. *Advancing Adams* will include strategies to address the potential impacts of AVs and CVs; examples of potential strategies include:

- Setting maximum speed limit standards that vehicles must adhere to on local streets where bicyclists and pedestrians are more likely to be present.
- In the case of shared AVs, adopting policies that overcome the digital divide by enabling users without smartphones to have equal access to the mobility service.
- Establishing programs for using AVs as a formal first/last mile connection to transit stations.

ADDITIONAL TECHNOLOGIES FOR IMPROVING TRANSPORTATION NETWORKS

In addition to the more general innovations in transportation described previously, there are some more specific technologies that have recently been changing the way users travel. For example, Intelligent Transportation Systems (ITS) are new technologies that are reshaping people's experience on roadways. ITS examples include technologies like Adaptive Signal Control, which automatically adjusts traffic signal timing based on current traffic conditions. This type of technology

can dynamically manage bicycle and pedestrian street crossing times while also providing transit vehicles additional time to pass through intersections, which helps buses stay on schedule.

Mobility Hubs are another way that new technologies are reshaping the transportation experience. Mobility Hubs are centers that integrate various transportation modes to allow users to make seamless connections as they travel. Often centered around transit stations, Mobility Hubs enable quick transfers from a bus onto a scooter or shared bike, and can also share real-time information on connecting buses, availability of shared-use mobility devices, and walking directions to nearby destinations. Mobility Hubs rely on integration across transportation services as well as close communication with users through smartphone apps that enable users to trip plan, pay fares, and be notified of transit service disruptions.

FUNDING SOURCES

There are a variety of funding measures that Adams County in partnership with its local municipalities can pursue to support the implementation and operations of innovative transportation programs and services.

FEDERAL GRANTS

There are a variety of grants that could be used to fund innovative programs and services.

- **Advanced Transportation and Congestion Management Technologies Deployment Program (ATCMTD) grants**


In July 2020 The U.S. Department of Transportation's Federal Highway Administration (FHWA) published a Notice of Funding Opportunity NOFO for \$60 million in ATCMTD grants to fund new technologies that improve transportation efficiency and safety.

- **5310 Enhanced Mobility of Seniors and Individuals with Disabilities**

This formula fund supports public transportation for seniors and individuals with disabilities by funding eligible capital, purchased service, and preventive maintenance projects for transportation providers. Eligible projects include vehicle purchases, passenger shelters, purchased services, preventive maintenance, travel training, marketing programs, development of centralized call centers, and other equipment that supports transportation to meet the special needs of seniors and individuals with disabilities. DRCOG administers 5310 funding for the Denver-Aurora Urbanized Area, which includes Adams County.

- **FTA Mobility On-Demand (MOD) Sandbox Program**

The MOD program envisions a multimodal, integrated, automated, accessible, and



connected transportation system in which personalized mobility is a key feature. The Sandbox Demonstration Program seeks to fund project teams to innovate, explore partnerships, develop new business models, integrate transit and MOD solutions, and investigate new, enabling technical capabilities such as integrated payment systems, decision support, and incentives for traveler choices.

- **US DOT’s Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grants (formerly TIGER grants)**

This formula grant program funds investments in transportation infrastructure. Projects are evaluated based on merit criteria that include safety, economic competitiveness, quality of life, environmental protection, state of good repair, innovation, partnership, and additional non-Federal revenue for future transportation infrastructure investments. In 2020, BUILD awarded 70 projects across 44 states.

- **Surface Transportation Block Grant**

A formula grant distributed to states who then distribute it through discretionary grants. This grant primarily funds capital improvements.

- **Public Transportation Innovation Program**

The program is a competitive grant process that provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers. It funds research, development, demonstration and deployment projects, and evaluation of technology of national significance to public transportation.

LOCAL FUNDING

While local funding is more limited, it is also feasible to supplement State and Federal funding options.

- **Farebox Revenue and Advertisements**

These are direct revenues from fares for shared mobility programs or advertisements through transit or bike share. Raising fees and fares would increase income from this source but may lead to decreased ridership and reduced mobility options for underserved populations. Increasing advertisement options could increase revenue from local sources.

- **Local Property Taxes**

Cities/towns and counties may levy property taxes to support transit. These can either be permanent or a local option tax that is subject to voter approval.



- **Community Partners**

Shared mobility programs could seek funding from large employers in Adams County or interested community partners could contribute to mobility services as they serve their users and provide better access to their services, including Business Improvement Districts (BID), Front Range Community College, or local Urban Renewal Authorities. These local partners may gift funds to the program, or they could help to subsidize trips for their employees or students. The Lone Tree Link is a strong example of shared mobility funded in part by local partners.

- **Local Payroll Tax**

It is an option to assess a local payroll tax on employers or employees. This can raise funds but can also burden low-income workers and may not have public support.

NEXT STEPS

Advancing Adams will expand on the opportunities for future mobility presented in this report by developing both specific recommendations for adopting new technologies on key corridors and developing a policy framework for adopting those technologies equitably and efficiently.





FIVE STRATEGIC CORRIDORS



This section of the plan is in DRAFT form. The transportation opportunities being set forth in this section need to be further coordinated with the land use recommendations being developed in Phase II in the *Comprehensive Plan* as well as feedback from the public. Further review will need to take place before opportunities can be presented to the public as draft recommendations. Additional visuals will also be prepared as a part of Phase II.

OVERVIEW

To highlight specific opportunities for focused improvements in key areas, *Advancing Adams* has selected five strategic corridors that will be analyzed in greater detail as a part of this planning process—Federal Boulevard, Washington Street, Pecos Street, 104th Avenue, and 120th Avenue. The following section describes the transportation infrastructure (transit, bicycle, pedestrian, and vehicular) that exists on each corridor and shares opportunities for transportation improvements that would both enhance mobility and complement concepts put forward in the *Comprehensive* and *Parks, Open Space* and *Trails Plans*.

The *Advancing Adams* team is considering a range of transportation

opportunities for each corridor including road diets, enhancing facilities for those walking or rolling, and leveraging new technologies for forming new connections or operating existing facilities with greater efficiency. A road diet is the reallocation of vehicle travel lanes to other uses such as enhanced bicycle or pedestrian facilities.

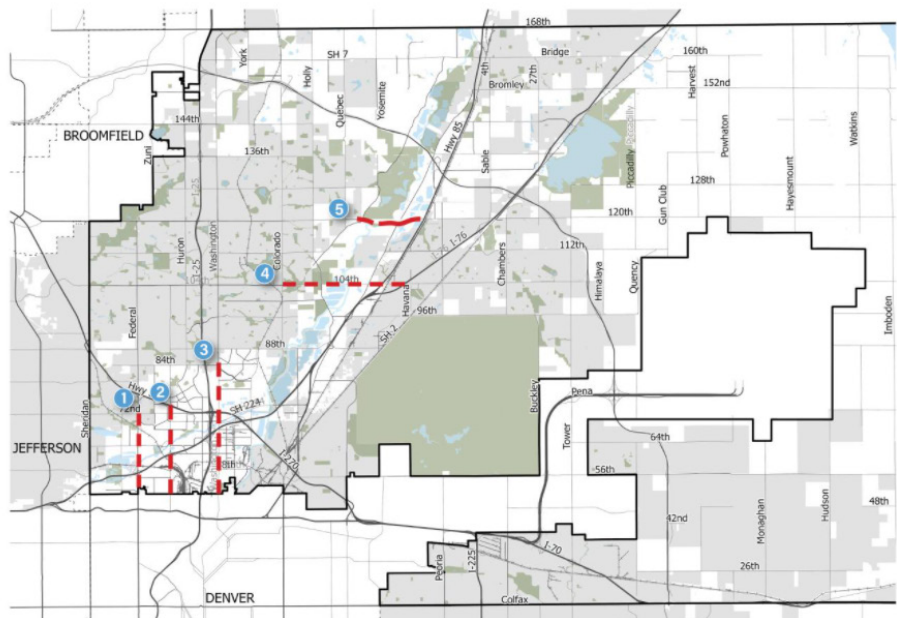
OPPORTUNITIES ANALYSIS

Stakeholder interviews and focus group sessions were convened for the strategic corridor. These sessions provided an opportunity for agencies such as CDOT, RTD, City and County of Denver, and departments within Adams County to provide initial feedback on preliminary ideas. These conversations aided the project team in streamlining a list of initial ideas and focusing on opportunities that

Five Corridors Context Map

LEGEND

- ① Federal Boulevard
- ② Pecos Street
- ③ Washington Street
- ④ 104th Avenue
- ⑤ 120th Avenue
- Corridor Locations
- Municipal Area
- Parks and Open Space
- Lakes and Streams



would address community needs as identified by stakeholders and be deemed feasible by agencies that will act as implementation partners.

In addition to conversations with stakeholders, a data-driven process was used to assess how each of the five corridors currently serves each transportation mode. In addition to the County-wide analysis described previously in this report, the corridor-specific analysis also included a

preliminary assessment of peak hour roadway operations to determine whether ideas like reducing the number of travel lanes might be feasible. Operations were assessed by determining vehicle to capacity ratios (V/C) for portions of each corridor. V/C ratios were determined using the roadway segment capacities listed in the DRCOG Focus Regional Travel Demand Model and the historic traffic volume data provided by Adams County. The traffic volume data

Levels of Service

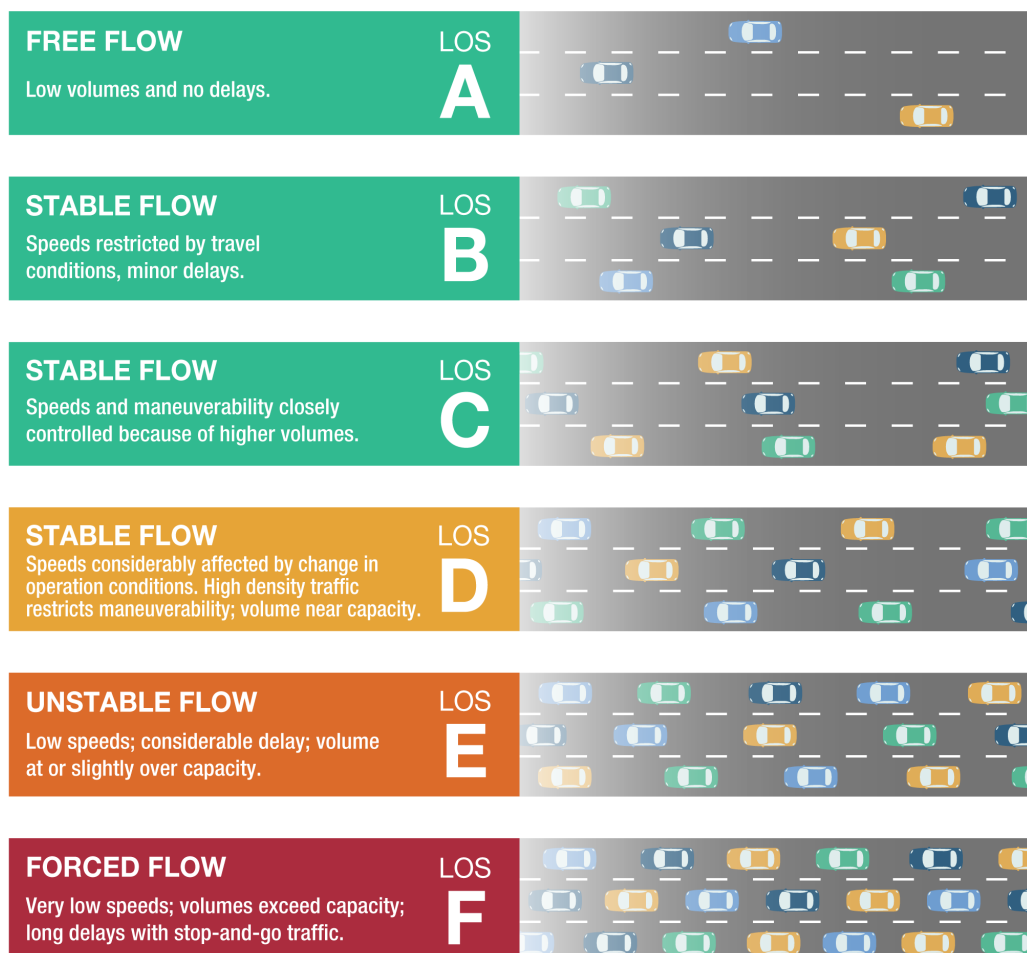


Figure 31: Level of Service Ratings (Source: UDOT)

provided by the County represented Average Annual Daily Traffic; peak hour volumes were derived using the assumption that the peak hour of travel represents 10% of daily traffic.

The V/C ratio conveys the quantity of vehicles utilizing a roadway at a given time as a share of the overall traffic-carrying capacity of that roadway. For the purposes of the five corridors analysis, it was assumed that a V/C ratio of less than 0.7 signifies the roadway segment has additional peak hour capacity and that some of the right of way currently dedicated to vehicle travel may be reallocated to other modes. A V/C ratio of between 0.7 and 0.9 signifies that the roadway is congested during the peak hour and drivers may experience some delays. It was assumed that some right of way reallocation might still be feasible under these conditions. A V/C ratio of over 0.9 signifies a location where existing peak hour congestion is an issue. A V/C ratio of 0.9 corresponds with a Level of Service E or F as illustrated in **Figure 31**.

It should be noted that this operational analysis was conducted using limited data and was intended to serve a high-level screening for potential

feasibility of treatments like road diets. A more rigorous analysis would be needed to conclusively assess feasibility of the opportunities offered in this report.

FEDERAL BOULEVARD

EXISTING CONDITIONS

Federal Boulevard is a north-south arterial that provides local and regional connections for Adams County travelers (**Figure 32**). Federal Boulevard is owned and operated by CDOT; issues relating to street surfacing, sidewalk maintenance, snow removal, and other operational concerns are the responsibility of CDOT. Adams County can provide input on the corridor, but do not have decision making authority on changes to the corridor. The corridor connects to the City and County of Denver to the south and to Broomfield to the north. The arterial carries a little over 30,000 vehicles per day. The corridor is primarily zoned for commercial uses, with industrial uses around the rail lines. Given the number of key commercial destinations, the corridor has a high demand for people walking and biking. The existing cross section does

Table 5: Peak Hour Volume to Capacity Ratio on Federal Boulevard (existing conditions)

| CROSS STREET | 72ND AVENUE | NORTH OF I-76 |
|-------------------------------------|-------------|---------------|
| Number of Travel Lanes | 4 | 6 |
| Volume (average daily traffic) | 36,128 | 39,000 |
| Roadway Capacity | 3,400 | 5,100 |
| Peak Hour Volume | 3,613 | 3,900 |
| Existing Peak Hour V/C Ratio | 1.06 | 0.76 |

not contain any designated bicycle facilities. The pedestrian network is inconsistent, with many locations with sidewalk gaps or sidewalk segments of insufficient width (**Figure 33** and **Figure 34**). Where ADA-compliant sidewalks are present, they are uncomfortable due to their narrow width, frequency of curb cuts and conflicts with driveway access points, and lack of buffer, putting pedestrians adjacent to high vehicle speeds and volumes. There is also a lack of comfortable pedestrian crossings on Federal Boulevard. For example, there is a bus stop at 65th Place but no marked crosswalk nearby (**Figure 35**). *Advancing Adams* can explore opportunities for adding pedestrian crossing treatments along the corridor to help pedestrians make east-west connections across Federal Boulevard. The design of the commercial areas with large surface parking lots fronting the roadway also makes for an unpleasant pedestrian experience.

The existing traffic volume to roadway capacity, or V/C ratio, on Federal Boulevard shows that traffic congestion exists during the peak hours, particularly on the section adjacent to 72nd Avenue (**Table 5**). Based on this analysis, it was determined that removing travel lanes through a road diet is likely not a feasible treatment for Federal Boulevard.

