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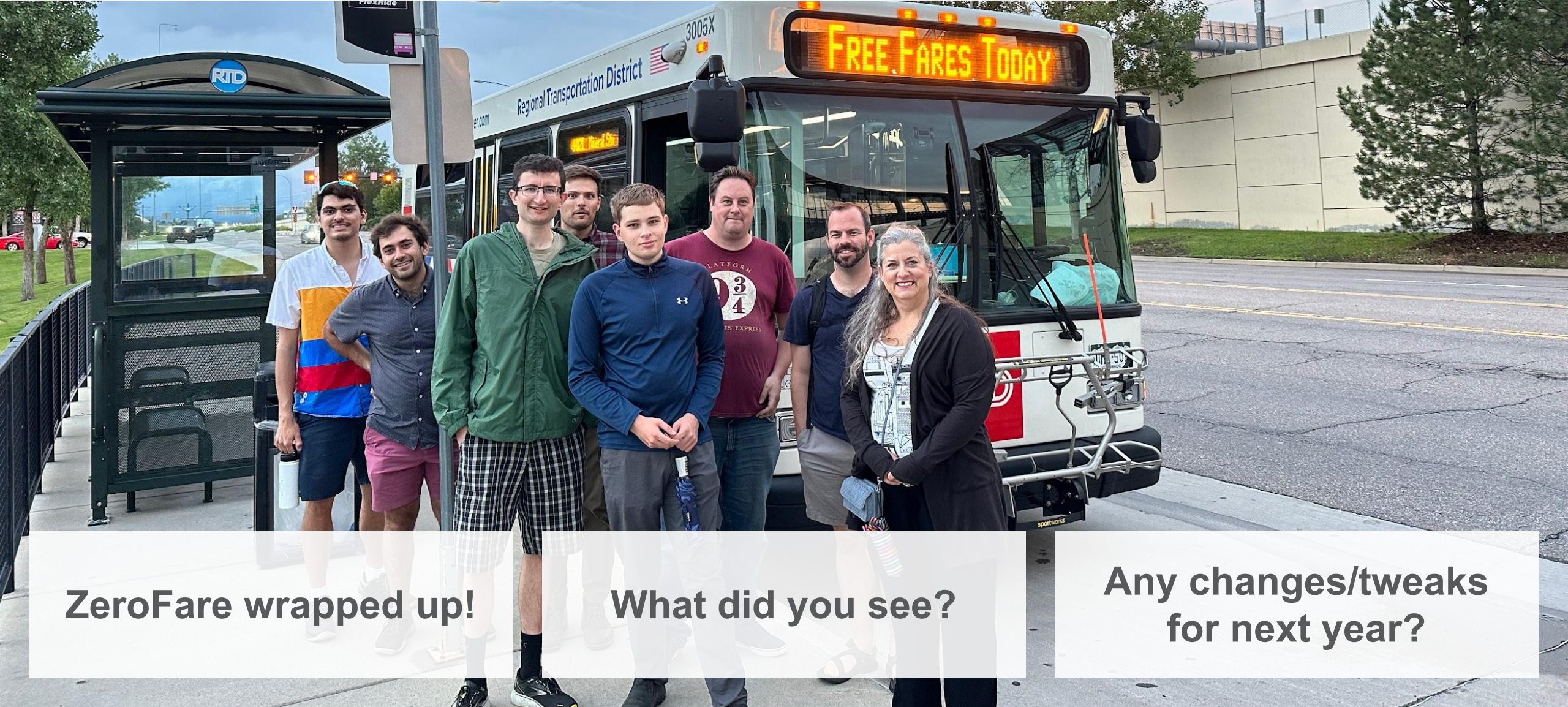
# Monthly Meeting

September 21st, 2023



# The News

# Zero Fare for Better Air Wraps Up



**ZeroFare wrapped up!**

**What did you see?**

**Any changes/tweaks  
for next year?**

# RTD January Service Changes

**6**

...adjustments to the current weekday and weekend schedules...

**10**

...adjustments to the current weekday and weekend schedules...

**15**

...adjustments to the current weekday and weekend schedules...

**15L**

...adjustments to the current weekday and weekend schedules...

**38**

...adjustments to the current weekday and weekend schedules...

**Get the idea?**

# Bus Stops

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Data Coming In, Need  
Help Promoting!



# 14'ers via Durango and Silverton Narrow Gauge



**James accessed his #51-54 CO 14'er Peaks via Transit!**

**Train chopped journey down from > 40 miles to 24 miles on foot.**

**Who else has ridden the D&SNG?**

# FRPR District Favors Bare-Bones FRPR Service



## Interview: Front Range Rail planners want to start with bare-bones service. Here's what else you need to know

By Nathaniel Minor · Sep. 8, 2023, 4:00 am



Hart Van Denburg/CPR News

Amtrak trains at Union Station in Denver.

District leaders tasked with planning and funding a passenger rail line along Colorado's Front Range favor a relatively low-cost "starter service" to meet a push from Gov. Jared Polis to pursue federal funding and a 2024 ballot funding measure.

A bare-bones rail line would share track with freight trains and operate only up to six trips a day, according to a 2020 analysis. Such an approach is estimated to cost about \$2 billion to build, far less than the \$8 billion to \$14 billion it would take to build a line with its own tracks and much more frequent service.

"If we go for the Cadillac version right off the bat, that's a large ask to the voters. It's a difficult sell," Andy Karsian, general manager for the Front Range Passenger Rail District, told Colorado Matters.

▶ LISTEN NOW 15min 25sec

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### Popular Stories

#### GOVERNMENT AND POLITICS

Rep. Boebert apologizes for behavior at 'Beetlejuice' performance

#### EDUCATION

University of Colorado Boulder faculty and staff hold walkout over wages

#### TRANSPORTATION

A lower speed limit could be coming to a Colorado road near you

#### NEWS

About 5,000 people will have an insurance

Nate Minor interviewed Andy Karsian from the FRPR District.

Expressed a preference for a \$2B "Bare-bones" plan over a \$8 - \$14B infrastructure-heavy build.

Would take ~10 years to build, frequencies capped at <6 trains/day.



We make lives better through connections.



6009

**RTD**  
The Ride

# Events

NOTICE  
For Your Safety, Please  
Inform the Operator  
When You are  
Leaving Your Bicycle

1834-01  
COLORADO



# Monthly Meetings



6pm on 3rd Thursday  
of the month.

**Transit-oriented  
Drinks (ToD)**  
follow after!

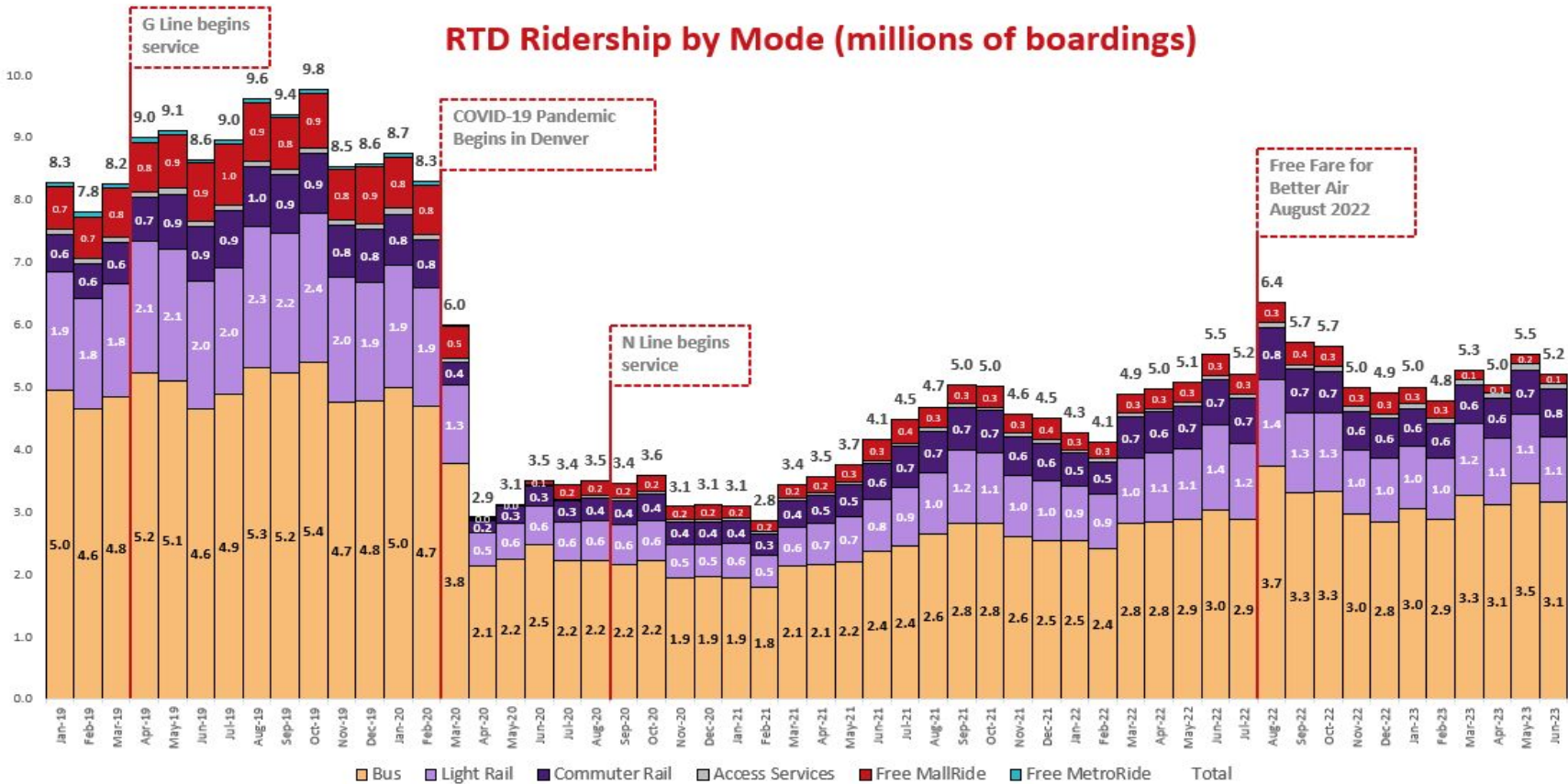
Next meeting on  
**Thurs Oct 26th.**



# Projects



# RTD Ridership Analysis - Jun 2023



## YoY % Growth\*

Bus: +9% YoY

Light Rail: -19% YoY

Heavy Rail: +9% YoY

\*Growth rates adjusted for equalized work week days

April 2019  
9.1m riders

April 2020  
3.1m riders

Jun 2023  
5.2m riders

# CU's DEN Student Module

## Overview

CU Denver MURP Transit, Bike, and Ped Planning class

Employee Travel to DEN

>client: DEN

## Objectives

- Improve non SOV mode share
- Advance equity
- Provide opportunity for students to learn transportation planning fundamentals
- Encourage DEN to think outside of the box

## 2 Student Teams

1. Bike/Ped
2. Transit



# CU's DEN Student Module

## Topic Areas

1. Non-motorized multimodal travel for DEN's employees
  - a. Visioning – what could a bike-ped network look like around the Airport?
  - b. Storage/facility design – what locations and forms of storage facilities are needed at the Airport to incentivize bicycling and walking? Are there intra-DEN trips that can shift to bike-ped?
  - c. Marketing programs – how might incentives and marketing approaches work for nudging employees to non-motorized modes to/from or within the airport facilities?
  
