



City of Arvada

City Council Agenda

OCTOBER 28, 2024
WORKSHOPS

Councilmembers:

Lauren Simpson, Mayor
Randy Moorman, Mayor Pro-Tem
Shawna Ambrose, District 2
Sharon Davis, At large
Lisa Feret, At large
Bob Fifer, District 4
John Marriott, District 3

Staff Members Usually Present:

Linda Haley, Acting City Manager
Don Wick, Deputy City Manager
Rachel Morris, City Attorney
Jacqueline Rhoades, Director of Public Works
Sharon Israel, Director of Utilities
Jessica Garner, Director of Community & Econ. Dev.
Bryan Archer, Director of Finance
Gabriella Bommer, Director of Human Resources
Rachael Kuroiwa, Director of Communications & Engagement
Kristen Rush, City Clerk

Info: 720-898-7550

**THIRD FLOOR CONFERENCE ROOM
EXECUTIVE SESSION
5:00 P.M.**

Legal Advice, Pursuant to CRS 24-6-402(4)(b) Regarding the application of required criteria to the Comprehensive Plan Amendment request on the Kilmer RV Storage project

**CITY COUNCIL CHAMBERS
6:00 PM**

1. Call to Order/Roll Call of Councilmembers
2. Workshops
 - A. Paid Parking in Olde Town Discussion
 - B. Transportation System Plan Update
 - C. Staff Updates
3. Adjournment



REPORT TO CITY COUNCIL WORKSHOP

AGENDA ITEM
2.A.

TO: THE HONORABLE CITY COUNCIL

DATE: October 28, 2024

SUBJECT: Paid Parking in Olde Town Discussion

Report in Brief

This workshop will provide background of the managed parking zones within the City as well as the status of parking management and the City's active parking enforcement efforts within the Olde Town district. Approaches to paid parking management to address supply and demand concerns in the district during peak times will be presented.

Background

Parking supply attrition in Olde Town coupled with improvements, investments, and an increase in popular events has created a demand for available on-street parking that has surpassed the supply. During peak periods (lunchtime, evenings, weekends and special events) this supply shortage and higher demand can create parking management issues and safety concerns.

When supply is not available to meet demand, vehicles circle around the district searching for available parking, illegal parking (no parking zones, loading zones, blocking fire hydrants, blocking driveway/alleyway access, etc.), and time-limit noncompliance further depleting the available supply. The high demand for these limited parking assets creates challenges for the district's visitors, patrons and residents. With on-street parking currently free, visitors and patrons of the local businesses have no incentive to search for off-street parking, leading to the underutilization of the City's Olde Town Transit Hub parking garage, and significant spill over into adjacent neighborhoods.

The first parking study in Olde Town was completed in 2010 and at that time paid parking was a recommendation to balance supply with demand and increase the turnover rates of the City's limited on-street parking assets. Also, as part of the July 27, 2020 City Council Workshop held prior to approval of the intergovernmental Agreement with RTD, paid parking as a parking management strategy was presented. This Workshop was requested by the Council to review the latest utilization data and provide direction to the Arvada team on a future parking management strategy.

Strategic Alignment

The parking program aligns with the following City Council Strategic Plan items:

- Infrastructure Work System Services INF6: Develops, advances, and implements systems of asset management to support levels of service commitments.
- Local Economy Strategic Goal 2: Strive to understand the changing needs of our business community while continuously reviewing and enhancing city operations to improve the customer experience.
- Local Economy Strategic Goal 3: Maintain and enhance public assets to attract residents, businesses, workers, and visitors.
- Local Economy Strategic Goal 4: Identify and utilize new sources of revenue and funding to deliver efficient and cost-effective services that promote economic growth.

Next Steps

The Arvada team will incorporate the council direction into a future parking management strategy in Olde Town to support the local community.

Prepared by:

Derek Fern, Parking and Travel Demand Management Coordinator

Reviewed by:

Approved by:

Chris Lisberg, Assistant City Engineer	10/3/2024
Jacqueline Rhoades, Public Works Director	10/9/2024
Bryan Archer, Director of Finance	10/9/2024
Tammy Hedlund, Legal Specialist	10/10/2024
Kelsy Sargent, Assistant City Attorney	10/18/2024
Don Wick, Deputy City Manager	10/18/2024
Brad Moloney, Deputy City Attorney	10/18/2024
Linda Haley, Acting City Manager	10/18/2024

Enclosure, exhibits & attachments required to support the report

Paid Parking Workshop

A discussion on paid parking in Olde Town Arvada

Presenters



Derek Fern

Travel Demand Mgmt. and
Parking Coordinator



Drew Willsey, AICP

Planner & Analyst



WALKER
CONSULTANTS

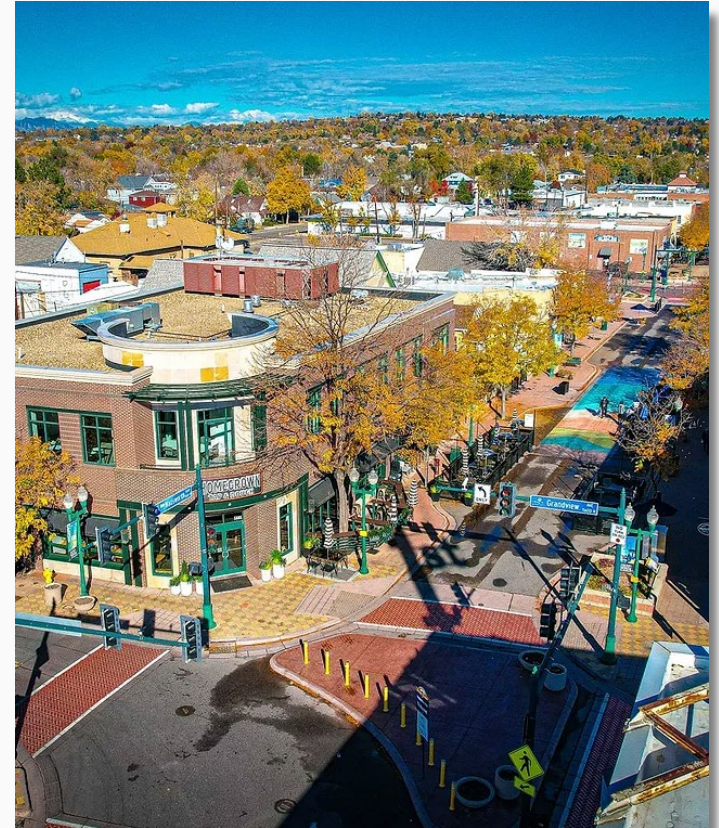
Purpose and Background

- Council Request
- Parking Demand Management in Olde Town
 - On-street demand surpasses current supply during peak times
- Past Council Direction
 - July 27, 2020 Council Workshop on IGA with RTD for Transit Hub
 - Continue to collect data to inform future decisions on Olde Town parking management
 - Paid parking should be considered for the public parking supply in the heart of Olde Town before being implemented in the Transit Hub



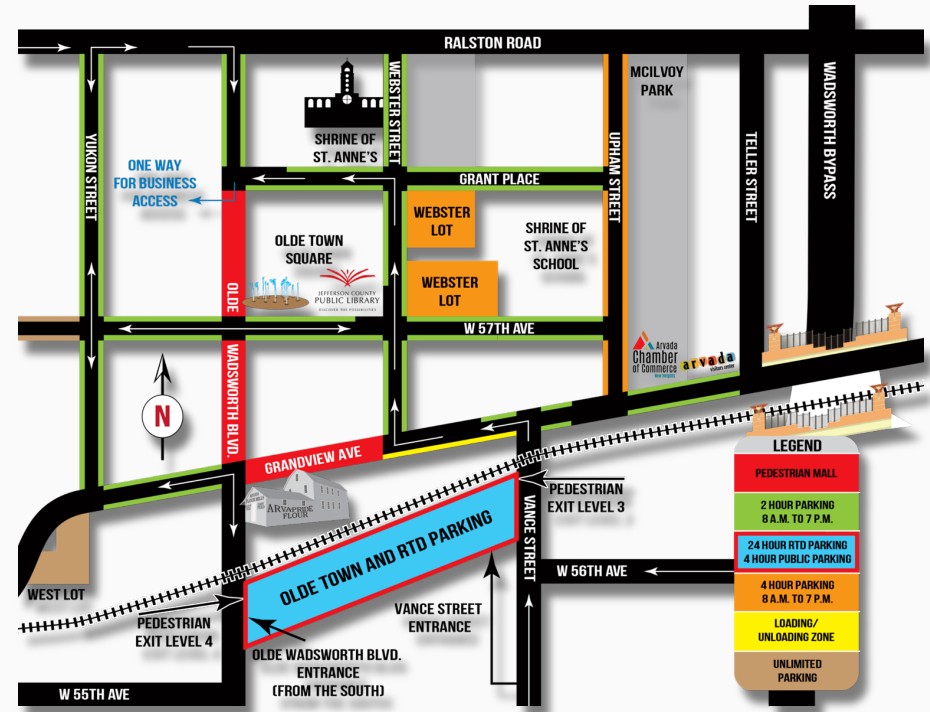
Background

- Brief history of on-street parking in Olde Town
 - Angle parking converted to parallel parking to expand sidewalks
 - Time restrictions enacted in 2016
 - Olde Town Transit Hub construction
 - Longer term parking option - commuters, visitors and employees
 - Pedestrian Mall creation and semi-permanent design - 50 spaces
 - Redevelopment within the district
 - Most recent - New Town



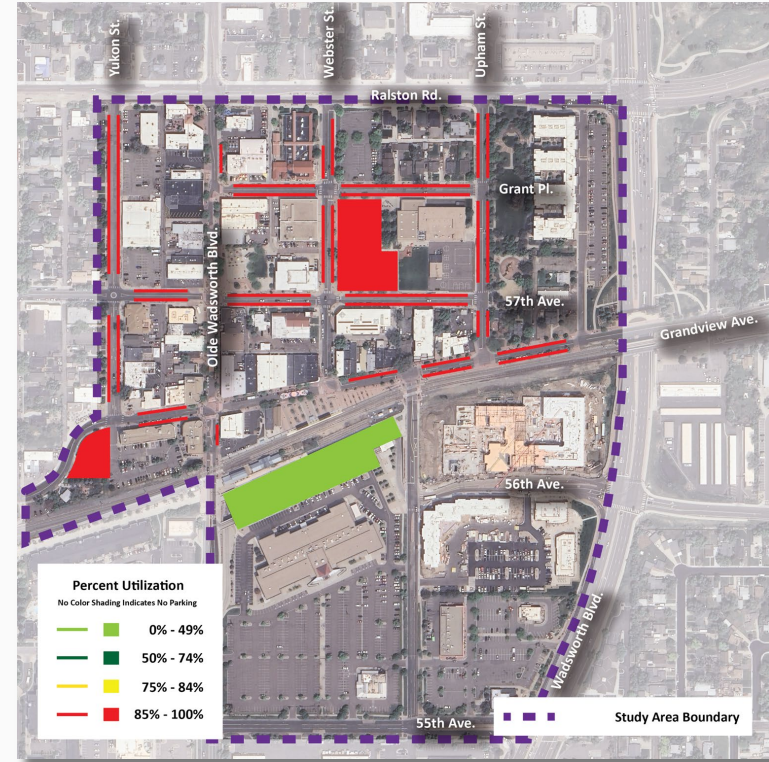
Current Conditions

- On-street public parking spaces - 300
- Off-street public parking spaces - 762
 - 629 in Transit Hub
 - 103 in Webster Lot (leased property)
 - 30 in West Lot (west side)
- Off-street private parking spaces - 1032
 - 598 for Harkins Lot
 - 81 in Shrine of St. Anne's
 - 67 in West Lot (east side)
 - 40 in Elk's South Lot (paid spaces)

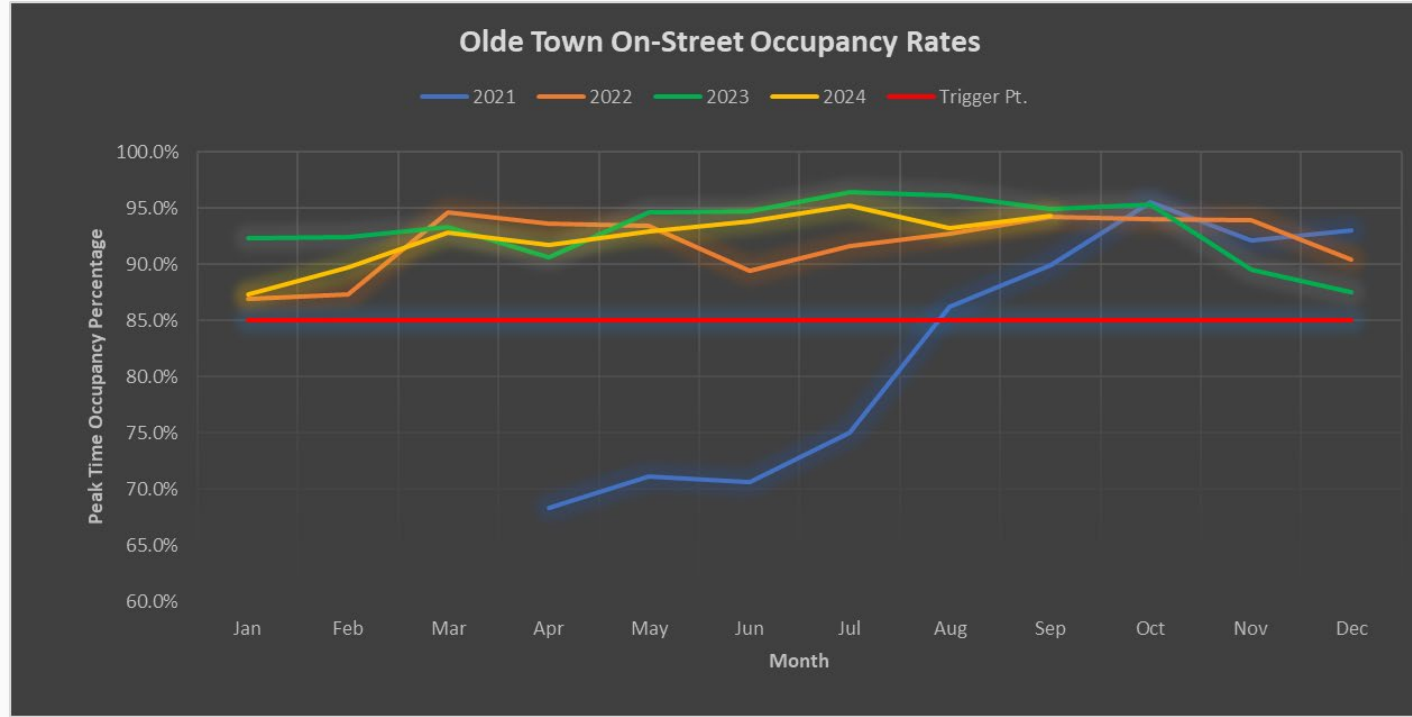


Current Conditions (Continued)

- Peak time occupancy of public parking assets
 - Average of 92% on-street occupancy on a daily basis*
 - Higher on evenings and weekends - 97% - 100%
 - Near 100% occupancy daily in the City managed public parking lots
 - Average Hub peak time occupancy is 35%
 - Higher during events - between 55% and 90% depending on the event



Current Conditions (Continued)



Avg. Monthly Peak Times

- 12pm - 2pm
- 5pm - 7pm
- 11am - 7pm on Weekends

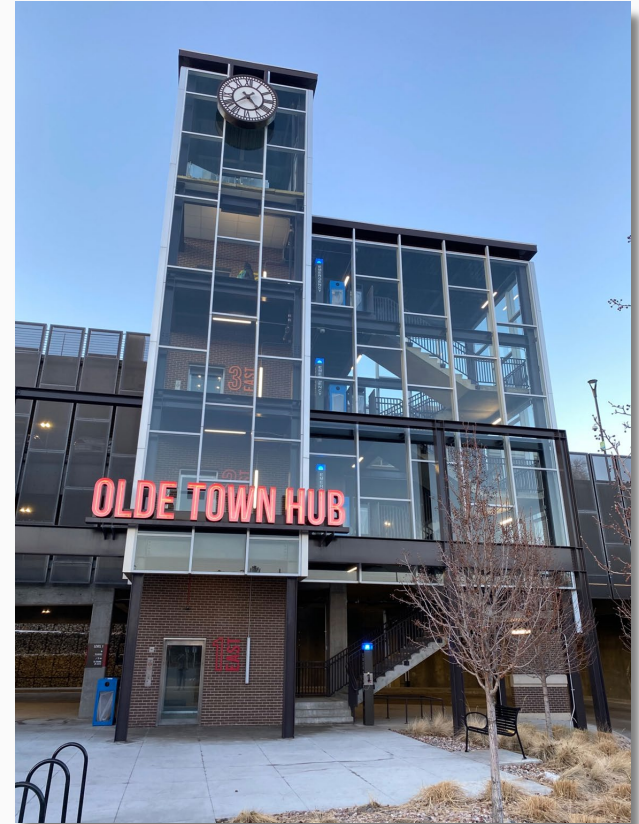
Customer Experience

- Parking unavailable close to destination
- Low turnover rate - inefficiencies
- Circling the block
 - Unnecessary traffic congestion
 - Additional vehicle emissions
- Illegal parking seen as only option
 - Contributing to safety concerns from visitors and residents
- Parking Citations for overtime and illegal parking
- Free parking is subsidized by General Fund



Parking Ambassador Operation

- Current Municipal Code Enforcement
 - Chapter 54, Articles II (Model Traffic Code) and III Division 1. (Local Parking Regulations)
- Operation snapshot
 - 11 hrs./ day (8am-7pm), 365 days/ year
 - On-street and Transit Hub parking compliance
 - Data Collection
 - On-street occupancy and Transit Hub utilization
 - Neighborhood to West of Olde Town
 - Customer experience and customer service



Parking Ambassador Operation

- Average of 50 customer issue resolutions per month (citation questions, residential/employee permit issues, requests for patrols in neighborhood permit zones, Hub registration issues, etc.)
- Number 1 violation is time-limited infractions
 - Longer term parkers (RTD riders and employees) continue to violate time limits
 - Low turnover contributes to circling, diminished supply, poor customer experience, increase in illegal parking
- 11 zones across the City (Olde Town, public parks, and within ½ mile of Arvada HSs)





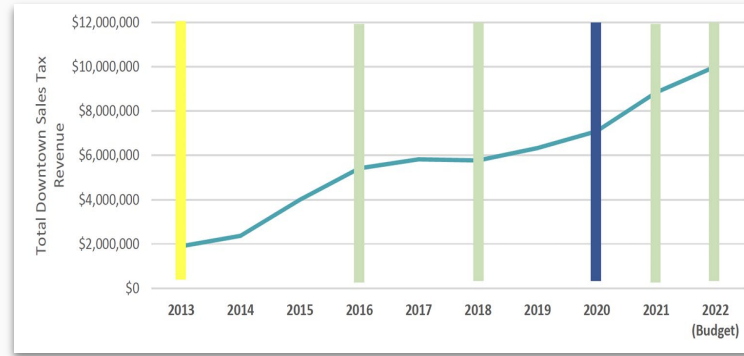
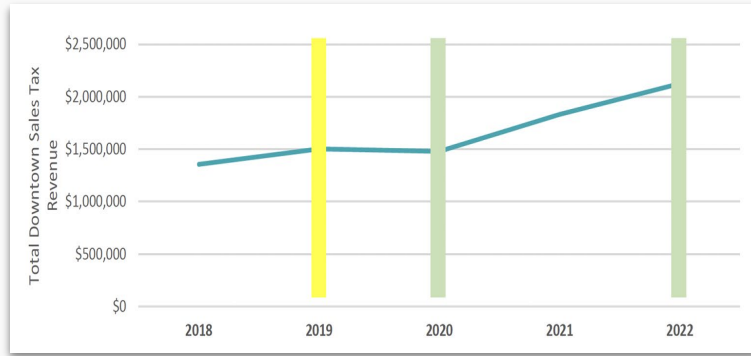
Paid Parking as a Parking Demand Management Strategy

Goals and Benefits of Paid Parking

1. Provides City with market-based and cost-based tools to incentivize desirable parking behavior, which helps to ensure that parking assets are being allocated adequately and as intended.
2. Balances parking demand and more evenly distributes it across time and across facilities by giving users a menu of parking options and plenty of choice.
3. Provides dedicated revenue stream to fund infrastructure improvements and/or additional staffing resources that help to elevate the customer experience.
4. Can help to reduce perceptions of “unfair” or punitive enforcement by clearly attaching and associating the rules and violations with parking fees and rates.
5. Paid parking infrastructure can help to boost enforcement efficiency and provide parking data.
6. Can help to reduce “circling” activity, improving safety and traffic congestion.
7. Helps to ensure that only those who need parking in Olde Town are paying for it.

Paid Parking in Peer Communities: Successes Achieved

- Academic studies have shown that that increased on-street rates had the effect of increasing revenues for adjacent restaurants in high-parking-demand environments.
 - In both cases, though shorter lengths of stay were observed, that was more than offset by increased customer throughput and customer turnover.
- Across Colorado, there are at least 4 communities where paid parking has been implemented or expanded and community and business sentiment has been or become positive.



- Year paid parking was implemented
- Year changes were made to program
- Sales tax rate increase

Downtown sales tax revenue by year in downtown Idaho Springs (left)
and Manitou Springs (right)

Parking Operations and Funding in Peer Communities

- Instead of parking operations & management falling under another city department and the general fund, as they currently do in Arvada, they can be separated into a standalone entity and operate as a special revenue fund, enterprise fund, or parking authority.
- **Special revenue fund**
 - Revenues and expenditures are broken out separately, though backfill into and from general fund can still occur.
 - Peer communities include Aurora, Fort Collins, and Westminster.
- **Enterprise fund**
 - Revenues and expenditures are independent and typically “walled off” from general fund.
 - Parking enterprises operate with a degree of autonomy, though they are not a separate political body.
 - Peer communities include Colorado Springs, Pueblo, and Boulder.
- **Parking authority**
 - Typically financially and politically independent from municipality.
 - May have own elected or appointed political body.
 - Authorities are not common in Colorado, though they are in other states (Montana).

Parking Operations and Funding in Peer Communities

- Sources of funding for a parking system can be diverse and can be supplemented from or by one or several special districts.
- Boulder is likely the best example in Colorado of municipality that uses special districts to fund parking.
 - In addition to the general fund, Boulder has 5 overlay districts.
 - Some districts overlap each other and overlapping areas may qualify for or receive revenue from all the individual funding sources associated with each district.
 - Funding for parking for all of Boulder's districts comes from at least 12 different areas or mechanisms.
 - Other than parking (new construction, enforcement, operations, maintenance, etc.), revenue also funds other mobility- and access-related strategies.

Communication & Engagement Strategy

The City's overarching approach: purposeful, meaningful, accessible, multi-channel, strategic and responsive, proactive

Our tone: plain language, trustworthy, transparent

Any path forward for a paid parking program would be approached with strategic and proactive communication and engagement.

Operational Implementation Feasibility

- Many app-based and multispace kiosk options
 - Similar to the options currently utilized in the Transit Hub
 - Passport (app-based platform) and T2 (kiosks) could be expanded to include paid parking on-street (solar powered capabilities)
 - Ties into enforcement through current LPR system
- Contract updates (systems and operation contractor)
- Sign package
- Consultant work to create dynamic pricing model based on demand

Council Direction and Questions

- Questions?
- Next Steps



REPORT TO CITY COUNCIL

AGENDA ITEM
2.B.

TO: THE HONORABLE CITY COUNCIL

DATE: October 28, 2024

SUBJECT: Transportation System Plan Update

Report in Brief

The purpose of this workshop agenda item is to update the City Council on the progress of the Transportation System Plan's development. The team has created an unconstrained project list of Future Multimodal Opportunity projects that were identified to improve the transportation network for vehicles, bicyclists, pedestrians, and transit users. The unconstrained project list will be compared against the Plan's goals and objectives so that priorities can be established.

Prepared by:

Kellee Van Bruggen, Transportation Planner

Reviewed by:

Approved by:

Chris Lisberg, Assistant City Engineer	10/9/2024
Jacqueline Rhoades, Public Works Director	10/9/2024
Bryan Archer, Director of Finance	10/9/2024
Tammy Hedlund, Legal Specialist	10/10/2024
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CONNECTING ARVADA

Transportation System Plan





AGENDA:

- ☐ Team Introduction
- ☐ Project Update
- ☐ Outreach
- ☐ Project List & Development
- ☐ Next Steps
- ☐ Comments



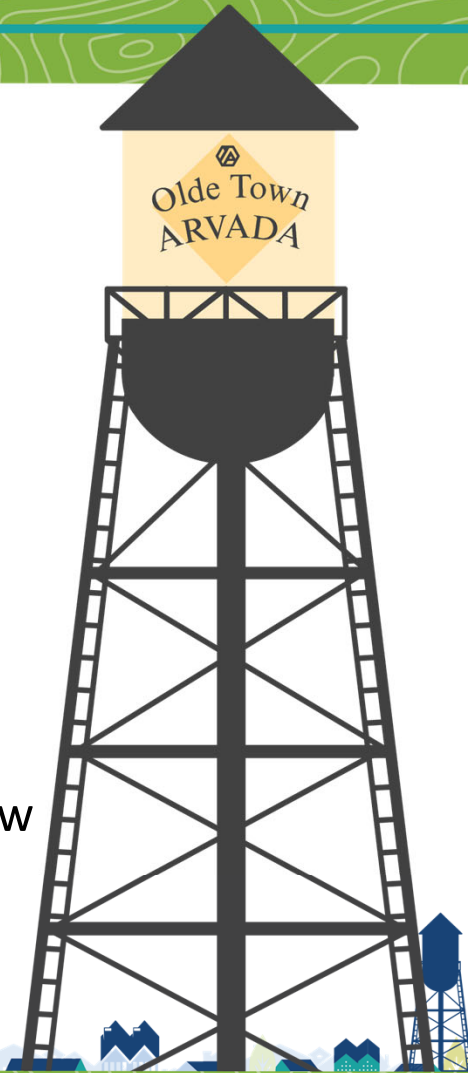


Team (re)Introduction

CoA Leadership – Chris Lisberg

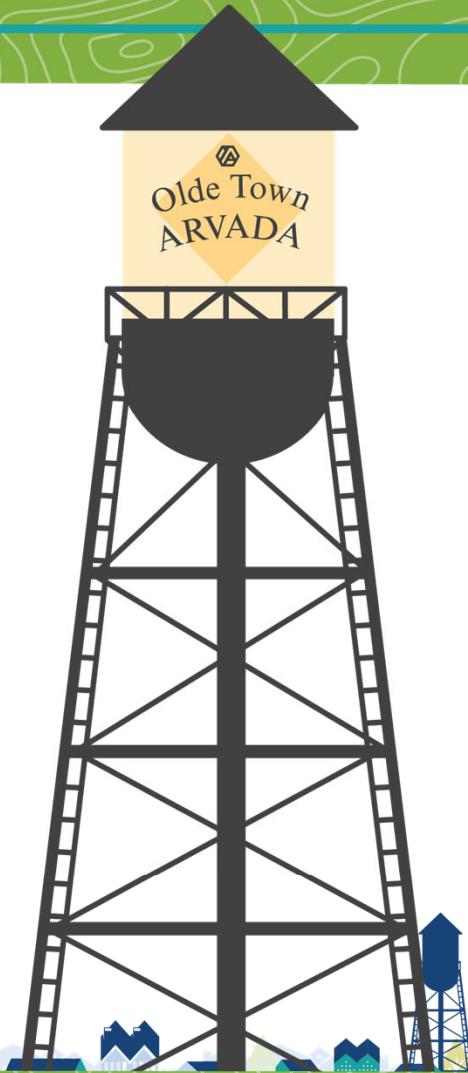
CoA Project Management Team – Kellee Van Bruggen / Thomas Shaw

Consultant Leadership – Mike Griffith PM / Curtis Rowe Deputy PM





Project Update





Project Objectives

- ✓ Identify existing and anticipated future **transportation deficiencies**
- ✓ **Set priorities** for the future of Arvada's transportation system
- ✓ **Develop potential projects** to address deficiencies for all modes
- ✓ **Evaluate projects** against quantitative and qualitative measures to identify priority levels
- ✓ Match high-priority projects with potential local, state, or federal **funding sources**
- ✓ **Build interest and excitement** among the public and elected officials to invest in transportation





Project Schedule

Project Schedule

**Phase 1: Assess
Current Conditions**

**June 2023 –
July 2024**

**Phase 2:
Develop the Plan**

**August 2024 –
November 2024**

**Phase 3:
Final Report**

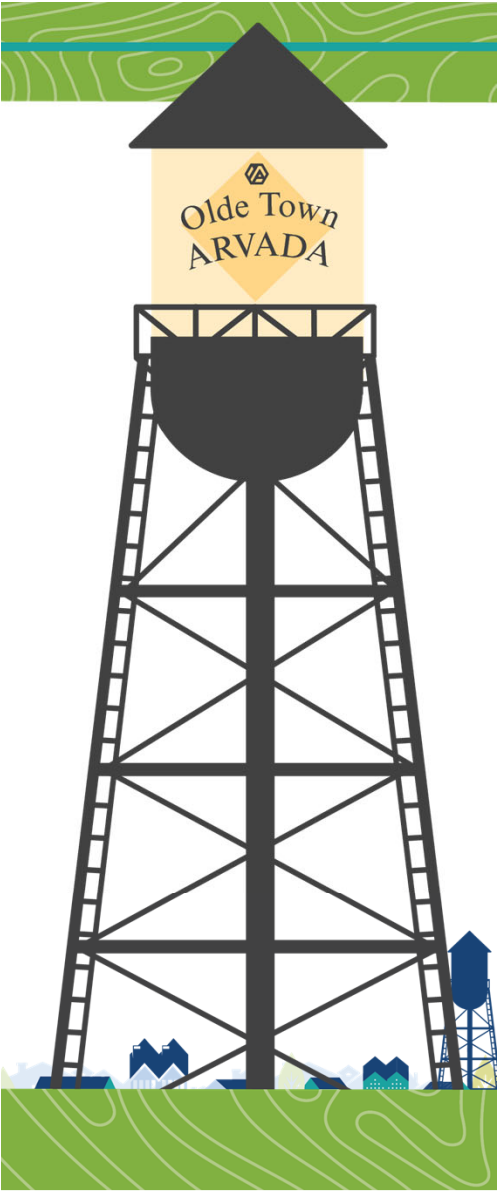
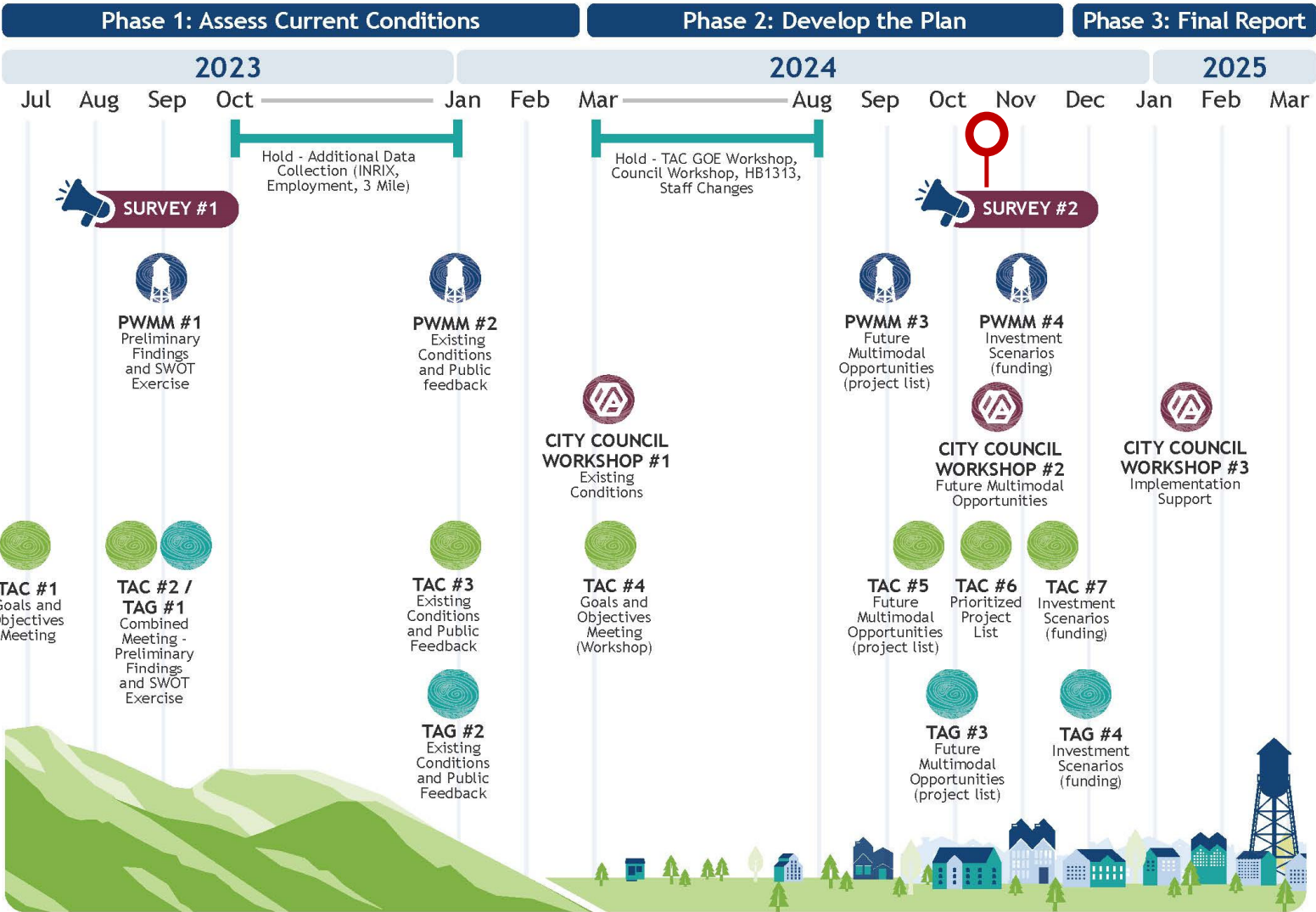
**December 2024 –
February 2024**



YOU ARE HERE

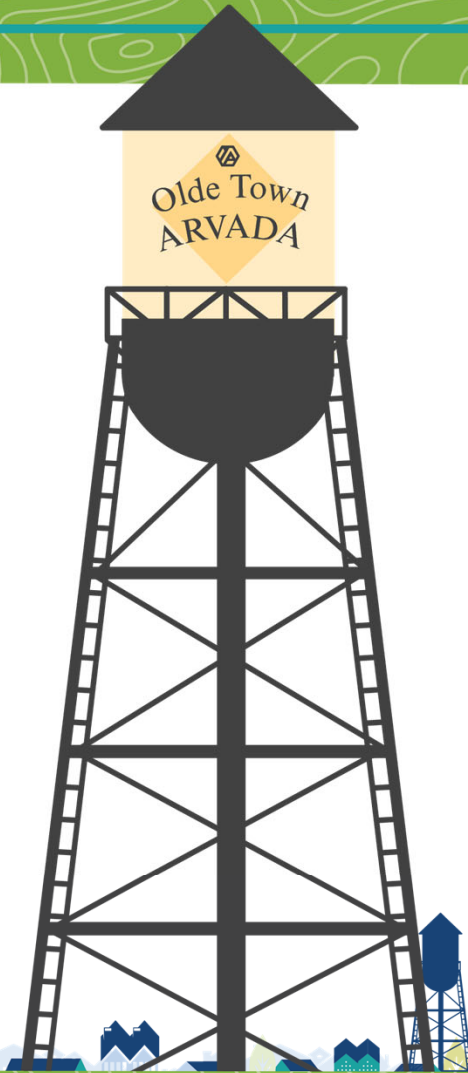


Transportation Systems Plan: Stakeholder Outreach



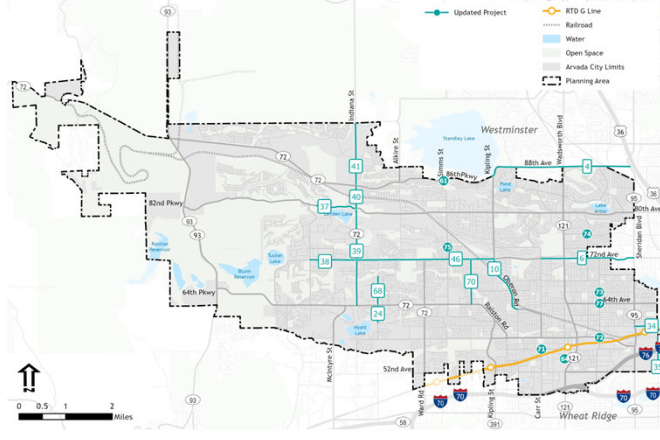
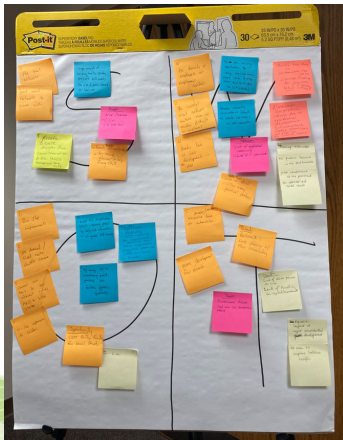


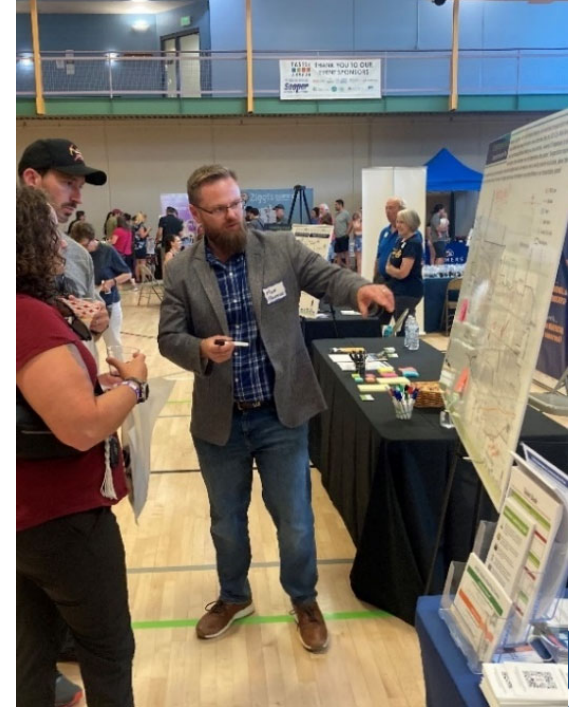
Outreach





Stakeholder Outreach (TAC, TAG, PW, CC)

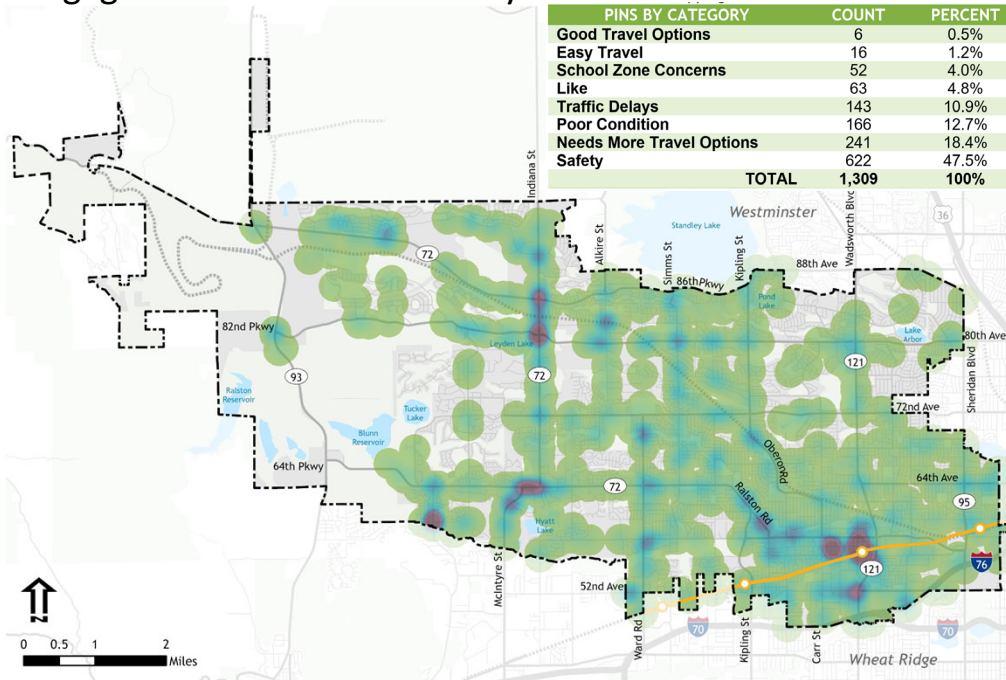




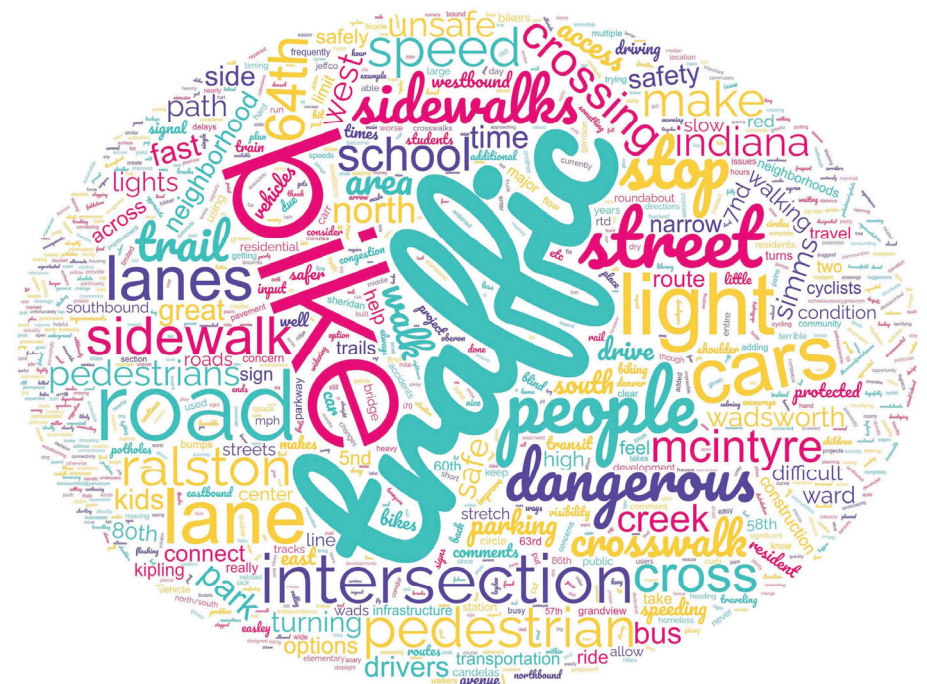


Survey #1 (Completed fall 2023)

Engagement Comment Density



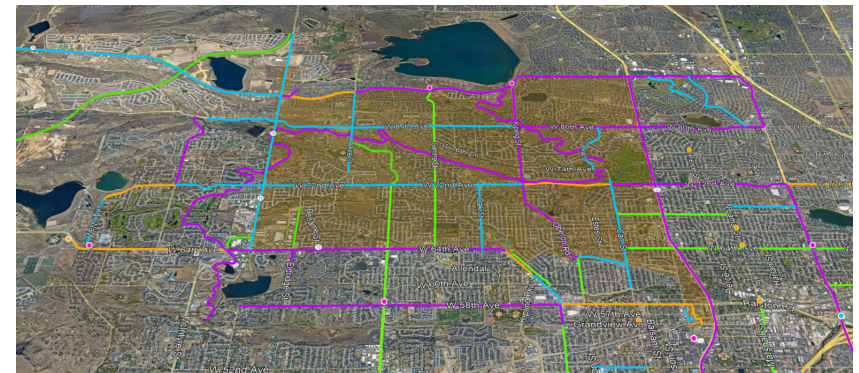
1,300 Comment Word Cloud



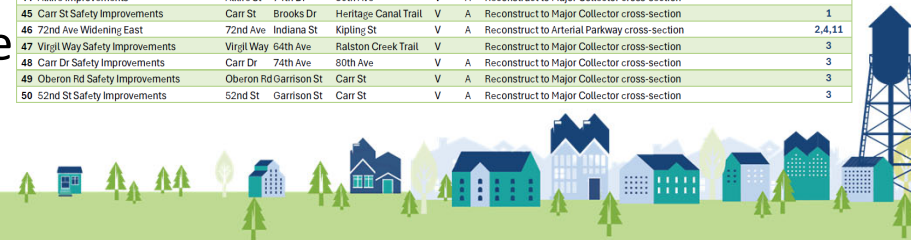


Survey #2 (Oct-Nov)

- October through the end of November
- Prioritize by project categories
 - Active
 - Vehicular
 - Transit
- Prioritize by project scale
 - Large/Medium/Small
- Feedback on City spending
 - New Infrastructure vs Existing maintenance

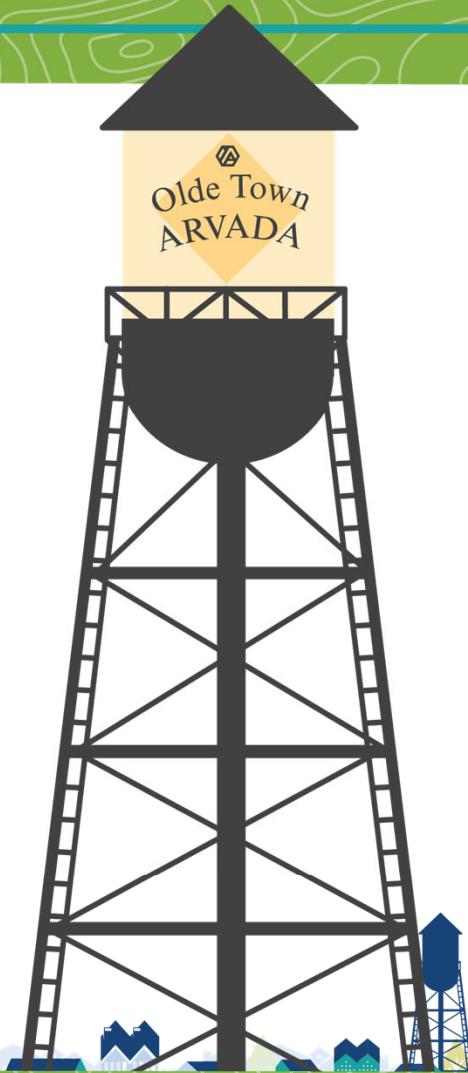


ID	NAME	PRIMARY ROUTE	FROM/AT	TO	PRIMARY MODE	SECONDARY MODE	DESCRIPTION	SOURCE
37	82nd Ave Reconstruction	82nd Ave	Orion Way	Indiana St	A		Reconstruct to Collector cross-section with sidewalk on the north side of roadway	3,11
38	72nd Ave Widening West	72nd Ave	Quaker St	Indiana St	V	A	Reconstruct to Arterial Parkway cross-section	1
39	Indiana St Reconstruction 64th Ave-82nd Ave	Indiana St	64th Ave	82nd Ave	V	A,F	Reconstruct to Arterial Parkway cross-section	2,4,5,7,11
40	Indiana St Reconstruction 82nd Ave - 96th Ave	Indiana St	82nd Ave	96th Ave	V	A,F	Reconstruct to Arterial Parkway cross-section	2,4,5,7,11
41	Indiana St Reconstruction 96th Ave - 108th Ave	Indiana St	96th Ave	108th Ave	V	A,F	Reconstruct to Arterial Parkway cross-section	2,4,5,7,11
42	80th Ave Reconstruction	80th Ave	Indiana St	Kipling St	V	A	Reconstruct to Arterial Parkway cross-section	4
43	Alkire Connection	Alkire St	80th Ave	86th Pkwy	V	A	Reconstruct to Major Collector cross-section and construct a railroad overpass	2
44	Alkire Improvements	Alkire St	74th Dr	80th Ave	V	A	Reconstruct to Major Collector cross-section	3
45	Carr St Safety Improvements	Carr St	Brooks Dr	Heritage Canal Trail	V	A	Reconstruct to Major Collector cross-section	1
46	72nd Ave Widening East	72nd Ave	Indiana St	Kipling St	V	A	Reconstruct to Arterial Parkway cross-section	2,4,11
47	Virgil Way Safety Improvements	Virgil Way	64th Ave	Ralston Creek Trail	V		Reconstruct to Major Collector cross-section	3
48	Carr Dr Safety Improvements	Carr Dr	74th Ave	80th Ave	V	A	Reconstruct to Major Collector cross-section	3
49	Oberon Rd Safety Improvements	Oberon Rd	Garrison St	Carr St	V	A	Reconstruct to Major Collector cross-section	3
50	52nd St Safety Improvements	52nd St	Garrison St	Carr St	V	A	Reconstruct to Major Collector cross-section	3





Unconstrained Project List Development Process





Step 1: Review deficiencies from existing conditions analyses (Phase 1)

Intersection
Congestion

Segment
Congestion

Pedestrian
Comfort

Bicycle
Comfort

Intersection
Crash Rates

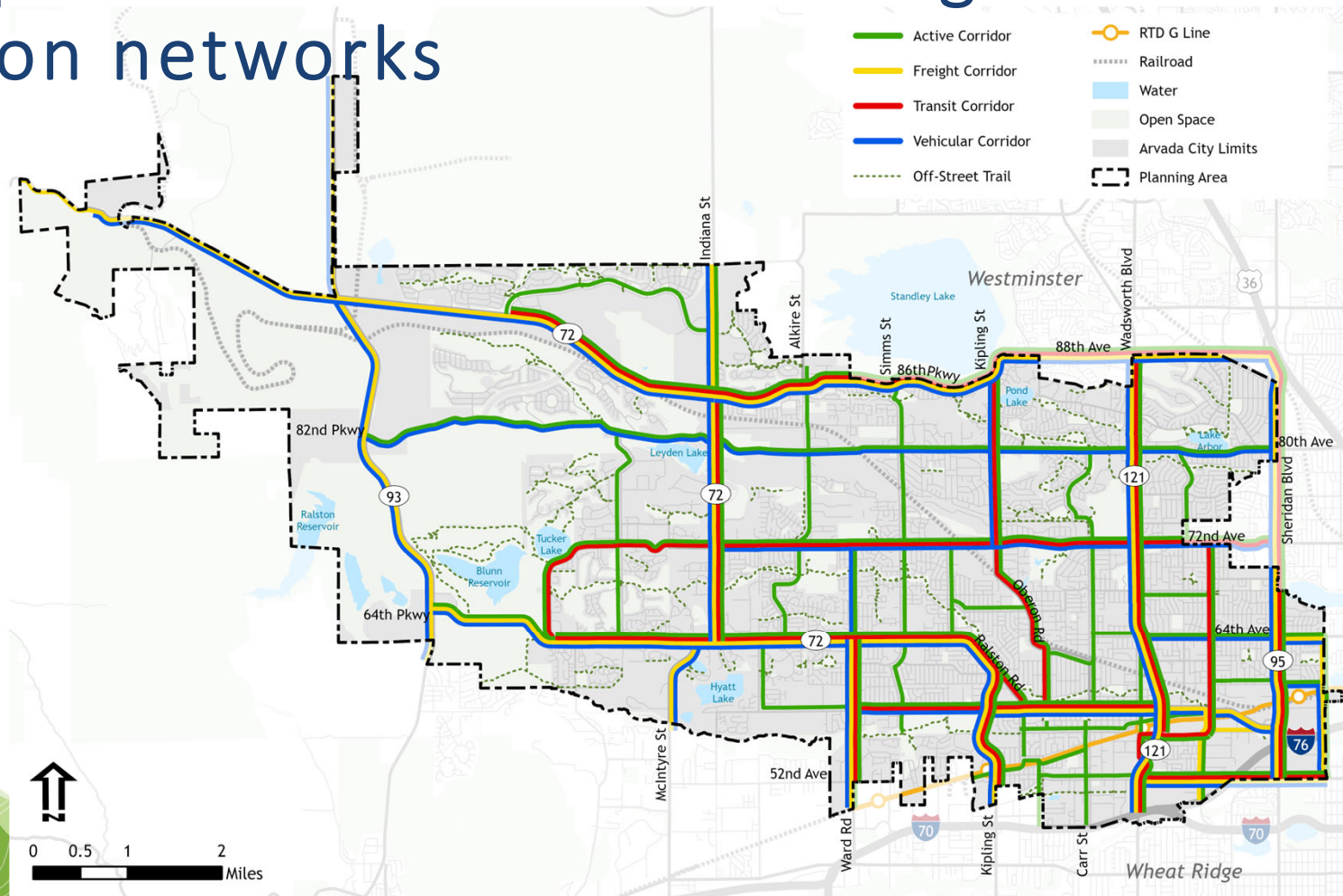
Segment
Crash Rates

Bridge
Condition





Step 2: Review deficiencies against modal vision networks





Step 3: Review deficiencies against previously recommended projects

Bicycle Master
Plan

Comprehensive
Plan

Jefferson County
TMP

Northwest Arvada
Subarea Plan

On-Demand
Microtransit
Simulation Results

Parks, Trails, &
Open Space
Master Plan

Square Lake
Subarea Plan

Westminster
Transportation &
Mobility Plan





Step 4: Develop new recommendations to address deficiencies if no previous projects

- Standard City of Arvada cross-sections
- National best practices
- FHWA Proven Safety Countermeasures
- Previous discussions with City staff





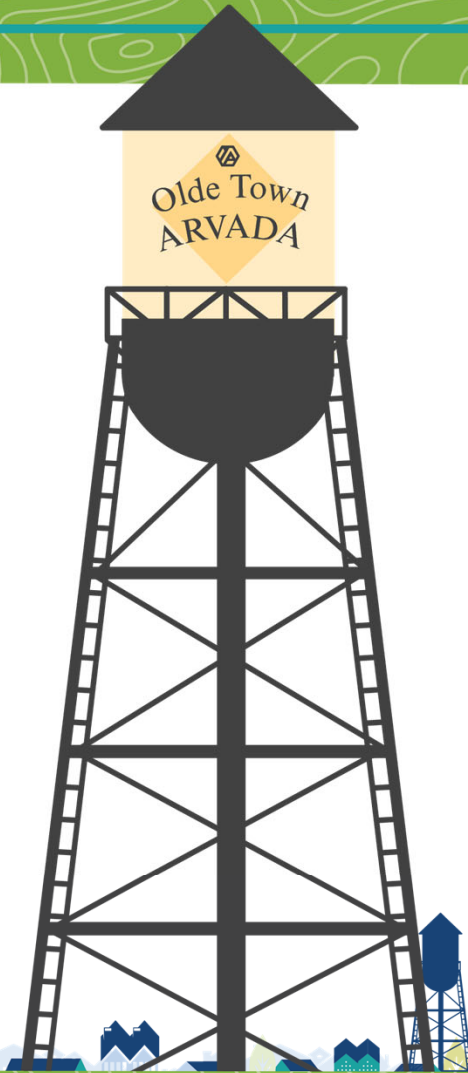
Step 5: Review any remaining previously recommended projects

- Do they fill any vision network gaps?
- Do they make sense in the context of surrounding projects?
- Do they align with overall TSP goals and objectives?
- Can they serve as an alternative to another potential project?