RTD’s 31 route runs along Federal Boulevard to connect to the Clear

MAP OF FEDERAL BOULEVARD

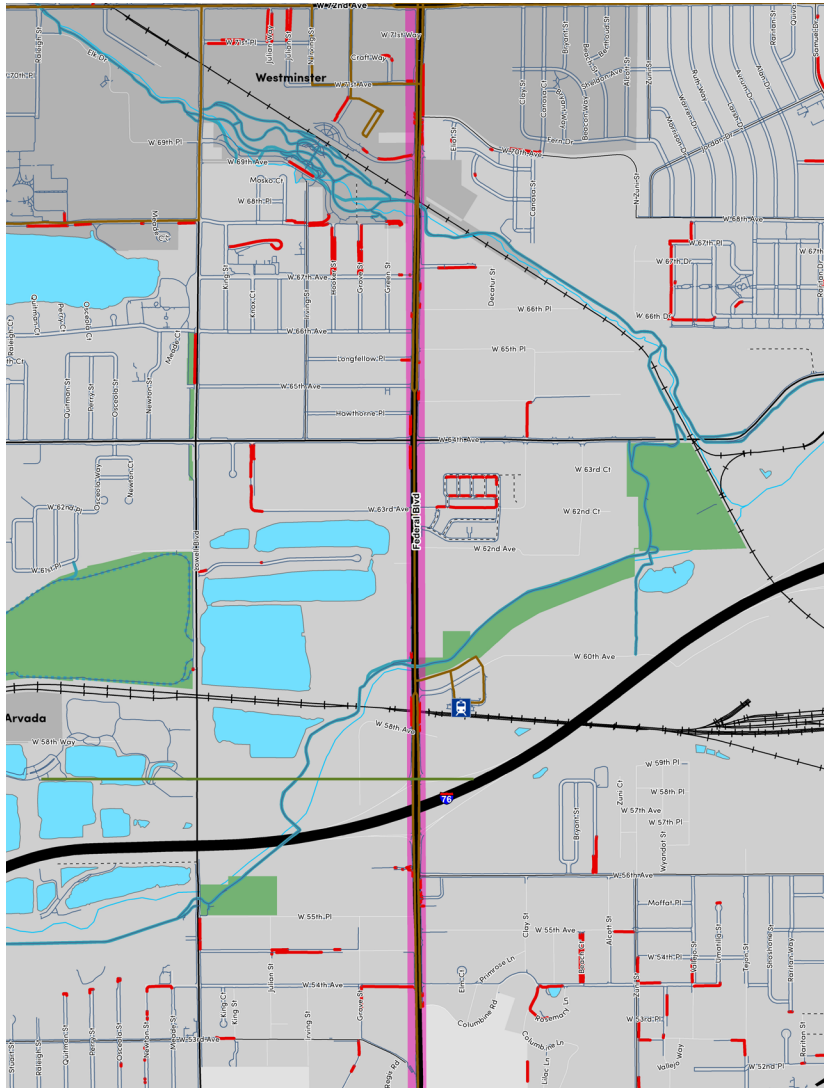


Figure 32: Federal Boulevard Existing Transportation Infrastructure

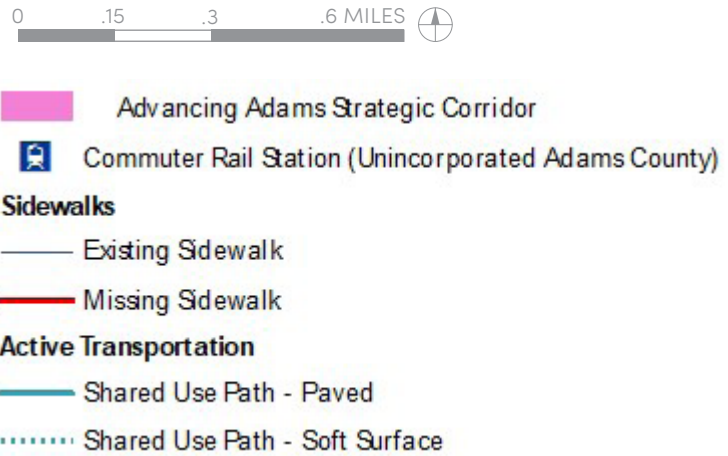




Figure 33: Sidewalk Gaps on Federal Boulevard



Figure 34: Examples of Uncomfortable Pedestrian Facilities on Federal Boulevard



Figure 35: Example of an Opportunity for Adding Pedestrian Crossing Treatments on Federal Boulevard

Creek - Federal commuter rail station. The route frequency is 15-minute intervals during the peak times with high ridership, even throughout the COVID-19 pandemic. **Figure 18** shows high ridership along this route, especially at stops near commercial core areas and transferring to other high frequency transit routes.

Adams County is currently collaborating with the City of Federal Heights and the City of Westminster on the *Federal Boulevard Multimodal Transportation Study*. The study area is eight miles of the Federal Boulevard corridor within the three jurisdictions from 52nd Avenue to 120th Avenue. This study will take a more in-depth look at addressing the challenges of safety for all users, the volume and speed of vehicular traffic, inconsistent pedestrian and bicycle facilities, limited connectivity to trails

and first and final mile destinations and need for improved transit service and amenities. *Advancing Adams* is coordinating with this concurrent study to develop a set of recommendations that is consistent between these two efforts.

OPPORTUNITIES FOR IMPROVEMENTS

With a number of previous and current planning efforts that are studying Federal Boulevard including *The Federal Boulevard Framework Plan* and *Making Connections*, the opportunities highlighted build off of these findings and recommendations.

The *Making Connections* Plan identifies that “the future design of Federal Boulevard should allow for a strong pedestrian environment, bicycle movement, buildings closer to the street, outdoor eating areas,



Figure 36: Example of a Dedicated Bus Lane in Downtown Denver (Source: The Denver Channel)



Figure 37: High Comfort Transit Station

and parking that does not dominate the streetscape.” This Plan also identifies a bundle of projects for the corridor including a BRT Feasibility Study, missing sidewalk installation, intersection improvements and a bridge over Little Dry Creek. The *Federal Boulevard Framework Plan* identifies the need for improved access to the Little Dry Creek Trail, improved ADA compliance, better connectivity along business frontages,

and more comfortable bicycle connectivity.

With existing underutilized and vacant parcels around the Clear Creek RTD station area, the Federal Boulevard corridor area has the opportunity to become a TOD hub for Adams County, incorporating mixed-use and different types of housing. This area could accommodate new missing middle housing as well as affordable housing. The multi-unit housing types would increase density and accommodate more of the growing population, allowing for more residents to attain fee simple housing and also to live within walking distance of the RTD station. Federal Boulevard also lacks a cohesive character that can integrate streetscape elements like trees, planting, pedestrian crossing treatment, public art and other placemaking features.

The southernmost portion of this corridor would mostly remain commercial, although a less autocentric commercial area would better align to the development pattern in the transit-oriented development mixed-use areas.

Modifications to the road and right of way configuration should be explored to offer a more pedestrian friendly and walkable environment where pedestrian and bicycle access to the Clear Creek Trail should be provided from multiple areas.

Adams County shall coordinate with CDOT on any potential improvements.

The combination of CDOT's jurisdictional oversight of the corridor along with the existing high volume of traffic within a constrained right of way impacts the County's ability to fully reshape the corridor. Long-term needs on the corridor include completing the sidewalk network and upgrading existing pedestrian crossings while also adding additional crossing opportunities. In the near-term, the County can reimagine Federal Boulevard as an enhanced transit corridor with dedicated bus lanes that operate either in both directions or south in the morning and north in the early evening to match peak hour traffic flows. The bus lanes can be paired with enhanced bus stops that provide a comfortable shelter for riders, arrival times, and clear signage to support riders with trip planning. The County can also consider transit signal priority that improves reliability by ensuring buses can travel through an intersection on green signals and maintain scheduled arrival times at stops (**Figure 36** and **Figure 37**). The enhanced transit corridor would support the land use vision of Transit Oriented Development along Federal Boulevard.

While completion of the pedestrian network on Federal Boulevard is a longer term improvement that will require coordination with multiple jurisdictions, there are near term enhancements that would complete pedestrian connections to the Clear Creek – Federal commuter rail station.



Figure 38: Example of an Enhanced Crossing Treatment with Dedicated Bicycle Striping and Signals

Specifically, adding a connection to the Clear Creek Trail from Federal Boulevard would provide pedestrian access between that key regional recreational corridor, the commuter rail station, and Federal Boulevard. In addition, the Federal Boulevard bridge over the Clear Creek should be upgraded to provide a wider right of way for pedestrians.

In addition to near-term opportunities adjacent to the commuter rail station, pedestrian connections all along the corridor could be improved through implementation of enhanced crossings. This can be accomplished through installation of treatments like High-Intensity Activated crossWALK (HAWK) signals, which serve as a stop control for traffic while pedestrians cross. These can be paired with green-backed crosswalk striping to also provide crossing opportunities for bicyclists like the example shown in **Figure 38**. As a part of the *Federal Boulevard Multimodal Transportation*

Study, CDOT and the County are upgrading crossings in order to ensure ADA compliance in the short-term.

Dedicated on-street bicycle facilities are likely not feasible on Federal Boulevard due to the high traffic demand and limited right of way. Lowell Boulevard is a parallel corridor where the County has recently implemented a multiuse trail. There is an opportunity to establish more connectivity between Federal Boulevard and Lowell Boulevard through implementation of bicycle boulevards on east-west streets and wayfinding signage that communicates opportunities for connecting to key destinations. In addition to potential recommendations put forward in *Advancing Adams*, the *Federal Boulevard Multimodal Transportation Study* is also evaluating Lowell Boulevard as a bicycle facility for the corridor.

PECOS STREET

Pecos Street is a Minor Arterial that connects Adams County and the City and County of Denver, terminating to the north at 104th Avenue (**Figure 40**). Pecos Street has a range of bicycle and pedestrian facilities. Around the rail station, there are limited facilities for active transportation, making it uncomfortable if not impossible for pedestrians to navigate the high amount of truck traffic to access the commuter rail station. Pecos Street has a clear and defined industrial character as well as some autocentric commercial on the southern portion of the corridor. As part of the Capital Improvements Program, Adams County is implementing improvements on Pecos Street between 52nd Avenue and Cargill Drive. Improvements include widening Pecos Street to four lanes, installing a raised median, building a new sidewalk along with drainage and landscaping, and installing new traffic signals. Sidewalks will be rebuilt on both sides of the street and one of the sidewalks will be a ten-foot-wide multiuse trail. This project will help improve connectivity south of the rail station. The County is also in the process of upgrading

Table 6: Peak Hour Volume to Capacity Ratio on Pecos Street

| PECOS STREET | |
|-------------------------------------|-------------|
| CROSS STRET | 64TH AVENUE |
| Lanes | 4 |
| Volume | 28,203 |
| Capacity | 3,000 |
| Peak Hour Volume | 2,820 |
| Existing Peak Hour V/C Ratio | 0.94 |

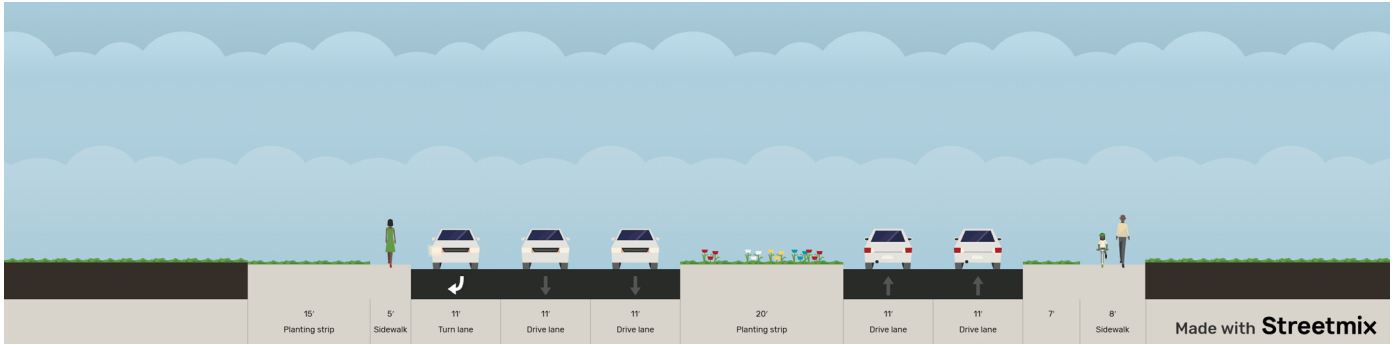


Figure 39: Existing Cross Section of Pecos Street North of 64th Avenue

62nd Parkway and 62nd Avenue between Pecos Street and Washington Street. The Project consists of widening/reconstructing the roadway; improving intersections; installing curbs, gutters, sidewalks, ADA ramps, drainage system with water quality features; and implementing landscaping to improve safety, environment, and increase mobility capacity to serve increased growth and economic development.

Preliminary operations analysis shows that Pecos Street through the study area carries a high volume of traffic during the peak hour (**Table 6**). This is due, in part, to the industrial land uses on the corridor as well as the direct connections the corridor provides to US-36 and I-76. Since Pecos Street sees a high level of traffic demand, adding facilities for multimodal travel may require expanding the existing cross section rather than reallocating vehicle travel lanes to other modes.

The existing cross section of Pecos Street (**Figure 39**) through the portion of the study area that is north of the Pecos Junction commuter rail station has an attached sidewalk on the west

MAP OF PECOS STREET

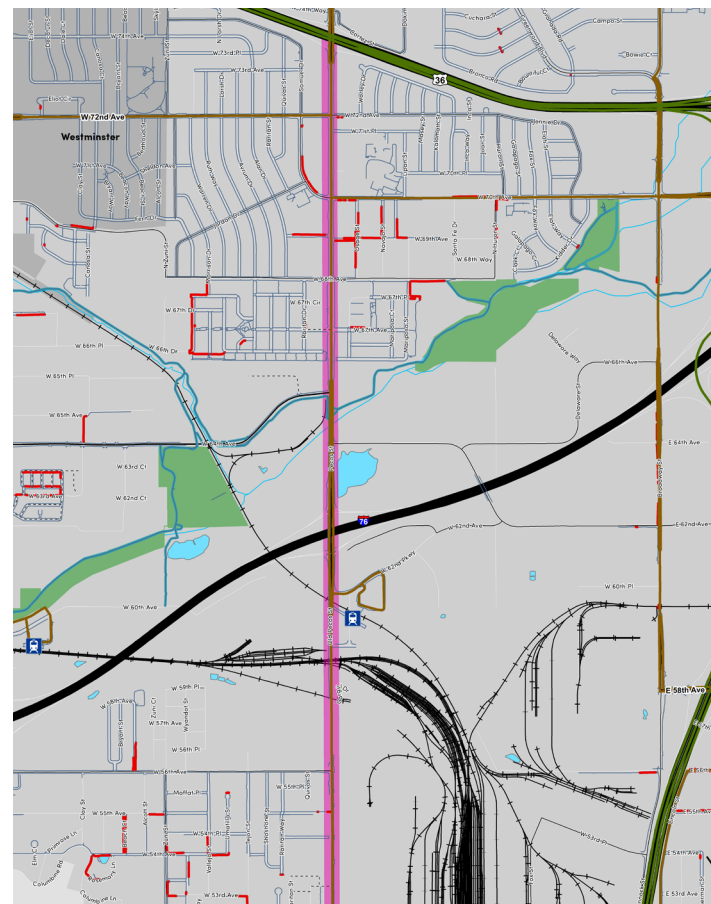
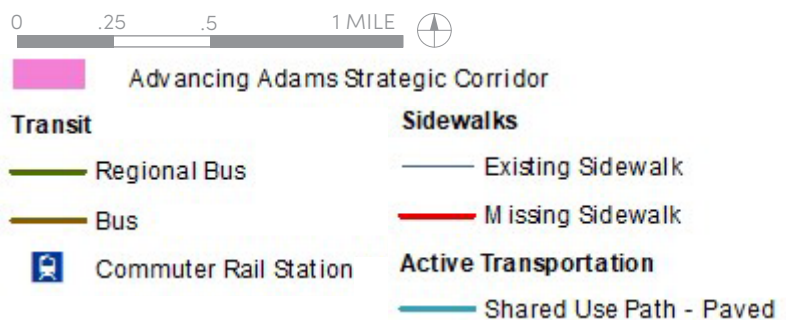


Figure 40: Pecos Street Existing Transportation Infrastructure



side of the street with an adjoining planting strip that is approximately 15 feet wide. If the planting strip is within the public right of way, then County can pursue an expanded cross section that maintains the existing configuration of travel lanes while adding comfortable facilities for bicyclists and pedestrians. This concept is discussed further in the following section.

Approximately one mile north of the station is a new urbanist development, Midtown, with a wide, buffered multiuse trail along Pecos Street (**Figure 41**). Immediately south of the development, Pecos Street provides access to the Clear Creek Trail, an important regional connection for people biking and walking. The County is pursuing implementation of the wayfinding signage recommendations provided in the 2017 *Clear Creek Corridor Master Plan* in order to foster an enhanced sense of connectivity to the trail. In



Figure 41: Multiuse Trail Adjacent to the Midtown Neighborhood

general, pedestrian connectivity is challenging on the corridor due to the high number of barriers including the rail lines and I-76.

RTD's route 19 travels along Pecos Street, with some of the highest ridership stops in the County, at 72nd and 76th Avenues. This route also connects to the Pecos Junction commuter rail station, serving the B and G Lines. Most bus stops along Pecos Street currently lack stop amenities like shelters and benches. Enhancing the bus stops could help improve the transit user experience along the corridor.

OPPORTUNITIES FOR IMPROVEMENTS

Pecos Street has the opportunity to become a connected and attractive employment center for Adams County. With a strong industrial presence and great connectivity, this area can become a great location for logistic services for the larger region. At the same time, the corridor serves a number of neighborhood and denser housing that demand enhanced transportation options.