2. Transit+ options<sup>1</sup> for DEN's employees: Vanpools, Microtransit<sup>2</sup>, Circulators
  - a. Visioning – what could a nimble Transit+ network look like for trips to the Airport?
  - b. Routing/Frequency/Times of operation – what different forms of Transit+ could work for the Airport's employee market (between vanpools, microtransit, and circulators)? What would the infrastructure look like?
  - c. Programming – how would incentives and marketing approaches work for getting employees to Transit+ for trips to/from the Airport?



# CU's DEN Student Module

## Key Facts

38,000 employees

40,000 parking spaces

13,000 daily transit riders (2023)

### Employee Survey (Oct 2022 - Dec 2023)

- 2702 responses (20% rate)
- 63% indicated their employer pays for parking, only 8% indicated they pay out of pocket, 25% use free lots)
- Employer provides free or discounted transit pass? 30% Yes, 44% No, 26% Unsure
  - 69% of concessionaire employees provided a free pass

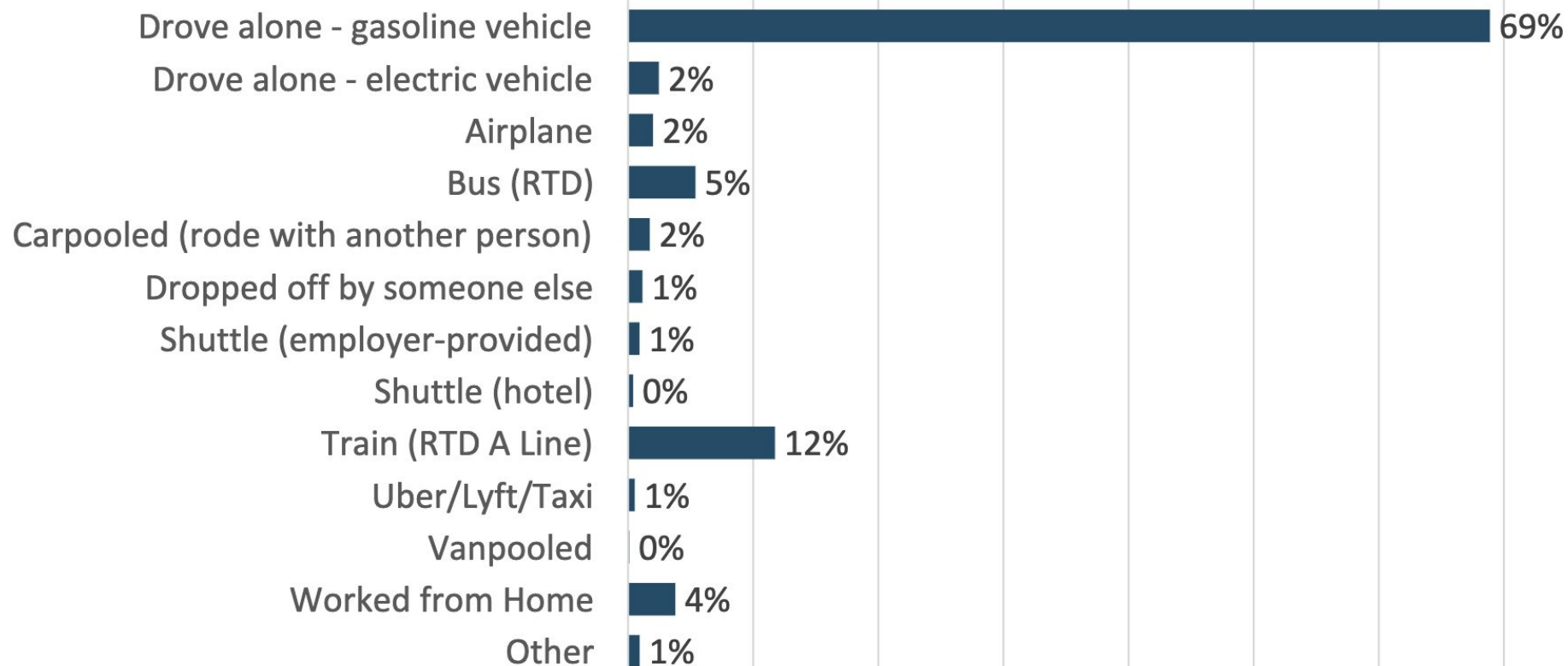
### Employee parking pass is \$36/mo

- has not changed in over 20 years
- most employees don't pay, employer provided
- Parking for employees is at capacity



# CU's DEN Student Module

## HOW EMPLOYEES GET TO THE AIRPORT

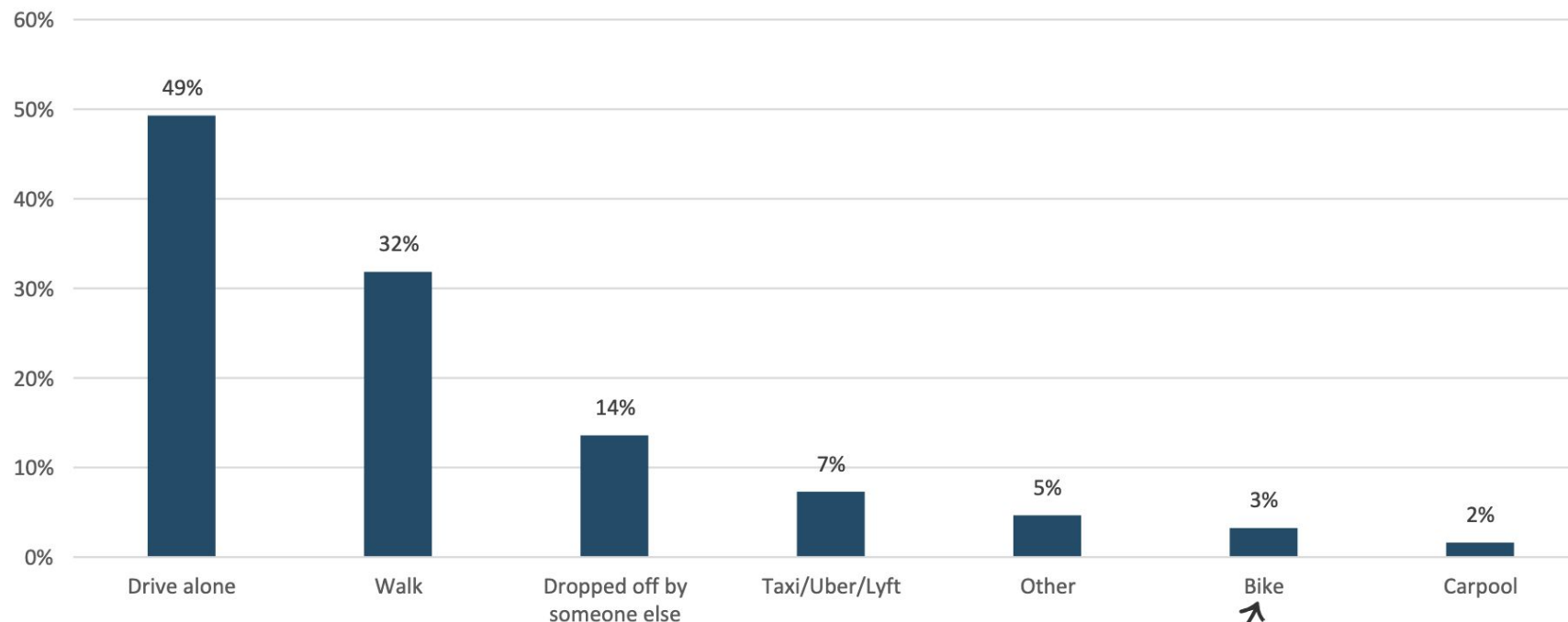


# CU's DEN Student Module

## TRANSIT ACCESS



How Do You Get to Your Bus Stop or Train Station?