Unconstrained Project List





87 potential projects



41 projects that improve walking and biking



37 projects that improve vehicle travel



9 projects that improve transit

27 projects that add off-street trails

12 projects that improve on-street biking

1 project that improves sidewalk gaps citywide

1 project that permanently closes streets to traffic in Olde Town

21 projects that improve an existing road or bridge

12 projects that improve an intersection

3 new roadway connections

1 congestion study

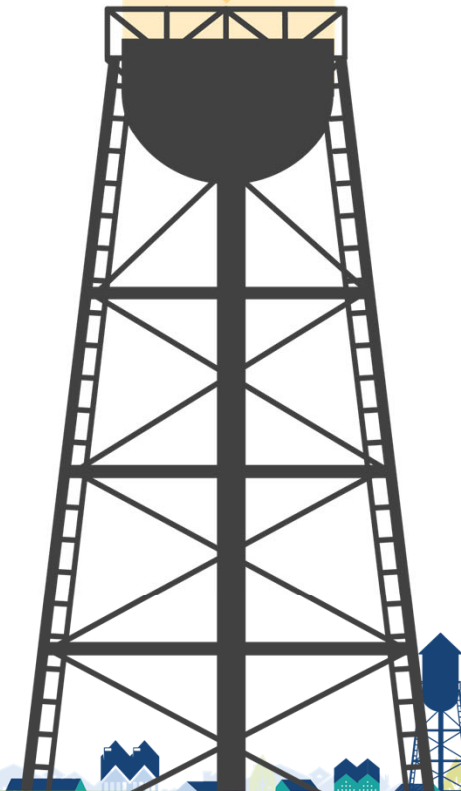
4 projects to create new bus routes

2 projects to build park-and-rides

2 projects to add on-demand pick-up and drop-off (microtransit service)

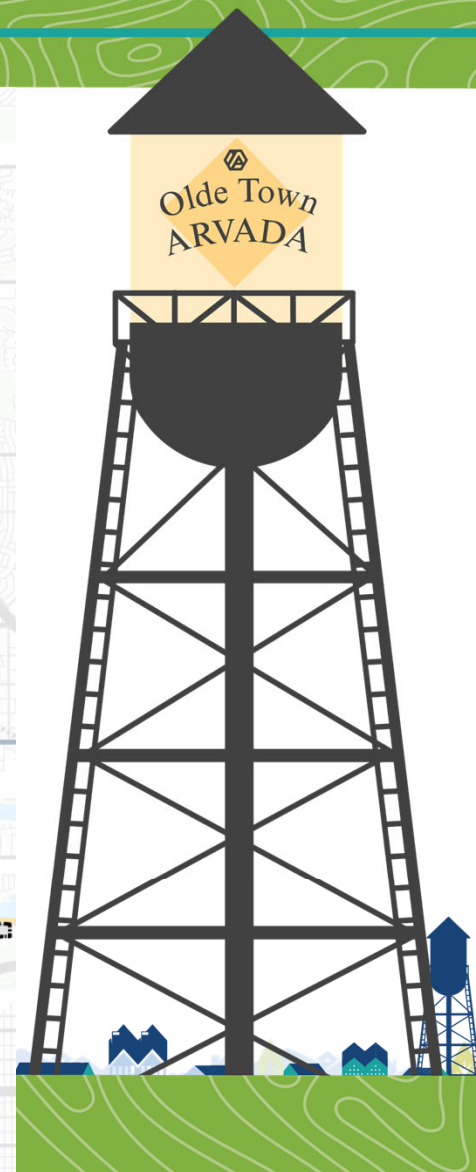
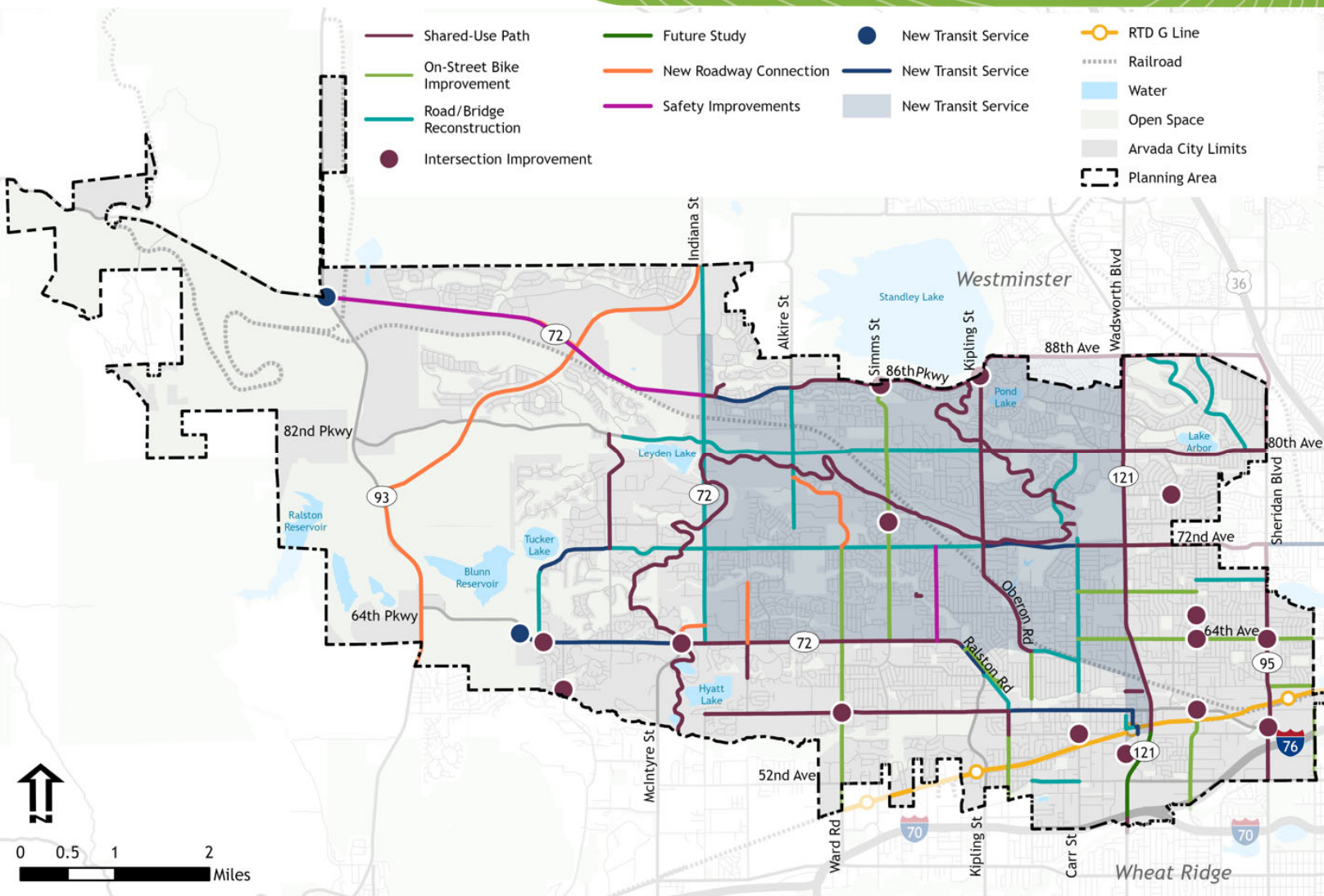
1 project to reconstruct a road to prioritize transit

Olde Town
ARVADA



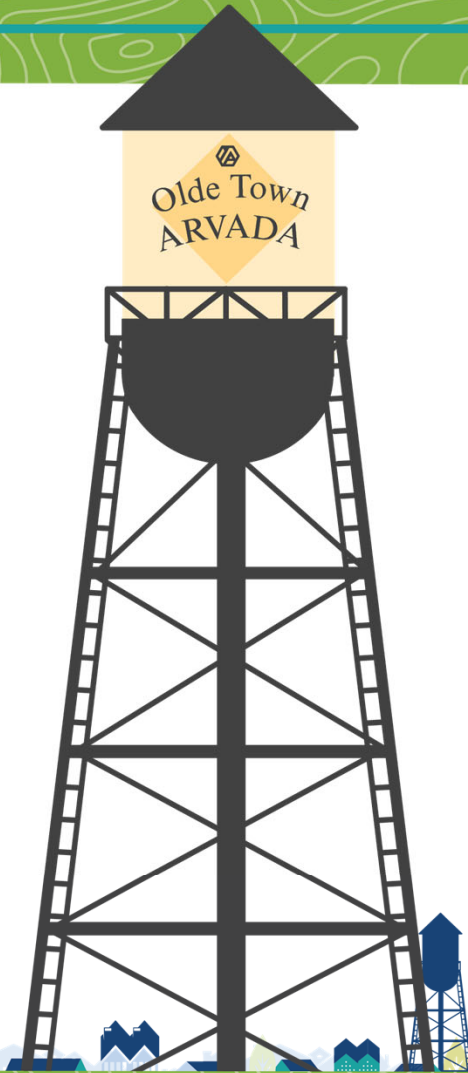


- Shared-Use Path
- On-Street Bike Improvement
- Road/Bridge Reconstruction
- Intersection Improvement
- Future Study
- New Roadway Connection
- Safety Improvements
- New Transit Service
- New Transit Service
- New Transit Service
- RTD G Line
- Railroad
- Water
- Open Space
- Arvada City Limits
- Planning Area





Next Steps





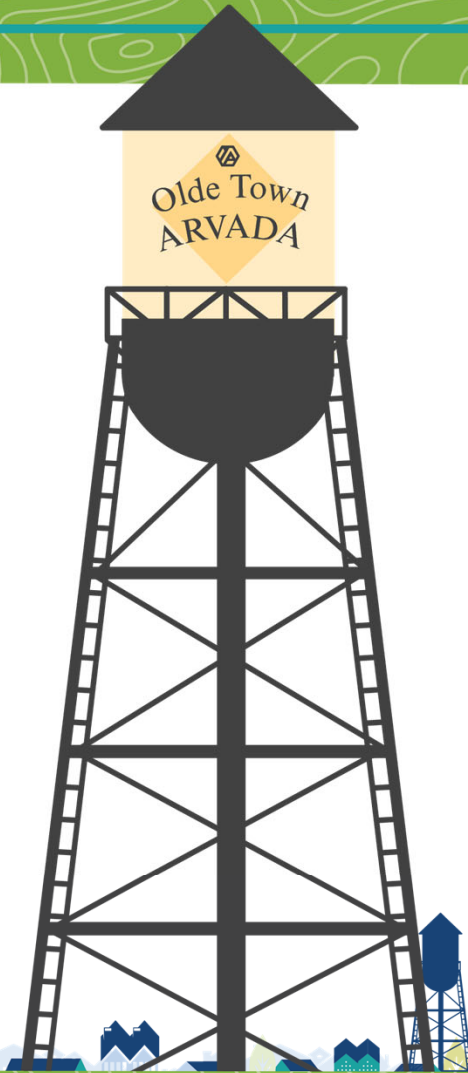
Next Steps

- Collect Survey #2 responses
 - Integrate findings
- Perform fiscal constraint
 - 20-year horizon
- Run travel demand model scenarios
 - 3 configurations
- Final report documentation and executive summary





Thank you!



Arvada TSP: Potential Projects Handouts

Project List as of: October 24, 2024



Shared-Use Path Projects

SRCE	NAME	PRIMARY ROUTE	FROM/AT	TO	DESCRIPTION	SRCE
7	1 Dry Creek Trail Extension	SH-72	Wilkerson Ct	Dry Creek Trail @ Gladiola Ct	Shared-use path on the north side	7
3	2 Quaker St Trail	Quaker St	72nd Ave	82nd Ave	Shared-use path	3
3	3 86th Pkwy Trail	86th Pkwy	Alkire St	Kipling St	Shared-use path on north side (remove on-street bike lanes)	3
9,11	4 88th Ave Shared Use Path	88th Ave	Kipling St	Sheridan Blvd	Shared-use path on the north side	9,11
1	5 80th Ave Trail	80th Ave	Kipling st	Sheridan Blvd	Shared-use path (widen sidewalk on one side)	1
9,11	6 72nd Ave Shared Use Path	72nd Ave	Carr St	Sheridan Blvd	Shared-use path on the north side	9,11
1	7 64th Ave Trail	64th Ave	McIntyre Pkwy	Miller St	Shared-use path (widen sidewalk on one side)	1
3	8 58th Ave Trail	58th Ave	Eldridge St	Ward Rd	Shared-use path	3
3	9 58th Ave Trail	58th Ave	Ward Rd	Independence St	Shared-use path	3
3,11	10 Oberon Rd Trail	Oberon Rd	Garrison St	72nd Ave	Trail on north/east side	3,11
1	11 Kipling St Trail	Kipling st	72nd Ave	86th Pkwy	Shared-use path	1
7	12 Independence St Trail	Independence St	Grandview Ave	Ralston Rd	Shared-use path	7
1	13 Wadsworth Blvd Trail	Wadsworth Blvd	Clear Creek Trail	55th Ave	Shared-use path	1
3	14 Wadsworth Bypass Trail	Wadsworth Bypass	55th Ave	64th Ave	Shared-use path	3
3	15 Wadsworth Blvd Trail	Wadsworth Blvd	64th Ave	76th Ave	Shared-use path	3
1	16 Wadsworth Blvd Trail	Wadsworth Blvd	76th Ave	88th Ave	Shared-use path	1
8	17 Sheridan Blvd Trail	Sheridan Blvd	52nd Ave	72nd Ave	Shared-use path	8
9	18 Sheridan Blvd Trail	Sheridan Blvd	80th Ave	88th Ave	Shared-use path	9
7	19 Heritage Canal Trail (Bibber Creek to 64th Ave)	Heritage Canal	Bibber Creek	64th Ave	Shared-use path	7
7	20 Heritage Canal Trail (64th Ave to Indiana St)	Heritage Canal	64th Ave	Indiana St	Shared-use path	7
7	21 Heritage Canal Trail (Indiana St to Simms St)	Heritage Canal	Indiana St	Simms St	Shared-use path	7
7	22 Heritage Canal Trail (Simms St to Carr St)	Heritage Canal	Simms St	Carr St	Shared-use path	7
7	23 Heritage Canal Trail (Carr St to 86th Pkwy)	Heritage Canal	Carr St	86th Pkwy	Shared-use path	7
1,3	24 Eldridge St Trail	Eldridge St	Wyndham Park Dr	64th Ave	Shared-use path	1,3
12	59 Reallocate area to trail connection and enhance wayfinding	68th Ave	Pierson Ct	Ralston Creek Trail	Shared-use path	12
12	60 New Trail Connection	60th Ave	Olde Wadsworth	Wadsworth Bypass	Shared-use path	12

Project Sources:

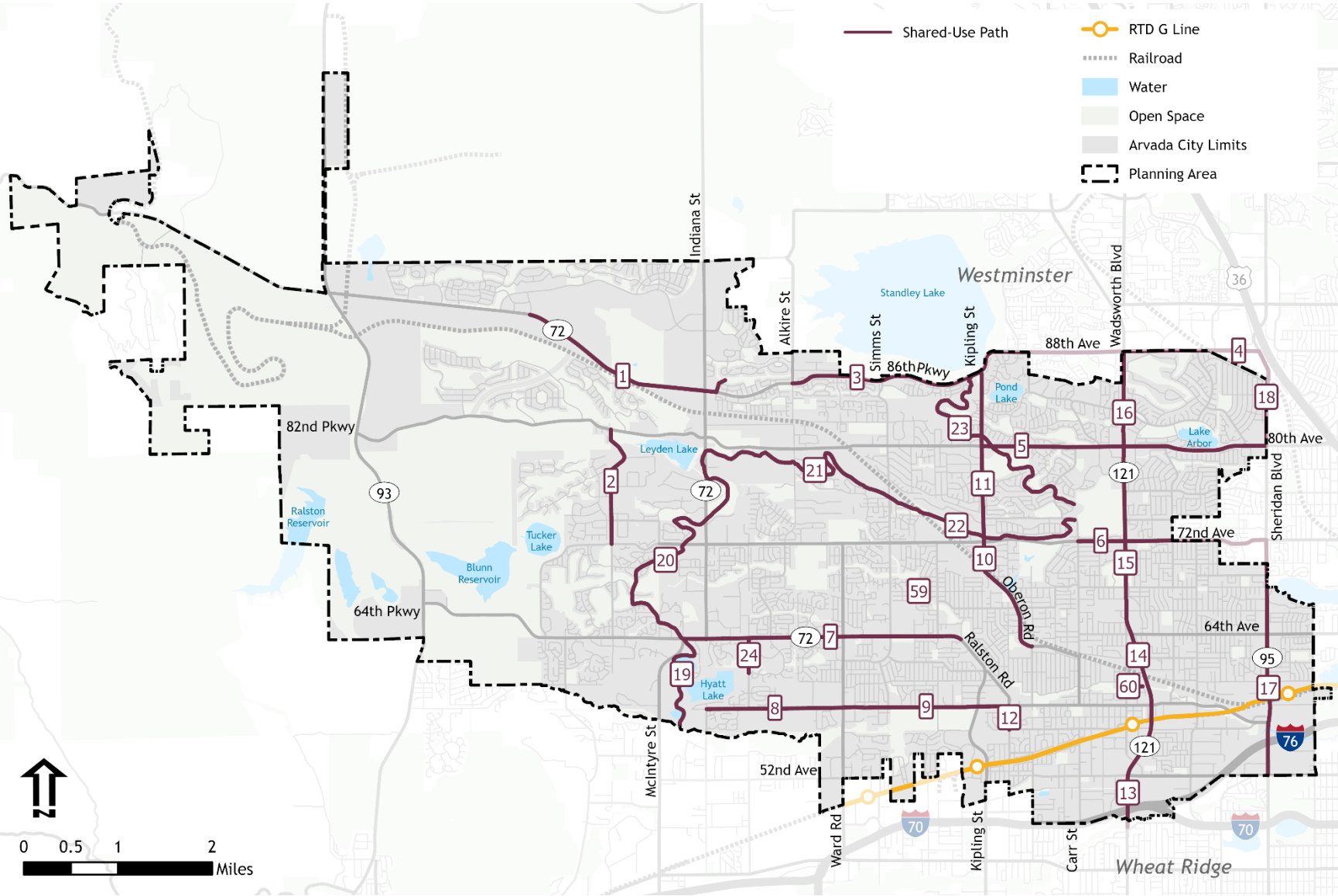
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Figure 1. Shared Use Path Projects



On-Street Bike Improvement Projects

	NAME	PRIMARY ROUTE	FROM/AT	TO	PRIMARY MODE	SECONDARY MODE	DESCRIPTION	SOURCE
25	Johnson Way Bike Boulevard Connection	Johnson Way	Ralston Rd	59th Place	A		Bike boulevard from Ralston Road to Ralston Creek Trail from at 59th Pl	7
26	64th Ave Bike Improvement	64th Ave	Carr St	Sheridan Blvd	A		Physically protected, continuous bike lanes	1
27	Ward Rd Bike Improvements	Ward Rd	49th Ave	72nd Ave	A		Physically protected, continuous bike lanes	1
28	Simms St Bike Improvements	Simms St	64th Ave	75th Ave	A		Buffered, continuous bike lanes	1
29	Simms St Bike Improvements	Simms St	75th Ave	86th Pkwy	A	V	Buffered, continuous bike lanes; dynamic curve warning signage, raised median in curve	3
30	Independence St Bike Improvements	Independence St	50th Ave	Grandview Ave	A		Buffered, continuous bike lanes	3
31	Marshall St/Lamar St Bike Improvements	Marshall St/Lamar St	Clear Creek Trail	Ralston Creek Trail	A		Buffered, continuous bike lanes	3
32	68th Ave Bike Improvements	68th Ave	Carr St	Lamar St	A		Reconstruct to Collector cross-section	1
33	60th Ave Complete Street	60th Ave	Sheridan Blvd	Wolff St	A		Reconstruct to Collector cross-section	8,11
34	60th Ave Complete Street	60th Ave	Wolff St	Tennyson St	A		Reconstruct to Collector cross-section	8,11
35	Tennyson St Complete Street	Tennyson St	52nd Ave	58th Ave	A		Reconstruct to Major Collector cross-section	8,11
36	Garrison St Bike Improvements	Garrison St	Ralston Rd	Oberon Rd	A		Reconstruct to Collector cross-section	1

* Active transportation projects recommended in this study are meant to fill transportation-related gaps within the modal networks. Projects recommended in previous planning efforts that did not meet this criteria were omitted from this analysis.

Project Sources:

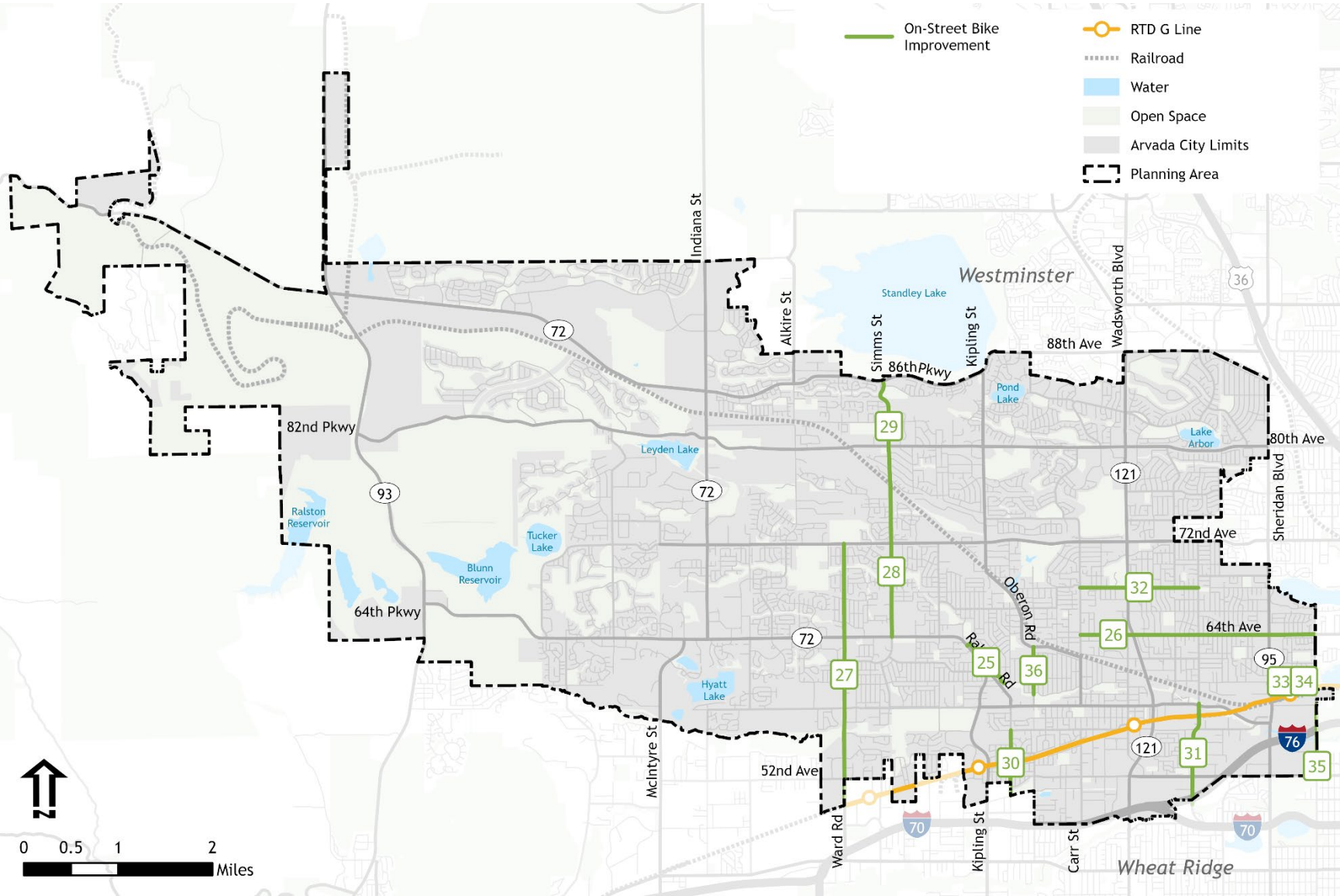
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Figure 2. On-Street Bike Improvement Projects



Road/Bridge Reconstruction Projects

ID	NAME	PRIMARY ROUTE	FROM/AT	TO	PRIMARY MODE	SECONDARY MODE	DESCRIPTION	SOURCE
37	82nd Ave Reconstruction	82nd Ave	Orion Way	Indiana St	A		Reconstruct to Collector cross-section with sidewalk on the north side of roadway	3,11
38	72nd Ave Widening West	72nd Ave	Quaker St	Indiana St	V	A	Reconstruct to Arterial Parkway cross-section	1
39	Indiana St Reconstruction 64th Ave-82nd Ave	Indiana St	64th Ave	82nd Ave	V	A,F	Reconstruct to Arterial Parkway cross-section	2,4,5,7,11
40	Indiana St Reconstruction 82nd Ave -86th Ave	Indiana St	82nd Ave	86th Pkwy	V	A,F	Reconstruct to Arterial Parkway cross-section	2,4,5,7,11
41	Indiana St Reconstruction 86th Pkwy-96th Ave	Indiana St	86th Pkwy	96th Ave	V	A,F	Reconstruct to Arterial Parkway cross-section	2,4,5,7,11
42	80th Ave Reconstruction	80th Ave	Indiana St	Kipling St	V	A	Reconstruct to Arterial Parkway cross-section	4
43	Alkire Connection	Alkire St	80th Ave	86th Pkwy	V	A	Reconstruct to Major Collector cross-section and construct a railroad overpass	2
44	Alkire Improvements	Alkire St	74th Dr	80th Ave	V	A	Reconstruct to Major Collector cross-section	3
45	Carr St Safety Improvements	Carr St	Brooks Dr	Heritage Canal Trail	V	A	Reconstruct to Major Collector cross-section	1
46	72nd Ave Widening East	72nd Ave	Indiana St	Kipling St	V	A	Reconstruct to Arterial Parkway cross-section	2,4,11
47	Virgil Way Safety Improvements	Virgil Way	64th Ave	Ralston Creek Trail	V		Reconstruct to Major Collector cross-section	3
48	Carr Dr Safety Improvements	Carr Dr	74th Ave	80th Ave	V	A	Reconstruct to Major Collector cross-section	3
49	Oberon Rd Safety Improvements	Oberon Rd	Garrison St	Carr St	V	A	Reconstruct to Major Collector cross-section	3
50	52nd St Safety Improvements	52nd St	Garrison St	Carr St	V	A	Reconstruct to Major Collector cross-section	3
51	69th Ave Safety Improvements	69th Ave	Lamar St	Sheridan Blvd	V	A	Reconstruct to Collector cross-section with safe crossings at Swanson ES and Britton Park	3
52	Chase Dr Safety Improvements	Chase Dr	Lamar Dr	80th Ave	V	A	Reconstruct to Collector cross-section	3
53	Lamar Dr Safety Improvements	Lamar Dr	Chase Dr	88th Ave	V	A	Reconstruct to Collector cross-section	3
54	Chase Dr Safety Improvements	Chase Dr	88th Ave	Quay Dr	V	A	Reconstruct to Collector cross-section	3
61	Ralston Rd Lane Reallocation	Ralston Rd	Kipling Pkwy	58th Ave	T		Reallocate road space to transit and active transportation	3
62	Olde Town Strategic Reinvestment Project	Olde Town			A		Make the Olde Wadsworth Road and Grandview Avenue street closures permanent	10

Project Sources:

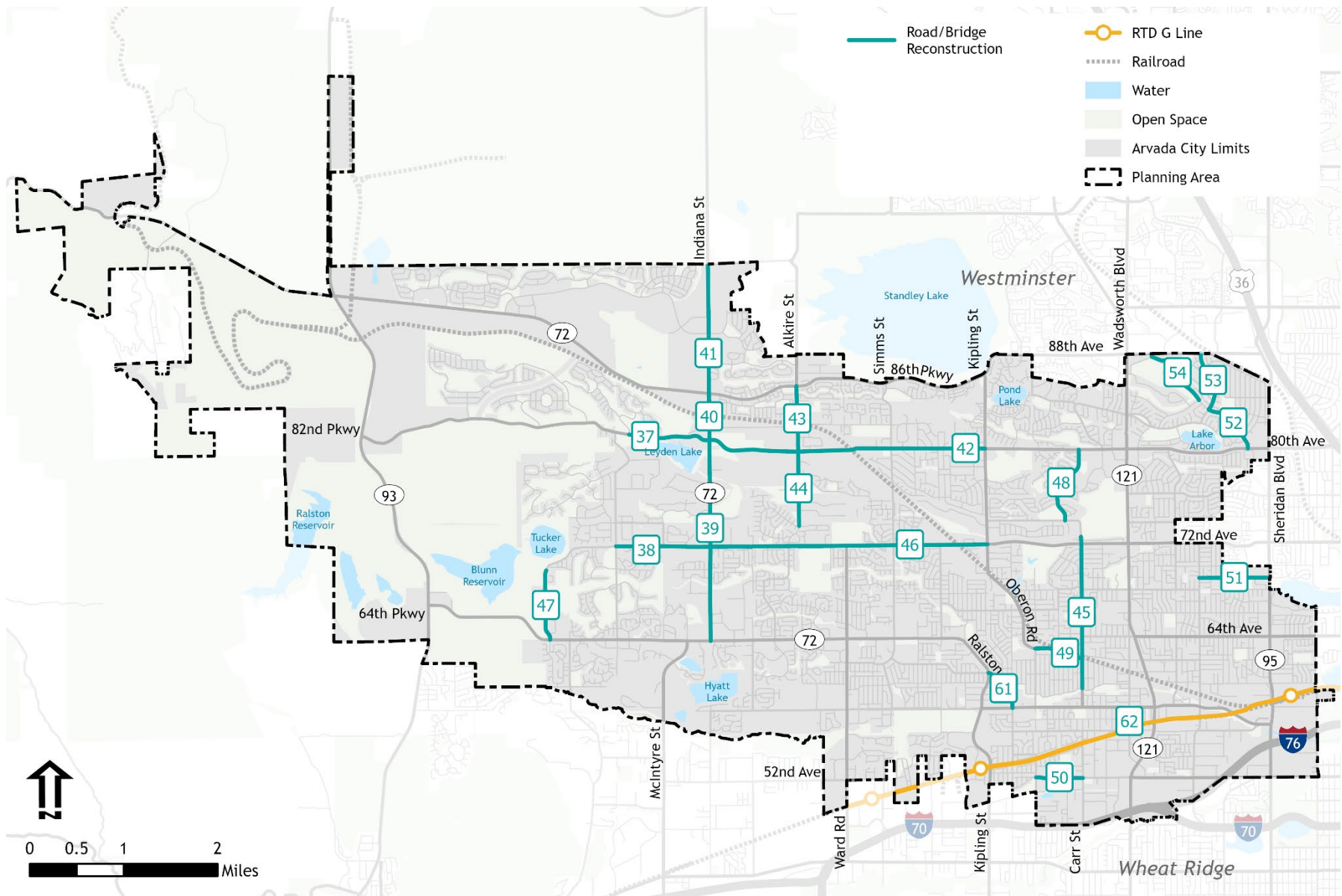
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Figure 3. Road/Bridge Reconstruction Projects



Intersection Improvement Projects

ID	NAME	PRIMARY ROUTE	AT	PRIMARY SECONDARY	INTERSECTION CRASH RATE	INTERSECTION SEVERE CRASH RATE	DESCRIPTION	SOURCE
55	Sheridan Blvd/Ralston Rd ICE Study	Sheridan Blvd	Ralston Rd	V	0.986	0.0	Complete intersection control evaluation (ICE) study	3
56	86th Pkwy/Kipling St ICE Study	86th Pkwy	Kipling St	V	1.201	0.175	Complete intersection control evaluation (ICE) study	3
57	86th Pkwy/Simms St ICE Study	86th Pkwy	Simms St	V	0.562	0.07	Complete intersection control evaluation (ICE) study	11
58	Ward Rd/58th Ave ICE Study	Ward Rd	58th Ave	V	1.12	0.043	Complete intersection control evaluation (ICE) study	3
75	Major Collector ICE Study	Citywide		V	2.258	0.146	Complete intersection control evaluation (ICE) study at several major collector intersections including: SH-93/SH-72, 64th Ave/Virgil Way, 64th Ave/Sheridan Blvd, 54th Ave/Olde Wadsworth, Grandview Ave/Carr St, 66th Ave/Lamar St, 76th Ave/Pierce St, 64th Ave/Lamar St, 60th Ave/Easely, and 64th Ave/McIntyre	3, 11, 12
76	Ralston Rd/Lamar St Signal Modification/Improvement Study	Ralston Rd	Lamar St	V	1.083	0.093	Complete signal modification and improvement study	3,11
77	Simms St/74th Ave Signal Modification/Improvement Study	Simms St	74th Ave	V	N/A	N/A	Complete signal modification and improvement study	3,11

* ICE Studies may or may not result in intersection modifications or improvements across a wide range of costs. For the purpose of the TSP cost estimates, an estimation of the number of likely intersection improvement projects will be used.

Project Sources:

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- 2 Comprehensive Plan
- 3 Existing Conditions Analysis (including Public Comment and TDM Model)
- 4 Jefferson County TMP

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Figure 4. Intersection Improvement Projects

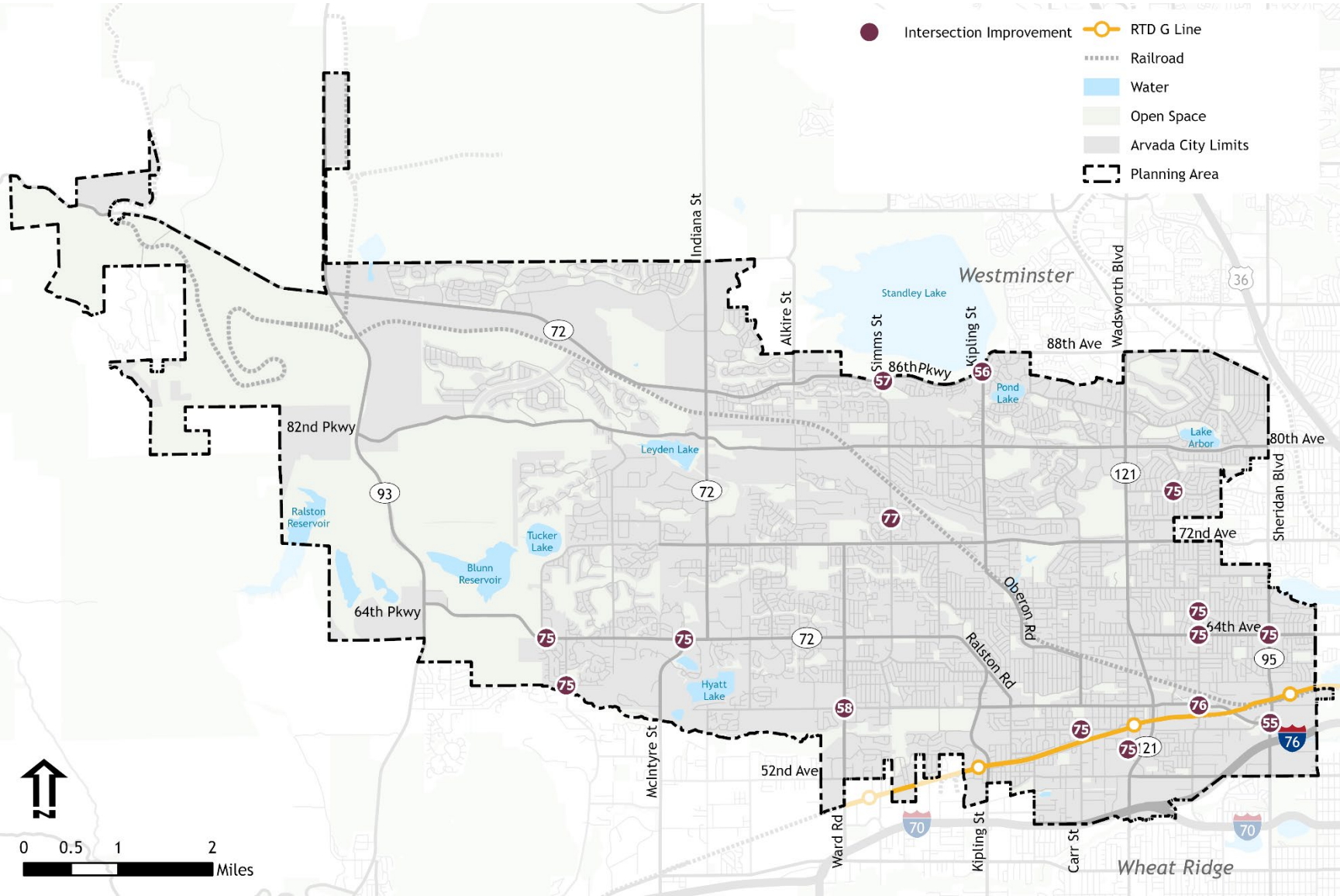
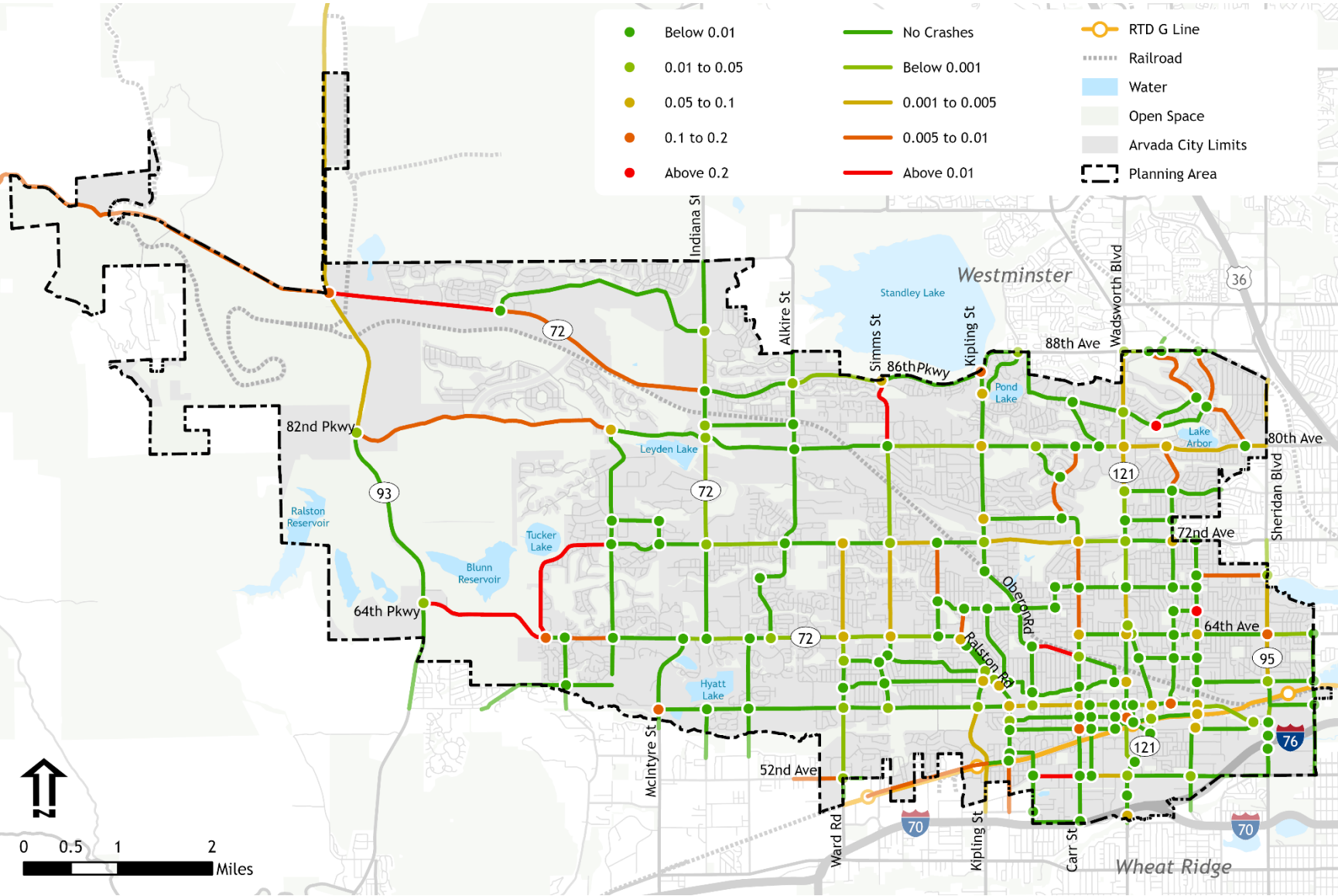


Figure 5. Severe Crash Rates



Future Study, New Roadway Connection, and Safety Improvement Projects

ID	NAME	PRIMARY ROUTE	FROM/AT	TO	PRIMARY MODE	SECONDARY MODE	TYPE	DESCRIPTION	SOURCE
63	McIntyre Pkwy Extension	McIntyre Pkwy	64th Ave	Indiana St	V		New roadway connection	New arterial parkway	2
64	Jefferson Pkwy	SH-93/Jefferson Pkwy	62nd Ave	96th Ave	V		New roadway connection	Convert SH-93 to a freeway and construct a new freeway from SH-93 to 96th Ave	4
65	Ward Rd-Alkire St Connection	Ward Rd	72nd Ave	Alkire St	V	A	New roadway connection	Construct to Arterial Parkway cross-section	2
66	Eldridge St Connection	Eldridge St	68th Ave	64th Ave	V	A	New roadway connection	New roadway connection built to major collector cross-section from north of 68th Ave to 64th	11
67	SH-72 Safety Improvements	SH-72	SH-93	Indiana St	V		Safety improvements	Widen shoulders to 8' (where no curb), ICEs at major intersections	3
68	Oak St Safety Improvements	Oak St	64th Ave	72nd Ave	V	A	Safety improvements	Reconstruct to Major Collector cross-section	3,11
78	Wadsworth Blvd Congestion Mitigation Study	Wadsworth Blvd	I-70	56th Ave	V		Future Study	Conduct a study to identify congestion mitigation improvements	3
79	Citywide Sidewalk Gap Infrastructure	Citywide			A		Program	Dedicate annual funding to filling sidewalk gaps citywide	3

Project Sources:

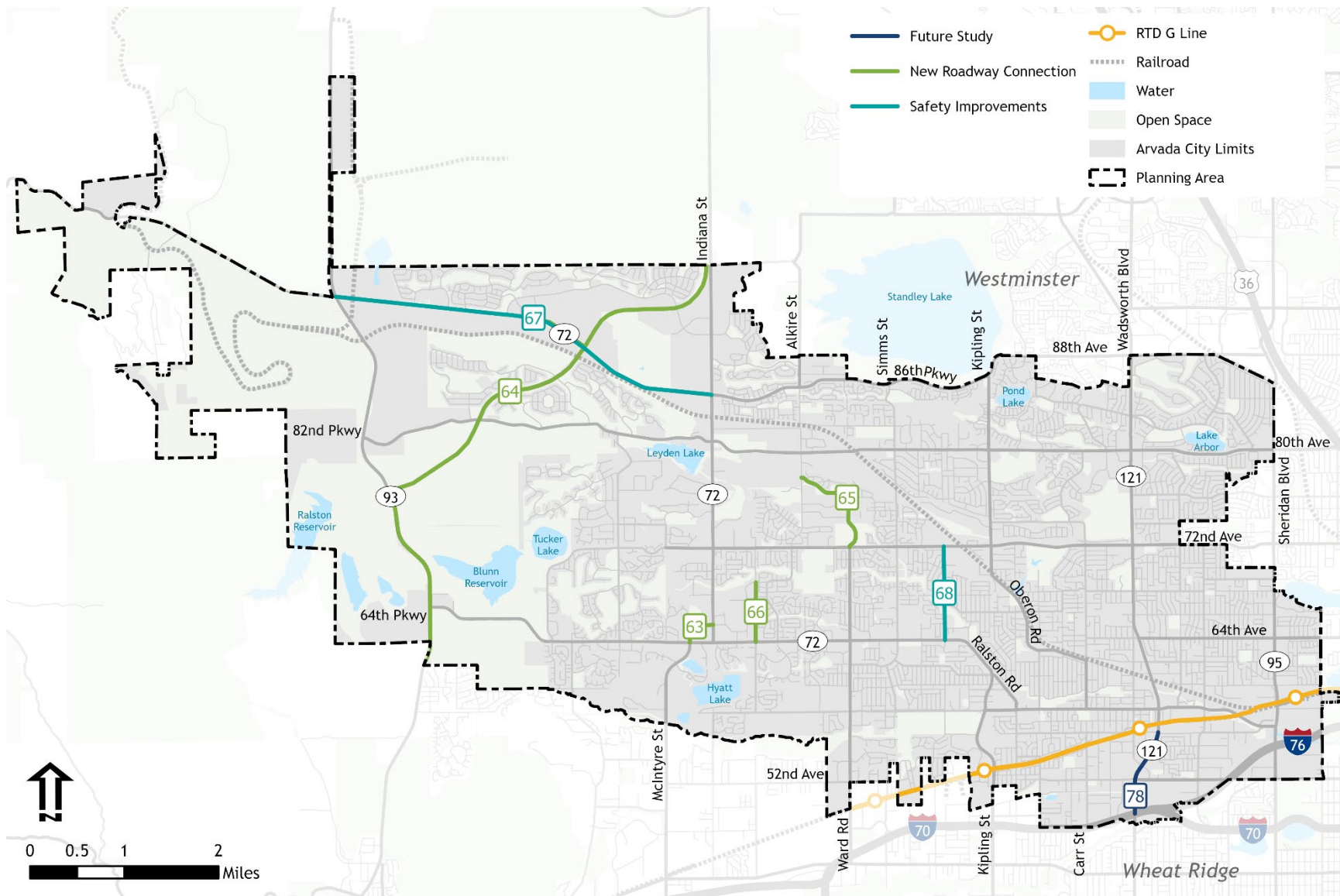
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Figure 6. Future Study, New Roadway Connection, and Safety Improvement Projects



New Transit Service Projects

ID	NAME	PRIMARY ROUTE	FROM/AT	TO	PRIMARY MODE	DESCRIPTION	SOURCE
69	Candelas to Westminster Transit Connection	86th Pkwy	SH-93	US 36 & Sheridan FF Station	T	Implement a new bus route	2
70	Candelas to Olde Town Transit Connection	SH-72	SH-93	Olde Town Transit Center	T	Implement a new bus route	3
71	72nd Ave Transit Connection	72nd Ave	Long Lake Park	Westminster B Line Station	T	Implement a new bus route	3
72	64th Ave/Ralston Rd Transit Connection	Ralston Rd	Long Lake Park	Olde Town Transit Center	T	Implement a new bus route	3
73	Long Lake Park Park-and-Ride	64th Pkwy	Long Lake Park		T	Construct a transit park-and-ride	3
74	SH-93/SH-72 Park-and-Ride	SH-93	SH-72		T	Construct a transit park-and-ride	3
80	Central Arvada Microtransit	Central Arvada			T	Implement microtransit	6
81	Citywide Microtransit	Citywide			T	Implement microtransit	6

Project Sources:

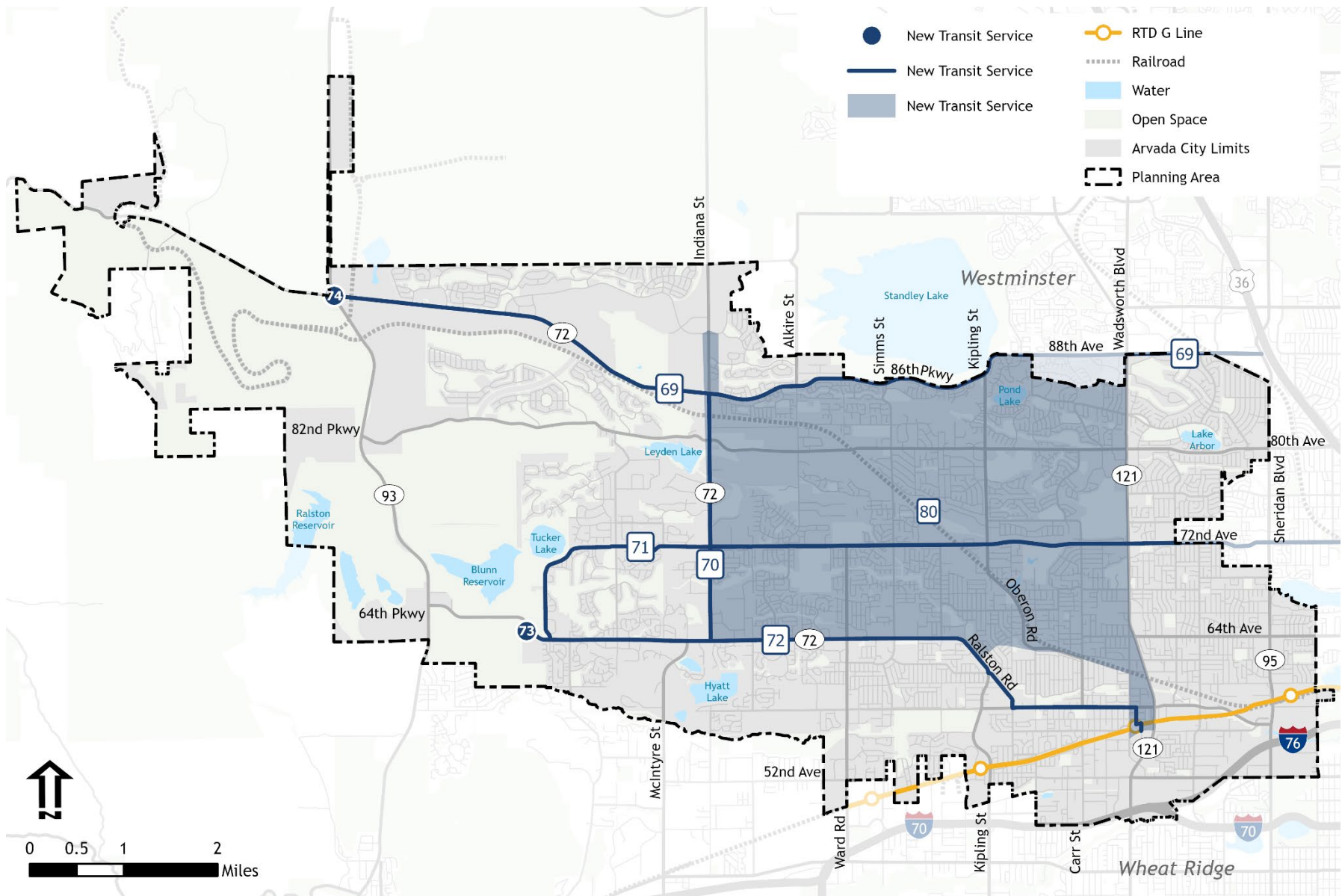
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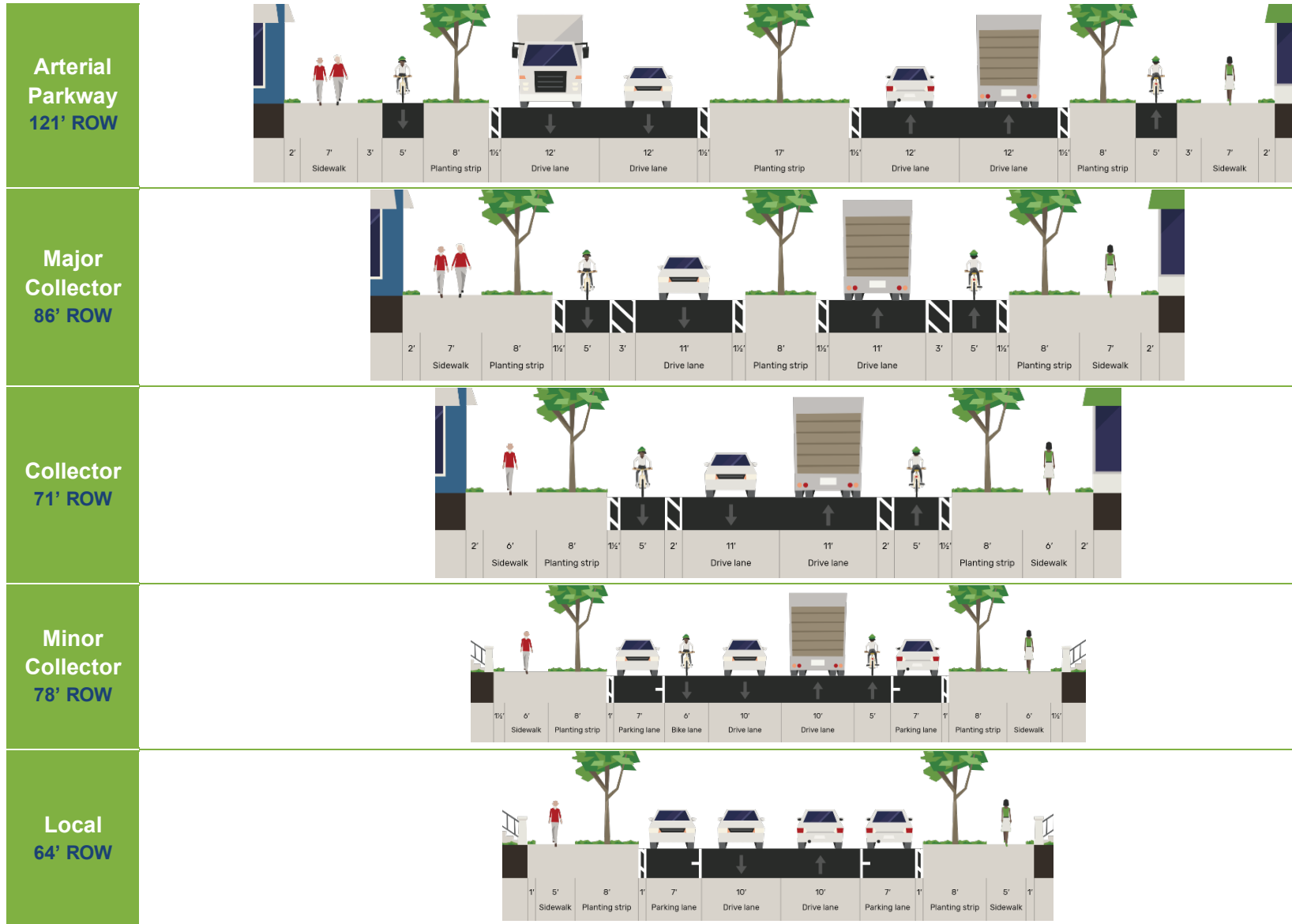
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Figure 7. New Transit Service Projects