In order to better accommodate people walking and bicycling on the corridor, the County can assess whether the under-utilized space adjacent to the sidewalk on the west side of Pecos Street can be modified to accommodate a six-foot wide bicycle lane and an eight-foot wide sidewalk (**Figure 42**). This would allow for enhanced pedestrian and bicycle

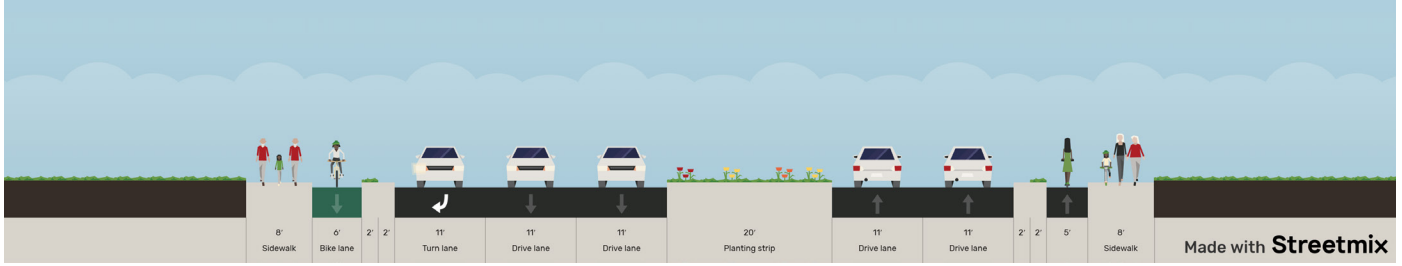


Figure 42: Potential Cross Section on Pecos Street North of 64th Avenue

access while maintaining the existing number of vehicle travel lanes. On the east side of Pecos Street, the existing planting strip that serves as a buffer between the sidewalk and roadway could be reconfigured to provide a bicycle facility. Implementation of the proposed cross section north of Cargill Drive would bring a consistent cross section through the length of the corridor and provide connections to the Pecos Junction Station and the Clear Creek Trail. This proposed

cross section modification would foster better connectivity between the Midtown development and destinations to the south. In addition, the modification would be one step towards transforming Pecos Street into a multimodal corridor from the Denver border at 52nd Avenue to the north. A critical remaining gap is the Pecos Street bridge between Cargill Drive and 62nd Parkway. Advancing Adams will investigate opportunities for upgrading the experience for people walking and biking on the



Figure 43: Washington Street Looking North from I-270

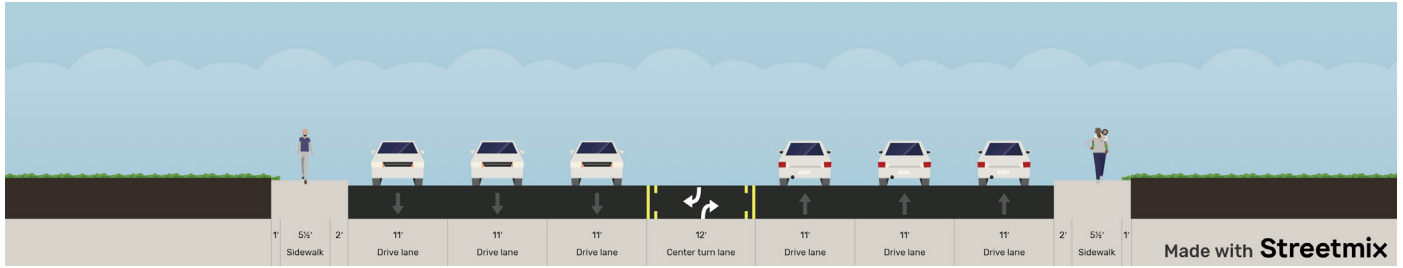


Figure 44: Existing Cross Section of Washington Street Between 73rd Avenue and 78th Avenue

WASHINGTON STREET

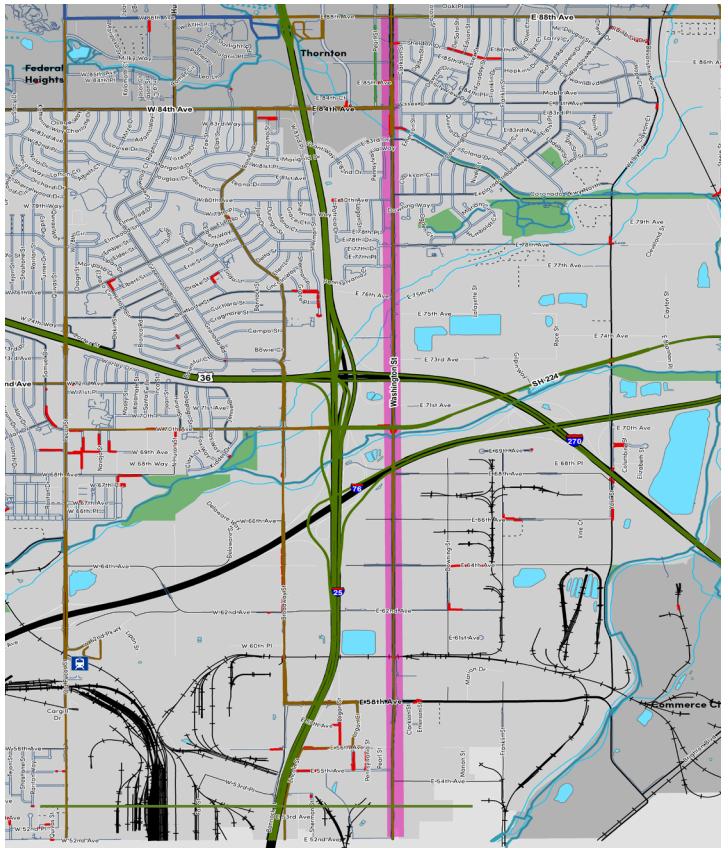
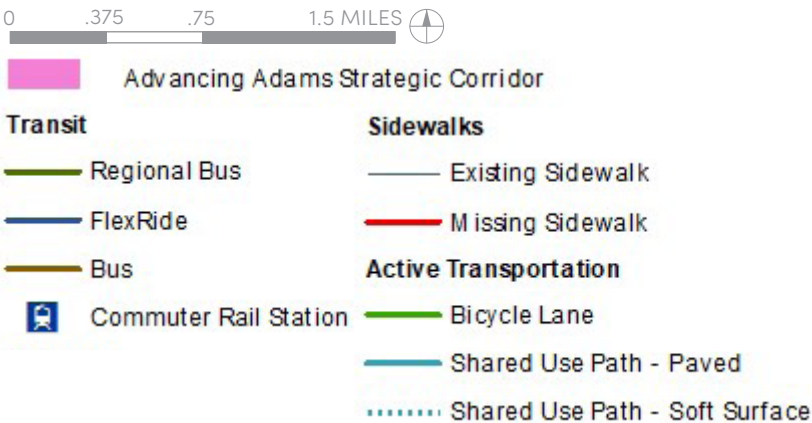


Figure 45: Washington Street Existing Transportation Infrastructure



bridge, though a detailed feasibility assessment should also be pursued due to the engineering and cost constraints involved in upgrading major bridges.

WASHINGTON STREET

Washington Street is a North-south Principal Arterial with three distinct characters across its extent—1. the northern segment is primarily autocentric commercial; 2. the section next to Welby has a unique character with a mix of uses; and 3. south of I-270 is primarily industrial. Overall, it has a unique mix of agricultural heritage and industrial uses. Bicycle and pedestrian facilities are inconsistent, and do not provide comfortable opportunities for those walking and biking, given the high vehicle speeds and volumes on the corridor (**Figure 45**). Sidewalks are generally present, but not ADA-compliant and are narrow in width, have utility poles interrupting the sidewalk, driveways that are not properly graded, and debris present. The corridor is not comfortable for pedestrians due to high vehicle volumes and speeds, associated noise, lack of trees and vegetation, and excessive curb cuts

Table 7: Peak Hour Vehicle to Capacity Ratios on Washington Street

| WASHINGTON STREET | | |
|-------------------------------------|-------------|-------------|
| CROSS STRET | 73RD AVENUE | 78TH AVENUE |
| Lanes | 6 | 6 |
| Volume | 23,508 | 20,539 |
| Capacity | 5,100 | 5,100 |
| Peak Hour Volume | 2,351 | 2,054 |
| Existing Peak Hour V/C Ratio | 0.46 | 0.40 |

(**Figure 43**). The cross section of Washington Street varies between four lanes and six lanes, with a two-way left turn lane and attached sidewalks. **Figure 44** shows the existing six lane cross section between 73rd and 78th Avenues.

Preliminary analysis of roadway operations on Washington Street suggests the corridor does not experience significant congestion during the peak hour (**Table 7**). This suggests there is an opportunity to consider pursuing a road diet that would provide enhanced accommodations for people walking, bicycling, and riding transit. This concept will be explored further in the following section.

The nearby Welby neighborhood is an older residential community that has traditionally generated demand for more walking and bicycling access to commercial destinations. In addition to the numerous commercial destinations like restaurants along Washington Street in Adams County, there are also a number of destinations along Washington Street immediately to the south of Adams County, including the National Western

Stock Show. There is a potential for improving multimodal access to these amenities in neighboring jurisdictions.

RTD’s route 12 serves Washington Street at 30-minute frequency seven days per week. The existing bus stops on Washington Street do not provide riders with a comfortable place to wait for the bus. The attached sidewalks leading to the bus stops means that transit riders must wait for the bus adjacent to traffic (**Figure 46**).

OPPORTUNITIES FOR IMPROVEMENTS

With a unique mix of light industrial, residential, and agricultural character,

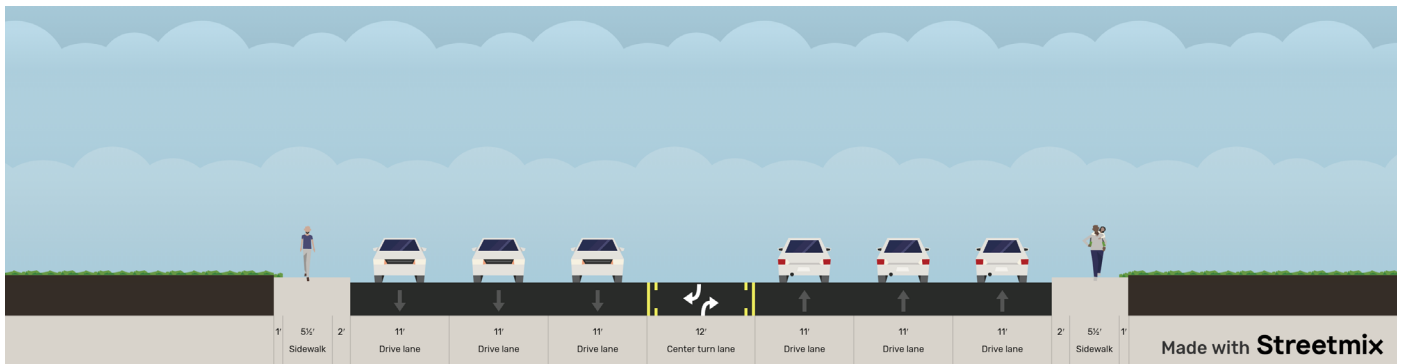


Figure 46: Sidewalk and RTD Bus Stop on Washington Street

Washington Street has the potential to strengthen its identity and become the Creative Center of Adams County. The Welby area located east of Washington Street is a mix of small-scale agriculture and light industrial land uses that offer a very unique type of development. The industrial areas south of I-76 are prime for an evolution to shift to be more

oriented towards art and maker-culture. This part of Washington Street has the potential to be a Colorado Creative District in the future if the infrastructure, capital improvements, and developer partners can be secured. The types of possible development could be mixed-use warehouses and artist colonies. If a destination district is pursued for the

Existing Cross Section



Proposed Cross Sections (option 1)



Proposed Cross Sections (option 2)

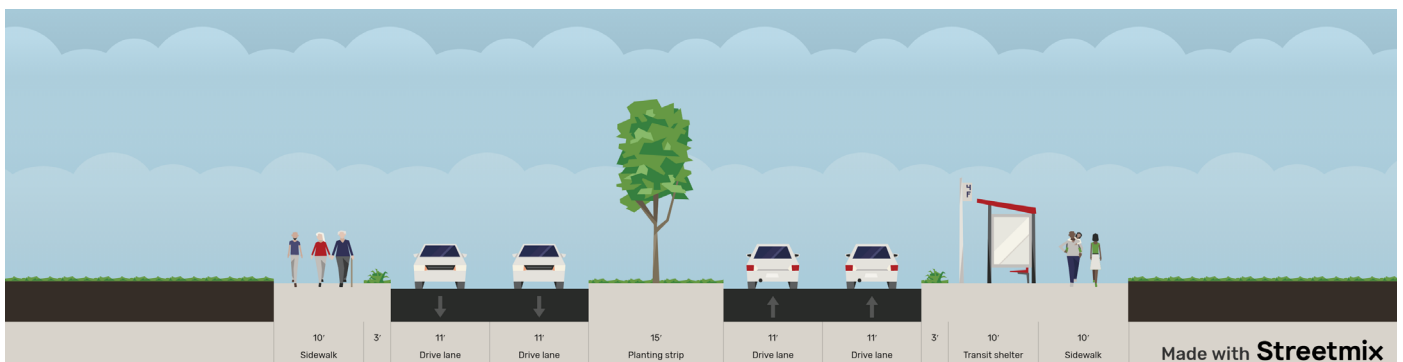


Figure 47: Existing and Proposed Cross Sections for Washington Street

southern portion of Washington Street, then transportation infrastructure needs to support those uses.

Given the operational analysis finding that Washington Street may have capacity for vehicle traffic that exceeds existing demand, there is an opportunity to pursue a road diet between 73rd Avenue and 78th Avenue that would reduce Washington Street from six to four travel lanes through this portion of the corridor. Sufficient right of way exists for either 1. a narrow buffer on one side of the street that leaves room on the other side of the street for enhanced bus stops or trees in the buffer when a bus stop is not present, or 2. A wider buffer with space for street trees on both sides of the street (**Figure 47**). Further study would be required to select a cross section. It is assumed that the County has additional right of way on the west side of Washington Street to accommodate a wider sidewalk and planting zone; a refined cross section would require more precise information on existing right of way and information on the County's ability to acquire right of way if needed.

This would make Washington Street a more uniform corridor for vehicles while also introducing opportunities for multimodal travel. According to preliminary analysis, this could be accomplished without generating a prohibitive amount of peak hour traffic



Figure 48: Opportunity Locations for Enhanced Pedestrian and Bicycle Crossings on Washington Street (Source: Google Maps)

congestion (**Table 8**). A reduction in the number of travel lanes would enable reallocation of right of way towards ten-foot wide sidewalks that adhere to the County standards for pedestrian facilities on Major Arterials. A buffer separating the sidewalk from the roadway could be included in the design to both observe County standards and provide a more comfortable pedestrian environment. This proposed cross section leaves opportunities for a dedicated bicycle facility and enhanced bus stops.

The proposed cross section could include a center median with periodic breaks for left turn lanes

or pedestrian refuge islands and enhanced crossings. Potential locations for crossing enhancements are shown in **Figure 48**. At the time of this report, there are infrequent crossing opportunities on Washington Street between 73rd Avenue and 88th Avenue. Better connections would be made possible through crossing treatments like High-Intensity Activated crossWalk (HAWK) signals and green-backed crosswalk striping that provides a path of travel for people biking across a high volume roadway like Washington Street.

Table 8: Operational Performance Before and After Road Diet

| WASHINGTON STREET | | | | |
|-------------------|-------------|----------------------------|-------------|----------------------------|
| CROSS STREET | 73RD AVENUE | | 78TH AVENUE | |
| Cross Section | Existing | Post-travel lane reduction | Existing | Post-travel lane reduction |
| V/C Ratio | 0.46 | .69 | .40 | .60 |

104TH AVENUE

104th Avenue is a state-owned roadway that carries between 15,000 and 21,000 vehicles per day (**Figure 49**). This Principal Arterial has two to three travel lanes between Riverdale Road and I-76, and five travel lanes between Colorado Boulevard and Riverdale Road (**Figure 50**). The corridor is a critical connection to Denver International Airport, serving both travelers and airport employees. There are limited bicycle and pedestrian amenities along this corridor, as it takes a more rural feel. A new trail connection is being implemented near Brighton Road and 104th Avenue that will connect to the Front Range Trail and South Platte Trail. Advancing Adams presents an opportunity to build upon that upcoming connection.