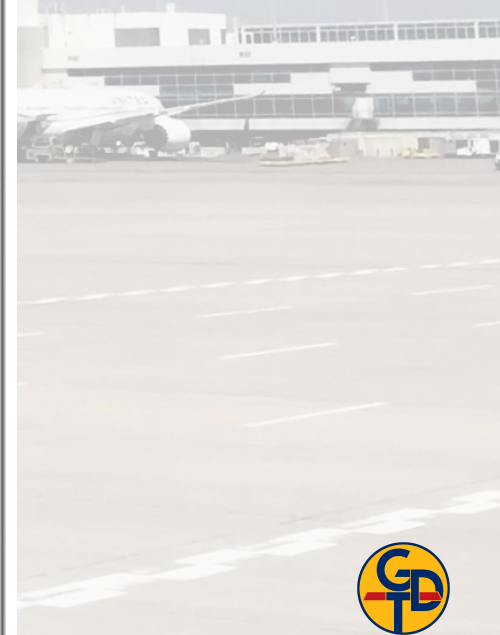
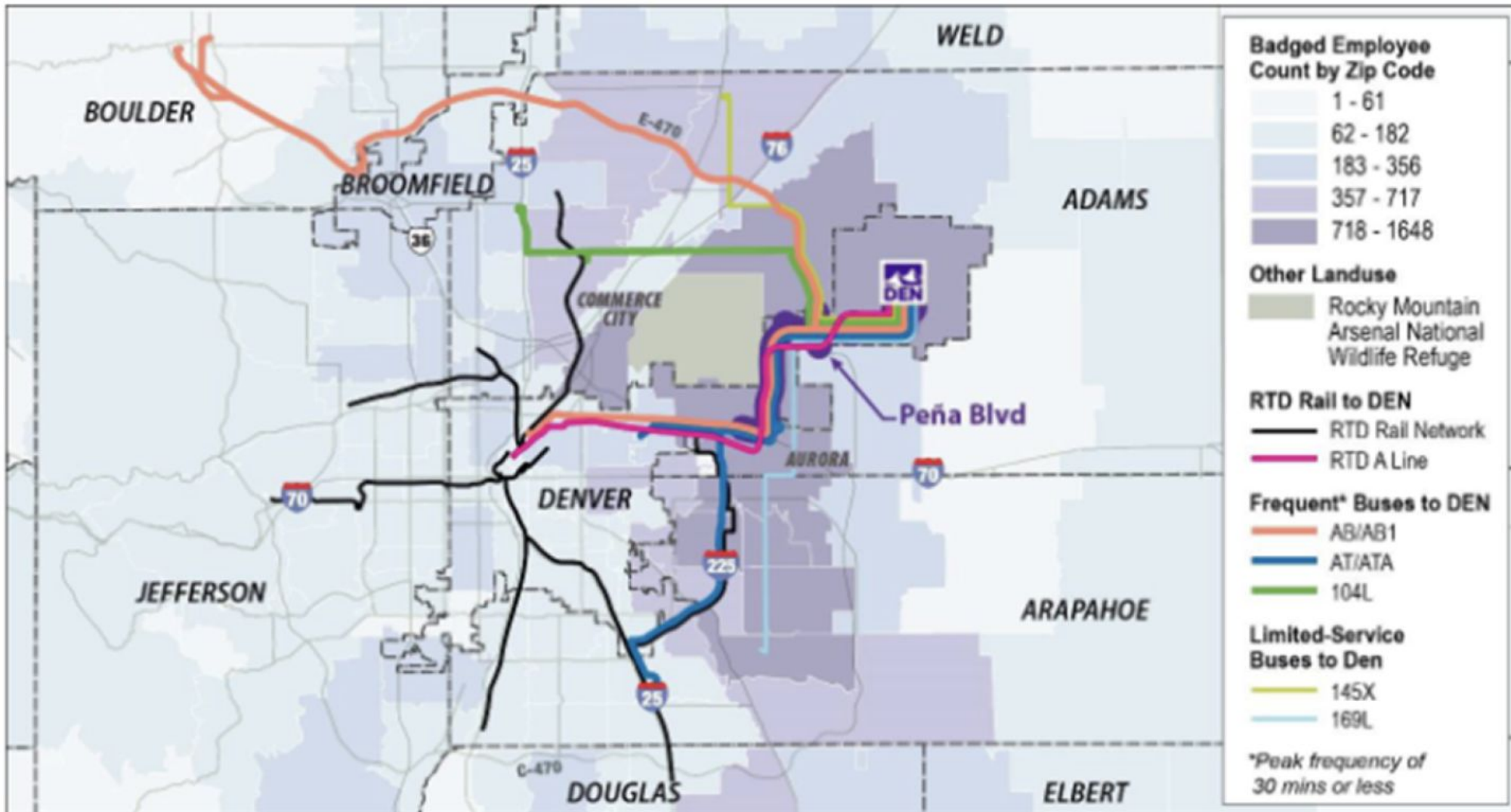


About 50% leave their bike at a station.





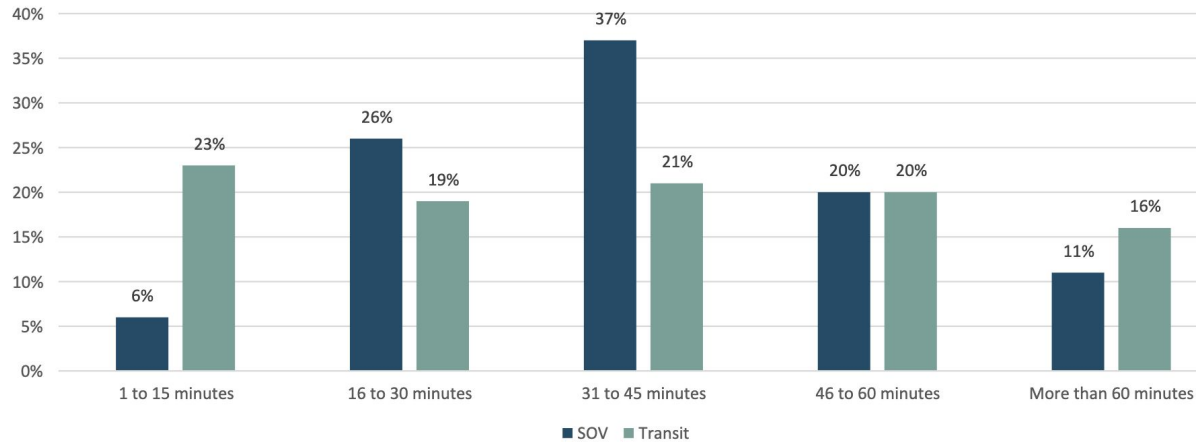
# CU's DEN Student Module



# CU's DEN Student Module

## AVERAGE TRAVEL TIME TO DEN

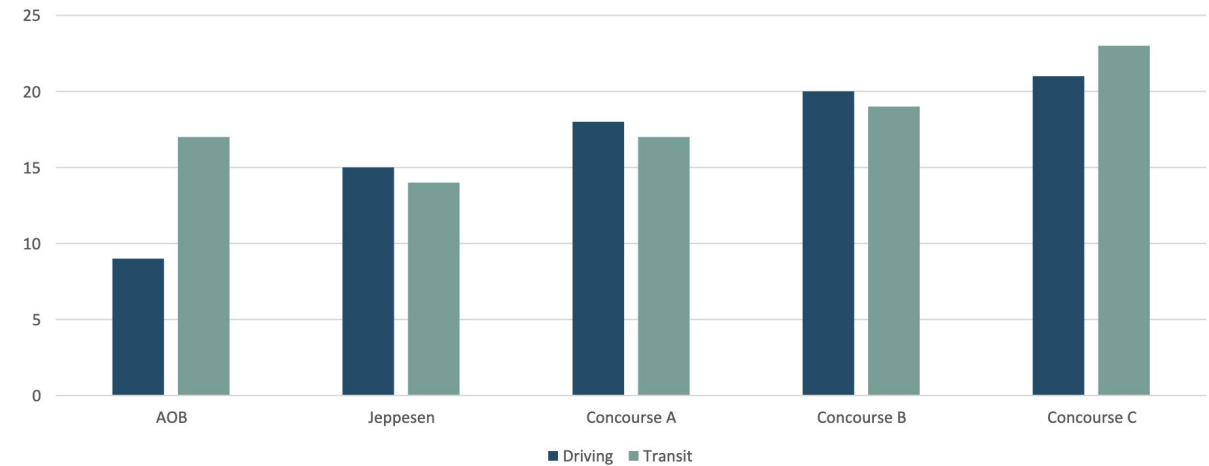
How much time does it usually take you to get from your home/residence to where you park or get dropped off at the airport?



## EMPLOYEES' SECOND COMMUTE

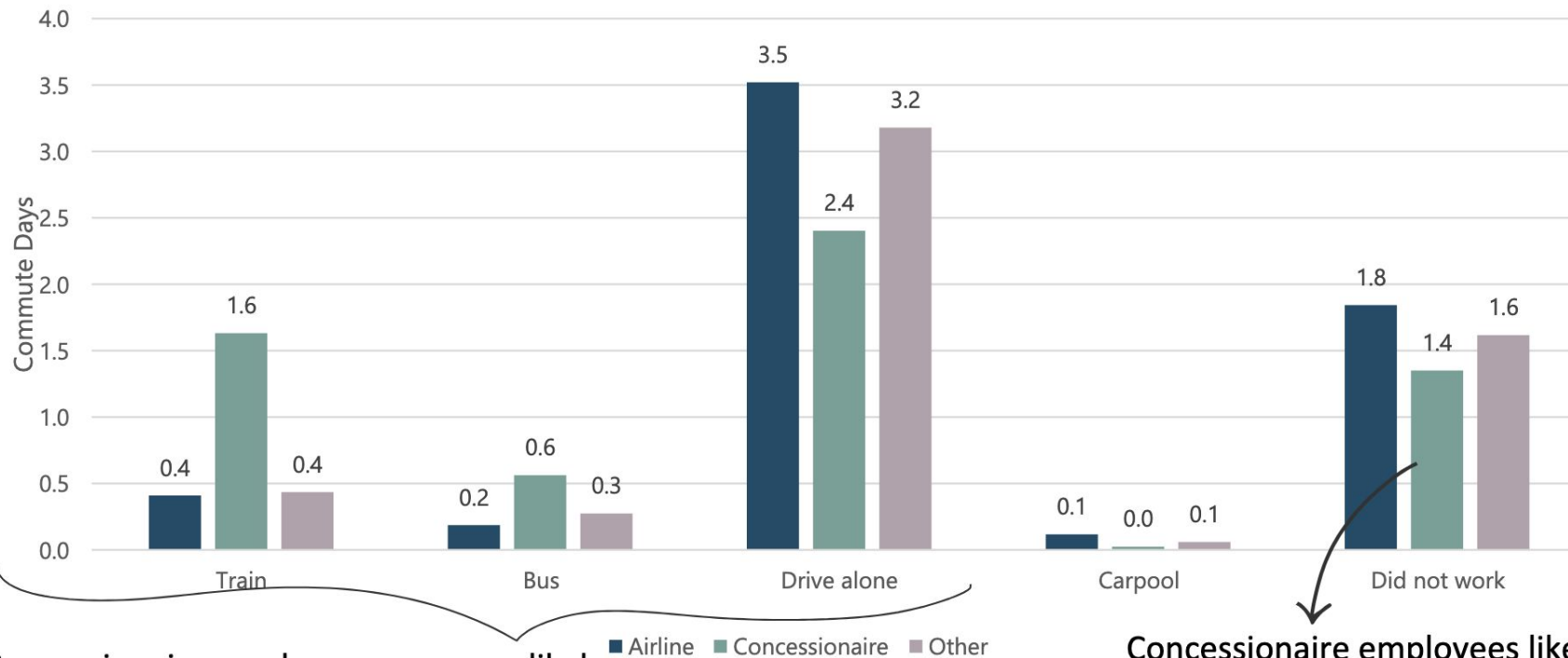


Average Travel Time from Transit or Vehicle to Job (minutes)



