ATTACHMENT A

To: Chair and Members of the Transportation Advisory Committee

From: Jacob Riger, Manager, Long Range Transportation Planning
Andy Taylor, Manager, Regional Planning & Analytics

Meeting Date	Agenda Category	Agenda Item #
June 13, 2022	Informational Briefing	3

SUBJECT

2050 Regional Transportation Plan (2050 RTP) greenhouse gas (GHG) analysis of near term land use forecast adjustments and mitigation measures update.

PROPOSED ACTION/RECOMMENDATIONS

N/A

ACTION BY OTHERS

N/A

SUMMARY

As DRCOG staff has previously noted to TAC, based on the mix of GHG-reduction strategies tested so far for the 2050 RTP (programmatic investments, telework rate adjustments, and major project investment mix changes), staff estimates the 2050 RTP will achieve approximately 70%-80% of the emission reduction targets in each analysis year (e.g., 820,000 MMT for 2030) as required by the state GHG rule.

Staff anticipates that with adjusted land use forecasts based on recent observations the 2050 RTP will reach approximately 85%-88% of the emission reduction target for 2030 (analysis for 2040 and 2050 not yet determined). Accordingly, staff have been exploring the use of CDOT-defined mitigation measures.

The GHG rule provides for using mitigation measures to further reduce GHG emissions that are separate from emission reduction strategies reflected in DRCOG's Focus model. Mitigation measures must be specific, measurable, effective in reducing GHG emissions, and able to be tracked over time. The process of using mitigation measures within the GHG rule, which CDOT codified with the Transportation Commission's recently adopted Policy Directive 1610 (PD1610), would require the DRCOG Board to adopt a Mitigation Action Plan as part of the revised 2050 RTP committing the region to implement and annually report on the status of the specific mitigation measures chosen at the regional level (not by individual jurisdiction).

PD1610 includes several types of mitigation measures grouped by project type with specific metrics and associated GHG reductions. DRCOG's 2050 RTP already includes transportation project types, either directly or programmatically, that are included in the policy directive (bicycle and pedestrian facilities, transit, complete streets, operations, etc.). PD1610 also includes other mitigations measure categories for land use and parking management strategies. Staff have been evaluating and estimating opportunities available for mitigation measures in the PD1610 land use and parking management categories:

Parking Management

- Reduce minimum commercial development parking requirements and set maximum parking rates.

- Eliminate residential development parking minimum requirements and set low or moderate maximum parking rates.

Land Use

- Rezone to increase residential density.
- Rezone to increase job density.
- Rezone to expand areas for mixed-use transit-oriented development.

Initial DRCOG staff applicability analysis involves identifying available undeveloped or underdeveloped parcels around rapid transit stations or other key geographies that could realistically be developed or redeveloped at higher densities or with new parking standards. Then staff is considering the potential GHG reductions based on the calculations in PD 1610. Staff is also considering the relative difficulty applying, analyzing, measuring, and tracking these measures over time.

Staff is also considering other measures outside of PD1610 to help achieve the required GHG reduction levels, including:

- Adopt local complete streets standards.
- Require bicycle, pedestrian, transit facility, or other mitigation measures for any regionally significant roadway capacity project when added to the TIP.
- Adopt local transit and pedestrian design criteria and standards for new development within pedestrian focus areas, urban centers, station areas and along certain complete streets corridors.
- Identify efficient locations based on average vehicle miles traveled (VMT) for those living in an area, then drafting potential changes to Metro Vision's growth and development sections targeting a higher share of growth for those locations.

As demonstrated, the 2050 RTP will not likely meet the GHG emission reduction targets without the use of mitigation measures. The alternative to mitigation measures in this case is accepting restrictions on the use of certain funds administered by DRCOG and CDOT within the DRCOG MPO area to only projects that reduce GHG emissions. This restriction of funds would affect project eligibility for DRCOG's 2024-2027 TIP calls #3 and #4 in late 2022 and early 2023 as well as eligibility for CDOT's project funding decisions within the DRCOG MPO area.

PREVIOUS DISCUSSIONS/ACTIONS

N/A

PROPOSED MOTION

N/A

ATTACHMENTS

1. Staff presentation

ADDITIONAL INFORMATION

If you need additional information, please contact Jacob Riger, Manager, Long Range Transportation Planning, at 303-480-6751 or jriger@drcog.org, or Andy Taylor, Manager, Regional Planning & Analytics, at 303-480-5636 or ataylor@drcog.org.