The intersection of 104th Avenue and US-85 intersection presents challenges for pedestrian connectivity due to long crossings, lack of sidewalk infrastructure and high vehicle speeds (the speed limit on 104th Avenue goes from 65 mph to 30 mph very quickly approaching this intersection). A grade separated crossing is being pursued at this intersection jointly by Adams County, Commerce City, and CDOT. The interchange has been designed and funding for right of way acquisition has been secured but construction funding is yet to be identified. In addition, CDOT and the City of Thornton are exploring the possibility of widening 104th Avenue

MAP OF 104TH AVENUE

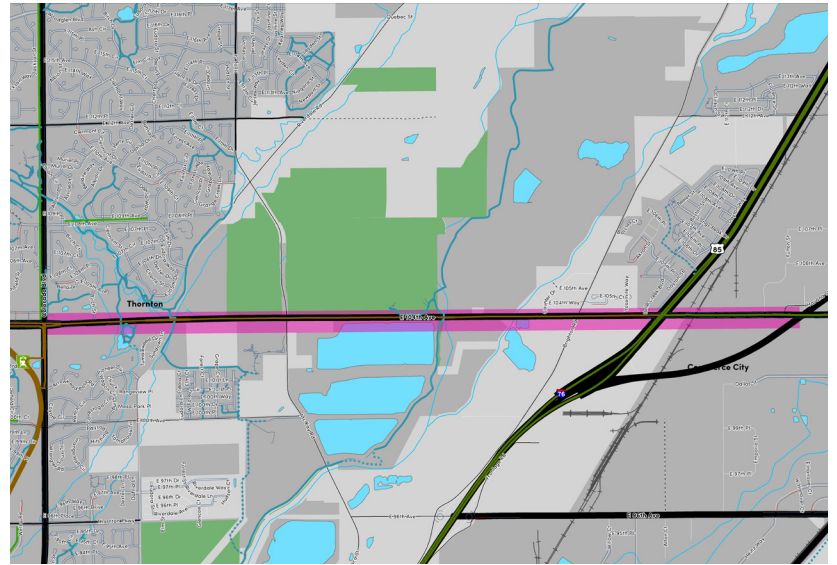


Figure 49: 104th Avenue Existing Transportation Infrastructure

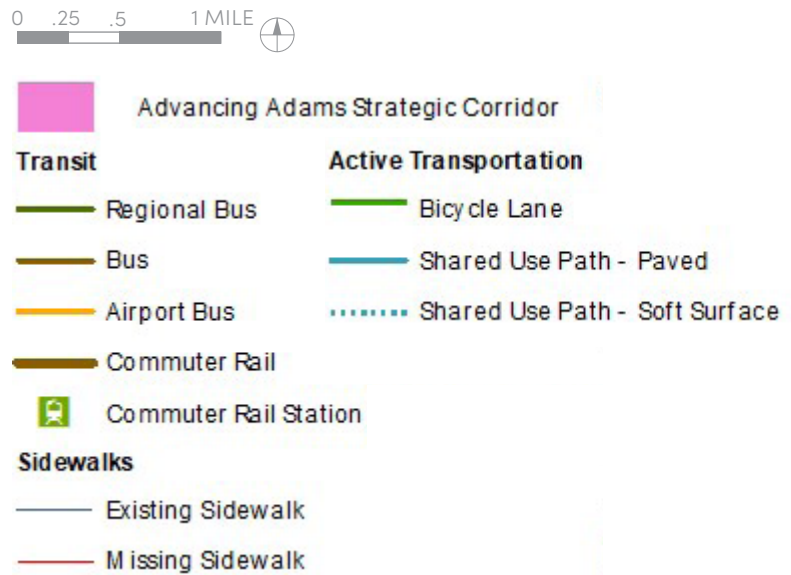





Figure 50: Varying Number of Travel Lanes on 104th Avenue



Figure 51: Existing Bus Stop at 104th Avenue and Brighton Road



between Colorado Boulevard and the Platte River.

Transit service on the corridor is provided by RTD's 104 route, which has relatively low ridership. Transit access on the corridor is limited due to both the existing low density land uses but also a lack of sidewalks and comfortable places to wait for the bus (**Figure 51**).

OPPORTUNITIES FOR IMPROVEMENTS

Given the current road configuration and existing character that is present between US 36 and Federal Boulevard, 104th Avenue could become an east-west Parkway with planted medians and other elements that would support a smaller scale feel and more rural appeal. This vision matches the 104th Avenue widening project being undertaken by the City of Thornton, which is intended to address future congestion concerns on the corridor. A land use vision for this corridor will require inter-jurisdictional partnerships and coordination, given most of the development is driven by municipal entities. The opportunity also exists to establish new connections to the east side of US-85 and connect those neighborhoods with the existing trail system and parks.

While the upcoming trail connection between Brighton Road and the Colorado Front Range Trail will be valuable, there is an opportunity to expand bicycle and pedestrian

facilities further east and west as shown in **Figure 52**. A potential cross section for 104th Avenue is shown in **Figure 53**. This concept reflects the City of Thornton's proposal for the 104th Avenue widening project, which is planned for the segment of 104th Avenue between Colorado Boulevard and US-85. The proposed cross section could be accomplished by replacing the existing two-way left turn lane with a planted median, which would help foster a parkway character and increased compliance with the posted speed limit through the corridor. The median could have breaks for left turn lanes as needed. There is an opportunity to extend the pavement edges and install detached multiuse trails on both sides of 104th Avenue, as proposed by the City of Thornton, as well as enhanced bus stops. Where bus stops are not present, a wide buffer is suggested between the travel lane and multiuse trail to provide a more comfortable experience for people walking and biking along 104th Avenue. The cross section shown in **Figure 53** includes bicycle lanes per the City of Thornton project scope. This potential treatment would maintain 104th Avenue as a corridor that emphasizes vehicular travel while also providing space for people walking or bicycling and increase comfort for those accessing and waiting for the bus.



Figure 52: Colorado Front Range Trail Opportunity to Improve Connectivity

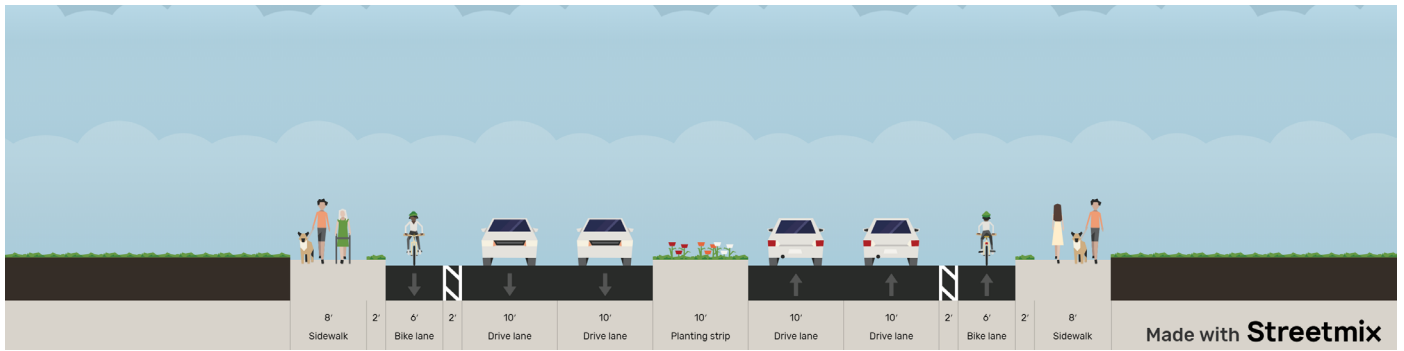


Figure 53: Proposed Cross Section for 104th Avenue

120TH AVENUE

120th Avenue is two-lane Principal Arterial that serves as a major east-west corridor across Adams County (**Figure 54**). The roadway transitions between four, five, and six travel lanes as it travels across the County. The corridor provides access primarily to residential areas as well to regional interstates. The corridor has a rural feel due to the surrounding open space, with potential to serve as a scenic byway (**Figure 55**). The section of roadway which will be a focus of *Advancing Adams*, shown in **Figure 54**, has a multiuse trail that provides comfortable opportunities for those walking and biking. These paths provide some access to the recreational and programmed opportunities at Riverdale Regional Park. However, the County has identified 120th Avenue as one of the strategic corridors due to gaps in multimodal access to the park, which serves as a critical recreational amenity for County residents and visitors.

While the existing multiuse trail provides a dedicated facility for pedestrians and bicyclists, there are still some barriers to these users. Most notably, the railroad crossing presents a potential impediment to multimodal travel as shown in **Figure 56**.

RTD operates route 120 along 120th Avenue, at one-hour frequency seven days a week. As shown in **Figure 18**, this route has relatively low ridership; this is likely due to the low frequency and low density land uses surrounding bus stops.

MAP OF 120TH AVENUE

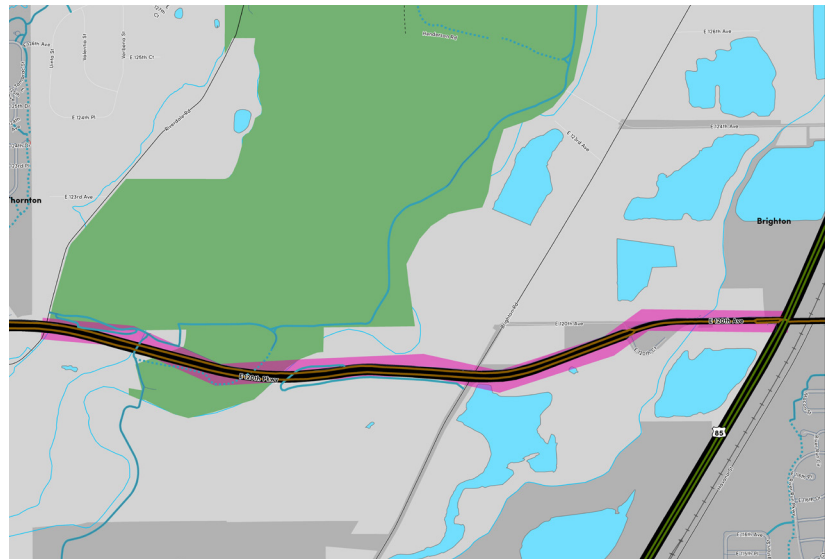


Figure 54: 120th Avenue Existing Transportation Infrastructure

0 .125 .25 .5 MILE 





Figure 55: Aerial View of 120th Avenue



Figure 56: Existing At-Grade Multiuse Trail Crossing on 120th Avenue

OPPORTUNITIES FOR IMPROVEMENTS

The major opportunity for this corridor is to create partnerships with adjacent municipalities to determine a common vision for the roadway and facilitate coordinated implementation including multimodal access. 120th Avenue could become part of a larger scenic trail loop that connects a variety of destinations of natural and cultural heritage and creating a memorable experience for residents and visitors. This regional trail loop could connect the Denver International Airport, Rocky Mountain

Arsenal, National Western Center, South Platte Trail, Clear Creek Trail and the Colorado Front Range Trail.

The regional partnership for 120th Avenue would help maintain 120th Avenue as a critical east-west corridor for vehicle travel while also promoting more consistent multimodal connections. In addition, challenges like the at-grade rail crossings could be addressed through adoption of crossing gates, signage, and tactile ground surface indicators as shown in **Figure 57**. These treatments would help make at-grade multiuse trail crossings more comfortable.

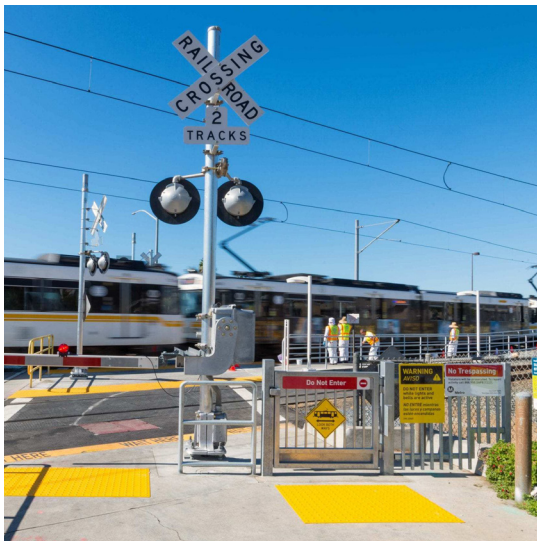


Figure 57: Sample At-Grade Rail Crossing Treatments (Source: Trimet)



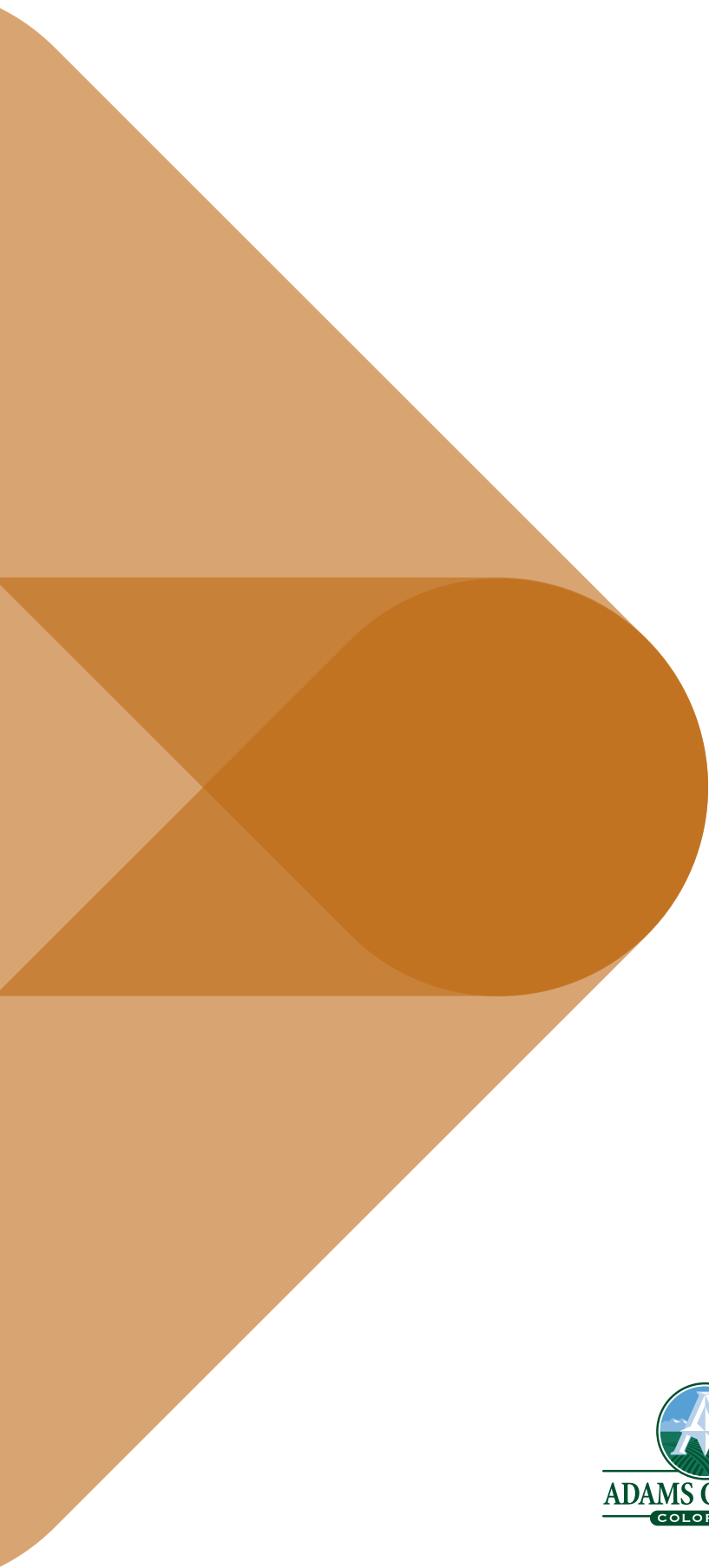


CONCLUSION

This report lays the groundwork for determining recommendations that can help achieve the vision for transportation in Adams County. This existing conditions assessment and preliminary opportunities will be paired with feedback from the public and recommendations from the *Comprehensive Plan* and *Parks, Open Space, and Trails Plan* in order to identify projects, programs, and policies that are prioritized along with guidance for implementation. These recommendations will align with and enhance the three plan values of equity, sustainability, and livability. These lenses will ensure that the TMP creates a framework for transportation in Adams County that fosters diversity, reduces reliance on the single-occupancy vehicle, is fiscally-minded, and promotes comfortable walking and biking for all users.