# CU's DEN Student Module

## COMMUTE MODE BY EMPLOYER TYPE



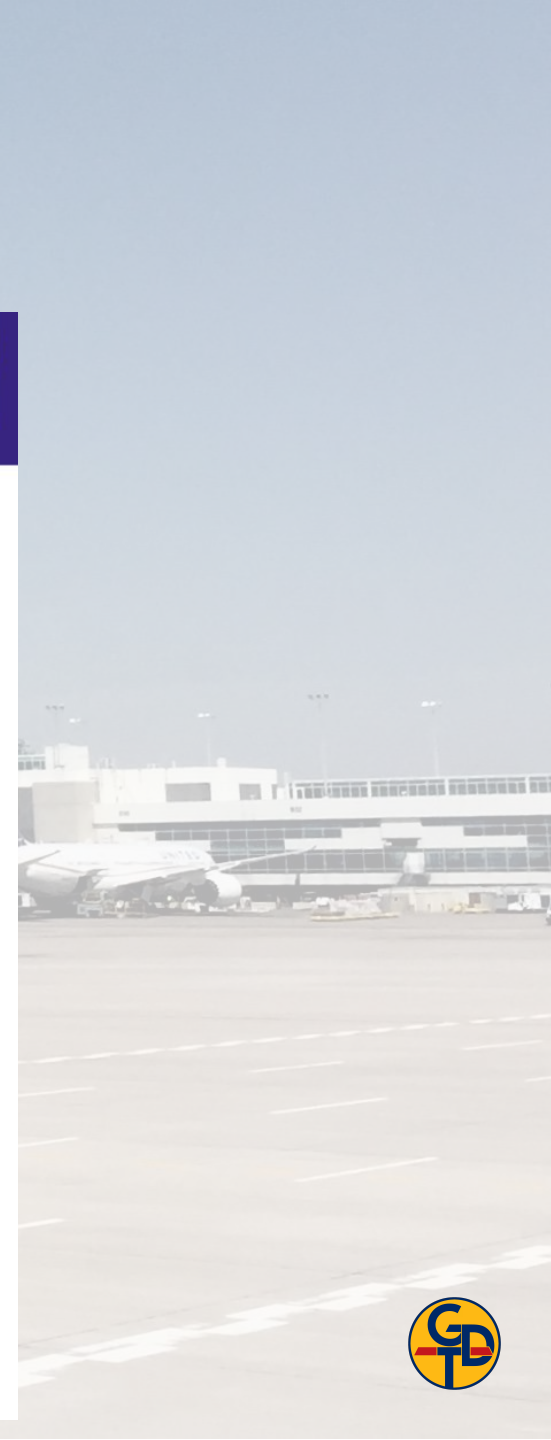
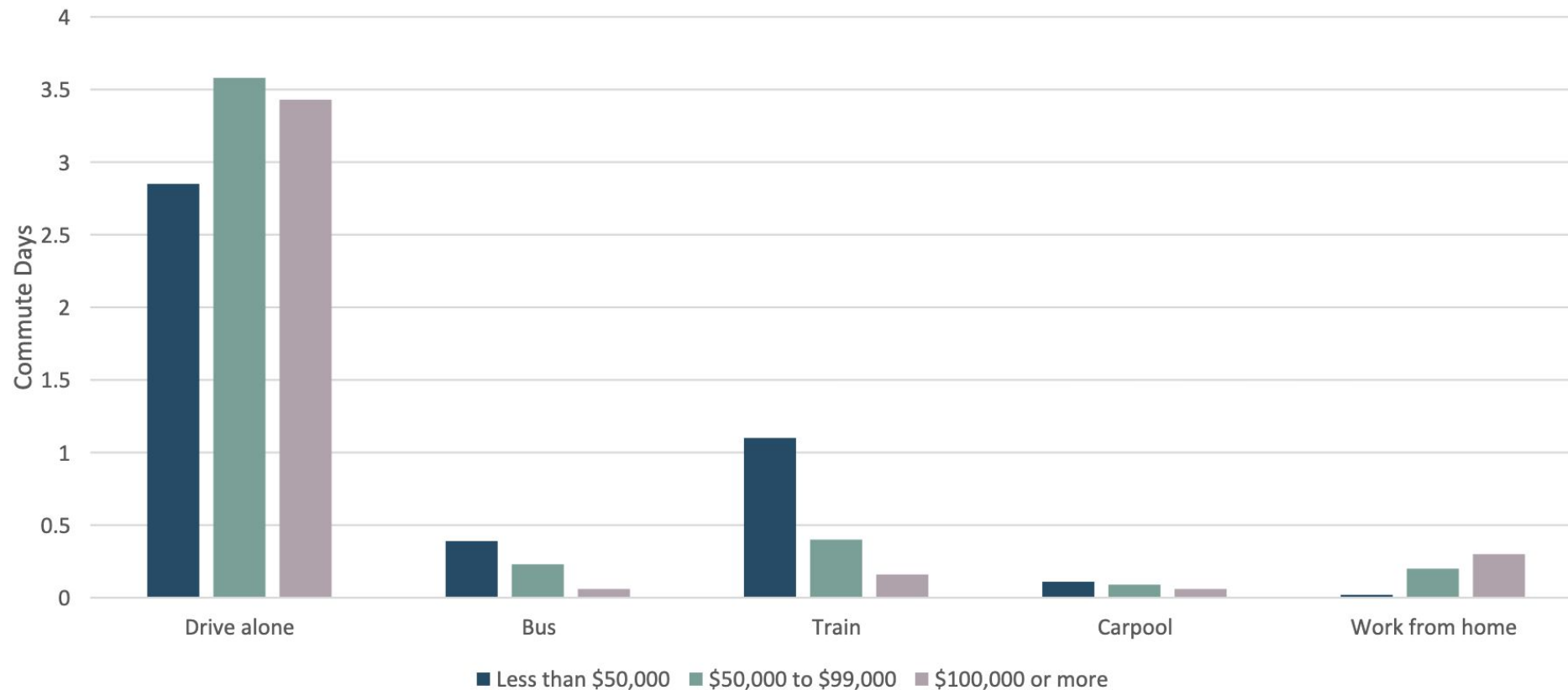
Concessionaire employees are more likely  
To take transit than airline employees

Concessionaire employees likely  
work more days per week than  
airline and other employees



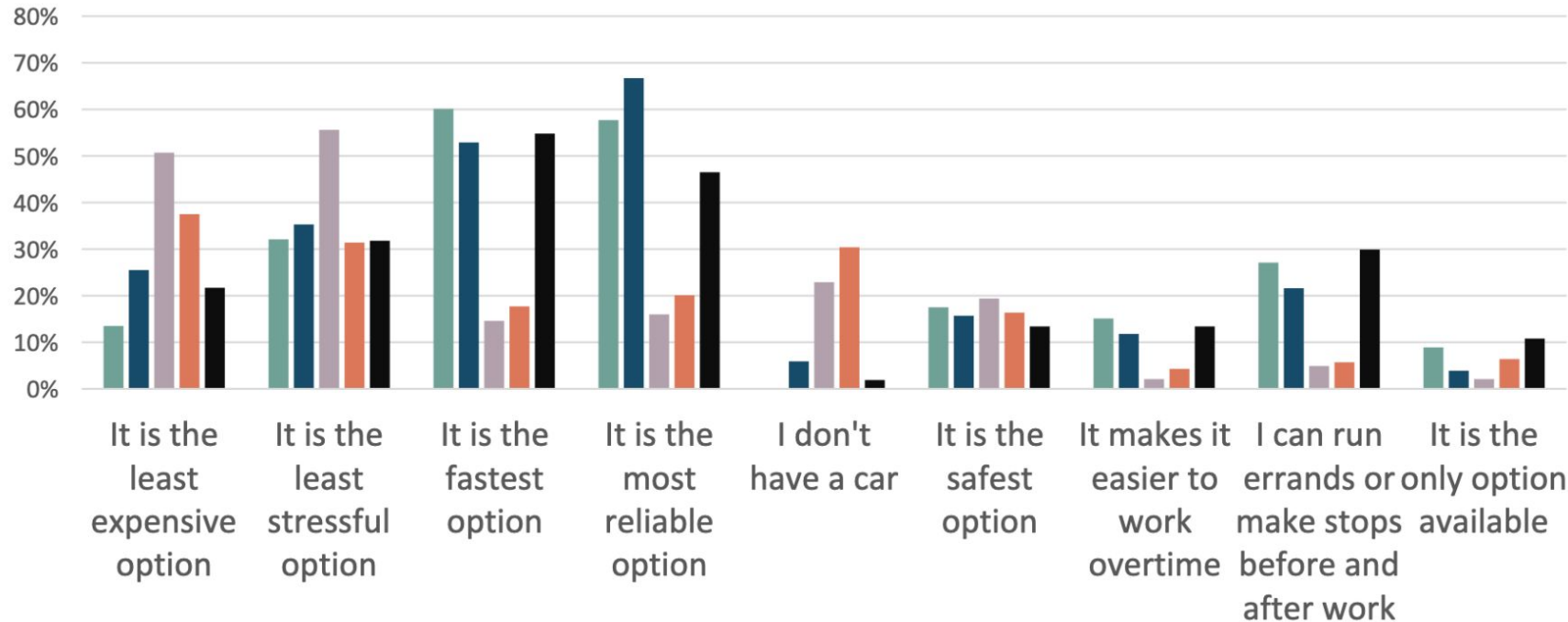
# CU's DEN Student Module

## COMMUTE MODE BY INCOME



# CU's DEN Student Module

## WHY EMPLOYEES COMMUTE HOW THEY DO



■ Drive alone 
 ■ Carpool 
 ■ Bus 
 ■ Train 
 ■ Work from home



People who take the bus feel that is the **least expensive** and **least stressful** option.