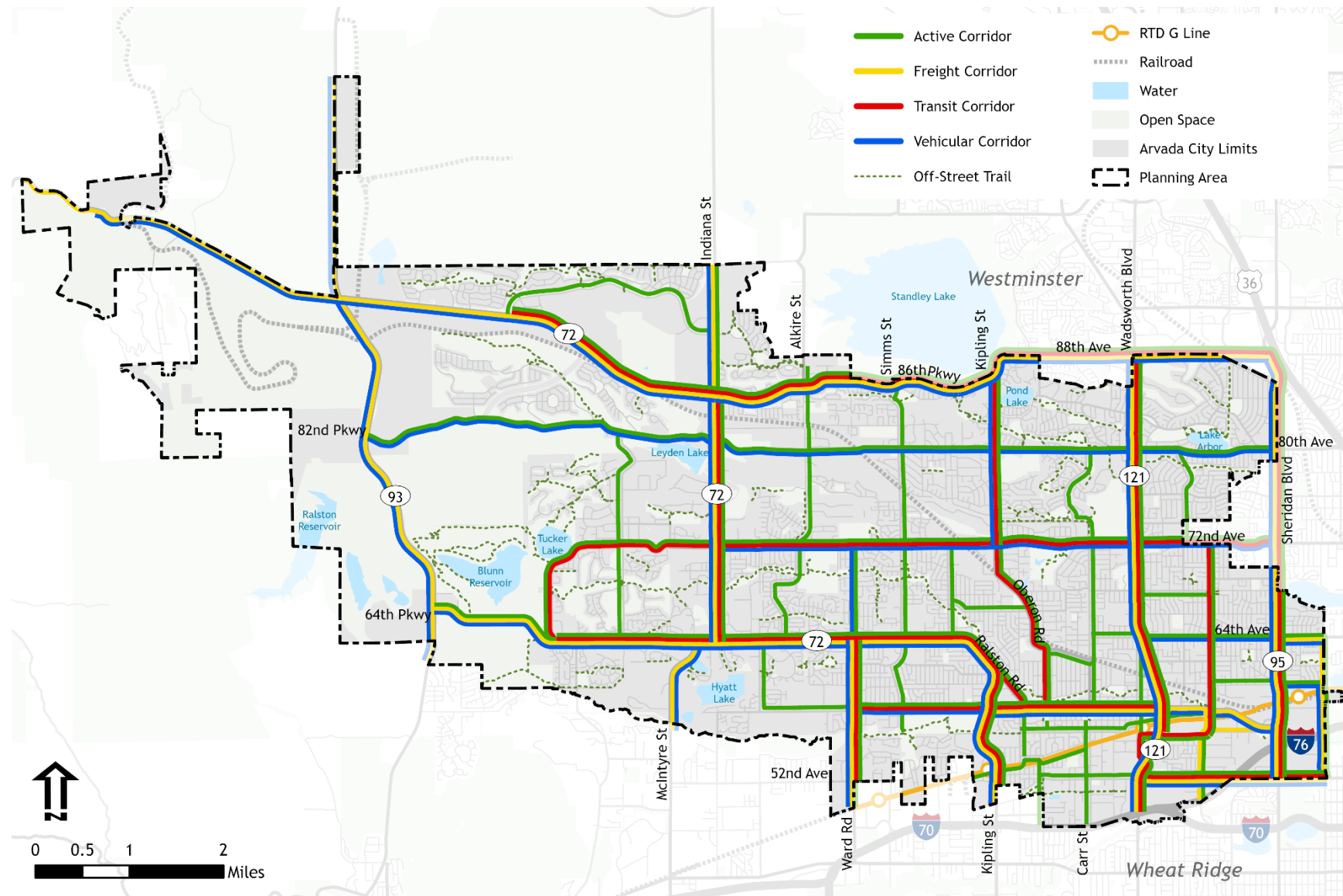


Typical Street Cross-Sections

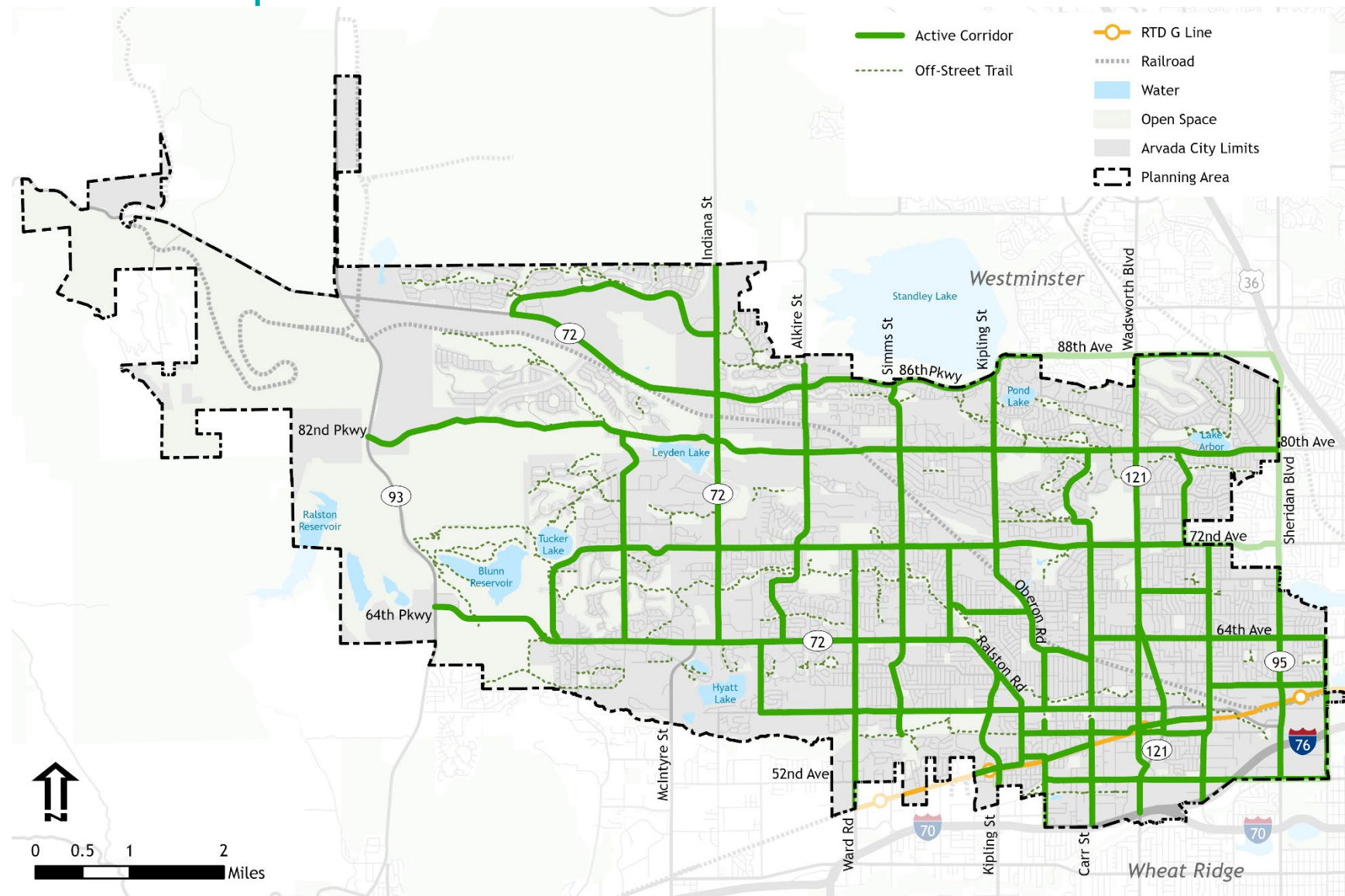


TSP Modal Vision Networks

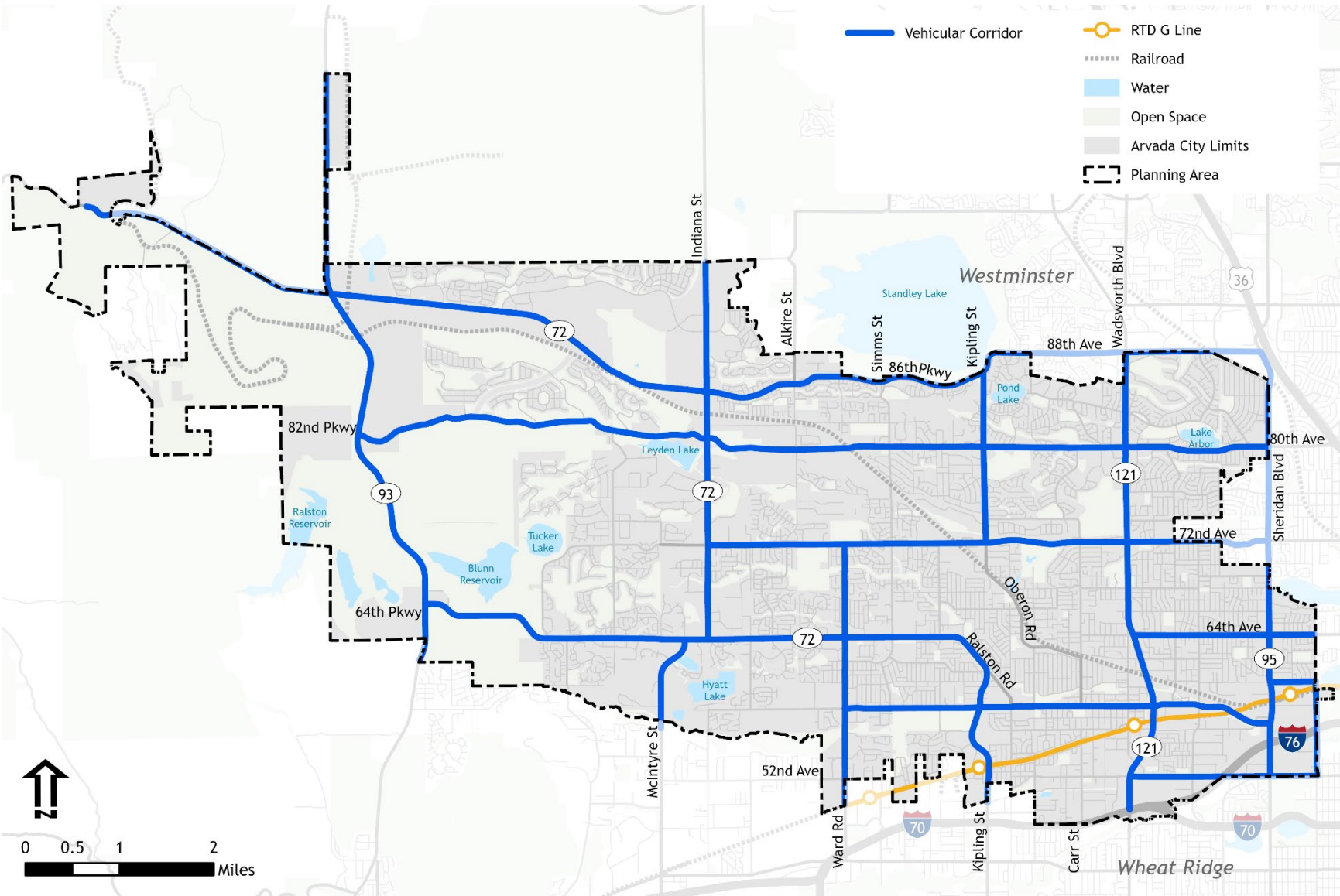
All Modes



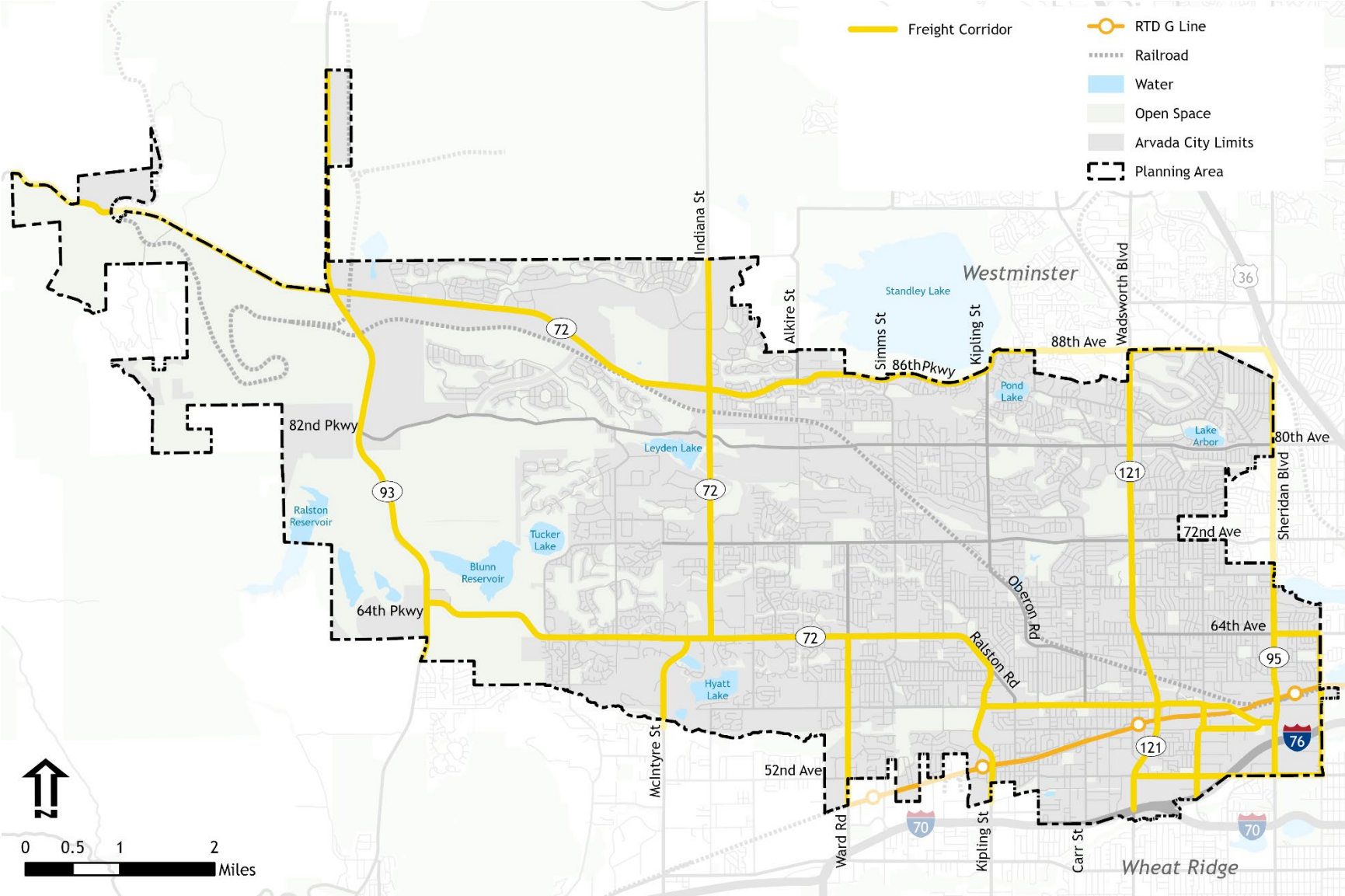
Active Transportation



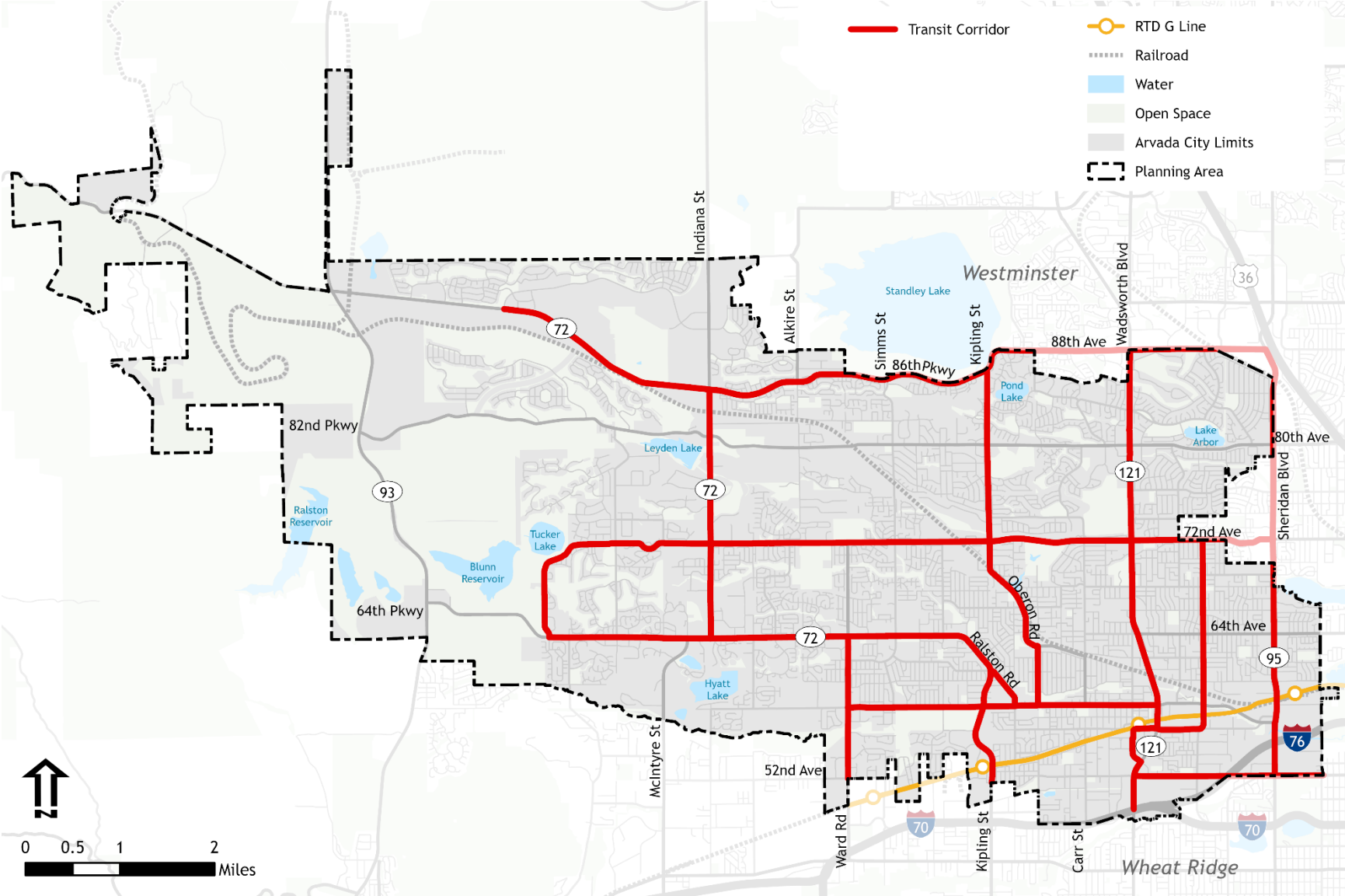
Vehicular



Freight



Transit



TSP Project Prioritization

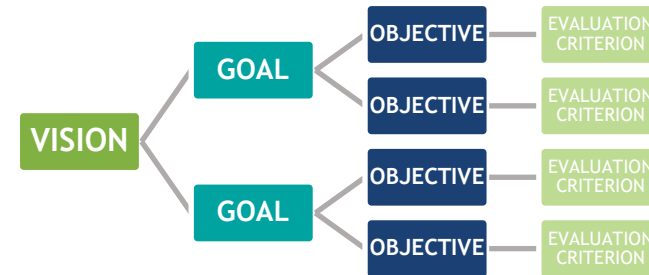
TSP goals, objectives, and evaluation criteria are critical tools for measuring and prioritizing transportation investments. The preliminary TSP goals were developed concurrently with the Existing Plans Review Memo and were based on goals and policies identified in previous plans (including the 2014 Comprehensive Plan), early public comment from the TSP survey, and input from the TAC and TAG. As the TSP effort transitioned into Phase 2 and identification of future multi-modal opportunities began, the initial goals were reviewed and refined to incorporate key takeaways from the Existing Systems Technical Memo and comments received from in-person and virtual survey public engagement activities.

The 2014 Comprehensive Plan contains 5 multimodal transportation goals, with specific policies under each goal. The Comprehensive Plan goals and policies are used by City staff to assess the viability of potential infrastructure investments. The TSP goals, objectives and evaluation criteria build on the Comprehensive Plan goals and policies by weighting objectives to achieve definitive scoring and elaborating on the themes of safety, truck/freight, disability access (ADA), and incorporating public feedback as a scoring metric. TSP goals, objectives, and evaluation criteria that relate to a specific goal or policy identified in the Comprehensive Plan have an additional reference: (ref: CPGT-x.x). Vision, goals, and objectives are defined as follows and the relationship between these terms is shown in **Figure 1:**

- **VISION:** a single statement reflecting what the City of Arvada intends to accomplish by investing in the TSP planning effort and how it will impact the city.
- **GOALS:** broad statements that implement the TSP's vision, based on input from the community, TAC, TAG, and previous planning documents.
- **OBJECTIVES:** specific, objective metrics to determine whether a goal has been met.

- **EVALUATION CRITERIA:** measurable conditions that indicate whether an objective has been achieved.

Figure 1. Goals and Evaluation Process



TSP Vision Statement

“Provide the City of Arvada with a data driven plan and set of tools that strategically identify, assess, and address critical multimodal transportation needs associated with existing and projected congestion, safety, efficiency, sustainability, and quality of life for all residents, workers, business owners, and visitors”

Transportation System Gaps

To guide the development of goals and objectives, gaps in the existing transportation system have been identified. These gaps are based on inputs from previous planning efforts, the Transportation Advisory Committee, Technical Advisory Group, public survey responses, and City staff. Major identified gaps are:

- **NORTH-SOUTH CONNECTIVITY.** There are few continuous north-south corridors in Arvada and the regional north-south corridors are at or above vehicular capacity.
- **INTERSECTION SPACING.** There is a lack of standardized signalized intersection spacing and configurations which has an adverse impact on vehicular throughput and efficiency.

- **SPEEDING.** There is a lack of consistent speed limit signage which may result in increased speeding on the roadway network.
- **MISSING OR INSUFFICIENT SIDEWALKS.** There are corridors without sidewalks, corridors with sidewalk gaps, and sidewalks that do not meet current Americans with Disabilities Act (ADA) standards. These deficiencies are particularly problematic around major activity centers, including schools, community centers, libraries, parks, and retail centers.
- **BICYCLE FACILITY COHESION.** On-street bicycle infrastructure is difficult to implement due to Arvada being built out, requiring most facilities to be retrofitted to make improvements.
- **SAFE ACTIVE TRANSPORTATION CROSSINGS.** There are few safe pedestrian and bicycle crossings across major corridors, making active transportation trips inefficient and unsafe.
- **TRANSIT ACCESSIBILITY.** Transit service is provided by RTD and is concentrated in eastern Arvada. No regular service is available in western Arvada, limiting mobility options for residents of these areas. This should include last-mile connectivity challenges and considerations for all stations.
- **SAFETY FACTORS.** Adopted safety countermeasures and engineering standards are not leveraged and can provide opportunities to ensure new infrastructure is built safely and efficiently.
- **FUNDING.** There is not dedicated or sufficient funding to maintain and improve Arvada's transportation network.
- **RIGHT-OF-WAY.** There are constrained rights-of-way in many parts of Arvada that limit the City's ability to make desired improvements. Additionally, there is not one high-quality and accessible data source of the City's right-of-way.

Goals, Objectives, and Evaluation Criteria

The proposed goals, objectives, and evaluation criteria for the Arvada TSP are shown in **Table 1**. Each potential project will be evaluated by each evaluation criterion to determine its alignment with each goal, and the overall vision for Arvada's transportation system. The outcome of this process will provide the City with a tool that will numerically identify which recommended projects most align with the TSP vision and goals.

Weighting has been applied to prioritize various goals and objectives more than others. The weighting of goals against each other and the weighting of each objective within its respective goal is also indicated in **Table 1**.

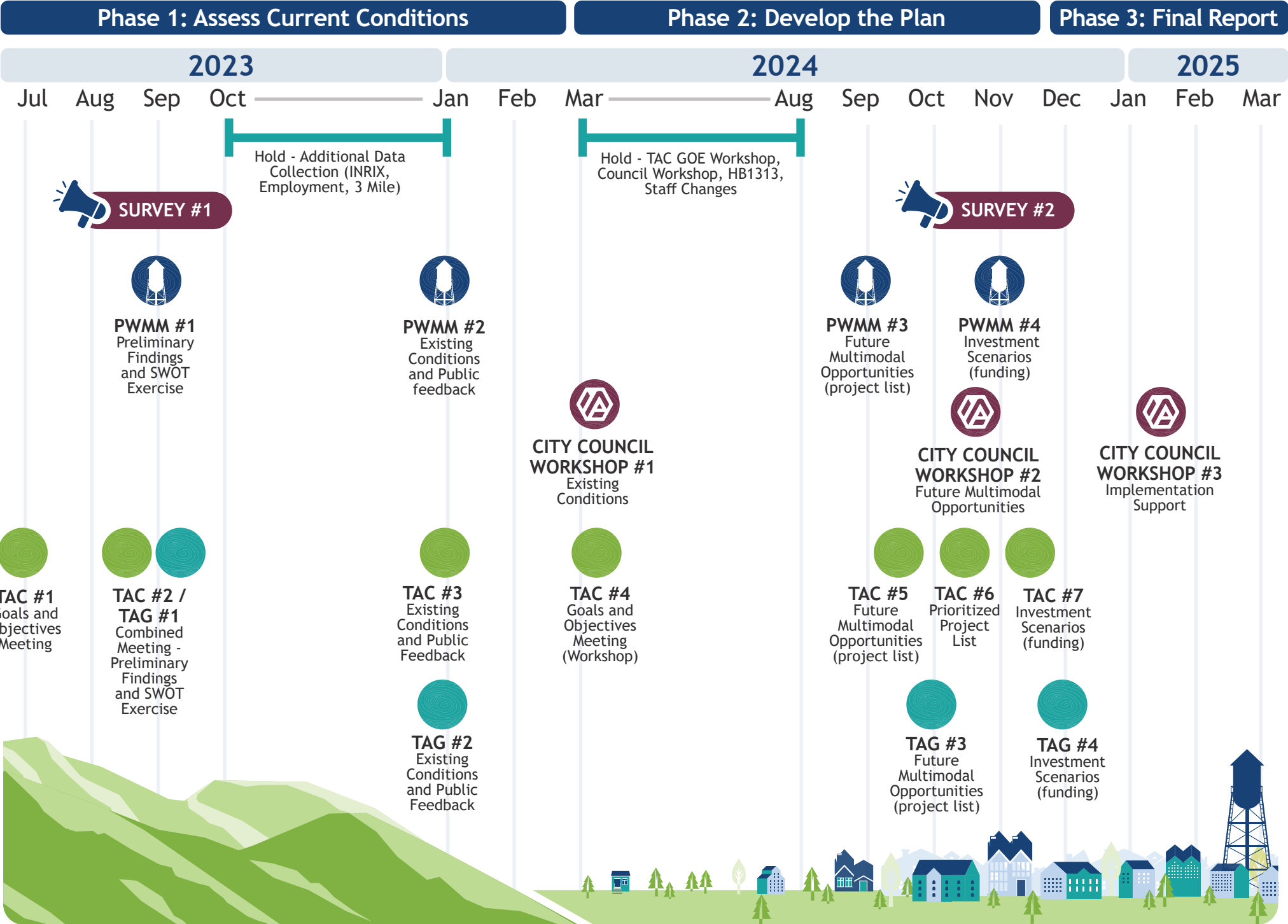
Table 1. Arvada TSP Goals, Objectives, and Evaluation Criteria

GOAL	OBJECTIVE	EVALUATION CRITERION
SAFETY FOR ALL. Ensure that all users of Arvada's transportation system can get to their destination safely and comfortably while maintaining appropriate mobility. (20% of total score) (Ref: CPGT-4)	Improve infrastructure at locations with high crash rates. (20% of safety score)	Five-year total crash rate for segment or intersection.
	Improve infrastructure at locations with high severe crash rates. (20% of safety score)	Five-year severe crash rate for segment or intersection.
	Reduce unsafe driving behavior. (20% of safety score)	Project incorporates traffic calming strategies in a location with identified speeding issues. (Ref: CPGT-4.1, T-4.2)
	Reduce unsafe conditions for vulnerable road users. (20% of safety score)	Number of vulnerable road user crashes in the past five years. (Ref: CPGT-4.3)
	Implement tried and true safety enhancements. (20% of safety score)	Project incorporates an FHWA proven safety countermeasure.
EASE OF TRAVEL FOR ALL MODES. Provide equitable, balanced and practical transportation choices that connect the public from their homes to activity centers. (15% of total score) (Ref: CPGT-1, T-2, T-4, T-5)	Improve accessibility for multiple modes of travel in single projects. (20% of ease of travel score)	Number of modes of travel with improved conditions (pedestrian, bicycle, transit, vehicular). (Ref: CPGT-5.1, T-5.2)
	Address major barriers or lack of connectivity in the transportation system. (20% of ease of travel score)	Project enhances connectivity across a Comprehensive Plan-identified barrier. (Ref: CPGT-4.6)
	Transportation projects are context-appropriate for surrounding land uses and traffic demand. (20% of ease of travel score)	Project is conducive to adjacent current and future land uses and support sustainable traffic demand. (Ref: CPGT-2.1)
	Accommodate freight on designated facilities to provide appropriate separation from non-motorized users. (20% of ease of travel score)	Project improves freight conditions on a truck route or rail line. (Ref: CPGT-3.6)
	Improves poor pavement or bridge condition. (20% of ease of travel score)	PQI value or bridge condition rating of facility. (Ref: CPGT-4.7)
IMPROVE INTERSECTION OPERATIONS. Intersections should be efficient and safe for all modes of travel. (10% of total score) (Ref: CPGT-1, T-3)	Address recurring traffic congestion. (33% of intersections score)	Intersection delay of intersection. (Ref: CPGT-3.2)
	Address anticipated traffic congestion. (33% of intersections score)	2050 intersection delay of intersection. (Ref: CPGT-3.2)
	Improve signal spacing and access management. (33% of intersections score)	The project has appropriate intersection spacing or improves access management. (Ref: CPGT-3.2)

GOAL	OBJECTIVE	EVALUATION CRITERION
ACTIVE TRANSPORTATION NETWORK CONNECTIVITY. Pedestrian and bicycle networks should be well connected and intuitive. (15% of total score) (Ref: CPGT-1, T-3)	Improves the safety and comfort of active transportation or transit facility. (25% of active transportation connectivity score)	Project enhances the comfort of an active transportation facility, crossing, or transit stop. (Ref: CPGT-1.1-1.5)
	Reduce ADA barriers. (25% of active transportation connectivity score)	Project addresses a gap in accessible infrastructure. (Ref: CPGT-1.8)
	Improve connections between major east-west or north-south corridors. (25% of active transportation connectivity score)	Number of arterials and collectors connected by the project. (Ref: CPGT-1.6)
	Improve multimodal accessibility to activity centers (i.e. parks, schools, major employers, shopping centers, recreation centers, medical centers, and libraries). (25% of active transportation connectivity score)	Number of activity centers within ¼ mile of the project. (Ref: CPGT-2.1)
PUBLIC TRANSIT ACCESS FOR ALL. All Arvada residents should be able to access quality public transit options. (10% of total score) (Ref: CPGT-1, T-3)	Expand transit access to areas that are not currently served. (50% of transit access score)	Square mileage of area newly within ½ mile of transit. (Ref: CPGT-1.2)
	Support populations who cannot drive. (50% of transit access score)	Average vulnerable populations score within ½ mile of project. (Ref: CPGT-1.5)
INVEST IN IMPLEMENTABLE SOLUTIONS. Focus on funding projects that can be realistically implemented. (15% of total score)	Invest in cost-effective solutions. (33% of implementation score)	Improvement cost per mile.
	Advance projects where space is available. (33% of implementation score)	Project will fit in existing right-of-way.
	Advance projects that are within the City's control. (33% of implementation score)	Project does not require partnership with an outside agency.
ENHANCE/PRIORITIZE SERVICES TO DISADVANTAGED COMMUNITIES. Invest in areas with the most transportation need. (5% of total score) (Ref: CPGT-1, T-2)	Add transportation choices to disadvantaged communities. (33% of equity and growth score)	Project adds active transportation or transit access to a TSP-identified disadvantaged community. (Ref: CPGT-1.8)
	Invest in areas with a high propensity for active transportation or transit use. (33% of equity and growth score)	Project adds active transportation or transit access to a high-propensity area. (Ref: CPGT-2.3)
	Make investments that support pre-planned growth areas. (33% of equity and growth score)	Project is in, or provides access to, a Comprehensive Plan-identified growth or redevelopment area. (Ref: CPGT-2.2)

GOAL	OBJECTIVE	EVALUATION CRITERION
BE RESPONSIVE TO THE PUBLIC. The City should invest where the public has said they want improvements. (10% of total score) <i>(Ref: CPGT-4)</i>	Improve locations that the public has indicated a desire for improvements. (50% of responsiveness score) Advance projects that the public has said they like. (50% of responsiveness score)	Project is in a hotspot for an applicable comment type in the city-wide survey <i>(Ref: CPGT-4.4)</i> Top 25 projects with the most likes in the second round of public engagement.

Transportation Systems Plan: Stakeholder Outreach





Connecting Arvada // Transportation System Plan

- » The purpose of the Transportation Systems Plan (TSP) is to identify challenges, opportunities, and strategies for improving Arvada's transportation network over the next 20 years.
- » The TSP will create a prioritized list of recommended infrastructure investments and a toolkit for optimizing the success of those investments.

- » The finalized plan will include a framework to guide the City's transportation network and ensure that the City can continue to meet the travel needs of the community.

The TSP Studied the Following Topics

- » Existing traffic capacity & safety
- » Existing transportation network
- » Future multi-modal opportunities
- » Congestion mitigation opportunities

Project Schedule

Phase 1: Assess Current Conditions

June 2023 – July 2024

Phase 2: Develop the Plan

August 2024 – November 2024

Phase 3: Final Report

December 2024 – February 2025

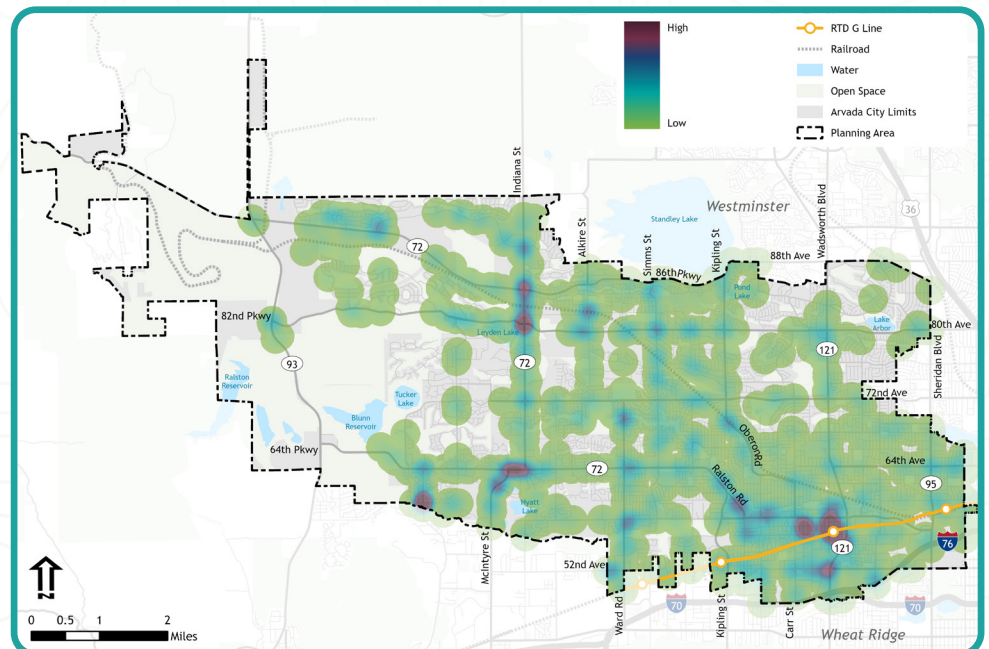


YOU ARE HERE

What you said!

In 2023, the Connecting Arvada Community Survey received over 1,300 responses. Your input directly informed the creation of the project list for the final plan.

This map shows the amount of comments collected based on locations across Arvada. Areas are shaded from dark purple to light green based on the amount of comments and interest. The darker areas receive the most input.





Arvada Transportation Quick Facts

The Transportation System Today

The Roadway System

- » 500+ total miles of roadway, 160 miles of major roads
- » 70% of Arvada roads have a 'poor' or 'failed' pavement condition



Active Transportation

- » Sidewalks
 - » 53% of major roadways have sidewalks on both sides of the road
 - » 30% of major roadways have no sidewalks
- » 142 miles of paved and unpaved trails in the study area
- » 42 miles of on-street bicycle facilities



Transit

- » Four G-Line stations in or adjacent to the study area with a combined daily ridership of over 1,400 people
- » 9 bus routes serve Arvada with 310 bus stops in the study area



How Could We Improve the Transportation System?

A draft list of future transportation projects was developed based on public input, 30+ planning documents, and data from transportation planning software. This figure below outlines the types of projects being considered. Now, the City needs your help to refine and prioritize these projects to best meet the travel needs of all Arvadans.



87 potential projects



41 projects that improve walking and biking



37 projects that improve vehicle travel



9 projects that improve transit

27 projects that add off-street trails

12 projects that improve on-street biking

1 project that improves sidewalk gaps citywide

1 project that permanently closes streets to traffic in Olde Town

21 projects that improve an existing road or bridge

12 projects that improve an intersection

3 new roadway connections

1 congestion study

4 projects to create new bus routes

2 projects to build park-and-rides

2 projects to add on-demand pick-up and drop-off (microtransit service)

1 project to reconstruct a road to prioritize transit

How to get involved!

Check in on our progress and let your voice be heard through
Speak Up, Arvada! SpeakUp.ArvidaCO.gov/Connecting-Arvada





ARVADA

Transportation System Plan



FINAL Existing Systems Technical Memo

SEPTEMBER 27, 2024



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INTRODUCTION



1. INTRODUCTION

Arvada is a city of over 120,000 residents, located approximately six miles northwest of Downtown Denver and falls within both Jefferson and Adams County. Arvada borders Berkley, Denver, Fairmount, Westminster, and Wheat Ridge. The City of Arvada was incorporated in 1904 and has grown to include over 40 square miles within its city limits. Arvada includes a wide variety of development types, from dense historic neighborhoods, to master planned suburban communities, to open grasslands in the foothills of the Rocky Mountains.

While the City of Arvada and other entities have conducted transportation studies that focus on specific areas within Arvada or a single mode of travel, there has not yet been a comprehensive transportation plan prepared for Arvada. This Transportation System Plan (TSP) will serve as the City's guiding long-range, multimodal transportation vision document which will guide investment into the transportation system. The TSP incorporates the entirety of Arvada's Municipal Planning Area (MPA) as shown in **Figure 1**, which includes just over 50 square miles. In addition to Arvada's MPA, the TSP accounts for the influence and impacts of the surrounding communities outside of the city's limits based on the evaluation of traffic volumes entering and leaving Arvada.

MEMORANDUM PURPOSE

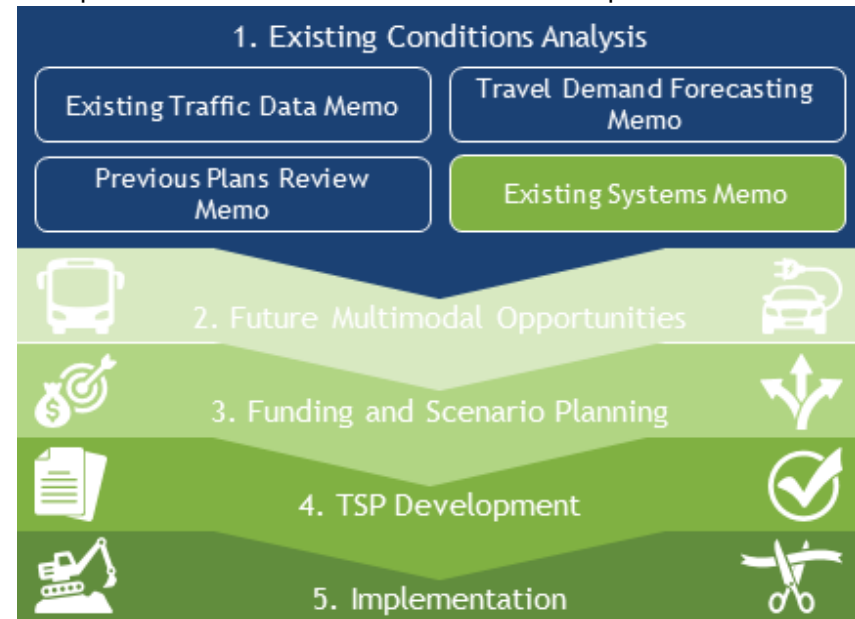
The Existing Systems Memo is comprised of:

- A review of travel trends in Arvada
- An assessment of the existing roadway conditions, vehicular traffic condition, active transportation, transit, and freight rail network
- An evaluation of safety conditions, including use-specific crash analysis and identification of high-crash locations
- A compilation of ongoing and upcoming projects by use

This memo is comprised of an extensive existing conditions analysis of all transportation modes to ensure Arvada's existing system is accurately captured. This memo will inform future multimodal opportunities that will occur later in the TSP.

MEMORANDUM CONTEXT

The Existing Systems Memo is one of four memos that make up the Existing Conditions phase of the TSP, which establishes existing transportation deficiencies and informs future phases of the TSP.



Future phases of the TSP include:

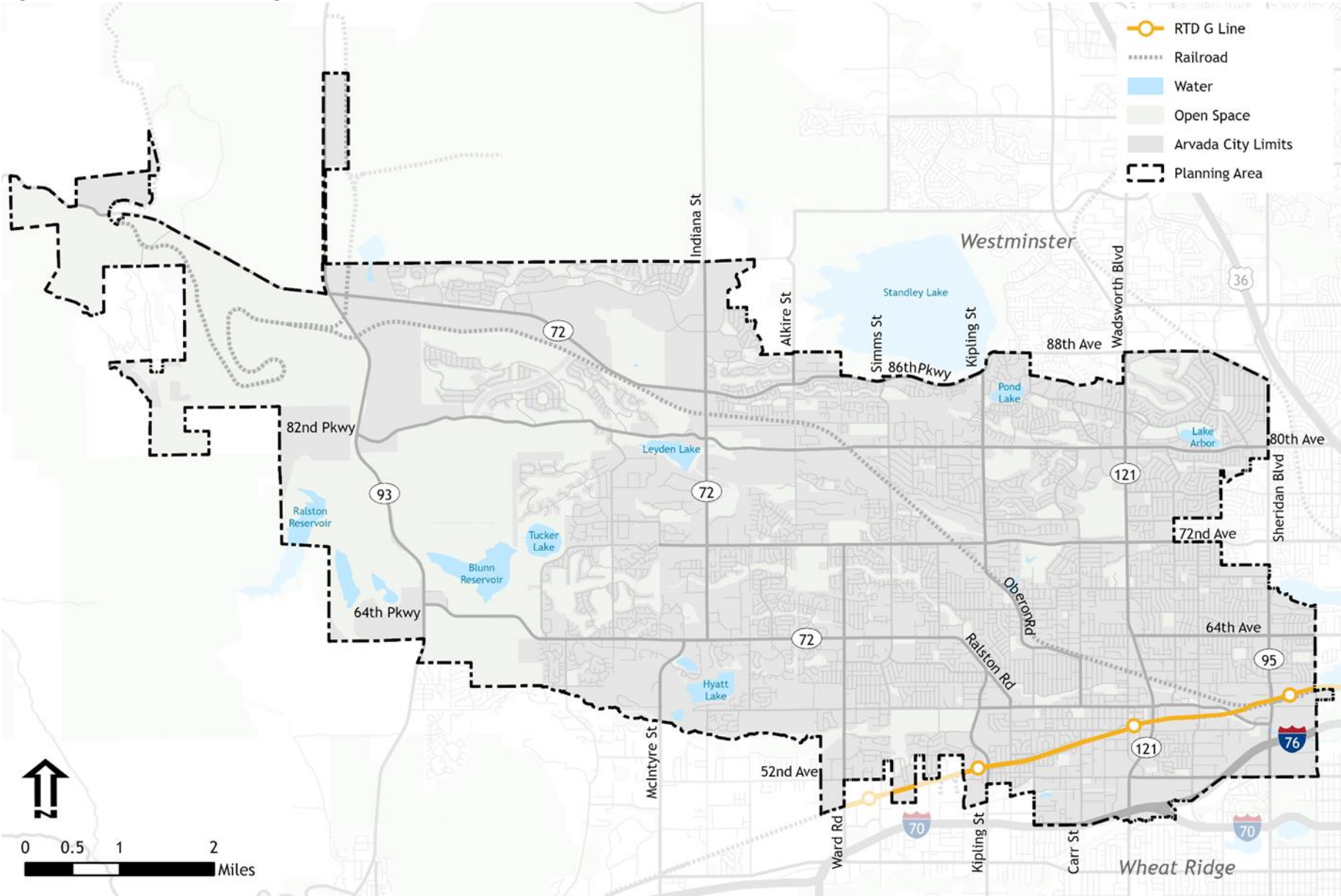
Future Multimodal Opportunities identifies future transportation deficiencies and develops multimodal projects to address them.

Funding and Scenario Planning prioritizes multimodal projects to determine which ones best meet the TSP goals and identifies sources to fund those projects.

TSP Development documents the recommended projects, funding sources, and phasing.

Implementation advances recommended projects through the design, construction, and post-implementation monitoring.

Figure 1. Arvada TSP Planning Area



Source: City of Arvada

TRAVEL



2. TRAVEL

This chapter discusses how residents, employees, and visitors travel around Arvada to gain an understanding of the types of travel that need to be accommodated with the City's transportation system.

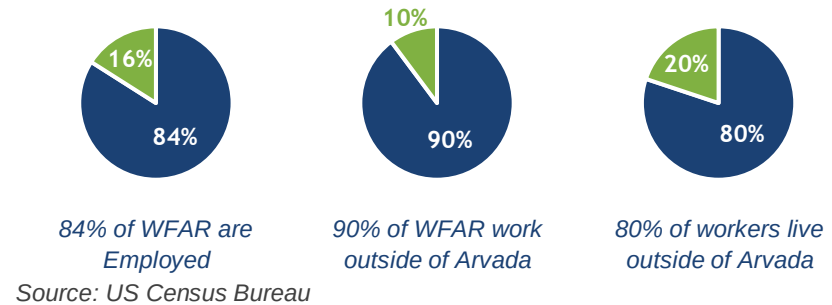
WHO'S MOVING AROUND ARVADA?

Demographic and Travel Profile

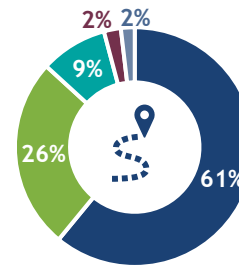
Every day, individuals living in Arvada, as well as employees and visitors, rely on the City's transportation network to reach various destinations within Arvada and throughout the region. By considering population trends and the way people move around, the TSP can adapt to meet the transportation needs that are currently not being adequately addressed, as well as anticipate future changes and accommodate upcoming demands. As the community's socioeconomics and demographics become more diverse, it is crucial to ensure fair and accessible transportation options for everyone. This is necessary to serve the community effectively and maintain the city's competitiveness in terms of economic growth. An example of this includes access to a vehicle. According to Census Bureau table B25044: Tenure by Vehicles Available, over 30% of Arvada households had access to one vehicle or less in 2021.

The city of Arvada has a workforce aged resident population (WFAR) of over 70,000 people. Of this WFAR population, 84 percent are employed. In Arvada, almost 90 percent of employed residents work outside of the city, while about 80 percent of the workers in Arvada actually live elsewhere.

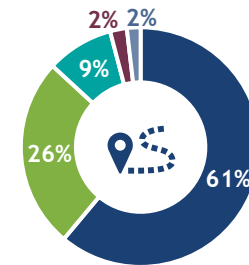
WORKFORCE AGED RESIDENTS



MODE SHARE OF TRIPS STARTING IN ARVADA



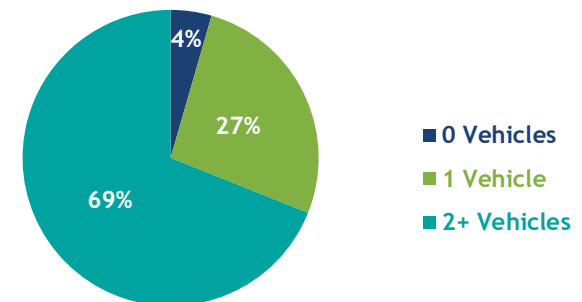
MODE SHARE OF TRIPS ENDING IN ARVADA



■ Drove Alone ■ Drove Together ■ Walk ■ Bike ■ Transit

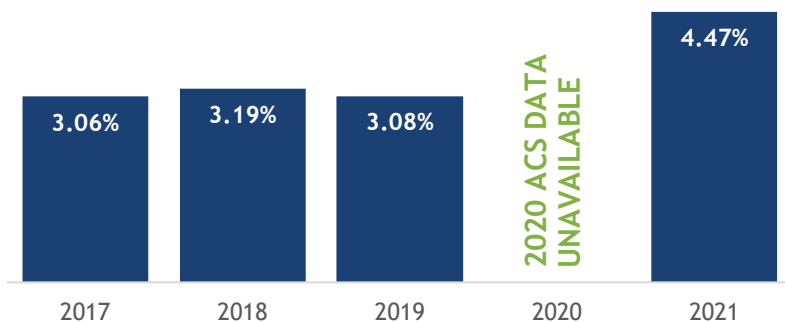
Source: 2023 DRCOG Focus Travel Demand Model

HOUSEHOLD VEHICLES AVAILABLE



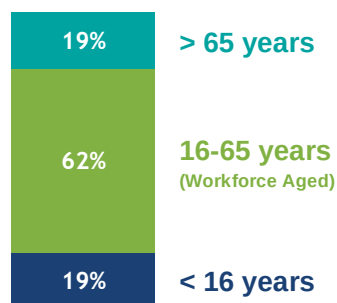
Source: US Census Bureau

ZERO VEHICLE AVAILABILITY (2017 – 2021)



RESIDENT AGE DISTRIBUTION

Source: US Census Bureau



Source: US Census Bureau

POPULATION IN POVERTY

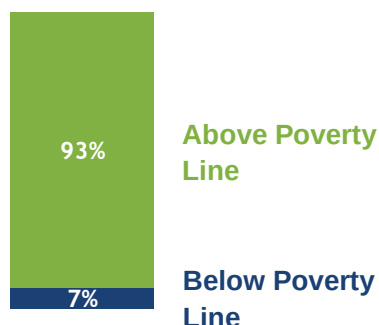
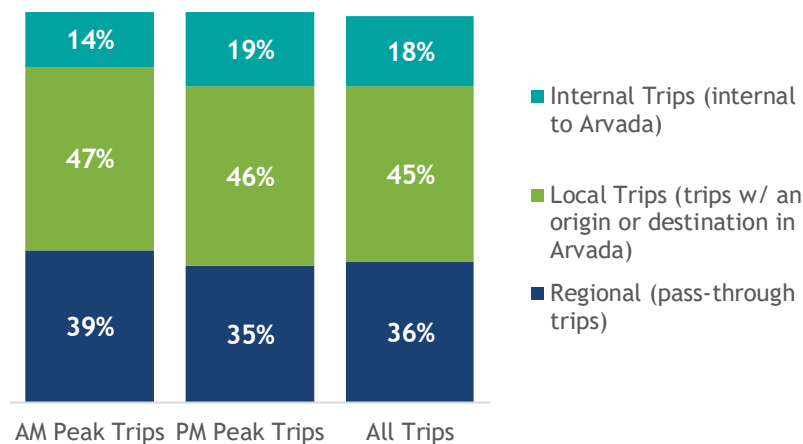


Figure 2. Vehicular Trip Types by Time-of-Day



Source: 2023 DRCOG Focus Travel Demand Model

The average trip times vary throughout the day. The average trip time for trips that originate in Arvada is highest in the morning peak period at just under 19 minutes while the average trip time in the PM peak is just over 15 minutes, as shown in

Trip Characteristics

Most vehicular trips in the TSP study area either start or end outside of Arvada as shown in **Figure 2**. Over a third of trips are pass-through trips, largely on I-70/I-76 or major CDOT facilities in Arvada such as Wadsworth Boulevard, Sheridan Boulevard, and SH 93. Less than 20% of trips start and end within the TSP study area.

Figure 3. Another measure of travel characteristics is intrazonal percentage, which is the percentage of trips that start and end in the same transportation analysis zone (TAZ) in the DRCOG Focus Travel Demand Model. These are very short-distance trips. Approximately 6% of trips are intrazonal for the day as a whole, but only 4.4% of trips are intrazonal in the AM peak period, further supporting that trips are longest in the morning.

Figure 3. Duration of Trips Originating in Arvada by Time of Day

TIME OF DAY	AVG. TRIP TIME	AVG. INTRAZONAL %
 AM PEAK	18.7	4.4%
 PM PEAK	15.2	6.7%
 DAILY	14.6	6.0%

Source: 2023 DRCOG Focus Travel Demand Model

Activity Centers

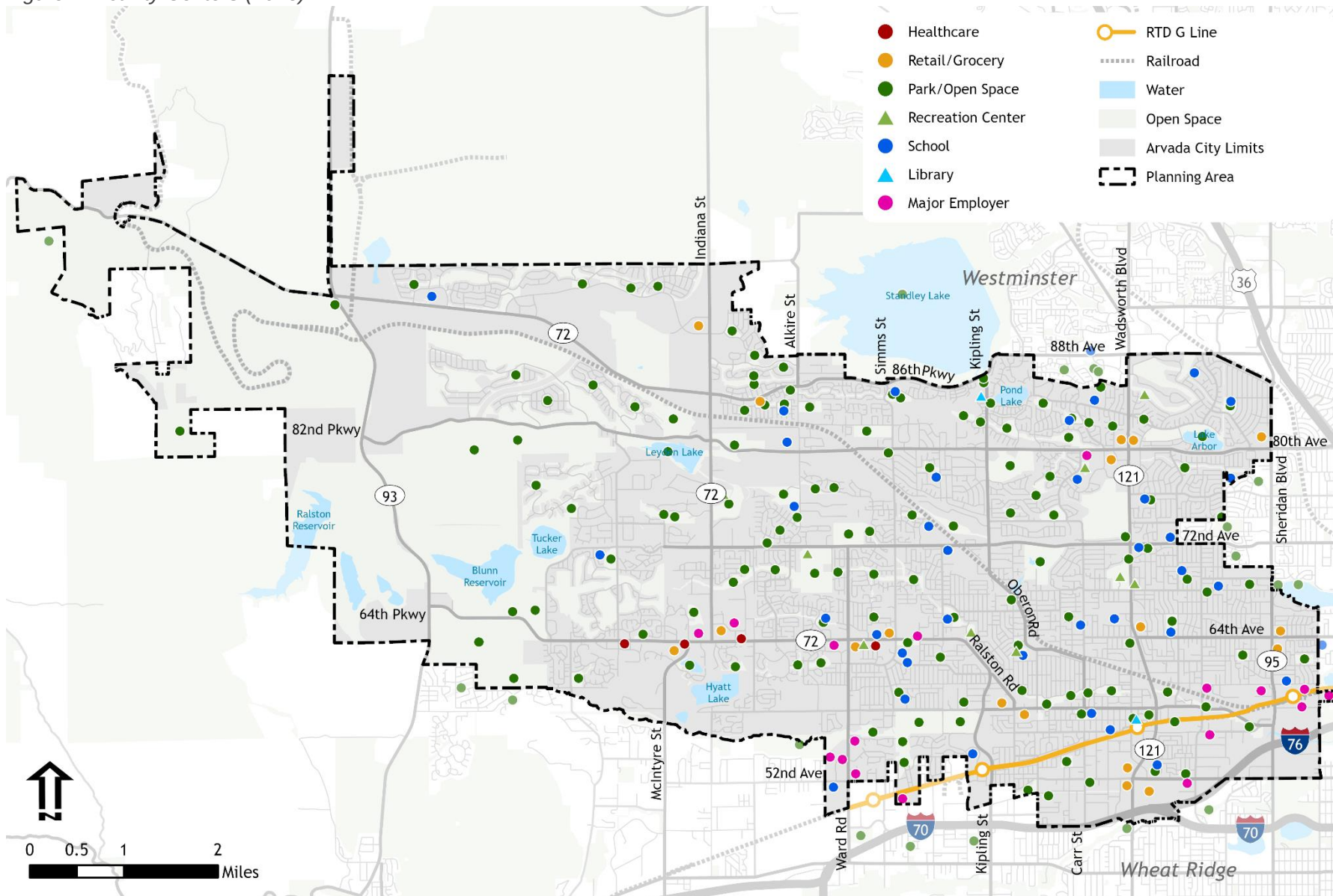
Outside of commuting, a large proportion of trips are to activity centers, such as parks, schools, and shopping. **Table 1** and **Figure 4** shows the number of activity centers in Arvada by type. Parks are prominent throughout Arvada whereas other activity centers are clustered in the eastern and southern portions of the city. Employers, schools, and retail areas are concentrated near the intersection of Wadsworth Boulevard and 64th Avenue.

Table 1. Activity Centers by Type

ACTIVITY CENTER	NUMBER OF FACILITIES
Park	150
School	38
Major Employer	17
Shopping Center	16
Recreation Center	9
Medical Center	4
Library	2

Source: City of Arvada

Figure 4. Activity Centers (2023)

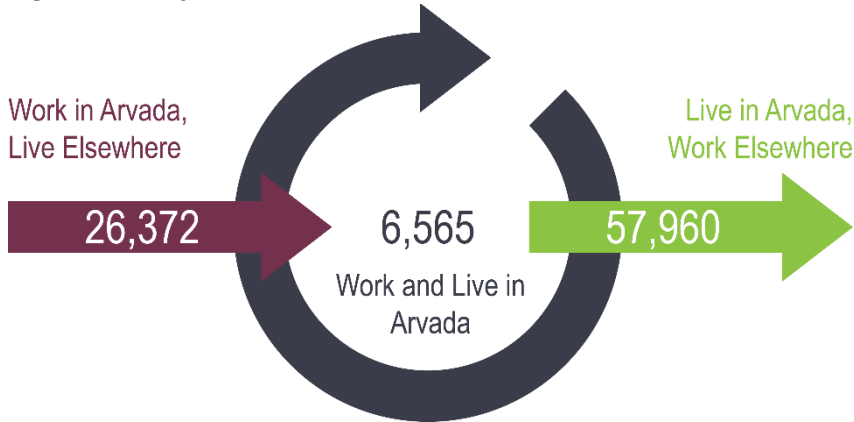


Source: City of Arvada

COMMUTING

Understanding the relationship between employment and commuting in Arvada is important to better support commuters that live in and outside of the City. There are an estimated 57,960 residents that travel outside the study area for work, 26,372 people who work in Arvada but live elsewhere, and 6,565 people who live and work in Arvada. **Figure 5** shows overall commute flows to and from Arvada.

Figure 5. Study Area Commute Flows

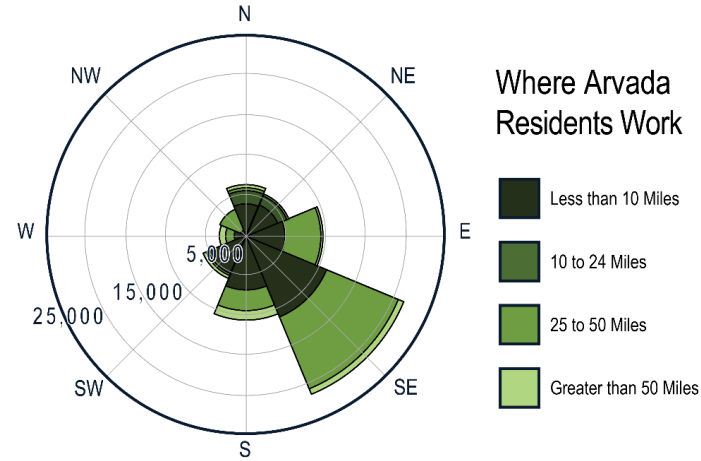


Source: LEHD, Census 2020

Where Residents Work

A large proportion of residents commute between 10 and 50 miles to the southeast, likely to Downtown Denver, the Denver Tech Center, and other employment hubs along the I-25 corridor. It is not typical for commuters to commute west or northwest from Arvada. **Figure 6** shows commuting patterns of Arvada residents.

Figure 6. Where Study Area Residents Work

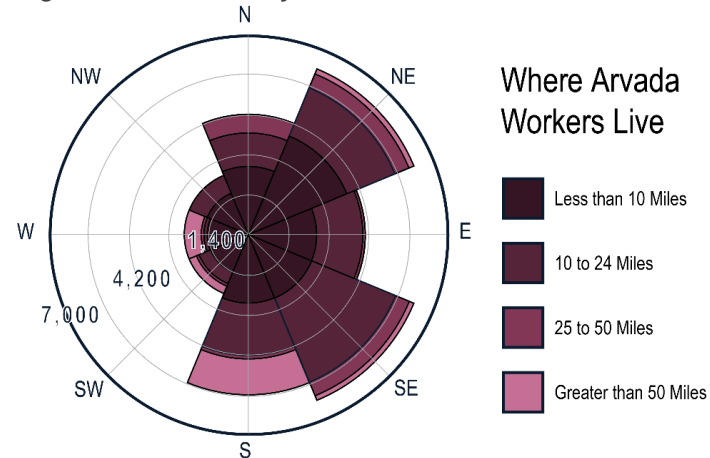


Source: LEHD, Census 2020

Where Employees Live

Workers employed in Arvada typically live northeast and southeast of the City, likely commuting from other Denver-area suburbs as most trips are less than 25 miles. Very few commuters are coming from the west. **Figure 7** shows the commuting patterns of workers in Arvada.

Figure 7. Where Study Area Workers Live

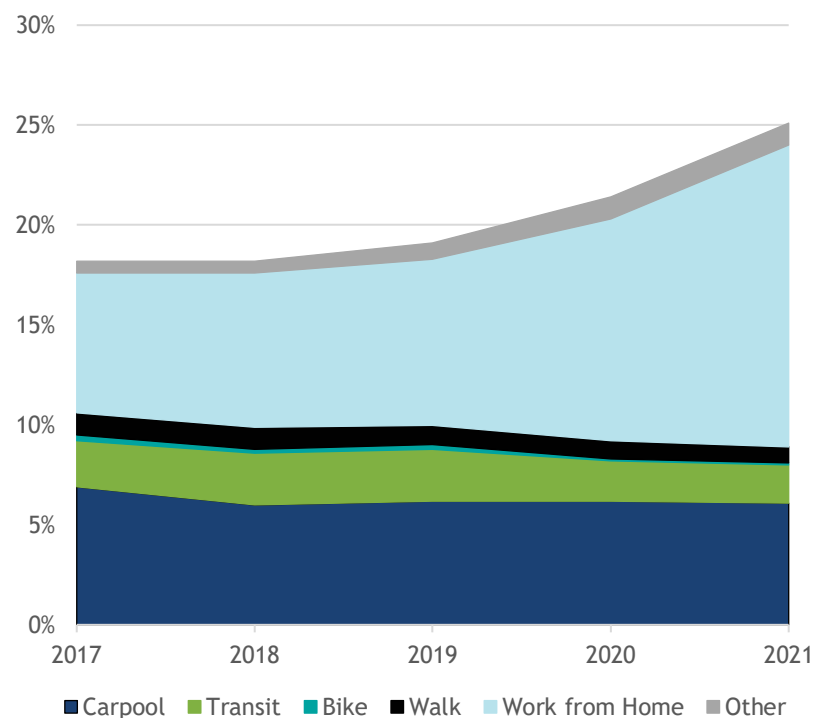


Source: LEHD, Census 2020

Mode Share

Mode of travel used for commuting was analyzed over the five most recent years of data available to determine how commuting in Arvada is done today. Driving alone is the predominant means of travel to work, with approximately 75% of commuters driving alone. The change in commuters using modes other than driving alone from 2017 to 2021 is shown in **Figure 8**. Transit use and carpooling were increasing until 2019. Working from home rapidly became more popular after 2019 due to the COVID-19 pandemic.