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ADVANCING **ADAMS**
PLANNING FOR A SHARED FUTURE



APPENDIX



**EXISTING CONDITIONS
AND OPPORTUNITIES
REPORT MAPS**

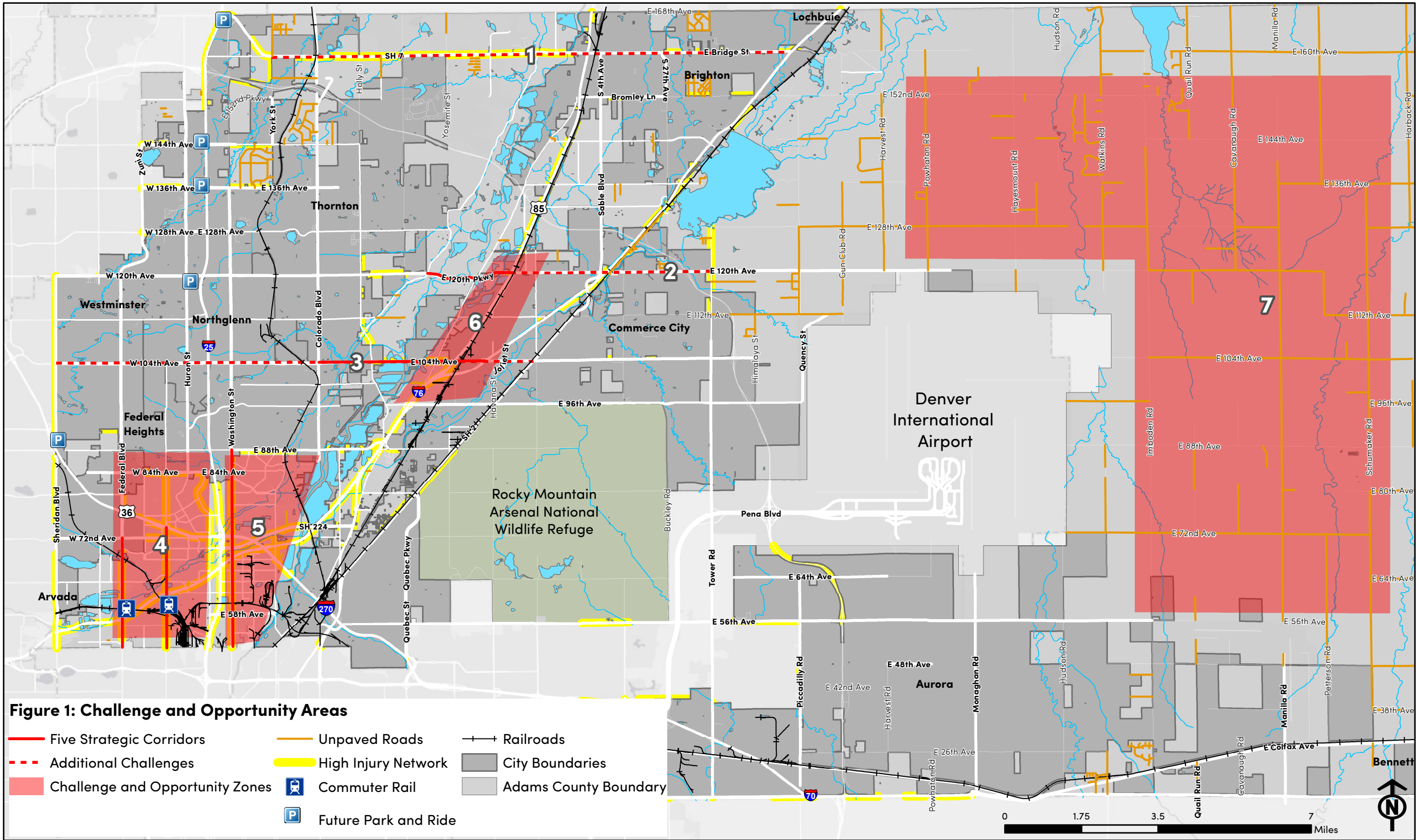


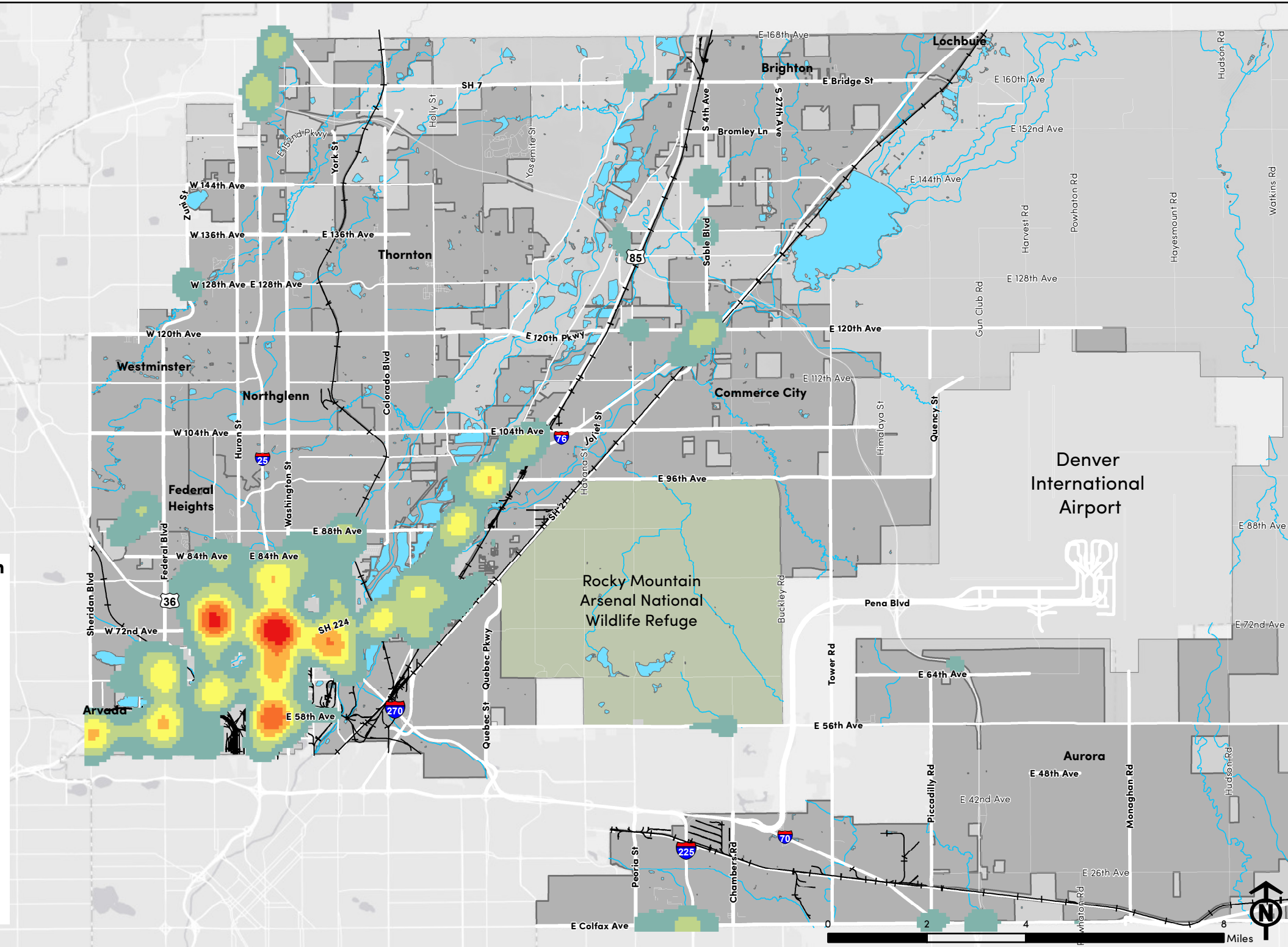
Figure 1: Challenge and Opportunity Areas

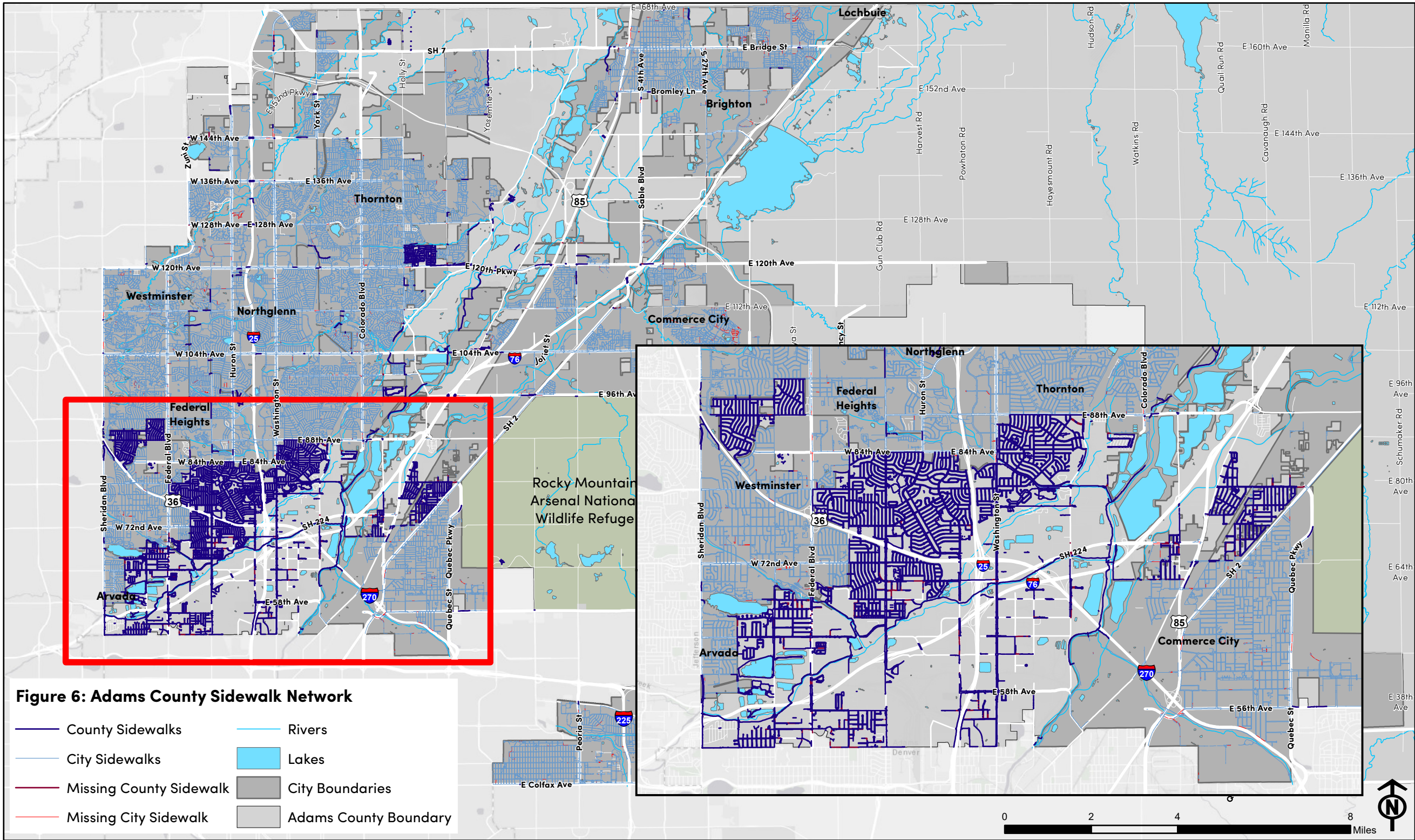
- | | | |
|---------------------------------|---------------------|-----------------------|
| Five Strategic Corridors | Unpaved Roads | Railroads |
| Additional Challenges | High Injury Network | City Boundaries |
| Challenge and Opportunity Zones | Commuter Rail | Adams County Boundary |
| Future Park and Ride | | |

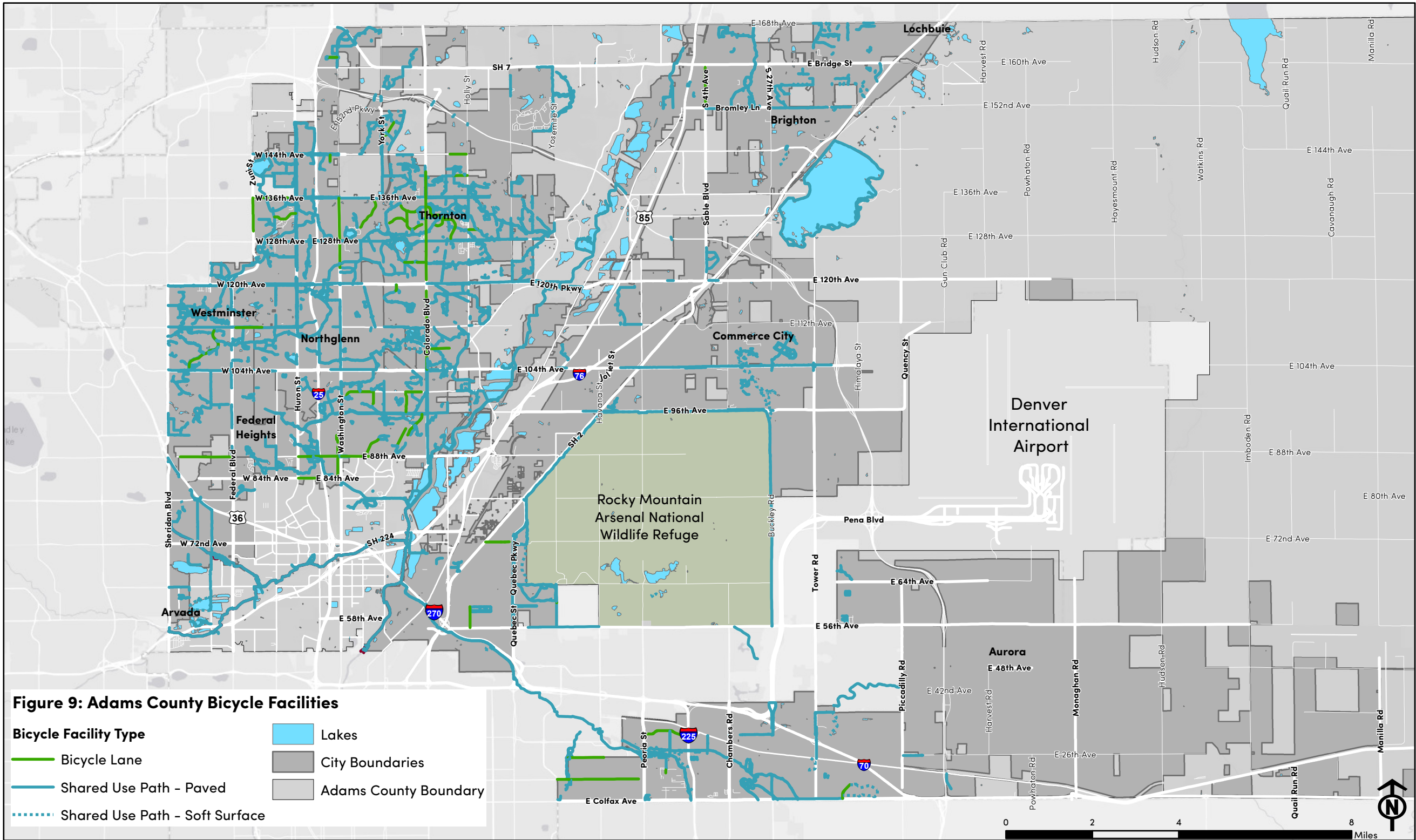
Figure 2: Top Crash Locations in Unincorporated Adams County

2013 - 2018 Crashes

- Very Few Crash Incidents
- Up to 350 Crashes
- 351 - 700
- 701 - 1,200
- 1,201 - 1,900
- 1,901 - 2,800
- 2,801 - 3,900 Crashes
- Railroads
- City Boundaries
- Adams County Boundary