People who drive alone say that is the **fastest**, most **reliable** option, and because they can **make stops** before and after work.





For Public Comment

[www.greaterdenvertransit.com](http://www.greaterdenvertransit.com)

# Greater Denver Transit DEN Transit Upgrade Smarter Peña Blvd Alternative - Sept 2023

# Denver Airport Is Growing...



Passenger numbers at DEN have more than recovered from the COVID-19 pandemic.

As of 2022, DEN is the world's 3rd busiest airport!

**2022**

**69.3m** Annual Passengers  
of which  
**40.7m** are "Origin & Destination"  
which is  
**56k** per direction per day.

**2032 Forecast**

**100m** Annual Passengers  
of which  
**62m** are "Origin & Destination"  
which is  
**85k** per direction per day.

# DEN's Workforce Is Also Growing...

Additional Services



STAR ALLIANCE

STAR ALLIANCE

STAR ALLIANCE

**2022**

**36k** people employed at DEN  
of which  
**20k** are at work on a given day.

**2032 Forecast**

**54k** people employed at DEN  
of which  
**30k** are at work on a given day.



# Daily Travel Demand to DEN



**2022**

**56k** passengers and **20k** workers  
is  
**76k** people per direction per day.

**2032 Forecast**

**85k** passengers and **30k** workers  
is  
**115k** people per direction per day.

# The Airport Needs A Plan For This...



The Airport is developing the **Peña Boulevard Transportation and Mobility Master Plan**.

The plan aims to “**promote a shift to more sustainable modes**”, “**enhance safety**”, “**reduce crashes**” and “**address equity and barriers to opportunity**”.

[flydenver.com/peña\\_plan](https://flydenver.com/peña_plan)



# But... there's a problem!



**The Airport is currently advancing a scheme to expand Peña Blvd - before the “Peña Plan” is finished.**

**A deal has even been worked out with the FAA to use airport revenues to fund 73% of the project!**

**Additional capacity for motor vehicles is the de-facto target.**

**Current scheme assumes HOV / toll lane, not general use.**

**Transit remains insufficiently considered!**

# Current A Line Capacity

Current ridership:  
10k / per direction per day.



**91**

Seats  
Per Car

**x**

**4**

Car  
Trains

**x**

**72**

Daily  
Departures

**=**

**26,208**

Seats Per  
Direction  
Per Day.

# Current Airport Bus Capacity



**49**

Seats  
Per Bus

**X**

**75**

Daily  
Departures

**=**

**3,675**

Seats Per  
Direction  
Per Day.

# A Line Double-Deck Trains



Double-deck trains believed to be suitable for RTD commuter rail infrastructure.

Would require purchase of 16-20 new double-deck commuter rail cars.

**120**

Seats  
Per Car

**x**

**4**

Car  
Trains

**x**

**72**

Daily  
Departures

**=**

**34,560**

Seats Per  
Direction  
Per Day

# A Line Platform Extensions



Platform lengths doubled at 6 intermediate A Line stations.

No work required at Denver airport or Union Station.

Would require purchase of 16-18 additional commuter rail cars.

**91**

Seats  
Per Car

**X**

**8**

Car  
Trains

**X**

**72**

Daily  
Departures

**=**

**52,416**

Seats Per  
Direction  
Per Day

# A Line Double Tracking - North Phase



1.7 mile double-tracking from 61st / Peña Station to Peña Blvd Bridge.

Allows  
6 trains per hour  
(10min frequency).

\$100-150m cost.

**91**

Seats  
Per Car

**x**

**4**

Car  
Trains

**x**

**103**

Daily  
Departures

**=**

**37,492**

Seats Per  
Direction  
Per Day.





# A Line - All 3 Upgrades

Airport 

Double-deck Trains

Platform Extensions

Double-tracking  
North Phase

**120**

Seats  
Per Car

X

**8**

Car  
Trains

X

**103**

Daily  
Departures

=

**98,880**

Seats Per  
Direction  
Per Day

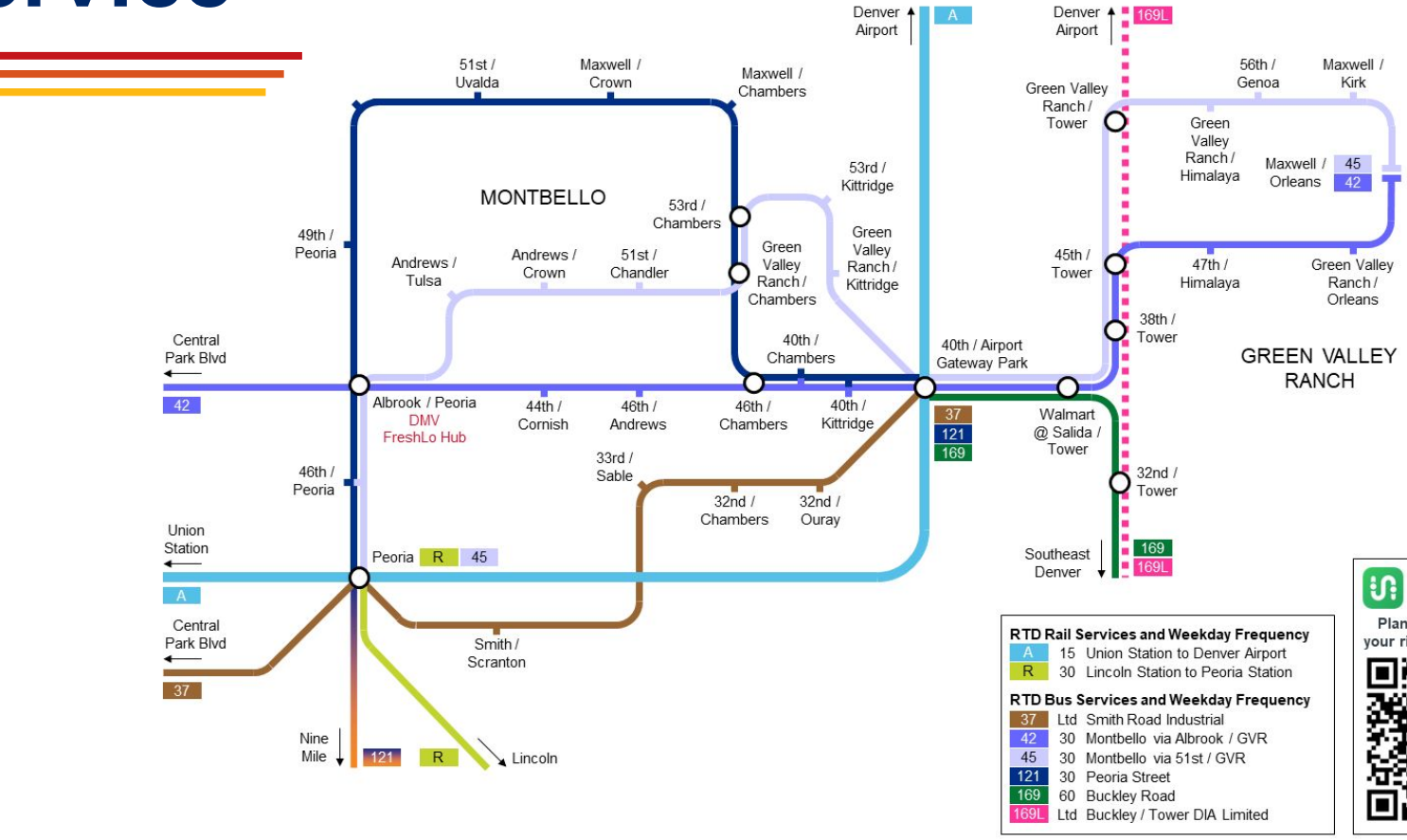
# Expanded Bus Service



Increases on existing RTD **AB**, **AT** and **104L** routes.

All day service to Brighton / Greeley.

New service to SE Aurora / E-470 express.



RTD Rail Services and Weekday Frequency	
A	15 Union Station to Denver Airport
R	30 Lincoln Station to Peoria Station
RTD Bus Services and Weekday Frequency	
37	Ltd Smith Road Industrial
42	30 Montbello via Albrook / GVR
45	30 Montbello via 51st / GVR
121	30 Peoria Street
169	60 Buckley Road
169L	Ltd Buckley / Tower DIA Limited

Plan your trip. Track your ride. Pay your fare.

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Note: This map is unofficial & is not endorsed by RTD. For clarity, not all stops or lines shown.

May 2023

Community-lead redesign of Montbello / GVR bus networks.

**Airport buses must compliment rail, not compete with it.**

# Bus Capacity Upgrade



6 high-frequency routes  
15m service from 6am - 12am  
30m overnight

**49**

Seats  
Per Bus

**X**

**84**

Daily  
Departures

**X**

**6**

Frequent  
Routes

**=**

**24,696**

Seats Per  
Direction  
Per Day.

# Transit Can Do The Job

Because it is the most efficient way to move large number of people to a single location, upgraded transit is well placed to handle Denver Airport's projected growth.

**98,880**

A Line Seats  
Per Direction  
Per Day

+

**24,696**

Bus Seats  
Per Direction  
Per Day.

=

**123,576**

Transit Seats  
Per Direction  
Per Day.