Figure 8. Travel Mode to Work (besides Driving Alone), 2017-2021



Source: American Community Survey (2017-2021)

KEY TAKEAWAYS

- Most of the workforce aged residents in Arvada work outside of the city and most people employed within the city live elsewhere.
- Over 95% of households have access to at least one vehicle.
- Trips originating and terminating in Arvada have nearly identical mode share.
- Trip lengths are longest during the morning peak period.
- Other than parks, most activity centers in Arvada are clustered in the eastern and southern portions of the city.
- Roughly twice as many people commute from Arvada to other places than people commute from other places to Arvada.
- About 75% of Arvada residents commute by driving alone, with working from home being the next highest commute type at 15%.
- Working from home became more common during and after the COVID-19 pandemic.

ROADWAYS



3. ROADWAYS

Arvada's roadway network serves as the foundation of transportation for the city, accommodating motor vehicles, trucks, transit users, pedestrians, and bicyclists. There are two interstates, I-70 and I-76, and four state highways (SH) (SH-72, SH-93, SH-95, and SH-121) in the study area. There are approximately 500 total miles of roadways in the study area.

FUNCTIONAL CLASSIFICATION

Roadways are classified based on the type of traffic and surrounding land uses they are intended to serve. This categorization is referred to as functional classification. Three main functional classes are defined by the Federal Highway Administration (FHWA): arterial, collector, and local. These classifications are based on speed, vehicular capacity, and relationships with adjacent land uses according to the service they are intended to provide:

- **Arterial.** Provides the highest carrying capacity at the greatest speed for the longest uninterrupted distance, with some degree of access control
- **Collector.** Provides a less highly developed LOS at a lower speed for a shorter distance by collecting traffic from local roads and connecting them with arterials
- **Local.** All roads not defined as arterials or collectors, primarily provides access to land with little or no through traffic

Functional classifications have an inverse relationship between access to adjacent land and mobility based on the types of trips they are intended to serve, as shown in **Figure 9**. **Figure 10** shows the federal functional classifications for Arvada's transportation network.

Figure 9. Mobility/Access Relation

PROPORTION OF SERVICE



There are instances where a roadway's function may not match its infrastructure. Examples may include overbuilding a roadway to accommodate future growth or unanticipated or unplanned growth causing capacity issues on older roadways. Identifying these potential mismatches is important for the TSP to ensure there is adequate planning to appropriately size existing and future roadways. This planning helps avoid negative consequences, including cut-through traffic, pavement degradation, traffic congestion, decreased safety, or overinvestment in roadways.

In addition to federal functional classification, the City of Arvada has its own classification system based on the role a roadway fulfills within the system while accommodating current and future average daily traffic (ADT) volume. These classifications align with roadway cross-sections in the City's design standards. **Figure 11** shows the appropriate roadway functional classifications based on Arvada's 2016 Transportation Plan.

Arvada's functional classification results in a different functional classification for many corridors compared to the federal functional classification. The City's functional classifications includes many more local streets and have a more targeted approach when compared to the federal functional classifications. Local roadway functional classifications were mapped with existing land use to compare compatibility, as shown in **Figure 12**.

This map illustrates the Arvada City Limits, highlighting major transportation corridors and planning areas. The map includes a legend with the following categories:

- Interstate:** Thick blue line.
- Other Freeway:** Thick grey line.
- Principal Arterial:** Thick red line.
- Minor Arterial:** Thick green line.
- Major Collector:** Thick purple line.
- Minor Collector:** Thin orange line.
- RTD G Line:** Yellow line with a circle.
- Railroad:** Dotted grey line.
- Water:** Light blue area.
- Open Space:** Light green area.
- Arvada City Limits:** Grey shaded area.
- Planning Area:** Dashed black line.

The map shows the following features:

- Major Roads:** Interstate 70 (I-70), Interstate 25 (I-25), Interstate 76 (I-76), US Highway 36, US Highway 93, US Highway 121, US Highway 70, and US Highway 76.
- Local Roads:** Indiana St, Alkire St, Simms St, 86th Pkwy, Kipling St, 88th Ave, Wadsworth Blvd, 80th Ave, Sheridan Blvd, 72nd Ave, 64th Ave, 52nd Ave, Ward Rd, Kipling St, Carr St, and McIntyre St.
- Water Features:** Standley Lake, Pond Lake, Lake Arbor, Ralston Reservoir, Blunn Reservoir, Tucker Lake, Leyden Lake, and Hyatt Lake.
- Planning Areas:** Westminster, Arvada, and Wheat Ridge.
- Scale:** 0 to 2 miles.
- Orientation:** North arrow pointing up.



ARVADA
Transportation System Plan

Legend:

- Highway
- Principal Arterial
- Arterial Parkway
- Major Collector
- Collector
- Minor Collector
- Local
- RTD G Line
- Railroad
- Water
- Open Space
- Arvada City Limits
- Planning Area

Map Labels:

Westminster

Standley Lake

88th Ave

Wadsworth Blvd

80th Ave

86th Pkwy

Simms St

Alkire St

Indiana St

72

82nd Pkwy

93

64th Pkwy

Ralston Reservoir

Leyden Lake

Tucker Lake

Blunn Reservoir

Hyatt Lake

McIntyre St

52nd Ave

Ward Rd

72

121

70

76

95

64th Ave

72nd Ave

60th Ave

58th Ave

56th Ave

54th Ave

52nd Ave

50th Ave

48th Ave

46th Ave

44th Ave

42nd Ave

40th Ave

38th Ave

36th Ave

34th Ave

32nd Ave

30th Ave

28th Ave

26th Ave

24th Ave

22nd Ave

20th Ave

18th Ave

16th Ave

14th Ave

12th Ave

10th Ave

8th Ave

6th Ave

4th Ave

2nd Ave

1st Ave

Wheat Ridge

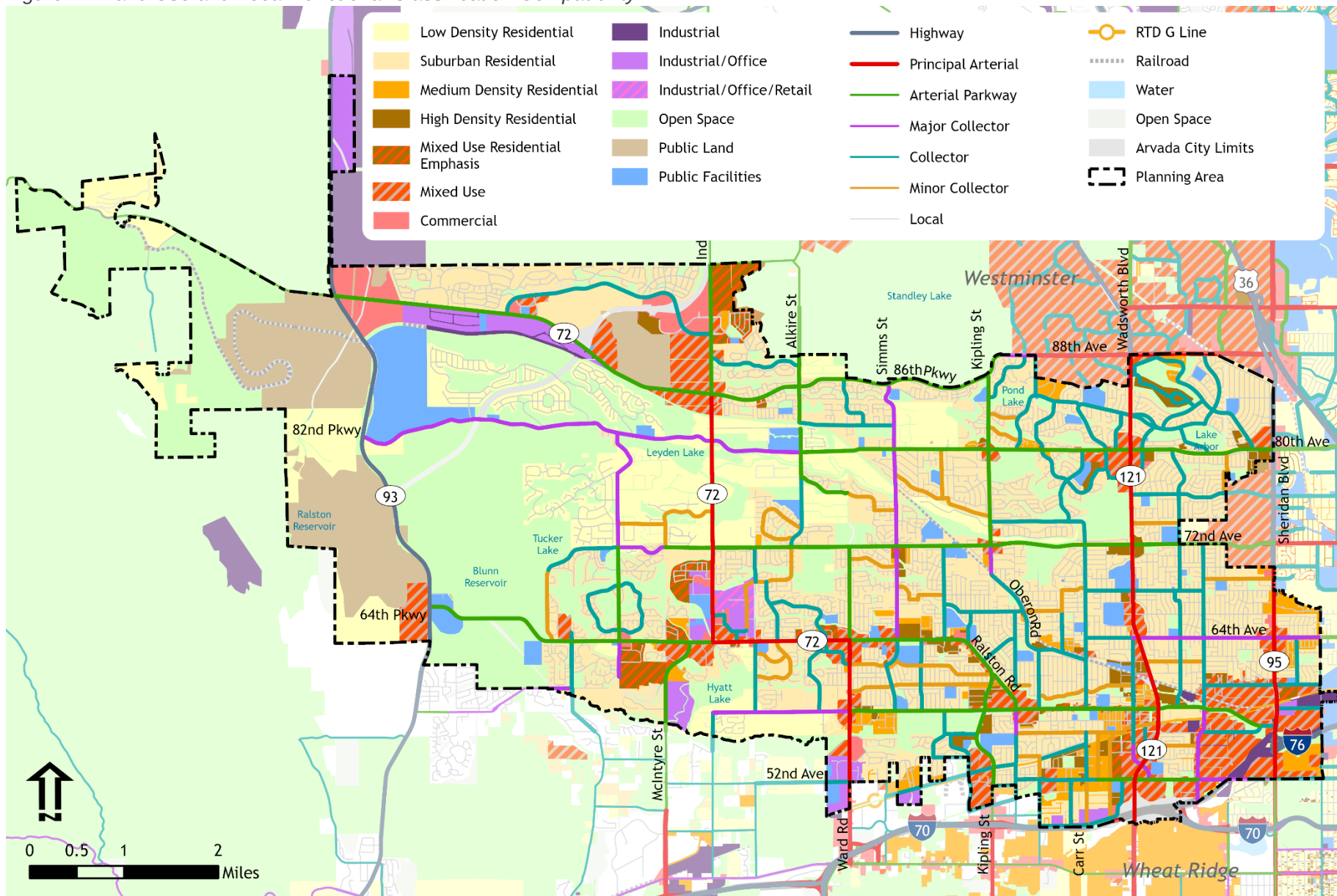
0 0.5 1 2 Miles

North Arrow



ARVADA
Transportation System Plan

Figure 12. Land Use and Local Functional Classification Compatibility



Source: 2023 City of Arvada, Jefferson County, Adams County, City of Westminster, City of Wheat Ridge



ROADWAY OWNERSHIP

Most roadways in the study area are owned by the City of Arvada, with isolated roadway segments owned by Jefferson County in county islands. CDOT owns and maintains I-70, I-76, SH-72 (Ward Road south of 64th Avenue, 64th Avenue between Indiana Street and Ward Road, Indiana Street between Coal Creek Canyon Road and 64th Avenue, and Coal Creek Canyon Road), SH 93, SH 95 (Sheridan Boulevard), and SH-121 (Wadsworth Boulevard). The City has the most control over roadways that it owns. Coordination is required for roadways owned by others to make changes to the layout, address maintenance issues, or improve congestion through signal timing or expansion. **Figure 13** shows roadway ownership in the study area.

ROADWAY ATTRIBUTES

Laneage

Most roadways in Arvada are two-lane roadways, as shown in **Figure 14**. Wadsworth Boulevard (SH-121) has the highest number of lanes, at three lanes in each direction along the corridor. Multi-lane roadways are most common in southern Arvada, with a higher concentration of two-lane roadways to the northwest. Classified roadway mileage by number of lanes is shown in **Table 2**.

Table 2. Classified Roadways by Number of Through-Lanes

NUMBER OF LANES	MILEAGE
1 Lane	3
2 Lanes	107
4 Lanes	36
6 Lanes	5

Pavement Condition

Pavement condition was obtained from the City for roadways under the jurisdiction of Arvada. Pavement condition in Arvada is measured in a pavement quality index (PQI), which is a 0-100 scale. Much of the pavement rates 'Poor' or 'Failed' (a PQI of under 40) and is concentrated in many of the smaller, neighborhood streets as shown

in **Figure 15**. Some major roadways, including minor arterials, including 80th Avenue, 72nd Avenue, 64th Avenue, and Oberon Road are rated 'Fair' or better (a PQI of higher than 40). Total mileage of the different pavement condition types is provided below in **Table 3**.

Table 3. Pavement Condition by Total Miles

CONDITION	MILEAGE
Failed (PQI ≤ 20)	167.2
Poor (20 < PQI ≤ 40)	147.7
Fair (40 < PQI ≤ 70)	99.3
Good (PQI > 70)	61.3

Bridge Condition

Bridges are defined as bridge or major culverts with a span exceeding 20 feet. Bridge condition was evaluated to determine the safety of bridge structures in the study area and is measured with a Sufficiency Rating into 'Poor', 'Fair', or 'Good' condition categories. Bridge conditions are shown **Table 4** by sufficiency and graphically in **Figure 15**. A total of 114 bridges were evaluated. Forty-seven (47) of the bridges are owned and maintained by CDOT while 67 are owned by the City of Arvada. The majority of CDOT bridges are in 'Good' or 'Fair' condition, with only four being rated as 'Poor'.

Of the 67 bridges that are owned by Arvada, three bridges were identified as having a 'Poor' condition: 74th Avenue crossing over Croke Canal, Kipling Parkway crossing over Van Bibber Creek, and Vance Drive crossing over Little Dry Creek. Additionally, two bridges are within five percent of degrading from 'Fair' condition to 'Poor', Joyce Street crossing over Ralston Creek and Carr Street crossing over Ralston Creek.

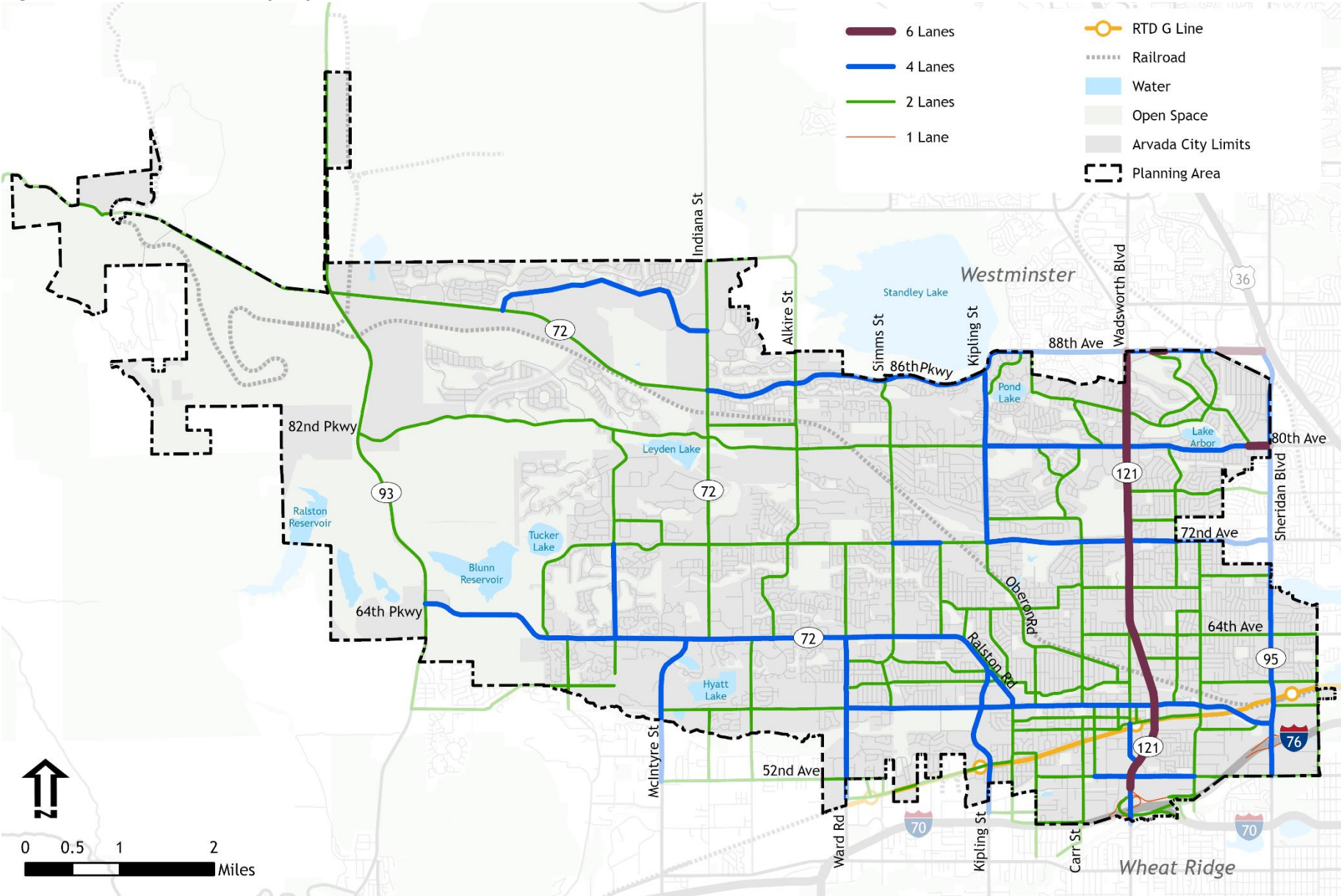
Table 4. Bridges by Sufficiency Rating and Ownership

CONDITION	CDOT BRIDGES	ARVADA BRIDGES
Poor (< 50% Sufficiency Rating)	4	3
Fair (50-79% Sufficiency Rating)	19	15
Good (>80% Sufficiency Rating)	24	49

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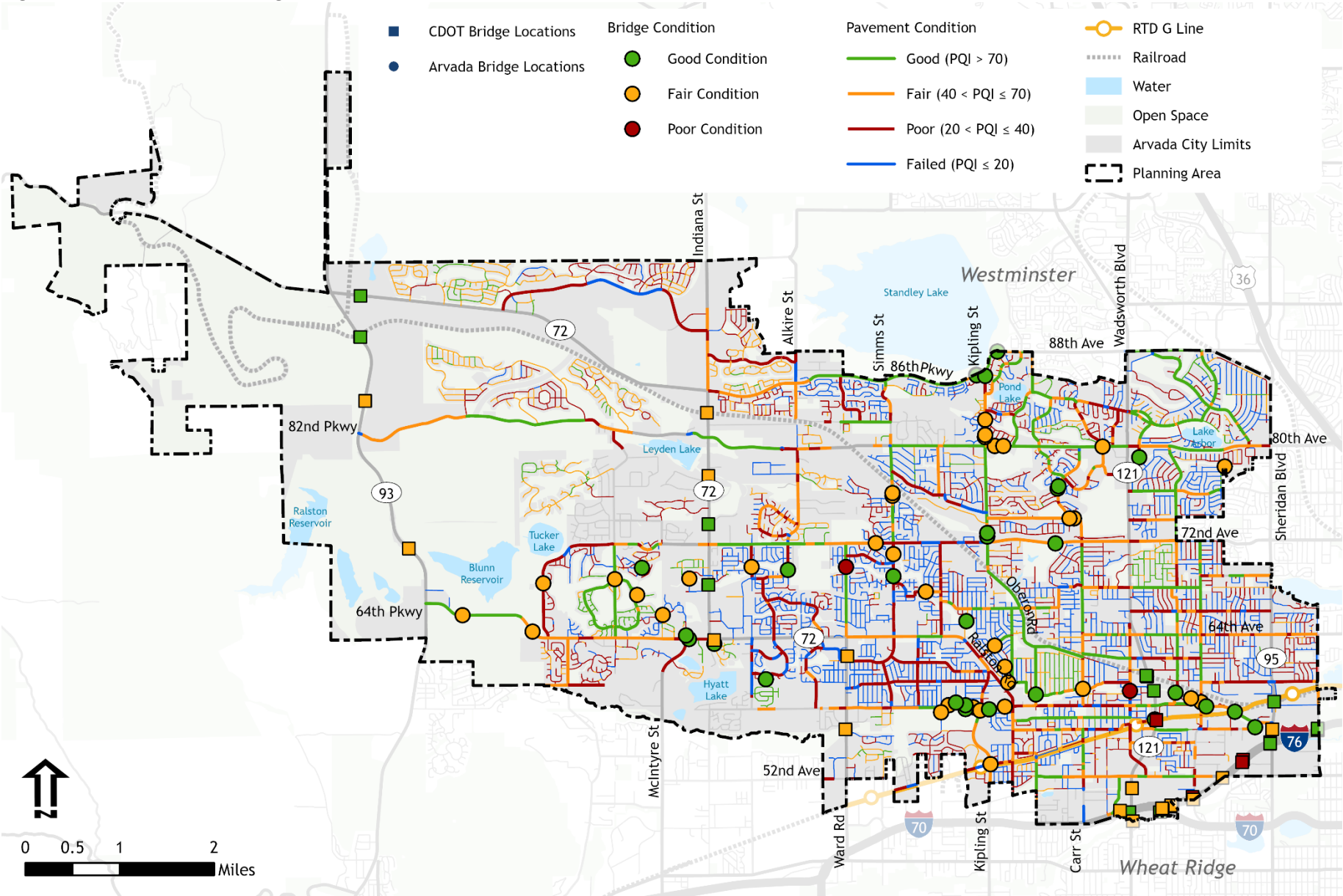

ARVADA
 Transportation System Plan
 


Figure 14. Classified Roadways by Number of Lanes



Source: Kimley-Horn, 2023 DRCOG Focus Travel Demand Model

Figure 15. Pavement and Bridge Conditions



Source: 2023 City of Arvada

TRAFFIC AND CONGESTION

Traffic Volumes

ADT volumes in Arvada are shown in **Figure 16**. The highest ADTs are concentrated on the regional freeways and state highways. Excluding freeways, Wadsworth Boulevard has the highest ADT in the network, with segments exceeding 78,000 vehicles per day. Notable volumes are also observed on Kipling Parkway from 50th Avenue to 58th Avenue. Roadway segments with the highest volumes are shown in **Table 5**.

Table 5. Top Roadway Segments by Volume

ROADWAY	FROM	TO	ADT
Kipling Pkwy	58 th Ave	Ralston Rd	20,157
Wadsworth Blvd	53 rd Ave	Reno Dr	20,305
58 th Ave	Independence St	Kipling Pkwy	21,216
Ralston Rd	58 th Ave	Kipling Pkwy	22,071
52 nd Ave	Balsam St	Wadsworth Blvd	24,066
Ralston Rd	Independence St	Carr St	24,222
64 th Ave	Miller St	Ward Rd	24,332
Ralston Rd	Miller St	Kipling Pkwy	25,131
88 th Ave	Railroad Xing	Wadsworth Blvd	25,823
Kipling Pkwy	50 th Ave	58 th Ave	31,171

Intersection Congestion

Vehicular traffic congestion levels were analyzed using LOS, which rates the performance of the roadway network by congestion:

- **LOS A: Free Flow.** Traffic flows freely at the posted speed limit on segments. Intersections have less than 10 seconds of delay. Incidents or breakdowns have minimal impact
- **LOS B: Reasonably Free Flow.** LOS A speeds are maintained, and maneuverability within the traffic stream is slightly restricted, intersections have between 10 and 20 seconds of delay per vehicle. Motorists have a high level of comfort.

- **LOS C: Stable Flow, at or Near, Free Flow.** Ability to maneuver between lanes is noticeably restricted and requires more awareness. Roads are not congested but increased volumes are noticeable. Intersections have between 20 and 35 seconds of delay per vehicle. Minor incidents begin to lead to traffic delays behind the incident.
- **LOS D: Approaching Unstable Flow.** Speeds are decreased, motorist freedom to maneuver is more limited, like a busy shopping corridor on a weekday or a major arterial roadway during commuting hours. Intersections have between 35 and 55 seconds of delay per vehicle. This is the target LOS when identifying acceptable LOS for most urban streets.
- **LOS E: Unstable Flow.** Operating very near or at capacity. Flow becomes irregular and speed varies rapidly as traffic's ability to maneuver diminishes. Vehicles rarely reach the speed limit. Intersections have between 55 and 80 seconds of delay per vehicle. Any incident or disruption to traffic flow, such as crashes or lane changes, leads to congestion.
- **LOS F: Stop and Go.** Roadways and intersections at or above capacity. Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing. Travel time cannot be predicted, with generally more demand than capacity. Vehicles at intersections are delayed over 80 seconds.

Peak-hour LOS for signalized intersections is shown in **Figure 14**, showing the worst LOS between the AM and PM peak hour. There are eight intersections that have a LOS E or F as shown in **Table 6**.

Table 6. Congested Intersections

EAST-WEST STREET	NORTH-SOUTH STREET	AM LOS	PM LOS
53 rd Ave	Olde Wadsworth Blvd	F	F
64 th Ave	Lamar St	F	F
74 th St	Simms St	F	D
52 nd Ave	Wadsworth Blvd	F	F
Ralston Rd	Sheridan Blvd	F	D
64 th Ave	Indiana St	E	D
58 th Ave	Ward Rd	C	E
86 th Pkwy	Indiana St	C	E

Population Density Legend:

- Less than 1,000
- 1,000 to 3,000
- 3,000 to 8,000
- 8,000 to 15,000
- 15,000 to 25,000
- 25,000 to 50,000
- Greater than 50,000

Other Features Legend:

- RTD G Line
- Railroad
- Water
- Open Space
- Arvada City Limits
- Planning Area

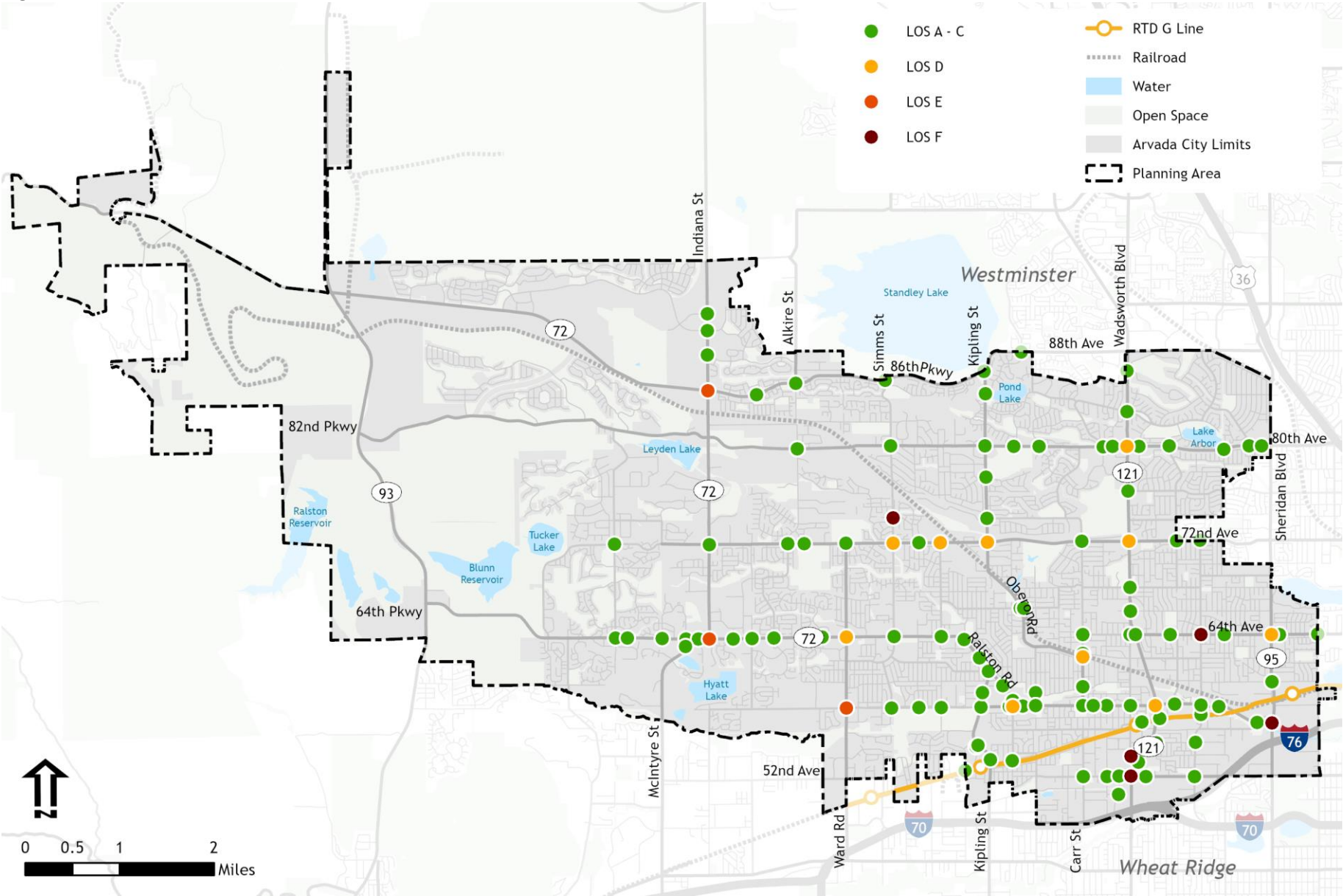
Map Labels: Westminster, Wheat Ridge, Indiana St, Alkire St, Simms St, 86th Pkwy, Kipling St, 88th Ave, Wadsworth B, 80th Ave, Sheridan Blvd, 72nd Ave, 64th Ave, 95, 76, 70, 121, 93, 72, 64th Pkwy, 82nd Pkwy, Ralston Reservoir, Blunn Reservoir, Tucker Lake, Leyden Lake, Hyatt Lake, 52nd Ave, Ward Rd, Kipling St, Carr St, Ralston Rd, Oberlin Rd, Pond Lake, Lake Arbor, Standley Lake.

Scale: 0 0.5 1 2 Miles



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Transportation System Plan

Figure 17. Worst Peak Hour Level of Service



Source: City of Arvada AM Peak (7:00 AM – 9:00 AM) and PM Peak (4:00 PM – 6:00 PM), 2021

There are numerous signalized intersections that have very little congestion, indicating that a traffic signal may not be the most appropriate intersection type for these intersections. Locations with a LOS A in both the AM and PM peak hours are listed in **Table 7**. Traffic signals add delay and unnecessary maintenance cost if they are not applied in warranted or needed locations. However, there may be additional reasons beyond congestion for traffic signals, including high pedestrian crossing volumes or intersection sight distance issues that warrant a traffic signal. These locations will be reviewed in a later phase of the TSP to determine if some signalized intersections could be converted to a different intersection type.

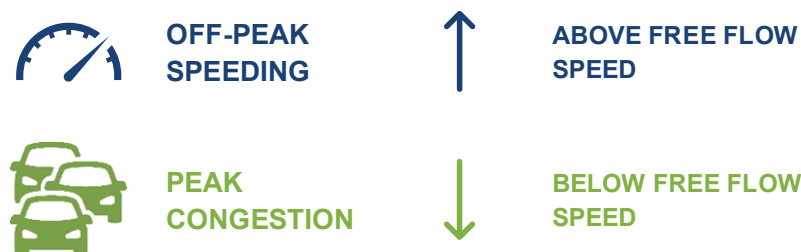
Table 7. Uncongested Signalized Intersections

EAST-WEST STREET	NORTH-SOUTH STREET
80 th Ave	Alkire St
80 th Ave	Hoyt Way
80 th Ave	Club Crest Dr
80 th Ave	Pierce St
80 th Ave	Harlan St
Independence Way	Kipling Pkwy
77 th Dr	Kipling Pkwy
72 nd Ave	Zinnia St
74 th St	Kipling Pkwy
64 th Ave	Joyce Dr
64 th Ave	Quay St
64 th Ave	Harlan St
Ralston Rd	59 th Pl
Ralston Rd	58 th Pl/King Soopers
58 th Ave	King Soopers Access
59 th Pl	Kipling Pkwy
Brooks Dr	Carr St
Ralston Rd	Holland St
Ralston Rd	Garrison St
Ralston Rd	Balsam St
Ralston Rd	Pierce St
Ralston Rd	58 th Ave/Hill Petroleum
55 th Ave	Kipling Pkwy

EAST-WEST STREET	NORTH-SOUTH STREET
Ridge Rd	Independence St
52 nd Ave	Carr St
55 th Ave	Marshall St
Grandview Ave	Lamar St
Grandview Ave	Saulsbury St
Grandview Ave	Vance St
55 th Ave	Saulsbury Ct
68 th Ave	Wadsworth Blvd

Segment Congestion

INRIX data was used to analyze congestion and speeding conditions in the study area. Traffic congestion and speeding levels for 2022 in Arvada were analyzed for weekday morning and afternoon peak periods and off-peak conditions compared to each roadway's free-flow speed. The morning peak period is from 6:00 AM to 9:00 AM and the afternoon peak period is from 3:00 PM to 6:00 PM. The off-peak speed differential was observed to determine where speeding occurs most frequently.



Weekday Peak Congestion

Average weekday congestion considers the typical conditions on Tuesday, Wednesday, and Thursday. **Figure 18** shows congestion in the AM peak condition by displaying the difference of the average vehicle speed compared to the free flow speed during the AM peak hour. During the morning peak, most of the roadway network experiences light congestion. Roadways in western Arvada typically are one to five mph below free flow speed, whereas roadways east

of Kipling Parkway are typically at or above free flow speed. 64th Parkway, from Indiana Street and McIntyre Street, is the most congested roadway in the morning peak period, exceed three mph of delay.

Figure 19 shows congestion in the afternoon peak by displaying the difference of the average vehicle speed compared to the free flow speed during the PM peak hour. During afternoon peak conditions, congestion is typically less common overall throughout the study area, but isolated segments have major congestion. Roadway segments that are three mph or more below the free flow speed include Wadsworth Boulevard, north of I-70 and just south of 80th Avenue; 64th Parkway near Indiana Street and between Simms Street and Kipling Parkway; and Indiana Street, north of 72nd Avenue, and south of 82nd Avenue.

Off-Peak Speeding

Figure 20 shows speeding conditions during off-peak conditions. Off-peak speeding is most common in southern and eastern Arvada. Roadway segments that connect to the interstate network have higher speeding differentials, with speeding most prevalent on McIntyre Street, Wadsworth Boulevard, and Sheridan Boulevard.

FREIGHT

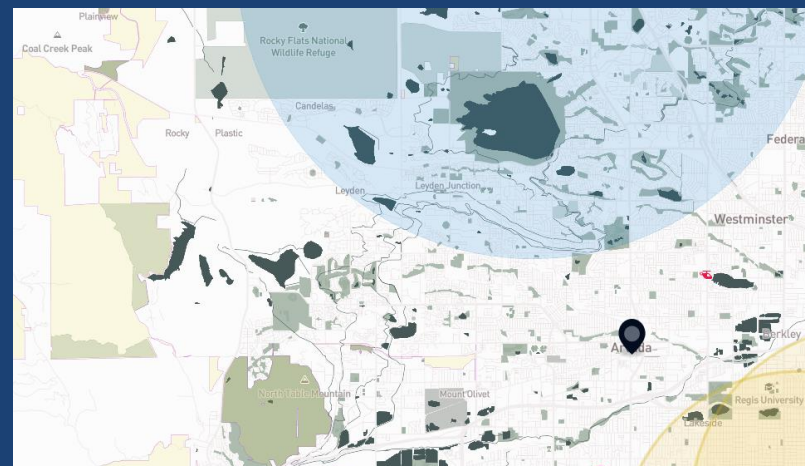
Freight turning movement counts (TMCs) were used to estimate daily truck traffic volumes in the study area, shown in **Figure 20**. Roadway segments and intersections where classification count data is available are included. The highest truck traffic volumes, exceeding 1,000 trucks per day, are on Wadsworth Boulevard (SH 121) south of 72nd Avenue, Ward Road (SH 72) south of Ralston Road, and Sheridan Boulevard (SH 95). Most roadways with significant truck traffic connect to I-70 and/or I-76 or correspond to adjacent freight-intensive land uses, including industrial and commercial development.

VEHICLE CLASSES

FHWA classifies roadways in a 13-class system. For the purposes of the TSP, trucks include any vehicles that are Class 6 (three axle, single unit) through Class 13 (seven or more axle, multi-trailer). See https://www.fhwa.dot.gov/policyinformation/tmguide/tmg_2013/vehicle-types.cfm for details on the FHWA truck classes.

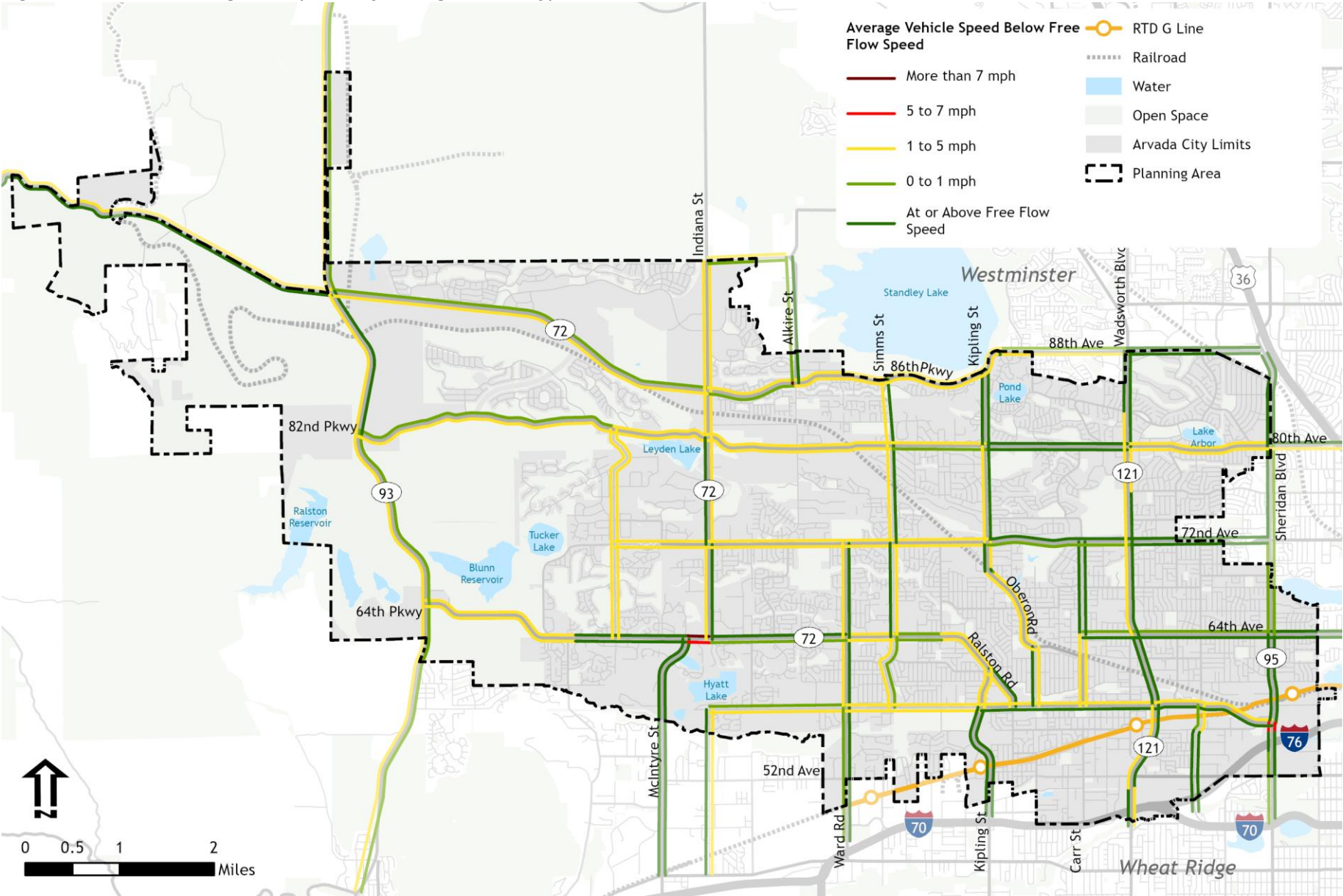
DRONE FLIGHT RESTRICTIONS

The Federal Aviation Administration (FAA) requires authorization for commercial drones within five miles of public airports. Approval must be obtained through the Low Altitude Authorization and Notification Capability (LAANC) system or the FAA DroneZone website before flying in controlled airspace. Recreational drone users must also avoid restricted airspace through the FAA B4UFLY application and obtain LAANC approval before flying in restricted airspaces.



B4UFLY application screenshot for Arvada flight restrictions

Figure 18. AM Peak Congestion (Tuesday through Thursday)



Source: INRIX 2023

Average Vehicle Speed Below Free Flow Speed

- More than 7 mph
- 5 to 7 mph
- 1 to 5 mph
- 0 to 1 mph
- At or Above Free Flow Speed

RTD G Line

Legend:

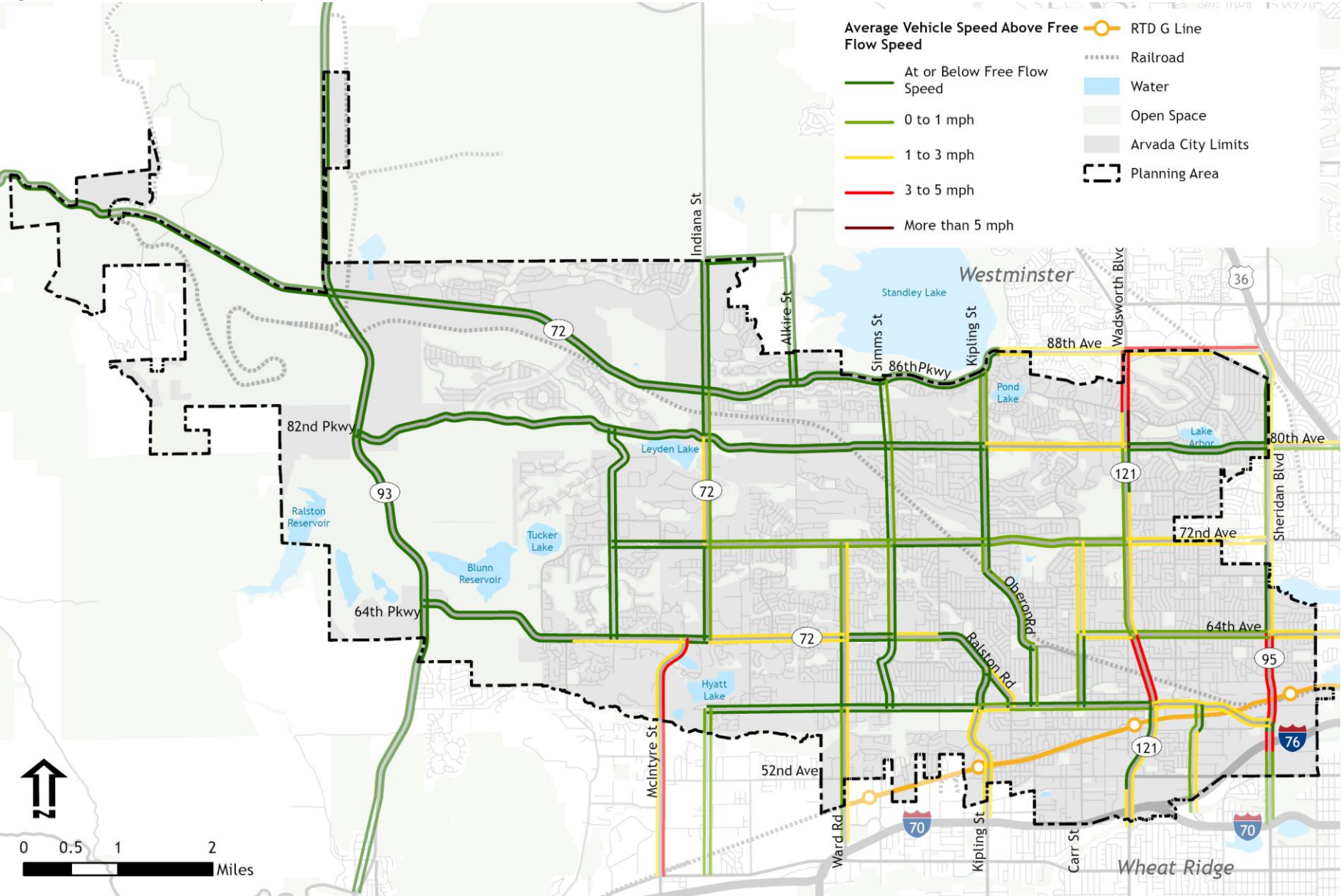
- Railroad
- Water
- Open Space
- Arvada City Limits
- Planning Area

Map Labels: Westminister, Standley Lake, Pond Lake, Lake Arbor, 88th Ave, Wadsworth Blvd, 80th Ave, 121, 95, 76, 70, 72, 93, 64th Pkwy, 82nd Pkwy, 86th Pkwy, Kipling St, Simms St, Alkire St, Indiana St, Leyden Lake, Tucker Lake, Blunn Reservoir, Hyatt Lake, Ralston Rd, 52nd Ave, Ward Rd, Carr St, Wheat Ridge, Sheridan Blvd, 64th Ave, 72nd Ave.

Scale: 0 0.5 1 2 Miles

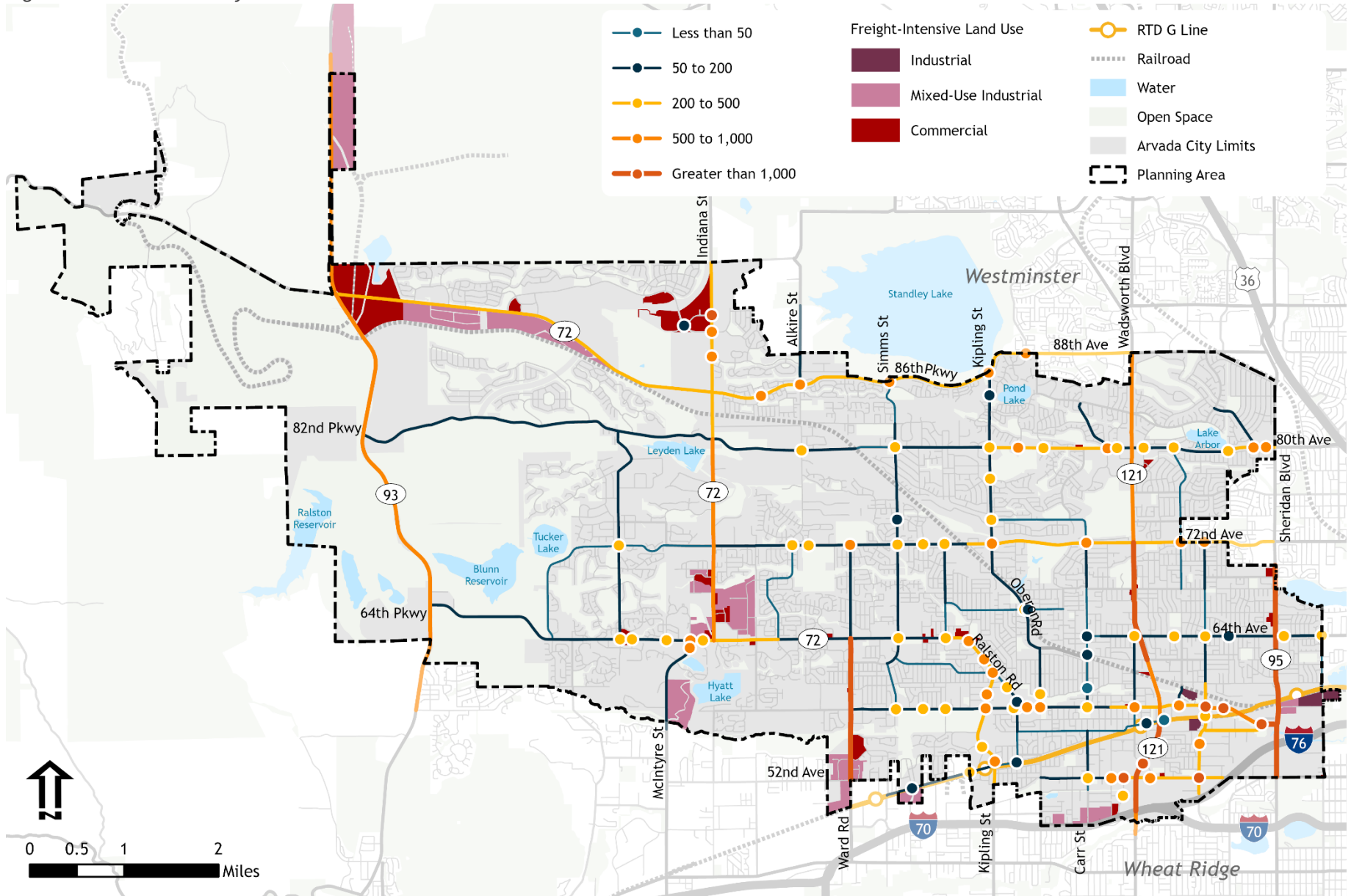
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Figure 20. Off-Peak Travel Speeds



Source: INRIX 2023

Figure 21. Estimated Daily Truck Volumes



Source: City of Arvada, 2021



KEY TAKEAWAYS

- There is a well-connected grid network of arterial and collector roadways in the southern and eastern areas of Arvada, with often connection between east-west and north-south major roadways.
- The roadway network is less connected and less granular in northern and western Arvada.
- Many of the major roadways in Arvada are controlled by others, particularly CDOT. Coordination will be required to improve conditions along these corridors.
- A large proportion of roadways in Arvada have poor pavement conditions.
- There are three City-owned bridges in 'Poor' condition.
- Traffic volumes on Arvada's roadway network are highest surrounding I-76 and I-70, with notable volumes on Kipling Parkway, Wadsworth Boulevard, Ralston Road, and 58th Avenue.
- Free flow speed impacts are largely only experienced in southeastern Arvada, with five intersections with a LOS F in at least one peak hour and three intersections with a LOS E in at least one peak hour.
- There are 31 signalized intersections with a LOS A in both peak hours, indicating very low congestion. These locations should be further evaluated to determine appropriateness of the signal and identify practical solutions to ensure safe and efficient operations for all modes.
- The existing truck traffic counts and future land uses have been used to identify potential truck, connecting roadways with high truck volumes and freight-intensive land uses to the regional freeway system.



ACTIVE TRANSPORTATION



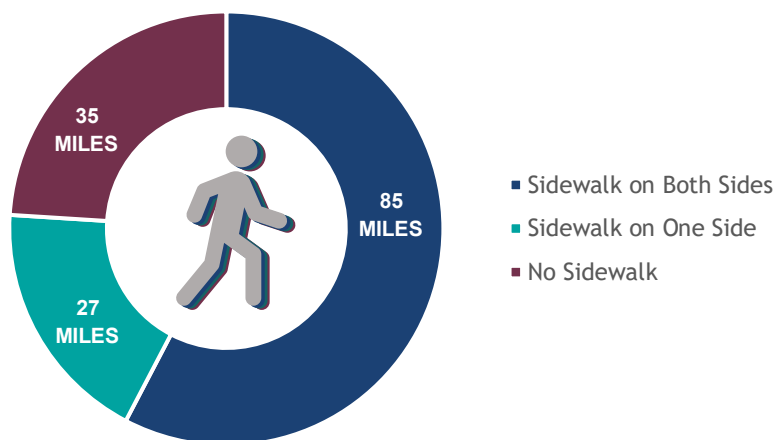
4. ACTIVE TRANSPORTATION

SIDEWALKS

According to Colorado Statute Article 42-1-102 (90) a sidewalk is defined as a “portion of a street between the curb lines or the lateral lines of a roadway and the adjacent property lines intended for the use of pedestrians. Sidewalk presence on classified roadways in Arvada is summarized in **Figure 22** and shown geographically in **Figure 23**. Approximately 25% do not have sidewalk on either side. The sidewalk network on classified roadways is most complete in southeastern Arvada, near the G Line. State routes in the City are lacking pedestrian infrastructure along the corridors.

There are 866 active crosswalks in Arvada, including those located at roadway intersections. Crosswalks are typically more present in eastern Arvada, with less crosswalks than sidewalk coverage to the west. Arvada has approximately 11,639 curb ramps in the city. Corridors with sidewalk presence typically have curb ramps at intersections.

Figure 22. Major Roadway Sidewalk Statistics



Walkability and safe access to activity centers is vital to a usable active transportation network. Approximately 85% of Arvada’s classified roads within a quarter of a mile of identified activity centers have sidewalks. Although pedestrian facilities exist in close proximity to activity centers, gaps in the active transportation network limit pedestrian mobility and make it difficult to complete trips on foot.

TRAILS

Trails in Arvada are shown in **Figure 24**. With 63 miles of off-street trails, the trail network in Arvada provides considerable access to many activity centers, such as Lake Arbor Park, Two Ponds Wildlife Refuge, golf courses, and schools. The existing trail network connects users from subdivisions to many outdoor spaces scattered throughout Arvada.

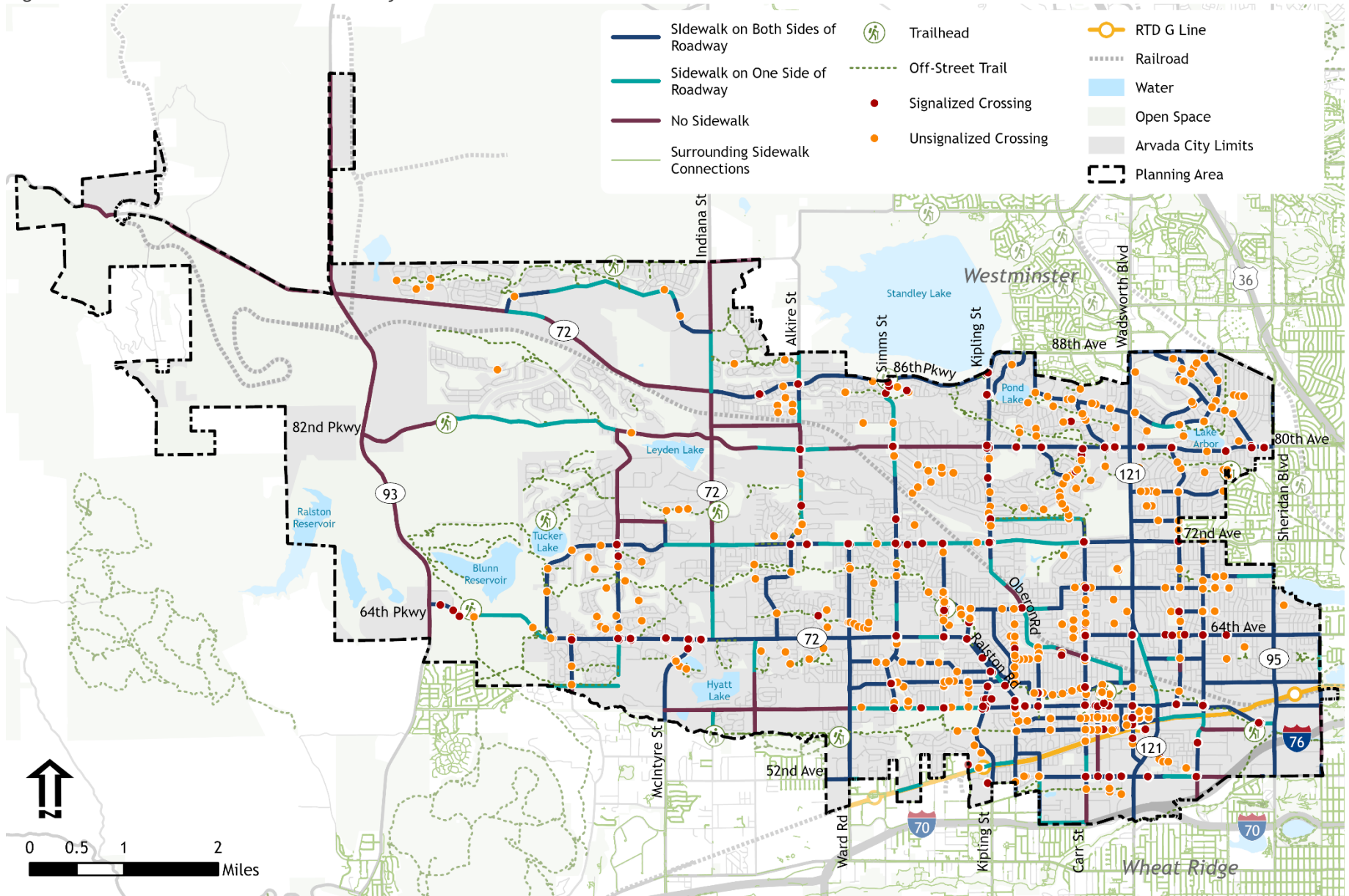
ON-STREET BICYCLE FACILITIES

On major roadways, Arvada has 67.1 miles of on-street bike facilities, including 41.5 miles of bike lanes, 16.5 miles of paved shoulders, 8.3 miles of shared lanes, and 0.8 miles of shared use paths. **Figure 25** shows bicycle infrastructure in Arvada. Additional facilities exist off of major roadway corridors.

Bicycle facilities are most common in the eastern and southern sections of the City. Facilities are typically bike lanes in eastern Arvada and are more likely to be paved shoulders in northwestern Arvada. Cross-town connections are limited, with many gaps in north-south and east-west routes.

Approximately 39% of Arvada’s classified roadways have bicycle facilities within two miles of identified activity centers, capturing a typical bike shed for non-recreation trips. Outside of the 2-mile activity center radius, there are additional gaps in the bicycle network. These gaps create challenges for bicyclists on their commutes and can lead to unsafe travel conditions. In addition to gaps, bicyclists traveling on local roadways often struggle to cross arterials. Similarly, the same challenge exists when crossing busy intersections.