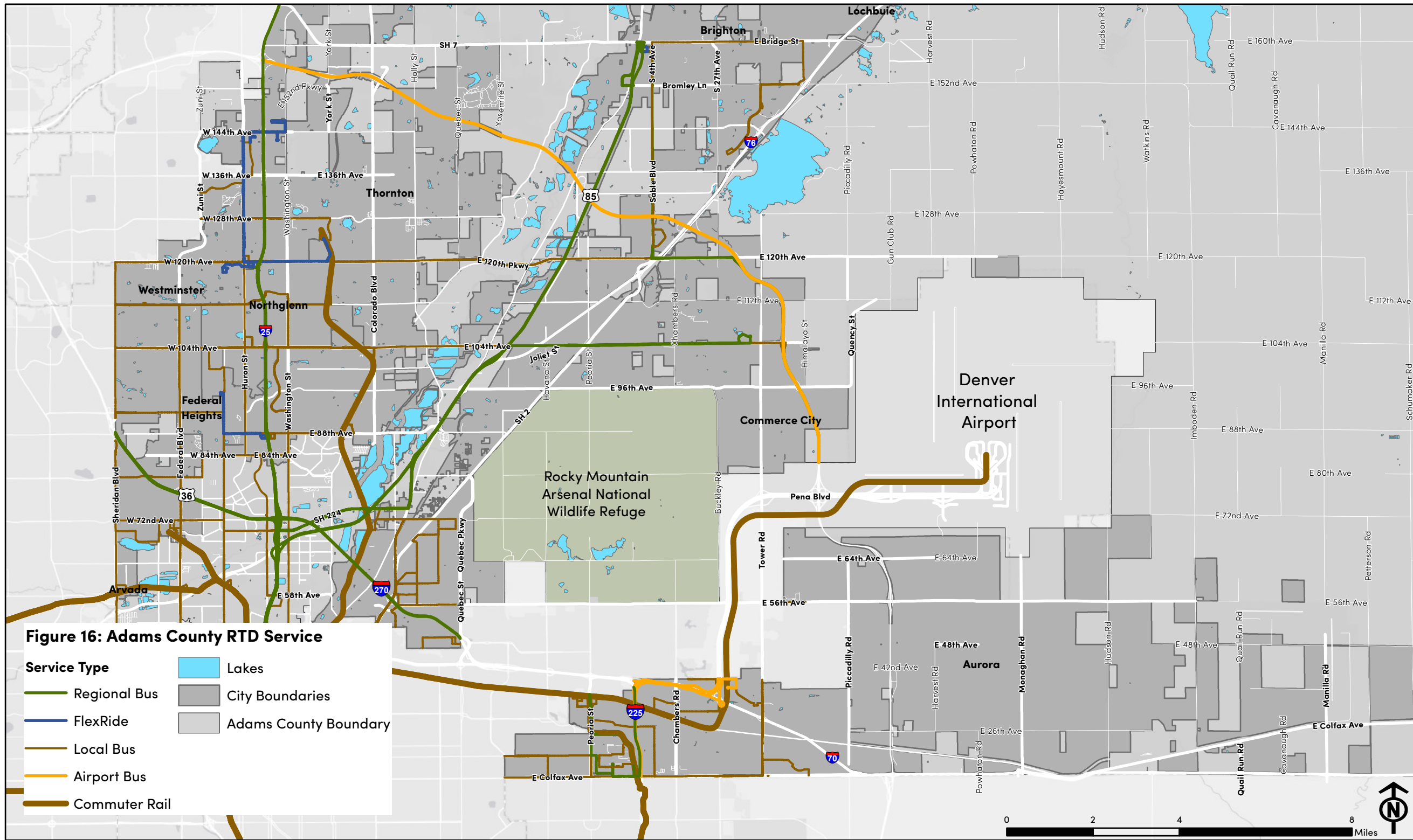








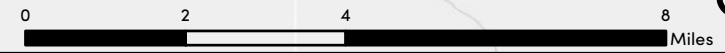
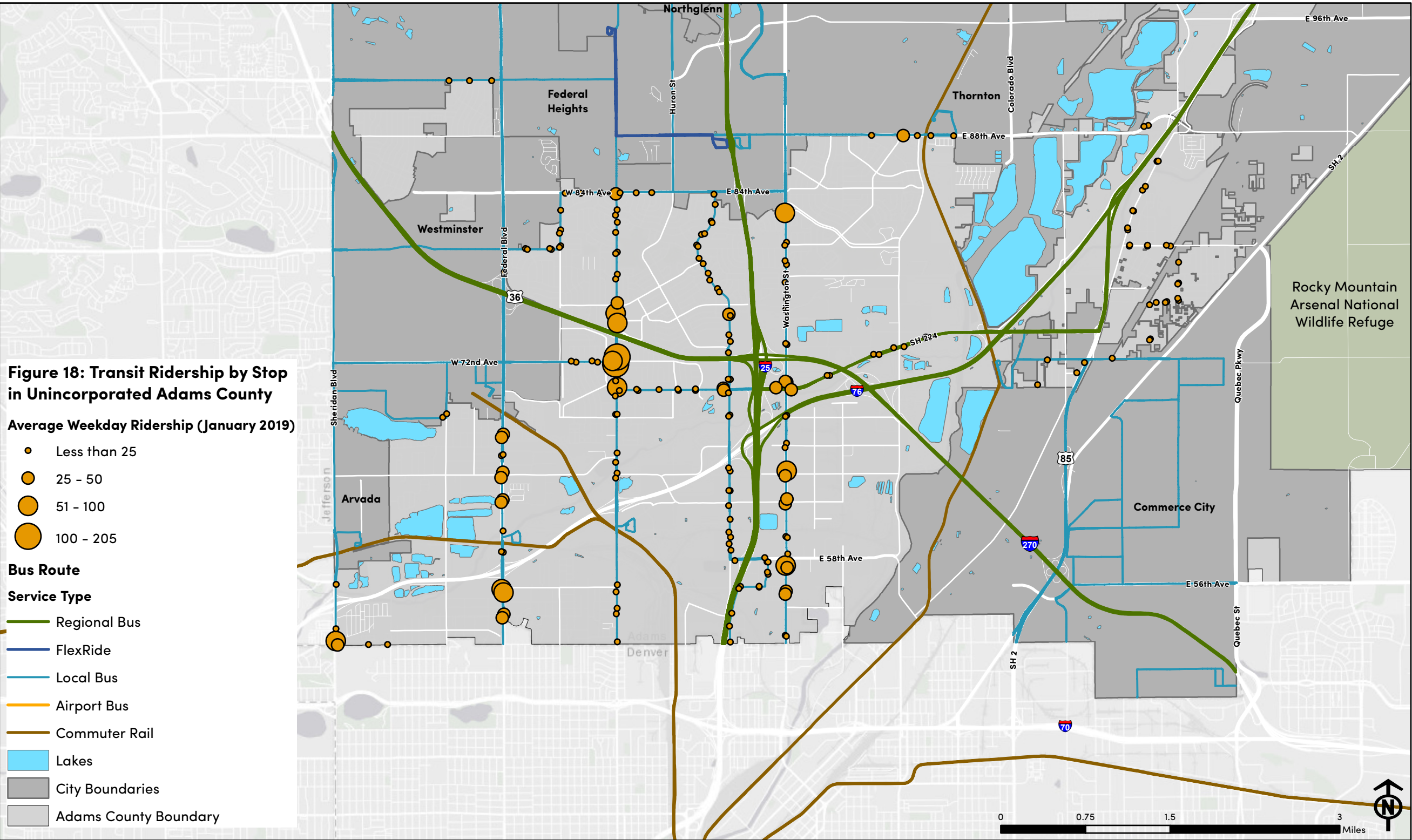


Figure 16: Adams County RTD Service

- | | |
|--|---|
| Service Type |  Lakes |
|  Regional Bus |  City Boundaries |
|  FlexRide |  Adams County Boundary |
|  Local Bus | |
|  Airport Bus | |
|  Commuter Rail | |





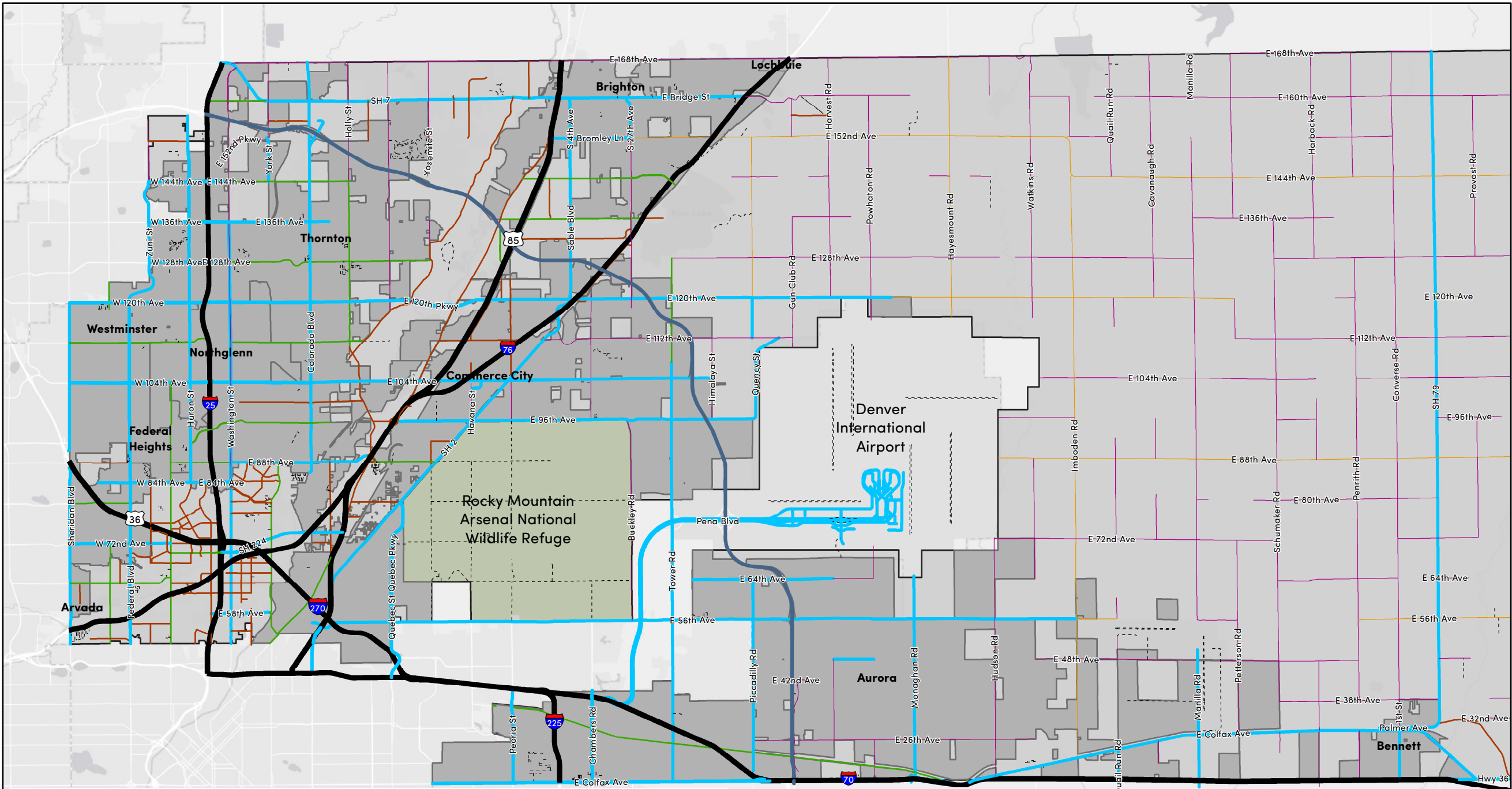
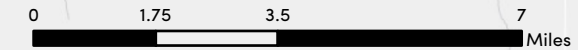


Figure 19: Existing Adams County Roadway Network (Western Portion of County)



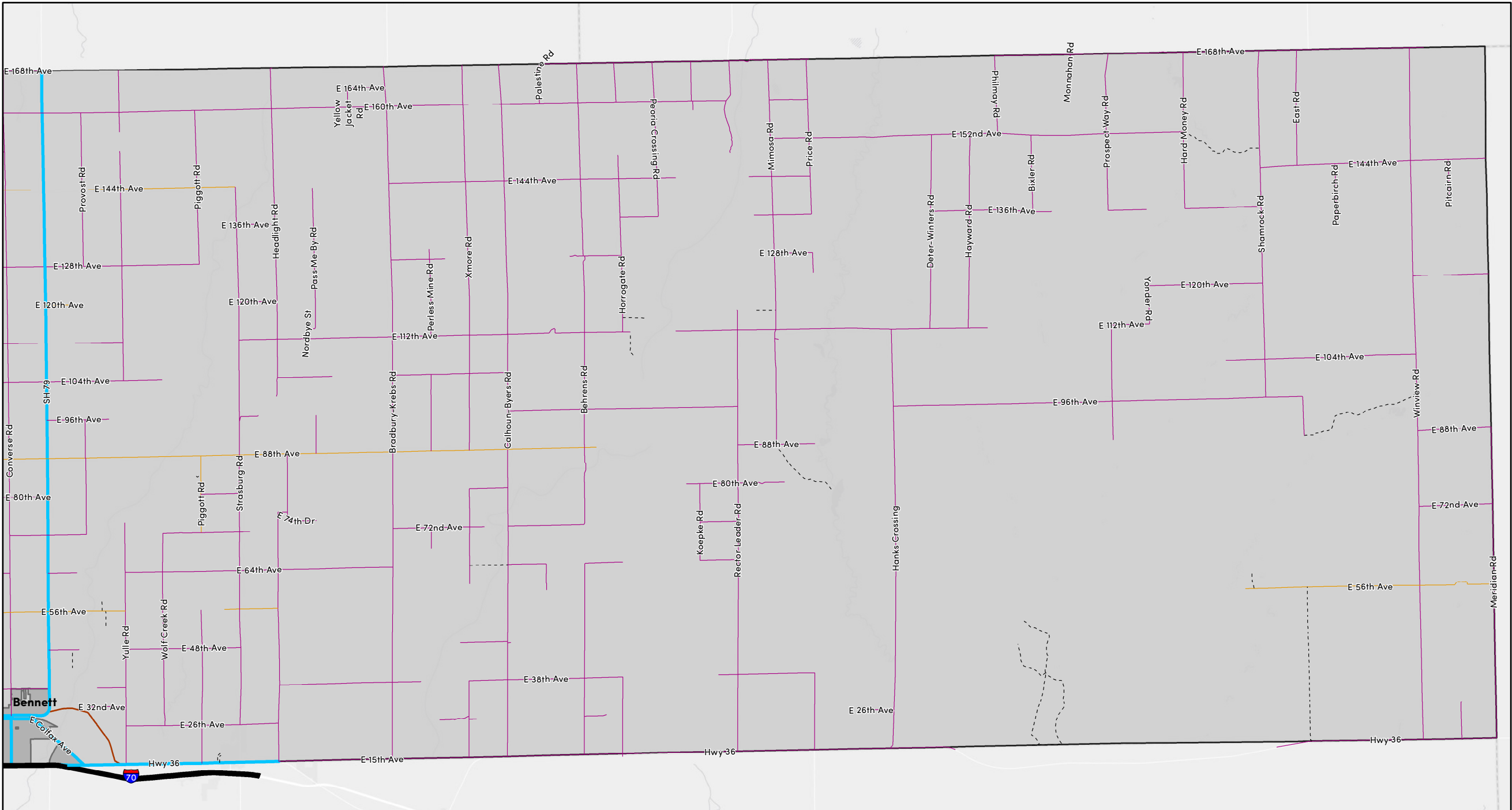
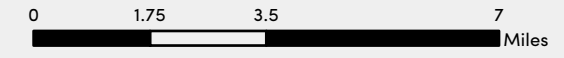


Figure 20: Existing Adams County Roadway Network (Eastern Portion of County)

- Freeway
- Rural Arterial
- Collector
- City Boundaries
- Principal Arterial
- Section Line Arterial
- Private
- Adams County Boundary



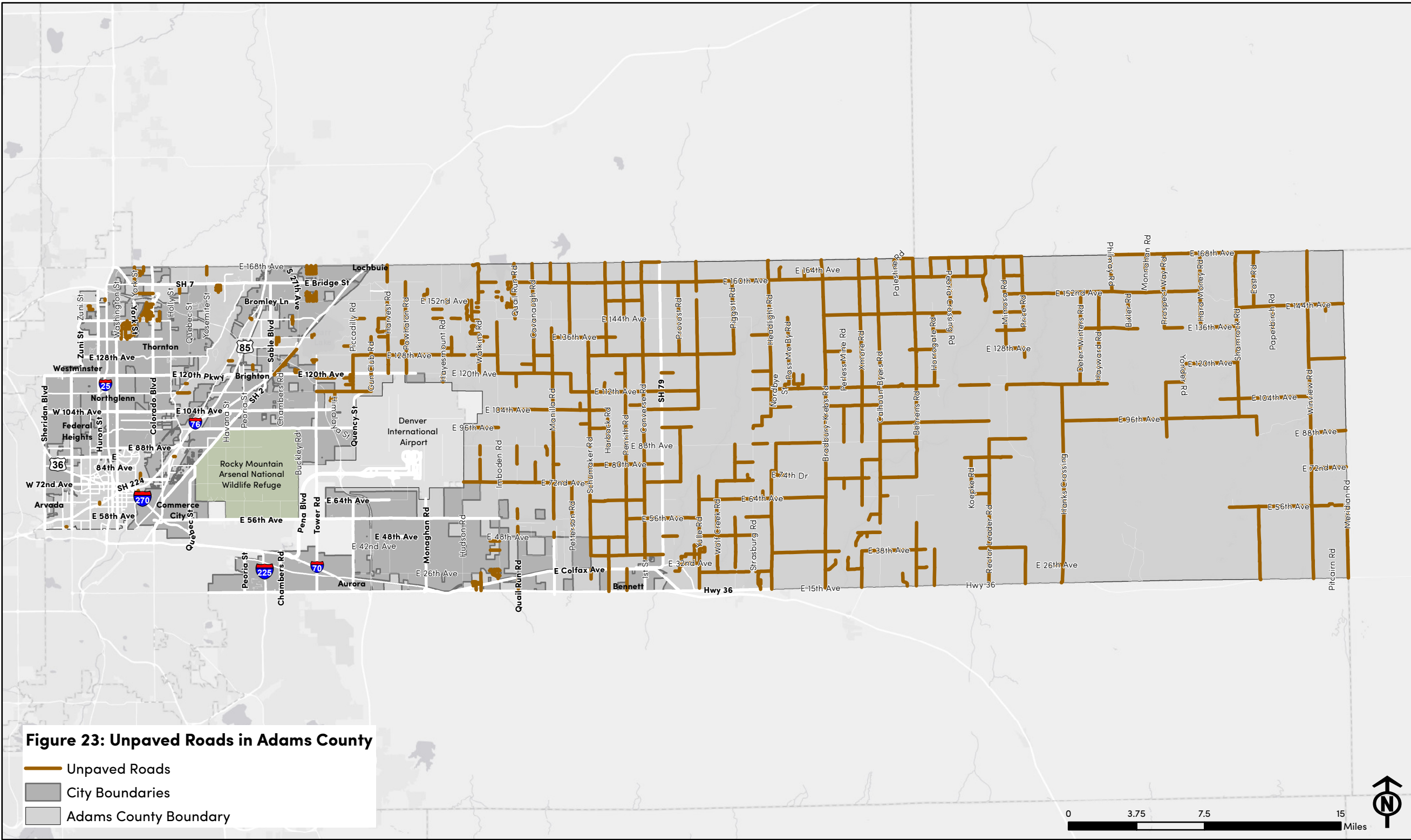
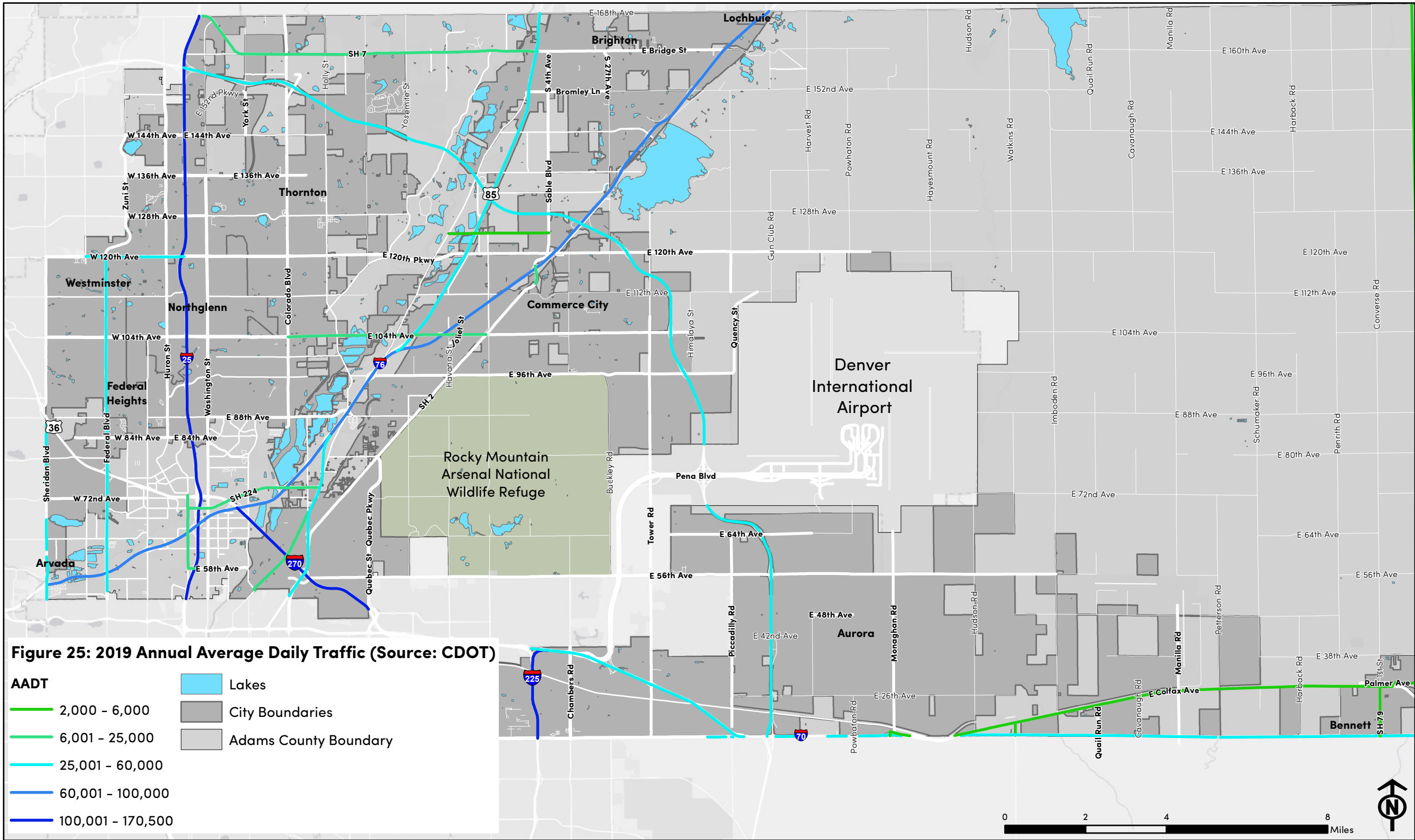