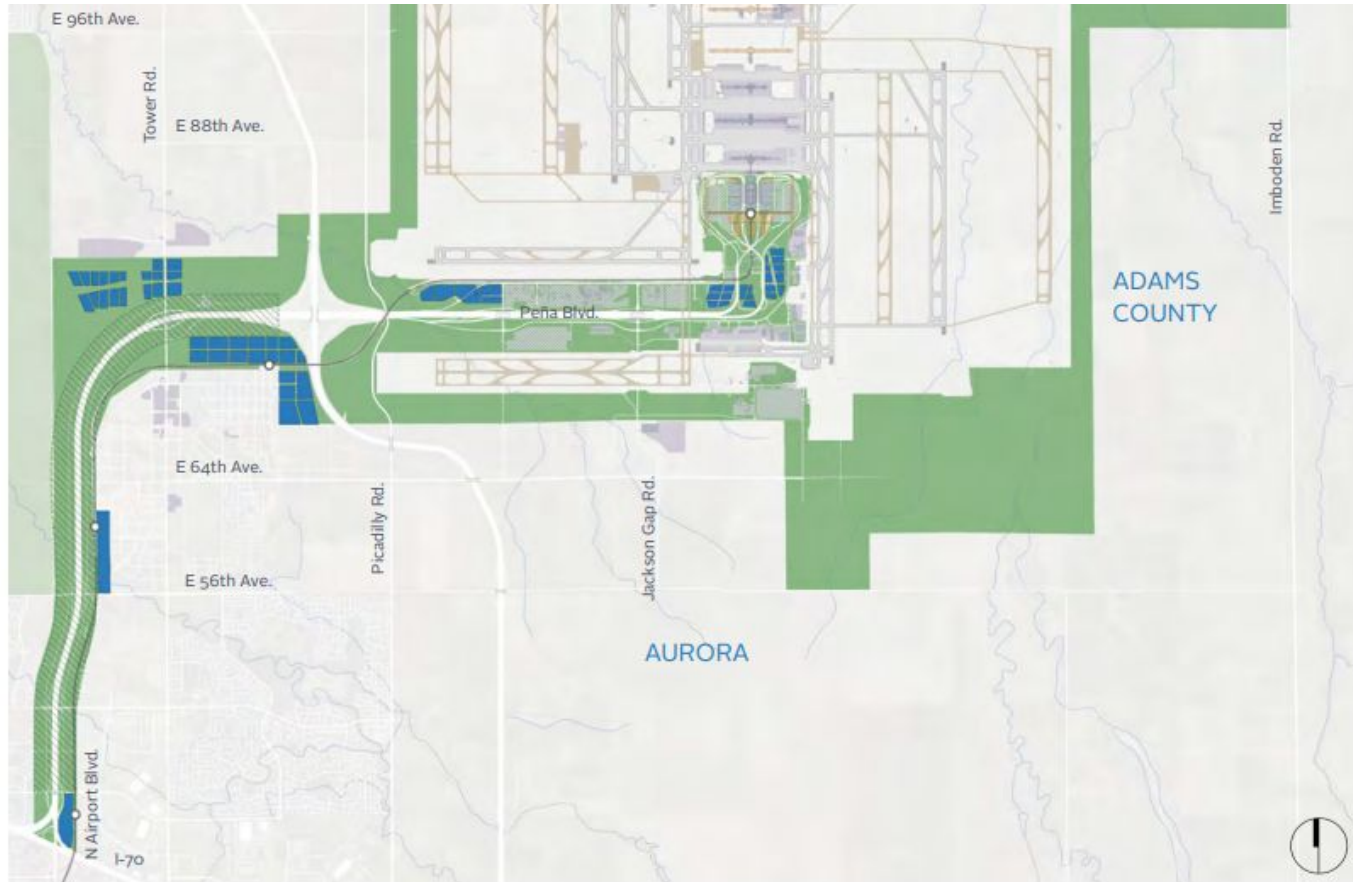
2032 Forecast

**115,000**

People Per Direction Per Day.



# Airport Funding for Transit?



- DEN Core Aviation Operational Land
- DEN Commercially Developable Land
- DEN Development Districts
- DEN Scenic Buffer



**Denver Airport (DEN)** property extends along the full length of Pena Blvd.

**RTD leases A Line right-of-way from DEN** north of 40th & Airport Station.

Per FAA, **airport revenues CAN fund transit infrastructure** for sections that (a) run on airport property and (b) are dedicated to airport journeys.

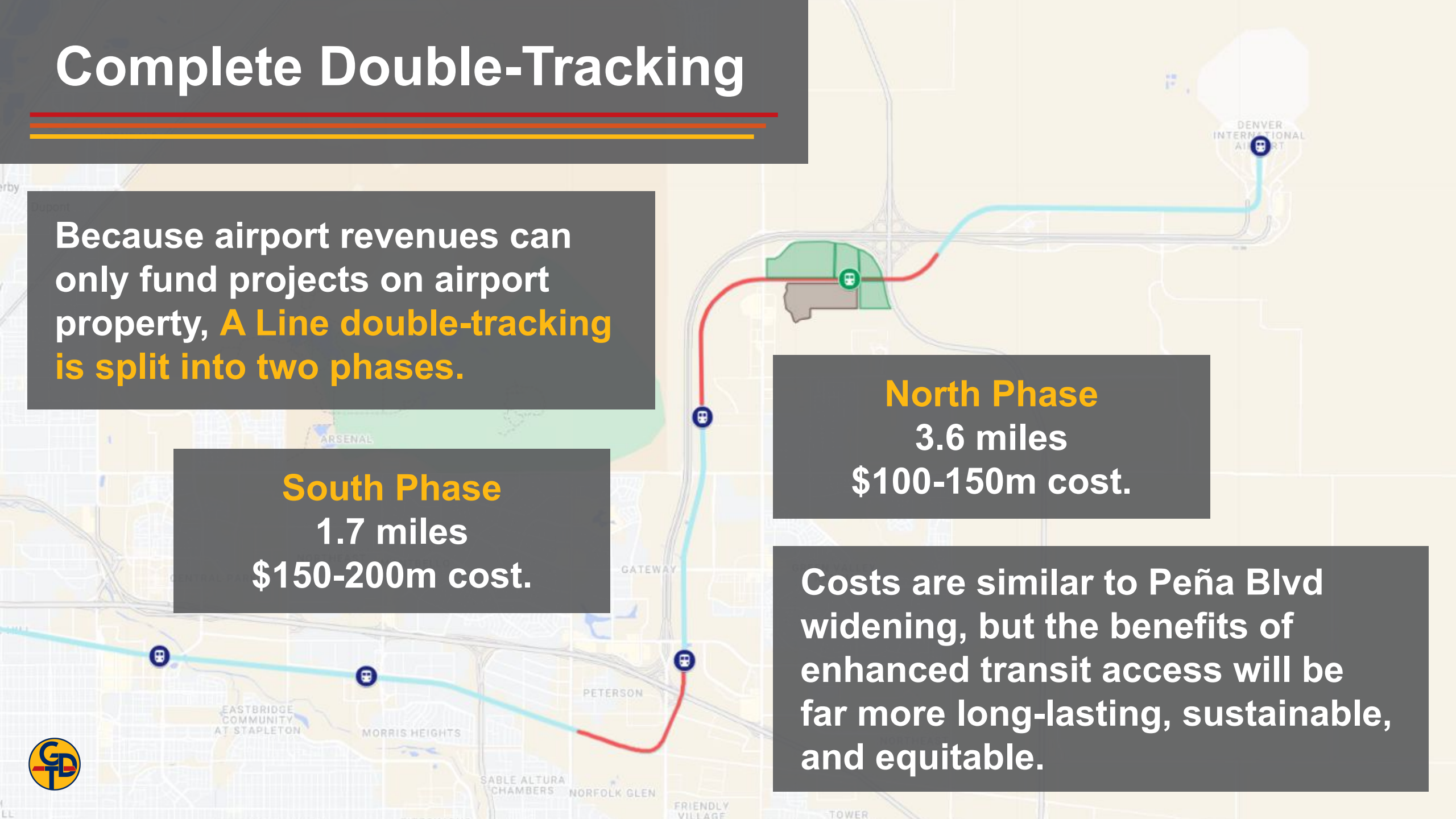
# Complete Double-Tracking

Because airport revenues can only fund projects on airport property, **A Line double-tracking is split into two phases.**

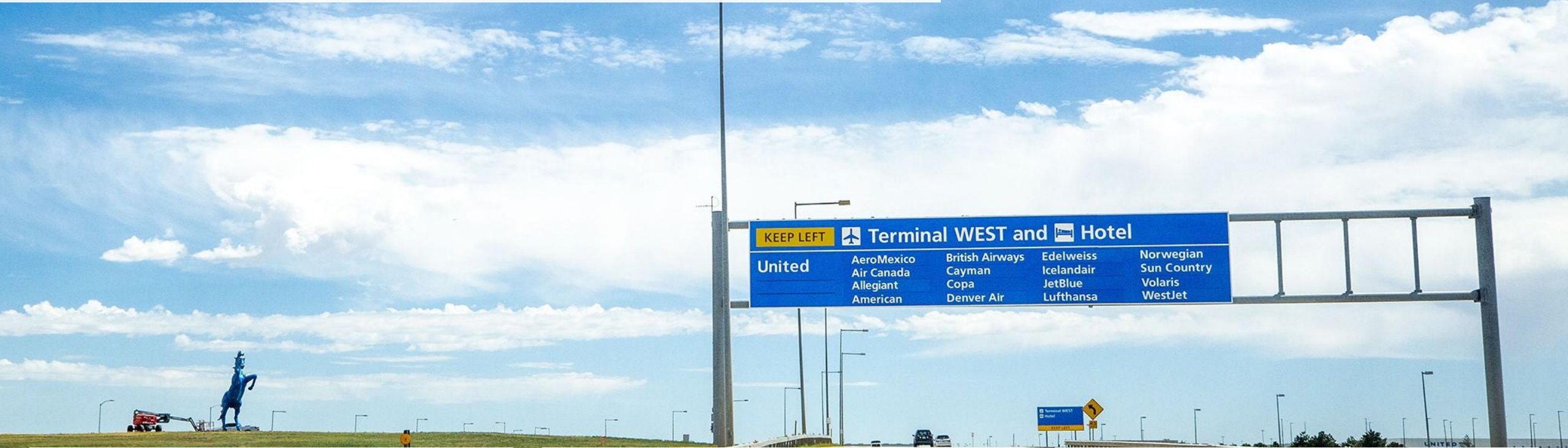
**South Phase**  
1.7 miles  
\$150-200m cost.