Figure 23. Sidewalk on Classified Roadways



Source: City of Arvada, DRCOG, 2023

Figure 24. Trails

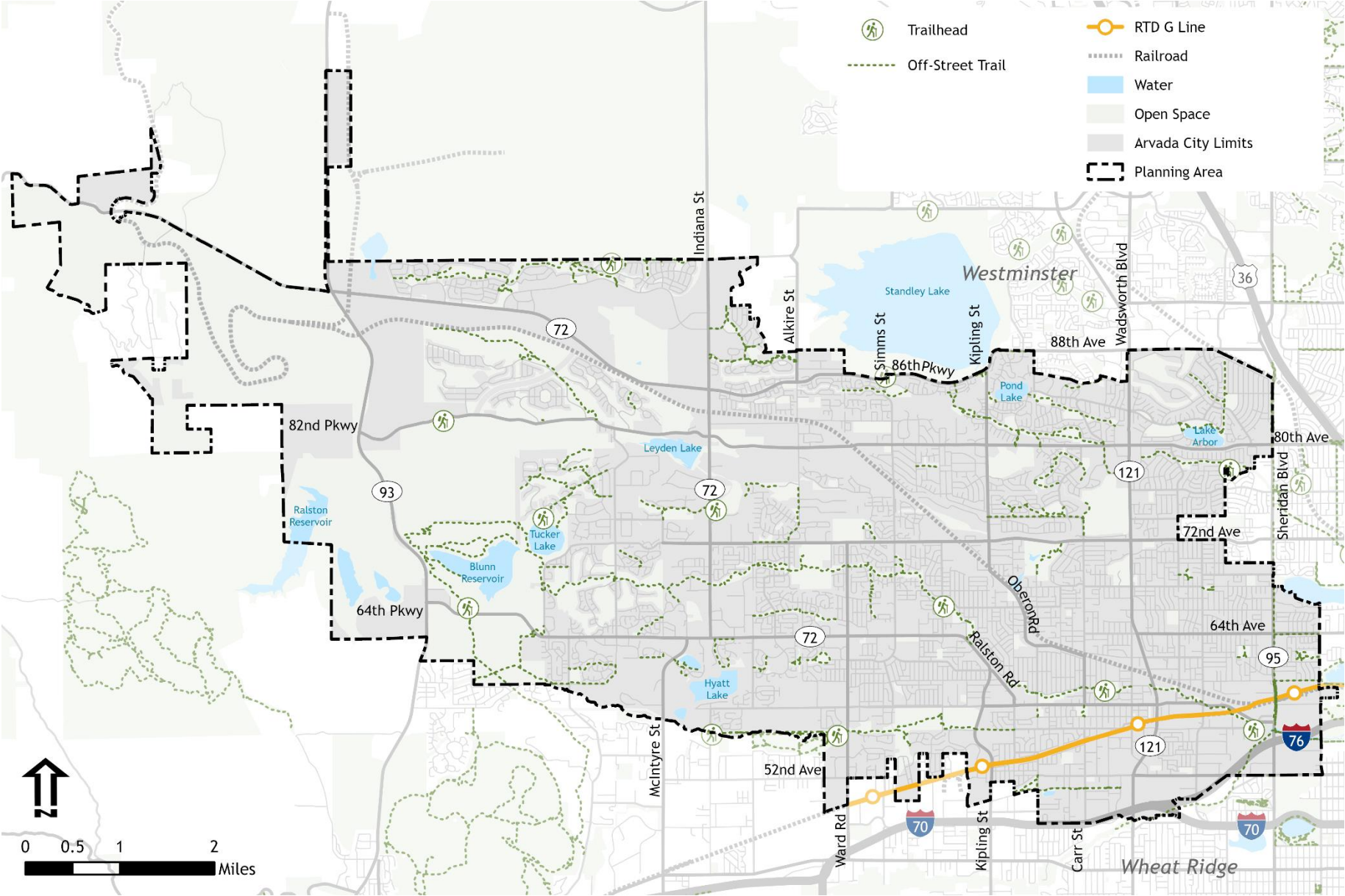
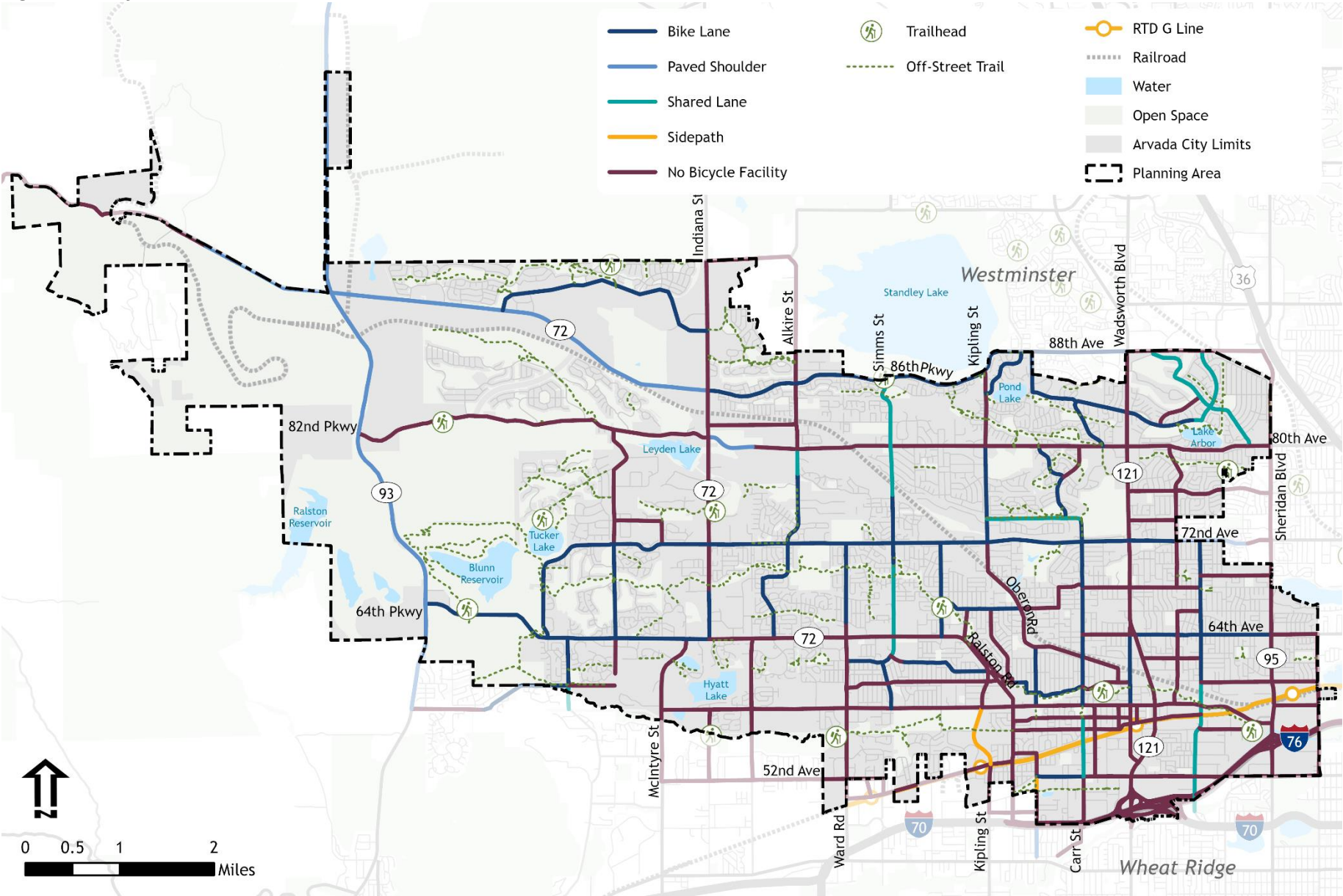


Figure 25. Bicycle Facilities



ACTIVE TRANSPORTATION COMFORT

To determine the existing perception of safety for active transportation users, pedestrian and bicyclist level of comfort was identified for each classified roadway segment. These comfort levels are determined by three factors: the pedestrian or bicycle facility type on the roadway, the speed of vehicular traffic on the roadway, and the ADT of the roadway.

Pedestrian Comfort

Pedestrian comfort was classified into four levels:

- **Comfortable for all.** Roadways with low traffic speeds and low ADTs or roadways with high pedestrian separation from traffic, such as a shared-use path.
- **Comfortable for adults.** Roadways with higher speeds or volumes than 'comfortable for all', but still have enough pedestrian protection to allow everyone except children to be comfortable and safe.
- **Uncomfortable for most.** Roadways with limited pedestrian protection from traffic or high traffic speeds and ADTs.
- **Uncomfortable for all.** Roadways with high traffic speeds, ADTs, or no dedicated pedestrian facilities.

Pedestrian comfort is mapped in **Figure 27**. Pedestrian comfort is typically poor on major arterial roads and better on collector roads due to lower speed limits and lower traffic volumes. State routes are most commonly uncomfortable for all pedestrians, with the state highways being particularly uncomfortable compared to roadways controlled by Arvada.

Bicycle Comfort

According to the 2017 Arvada Bicycle Master Plan, bicycle comfort was also classified into four levels using bicycle Level of Traffic Stress (LTS) as shown in **Figure 26**.

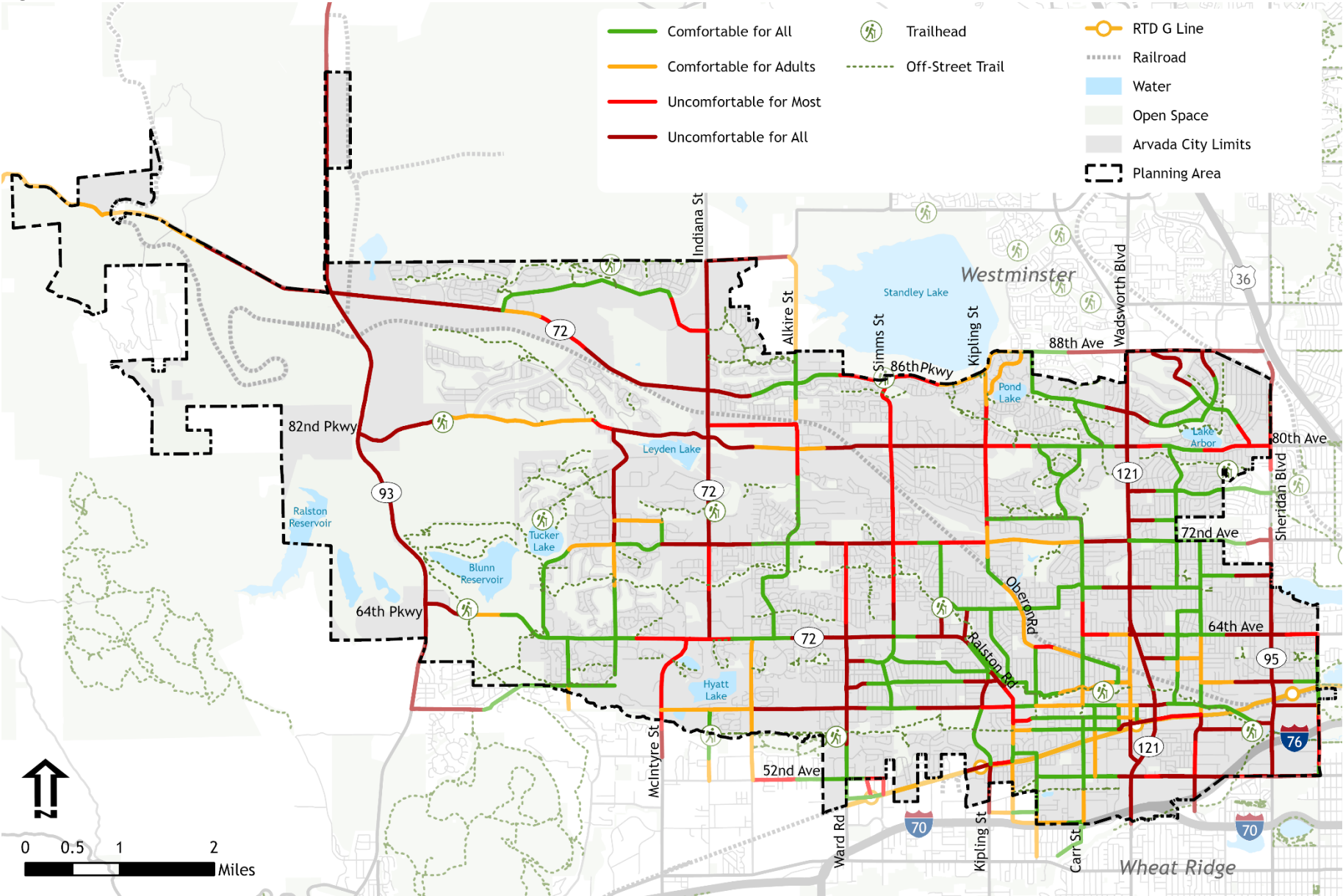
Figure 26. Bicycle Levels of Traffic Stress

LTS	SHARED LANES	BIKE LANES	INTERSECTIONS	TRAILS	SEPARATED BIKE LANES
1 Traffic Level	< 25 mph Low	< 25 mph 2-3 lanes Medium/ High	Dutch Style Medium/ High	Trail	Separated Bike Lane Low/ High
2 Traffic Level	30 mph Low	30 mph 2-3 lanes Low/ Medium	Short Right-Turn Lane Low/ Medium	Sidepath Low	
3 Traffic Level	35 mph Low	35 mph 3-4 lanes Medium/ High	Long Right-Turn Lane Medium/ High	Sidepath High	
4 Traffic Level	< 40 mph Low/ Medium	> 4 lanes Medium/ High	Bike Lane Drop Medium/ High		

Source: 2017 Arvada Bicycle Master Plan

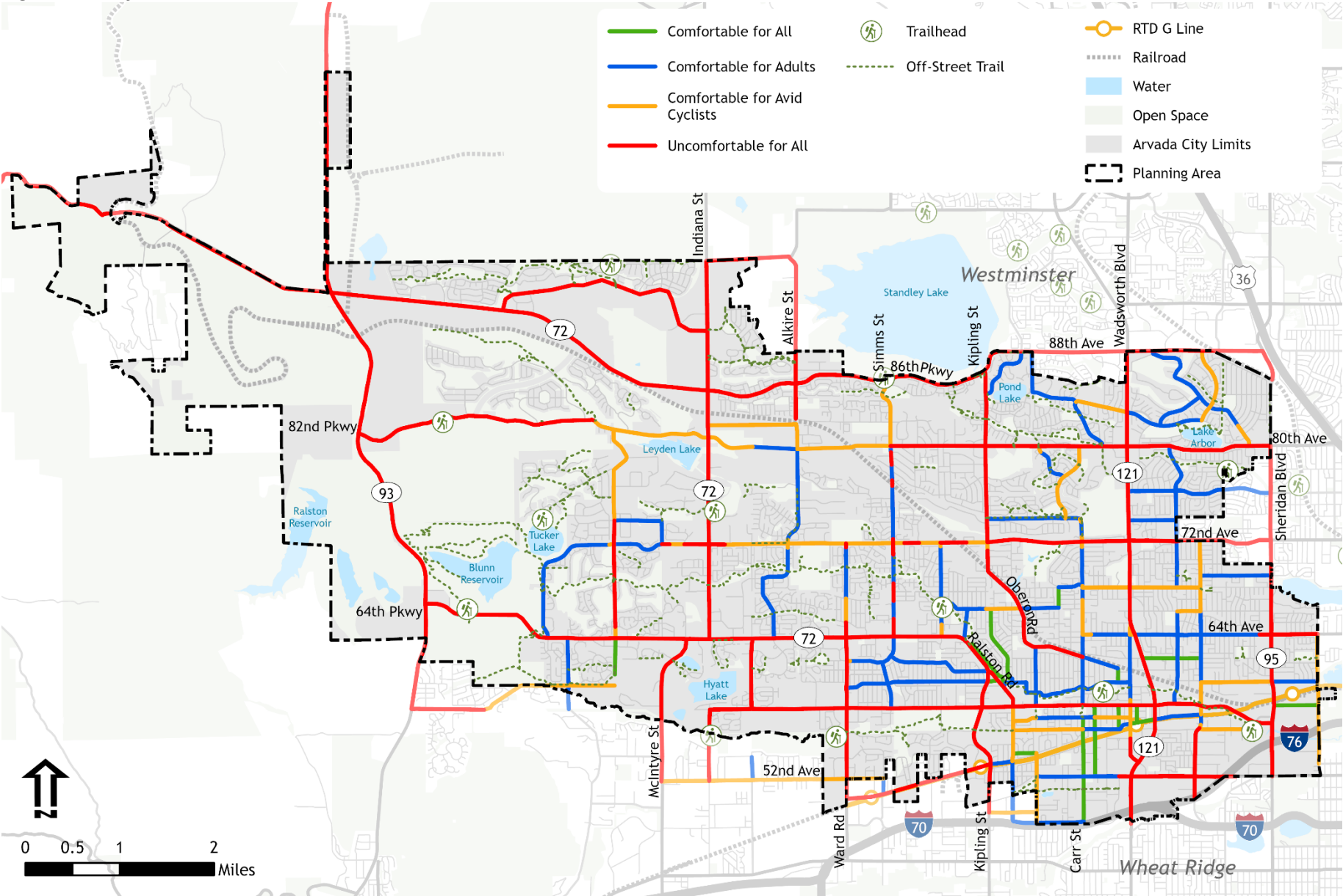
Bicycle comfort on major roadways is mapped in **Figure 28**. For bicyclists, comfort is inconsistent along each facility; facility comfort typically varies greatly as bicyclists travel the corridor. This inconsistency can make bicyclist comfort low, even in portions that are reported as comfortable due to the short distances between variable conditions. Bicyclist comfort is typically higher on collector roadways and some segments of major roadways, such as Carl Street and small segments of 64th Parkway. Simms Street is particularly uncomfortable for most riders. Local roads are typically high on local roadways due to consistently low speeds and vehicle traffic volume.

Figure 27. Pedestrian Comfort



Source: Kimley-Horn (2023)

Figure 28. Bicycle Level of Comfort



Source: 2017 Arvada Bicycle Master Plan

WALKING/CYCLING PROPENSITY

Walking and cycling propensity represents peoples' potential inclination or tendency to utilize pedestrian and bike facilities. A propensity analysis was conducted to identify areas of potential pedestrian and cycling demand within the study area.

Historically, walking/cycling propensity is evaluated considering demographic groups with acute mobility needs for whom active transportation might be limited by current conditions. . These demographic groups include:

- Women
- Minority populations
- Low-income households
- Disabled persons
- Immigrants
- Persons aged 65 and older
- Persons aged 19 to 29

The propensity analysis methodology divides the study area into one-acre hexagonal cells. A propensity score was calculated for each cell. Scores range from 0 to 30 and are based on demographic data, population density, and employment density (25 out of 30 points) and proximity to active transportation destinations (5 out of 30 points). Destinations include schools/colleges, parks and recreation facilities, commercial/shopping centers, and healthcare facilities.

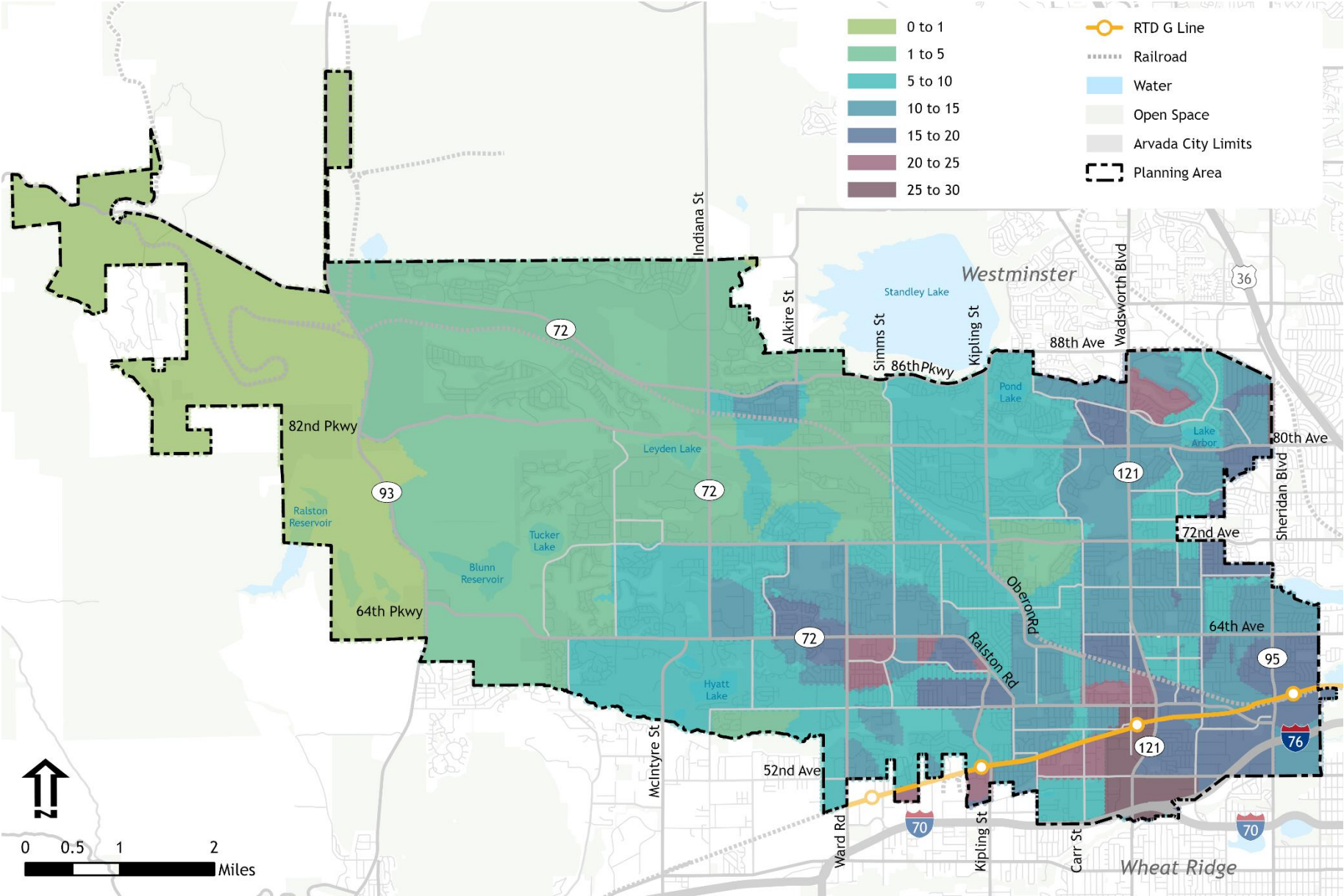
Demographic propensity for each hexagonal cell was added to proximity propensity to calculate a total propensity score for each grid cell (0-point minimum, 30-point maximum). While Arvada's active transportation facilities are spread out across the city, the availability is not a perfect match to where people need to walk or bike. As shown in **Figure 29**, the pedestrian and bicycle propensity across the city is highest around Olde Town Arvada, the area south of Ralston Road between Ward Road and Kipling Parkway, and east of Wadsworth Road between 80th and 88th Avenues. Walking/cycling propensity

generally gets lower west of Ward Road and is very low west of SH-93.

KEY TAKEAWAYS

- More than half of classified roadways have sidewalks on both sides of the street.
- About 30% of classified roadways have no sidewalks.
- Bicycle connectivity, both on- and off-street, is disconnected and intermittent.
- State highways have particularly poor pedestrian and bicycle comfort.
- Because transit service is typically on high volume roadways, active transportation facilities are limited along transit lines.
- The highest walking and cycling propensity is centered around southern and eastern Arvada.

Figure 29. Bicycle/Pedestrian Propensity



TRANSIT



5. TRANSIT

EXISTING SERVICE

Existing bus and rail services are mapped in **Figure 30**. While some service frequencies vary based on the time of day, the most common weekday frequency is displayed in **Figure 30**.

The G Line

The G Line is a commuter rail line that provides direct service from Arvada to Union Station in Downtown Denver. The service opened in 2019 as part of RTD's FasTracks expansion program. Running along the southern boundary of Arvada, riders can access the G Line at four stations: Wheat Ridge/Ward Station, Arvada Ridge Station, Olde Town Plaza, and Gold Strike Station.

Bus Service

There are six bus routes that provide service to 241 bus stops in Arvada. Active local bus routes include:

- **51 – Sheridan Boulevard** which runs north-south on Sheridan Boulevard in eastern Arvada and connects two D Line light rail stations south of Downtown Denver, the Sheridan W Line light rail station, Arvada Gold Strike G Line Station, and the US 36 & Sheridan Flatiron Flyer station
- **52 – West 52nd Avenue/South Bannock** which runs predominantly east-west along 58th Avenue between Ward Road and Olde Town, then runs along 52nd Avenue to the east, and ultimately provides service to Downtown Denver
- **72 – 72nd Avenue** which begins at 64th Avenue and Ward Road, provides service to Olde Town, then travels north to 72nd Avenue and provides access to the Westminster B Line light rail station, then terminates at the Commerce City 72nd N Line station
- **76 – Wadsworth Boulevard** which runs north-south on Wadsworth Boulevard, with access to the Lakewood-Wadsworth

W Line station and Olde Town G Line station, and ends at the US 36 & Broomfield Flatiron Flyer station

- **92 – 92nd Avenue** which serves the northeastern corner of Arvada and travels east-west to the 88th Street N Line commuter rail station
- **100 – Kipling Parkway** which is a north-south route connecting the Federal Center W Line light rail station with the Arvada Ridge G Line commuter rail station along Kipling Parkway, then continues north to 88th Avenue, where it turns east to the US 36 & Sheridan Boulevard Flatiron Flyer station.

Service is largely concentrated in eastern Arvada and virtually nonexistent west of Alkire Street. There are no regional express bus routes currently serving Arvada. There is robust connectivity between the local bus service and the regional commuter rail and light rail.

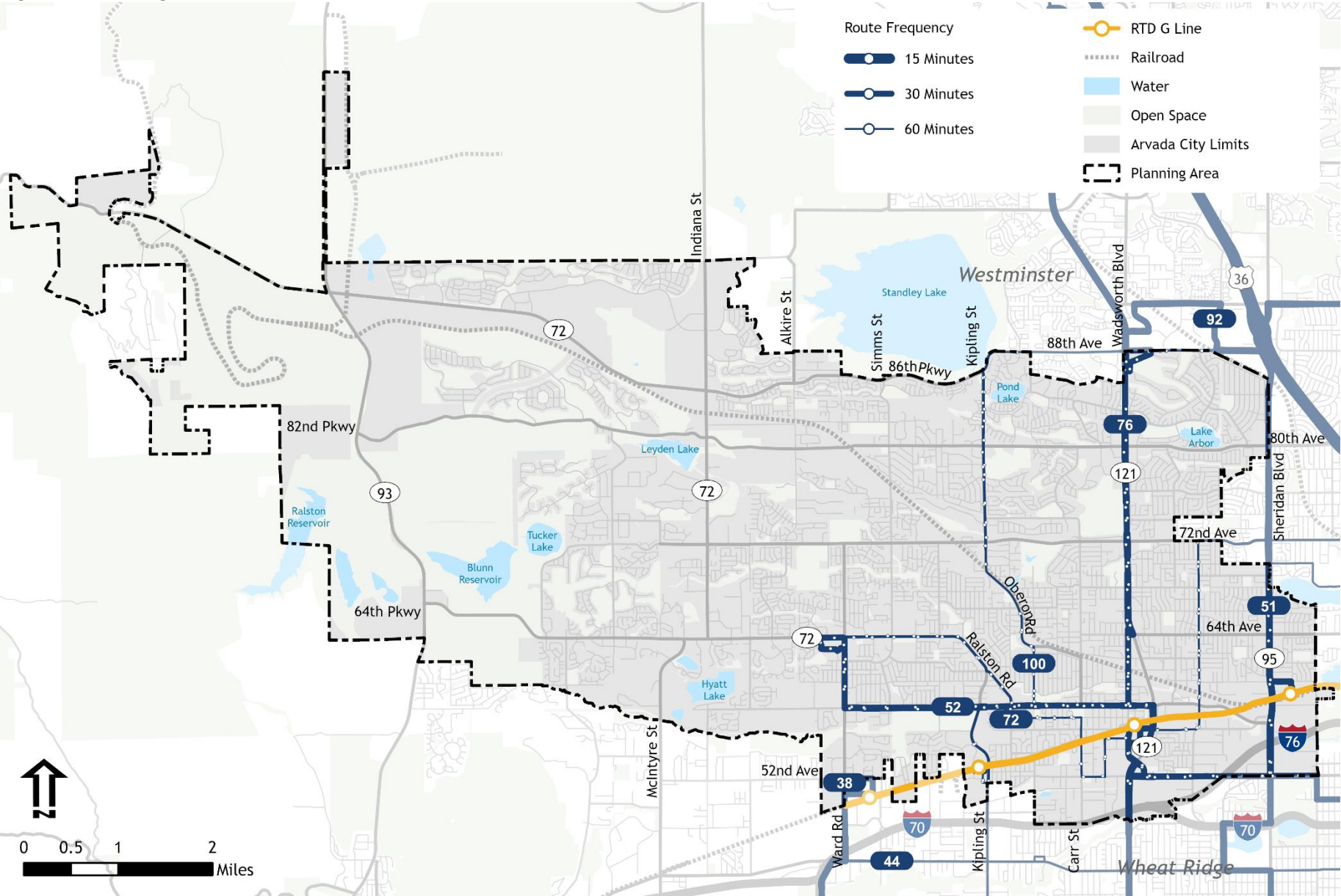
RIDERSHIP

Average weekday daily boardings for Arvada's local service and G Line in 2022 were reviewed to identify ridership by stop. Local bus stops have an average daily boarding of 5.6 riders per stop. Stops with the highest ridership are located at transit centers connecting to the G Line. Other stops with high ridership include Wadsworth Boulevard/52nd Avenue and Sheridan Boulevard/60th Avenue. **Table 8** shows the top 10 bus stops with the highest boardings in Arvada.

Table 8. Top 10 Bus Stops by Daily Boardings

BUS STOP LOCATION	DAILY BUS BOARDINGS
Sheridan Blvd/84 th Ave	25
Wadsworth Blvd/65 th Ave	26
Sheridan Blvd/80 th Ave	34
Wadsworth Blvd/88 th Ave	41
Sheridan Blvd/52 nd Ave	45
Wadsworth Blvd/80 th Ave	46
58 th Ave/Independence St	58
Wadsworth Blvd/52 nd Ave	59
60 th Ave/Sheridan Blvd	67
Olde Town Arvada Station	261

Figure 30. Existing Transit Routes



Source: Regional Transportation District (2023)

Table 9 shows boardings by G Line station. Boardings are highest at the Olde Town Arvada station, with almost twice as much ridership as the next highest station.

Table 9. Daily Boardings by Rail Station

RAIL STATION	DAILY BOARDINGS
Olde Town Arvada	570
Arvada Ridge Station	296
Arvada Gold Strike Station	240
Wheat Ridge/Ward Station	262

Ridership for both bus and rail stations are mapped in **Figure 31**.

TRANSIT PROPENSITY

A transit propensity analysis was conducted to identify areas of potential transit demand within the study area. Transit propensity represents peoples' inclination or tendency to utilize transit over other modes of travel. Transit propensity is evaluated using demographic groups that have been shown to have a higher-than-average tendency to use transit. These demographic groups include:

- Women
- Minority populations
- Low-income households
- Disabled persons
- Immigrants
- Persons age 65 and older
- Persons age 19 to 29

Similar to the walking/cycling propensity analysis, transit propensity methodology divides the study area into one-acre hexagonal cells. A propensity score was calculated for each cell. Scores range from 0 to 30 and are based on demographic data, population density, and employment density (25 out of 30 points) and proximity to destinations (5 out of 30 points). Destinations include schools/colleges, parks and recreation facilities,

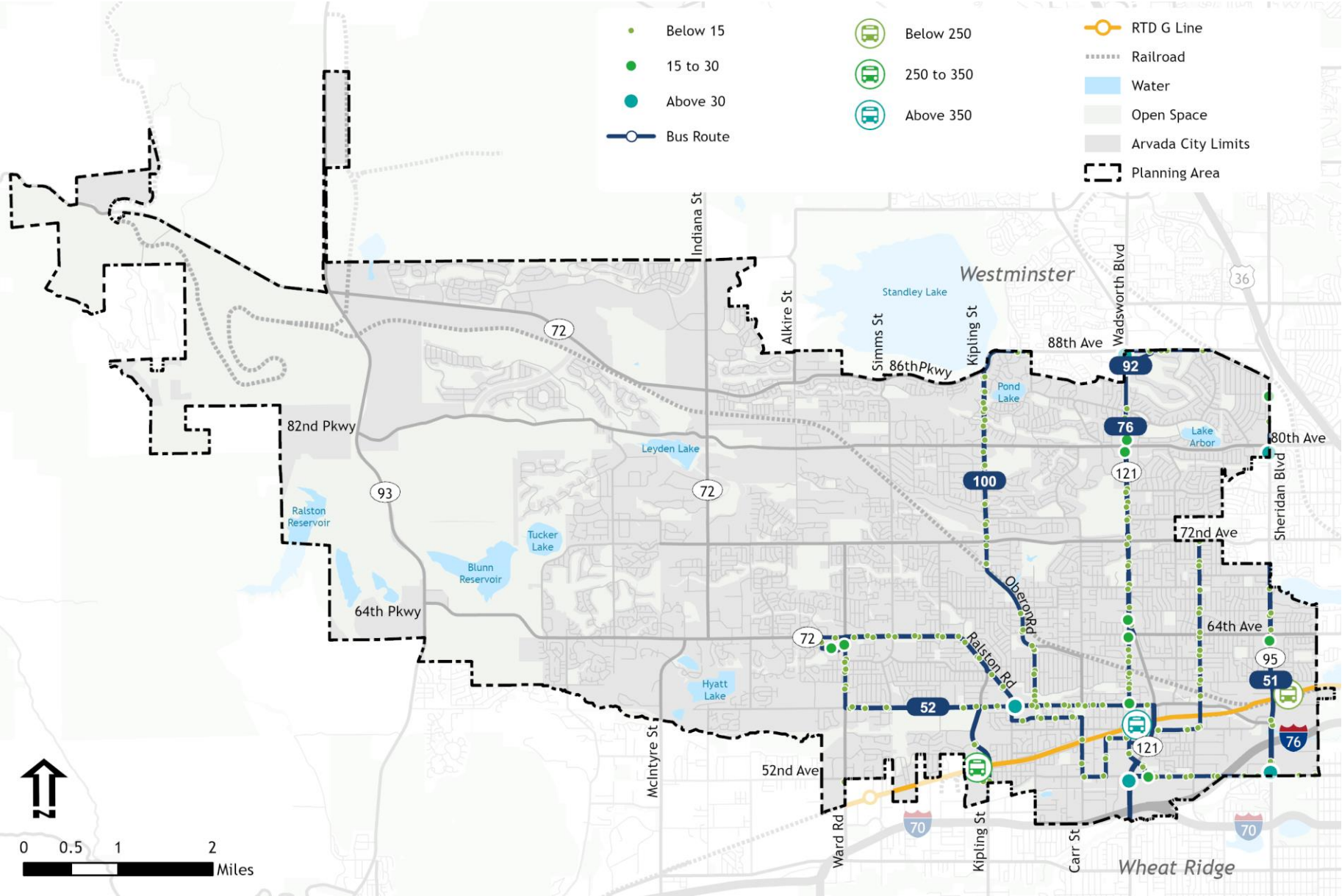
commercial/shopping centers, and healthcare facilities, and transit stops.

Demographic propensity for each hexagonal cell was added to proximity propensity to calculate a total propensity score for each grid cell (0-point minimum, 30-point maximum). As shown in **Figure 32**, the transit propensity is highest in southern and eastern Arvada. Bus routes serve the high transit propensity areas well, there are no high propensity areas that do not have at least some local bus service.

KEY TAKEAWAYS

- Frequent, 15-minute service near activity centers is needed in order to provide reliable options to residents.
- Existing service aligns with areas of high transit propensity.
- Transit propensity scores were highest around Olde Town Arvada, central Arvada near 64th Avenue and Ward Road, and northeastern Arvada along Wadsworth Boulevard. These areas have at least some local bus services.
- There is no transit service in western or northern Arvada, limiting the ability of residents to reach the regional transit system.
- Boardings are highest at bus stops connecting to the G Line as well as along Wadsworth Boulevard, especially near 64th Avenue and 80th Avenue.

Figure 31. Average Daily Ridership by Stop



[illegible]

FREIGHT RAIL



6. FREIGHT RAIL

There are two railroad lines that cross east-west through Arvada:

- **Union Pacific Railroad (UPRR)** which runs from Olde Town Arvada northwest across the city to just south of the intersection of SH-93 and SH-72, then weaves west into the foothills of the Rocky Mountains.
- **Burlington Northern Santa Fe (BNSF)** which runs from Olde Town west-southwest along the southern boundary of the study area and ultimately connects to Golden. The G Line runs adjacent to the BNSF tracks.

These railroad lines are major barriers to north-south travel in the study area. To limit exposure to the safety hazards of active railroad lines, crossings are infrequent. However, that causes longer, more circuitous trips that funnel traffic to a handful of congested north-south corridors, further exacerbating congestion issues. Spur access to industrial facilities can be found at the following locations:

- Northeast of Lamar Street and Ralston Road
- South of State Highway 72 near Umber Court
- East of State Highway 93 and Gate Road

Appropriate truck facilities are needed to accommodate heavy truck volumes moving around the city.

RAILROAD CROSSINGS

There are 48 railroad-roadway crossings in Arvada, with 36 of these being at-grade crossings (meaning the road crosses the railroad tracks at the same level) and 12 are grade-separated (meaning the road has an overpass or underpass at the railroad tracks). Grade-separated roadways are typically located at major roadways to reduce the overall impact of the railroad on the transportation network. Active railroad crossings by type are shown in **Figure 33**.

At-grade crossings present several issues that have negative impacts to the surrounding transportation system:

- **Safety.** At-grade railroad crossings present a significant safety risk, with trains potentially hitting pedestrians, cyclists, and vehicles, and have a high risk for injuries or fatalities.
- **Congestion.** Vehicles are required to wait while trains pass through at-grade railroad crossings, which can cause significant back-ups on intersecting and nearby roadways that can ripple through the larger transportation system.
- **Quality of Life.** Trains are typically required to sound their horn in advance of at-grade railroad crossings, causing noise pollution for nearby residential areas.

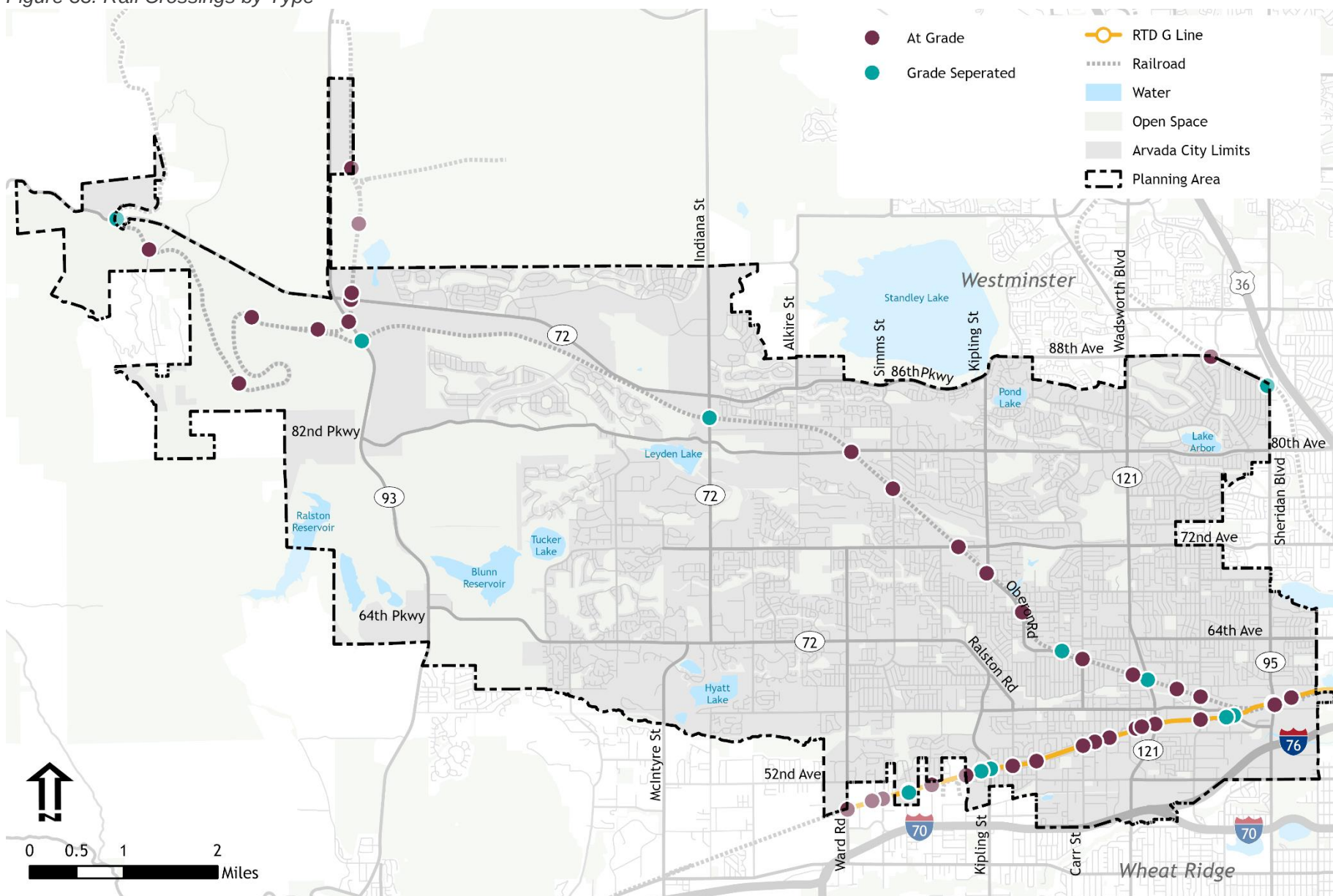
Grade separated crossings are preferred but come with a large cost to construct and maintain. **Figure 34** shows the major risk and quality of life factors for at-grade railroad crossings: train speed, safety gate type, and number train trips per day. Train speed is an important metric because the travel speed greatly impacts the result of any collisions that may occur. With higher speeds, it is likely that collisions will result in a higher chance of injury. Crossings along the BNSF rail line have higher trips per day and higher speeds compared to the UPRR rail line, which also has the G Line trains using the corridor.

Nearly all railroad crossings in Arvada are “Quiet Zones”, these locations do not require trains to sound their horn as they approach a crossing. Quiet zones can be overridden if an ongoing safety issue is present at or surrounding a crossing.

KEY TAKEAWAYS

- Of the 48 railroad crossings in Arvada, only 25% are grade separated.
- The railroad network limits north-south connectivity of Arvada’s transportation network.
- The BNSF has more train trips per day and although UPRR typically operates at a higher speed.

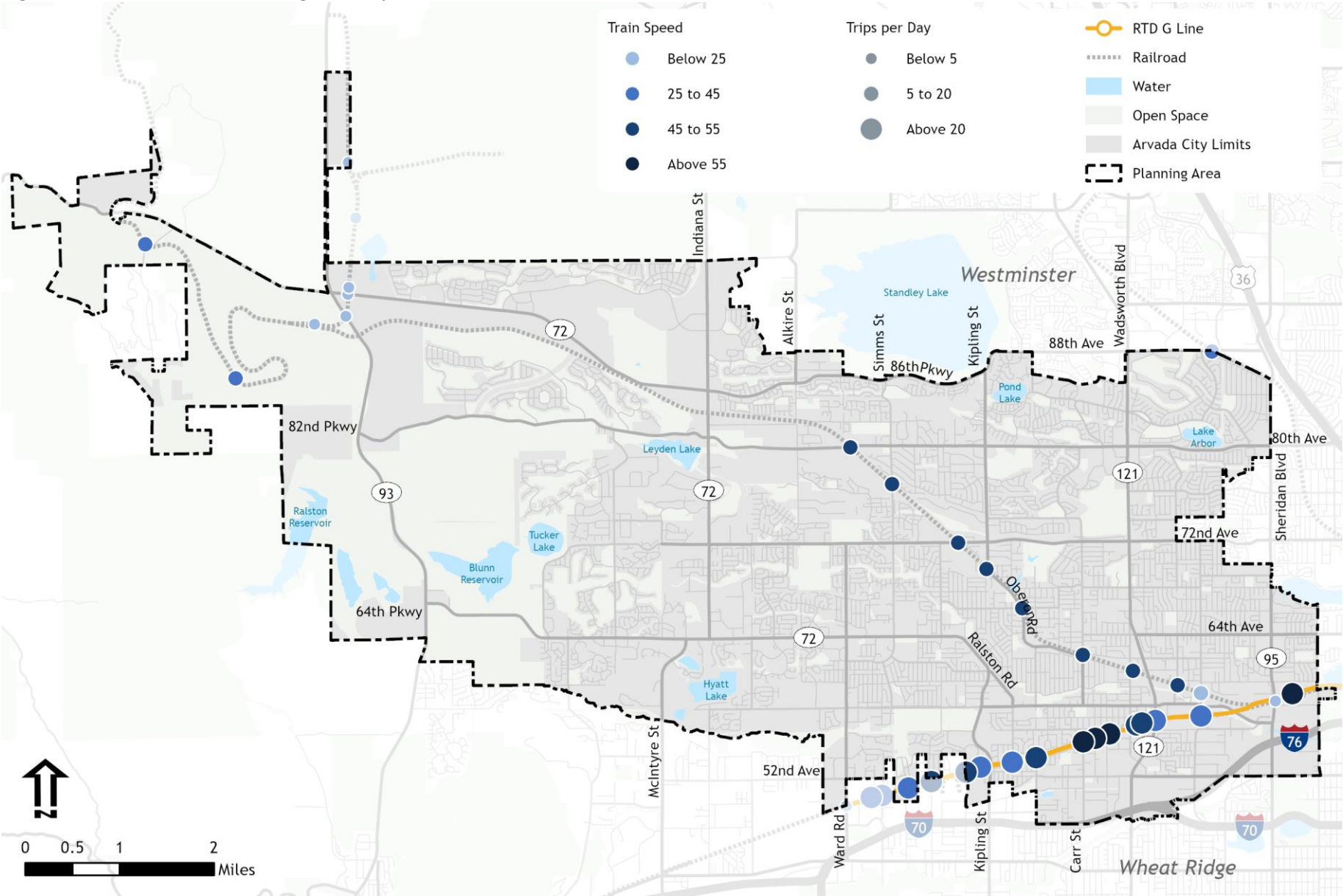
Figure 33. Rail Crossings by Type



Source: USDOT Federal Railroad Administration (2023)



Figure 34. At-Grade Rail Crossing Train Speed



Source: USDOT Federal Railroad Administration (2023)

SAFETY

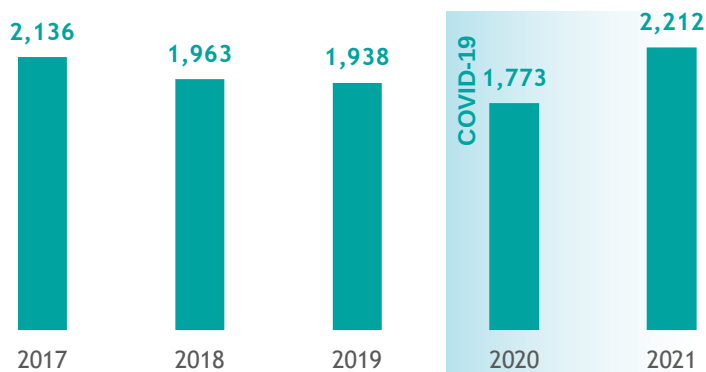


7. SAFETY

To assess safety conditions on Arvada's transportation network, crash history was analyzed from 2017 to 2021. Crash data was obtained from the Colorado Department of Transportation (CDOT) and the Arvada Police Department for the most recent five years. It is important to note that there may be additional crashes not accounted for in the analysis below, as the crash data obtained is only comprised of what is reported.

Crash history is shown in **Figure 35**. Crashes per year were relatively consistent from 2017 to 2019 but decreased slightly in 2020 (9% from 2019 to 2020). This notable decrease is likely due to the COVID-19 pandemic. Following 2020, crashes increased again in 2021, reaching just above 2,200 crashes, the highest total in the five-year period.

Figure 35. Crashes by Year, 2017-2021



CRASH DENSITY

To identify locations of safety risk, crash density was observed for the five-year period, from 2017 to 2021.

Crashes are most common in eastern Arvada, especially surrounding I-70 and I-76. Wadsworth Boulevard has the highest density of

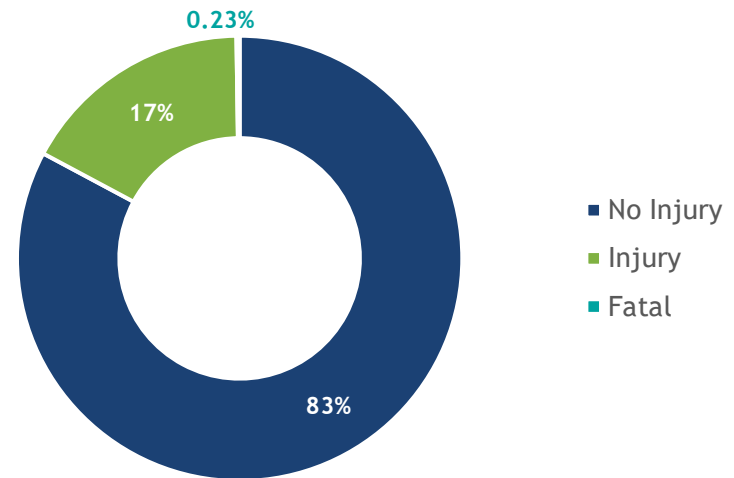
crashes, with significant crash density between I-70 and Ralston Road. Sheridan Boulevard also has a high concentration of crashes from 64th Avenue to I-76. Other notable intersections with concentrated crashes includes Ward Road/64th Parkway and Ralston Road/Kipling Parkway.

CRASH SEVERITY

From 2017 to 2021, a large majority of crashes in Arvada resulted in no injury, with 17% resulting in an injury. Less than 1% of crashes resulted in fatalities, with 23 fatalities occurring in the five-year period.

Figure 36 shows crashes by severity.

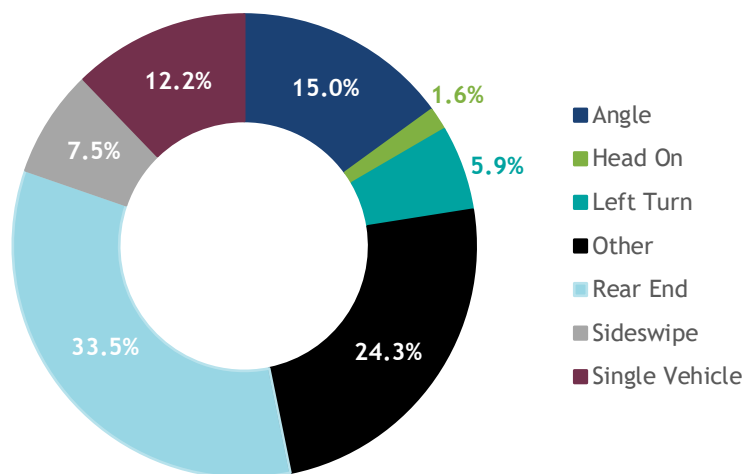
Figure 36. Crashes by Severity, 2017-2021



CRASH TYPE

The three most common types of crashes that occurred in the most recent five years of data are rear end (3,355 crashes, 33.5% of total), angle (1,500 crashes, 15% of total), and single vehicle (756 crashes, 12.2% of total), as shown in **Figure 37**. The designation of 'Other' crash type typically includes collision with a fixed-object.

Figure 37. Crashes by Type, 2017-2021



VULNERABLE ROAD USER-INVOLVED CRASHES

Pedestrians and bicyclists, or vulnerable road users (VRUs), were involved in roughly 2% of all crashes from 2017 to 2021, at 227 crashes in the five-year period. Of crashes involving VRUs, pedestrians make up most incidents, with 132 pedestrian crashes over the five-year period. Pedestrian involved crashes are shown in **Figure 38**. Bicyclist involved crashes are shown in **Figure 39**.

Pedestrian involved crashes are more likely to result in an injury, with 72% resulting in injuries or fatalities over the 5-year period.

Similar to pedestrian crashes, bicyclist involved crashes typically resulted in injuries or fatalities, accounting for 70% of all bicyclist crashes. There is a single instance of a bicycle fatality and five other instances of pedestrian fatalities. **Despite accounting for 2% of overall crashes in Arvada, VRU fatalities account for 14% of all traffic fatalities in Arvada.** A map of where these incidents have occurred are provided below in **Figure 41**.

Figure 38. Pedestrian Crashes by Severity

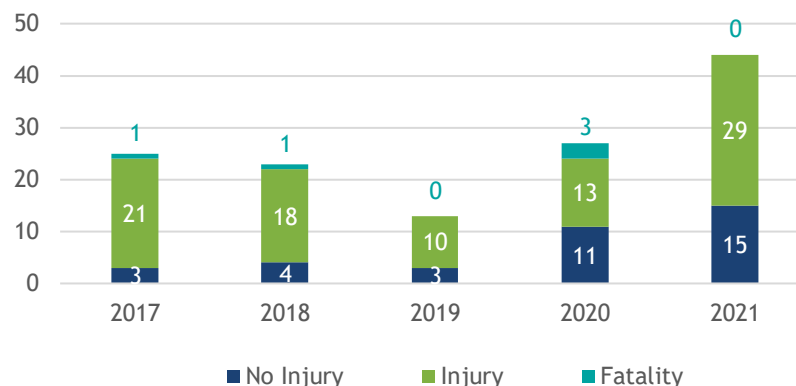
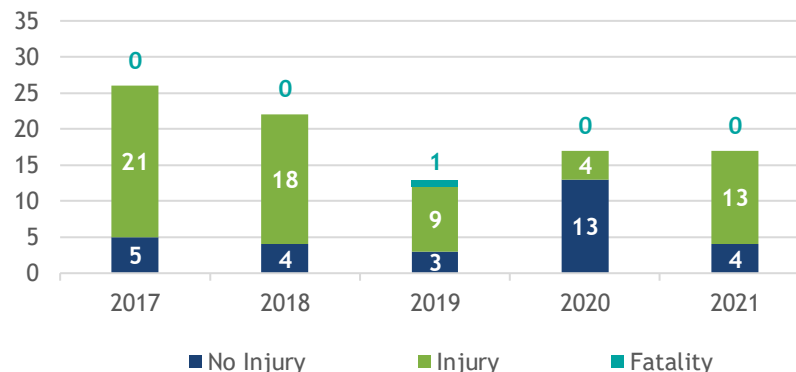


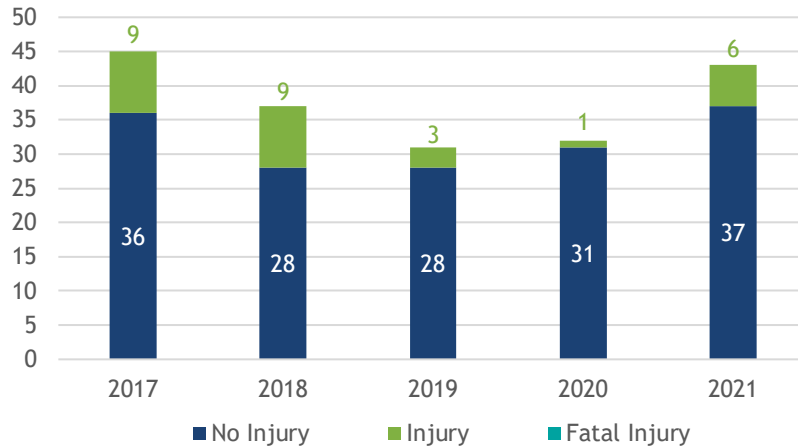
Figure 39. Bicycle Crashes by Severity



RAILROAD CROSSING CRASHES

There are 185 total crashes that have occurred at railroad crossings, accounting for 2% of all crashes in Arvada. No fatal incidents have been recorded during the data collection period. Most incidents, accounting for 84% of all railroad crossing crashes, resulted in no injuries. A graph of crashes that have occurred at railroad crossings has been provided below in **Figure 40**.

Figure 40. Railroad Crossing Crashes by Severity



Most incidents tend to occur near downtown Arvada, with other incidents occurring along the UPRR. The crossings that experience the most incidents are Olde Wadsworth Boulevard in Olde Town and Carr Street north of Downtown. There were no fatal crashes recorded during the analysis period.

CRASH RATES

Crash rates were developed based on FHWA guidance. Crash rates were developed for segments and intersections along the classified roadway network in Arvada. Crash rates were calculated using the following formula:

$$R = \frac{1,000,000 \times C}{365 \times N \times V}$$

Where:

- R = Crash rate for the intersection expressed as crashes per million entering vehicles (MEV)
- C = Total number of intersection crashes in the study period
- N = Number of years of data
- V = Traffic volume entering the intersection daily

At intersections, the highest volumes of the approach were counted for each intersection and halved to determine the volume for a single direction of movement for each segment leg. For segments where a volume was not given, the travel demand model volumes were used in place. For all other locations, assumptions were made based on surrounding land-uses and compared to similar areas in proximity.

For segments, only the highest volume was used. Where there were any gaps in traffic count data, the travel demand model was used.

Intersection Crash Rates

Crashes were analyzed within 500 feet of each intersection to determine crash-prone areas within Arvada. Intersections with the most crashes commonly were along Wadsworth Boulevard. The highest crash locations are shown in **Table 10**.

Table 10. Intersection Crashes

NORTH/SOUTH STREET	EAST/WEST STREET	CRASHES
Wadsworth Blvd	52nd Ave	313
Wadsworth Blvd	1-70 Interchange	257
Sheridan Blvd	64 th Ave	197
Wadsworth Bypass	Ralston Rd	190
Wadsworth Blvd	72 nd Ave	172
Wadsworth Blvd	80 th Ave	152
Wadsworth Blvd	53 rd Ave	151
Kipling Pkwy	58 th Ave	148
Ralston Rd	58th Ave	139
Wadsworth Blvd	Pomona Dr	135

Intersection crash rates were calculated using the crash rate equation as provided by the FHWA and is indicated below:

Crash rates are helpful with understanding where crashes are occurring at a higher rate at intersections with lower volumes compared to intersections with higher capacity. Intersections with the highest crash rates are shown in **Table 11**.

Table 11. Intersection Crash Rate

NORTH/SOUTH STREET	EAST/WEST STREET	RATE
Olde Wadsworth Blvd	64 th Ave	8.54
Lamar St	66 th Ave	6.58
Yarrow St	Brooks Dr	4.75
Independence St	Grandview Ave	3.80
Yarrow St	57 th Ave	3.56
Webster St	Grandview Ave	3.29
Lamar St	68 th Ave	2.92
Quay Dr	Pomona Dr	2.56
Easley Rd	60 th Ave	2.47
Sheridan Blvd	64 th Ave	2.40

Crash rates were also developed for severe crashes, resulting in serious injuries or fatalities. The intersections with the highest severe crash rates are shown in **Table 12**.

Table 12. Intersection Severe Crash Rate

NORTH/SOUTH STREET	EAST/WEST STREET	RATE
Quay Dr	Pomona Dr	0.73
Lamar St	66 th Ave	0.73
McIntyre St	58 th Ave	0.18
Olde Wadsworth Blvd	57 th Ave	0.18
Kipling Pkwy	86 th Pkwy	0.18
SH-93	Coal Creek Canyon Rd	0.15
Carr St	Grandview Ave	0.14
Pierce St	Ralston Rd	0.13
Virgil Way	64 th Ave	0.12
Sheridan Blvd	64 th Ave	0.12

Segment Crash Rates

Crashes were analyzed based on the segments between intersections and are separated in the analysis as they abide by a different set of standards due to the infrequency of crashes occurring outside of intersections. Highest segment crashes were typically along Wadsworth Boulevard. A table of the segments with the most crashes are provided in **Table 13**.