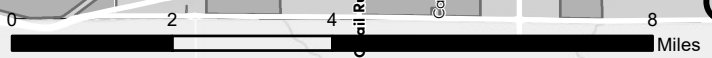
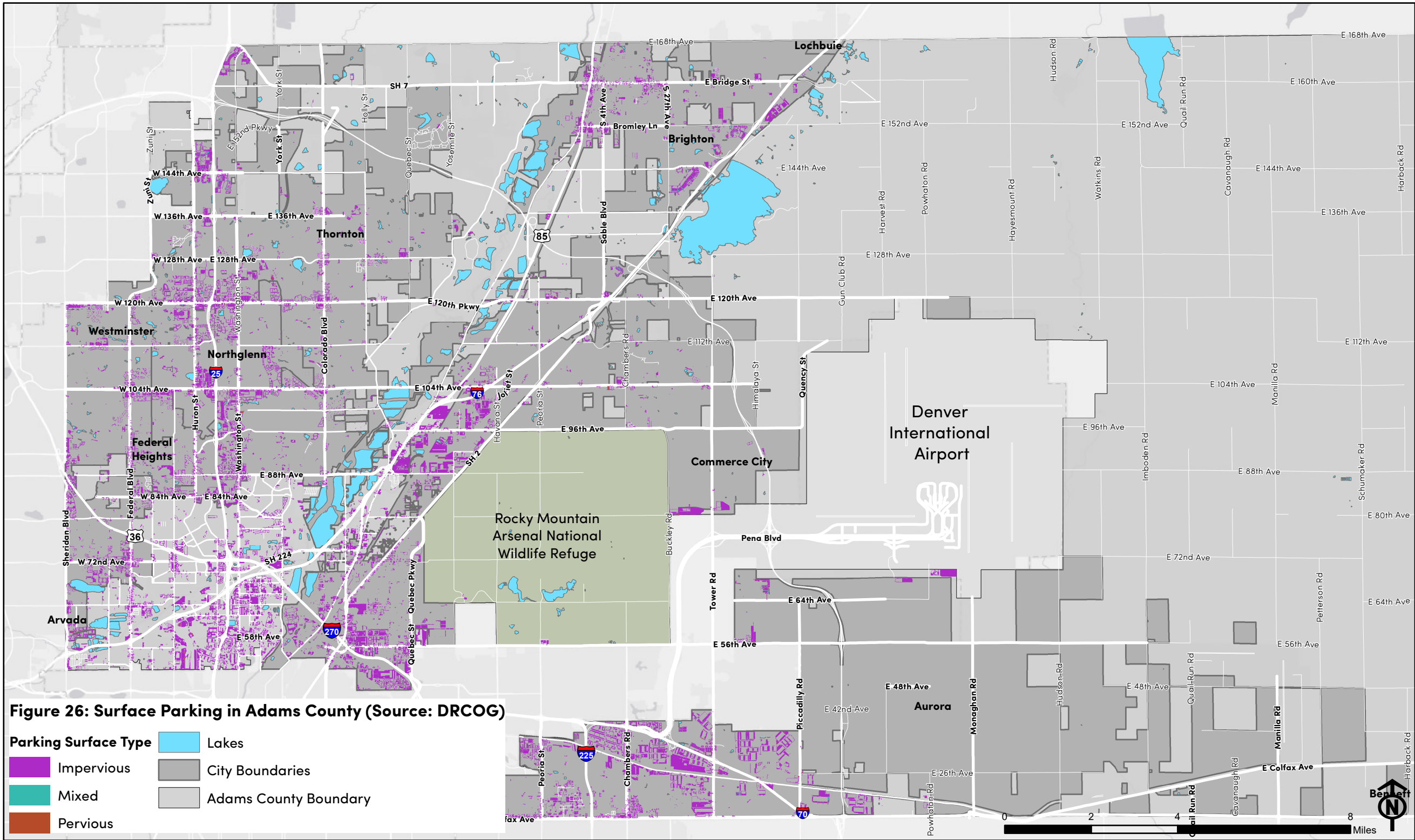
Figure 23: Unpaved Roads in Adams County

- Unpaved Roads
- City Boundaries
- Adams County Boundary

0 3.75 7.5 15 Miles







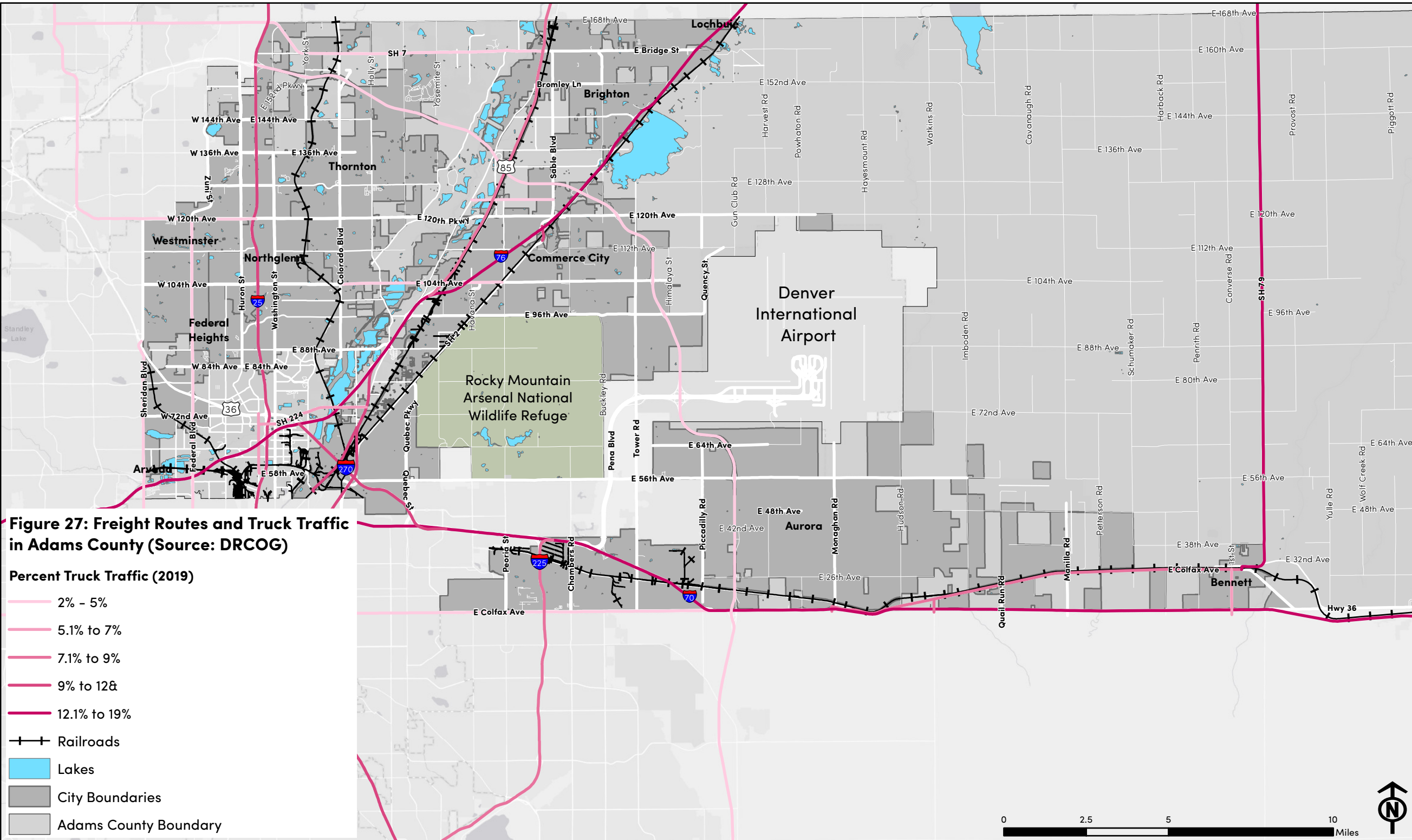


Figure 27: Freight Routes and Truck Traffic in Adams County (Source: DRCOG)

Percent Truck Traffic (2019)

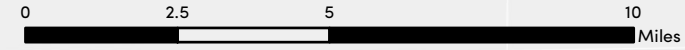
- 2% - 5%
- 5.1% to 7%
- 7.1% to 9%
- 9% to 12&
- 12.1% to 19%

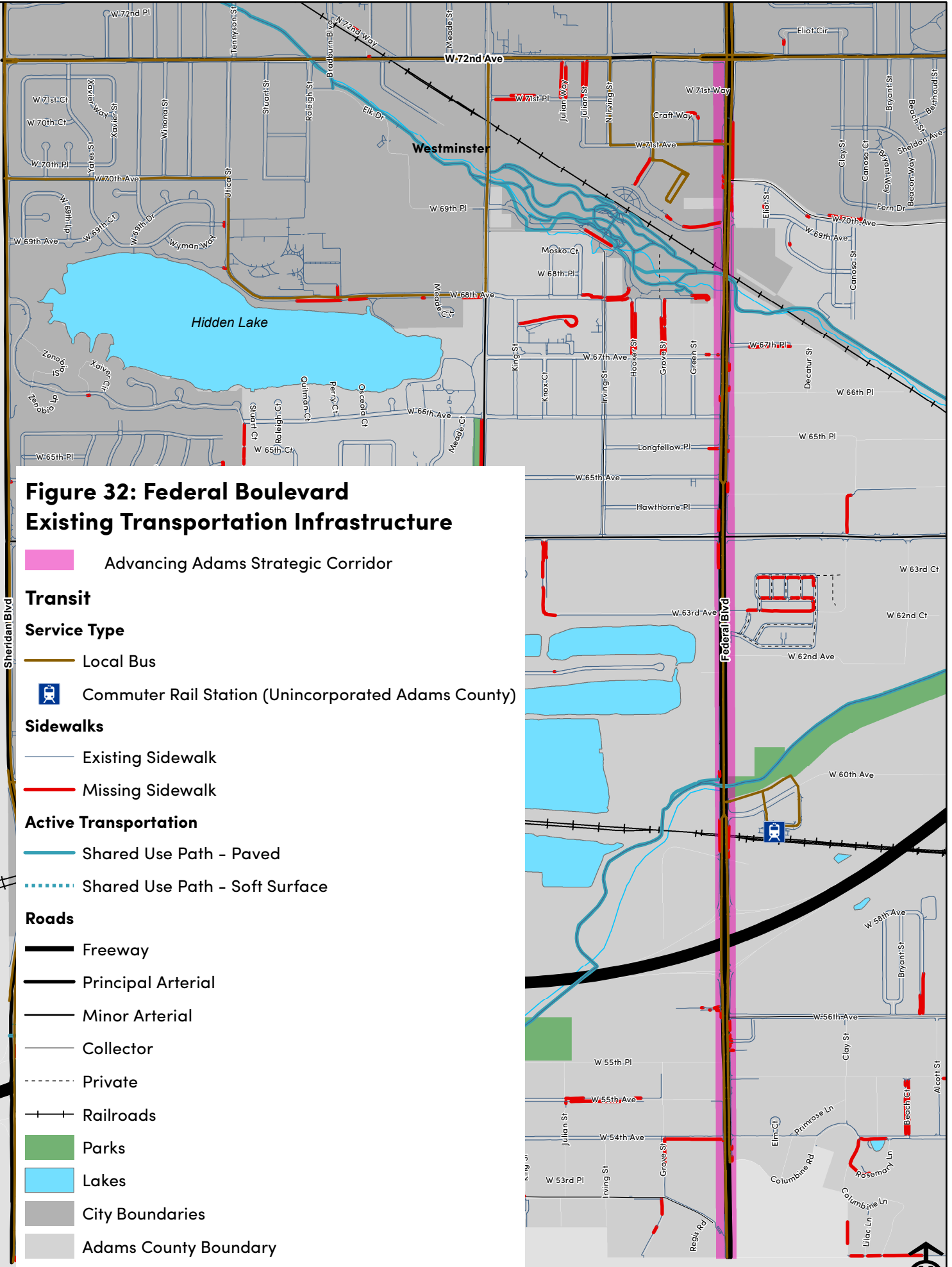
+ Railroads

■ Lakes

City Boundaries

Adams County Boundary





**Figure 32: Federal Boulevard
Existing Transportation Infrastructure**

- Advancing Adams Strategic Corridor

- Transit**
- Service Type**
- Local Bus
- Commuter Rail Station (Unincorporated Adams County)