**North Phase**  
3.6 miles  
\$100-150m cost.

Costs are similar to Peña Blvd widening, but the benefits of enhanced transit access will be far more long-lasting, sustainable, and equitable.



# Case Against Widening Pena



Research has thoroughly debunked highway widening as a traffic solution.

Highway widening creates induced traffic and does not resolve congestion.

Transit investment could more effectively address long-term growth.

# Social Injustice of Highway Expansion



**Highway Expansion has disproportionately disconnected and disenfranchised BIPOC communities.**

**Members of BIPOC communities are more likely to rely on transit.**

**Increased emissions from an expanded Pena Blvd. will directly harm local communities of color.**



# More Sustainable Land Use

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We have the opportunity to **revisit ground transportation at DEN.**

**Better-located car infrastructure** will compound the benefits of the expanded A Line.

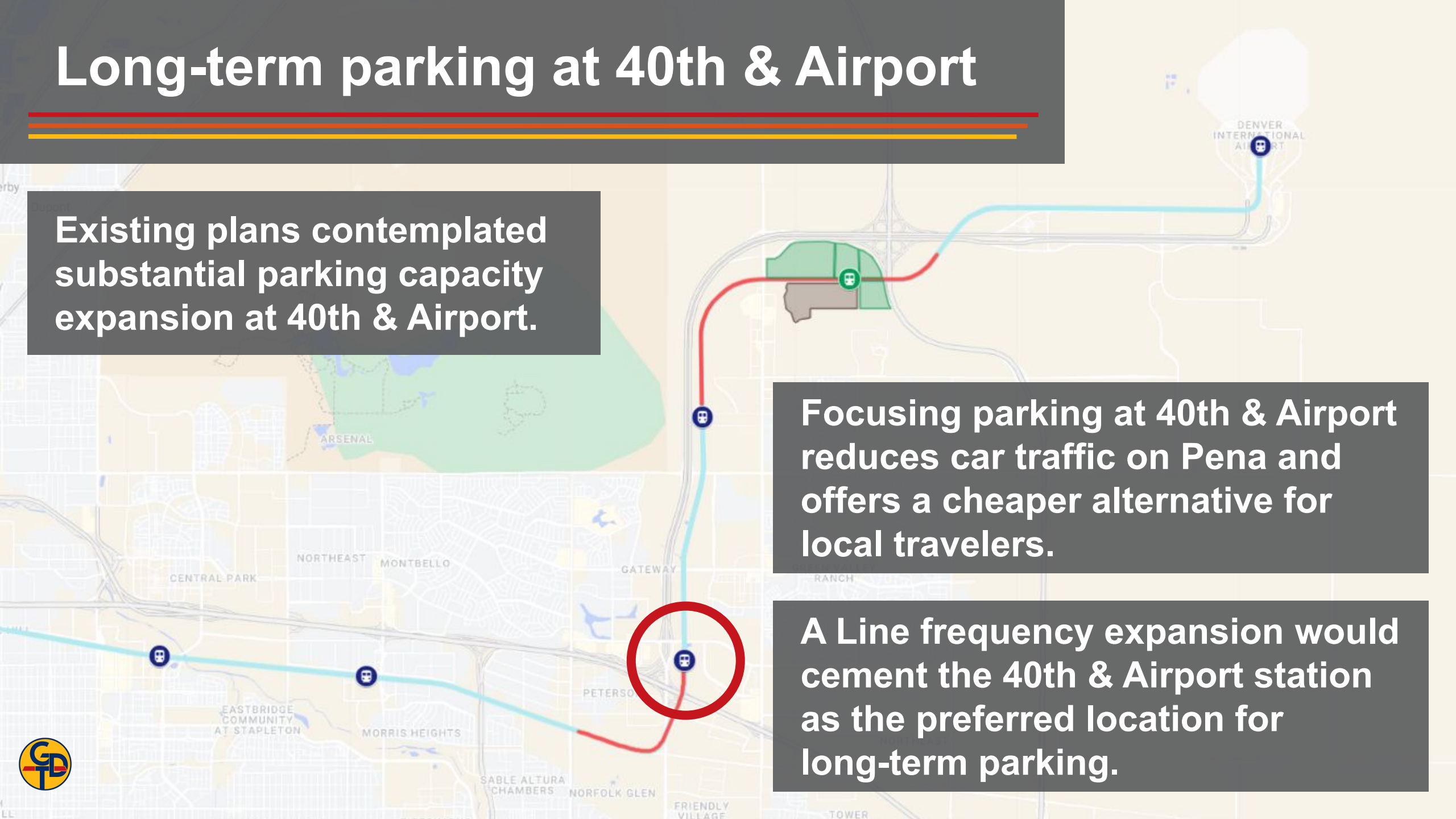
**Both rental car and local parking facilities** would benefit from a direct A Line connection.

# Long-term parking at 40th & Airport

Existing plans contemplated substantial parking capacity expansion at 40th & Airport.

Focusing parking at 40th & Airport reduces car traffic on Pena and offers a cheaper alternative for local travelers.

A Line frequency expansion would cement the 40th & Airport station as the preferred location for long-term parking.



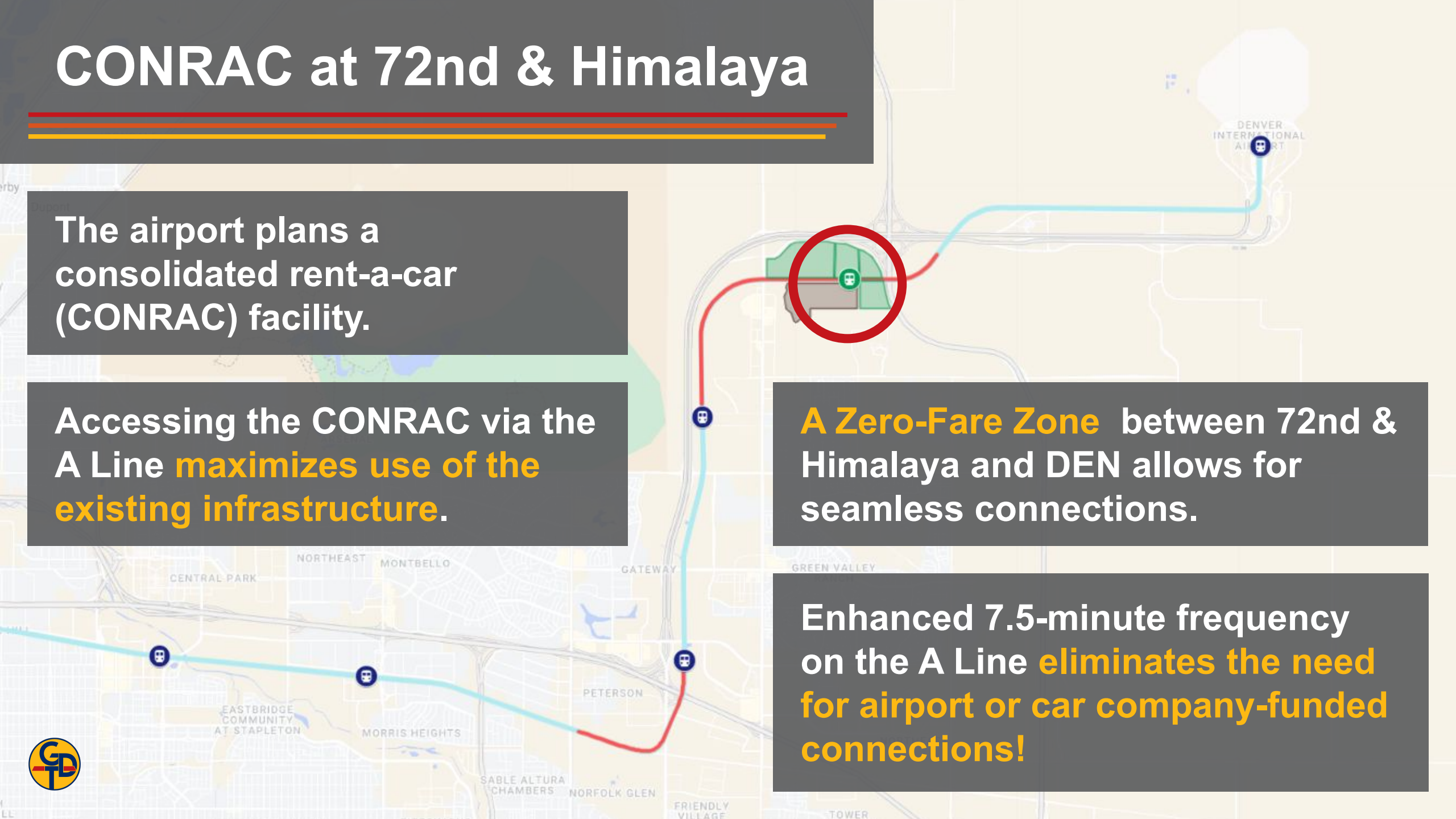
# CONRAC at 72nd & Himalaya

The airport plans a consolidated rent-a-car (CONRAC) facility.

Accessing the CONRAC via the A Line **maximizes use of the existing infrastructure.**

**A Zero-Fare Zone** between 72nd & Himalaya and DEN allows for seamless connections.

Enhanced 7.5-minute frequency on the A Line **eliminates the need for airport or car company-funded connections!**



# Dedicate Space to Trains



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DEN's Transit Center is already limited in trackside expansion capacity.

Remaining space is needed for more flexible growth, including expansion of transit to the mountains and Front Range Passenger Rail.

DEN can more efficiently use the space for rail to further transit journeys AND the future CONRAC facility.