Table 13. Segment Crashes

SEGMENT CRASH LOCATION	CRASHES
Sheridan Blvd (60 th Ave to 64 th Ave)	111
Wadsworth Blvd (Pomona Dr to 88 th Ave)	111
Wadsworth Blvd (65 th Ave to 68 th Ave)	103
Wadsworth Blvd (76 th Ave to 80 th Ave)	94
Sheridan Blvd (69 th Ave to 64 th Ave)	85
52 nd Ave (Balsam St to Wadsworth Blvd)	78
80 th Ave (West of Chase Dr)	61
Kipling Pkwy (I-70 to Ridge Rd)	59
64 th Ave (Deframe St to Ward Rd)	59
SR-93 (82 nd Ave to SH-72)	52

Segment crash rates were calculated using the segment crash rate equation as provided by the FHWA and is indicated below:

$$R = \frac{100,000,000 \times C}{365 \times N \times V}$$

Segment crash rates apply a modified version of the intersection crash rate formula which is used to indicate crashes per one-hundred million vehicles. Segment crash rates are shown in **Table 14**.

Table 14. Segment Crash Rate

SEGMENT CRASH LOCATION	RATE
Oberon Rd (Yarrow St to Carr St)	6.56
Lamar Dr (Chase Dr to 88 th Ave)	6.03
60 th Ave (Simms St to Kipling Pkwy)	5.8
62 nd Ave (Ralston Rd to Simms St)	5.48
Candelas Pkwy (SH-72 to Indiana St)	4.93
Quay Dr (Chase Dr to Pomona Dr)	2.92
Brooks Dr (Garrison St to Independence St)	2.74
Grandview Ave (Carr St to Independence St)	2.50
Pierce St (68 th Ave and 72 nd Ave)	2.47
Oberon Rd (Garrison St to Carr St)	2.47

The same calculation was conducted using the same formula for the most severe segments. Segments with the highest crash rates are shown in **Table 15**.

Table 15. Severe Intersection Crash Rate

SEVERE SEGMENT CRASH LOCATION	RATE
Oberon Rd (Garrison to Carr St)	0.027
Simms St (80 th Ave to 86 th Pkwy)	0.016
Quaker St (72 nd Ave to 64 th Ave)	0.011
SH-72 (Candelas Pkwy to SR-93)	0.011
66 th Ave (SH-93 to Virgil Way)	0.011
52 nd Ave (Carr St to Garrison St)	0.011
Lamar Dr (Chase Dr to 88 th Ave)	0.005
69 th Ave (Lamar St to Sheridan Blvd)	0.005
Carr Dr (74 th Ave to Club Crest Dr)	0.005
Miller St (66 th Ave to 64 th Ave)	0.005

Figure 42 and **Figure 43** show the segment and intersection crash rates for all crashes and severe crashes, respectively.

KEY TAKEAWAYS

- Pedestrian involved crashes of all severities are more common compared to bicyclist crashes and are more likely to result in injury or fatality.
- Rear end, angle, and single vehicle crashes were the most common crash types from 2017 to 2021.
- Overall crash rates are highest on smaller roadways, connecting the major roadway network of Arvada, including Yarrow Street and Lamar Street. Although severe crash rates are commonly higher on higher volume roads, such as SH-72, portions of Simms Street, and Oberon Road had higher severe crash rates.
- Safety was identified as a top concern among respondents during the public engagement opportunity. Respondents stated that there is a need for safer intersections for bicyclists and pedestrians.

Figure 41. VRU Crashes by Severity

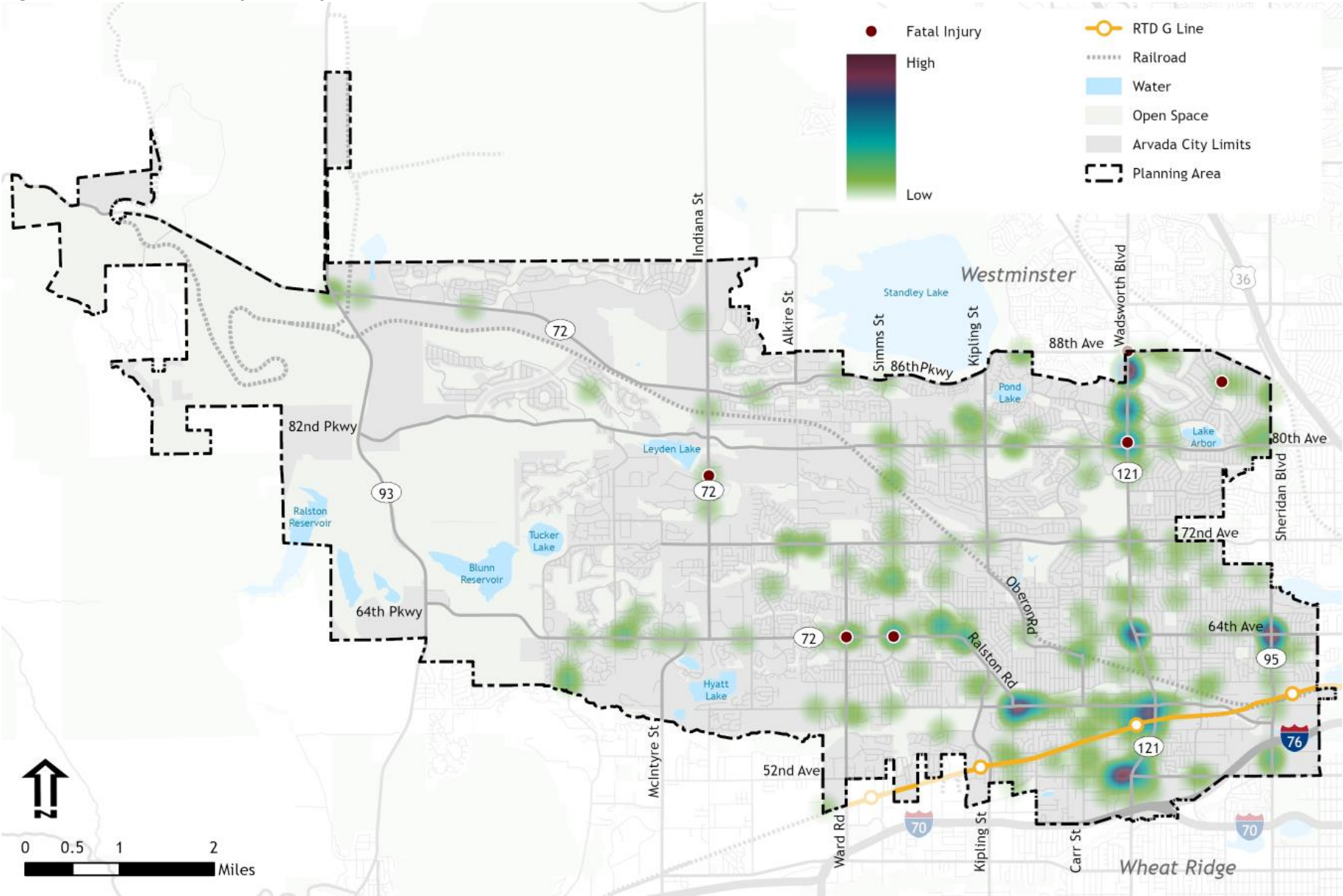


Figure 42. Overall Crash Rate

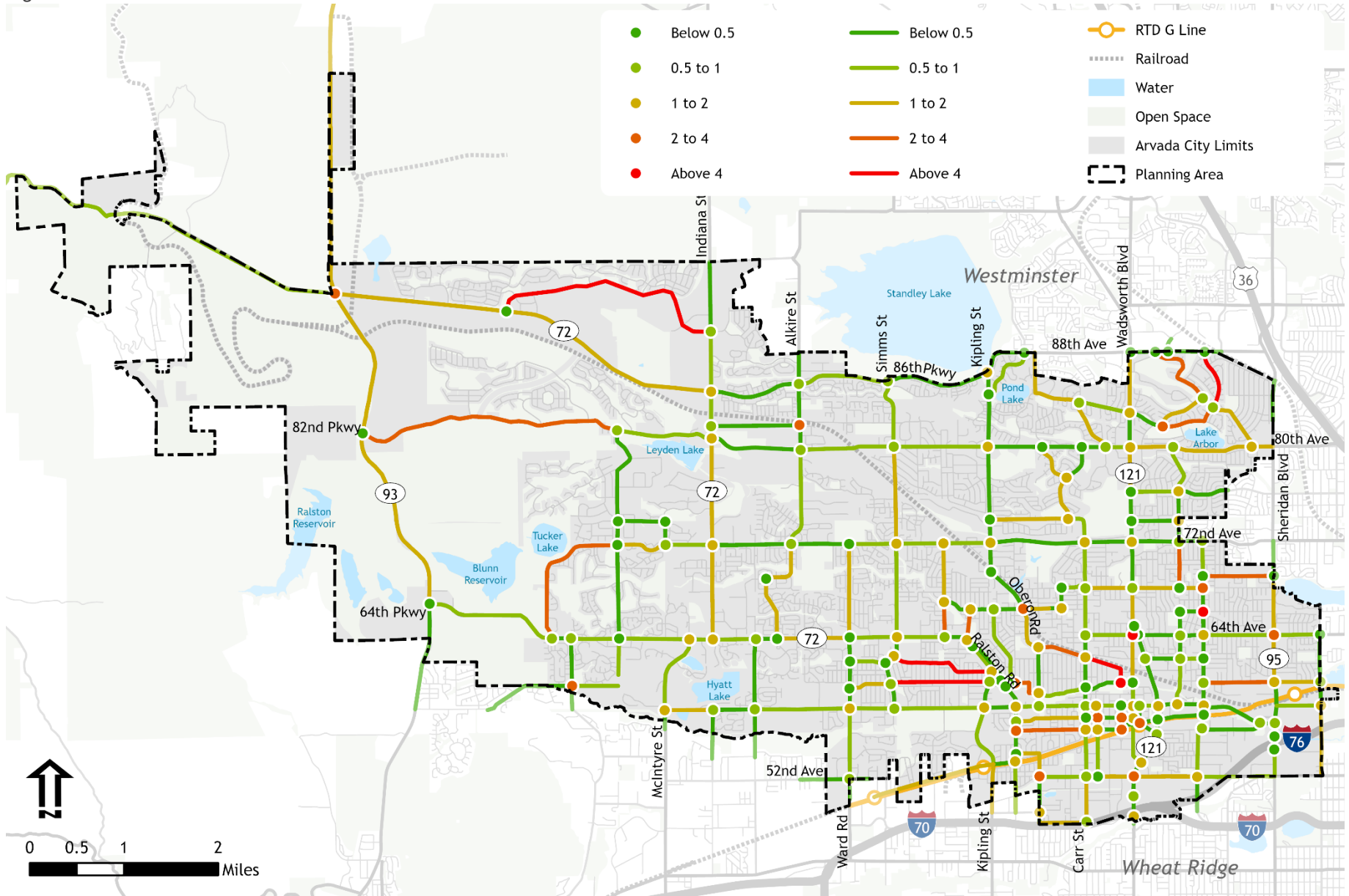


Figure 43. Severe Crash Rate



TRANSPORTATION EQUITY



8. TRANSPORTATION EQUITY

Identifying disadvantaged communities serves to recognize areas that may be overburdened or undeserved to help inform strategic and equitable investments into the community. This process also helps contextualize the existing conditions that these communities face.

CENSUS DATA REVIEW

The U.S. Census Bureau provides data on several indicators that can be used to help identify disadvantaged communities:

- Low-income populations
- Zero-vehicle households
- Minority populations
- Limited English proficiency (LEP) individuals
- Internet access

In Arvada, 8,425 people (6.8% of the population) is below the poverty line. There are 912 households without access to a vehicle, or about 1.4% of all eligible households in Arvada. The racial and ethnic demographic distribution of Arvada in 2021 is shown in **Table 16**.

Roughly 2,291 individuals (about 2%) speak English less than “very well”. Roughly 2,730 (5.4%) eligible households do not have an internet subscription. The cumulative density of these metrics, scored on a point system from 0 to 20, is shown in **Figure 44**.

Table 16. Race/Ethnicity Demographics in Arvada

RACE	POPULATION
White	76%
Hispanic/Latino	10%
Black/African American	1%
American Indian/Alaska Native	< 1%
Asian	3%
Native Hawaiian/Other Pacific Islander	< 1%
Other or Multiple Race	10%

Source: U.S. Census Bureau 2021 ACS Tables B02001 & B03002

FEDERALLY IDENTIFIED DISADVANTAGED COMMUNITIES

The federal government has defined disadvantaged communities in a variety of ways depending on the application. Four of these disadvantaged community types have been mapped for the TSP.

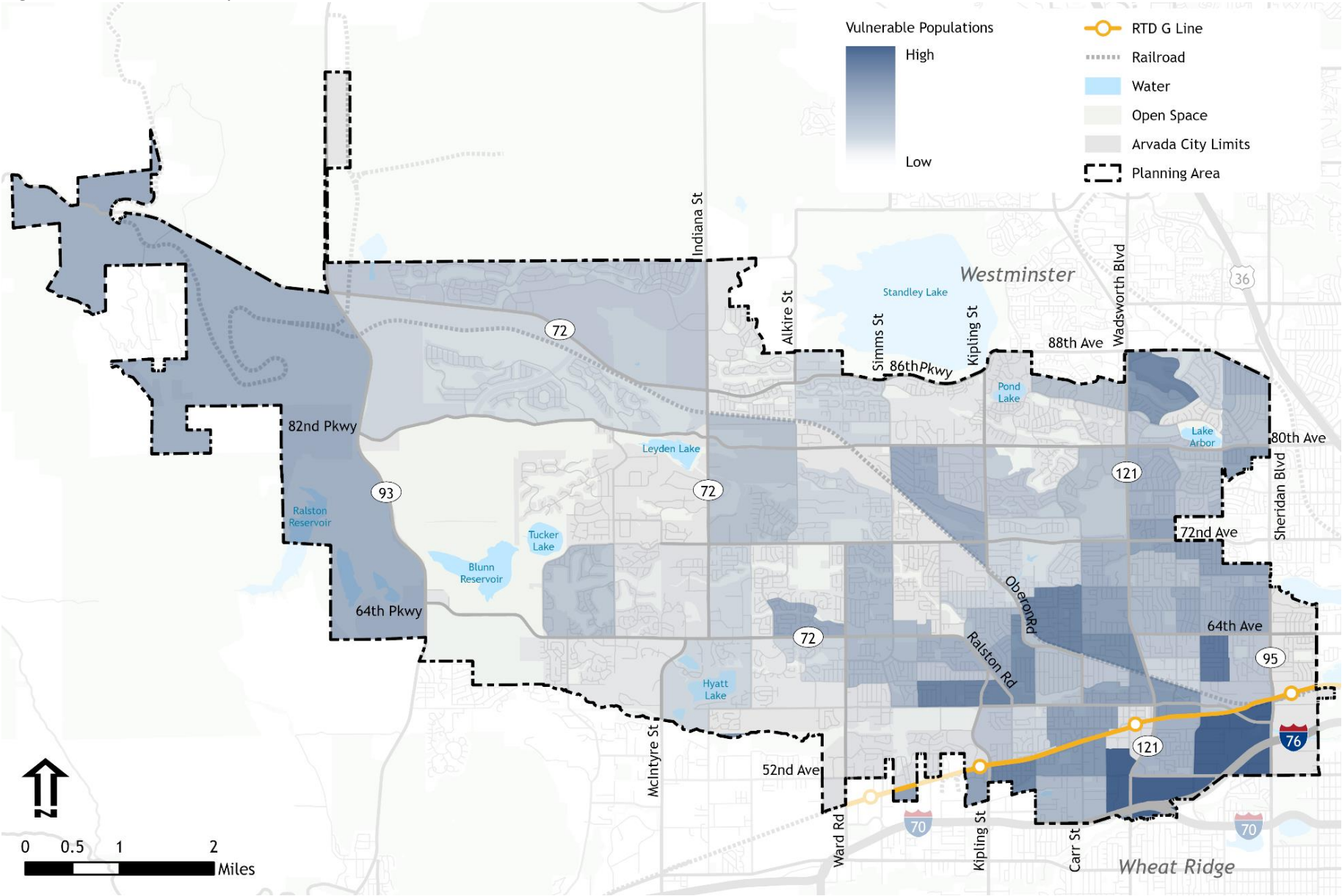
The United States Department of Transportation (USDOT) has an equitable transportation community (ETC) explorer tool that examines the cumulative burden communities experience as a result of underinvestment in transportation. The ETC looks at five components: transportation insecurity, climate and disaster risk burden, environmental burden, health vulnerability, and social vulnerability. According to the ETC, there is a total population of roughly 5,400 people living in disadvantaged census tracts in the study area.

The Climate and Economic Justice Screening Tool (CEJST) is another tool that looks at climate change, energy, health, housing, legacy pollution, transportation, waste and wastewater, and workforce development to determine if an area is considered disadvantaged. According to the CEJST, there is a total population of roughly 6,800 people living in disadvantaged census tracts in the study area.

For some grant opportunities, including the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program, USDOT also uses Areas of Persistent Poverty (APP) and Historically Disadvantaged Communities (HDC) to identify underserved and overburdened areas. There are roughly 4,000 people identified as living in APPs and 21,600 people living in HDCs in the study area.

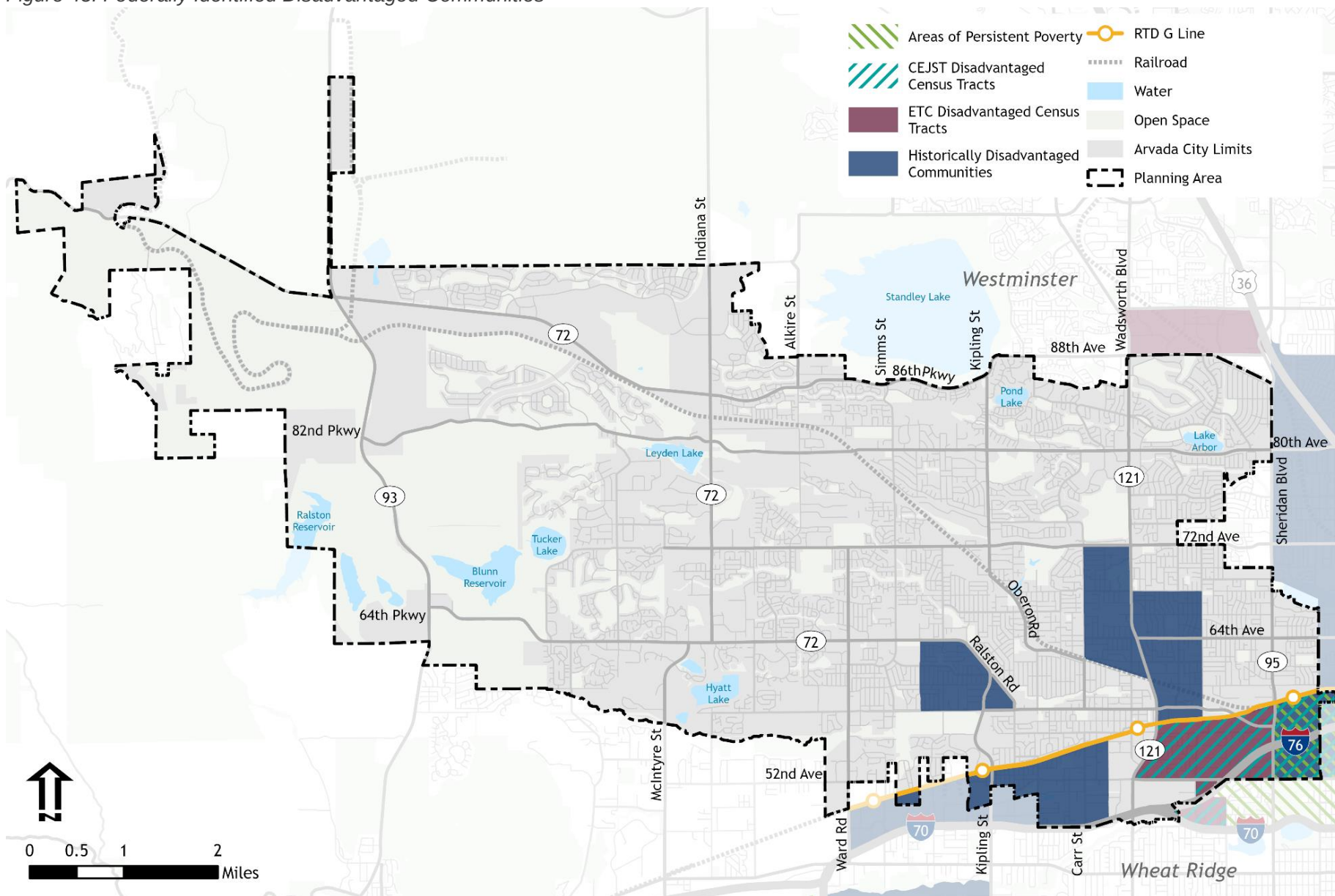
The census tracts that fall within each of these areas are shown in **Figure 45**.

Figure 44. Vulnerable Populations



Source: American Community Survey (2017-2021)

Figure 45. Federally Identified Disadvantaged Communities



Source: ETC, CEJST, USDOT Grant Project Location Verification, 2023

TSP DISADVANTAGED COMMUNITIES

A combination of the Census data review and federally identified disadvantaged communities was used to select areas that will be considered disadvantaged communities for the purposes of the TSP. Overlapping and intense locations were selected to be the focus areas for equitable investments. Shown in **Figure 46**, these areas were generally clustered around Olde Town Arvada in the southeastern portion of the city and isolated locations in northeastern Arvada.

KEY TAKEAWAYS

- There is a high alignment between disadvantaged communities identified through a review of Census data and locations identified as disadvantaged communities by the federal government.
- TSP disadvantaged communities are clustered around Olde Town Arvada in southeastern Arvada and isolated locations in northeastern Arvada.

The map displays the Westminister and Wheat Ridge areas, highlighting TSP Disadvantaged Communities in dark purple. The legend identifies the following features:

- TSP Disadvantaged Communities:** Dark purple shaded regions.
- RTD G Line:** Yellow line with orange circles.
- Railroad:** Dotted line.
- Water:** Blue areas representing lakes and reservoirs.
- Open Space:** Light green areas.
- Arvada City Limits:** Light gray shaded areas.
- Planning Area:** Dashed black line.

Key roads and landmarks shown include:

- Roads:** 72, 93, 121, 95, 76, 36, 86th Pkwy, 82nd Pkwy, 64th Pkwy, 52nd Ave, Kipling St, Carr St, Ward Rd, Alkire St, Indiana St, Wadsworth Blvd, Sheridan Blvd, 80th Ave, 72nd Ave, 64th Ave.
- Lakes/Reservoirs:** Standley Lake, Leyden Lake, Blunn Reservoir, Ralston Reservoir, Tucker Lake, Hyatt Lake, Pond Lake, Lake Arbor.
- Other Features:** Ralston Rd, Oberlin Rd, Kipling St, Carr St, Ward Rd.

A scale bar indicates distances from 0 to 2 miles, and a north arrow is located in the bottom left corner.

PUBLIC ENGAGEMENT ROUND 1



9. PUBLIC ENGAGEMENT - ROUND 1

Public input is key to understanding how Arvada residents navigate their transportation system. The public engagement process served as a key tenet for understanding existing transportation needs and challenges. Public input provided important knowledge that can only be gained through interacting with Arvada's transportation system every day. The public input gathered throughout the existing conditions phase of the planning process has informed the key takeaways and critical corridors and will formulate potential project recommendations in future components of the TSP.

PROJECT WEBSITE

A project website was developed to share information about the project with the public and was used as a tool to gather public input. This website was hosted on the City's "Speakup Arvada" engagement platform. The site served as the hub for all public information related to the TSP and will be active throughout the entirety of the project. The project website includes an overview of the project, a summary of the project lifespan, project contacts, documents, and engagement opportunity information.

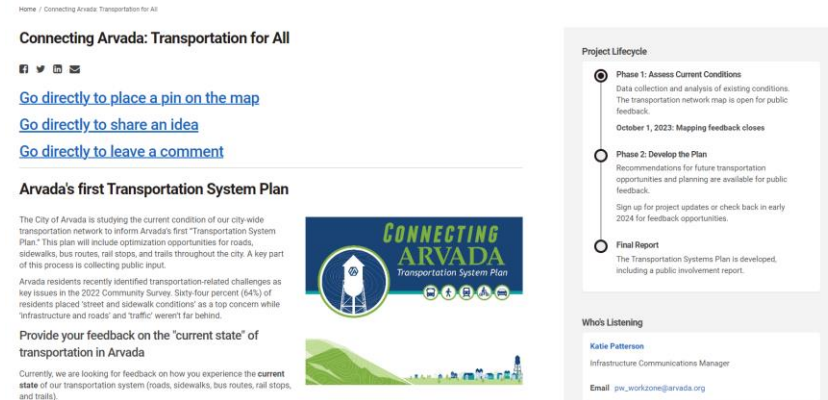
MAPPING EXERCISE

To understand the public's experience with the existing transportation system, the website was used to conduct a mapping exercise. The exercise consisted of a digital map of Arvada, where residents could provide feedback at specific locations. To gain a comprehensive understanding of residents' challenges and needs, eight pins were available to residents, where they could also leave additional comments and feedback related to their pin. The eight pin categories are shown in **Figure 47**.

The mapping exercise was available to the public from July 2023 until October 2023. The feedback collected through this engagement

effort aided the identification of the needs and deficiencies in the transportation system that affect the public in their day-to-day life.

Figure 47. Project Website and Mapping Exercise



LIKE – WHAT DO YOU LIKE ABOUT THIS LOCATION?

Select a location you like or a location that functions well; this can include roads, sidewalks, bicycle lanes, pathways, or public transit.



POOR CONDITION – WHAT NEEDS TO BE MAINTAINED BETTER?

Select locations where you have maintenance concerns, such as cracked sidewalk, potholes, or crumbling curbs.



SAFETY CONCERNS – WHAT ABOUT THIS LOCATION MAKES YOU FEEL UNSAFE?

Select locations that feel unsafe due to pedestrian infrastructure, bicycle infrastructure, speeding, or lack of lighting.



EASY TRAVEL – WHAT ROUTES CAN YOU EASILY TRAVEL?

Select routes or locations that you travel regularly that get you from your destinations quickly or with ease.



GOOD TRAVEL OPTIONS – WHERE ARE PLENTY OF OPTIONS TO TRAVEL HOW YOU WOULD LIKE?

Select roadways where multiple forms of transportation are available, including bicycling, walking, public transit, or vehicle.



NEEDS MORE TRAVEL OPTIONS – WHERE DO THERE NEED TO BE MORE TRAVEL OPTIONS?

A roadway or corridor where you would like to be able to take multiple forms of transportation that are currently challenging, including bike/scooters, walking, transit, electric vehicle (EV) charging, or vehicle.



TRAFFIC DELAYS – WHERE DO YOU EXPERIENCE HEAVY TRAFFIC?

Select locations where you experience delays in travel due to high traffic volumes, overwhelmed roads, stop light timing, etc.



SCHOOL ZONE CONCERNS – WHERE DO YOU HAVE TRAFFIC OR SAFETY CONCERNS NEAR SCHOOLS?

Select locations with safety or congestion concerns related to school traffic, including by car, on transit, on foot, or on bicycle.

ADVERTISEMENT FOR MAPPING EXERCISE

A multi-pronged advertising strategy was used to inform the public of the plan and engagement efforts. Advertisement strategies included:

- Project information flyers distributed at municipal buildings and businesses
- Social media promotion through the City of Arvada social media channels
- Yard signs, including a QR code to the project website, distributed at parks, transit stops, and other public locations
- In-person pop-up events

An Arvada TSP advertisement at a G Line station in Arvada



IN-PERSON EVENTS

To supplement virtual engagement efforts, two in-person pop-up engagement events were held. These engagement efforts aimed to gather public opinion on the state of the transportation system and to build awareness of the importance of the TSP. To ensure strong attendance for these pop-up events, the in-person events were held in conjunction with existing community events that attract a wide audience.

Taste of Arvada

The first in-person engagement effort was held at the Taste of Arvada, on July 13, 2023 at the Apex Center. The Arvada TSP had an information and input table. At the table, attendees could get information on the project overview and general information on what makes the TSP important. In addition to general information, the public was encouraged to leave comments on the study area map. Community members were able to express what they liked, disliked, and wanted more of in Arvada directly on the map. This information

was then gathered and added to the engagement database with the virtual mapping exercise results. The event was a success, with more than 100 people visiting the Arvada TSP table.

City residents leaving comments on the map at Taste of Arvada



Arvada Days

Arvada Days was held on August 19, 2023 at Clear Creek Valley Park. Arvada Days was not ticketed and was open to the community, attracting a broad base of residents. The engagement style mirrored Taste of Arvada, with an Arvada TSP table. Although the event was larger, fewer comments were provided on the study area map than at Taste of Arvada, with approximately 50 participants sharing their thoughts on the TSP.

Arvada TSP booth at Arvada Days



FEEDBACK FROM IN-PERSON EVENTS

Taste of Arvada

Taste of Arvada had a strong turnout; the public provided feedback spanning all of Arvada. Common themes emerged from public comments. Many comments included concerns about current construction on Arvada's main roadways. While these concerns are important, they are less relevant to the long-term scope of the TSP. Common input provided at Taste of Arvada includes:

1

SIGNAL PHASING ON MAJOR CORRIDORS

Participants comments on the signal phasing along major corridors including Ralston Road, Indiana Street, and Wadsworth Boulevard from Ralston Road to I-70.

2

LACK OF TRANSIT OPTIONS

Although Arvada is well connected near the G Line, there is a lack of transit connections east to west that would allow residents to connect to major transit hubs.

3

MULTIMODAL CONNECTIONS TO SCHOOLS

Participants expressed a need for multimodal connections to schools so that students do not need to be driven, especially in western Arvada.

Arvada Days

The public provided beneficial feedback at Arvada Days. Like Taste of Arvada, many residents were concerned with existing construction projects in the City. The themes discussed at Taste of Arvada were also prevalent at Arvada Days. Additional feedback also included:

1

LACK OF BICYCLE INFRASTRUCTURE

Residents noted that there is a strong bicycle infrastructure near Olde Town; however, once they reach Olde Town, there is a lack of bicycle parking, which discourages bicycling. The railroad is also a barrier for bicyclists and there is a need for safe crossings at the railroad for bicyclists in order to make bicycling more convenient.

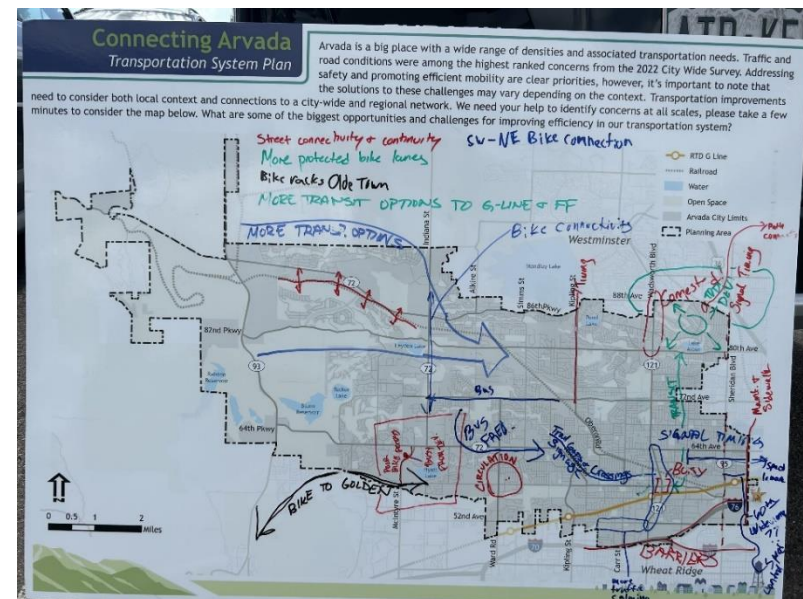
2

LACK OF TRAIL INFRASTRUCTURE

Residents reported that there are gaps in the trail system. They also noted that there is a need for additional crossings along the trail system as well as a need for wayfinding signage. These existing deficiencies create barriers to utilizing Arvada's trails.



Community comments on the map from Arvada Days



Community comments on the map from Arvada Days

FEEDBACK FROM ONLINE MAPPING EXERCISE

The online mapping exercise received high traffic and engagement, with more than 4,000 site visits. Four hundred and fifty-six (456) unique visitors placed pins, and 119 visitors either posted in the guestbook or contributed comments in an ideas section. A total of 1,309 unique pins were placed on the map.

Participants added pins from all eight categories to the map with pins for the categories of “safety”, “needs more travel options”, and “poor condition” receiving the most pins as shown in **Table 17**.

Table 17. Online Mapping Pin Count

PINS BY CATEGORY	COUNT	PERCENT
Good Travel Options	6	0.5%
Easy Travel	16	1.2%
School Zone Concerns	52	4.0%
Like	63	4.8%
Traffic Delays	143	10.9%
Poor Condition	166	12.7%
Needs More Travel Options	241	18.4%
Safety	622	47.5%
TOTAL	1,309	100%

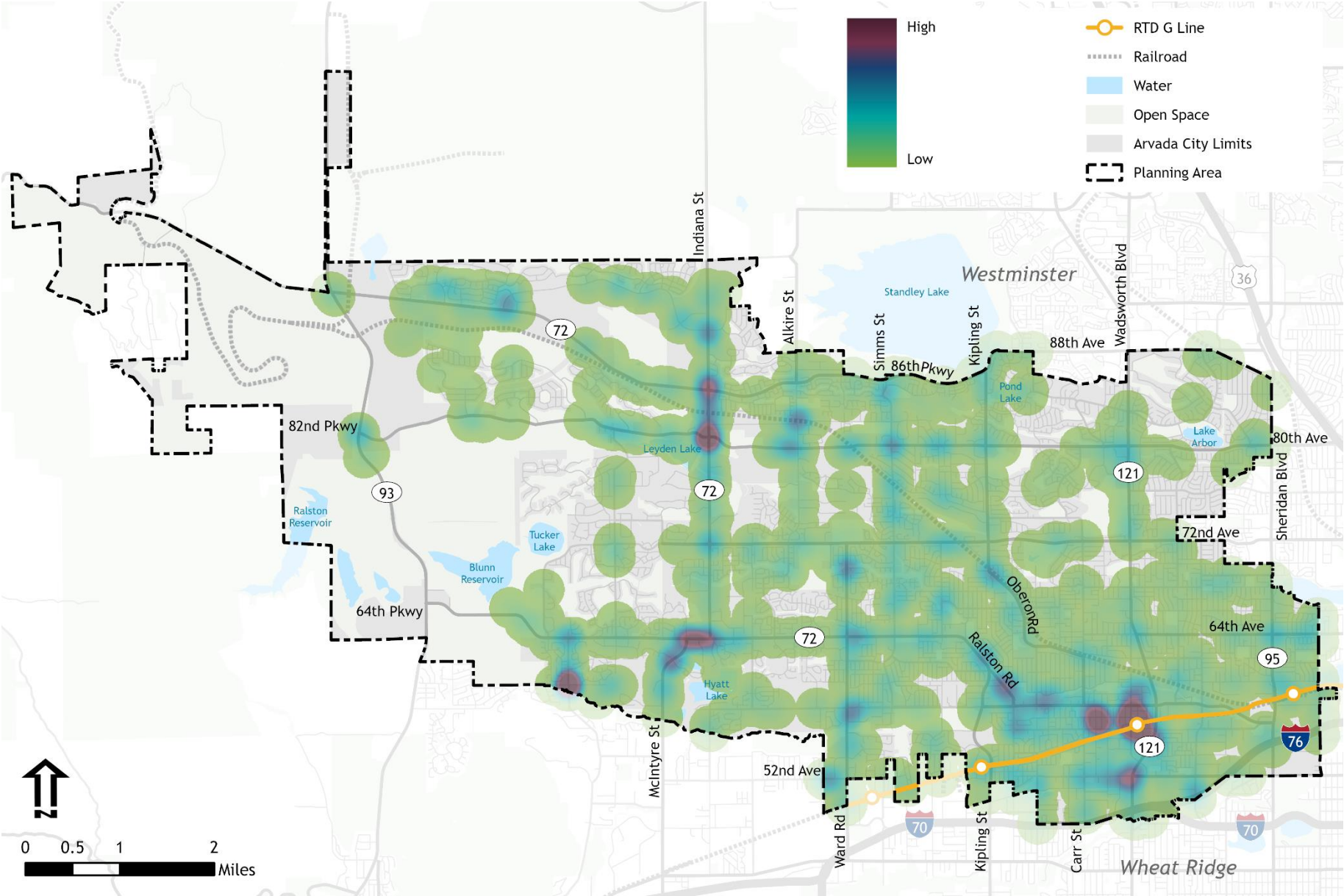
WHAT WAS HEARD

With more than 1,300 responses, residents shared feedback for locations across the city. Clusters of pins were observed around Olde Town, near 64th Avenue and Indiana Street/McIntyre Street, and Indiana Street in northern Arvada as shown in **Figure 48**. The following are the five common themes across all pin categories.

1. **A need for safer intersections for bicycles and pedestrians.** Crossing locations were noted across the city, including along major regional corridors like Wadsworth Boulevard and Sheridan Boulevard, but also along corridors key to intra-Arvada travel, like Indiana Street, 80th Avenue, and 53rd Avenue.

2. **Incomplete or inadequate bicycle and pedestrian infrastructure.** Comments on sidewalks being too narrow for two people to walk side by side, missing sidewalk links, and incomplete bicycle lanes or bicycle lanes too close to hazards were common issues noted on the map.
3. **Pavement condition and potholes.** Pavement conditions along Wadsworth Boulevard, Sheridan Boulevard, 80th Avenue, and Indiana Street were some of the locations that were noted to have potholes or other pavement condition issues that make it difficult for residents to travel with ease.
4. **Trail connections and connections to parks.** Many respondents noted that Arvada has a strong trail network; however, some gaps and difficult connections make reaching trails, including Ralston Creek Trail, Van Bibber, and Little Dry Creek Trail a challenge. Crossing Ward Road along the Ralston Creek trail was noted multiple times.
5. **Congestion.** Multiple respondents shared hot stop locations for congestion and traffic delays on Arvada’s roadway network. Respondents report locations of issue, with hot spots near Olde Town Arvada, Indiana Street and 82nd Avenue, 64th Avenue and McIntyre Street, and more. Respondents also proposed solutions, including signal re-timing, intersection reconfiguration, roadway expansion, and installation of roundabouts.
6. **Connecting to schools via bicycle and foot.** Multiple respondents expressed concern about unsafe conditions or difficulty reaching school if they were not in a car. These comments focused on two schools in particular: Ralston Valley High School and Oberon Middle School. Two noted barriers to reaching school were the lack of sidewalks from Indiana Street to Ralston Valley High School and the railroad tracks cutting off access from the north to Ralston Valley High School. The rail lines were also noted as posing a connectivity issue to reach Oberon Middle School

Figure 48. Engagement Map Pin Density



What Arvada Had to Say?

THEMES FROM “LIKE” PINS

- One element of the transportation system that Arvada residents view very favorably is the G Line. The ease of access to Denver using the line was something many respondents highlighted as a great feature of the transportation system.
- Olde Town’s pedestrian-only core proved popular among respondents, with many noting it is safe and comfortable to navigate since it is closed to vehicles.

THEMES FROM “POOR CONDITION” PINS

- The poor pavement condition along Indiana Street was noted multiple times.
- The condition of 72nd Avenue was noted as particularly poor with many responds referencing the need to swerve around potholes throughout the corridor.
- Sidewalk width was a noted poor condition issue. Sidewalks were noted as not being wide enough for two people to walk side by side or feel safe walking next to moving vehicles.

THEMES FROM “SAFETY CONCERNS” PINS

- Wadsworth Boulevard was noted as feeling unsafe for pedestrians to cross, and feeling unsafe for drivers due to high speeds.
- Pedestrian crossings along Grandview Avenue were noted as feeling unsafe and posing a challenge for reaching the G Line.
- Missing sidewalk links across the city were noted for creating unsafe conditions and putting pedestrians in harm’s way along busy streets.

THEMES FROM “EASY TRAVEL” PINS

- The prevalence of a strong bicycle trail network including Ralston and Little Dry Creek trails was noted as a key to easily getting around the city without a car.

THEMES FROM “GOOD TRAVEL OPTIONS” PINS

- The G Line was noted as one of the largest transportation assets in the City. Residents shared a positive view of being able to take the train into Denver.

THEMES FROM “NEED MORE TRAVEL OPTIONS” PINS

- The need for improved north-south vehicle routes for the purpose of evacuation was noted by many respondents. The need for more capacity for evacuation was of urgency for western Arvada which has fewer north-south streets.
- North-south bicycle connections were noted as a need. Most trail networks in the City run east-west with limited continuous north-south connections for bicycles.
- Respondents noted that additional transit service to connect to regional services like the G Line would increase transportation options in Arvada. There are limited transit options traveling east-west.

THEMES FROM “TRAFFIC DELAYS” PINS

- Signal timing delays along Indiana Street were noted by many as cause of traffic backups and delays.
- Traffic volumes on Indiana Street were noted as causing delays. Respondents were frustrated by the slow-moving traffic during peak times along this corridor.
- Traffic congestion occurring along Wadsworth Boulevard from I-70 to 64th Avenue was noted as being a hot spot for delays.

THEMES FROM “SCHOOL ZONE CONCERNS” PINS

- Lack of safe crossings and incomplete sidewalks near schools was the most frequently placed pin for this category, leading to unsafe conditions for kids reaching school by foot.

PROGRAMMED PROJECTS



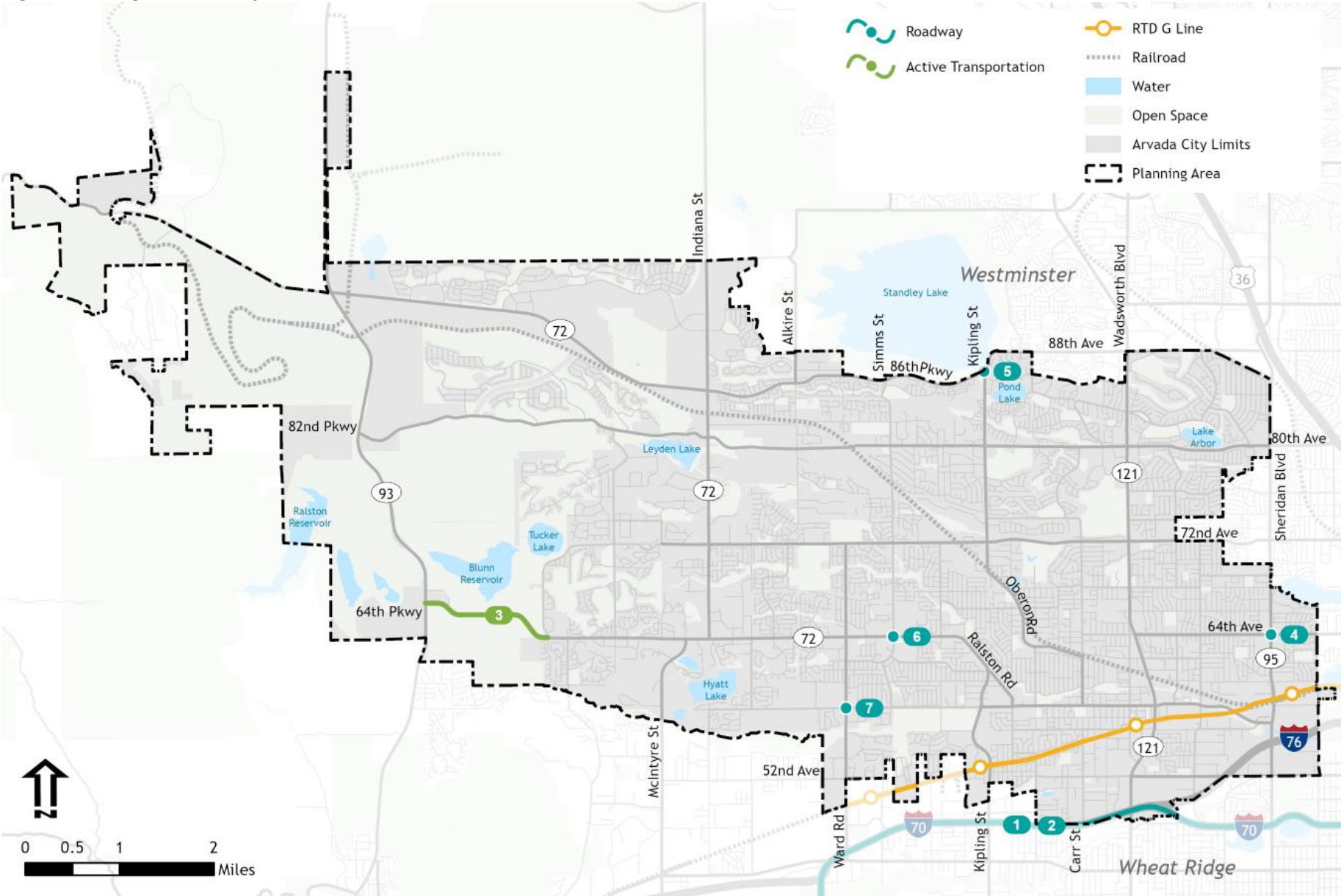
10. PROGRAMMED PROJECTS

Another important piece of regional context for the TSP is to understand what projects are already funded and programmed in or near the study area. The Arvada Capital Improvement Plan (CIP), CDOT State Transportation Improvement Program (STIP), and Denver Regional Council of Governments (DRCOG) Transportation Improvement Program (TIP) were reviewed. There were no programmed projects by Jefferson or Adams Counties in the study area. Existing programmed projects from CDOT, DRCOG, and Arvada are listed in **Table 18** and mapped in **Figure 49**. Programmed projects are only those programmed with construction funds. There are six roadway projects, two active transportation projects, and no transit projects programmed in the study area.

Table 18. Programmed Projects

ID	PROJECT NAME	LOCATION/BOUNDS	SPONSOR AGENCY
1	I-70 Westbound Widening and Sightline Improvements	Floyd Hill to Colorado Blvd	CDOT
2	Reconstruction of approximately 5 bridges along the I-70 corridor (	SH-470 to I-25	CDOT
3	64th Ave Multimodal Level of Stress at high-risk uncontrolled intersections improvements	SH-93 to Virgil Way	Arvada
4	64th / Sheridan intersection improvements	64 th Ave / Sheridan Blvd	Arvada/ CDOT
5	86th / Kipling intersection improvements	86 th Ave / Kipling Pkwy	Arvada
6	64th / Simms intersection improvements	64 th Ave / Simms St	Arvada
7	58th / Ward left turn intersection improvements	58 th Ave / Ward Rd	Arvada/ CDOT

Figure 49. Programmed Projects







ARVADA

Transportation System Plan



FINAL Previous Plans Review Memo

SEPTEMBER 27, 2024



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INTRODUCTION



1. INTRODUCTION

Arvada is a city of over 120,000 residents located approximately six miles northwest of downtown Denver. The City of Arvada was incorporated in 1904 and has grown to include over 40 square miles within its city limits. Arvada includes a wide variety of development types, from dense historic neighborhoods, to master planned suburban communities, to open grasslands in the foothills of the Rocky Mountains.

While the City of Arvada and other entities have conducted transportation studies that focus on specific areas within Arvada or a single mode of travel, there has not yet been a comprehensive transportation plan prepared for Arvada. This Transportation System Plan (TSP) will serve as the City's guiding long-range, multimodal transportation vision document which will guide investment into the transportation system. The TSP incorporates the entirety of Arvada's Municipal Planning Area (MPA) as shown in **Figure 1**, which includes just over 50 square miles.

MEMORANDUM PURPOSE

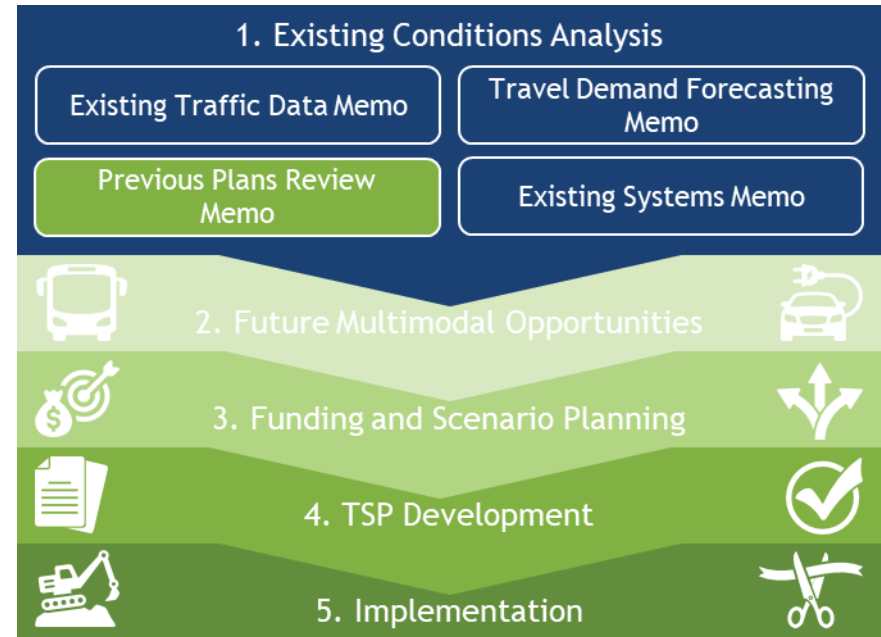
This Previous Plans Review Memo is comprised of:

- A review of the goals and objectives established by previous City and regional planning efforts.
- Compilation and mapping of previous recommended transportation improvements.
- A review of current City standards, policies, and procedures that set a framework for transportation improvements against best practices.

This memo provides the background context needed to ensure that the TSP remains true to previous planning efforts conducted by the City and others. It also ensures that the City is being efficient in developing the TSP and not duplicating efforts that have already been completed.

MEMORANDUM CONTEXT

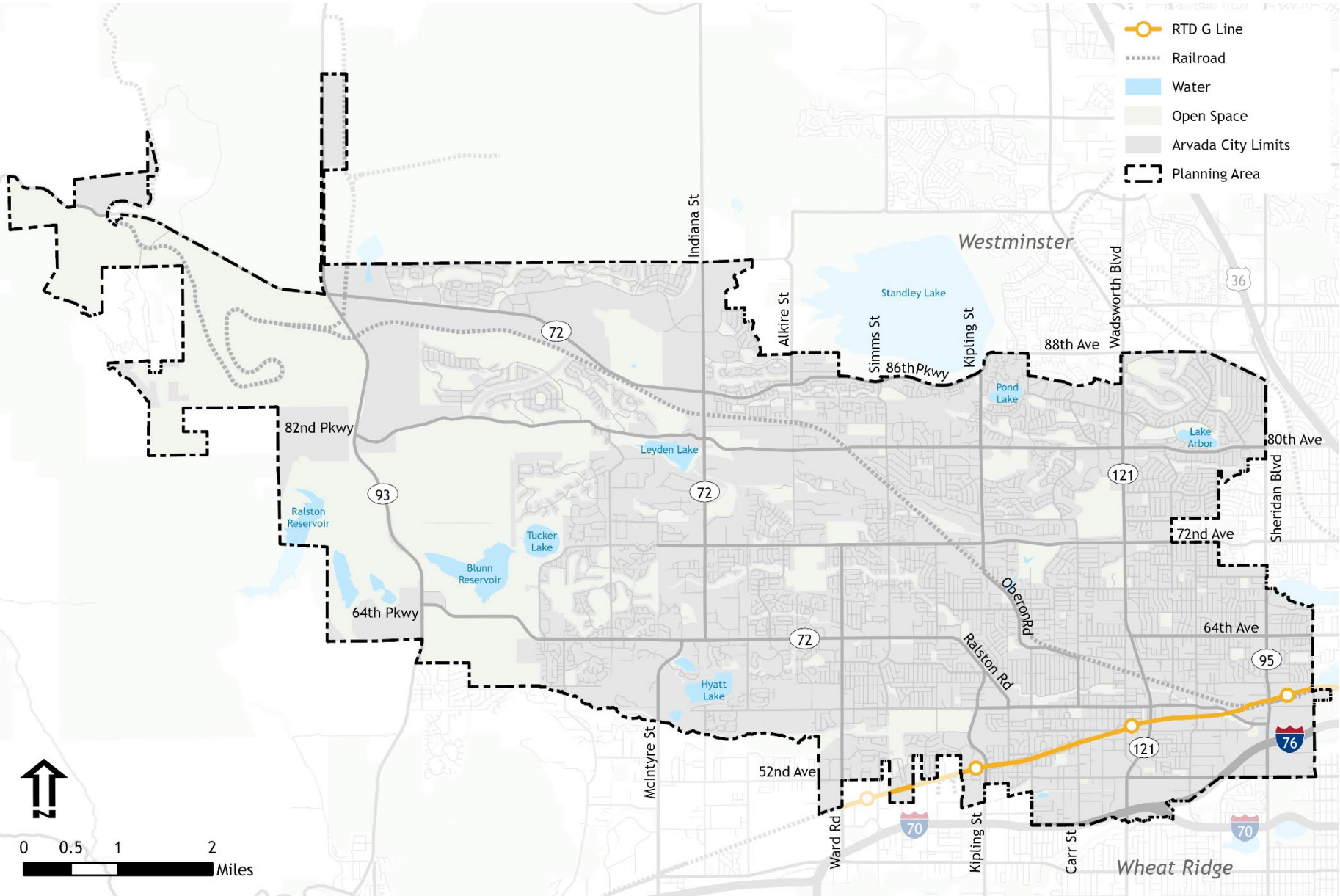
The Previous Plans Review Memo is one of four memos that make up the Existing Conditions phase of the TSP process which establishes existing transportation deficiencies and informs future phases of the TSP.



Future phases of the TSP include:

- 2. Future Multimodal Opportunities** identifies future transportation deficiencies and develops multimodal projects to address them.
- 3. Funding and Scenario Planning** prioritizes multimodal projects to determine which ones best meet the TSP goals and identifies sources to fund those projects.
- 4. TSP Development** documents the recommended projects, funding sources, and phasing.
- 5. Implementation** advances recommended projects through the design, construction, and post-implementation monitoring.

Figure 1. Arvada TSP Planning Area



PREVIOUS PLAN TOPIC AREAS



2. PREVIOUS PLAN TOPIC AREAS

One of the primary purposes of the TSP is to aggregate all of the analysis, goals, and recommendations of previous planning studies. Consolidating, documenting, and incorporating the goals from previous plans ensures that the TSP recommendations stay true to the efforts and input received from the public in recent years. For summary purposes, goals from previous plans were grouped into 10 categories:

- | | | |
|----------------------------|-------------------|--|
| 1. Pedestrian | 5. Safety | 8. Land Use / Housing / Economic Development |
| 2. Bicycle / Micromobility | 6. Freight / Rail | 9. Sustainability / Equity / Recreation |
| 3. Transit | 7. Maintenance | 10. Arts / Culture / Placemaking |
| 4. Congestion | | |

Applicable plans were reviewed that have been completed by the City of Arvada, the Denver Regional Council of Governments (DRCOG), Regional Transit District (RTD), Jefferson County, Adams County, and the Arvada Urban Renewal Authority (AURA). Each plan that has been reviewed is shown in **Table 1** with an indicator as to which topic areas are covered within each plan. A filled-in circle indicates which topic areas are a primary focus of the plan and an open circle indicates topics that are discussed, but not a primary focus. The subsections following the table step through each topic area and summarize goals from the studies for which the topic area was a primary focus.