2050 MVRTP GHG ANALYSIS – MITIGATION MEASURES

Transportation Advisory Committee Work Session

June 13, 2022

Jacob Riger, AICP | Manager, Long Range Transportation Planning

Andy Taylor, AICP | Manager, Regional Planning & Analytics

2050 RTP GHG ANALYSIS – KEY POINTS

- Revised 2050 RTP **due by October 1, 2022**
- **Adopted 2050 RTP can achieve 70%-80% of reduction targets** with strategies tested so far:
  - Telework adjustments, quantifying programmatic investments, project mix changes
- **Mitigation measures will be needed** to close the remaining GHG reduction gap

PROCESS TO MEET GHG REDUCTION LEVELS

1. RTP Baseline (Updated modeling of 2050 RTP as adopted April 2021)

- RTP roadway and transit system networks for each future analysis year
- Includes all future regionally significant projects
- Adopted land use forecasts

Baseline GHG emission values for 2025, 2030, 2040, & 2050

2. Adopted RTP Reflecting all Investments (builds on baseline to also include):

- Programmatic investments (pedestrian/bicycle, safety, transit, etc.)
- 25% telework

Does not fully achieve reduction targets

3. RTP Updates & Amendments (builds on adopted plan to include):

- Changes to RTP's project investments
- Refocusing scope of some road capacity projects
- Advance some bus rapid transit corridors
- More/quicker multimodal programmatic investments

Currently testing – may not fully achieve reduction targets

4. Further GHG Mitigation Measures

- Explore measures to close remaining GHG gap
- Must be specific, measurable, beneficial, and committed to by region (through DRCOG Board action)
- Annual GHG Mitigation Report

If GHG targets not met, funds are restricted

RTP – DRCOG 2050 Regional Transportation Plan
GHG – Greenhouse gas

CAN THE REGION CLOSE THE GAP?

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- Refocusing scope of some road capacity projects
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- More/quicker multimodal programmatic investments

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ACCOUNTING FOR GROWTH TRENDS

Starting point – 2050 MVRTP land use assumptions:

- Finalized mid-2020
- Rely on observed housing and employment through 2018
- Includes first version of scheduled development assumptions used at DRCOG
- Rely on 2018-2019 vintage county control forecasts from State Demography Office

ACCOUNTING FOR GROWTH TRENDS

Adjusted assumptions:

- Incorporate point-level observations through 2020
- Include recent year estimates using purchased data – CoStar (for rent housing) and Zonda (for sale housing)
- Substitute near-term scheduled development assumptions based on information from CoStar (through 2024) and trends from Zonda (through 2028)
- Require county control forecast adjustments based on above

	State Demography Office		DRCOG analysis
	Share of household growth		Share of housing production obs./est. 2010-2028
County	2010-2020	2020-2030	
Adams	15%	20%	15%
Arapahoe	17%	16%	11%
Boulder	7%	8%	7%
Broomfield	3%	4%	4%
Clear Creek	<1%	<1%	<1%
Denver	29%	23%	32%
Douglas	15%	13%	16%
Gilpin	<1%	<1%	<1%
Jefferson	10%	9%	10%
Weld (partial)	4%	5%	5%

THE RESULTS (2030)

- Updated and improved land use data shows meaningful reductions in VMT and GHG compared to the original 2050 MVRTP forecast.
  - Reflects the legacy of Metro Vision and implementation by local governments and other stakeholders
  - Using the updated land use, the remaining "gap" from the GHG target would be reduced from ~200,000 metric tons to ~100,000-150,000 metric tons
- **Note:** Work is underway with the State Demography Office, local jurisdictions and the Small-Area Forecast Working Group to evaluate, modify and incorporate these assumptions in the next small-area forecast (2023)

CDOT POLICY DIRECTIVE 1610

- Outlines specific **mitigation measures** for a **Mitigation Action Plan**
  - measures ≠ performance measures
  - measures = initiatives (i.e. projects, programs, policies)
- Assigns a metric ton reduction to **specific activities** not accounted for in modeling
- Adoption of a **Mitigation Action Plan** requires an **annual status report**

PD 1610 PARKING MANAGEMENT

- Additional parking fee
- Unbundle parking cost from rent
- Change parking requirements in local development code
  - Eliminate minimum and set low maximum for new residential
  - Reduce or eliminate minimum and set moderate maximum for new residential
  - Reduce or eliminate minimum and set maximum for commercial (office)