# Urbanist Message to Denver Airport



**We are proud of DEN**  
and want to support  
its robust growth!

We want this growth  
to be environmentally  
**sustainable** and both  
**fiscally AND socially**  
**responsible.**

**Join us! We meet  
every month on the  
third Thursday.**

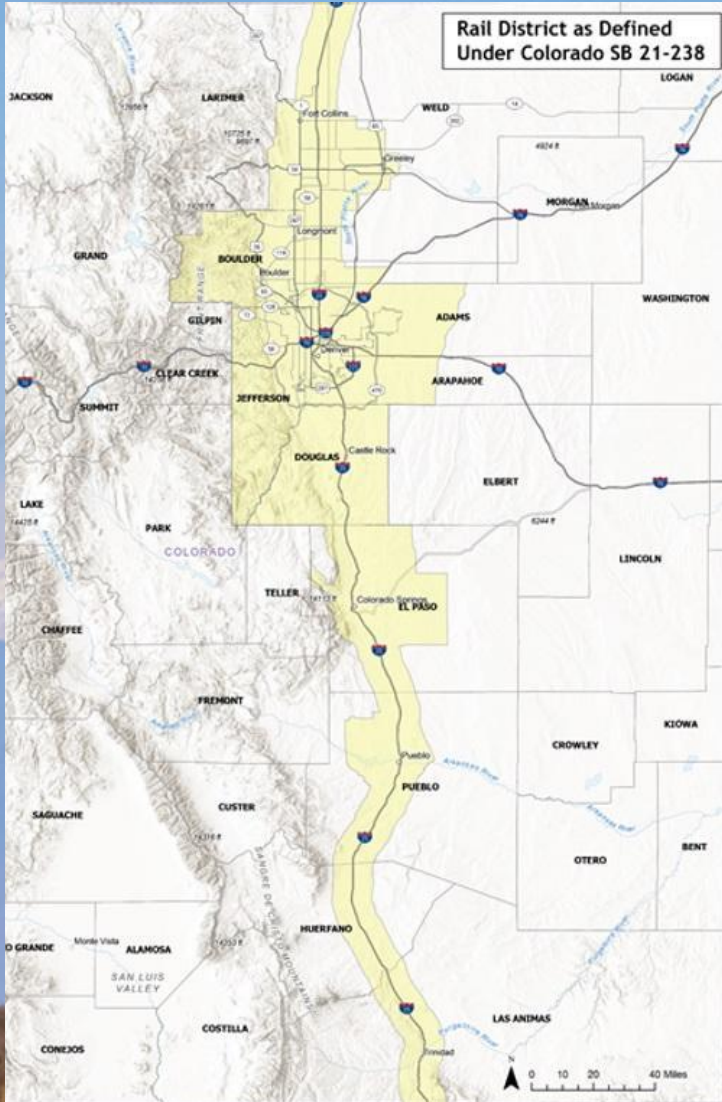


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# Front Range Passenger Rail Group Activity

## Capital Costs vs. Service Quality

# The FRPR District



The **Front Range Passenger Rail (FRPR) District** and **CDOT** are leading the development of an intercity rail service that spans the Front Range.

**FRPR District** formed in 2022 by Colorado Act SB 21-238 to create an 'interconnected passenger rail system along the Front Range'.

**FRPR District** must collaborate with RTD & Amtrak (where appropriate).

CDOT working with **HNTB Corporation** to produce the Service Development Plan.

**Ballot measure** in 2024 (or 2026).



# How much could a ballot measure raise?

<b>RTD's 0.4% + FastTracks 0.6% Sales Tax</b>	<b>Act. 2022 Revenue</b>
RTD District Size (Residents)	3,080,000
2022 FasTracks Sales Tax Revenue (\$)	\$855,000,000
<b>Tax Revenue / Resident in 2022 (\$)</b>	<b>\$278</b>
<b>FRPR District at Equivalent 1% Sales Tax</b>	<b>Est. Annual</b>
2020 FRPR District Population (Residents)	4,900,000
Est. Revenue/YR at 1% Sales Tax (\$) in 2022	\$1,360,227,273
<b>Tax Revenue / Resident in 2022 (\$Est. )</b>	<b>\$278</b>
Current Denver Sales Tax	8.81%
Maximum Denver Sales Tax post-FRPR	9.81%





# FRPR Funding Scenarios

Base Funding Scenarios per Sales Tax Alone	Sales Tax (%)	Tax Revenue (\$B)			
Pre-Federal and State Support	Base Rate	1 Yr	5-Yr	10-Yr	15-Yr
Tax Rate 1 - Minimum	0.10%	\$0.1	\$0.6	\$1.1	\$1.7
Tax Rate 2 - Low	0.25%	\$0.3	\$1.4	\$2.9	\$4.3
Tax Rate 3 - Medium	0.50%	\$0.6	\$2.9	\$5.7	\$8.6
Tax Rate 4 - High	0.75%	\$0.9	\$4.3	\$8.6	\$12.8
Tax Rate 5 - Max	1.00%	\$1.1	\$5.7	\$11.4	\$17.1



# Key Questions for Discussion



**Take a card - for each question, select the minimum offering you could accept for a Phase 1 of Front Range Passenger Rail.**

FRPR Service Quality Questions	A	B	C	D	E
1. What's the frequency?	4-6 Trains / day	8-12 trains / day	14-18 trains /day	20-24 trains / day	
2. Operate on freight tracks?	~100% (delays over 15 min could be common)	~75% (delays of 15 min common)	~50% (few delays of 15 min)	~25% (very rare delays of 15 min)	~\$0 (No delays from freight trains)
3. What powers the trains?	Diesel locomotive-hauled coaches 0% Electrification	Diesel Multiple Unit (DMU) 0% Electrification	Battery/Electric-Multiple Unit (EMU) >25% Electrification	Electric-Multiple Unit (EMU) 100% Electrification	
4. Which cities get served?	Colorado Springs - Fort Collins	Pueblo - Fort Collins	Pueblo - Fort Collins and Greeley		
5. What do stations look like?	Non-ADA, Amtrak style	Full ADA - Level Boarding			
6. Service quality?	80% on time	85% on time	90% on time	95% on time	better than 95%

# Let's Review



FRPR Service Quality Questions	A	B	C	D	E
<b>1. What is the frequency?</b>	4-6 Trains / day	8-12 trains / day	14-18 trains / day	20-24 trains / day	
Viable Tax Rates Scenario(s)	1-5	2-5	3-5	4-5	
<b>2. Operate on freight tracks?</b>	~100% (delays over 15 min could be common)	~75% (delays of 15 min common)	~50% (few delays of 15 min)	~25% (very rare delays of 15 min)	~\$0 (No delays from freight trains)
Viable Tax Rates Scenario(s)	1-5	2-5	3-5	4-5	5
<b>3. What powers the trains?</b>	Second Hand Diesel	Brand New Diesel	Battery/EMU	EMU	
Viable Tax Rates Scenario(s)	1-5	2-5	4-5	5	
<b>4. Which cities get served?</b>	Colorado Springs - Fort Collins	Pueblo - Fort Collins	Pueblo - Fort Collins and Greeley		
Viable Tax Rates Scenario(s)	1-5	2-5	3-5		
<b>5. What do stations look like?</b>	Non-ADA, Amtrak style	Full ADA - Level Boarding			
Viable Tax Rates Scenario(s)	1-5	2-5			
<b>6. Service quality?</b>	80% on time	85% on time	90% on time	95% on time	better than 95%
Viable Tax Rates Scenario(s)	1-5	2-5	2-5	3-5	5

# Let's Review - Cross Off Lowest Scenario

Base Funding Scenarios per Sales Tax Alone					
Pre-Federal and State Support	Base Rate	1 Yr	5-Yr	10-Yr	15-Yr
Scenario 1 - "Bare Bones" (#DontMindUs)	0.10%	\$0.1	\$0.6	\$1.1	\$1.7
Scenario 2 - "Bare Bones+" (w/ Level-Boarding)	0.25%	\$0.3	\$1.4	\$2.9	\$4.3
Scenario 3 - "Single Dedicated Passenger Track"	0.50%	\$0.6	\$2.9	\$5.7	\$8.6
Scenario 4 - "Single Dedicated Passenger Track+"	0.75%	\$0.9	\$4.3	\$8.6	\$12.8
Scenario 5 - "Dedicated double-track" (TABOR Cap)	1.00%	\$1.1	\$5.7	\$11.4	\$17.1



# What the consultants said in 2020:

Cost Analysis Criteria	Full Build Out New Dedicated Double Track	Shared Freight Track + Track Improvements + Sidings	New Dedicated Single Track on Shared ROW Corridor	Consolidated Class I Freight + Track Improvements on Remaining Single Track
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Single / Double-Track	Double	Single	Single	Single <sup>1</sup>
Dedicated / Shared Track	Dedicated	Shared	Dedicated	Dedicated
ROW	Acquired <sup>2</sup>	Sidings Acquired <sup>2</sup>	Acquired <sup>2</sup>	Acquired <sup>2</sup>
Sidings	N/A	Yes <sup>3</sup>	Yes <sup>4</sup>	Yes <sup>4</sup>
Alignments	3,4,6	3	3 and 4 <sup>5</sup>	3 and 4 <sup>5</sup>
Capacity Roundtrip Trains/Day <sup>8</sup>	24+	2-6 <sup>6</sup>	12-24 max	12-24 max
Crossing Structures	New structures for double track	Utilize existing structures, some replaced or improved	New structures for single track	Utilize existing structures, some replaced or improved
Runtime & Ridership Modeling	RAILSIM / CDOT Travel Demand Modeling Completed	RTC Modeling Needed	RAILSIM / CDOT Travel Demand Modeling Completed <sup>7</sup>	Further Modeling Needed
CapEx Estimate Range <sup>9, 10</sup>	\$8.0 B to \$13.4B	\$1.7B to \$2.8B	\$5.6B to \$9.3B	Further information required and not estimated at this time.



# Amtrak On-Time Performance

On-Time Performance Comp	CY'22 On Time (%)	Frequency	Year Service Introduced	Host RR
Cascades	56%	4	1971	BNSF and UP
Wolverine	61%	3	1971	NS/CN
Lincoln Service	69%	4	1973	UP/CN
Piedmont	72%	4	1995	NS
San Joaquins	73%	5	1974	BNSF and UP
Downeaster	82%	5	2001	CSX
Capitol Corridor	85%	15	1971	UP
Hiawatha	92%	7	1971	CP
<b>Peer Service Average</b>	<b>74%</b>			
RTD Commuter Rail (2019)	93%	72	2016	NA
Frontier Airlines	68%	500	NA	NA
Southwest Airlines	74%	4000	NA	NA
United Airlines	79%	4500	NA	NA





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**Thank You!**

**Transit adventure starts at 8:30pm!**