Table 1. Previous Plan Focus Areas

PLAN	LEAD AGENCY	YEAR	TOPIC AREA									
			Pedestrian	Bicycle/ Micromobility	Transit	Congestion	Safety	Freight/Rail	Maintenance	Land Use/Housing/ Econ Development	Sustainability/ Equity/Recreation	Arts/Culture/ Placemaking
Transportation Demand Management (TDM) Implementation Plan	City of Arvada	2023	●	●	●	●						
Olde Town Arvada Strategic Reinvestment Plan	City of Arvada	2023	●	●	○					○		●
Northwest Arvada Sub-Area Plan	City of Arvada	2023	○	○			○			●	●	●
New Town Sub-Area Plan	City of Arvada	2023	○	○			○			●	●	●
Shared Micromobility Pilot Program Report	City of Arvada	2022	●	●			○					

PLAN	LEAD AGENCY	YEAR	TOPIC AREA									
			Pedestrian	Bicycle/ Micromobility	Transit	Congestion	Safety	Freight/Rail	Maintenance	Land Use/Housing/ Econ Development	Sustainability/ Equity/Recreation	Arts/Culture/ Placemaking
Ralston Road Multimodal Corridor and Urban Center Connectivity/Land Use Reassessment	City of Arvada	2022	●							●		
Square Lake Sub-Area Plan	City of Arvada	2022	○	○			○			●	●	●
DRCOG Metro Vision Regional Transportation Plan	DRCOG	2022	○	○	○	●	●	○	●		○	
RTD System Optimization Plan	RTD	2022			●	○		●	●			
Jefferson County Bicycle Plan	Jefferson County	2022		●			●					
Adams County Transportation Master Plan	Adams County	2022	○	○	○	●	●	○	●		●	
Jefferson County Hazard Mitigation Plan	Jefferson County	2021									●	
Westminster Transportation & Mobility Plan	Westminster	2021	●	●	●	●	●		●		●	
Taking Action on Regional Vision Zero	DRCOG	2020	●	●			●				○	
Colorado Freight Plan	CDOT	2019					●	●	●	○		
Denver Regional Active Transportation Plan	DRCOG	2019	●	●	●							
Colorado Freight and Passenger Rail Plan	CDOT	2018			●	○		●				
Arvada Bicycle Master Plan	City of Arvada	2017		●			●					
Imagine Arvada Parks, Trails, and Open Space	City of Arvada	2016	○				○			○	●	
Statewide Bicycle and Pedestrian Plan	CDOT	2015	●	●			●			○		

PLAN	LEAD AGENCY	YEAR	TOPIC AREA									
			Pedestrian	Bicycle/ Micromobility	Transit	Congestion	Safety	Freight/Rail	Maintenance	Land Use/Housing/ Econ Development	Sustainability/ Equity/Recreation	Arts/Culture/ Placemaking
Statewide Transit Plan	CDOT	2015			●		○			○		
Sustain Arvada Community Plan	City of Arvada	2014									●	
Arvada Comprehensive Plan	City of Arvada	2014	○	○	●	●	○	○		●	●	●
Countywide Transportation Plan	Jefferson County	2014	●	●	●	●						
Ralston Road Corridor Plan	City of Arvada	2011	●	●	●	●	●			○		
Northwest Arvada Urban Renewal Plan	AURA	2009	●	○						●		
Olde Town Station Urban Renewal Plan	AURA	2009	●	●	●					●		
Village Commons Urban Renewal Plan	AURA	2008	○	○	○					●		
Arvada Transit Station Framework Plan	City of Arvada	2007	○	○	●			●		●		
Mobility Needs of Low Income and Minority Households Research Study	CDOT	2006	●	○	●	○				●	●	

● = Major Plan Component/Focus

○ = Included in Plan

TOPIC AREA: PEDESTRIAN

PEDESTRIAN STUDIES

2023	TDM Implementation Plan
2023	Olde Town Arvada Strategic Reinvestment Plan
2022	Shared Micromobility Pilot Program Report
2022	Ralston Road Multimodal Corridor and Urban Center Connectivity/Land Use Reassessment
2021	Westminster Transportation & Mobility Plan
2020	Taking Action on Regional Vision Zero
2019	Denver Regional Active Transportation Plan
2015	Statewide Bicycle and Pedestrian Plan
2014	Jefferson County Countywide Transportation Plan
2011	Ralston Road Corridor Plan
2009	Northwest Arvada Urban Renewal Plan
2009	Olde Town Station Urban Renewal Area Plan
2006	Mobility Needs of Low Income and Minority Households Research Study

Walkability, safety, and pedestrian connectivity are described as key goals for Arvada in the pedestrian-oriented studies. Many of the pedestrian-oriented studies identify the key pedestrian-related issues around Arvada, including but not limited to:

- Americans with Disabilities Act (ADA) accessibility barriers
- Gaps in, or a lack of, pedestrian crossings
- A lack of connectivity to the greater trail network

Supporting mode shift from personal vehicles to walking, biking, and transit use is another recurring goal in pedestrian-oriented plans. Therefore, the need for more pedestrian facilities, increased safety, and filling sidewalk and street crossings gaps is a high priority. The intention of emphasizing pedestrian mobility and safety in these plans is to:

- Define a clear, safety-driven vision for Arvada

- Be proactive about where the greatest needs for pedestrian improvement are located
- Establish how this need is determined
- Influence legislative policies that prioritize pedestrian safety
- Educate the public about how these priorities can improve quality of life and access to natural resources

The 2009 Northwest Urban Renewal plan lays the groundwork for Arvada transportation philosophy:

“...pedestrian-friendly environments will connect neighborhoods to the recreational areas, shopping areas, mixed-use centers, and activity centers. The circulation system will be made up of an interconnected network of streets, bike trails and walkways which will provide multiple routes for cars, bikes, and pedestrians to move throughout the area.”

TOPIC AREA: BICYCLE/ MICROMOBILITY

BICYCLE/MICROMOBILITY STUDIES

2023	TDM Implementation Plan
2023	Olde Town Arvada Strategic Reinvestment Plan
2022	Shared Micromobility Pilot Program Report
2022	Jefferson County Bicycle Plan
2021	Westminster Transportation & Mobility Plan
2020	Taking Action on Regional Vision Zero
2019	Denver Regional Active Transportation Plan
2017	Arvada Bicycle Master Plan
2015	Statewide Bicycle and Pedestrian Plan
2014	Jefferson County Countywide Transportation Plan
2011	Ralston Road Corridor Plan
2009	Olde Town Station Urban Renewal Plan

Arvada, Jefferson County, and Adams County have a strong bicycling culture and identity. To continue to build on the existing network of bicycle facilities and align with regional safety goals, the City of

Arvada as well as Jefferson and Adams Counties have created long-term visions for the regional bicycle network.

The bicycle/micromobility-oriented studies identify a need for an increase in on-street and off-street bicycle facilities to support bicycling not only as a form of recreation, but also as a viable and appealing form of transportation for people of all ages and abilities. Supporting mode shift from personal vehicles to biking, walking, and transit was also a common theme in these plans. One tool to promote mode shift is to encourage micromobility, such as shared scooters, in appropriate locations. In addition, the studies promote:

- Implementing best practices in bicycle facility design and micromobility implementation
- Reflecting varying urban contexts in land use to promote economic growth
- Addressing the first and last mile connection gap to support regional transit investments through an array of recommended infrastructure, policy, and program strategies for both bicycles and micromobility solutions

TOPIC AREA: TRANSIT

TRANSIT STUDIES

2023	TDM Implementation Plan
2022	RTD System Optimization Plan
2021	Westminster Transportation & Mobility Plan
2019	Denver Regional Active Transportation Plan
2018	Colorado Freight and Passenger Rail Plan
2015	Statewide Transit Plan
2014	Arvada Comprehensive Plan
2014	Jefferson County Countywide Transportation Plan
2011	Ralston Road Corridor Plan
2009	Olde Town Station Urban Renewal Plan
2008	Village Commons Urban Renewal Plan
2007	Arvada Transit Station Framework Plan

2006 Mobility Needs of Low Income and Minority Households Research Study

Long-range transit planning for the City of Arvada, as identified in the Arvada Comprehensive Plan, is focused on two central goals that will be achieved through close coordination between the City, RTD, and neighboring jurisdictions:

1. Optimization of bus connections to Gold Line stations
2. Expansion of the bus system to serve the developing western parts of Arvada and connect those growth areas to established central and eastern parts of the city, the Gold Line, US 36, and the future Northwest Rail Corridor.

While transit services may be provided by regional partners, Arvada jointly considers the land use implications on transportation and how land use can further support transit services.

Transit service in the City of Arvada has been significantly enhanced by RTD FasTracks program that voters approved in November 2004. Through this program, Arvada residents can now quickly connect by rail to downtown Denver, the Denver International Airport, and other employment, service, cultural, and recreational destinations throughout the metro area via the 140 miles of FasTracks rail lines.

In more recent years, plans have focused on transit-supportive policies such as:

- An increase transit-oriented development (TOD) through mixed-used, higher density housing along transit lines
- Arvada and State of Colorado air quality goals which encourage mode shift from vehicles to support more pedestrian and bicyclist activity
- Addressing first and last mile connectivity from transit services, which has spurred legislative policy recommendations and program strategies that are introduced in the transit-oriented studies.

TOPIC AREA: CONGESTION

CONGESTION STUDIES

2023	TDM Implementation Plan
2022	DRCOG Metro Vision Regional Transportation Plan
2022	Adams County Transportation Master Plan
2021	Westminster Transportation & Mobility Plan
2014	Arvada Comprehensive Plan
2014	Jefferson County Countywide Transportation Plan
2011	Ralston Road Corridor Plan

Increased traffic congestion and greenhouse gas (GHG) emissions, particularly on highways and in lower density areas where land uses and housing are spread out, has spurred several recommended infrastructure and policy strategies in the congestion-oriented plans. Some strategies to tackle congestion and GHG impacts include:

- Implementing road diets to foster more opportunities for multimodal travel
- Promoting Mobility as a Service (MaaS), or the shift away from privately owned automobiles and toward transportation that is offered as a service
- TDM and shared mobility
- Electric vehicles and associated charging infrastructure.

The TDM Plan established four specific key objectives aimed at reducing congestion:

- Reduce parking demand in Olde Town and shopping areas with a goal of 85% parking occupancy or less at peak times
- Reduce Single Occupancy Vehicle (SOV) travel by 2-3%
- Reduce traffic congestion on busy corridors as measured by peak hour levels of service
- Decrease vehicle use and first- and last-mile trips through the establishment of multimodal transportation hubs and incentive programs for non-vehicular travel

In the Arvada Comprehensive Plan, the City outlines more specific policies, including defined traffic solutions to reduce congestion, such as traffic signal timing improvements, intersection improvements, grade separations, and other measures to help reduce traffic congestion. In addition to these solutions, the City aims to work to increase the use of alternative travel modes for community trips through TDM strategies including bicycle/pedestrian system development, integration with FasTracks corridors, shuttles and on-call transit services, mixed-use and TOD, and reallocation of rights-of-way to prioritize sidewalks and bikeways.

TOPIC AREA: SAFETY

SAFETY STUDIES

2022	DRCOG Metro Vision Regional Transportation Plan
2022	Jefferson County Bicycle Plan
2022	Adams County Transportation Master Plan
2021	Westminster Transportation & Mobility Plan
2020	Taking Action on Regional Vision Zero
2019	Colorado Freight Plan
2017	Arvada Bicycle Master Plan
2015	Statewide Bicycle and Pedestrian Plan
2011	Ralston Road Corridor Plan

Both regional and local safety targets are leading the City of Arvada's safety efforts and influencing a variety of recommended infrastructure, policy, and program strategies. DRCOG's Taking Action on Regional Vision Zero plan highlights what the safety issues and concerns are in the DRCOG region, specific high-level strategies to target the safety problem, and establishes a Regional High-Injury Network (HIN). The HIN identifies the roadways with the highest number of fatal and serious injury crashes. The HIN is intended to focus safety improvements, education, and enforcement at locations where serious crashes happen at the greatest frequency.

The City of Arvada is committed to improving the safety and connectedness of its transportation system. To improve safety, a

critical first step is to identify and evaluate any deficiencies in a roadway's ability to accommodate all travel modes safely. For example, Ralston Road is a major roadway in Arvada that bicyclists are currently discouraged from using due to safety concerns associated with narrow lanes. Due to its significant role in Arvada's roadway network, and being identified as having notable safety issues, Arvada evaluated the Ralston corridor and identified the need to revitalize it as a multimodal "main street" including a variety of roadway and streetscape elements to enhance safety and access to all travel modes.

All safety-oriented studies included goals related to reducing traffic-related deaths and injuries by having all transportation improvements include safety best practices for all modes of transportation and improving the appeal of non-vehicular transportation options.

Another aspect of the safety-oriented studies is non-transportation public safety. Providing state of the art technology and ensuring a feeling of safety and reduced fear of crime throughout the community are major objectives for the City of Arvada. Certain policy initiatives identified in the safety-oriented studies include refining and improving service delivery to better connect public safety services with communities of interest and phased timing of residential, commercial, and industrial development to efficiently provide necessary services and utilities (including public safety).

TOPIC AREA: FREIGHT/RAIL

FREIGHT/RAIL STUDIES

2022	RTD System Optimization Plan
2019	Colorado Freight Plan
2018	Colorado Freight and Passenger Rail Plan

An often-overlooked component of a city's transportation network is the movement of goods. Past planning efforts both at the regional and state levels have emphasized that major freight movements will happen on CDOT highways and other major routes connecting to

highways. Goals surrounding freight movement in freight-oriented plans have included:

- Establishing and signing freight routes that provide access to major freight-generating land uses
- Making investments along freight routes to modify roadways to better accommodate trucks
- Improving safety infrastructure or grade separating at-grade railroad crossings
- Developing intermodal facilities to transfer freight from rail to trucks at strategic locations

TOPIC AREA: MAINTENANCE

MAINTENANCE STUDIES

2022	DRCOG Metro Vision Regional Transportation Plan
2022	RTD System Optimization Plan
2022	Adams County Transportation Master Plan
2021	Westminster Transportation & Mobility Plan
2019	Colorado Freight Plan

Maintenance is critical for all types of transportation infrastructure, including roadways, bicycle facilities, sidewalks, and transit vehicles. Goals from maintenance-oriented plans in recent years have an increased focus on maintenance of multimodal facilities, which has been overlooked historically. The renewed focus on all road users is key, since bicycles, scooters, and pedestrians are often the most affected by poor facility conditions. The Adams County Transportation Master Plan puts particular emphasis on not only the need for maintenance but the need for enforcement of illegal parking or blocking of active transportation infrastructures i.e., bike lanes and sidewalks.

Due to the regional nature of roadway and transit networks, it is important to build strong partnerships between agencies, especially CDOT and RTD. The DRCOG Metro Vision Regional Transportation Plan lays out the case for cross jurisdictional and intra-organizational

cooperation to ensure maintenance goals are met. The Colorado Freight Plan emphasizes the importance of maintenance for trucking as trucks have an inordinate impact on the roadway condition. Ensuring freight facilities are built with truck traffic in mind will ensure that roadway investments last longer.

TOPIC AREA: LAND USE/HOUSING/ECONOMIC DEVELOPMENT

LAND USE/HOUSING/ECONOMIC DEVELOPMENT STUDIES

2023	Northwest Arvada Sub-Area Plan
2022	Ralston Road Multimodal Corridor and Urban Center Connectivity/Land Use Reassessment
2022	Square Lake Sub-Area Plan
2016	Imagine Arvada Parks, Trails, and Open Space
2014	Arvada Comprehensive Plan
2009	Northwest Arvada Urban Renewal Plan
2009	Olde Town Station Urban Renewal Plan
2008	Village Commons Urban Renewal Plan
2006	Mobility Needs of Low Income and Minority Households Research Study

Housing and Transportation are inextricably linked, and both are needed to support a strong and resilient city. In the 2014 Comprehensive Plan the City has placed particular emphasis on transportation-oriented housing development, locating housing and commercial development strategically along major corridors. These land use goals and decisions are tied to a strong transportation network. The Comprehensive Plan specifically calls for housing to be “transit-supportive” and in close proximity to bike and pedestrian infrastructure. The City has identified the RTD Gold line as a catalyst for land uses that support multimodal transportation.

Housing and commercial uses are not the only land uses that are integrated with transportation. These transportation goals are supported through the City’s small area plans that highlight specific

gaps and opportunities for improvements that affect each planning area. In Imagine Arvada | Parks, Trails, and Open Space, trail loops are identified as playing a key role in connecting residents to greenspaces and are a component of a complete transportation system.

TOPIC AREA: SUSTAINABILITY/EQUITY/RECREATION

SUSTAINABILITY/EQUITY/RECREATION STUDIES

2023	Northwest Arvada Sub-Area Plan
2023	New Town Sub-Area Plan
2022	Square Lake Sub-Area Plan
2022	Adams County Transportation Master Plan
2021	Jefferson County Hazard Mitigation Plan
2021	Westminster Transportation & Mobility Plan
2016	Imagine Arvada Parks, Trails, and Open Space
2014	Sustain Arvada Community Plan
2014	Arvada Comprehensive Plan
2006	Mobility Needs of Low Income and Minority Households Research Study

The backbone for Arvada’s sustainability initiatives is the 2014 Sustain Arvada plan which identifies transportation as the second largest energy consumer in the city. The plan places priority on improving air quality by reducing vehicle miles traveled by utilizing public transit and other alternative forms of transportation. This same approach is echoed as part of the city’s sub-area plans as well as those of Adams County and Westminster who view transportation as one of the key components to sustainability.

In addition to transportation being a key component of sustainability, it also plays a key role in the ecological health of the city. Both the 2014 Comprehensive Plan and 2016 Imagine Arvada | Parks, Trails, and Open Space place emphasis on the need to complete missing trail links and develop new trails and recreational facilities in an

ecologically sensitive way. These trail networks will further the goals of the subarea plans, by providing trail access to more residents throughout the city.

TOPIC AREA: ARTS/CULTURE/ PLACEMAKING

ARTS/CULTURE/PLACEMAKING STUDIES	
2023	Olde Town Arvada Strategic Reinvestment Plan
2023	Northwest Arvada Sub-Area Plan
2023	New Town Sub-Area Plan
2022	Square Lake Sub-Area Plan
2014	Arvada Comprehensive Plan

Art and placemaking play important roles within the transportation system. They are often tools that are used to bring unique flavor and cultural symbols to otherwise mundane places like bridges or retaining walls. In addition to the aesthetic appeal of integrating art into the transportation system, it also plays a key role in safety. Creating vibrant spaces using art can help to turn what otherwise may be barriers into assets. One location this has been proposed is the I-70 underpasses as part of the 2022 Square Lake Sub-Area Plan. Converting unappealing spaces to attractions through public art helps foster a sense of community and supports economic development goals. Placemaking has been a consistent public engagement topic in the comprehensive plan and a key topic in Arvada’s sub-area plans.

PREVIOUS PLAN TRANSPORTATION RECOMMENDATIONS



3. PREVIOUS PLAN TRANSPORTATION RECOMMENDATIONS

SPECIFIC TRANSPORTATION IMPROVEMENT RECOMMENDATIONS

Transportation projects recommended by each of the previous plans reviewed are listed in **Table 2**. Projects have been organized into four modal groups: Bicycle (BKE), Vehicular (CAR), Pedestrian (PED), and Transit (TST). The projects are also mapped by mode: bicycle projects are shown in **Figure 2**, vehicular projects are shown in **Figure 3**, pedestrian projects are shown in **Figure 4**, and transit projects are shown in **Figure 5**.

Table 2. Previous Plan Transportation Recommendations

ID*	DESCRIPTION	PRIMARY STREET	FROM/AT	TO	PRIMARY MODE	SOURCE PLAN	SECONDARY MODES				
							Pedestrian	Bike/Micro	Transit	Auto	Freight
BKE-1	59th Pl Bike Improvements	59th Pl	Miller St	Garrison St	Bike	Bicycle Master Plan					
BKE-2	Olde Wadsworth Blvd Bike Improvements	Olde Wadsworth Blvd	55th Ave	64th Ave	Bike	Bicycle Master Plan					
BKE-3	63rd Ave Bike Lanes	63rd Ave	Alkire Ct	Garrison St	Bike	Bicycle Master Plan					
BKE-4	60th Ave Bike Boulevard	60th Ave	Simms St	Miller St	Bike	Bicycle Master Plan					
BKE-5	Estes St Bike Boulevard	Estes St	Brooks Dr	Garrison St	Bike	Bicycle Master Plan					
BKE-6	Simms St Buffered Bike Lanes	Simms St	64th Ave	75th Ave	Bike	Bicycle Master Plan					
BKE-7	Garrison St Buffered Bike Lanes	Garrison St	Ralston Rd	Oberon Rd	Bike	Bicycle Master Plan					
BKE-8	Wyndham Park Dr/Defame St Buffered Bike Lanes	Wyndham Park Dr	Braun Cr	72nd Ave	Bike	Bicycle Master Plan					
BKE-9	Carr St Buffered Bike Lane	Carr St	Brooks Dr	Heritage Canal Trail	Bike	Bicycle Master Plan					
BKE-10	64th Ave Sidepath	64th Ave	McIntyre Pkwy	Quail St	Bike	Bicycle Master Plan	✓				
BKE-11	Ward Rd Separated Bike Lanes	Ward Rd	52nd Ave	72nd Ave	Bike	Bicycle Master Plan					
BKE-12	64th Ave Separated Bike Lanes	64th Ave	Carr St	Sheridan Blvd	Bike	Bicycle Master Plan					
BKE-13	80th Ave Sidepath	80th Ave	Kipling St	Sheridan Blvd	Bike	Bicycle Master Plan	✓				

ID*	DESCRIPTION	PRIMARY STREET	FROM/AT	TO	PRIMARY MODE	SOURCE PLAN	SECONDARY MODES				
							Pedestrian	Bike/Micro	Transit	Auto	Freight
BKE-14	Wadsworth Blvd Sidepath	Wadsworth Blvd	76 th Ave	88 th Ave	Bike	Bicycle Master Plan	✓				
BKE-15	68th Ave Separated Bike Lanes	68 th Ave	Carr St	Lamar St	Bike	Bicycle Master Plan					
BKE-16	72nd Ave Sidepath	72 nd Ave	Quaker St	Ward Rd	Bike	Bicycle Master Plan	✓				
BKE-17	Garrison St Separated Bike Lanes	Garrison St	45 th Pl	Ridge Rd/Gyda Rd	Bike	Bicycle Master Plan					
BKE-18	Kipling St Sidepath	Kipling St	72 nd Ave	Dry Creek Trail	Bike	Bicycle Master Plan	✓				
BKE-19	Wadsworth Blvd Sidepath	Wadsworth Blvd	44 th Ave	55 th Ave	Bike	Bicycle Master Plan	✓				
BKE-20	88th Ave Separated Bike Facility	88th Ave	Kipling St	Sheridan Blvd	Bike	Westminster Transportation & Mobility Plan					
BKE-21	72nd Ave Buffered Bike Lane	72nd Ave	Pierce St	Sheridan Blvd	Bike	Westminster Transportation & Mobility Plan					
BKE-22	Sheridan Blvd Shared Use Path	Sheridan Blvd	69th Ave	88th Ave	Bike	Westminster Transportation & Mobility Plan	✓				
CAR-1	Station Area Parking Management	RTD Gold Line	Olde Town, 60th and Sheridan, Gold Strike, Arvada Ridge Stations		Car	Comprehensive Plan	✓	✓			
CAR-2	Ward Rd/Alkire St Connection	New Roadway Connection	Ward Rd	Alkire St	Car	Comprehensive Plan					
CAR-3	Alkire St Railroad Crossing	Alkire St	UPRR		Car	Comprehensive Plan	✓	✓			
CAR-4	Kendrick St Extension	Kendrick St	McIntyre St	Indiana St	Car	Comprehensive Plan	✓	✓			
CAR-5	80th Ave Widening	80th Ave	Simms St	Kipling St	Car	Comprehensive Plan	✓				
CAR-6	72nd Ave Widening	72nd Ave	Indiana St	Kipling St	Car	Comprehensive Plan	✓				
CAR-7	64th Ave Widening	64th Ave	Quaker St	McIntyre St	Car	Comprehensive Plan	✓				
CAR-8	Indiana St Widening	Indiana St	64th Ave	96th Ave	Car	Comprehensive Plan	✓				

ID*	DESCRIPTION	PRIMARY STREET	FROM/AT	TO	PRIMARY MODE	SOURCE PLAN	SECONDARY MODES				
							Pedestrian	Bike/Micro	Transit	Auto	Freight
CAR-9	Simms St Widening	Simms St	64th Ave	80th Ave	Car	Comprehensive Plan	✓				
CAR-10	Ralston Rd Improvements	Ralston Rd	I-70	72nd Ave	Car	Comprehensive Plan	✓				
CAR-11	SH 72 Improvements	SH 72	64th Ave	96th Ave	Car	Comprehensive Plan					
CAR-12	Jefferson Pkwy	Jefferson Pkwy	SH 93	North City Limit	Car	Comprehensive Plan					
CAR-13	Sheridan Blvd/Ralston Rd Intersection Improvements	Sheridan Blvd	Ralston Rd		Car	Square Lake Sub-Area Plan	✓	✓			
CAR-14	Ralston Rd Improvements	Ralston Rd	Wadsworth Blvd	Kipling St	Car	Ralston Road Corridor Report	✓	✓	✓		
CAR-15	Sheridan Blvd Widening	Sheridan Blvd	I-76	88th Ave	Car	Jefferson Countywide Transportation Plan					
CAR-16	Kipling St Widening	Kipling St	72nd Ave	80th Ave	Car	Jefferson Countywide Transportation Plan	✓	✓			
CAR-17	Ward Rd Widening	Ward Rd	64th Ave	72nd Ave	Car	Jefferson Countywide Transportation Plan	✓	✓	✓		
CAR-18	Indiana St Widening	Indiana St	64th Ave	72nd Ave	Car	Jefferson Countywide Transportation Plan					
CAR-19	72nd Ave Widening	72nd Ave	Indiana St	Kipling St	Car	Jefferson Countywide Transportation Plan					
CAR-20	I-70/Kipling St Interchange Reconstruction	I-70	Kipling St		Car	2050 Metro Vision RTP	✓				
CAR-21	80th Ave Widening	80th Ave	Indiana St	Simms St	Car	Jefferson Countywide Transportation Plan					
CAR-22	Western Beltway	SH 93	58th Ave	Jefferson Pkwy	Car	Jefferson Countywide Transportation Plan					
CAR-23	New Interchange	SH 93	64th Pkwy		Car	Jefferson Countywide Transportation Plan					
CAR-24	New Interchange	SH 93	Jefferson Pkwy		Car	Jefferson Countywide Transportation Plan					
CAR-25	New Interchange	Jefferson Pkwy	82nd Pkwy		Car	Jefferson Countywide Transportation Plan					
CAR-26	New Interchange	Jefferson Pkwy	SH 72		Car	Jefferson Countywide Transportation Plan					

ID*	DESCRIPTION	PRIMARY STREET	FROM/AT	TO	PRIMARY MODE	SOURCE PLAN	SECONDARY MODES				
							Pedestrian	Bike/Micro	Transit	Auto	Freight
PED-1	Indiana St Multipurpose Trail	Indiana St	Indiana St	87th Pkwy	Ped	Northwest Arvada Sub-Area Plan		✓			
PED-2	Indiana St/Candelas Pkwy Ped Crossing	Indiana St	Candelas Pkwy		Ped	Northwest Arvada Sub-Area Plan		✓			
PED-3	Indiana St/87th Pkwy Ped Crossing	Indiana St	87th Pkwy		Ped	Northwest Arvada Sub-Area Plan		✓			
PED-4	Indiana St/86th Pkwy Ped Crossing	Indiana St	86th Pkwy		Ped	Northwest Arvada Sub-Area Plan		✓			
PED-5	60th Ave Complete Street	60th Ave	Sheridan Blvd	Tennyson St	Ped	Square Lake Sub-Area Plan		✓			
PED-6	Tennyson St Complete Street	Tennyson St	60th Ave	52nd Ave	Ped	Square Lake Sub-Area Plan		✓			
PED-7	Sheridan Blvd Complete Street	Sheridan Blvd	60th Ave	53rd Ave	Ped	Square Lake Sub-Area Plan		✓	✓		
PED-8	60th Ave/Wolf St Ped Crossing	60th Ave	Wolff St		Ped	Square Lake Sub-Area Plan		✓		✓	
PED-9	60th Ave/Tennyson St Ped Crossing	60th Ave	Tennyson St		Ped	Square Lake Sub-Area Plan		✓		✓	
PED-10	Sheridan Blvd Pedestrian Underpass	Sheridan Blvd	I-70		Ped	Square Lake Sub-Area Plan		✓		✓	
PED-11	Sheridan Blvd/I-76 Ped Crossing	Sheridan Blvd	I-76 Ramps		Ped	Square Lake Sub-Area Plan		✓			
PED-12	Barbara Gulch/SH 93 Trail and Crossing	SH 93	UPRR		Ped	Parks, Trail and Open Space Master Plan		✓			
PED-13	Big Dry Creek Trail	SH 72	SH 93	Iron Mtn Way	Ped	Parks, Trail and Open Space Master Plan		✓			
PED-14	Big Dry Creek Trail/Indiana St Underpass	Indiana St	80th Ave		Ped	Parks, Trail and Open Space Master Plan		✓			
PED-15	Leyden Creek Trail Improvements	Leyden Creek Trail	Orion Way	Indiana St	Ped	Parks, Trail and Open Space Master Plan		✓			
PED-16	Leyden Creek Trail/Indiana St Underpass	Indiana St	North of 80th Ave		Ped	Parks, Trail and Open Space Master Plan		✓			
PED-17	Little Dry Creek Trail Extension	SH 72	SH 93		Ped	Parks, Trail and Open Space Master Plan		✓			

ID*	DESCRIPTION	PRIMARY STREET	FROM/AT	TO	PRIMARY MODE	SOURCE PLAN	SECONDARY MODES				
							Pedestrian	Bike/Micro	Transit	Auto	Freight
PED-18	Little Dry Creek Trail Extension	Little Dry Creek Trail	Allison Way	Vance Dr	Ped	Parks, Trail and Open Space Master Plan		✓			
PED-19	Moon Gulch Trail Connection	Moon Gulch Trail	Quaker Street	75th Pl	Ped	Parks, Trail and Open Space Master Plan		✓			
PED-20	Moon Gulch Trail/Indiana St Crossing Improvements	Indiana St	75th Ave		Ped	Parks, Trail and Open Space Master Plan		✓			
PED-21	Van Bibber Creek Trail Extension	58th Ave	Indiana St	Virgil Way	Ped	Parks, Trail and Open Space Master Plan		✓			
PED-22	Heritage Canal Trail	Croke Canal	88th Ave		Ped	Parks, Trail and Open Space Master Plan		✓			
PED-23	Ralston Creek Trail	Ralston Rd	64th Ave	59th Ave	Ped	Parks, Trail and Open Space Master Plan		✓			
TST-1	Promote TOD	RTD Gold Line	Olde Town, 60th and Sheridan, Gold Strike, Arvada Ridge Stations		Transit	Comprehensive Plan	✓	✓			
TST-2	New Bus Service	Candelas Pkwy/SH 72	Candelas Town Center	SH 72/SH 93 Park-and-Ride	Transit	Comprehensive Plan					
TST-3	Sheridan Blvd Transit Enhancements	Sheridan Blvd	I-70	88th Ave	Transit	Comprehensive Plan	✓	✓			
TST-4	Wadsworth Blvd Transit Enhancements	Wadsworth Blvd	I-70	88th Ave	Transit	Comprehensive Plan	✓	✓			
TST-5	Olde Town Arvada Station TOD	RTD Gold Line	Olde Town Arvada Sta		Transit	Arvada Transit Framework	✓	✓			
TST-6	Arvada Kipling/Ridge Station TOD	RTD Gold Line	Arvada Ridge Sta		Transit	Arvada Transit Framework	✓	✓			
TST-7	60th/Sheridan-Arvada Gold Strike Station TOD	RTD Gold Line	60th/Sheridan-Arvada Gold Strike Station		Transit	Arvada Transit Framework	✓	✓			
TST-8	Route 51 - Sheridan Blvd Route Change	Sheridan Blvd	60th Ave	Dartmouth Ave	Transit	Reimagine RTD					
TST-9	Route 76 - Wadsworth Blvd Route Change	Wadsworth Blvd	I-70	88th Ave	Transit	Reimagine RTD					
TST-10	Route 53 - N Sheridan Blvd Route Change	Sheridan Blvd	60th Ave	88th Ave	Transit	Reimagine RTD					
TST-11	Route 72 Extension to Olde Town Station	Jay St	Sheridan Blvd	Wadsworth Blvd	Transit	Reimagine RTD					
TST-12	Route 80 Updates	80th Ave	Sheridan Blvd	Wadsworth Blvd	Transit	Reimagine RTD					

ID*	DESCRIPTION	PRIMARY STREET	FROM/AT	TO	PRIMARY MODE	SOURCE PLAN	SECONDARY MODES				
							Pedestrian	Bike/Micro	Transit	Auto	Freight
TST-13	Route 100 Extension to Arvada Ridge Station	Kipling St	I-70	58th Ave	Transit	Reimagine RTD					
TST-14	Zone A (Small) Microtransit Simulation	Zone A	86th Pkwy/64th Ave	Indiana St/Wadsworth Blvd	Transit	On-Demand Microtransit Simulation Results		✓			
TST-15	Zone B (Large) Microtransit Simulation	Populated Arvada			Transit	On-Demand Microtransit Simulation Results		✓			
TST-16	88th Ave Stop and Station Enhancements	88th Ave	Kipling St	Sheridan Blvd	Transit	Westminster Transportation & Mobility Plan	✓	✓			

*IDs categorized by primary mode: PED = pedestrian, BKE = bicycle, TST = transit, CAR = vehicular

Figure 2. Previously Recommended Bike Projects

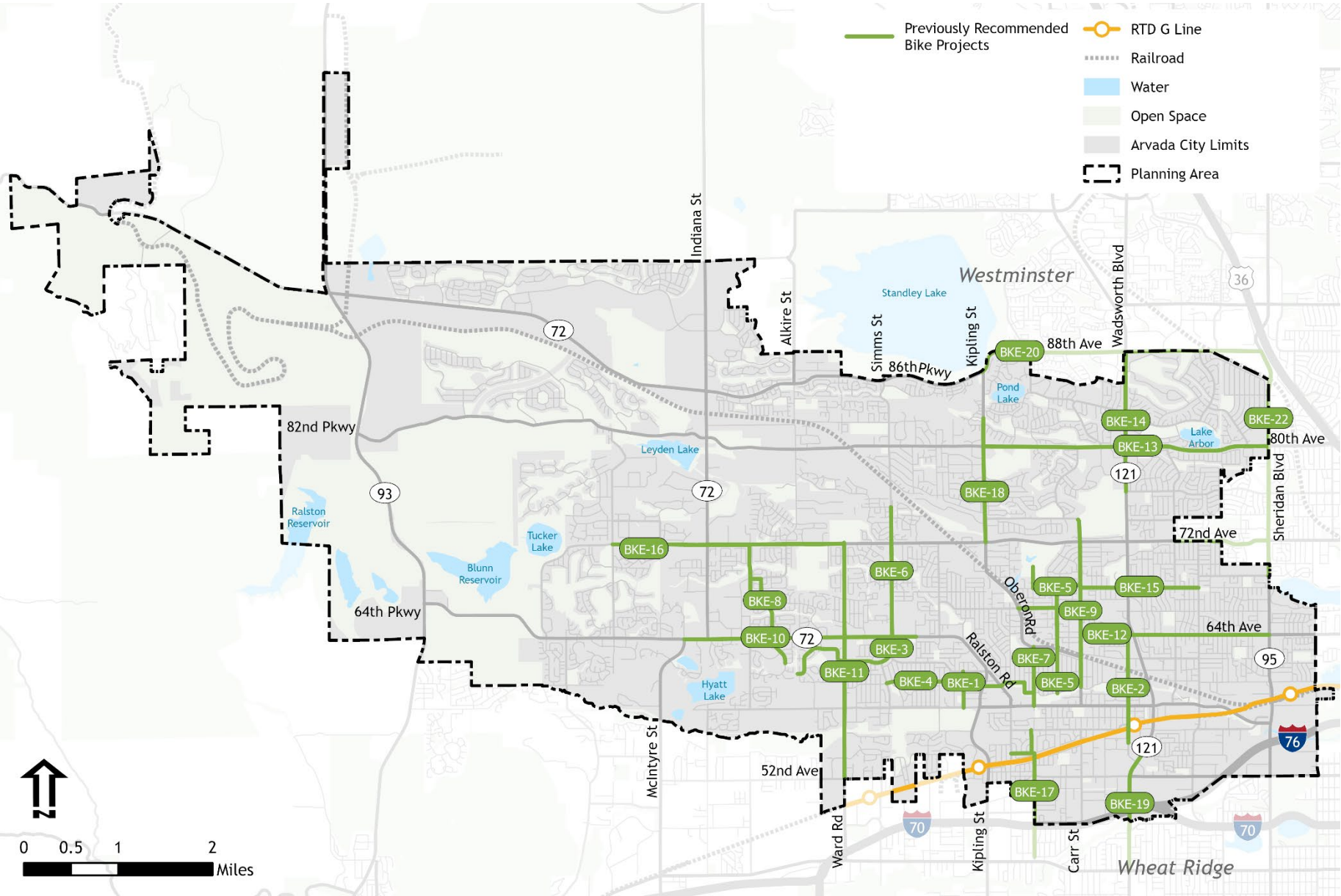


Figure 3. Previously Recommended Vehicular Projects

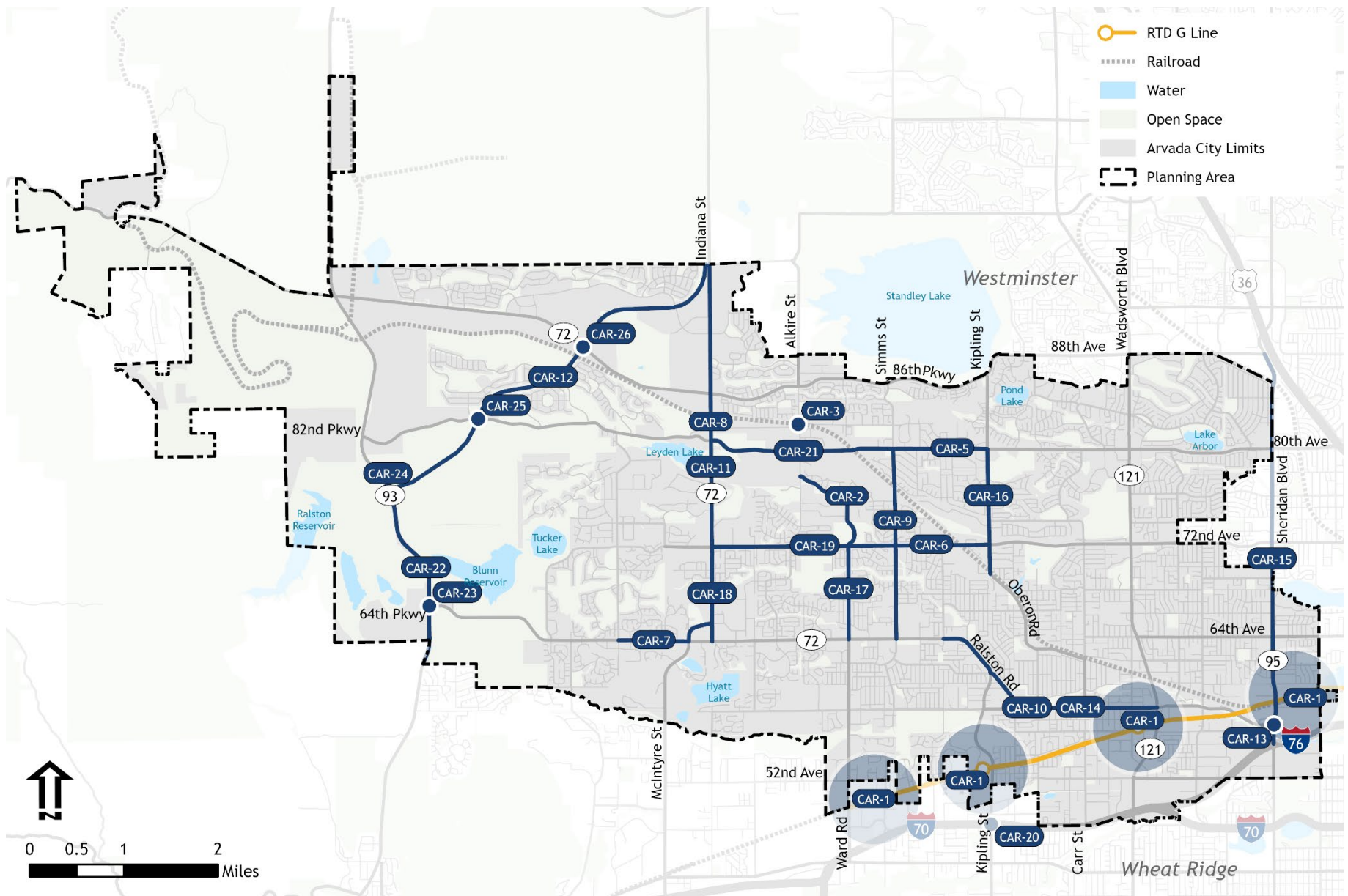
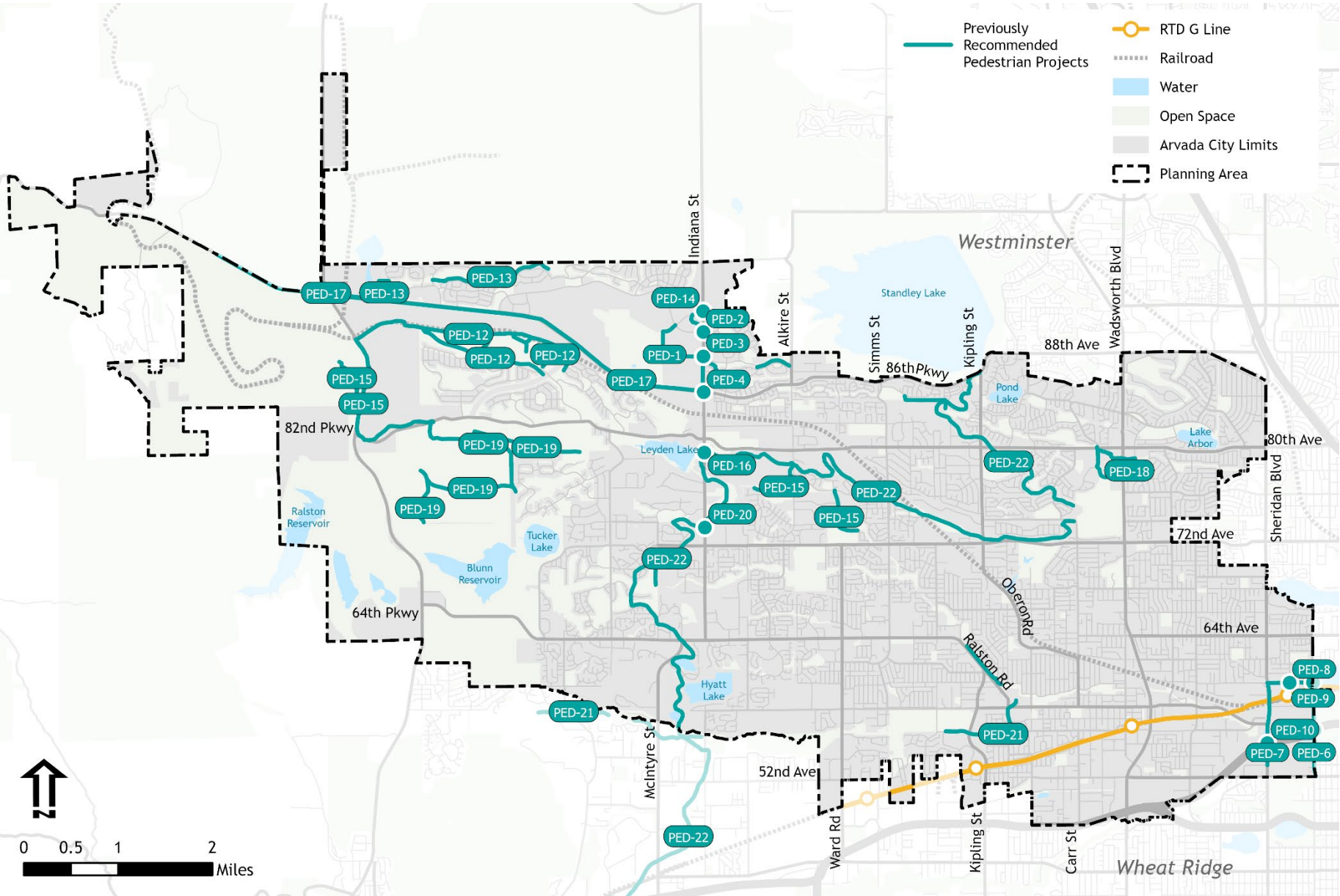


Figure 4. Previously Recommended Pedestrian Projects



Map of Arvada, Colorado, showing transit projects. The map includes a legend with symbols for 'Previously Recommended Transit Projects' (thick purple line), 'RTD G Line' (yellow line with a circle), 'Railroad' (dotted line), 'Water' (blue area), 'Open Space' (light green area), 'Arvada City Limits' (grey area), and 'Planning Area' (dashed black line). The map shows various streets, including Indiana St, Alkire St, Simms St, 86th Pkwy, Kipling St, 88th Ave, Wadsworth Blvd, 80th Ave, Sheridan Blvd, 72nd Ave, 64th Ave, 52nd Ave, Ward Rd, Kipling St, Carr St, and 70th Ave. It also shows water bodies like Standley Lake, Pond Lake, Lake Arbor, Leyden Lake, Tucker Lake, Blunn Reservoir, Hyatt Lake, and Ralston Reservoir. Transit projects are labeled TST-1 through TST-16. A scale bar at the bottom left indicates 0 to 2 miles, and a north arrow is also present.

FUTURE STUDY RECOMMENDATIONS

The Comprehensive Plan recommended several transportation studies to establish specific needs and desired improvements:

- **Wadsworth Boulevard Corridor Study.** A comprehensive multimodal corridor study, in coordination with CDOT, to determine how to accommodate future demand through capacity improvements, transit enhancements, or active transportation facilities.
- **Sheridan Boulevard Corridor Study.** A comprehensive multimodal corridor study, in coordination with CDOT, to determine how to accommodate future demand through capacity improvements, transit enhancements, or active transportation facilities.
- **64th Avenue/Indiana Street/McIntyre Street Traffic Study.** A traffic operations study to identify appropriate lane configurations and intersection improvements to better facilitate north-south travel through the area and local access.
- **Ward Road Corridor Study.** Identify appropriate traffic operational improvements between 52nd and 58th Avenues.
- **Kipling Street Corridor Study.** Identify appropriate traffic operational improvements between I-70 and 58th Avenue.
- **Independence Street Corridor Study.** Identify appropriate traffic operational improvements between Ridge and Ralston Roads.
- **SH 93 Corridor Study.** Identify appropriate traffic operational improvements between the future Jefferson Parkway and 82nd Parkway.

STANDARDS, POLICIES, AND PROCEDURES



4. STANDARDS, POLICIES, AND PROCEDURES

In addition to previous planning efforts, the City's current standards, policies, and procedures that may have an impact on the TSP have been reviewed and compared to best practices to determine if changes to the provided guidance may be warranted.

ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS

The City of Arvada Engineering Code of Standards and Specifications was last updated in October of 2023. Section 700 – Roadway and Parking Lot Design, Traffic Control Devices, and Street Lighting – has been reviewed for information pertinent to the TSP.

Section 721 provides guidance on select street design criteria by roadway classification. Five street classifications are established, which are based on the average daily traffic (ADT) of a roadway:

- Arterial Parkway
- Major Collector
- Collector
- Minor Collector
- Local

Table 3 shows select specifications required for each classification that relates to the TSP. While these specifications should apply to most roadways, the code states that:

“The Project Engineer may require or allow modifications to the typical street sections on a case-by-case basis due to factors such as surrounding land use, access, or right-of-way constraints.”

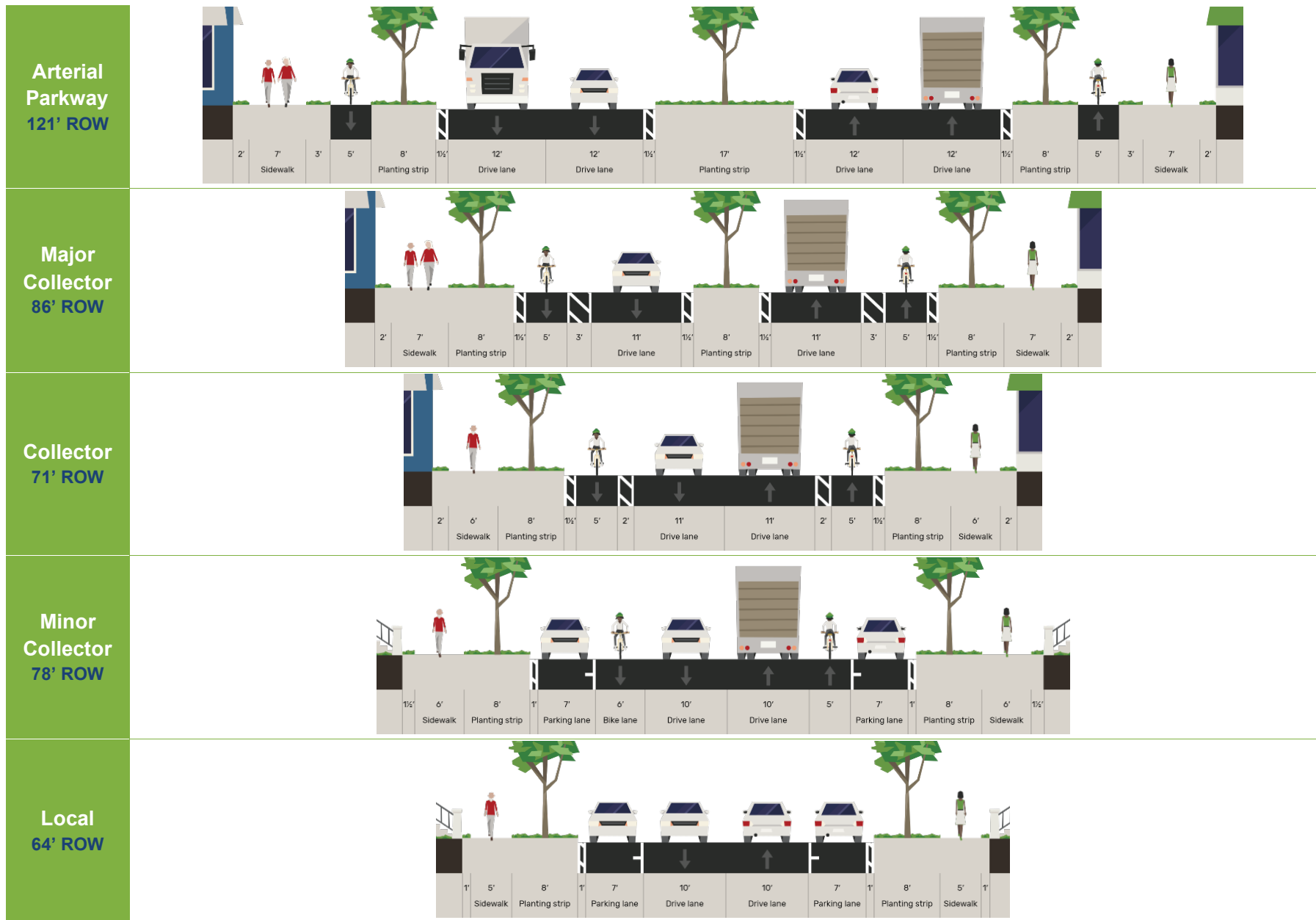
Table 3. Roadway Design Specifications

Design Element	Arterial Parkway	Major Collector	Collector	Minor Collector	Local
ADT	>15k	<15k	<8k	<3k	<1k
Right-of-Way Width	121'	86'	71'	78'	64'
Roadway Width	72'	53'	40'	46'	34'
Total Through Lanes	4	2	2	2	2
Travel Lanes Width	12'	11'	11'	10'	-
Bike Lanes Width	5'	5'	5'	6'	-
Raised Median	17'	8'	-	-	-
Plant Strip/ Amenity Zone	8'	8'	8'	8'	8'
Sidewalk Width	7'	7'	6'	6'	5'
Typical Posted Speed Limit (mph)	40-45	40	30-40	30-35	25
Minimum Intersection Spacing	600'	400'	400'	400'	150'

Graphic versions of the typical street cross-sections for each street classification are provided in **Figure 6** on the following page.

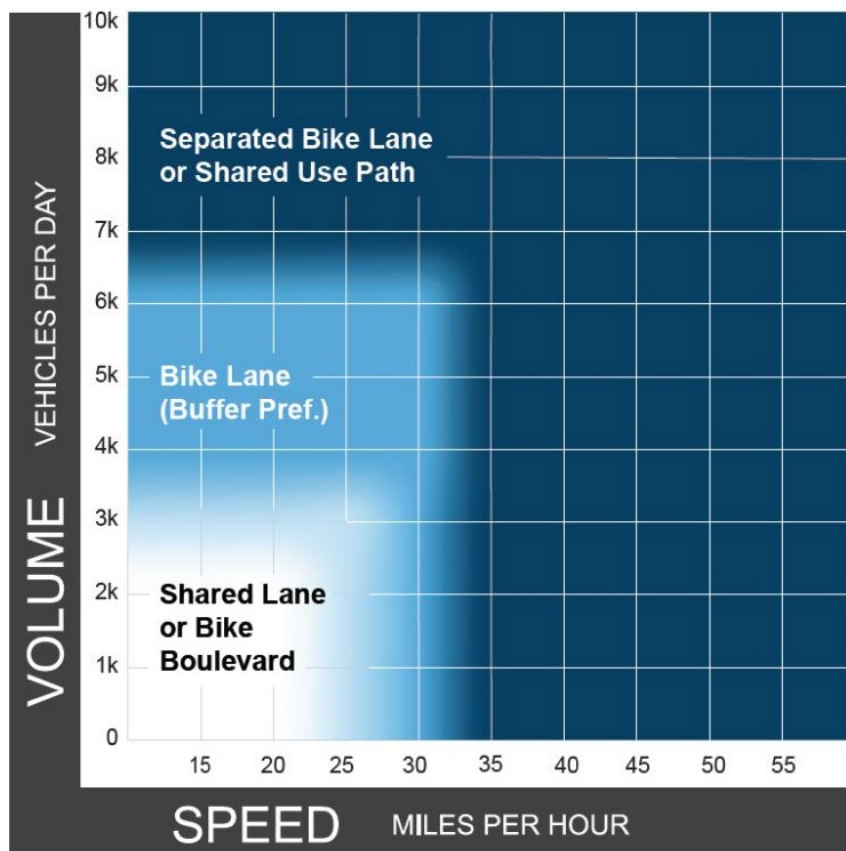


Figure 6. Typical Street Cross-Sections



The roadway design standards are generally in-line with national best practices. The 15,000 vehicle-per-day ADT threshold between two-lane collectors and multi-lane arterials is appropriate and all street types provide for sidewalks on both sides with landscaped buffers to increase pedestrian safety and comfort. Additionally, the recommended bikeway designs are in-line with Federal Highway Administration (FHWA) guidelines for bikeway designs as shown in **Figure 7**. The recommended minimum intersection spacing is also appropriate for the vehicle volume and speeds.

Figure 7. FHWA Preferred Bikeway Type Selection Guidance



Source: FHWA Bikeway Selection Guide

TRAFFIC IMPACT ANALYSIS REQUIREMENTS

A Traffic Impact Analysis (TIA) is intended to determine what improvements to the City's transportation system a developer may need to provide to offset impacts of a development. Requirements for TIAs are defined in the City's Minimum Design Standards. These standards state that a TIA is required if the proposed development would generate more than 100 trips during any one peak hour or more than 250 total trips per day. At the discretion of the City, a TIA may also be required if any of the following conditions are met:

- Any project that proposes access to a street with a Level of Service (LOS) D or worse
- Any application for rezoning
- Any case where a previous TIA for the property is more than two years old
- Any case where increased land use intensity will result in increased traffic generation
- As required by the City Engineer or designee to address traffic issues that may be affected by the proposed project

Before developing a TIA, developers must submit a 'Base Assumption Form', which the City must approve that includes the assumptions that will be used in the development of the TIA report. The City also provides a 'Traffic Report Checklist' that provides specific directions on what is required to be included in the TIA report or as appendices/attachments. This checklist can be found on at <https://www.arvadaco.gov/374/Step-1-Your-Pre-Application>.

The requirements laid out by the City for TIA content and analyses are typical of other cities in the region and adequately incorporate both traffic and multimodal impact mitigation. The City also has appropriate discretion as to when a TIA should be required and what mitigation strategies developers must provide.





ARVADA

Transportation System Plan



FINAL Travel Demand Model Refinement Memo

SEPTEMBER 27, 2024



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INTRODUCTION



1. INTRODUCTION

Arvada is a city of over 120,000 residents located approximately six miles northwest of downtown Denver. The City of Arvada was incorporated in 1904 and has grown to include over 40 square miles within its city limits. Arvada includes a wide variety of development types, from dense historic neighborhoods, to master planned suburban communities, to open grasslands in the foothills of the Rocky Mountains.

While the City of Arvada and other entities have conducted transportation studies that focus on specific areas within Arvada or a single mode of travel, there has not yet been a comprehensive transportation plan prepared for Arvada. This Transportation System Plan (TSP) will serve as the City's guiding long-range, multimodal transportation vision document which will guide investment into the transportation system. The TSP incorporates the entirety of Arvada's Municipal Planning Area (MPA) as shown in **Figure 1** Error! Reference source not found., which includes just over 50 square miles.

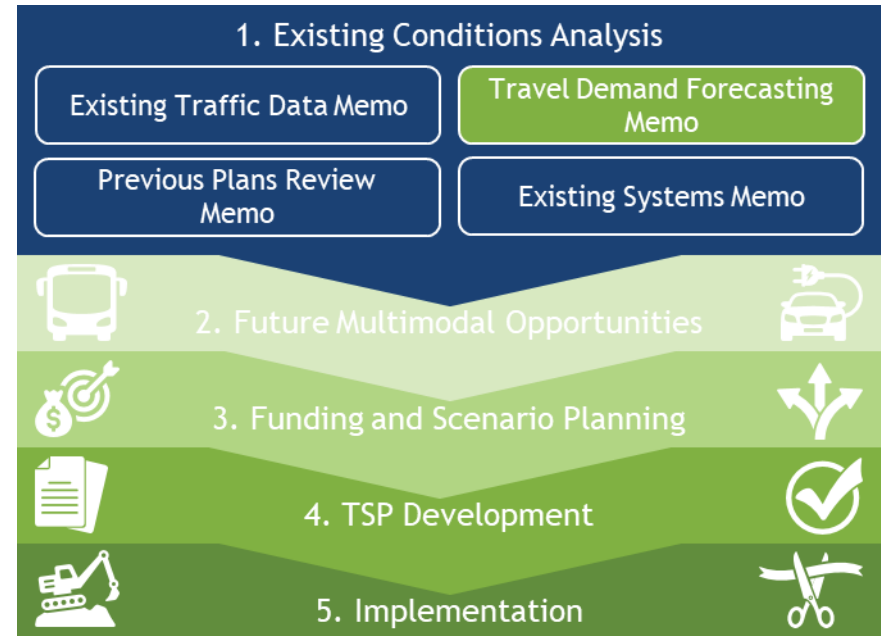
MEMORANDUM PURPOSE

This Travel Demand Model Refinement Memo is comprised of:

- A review of input datasets to the regional travel demand model (TDM) for errors. These input datasets include the base year model network, the traffic analysis zone (TAZ) boundary file, and the socioeconomic data associated with the TAZs.
- Recommendations for changes to these TDM input files based on the review.
- Updated TDM results and calibration statistics for the model base year after updating the input files.
- A description of the post processing steps required for TDM outputs for use in other traffic modeling efforts in the TSP.