- Sidewalks**
- Existing Sidewalk
- Missing Sidewalk

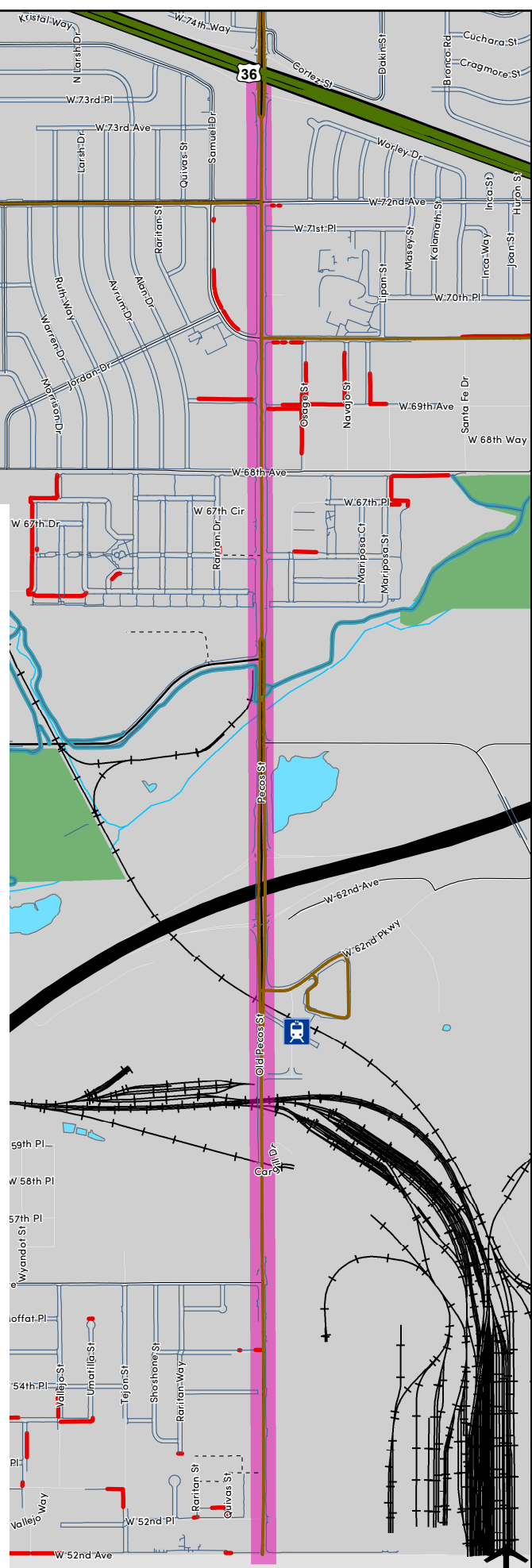
- Active Transportation**
- Shared Use Path - Paved
- Shared Use Path - Soft Surface

- Roads**
- Freeway
- Principal Arterial
- Minor Arterial
- Collector
- Private
- Railroads
- Parks
- Lakes
- City Boundaries
- Adams County Boundary

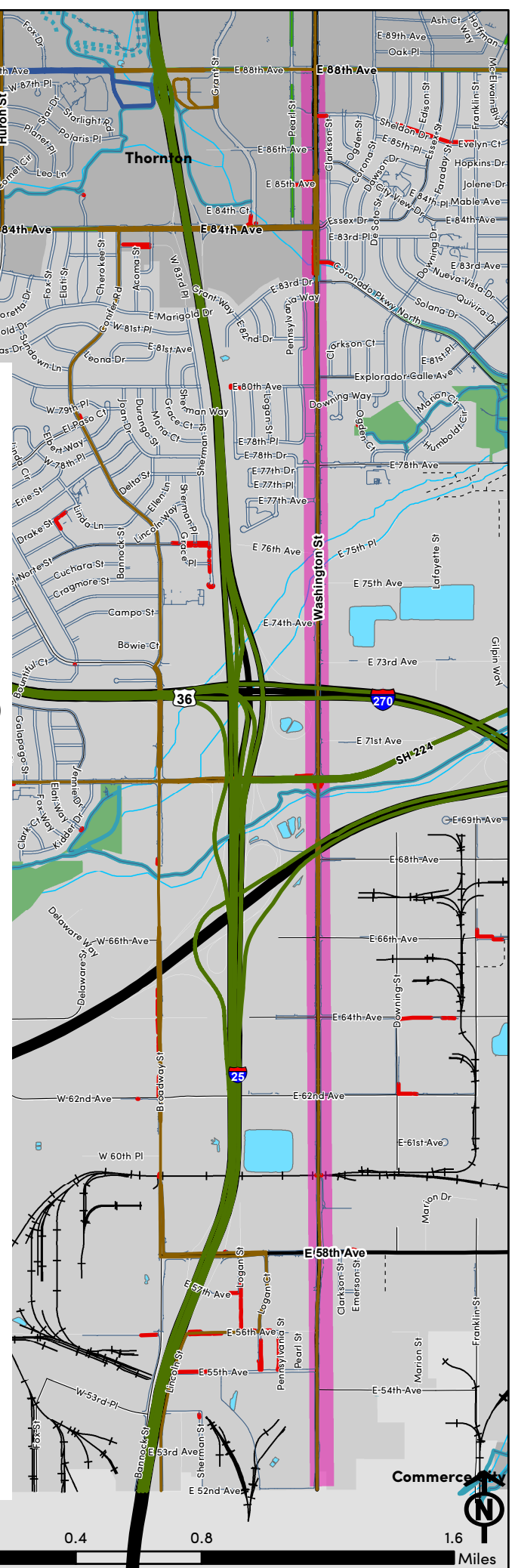
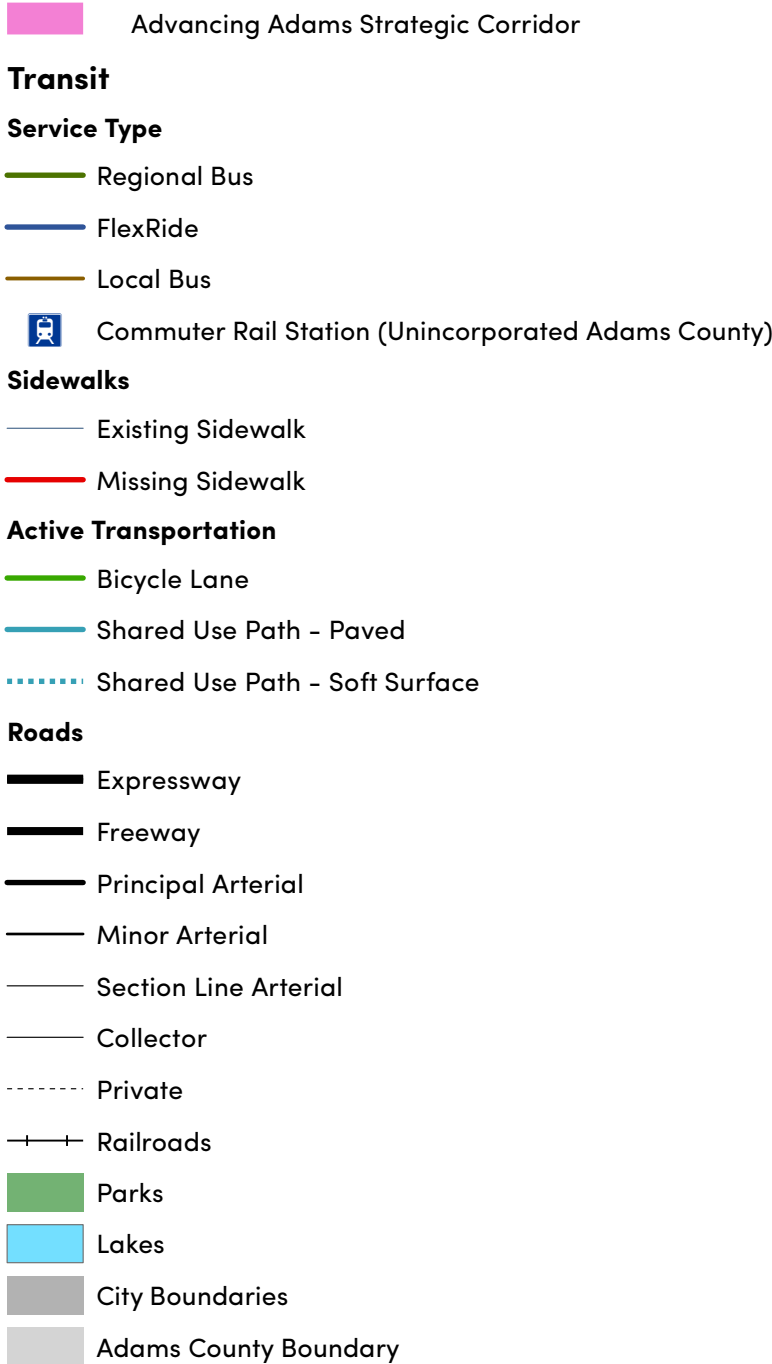


**Figure 40: Pecos Street
Existing Transportation Infrastructure**

- Advancing Adams Strategic Corridor
- Transit**
- Service Type**
- Regional Bus
- Local Bus
- Commuter Rail Station (Unincorporated Adams County)
- Sidewalks**
- Existing Sidewalk
- Missing Sidewalk
- Active Transportation**
- Shared Use Path - Paved
- Shared Use Path - Soft Surface
- Roads**
- Expressway
- Freeway
- Principal Arterial
- Minor Arterial
- Collector
- Private
- Railroads
- Parks
- Lakes
- City Boundaries
- Adams County Boundary



**Figure 45: Washington Street
Existing Transportation Infrastructure**



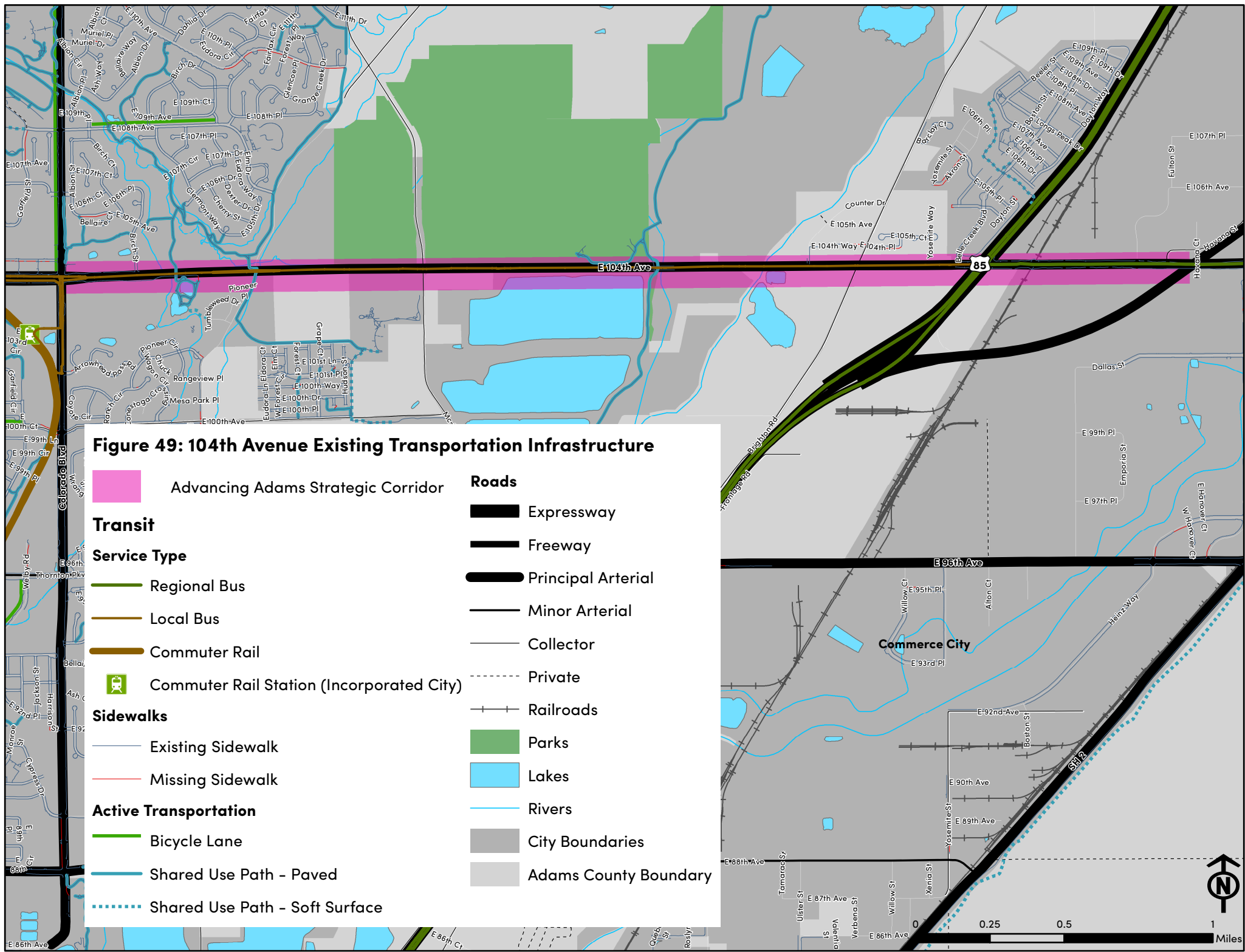


Figure 49: 104th Avenue Existing Transportation Infrastructure

- Advancing Adams Strategic Corridor
- Transit**
- Service Type**
- Regional Bus
 - Local Bus
 - Commuter Rail
 - Commuter Rail Station (Incorporated City)
- Sidewalks**
- Existing Sidewalk
 - Missing Sidewalk
- Active Transportation**
- Bicycle Lane
 - Shared Use Path - Paved
 - Shared Use Path - Soft Surface
- Roads**
- Expressway
 - Freeway
 - Principal Arterial
 - Minor Arterial
 - Collector
 - Private
 - Railroads
- Other Features**
- Parks
 - Lakes
 - Rivers
 - City Boundaries
 - Adams County Boundary



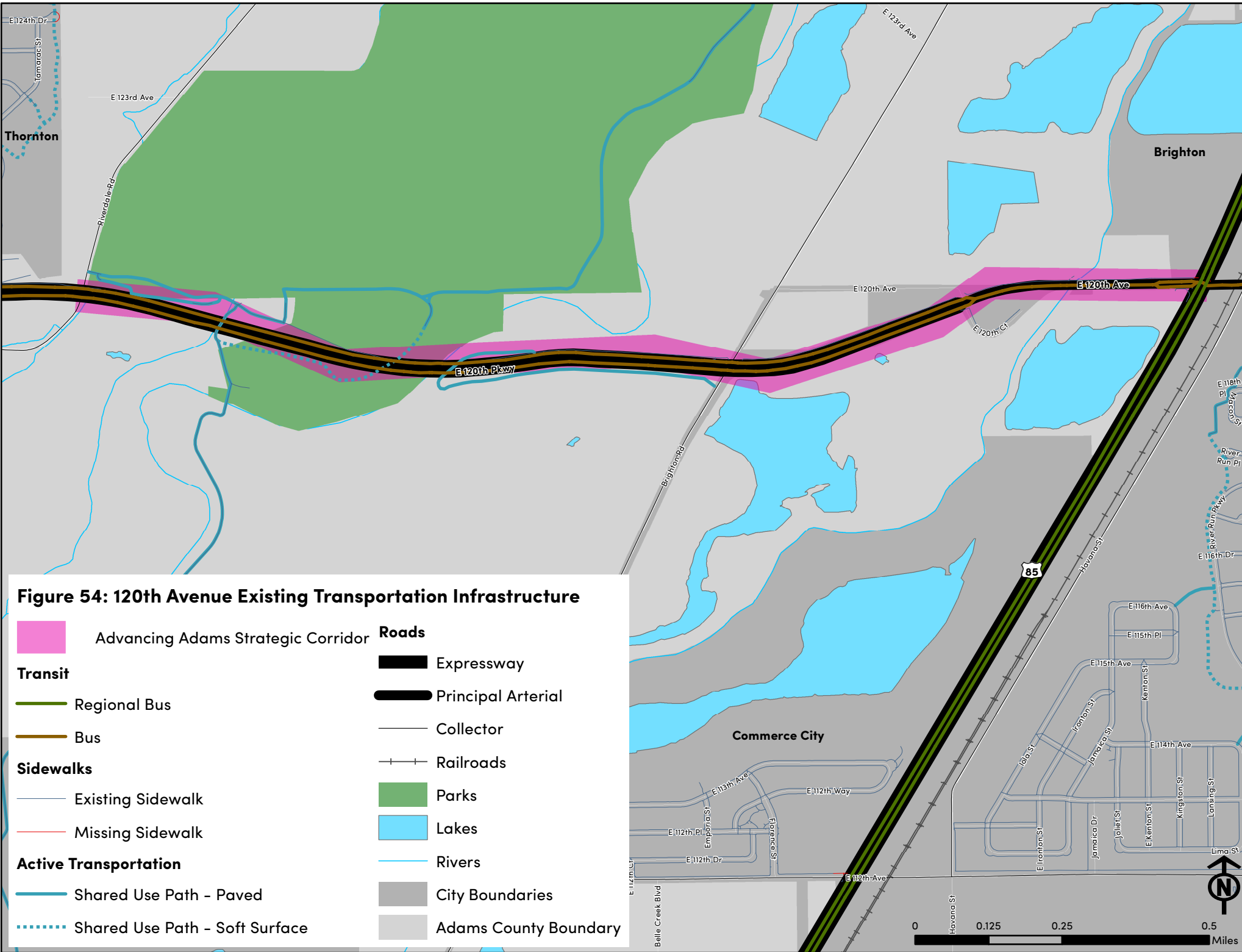


















Figure 54: 120th Avenue Existing Transportation Infrastructure

- | | | | |
|--|------------------------------------|---|-----------------------|
|  | Advancing Adams Strategic Corridor | Roads | |
|  | Regional Bus |  | Expressway |
|  | Bus |  | Principal Arterial |
| Sidewalks | |  | Collector |
|  | Existing Sidewalk |  | Railroads |
|  | Missing Sidewalk |  | Parks |
| Active Transportation | |  | Lakes |
|  | Shared Use Path - Paved |  | Rivers |
|  | Shared Use Path - Soft Surface |  | City Boundaries |
| | |  | Adams County Boundary |