MEMORANDUM CONTEXT

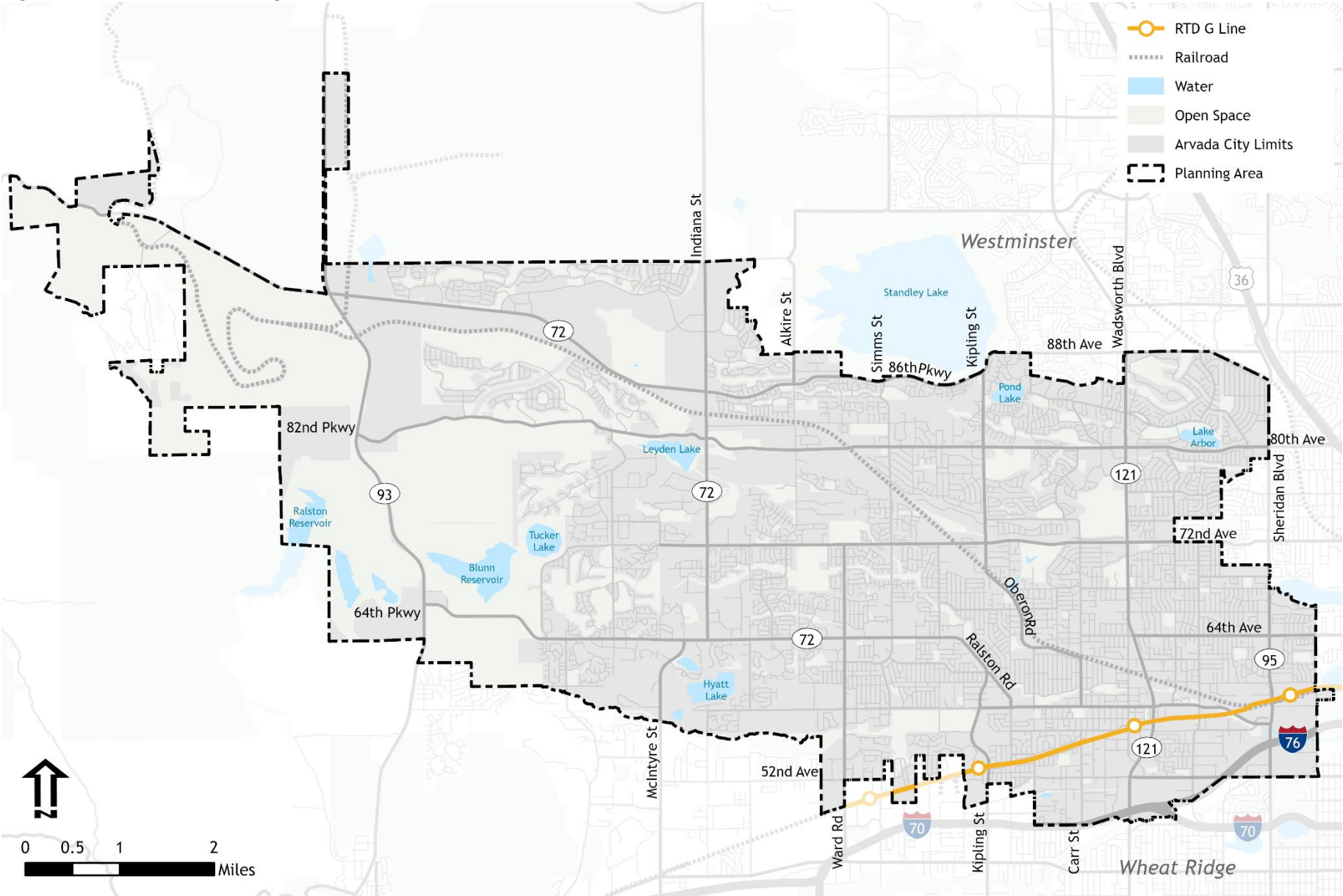
The Travel Demand Model Refinement Memo is one of four memos that make up the Existing Conditions phase of the TSP process which establishes existing transportation deficiencies and informs future phases of the TSP.



Future phases of the TSP include:

1. **Future Multimodal Opportunities** identifies future transportation deficiencies and develops multimodal projects to address them.
2. **Funding and Scenario Planning** prioritizes multimodal projects to determine which ones best meet the TSP goals and identifies sources to fund those projects.
3. **TSP Development** documents the recommended projects, funding sources, and phasing.
4. **Implementation** advances recommended projects through the design, construction, and post-implementation monitoring.

Figure 1. Arvada TSP Planning Area



EXISTING DRCOG MODEL INPUTS



2. EXISTING MODEL INPUTS

The Denver Regional Council of Governments (DRCOG) developed the region's TDM, known as Focus, which helps forecast changes in traffic volumes, transit ridership, and bicycle and pedestrian trips. The Focus model is an "activity-based model", meaning that it simulates each individual's daily trip patterns to understand trip beginnings and ends, which mode people will use, and the number of trips taken on each roadway and transit route.

While the Focus model is well calibrated and validated at the regional level, for use in the Arvada TSP, select model input files were reviewed to ensure that they are accurate and well-calibrated at the TSP planning area level. The following three input files were reviewed for accuracy and appropriateness:

- **Model network.** This input network file includes roadway characteristics for all modeled roadways.
- **Transportation analysis zones (TAZs).** This file is the boundaries for which socioeconomic data is quantified for use in the model.
- **Socioeconomic data.** This file incorporates critical socioeconomic data points required to simulate travel by TAZ.

NETWORK FILES REVIEW

Network Coverage and Characteristics

Figure 2 shows the roadways included in the Focus model network within the Arvada TSP planning area. The network covers all federally functionally classified roadways in the planning area, as well as some key local roadway connections. Based on the network coverage, it does not appear that any additional network links are necessary for the Arvada TSP modeling effort.

The Focus model takes a unique approach to some network attributes. Rather than maintain speed limits as an attribute on the network, the model uses the roadway's facility type and area type to assume a model freeflow speed. As traffic volumes are added to the roadway network at different time periods of the day, the freeflow speed is reduced to an average operating speed, depending on the level of congestion.

There are nine facility types in the TDM: **1.** Freeway (Interstate), **2.** Expressway, **3.** Principal Arterial, **4.** Minor Arterial, **5.** Collector/Local, **6.** Ramp (Freeway Entrance/Exit), **7.** Ramp (Freeway to Freeway), **8.** Centroid Connector, and **9.** Managed Lane. There are six area types in the Focus model: **1.** Central Business District (CBD), **2.** CBD Fringe/Outlying CBD (Fringe), **3.** Urban, **4.** Suburban, **5.** Rural – Non-Mountainous, **6.** Rural – Mountainous. Both facility type and area type for the TSP planning area are shown in **Figure 3**. Based on these two items, freeflow speeds are assigned per **Table 1**.

Table 1. Focus Model Freeflow Speeds by Facility and Area Type

FACILITY TYPE	AREA TYPE					
	1	2	3	4	5	6
1	N/A	70	70	70	75	65
2	45	45	51	51	63	55
3	26	26	36	42	58	49
4	26	26	31	35	52	39
5	20	20	22	25	42	36
6	35	35	35	35	35	35
7	45	45	51	51	54	N/A
8	11	13	16	20	28	23
9	62	70	70	70	75	65

A comprehensive review of model network characteristics, including roadway directionality, facility type, laneage, bicycle facility type, and sidewalk coverage, was conducted to ensure the accuracy of the model network within the TSP planning area. Almost 250 minor errors were identified and recommended network changes are provided in Section 3 of this memo.

Figure 2. DRCOG Focus Model Network

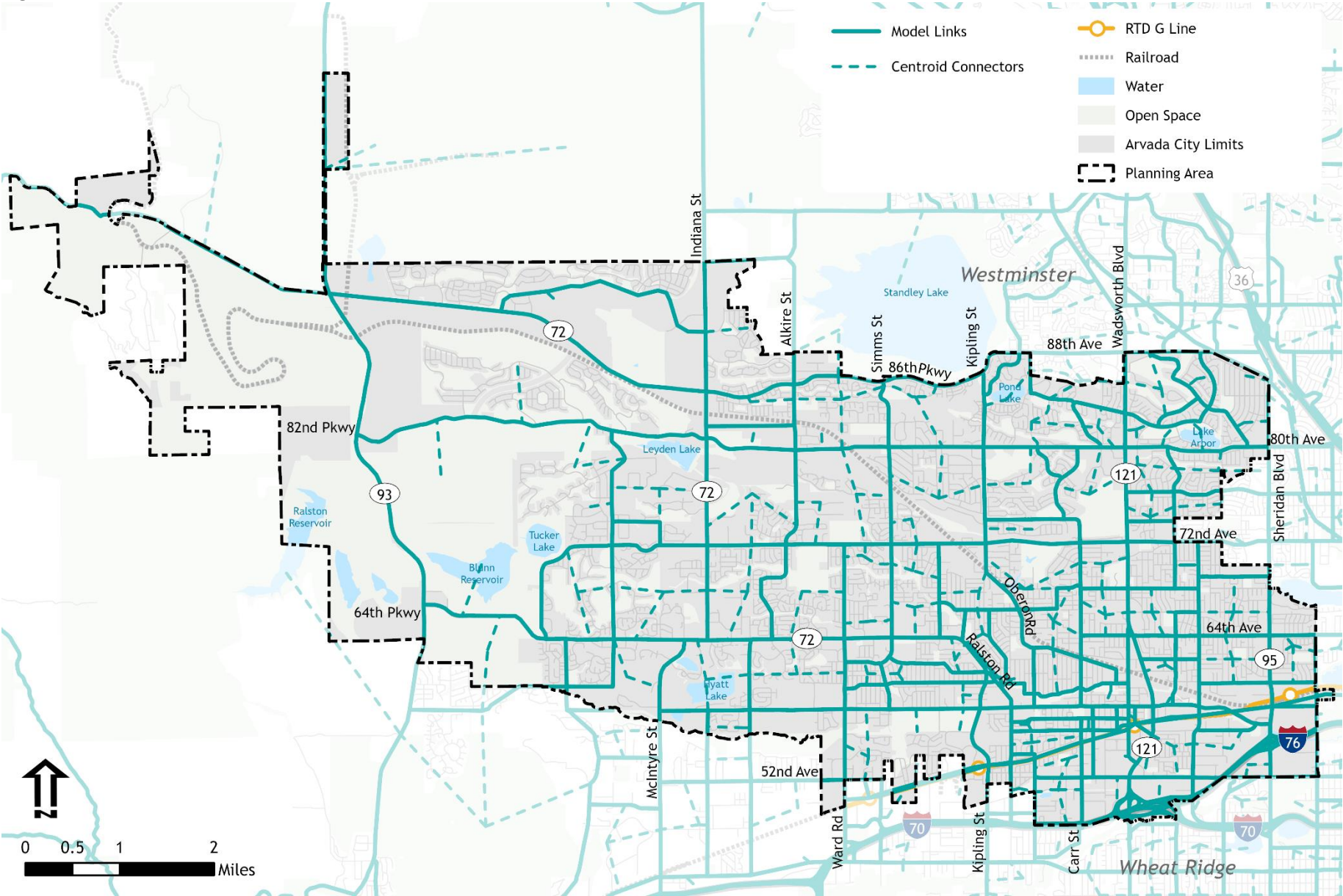
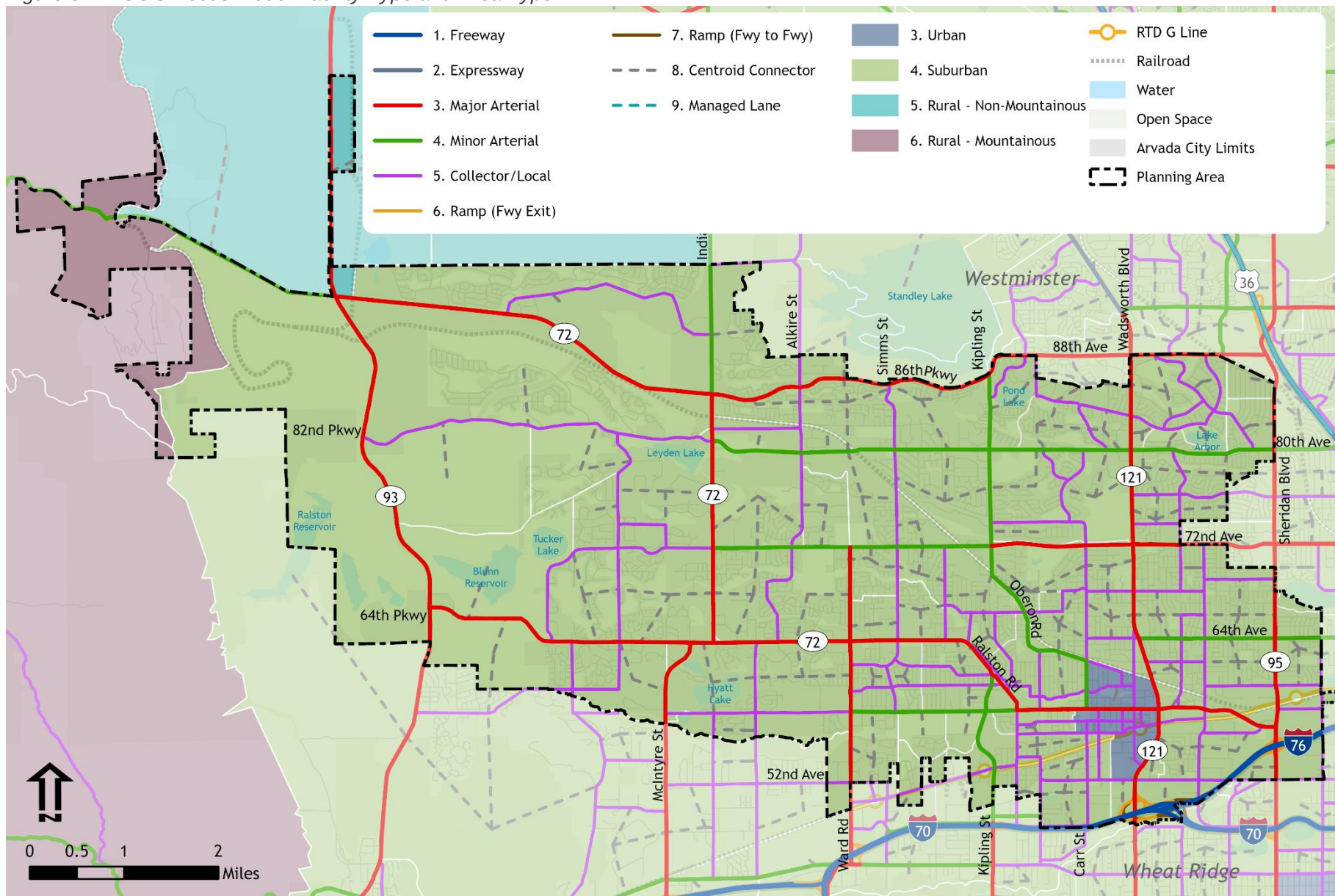


Figure 3. DRCOG Focus Model Facility Type and Area Type



Base Year Calibration

The Focus model calibration was reviewed for areas that are within the TSP study area to determine if additional calibration efforts may be needed. The 2020 model year provides an analysis prior to any impacts from the COVID-19 pandemic and aligns with decennial Census data. The Federal Highway Administration (FHWA) sets targets for some of these statistics:

- Overall Calibration.** The percent root mean square error (%RMSE) which measures the average difference between modeled volumes and average values (regardless of positive or negative errors), and the r-squared (R^2) value, shows the “goodness of fit” for modeled and observed volumes, are presented for all count locations in the study area in **Table 2**. The study area links in the existing Focus model falls just outside the FHWA targets for both metrics.
- By Facility Type.** Daily modeled volumes are grouped together by Focus Model facility type to evaluate if all facility types are attracting appropriate levels of traffic. The results of this analysis are shown in **Table 3**. Most facility types do not meet the FHWA target calibration values.
- By Volume Group.** Daily modeled volumes are grouped together by daily traffic volumes to see if high-volume and low-volume roadways are attracting appropriate levels of traffic. The results of this analysis are shown in **Table 4**. Most volume groups meet the FHWA target calibration values.
- By Screenline.** Screenlines are continuous lines drawn through the study area to measure if overall directional traffic volumes are similar to observed counts. Four screenlines were drawn for the TSP, which are shown in **Figure 4**. The results of this analysis are shown in **Table 5**. Two screenlines meet the FHWA target of 15% error.

A map of the error between the modeled volumes and the observed counts is shown in **Figure 4**. The largest errors are located on Ralston Road, Wadsworth Boulevard, and SH 93.

Table 2. Existing Focus Model Overall Calibration

METRIC	RESULT	FHWA TARGET
%RMSE	39.8%	<35%
R^2	0.858	>0.88

Table 3. Existing Focus Model Calibration by Facility Type

FACILITY TYPE	OBS. VOLUME	MODEL VOLUME	# OF COUNTS	+/-%	FHWA TARGET
Freeway	391,848	457,114	6	16.7%	+/-7%
Major Arterial	1,449,854	1,655,479	56	14.2%	+/-10%
Minor Arterial	492,303	424,330	35	-13.8%	+/-15%
Collector	485,913	324,164	95	-33.3%	+/-25%
Total	2,819,918	2,861,087	192	1.5%	+/-5%

Table 4. Existing Focus Model Calibration by Volume Group

VOLUME GROUP	OBS. VOLUME	MODEL VOLUME	# OF COUNTS	+/-%	FHWA TARGET
<1,000	868	914	1	5.3%	+/-200%
1,000 – 2,500	37,905	36,130	21	-4.7%	+/-100%
2,500 – 5,000	130,200	89,269	34	-31.4%	+/-50%
5,000 – 10,000	321,059	243,403	44	-24.2%	+/-25%
10,000 – 25,000	1,044,011	1,017,066	63	-2.6%	+/-20%
25,000 – 50,000	682,301	793,634	20	16.3%	+/-15%
>50,000	603,574	680,671	9	12.8%	+/-10%
Total	2,819,918	2,861,087	192	1.5%	+/-5%

Table 5. Existing Focus Model Screenline Analysis

SCREENLINE	OBS. VOLUME	MODEL VOLUME	# OF COUNTS	+/-%	FHWA TARGET
1.Wadsworth Blvd	88,018	107,824	8	22.5%	+/-15%
2.Indiana St	44,050	45,164	3	2.5%	+/-15%
3.Ralston Rd/64 th Ave	86,606	68,130	5	-21.3%	+/-15%
4.80 th Ave	68,560	75,232	6	9.7%	+/-15%

This map illustrates the proposed RTD G Line route through the Arvada City Limits, overlaid on a map of existing transportation infrastructure. The map includes the following elements:

- Legend:**
 - Screenline:** A color-coded scale for the RTD G Line route, ranging from blue (> -10,000) to red (> 10,000).
 - Wadsworth Blvd:** A pink line indicating a specific route or boundary.
 - Indiana St:** A yellow line indicating a specific route or boundary.
 - Ralston Rd:** A blue line indicating a specific route or boundary.
 - 80th Ave:** A green line indicating a specific route or boundary.
 - RTD G Line:** A yellow line with a black outline, representing the proposed transit route.
 - Railroad:** A dashed line representing existing railroad tracks.
 - Water:** A light blue area representing water bodies.
 - Open Space:** A light gray area representing open space.
 - Arvada City Limits:** A black outline representing the city's jurisdiction.
 - Planning Area:** A dashed line representing a specific planning area.
- Map Features:**
 - Highways:** Major roads including I-70, I-25, I-76, and various state and county routes (e.g., 93, 72, 121, 95, 36).
 - Water Bodies:** Standley Lake, Pond Lake, Lake Arbor, Ralston Reservoir, Blunn Reservoir, Tucker Lake, and Hyatt Lake.
 - Streets:** Numerous local streets are shown, including Wadsworth Blvd, 80th Ave, 72nd Ave, 64th Ave, 52nd Ave, 88th Ave, 86th Pkwy, 82nd Pkwy, 64th Pkwy, Alkire St, Simms St, Kipling St, Oberon Rd, Ralston Rd, Ward Rd, Kipling St, Carr St, and Sheridan Blvd.
 - City Limits:** The map shows the boundaries of Arvada, Westminister, and Wheat Ridge.
- Scale and Orientation:**
 - A scale bar at the bottom left indicates distances in miles (0, 0.5, 1, 2).
 - An arrow at the bottom left points North.

TAZ FILES REVIEW

TAZ Boundaries

A map of the existing DRCOG Focus model TAZ boundaries is shown in **Figure 5**. A total of 101 TAZs fall completely or partially within the Arvada TSP planning area. The TAZ density is generally highest around Olde Town, moderately dense in eastern Arvada, and generally gets less dense in western Arvada where there is a lot more open space.

After reviewing the TAZ boundaries with City staff, it was determined that the current TAZs provide adequate definition for TSP modeling needs. No changes have been recommended.

Socioeconomic Data Review

Population and employment totals by TAZ for the 2020 Focus model were reviewed with City staff to ensure they are adequate for regional modeling purposes.

Population by TAZ for 2020 is shown in **Figure 6**. These totals were reviewed against two sources to identify any unexpected major discrepancies:

- 2010 population by TAZ that was used to develop the 2014 Arvada Comprehensive Plan
- 2020 decennial Census data

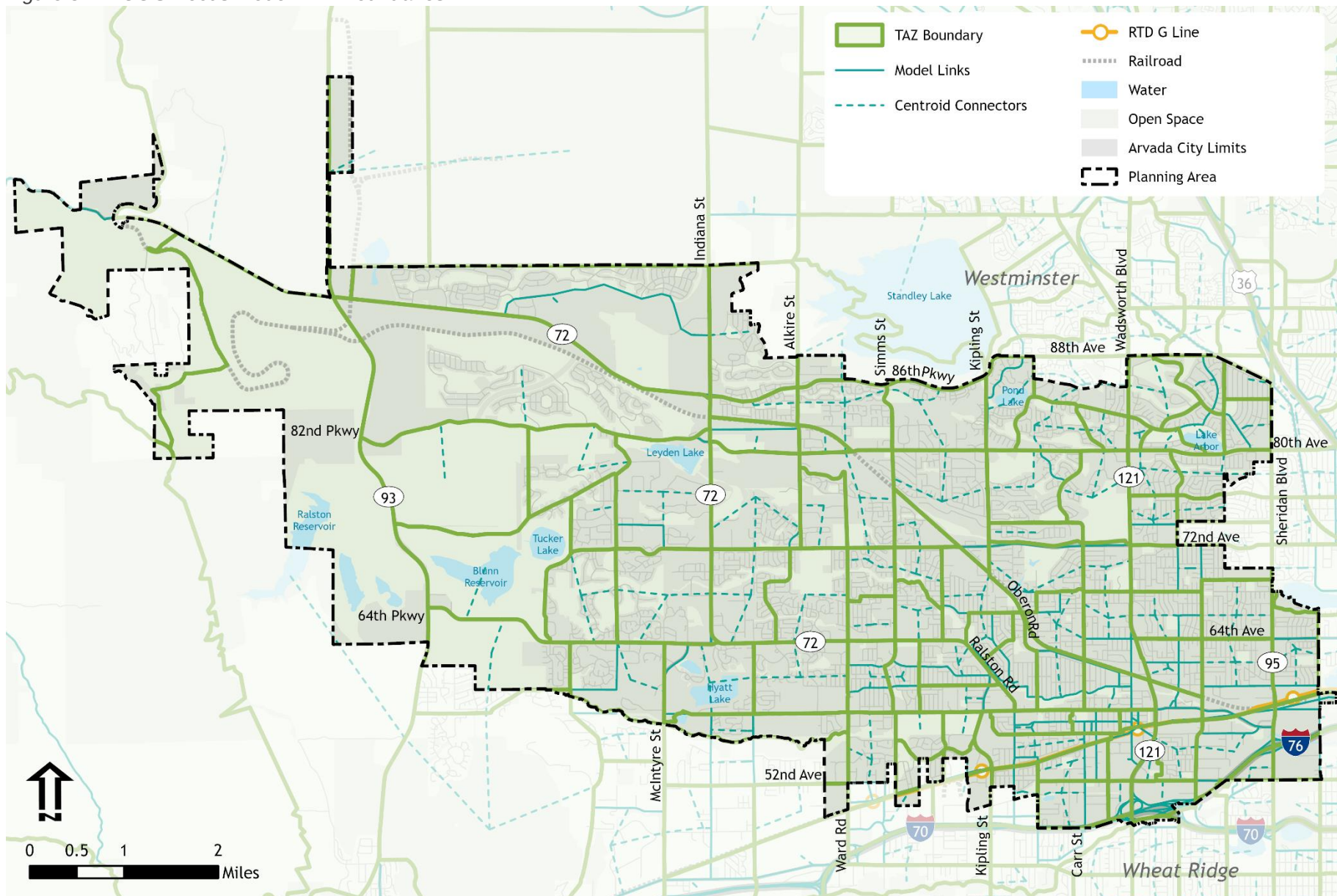
After this review, it was determined that the population totals by TAZ appear logical and consistent with the data sources they were reviewed against.

Employment by TAZ for 2020 is shown in **Figure 7**. These totals were reviewed against the 2010 employment by TAZ that was used to develop the 2014 Arvada Comprehensive Plan.

Most TAZ's total employment appeared logical; however, the TAZ that encompasses Candelas shows a low total employment number at 88. There is substantial commercial development near the

intersection of Indiana Street and Candelas Parkway that does not appear to be reflected. Additionally, several TAZs located along Indiana Street between 72nd Avenue and the northern TSP boundary seem to have relatively high employment despite being predominantly residential in nature.

Figure 5. DRCOG Focus Model TAZ Boundaries



Legend:

- Less than 500
- 500 - 1,000
- 1,000 - 2,000
- 2,000 - 3,000
- Greater than 3,000
- RTD G Line
- Railroad
- Water
- Open Space
- Arvada City Limits
- Planning Area

Map Labels:

- Westminster
- Wadsworth Blvd
- 88th Ave
- 80th Ave
- 72nd Ave
- 64th Ave
- 52nd Ave
- Wheat Ridge
- McIntyre St
- Ward Rd
- Kipling St
- Carr St
- 86th Pkwy
- Simms St
- Alkire St
- Indiana St
- 82nd Pkwy
- 64th Pkwy
- 93
- 72
- 95
- 76
- 70
- 36
- 17
- 121
- 976
- 951
- 1,559
- 3,501
- 1,921
- 3,427
- 2,619
- 2,700
- 2,099
- 1,459
- 1,306
- 1,731
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- 2

Map of Arvada, Colorado, showing population density by census tract. The map includes a legend for population ranges (Less than 100 to Greater than 1,000), transportation features (RTD G Line, Railroads, Water, Open Space, Arvada City Limits, Planning Area), and a scale bar (0 to 2 miles). The map shows various streets, including Indiana St, Alkire St, Simms St, 86th Pkwy, Kipling St, Wadsworth Blvd, 88th Ave, 80th Ave, Sheridan Blvd, 72nd Ave, 64th Ave, 64th Pkwy, 82nd Pkwy, and Ward Rd. Major highways 70, 76, and 95 are also shown. The map is divided into census tracts, each labeled with a number. The population density is color-coded according to the legend.

BASE MOADEL INPUT ADJUSTMENTS



3. BASE MODEL INPUT ADJUSTMENTS

NETWORK FILE UPDATES

A detailed review of each TDM network link that falls within the planning area was conducted to validate the following attributes:

- Directionality (one-way vs. two-way)
- Facility type (similar to functional classification)
- Number of lanes
- Bicycle facility type (none, paved shoulder, shared lane, bike lane, shared-use path)
- Sidewalk (none, one side of street, both sides of street)

A total of 247 edits to the reviewed fields are proposed on 200 separate links to better reflect the existing roadway characteristics. These changes include 109 updates to the roadway facility type, 40 changes to roadway laneage, 64 changes to bike facility types, 26 changes to sidewalk coverage, and eight links that should be removed entirely either because the connections do not exist, or the roadways have been converted to pedestrian only streets. A detailed listing of the proposed changes are provided in **Appendix A. Figure 8** shows where in the network changes are proposed.

Centroid connectors are the model links that load produced or attracted traffic on the network based on the TAZ's socioeconomic makeup. They are meant to generally reflect how drivers would access the model network roadways from within TAZs. To improve the overall calibration of the model in the TSP area, several centroid connectors were adjusted to better reflect local roadway access to the model network. Centroid connectors in 24 TAZs were modified or supplemented, which are highlighted in **Figure 8**.

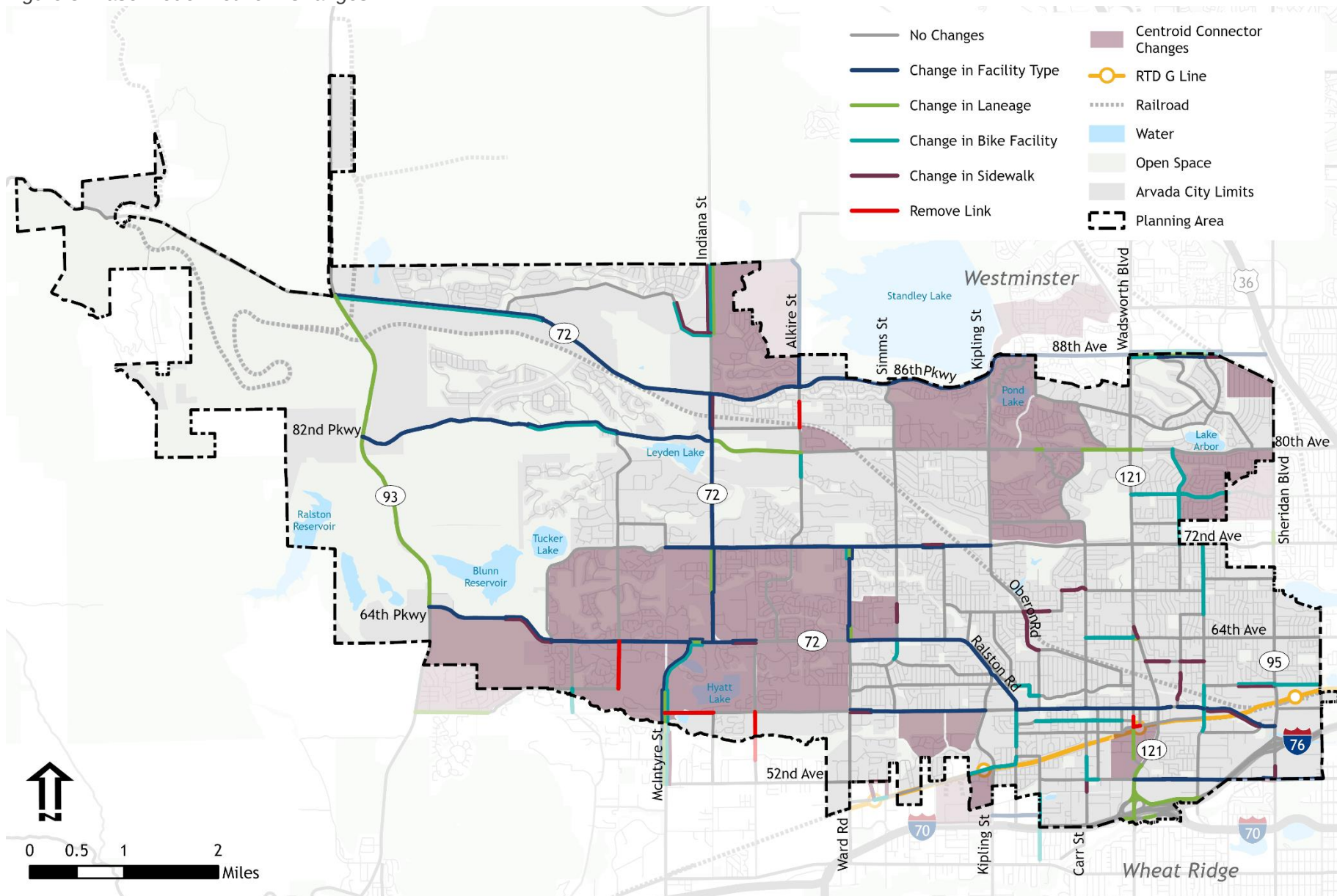
TAZ FILE UPDATES

Based on the review of the TAZs with City staff, no changes to the TAZ boundaries are proposed. The population totals for each TAZ have also been determined to be acceptable. Minor changes to employment totals are proposed in western Arvada near Candelas. City staff indicated that employment is low in Candelas and high in other TAZs along Indiana Street in northwest Arvada. To better balance the employment totals, the minor changes to employment shown in **Table 6** are proposed. As DRCOG ties their population and employment numbers to regional control totals, anything added to the Candelas TAZ was removed from surrounding TAZs to keep the same total employment number for the TSP area.

Table 6. Proposed 2020 Employment Adjustments

TAZ	Location	Current Emp.	Proposed Change	Proposed Emp.
448	Candelas	88	+211	299
487	Leyden Rock	335	-106	229
498	West side of Indiana St (72 nd Ave to 82 nd Ave)	392	-105	287
Total		815	0	815

Figure 8. Base Model Network Changes



REFINED 2020 RESULTS



4. REFINED 2020 RESULTS

CALIBRATION

The refined Focus model was reviewed against FHWA targets:

- **Overall Calibration.** Table 7 shows overall model calibration by %RMSE and R^2 . The study area links in the refined Focus Model are now well within the targets set by FHWA.
- **By Facility Type.** Table 8 shows the refined Focus Model calibration by facility type. All facility types meet the FHWA target except for Freeway, though that facility type has a very small sample size of counts to validate against.
- **By Volume Group.** Table 9 shows the refined Focus Model calibration by volume group, which now meet FHWA targets.
- **By Screenline.** Table 10 shows the refined Focus Model calibration by screenline; all meet FHWA target values

A map of the error between the refined Focus Model modeled volumes and the observed counts is shown in **Figure 9** to show geographically where errors are present. **Figure 10** shows how volumes changed between the existing and refined Focus Model.

CURRENT CONGESTION

Daily congestion is represented by a volume to capacity (V/C) ratio which compares a roadway's traffic volume against its capacity. The refined Focus Model V/C ratios are shown in **Figure 11** and represent a high-level analysis. Further refinement would be needed to better understand congestion. The V/C ratio simply reflects segment capacity and does not take intersection delay into account:

- **Less than 0.7.** Near zero daily congestion
- **0.7 to 0.8.** Minimal daily congestion
- **0.8 to 0.9.** Moderate daily congestion
- **0.9 to 1.0.** Severe daily congestion
- **Greater than 1.0.** Over capacity, stop-and-go traffic

Table 7. Refined Focus Model Overall Calibration

METRIC	RESULT	FHWA TARGET
%RMSE	29%	<35%
R^2	0.91	>0.88

Table 8. Refined Focus Model Calibration by Facility Type

FACILITY TYPE	OBS. VOLUME	MODEL VOLUME	# OF COUNTS	+/-%	FHWA TARGET
Freeway	240,216	260,052	4	8.3%	+/-7%
Major Arterial	1,037,387	1,051,752	34	1.4%	+/-10%
Minor Arterial	984,484	970,334	63	-1.4%	+/-15%
Collector	524,239	490,725	94	-6.4%	+/-25%
Total	2,786,326	2,772,853	195	-0.5%	+/-5%

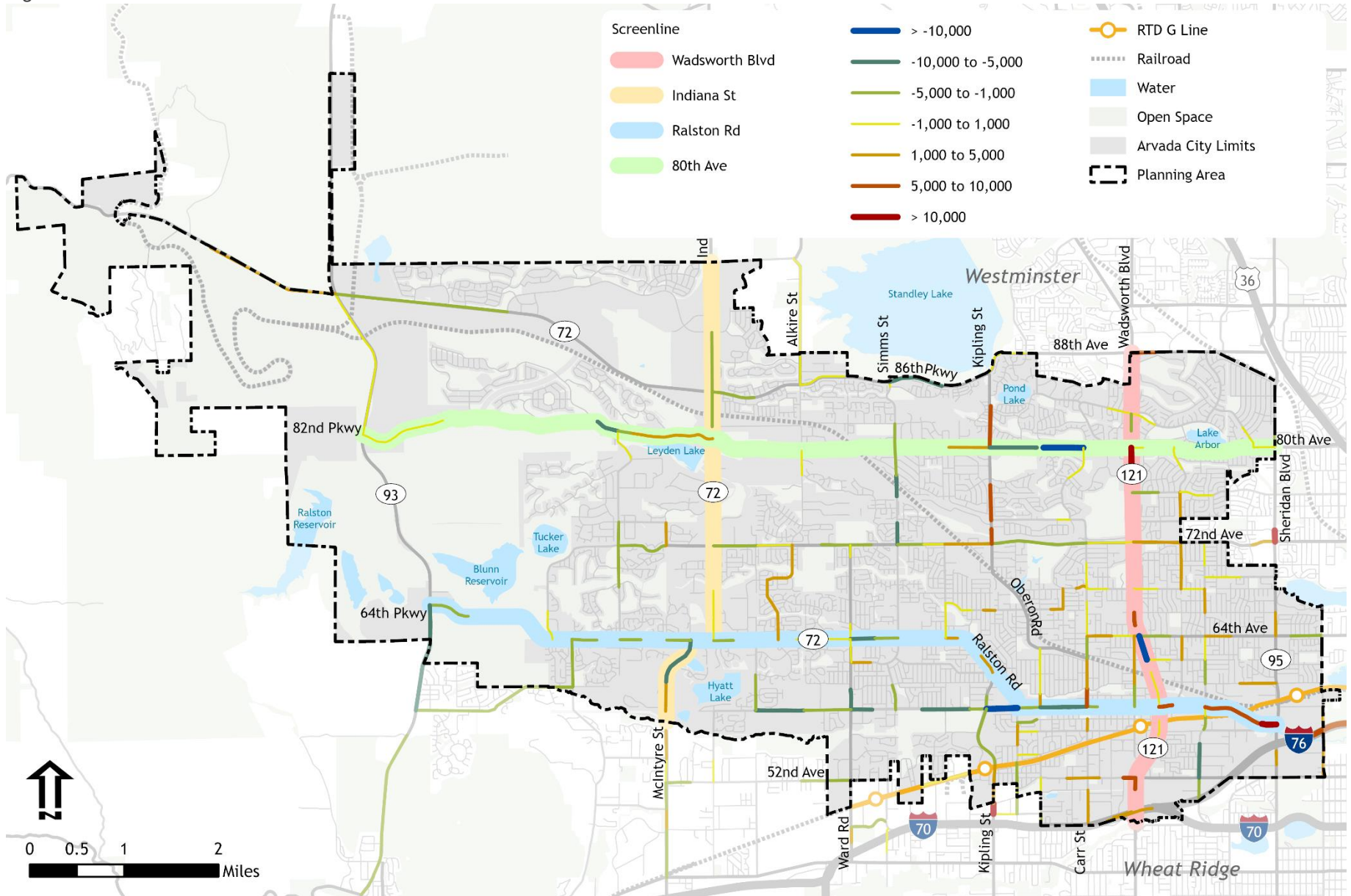
Table 9. Refined Focus Model Calibration by Volume Group

VOLUME GROUP	OBS. VOLUME	MODEL VOLUME	# OF COUNTS	+/-%	FHWA TARGET
<1,000	868	877	1	1.0%	+/-200%
1,000 – 2,500	35,515	64,737	19	82.3%	+/-100%
2,500 – 5,000	131,037	132,315	34	1.0%	+/-50%
5,000 – 10,000	343,580	313,829	47	-8.7%	+/-25%
10,000 – 25,000	1,079,625	1,008,577	65	-6.6%	+/-20%
25,000 – 50,000	743,759	798,208	22	7.3%	+/-15%
>50,000	451,942	454,310	7	0.5%	+/-10%
Total	2,786,326	2,772,853	195	-0.4%	+/-5%

Table 10. Refined Focus Model Screenline Analysis

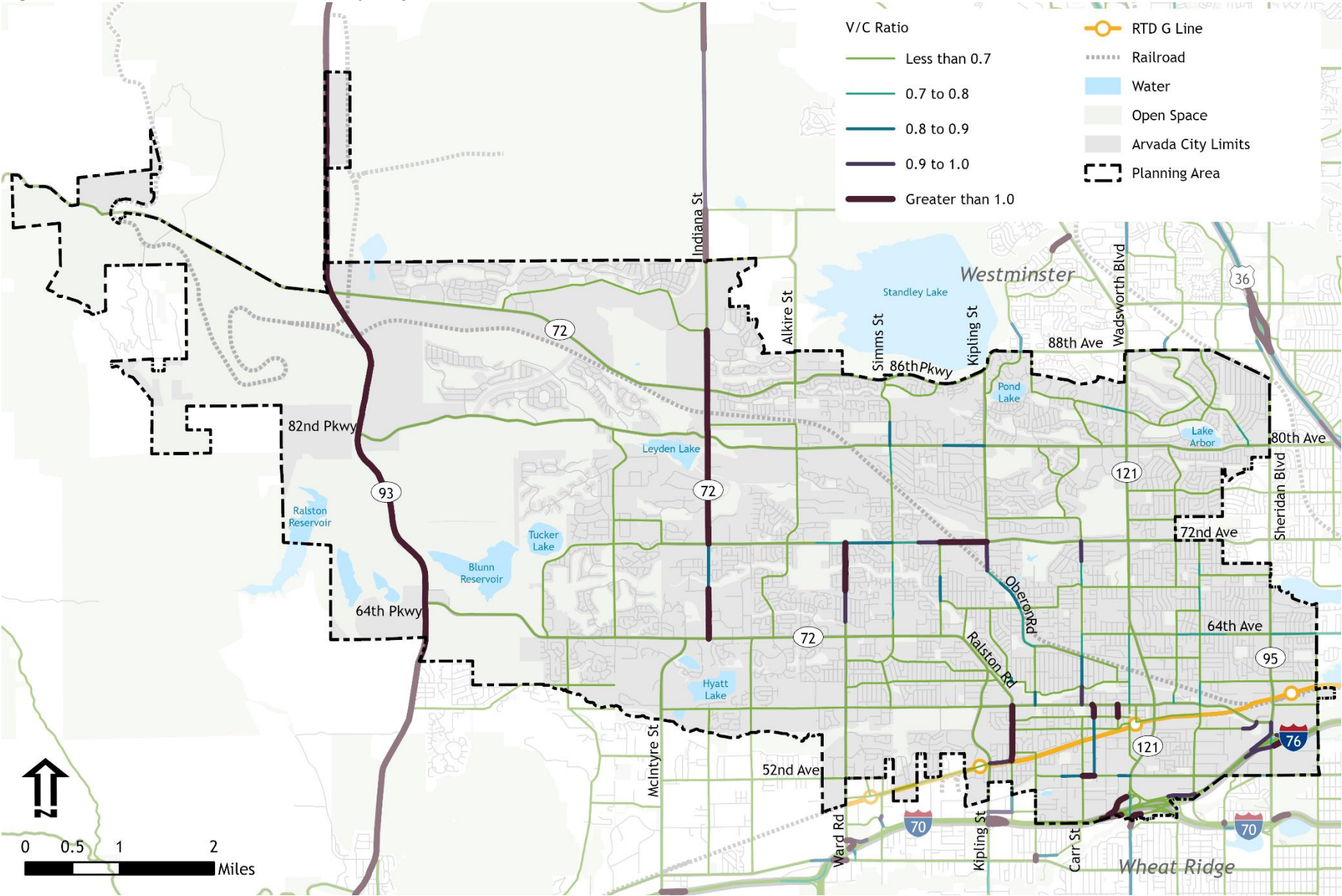
SCREENLINE	OBS. VOLUME	MODEL VOLUME	# OF COUNTS	+/-%	FHWA TARGET
1.Wadsworth Blvd	88,018	97,008	8	10.2%	+/-15%
2.Indiana St	51,536	45,357	4	-12.0%	+/-15%
3.Ralston Rd/64 th Ave	177,847	171,596	10	-3.5%	+/-15%
4.80 th Ave	68,560	76,606	6	11.7%	+/-15%

Figure 9. Refined Focus Model Error and Screenline Locations



[illegible]

Figure 11. 2020 Modeled Volume to Capacity Ratio



POST PROCESSING AND NEXT STEPS



5. POST PROCESSING AND NEXT STEPS

MODEL POST PROCESSING PROCEDURES

The future transportation model results outline projected traffic volumes along the major corridors within the City of Arvada. We will compare these future volumes to the existing model and existing collected traffic volumes to determine appropriate traffic volume growth rates. This is completed on a corridor-by-corridor basis since traffic volume growth will be more pronounced in areas with higher development potential compared to corridors within more existing dense areas. Once traffic volume growth rates are established for each corridor, these growth rates will be applied to the existing model traffic volumes to estimate future projected traffic volumes on an intersection-by-intersection basis. These future traffic volumes by turning movement will be uploaded into the citywide Synchro traffic model to provide the operation level of service, which will determine future traffic improvement needs.

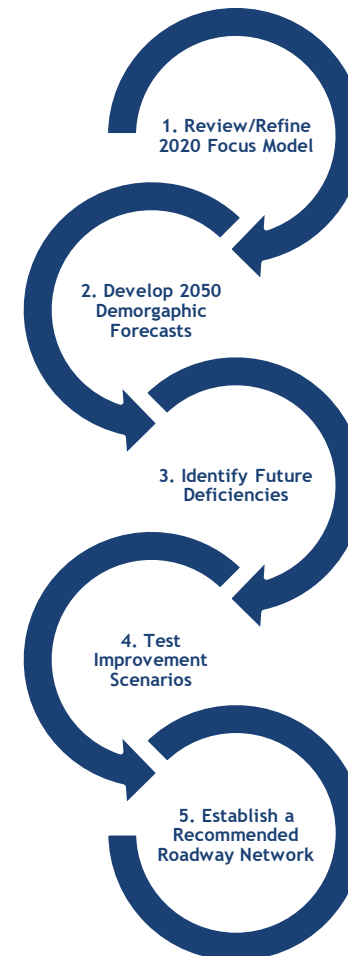
TRAVEL FORECASTING NEXT STEPS

The TDM updates performed during the Existing Conditions phase of the TSP is the first step of a larger modeling process, which is shown in **Figure 12**. Future steps include:

- **Develop 2050 Demographic Forecasts.** The 2050 DRCOG population and employment forecasts will be refined based on the 2014 Comprehensive Plan and local input.
- **Identify Future Deficiencies.** Using the 2050 forecasted traffic changes, anticipated future traffic congestion issues will be identified.

- **Test Improvement Scenarios.** Roadway capacity improvements will be tested using the model to evaluate their impact on congestion, emissions, and vehicle hours traveled.
- **Establish a Recommended Roadway Network.** A 2050 travel model network will be developed using the high-priority projects from the TSP to establish how the roadway network should change by the TSP horizon year.

Figure 12. TSP Travel Forecasting Process



APPENDICES



APPENDICES

APPENDIX A. PROPOSED NETWORK CHANGES DETAILED TABLE

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
8276	McIntyre St	Major Arterial (3) to Minor Arterial (4)	Both directions from 1 to 2	None to Bike Lane	One Side to Both Sides
8279	McIntyre St	Major Arterial (3) to Minor Arterial (4)	Both directions from 1 to 2	None to Bike Lane	None to Both Sides
8335	Tabor St	-	-	-	None to One Side
8352	Ridge Rd	-	-	None to Bike Lane	-
8391	Ridge Rd	-	-	None to Bike Lane	-
8395	Independence St	-	-	None to Bike Lane	-
8397	Independence St	-	-	None to Shared Lane	-
8407	Garrison St	-	-	Paved Shoulder to Bike Lane	-
8429	I-70/76 Off-Ramp	-	WB lanes (AB) from 1 to 3	-	-
8448	Wadsworth Blvd	-	SB lanes (AB) from 3 to 4	-	-
8449	I-70/76 On-Ramp	-	SB lanes (AB) from 1 to 2	-	-
8451	Wadsworth Blvd	-	SB lanes (AB) from 3 to 4	-	-
8453	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
8466	52 nd Ave	-	-	None to Bike Lane	-
8467	Carr St	-	-	-	Both Sides to One Side
8468	Carr St	-	-	Shared Lane to None	-
8498	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
8500	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
8512	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	Both Sides to One Side
8576	Sheridan Blvd	-	-	-	Both Sides to One Side
8577	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	None to Bike Lane	-
9661	64 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
9662	SH 72	-	NB lanes (BA) from 1 to 2	-	-
9669	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
9672	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9673	Indiana St	Major Arterial (3) to Minor Arterial (4)	-	None to Bike Lane	-

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
9674	Indiana St	Major Arterial (3) to Minor Arterial (4)	SB lanes (AB) from 1 to 2	-	-
9675	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
9676	Indiana St	Major Arterial (3) to Minor Arterial (4)	-	Bike Lane to None	-
9677	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9691	Ward Rd	Major Arterial (3) to Minor Arterial (4)	Both directions from 1 to 2	-	-
9693	58 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	One Side to Both Sides
9699	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
9700	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9702	Ward Rd	Major Arterial (3) to Minor Arterial (4)	SB lanes (BA) from 1 to 2	Bike Lane to None	-
9703	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9707	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9709	Simms St	-	-	Shared Lane to None	-
9710	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9711	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9714	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9715	58 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	-
9719	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9720	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9723	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
9724	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	One Side to Both Sides
9735	Independence St	-	-	None to Bike Lane	-
9737	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9738	Independence St	-	-	None to Bike Lane	-
9740	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9741	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9743	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9748	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9750	58 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	-
9755	Oberon Rd	-	-	-	One Side to None
9766	66 th Ave	-	-	-	One Side to None

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
9772	68 th Ave	-	-	-	Both Sides to One Side
9777	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9780	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9781	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9783	Wadsworth Byp	-	-	-	Both Sides to One Side
9785	64 th Ave	-	Both directions from 1 to 2	None to Shared Lane	-
9791	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9799	76 th Ave	-	-	None to Bike Lane	-
9802	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9805	62 nd Ave	-	-	-	Both Sides to None
9809	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9810	80 th Ave	-	EB lanes (BA) from 2 to 3	-	-
9813	80 th Ave	-	EB lanes (BA) from 2 to 3	-	-
9820	64 th Ave	-	-	None to Shared Lane	-
9823	57 th Ave	-	-	None to Bike Lane	-
9829	64 th Ave	-	-	None to Bike Lane	-
9845	76 th Ave	-	-	None to Bike Lane	-
9850	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
9855	Lamar St	-	-	Shared Lane to Bike Lane	-
9856	Lamar St	-	-	Shared Lane to Bike Lane	-
9862	Pierce St	-	-	None to Bike Lane	-
9865	Pierce St	-	-	None to Bike Lane	-
9866	Pierce St	-	-	None to Bike Lane	-
9869	Pierce St	-	-	None to Bike Lane	-
9871	62 nd Ave	-	-	-	Both Sides to None
9872	Lamar St	-	-	Shared Lane to Bike Lane	-
9874	Lamar St	-	-	Bike Lane to Shared Lane	-
9876	Lamar St	-	-	Bike Lane to Shared Lane	-
9877	Lamar St	-	-	Bike Lane to Shared Lane	-
9883	60 th Ave	-	-	None to Shared Lane	Both Sides to One Side

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
9889	Sheridan Blvd	-	Both directions from 2 to 3	-	-
9902	60 th Ave	-	-	None to Shared Lane	-
10267	88 th Ave	Major Arterial (3) to Minor Arterial (4)	WB lanes (BA) from 2 to 3	None to Bike Lane	-
10268	88 th Ave	Major Arterial (3) to Minor Arterial (4)	-	None to Bike Lane	Both Sides to One Side
10301	SH 72	Major Arterial (3) to Minor Arterial (4)	-	Paved Shoulder to None	-
10304	82 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
10305	SH 72	-	NB lanes (BA) from 1 to 2	-	-
10306	82 nd Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
10307	82 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
10308	Indiana St	Major Arterial (3) to Minor Arterial (4)	-	-	None to One Side N of UPRR
10314	Indiana St	-	Both directions from 1 to 2	None to Bike Lane	None to One Side
10319	Alkire St	Collector/Local (5) to Minor Arterial (4)	-	-	-
10321	86 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
10328	86 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
10332	88 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
10333	86 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
10351	88 th Ave	Major Arterial (3) to Minor Arterial (4)	Both directions from 2 to 3	None to Bike Lane	-
10353	88 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
10355	80 th Ave	-	Both directions from 2 to 3	-	-
10373	88 th Ave	Major Arterial (3) to Minor Arterial (4)	EB lanes (AB) from 3 to 2	None to Bike Lane	-
10426	SH 72	Major Arterial (3) to Minor Arterial (4)	-	-	-
12547	I-76 Off-Ramp	-	WB lanes (AB) from 2 to 1	-	-
12666	58 th Ave	-	Both directions from 1 to 2	-	-
18558	Eldridge St			REMOVE LINK	
20552	Alkire St			REMOVE LINK	
20563	88 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
20584	80 th Ave	-	EB lanes (BA) from 2 to 3	-	-
20604	Pierce St	-	-	None to Bike Lane	-
20626	Lamar St	-	-	Bike Lane to Shared Lane	-
20645	68 th Ave	-	-	-	One Side to None

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
20653	Pierce St	-	-	-	Both Sides to None N of 60 th Ave
20662	86 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
20665	Alkire St	Collector/Local (5) to Minor Arterial (4)	-	-	-
20680	72 nd Ave	Minor Arterial (4) to Major Arterial (3)	-	-	-
20684	Indiana St	Major Arterial (3) to Minor Arterial (4)	-	-	-
20686	Indiana St	Major Arterial (3) to Minor Arterial (4)	-	-	-
20692	82 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	None to Bike Lane	-
20696	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
20702	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
20712	Ward Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
20716	Simms St	-	-	-	One Side to Both Sides
20718	Ward Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
20731	McIntyre Pkwy	Major Arterial (3) to Minor Arterial (4)	-	None to Bike Lane	-
20735	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
20744	McIntyre St	Major Arterial (3) to Minor Arterial (4)	Both directions from 1 to 2	None to Bike Lane	-
20818	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
20822	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
20835	Olde Wadsworth			REMOVE LINK	
20837	Grandview Ave			REMOVE LINK	
20839	57 th Ave	-	-	None to Shared Lane	-
20843	57 th Ave	-	-	None to Bike Lane	-
20847	Independence St	-	-	None to Bike Lane	-
20849	58 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	-
20865	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
20870	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
22060	60 th Ave	-	-	None to Shared Lane	-
25301	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	Both Sides to One Side
25576	86 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
25577	86 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
25830	Indiana St	Major Arterial (3) to Minor Arterial (4)	-	-	-

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
25831	80 th Ave	-	Both directions from 2 to 1	-	-
25835	64 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	-
20853	58 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	-
26104	80 th Ave	-	Both directions from 2 to 1	-	-
26106	72 nd Ave	Collector/Local (5) to Major Arterial (3)	-	-	-
26375	64 th Pkwy	Major Arterial (3) to Minor Arterial (4)	-	-	One Side to Both Sides E of Long Lake Park
27735	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
29024	I-70/76 Off-Ramp	-	WB lanes (AB) from 1 to 3	-	-
29025	Wadsworth Blvd	-	NB lanes (BA) from 2 to 3	-	-
29026	I-70/76 Off-Ramp	-	WB lanes (AB) from 1 to 2	-	-
29027	I-70/76 On-Ramp	-	EB lanes (AB) from 2 to 3	-	-
29030	Wadsworth Blvd	-	NB lanes (BA) from 2 to 3	-	-
29031	I-70 Off-Ramp	-	EB lanes (AB) from 1 to 2	-	-
29062	Wadsworth Blvd	-	NB lanes (BA) from 2 to 3	-	-
29678	88 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
29710	76 th Ave	-	-	None to Bike Lane	-
29741	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
29747	49 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	-
29748	Garrison St	-	-	None to Bike Lane	-
29749	49 th Ave	Minor Arterial (4) to Collector/Local (5)	-	-	-
29975	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
31624	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
32554	80 th Ave	-	WB lanes (AB) from 2 to 3	-	-
32563	88 th Ave	Major Arterial (3) to Minor Arterial (4)	Both directions from 2 to 3	None to Bike Lane	-
32575	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	Both Sides to One Side
33196	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
33765	64 th Ave	Major Arterial (3) to Minor Arterial (4)	Both directions from 2 to 3	Bike Lane to None	-
33767	Alkire St	-	-	Shared Lane to None	-
33774	Easley Rd	-	-	Shared Lane to None	-
33775	58 th Ave	REMOVE LINK			

LINK NO.	ROADWAY	FACILITY TYPE CHANGE	LANES CHANGE	BIKE FACILITY CHANGE	SIDEWALK CHANGE
33777	McIntyre St	Major Arterial (3) to Minor Arterial (4)	Both directions from 1 to 2	None to Bike Lane	-
33781	Eldridge St			REMOVE LINK	
33787	Brooks Dr	-	-	Bike Lane to Shared Lane on Holland St, None west of Holland St	-
33826	Garrison St	-	-	None to Bike Lane	-
34587	88 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
35320	Quaker St			REMOVE LINK	
35995	52 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	-	-
36007	57 th Ave	-	-	None to Bike Lane	-
36009	Olde Wadsworth			REMOVE LINK	
36018	Ralston Rd	Major Arterial (3) to Minor Arterial (4)	-	-	-
40638	Olde Wadsworth	-	Both directions 2 to 1 north of 55 th Ave	-	-
40861	64 th Ave	Major Arterial (3) to Minor Arterial (4)	-	-	-
41145	SH 93	-	SB lanes (BA) from 1 to 2	-	-
41253	SH 72	Major Arterial (3) to Minor Arterial (4)	-	-	-
41254	SH 72	Major Arterial (3) to Minor Arterial (4)	-	-	-
41255	SH 93	-	NB lanes (AB) from 1 to 2	-	-
41256	82 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	None to Bike Lane	-
41258	SH 72	Major Arterial (3) to Minor Arterial (4)	-	-	-
41259	82 nd Ave	Collector/Local (5) to Minor Arterial (4)	-	None to Bike Lane	-
41359	Tabor St	-	-	None to Bike Lane	-
41360	Taft Ct	-	-	-	None to Both Sides
41604	SH 72	Major Arterial (3) to Minor Arterial (4)	-	-	-
42268	Candelas Pkwy	-	-	Bike Lane to None	Both Sides to One Side
44094	SH 72	Major Arterial (3) to Minor Arterial (4)	-	Paved Shoulder to None	-





REPORT TO CITY COUNCIL

AGENDA ITEM
2.C.

TO: THE HONORABLE CITY COUNCIL

DATE: October 28, 2024

SUBJECT: Staff Updates

Report in Brief

The purpose of this workshop is for staff to provide City Council with brief updates on projects and issues that do not require a full workshop.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Approved by:

Enclosure, exhibits & attachments required to support the report