Potential barriers

Policy mechanism unclear

Maximum may not be feasible in some places

Calibrated to office uses as adopted by Transp. Commission

PD 1610 LAND USE

- Rezone to increase residential density
- Rezone to increase job density
- Rezone for mixed-use transit-oriented development
  - High-intensity
  - Moderate intensity

Potential barriers

Up to local governments and their residents

Limited opportunities

- Where zoning not ***already in place***
- Where parcels are ***vacant*** or ***underutilized***

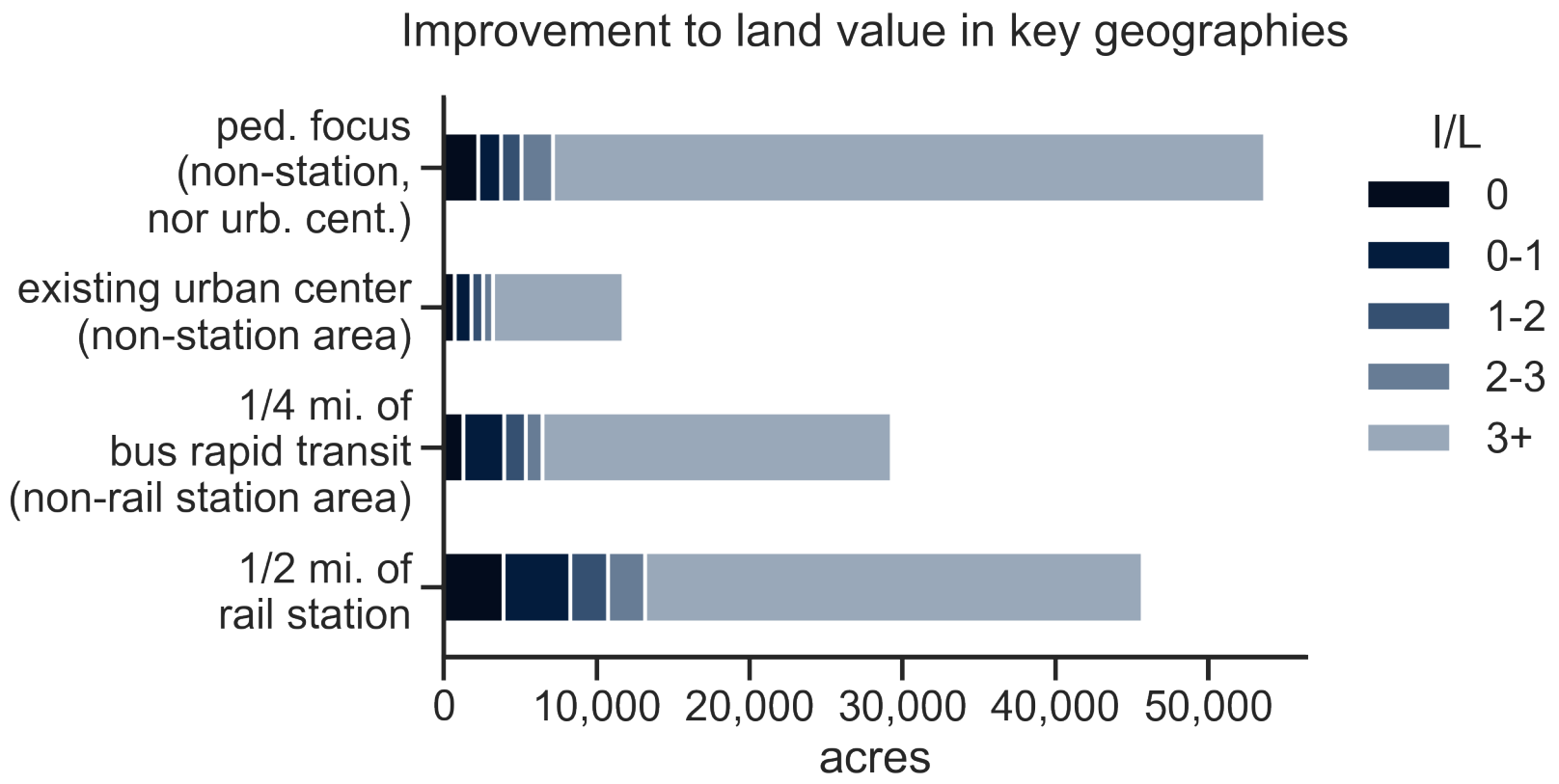
INITIAL ANALYSIS IN KEY GEOGRAPHIES

Total acres of parcels by improvement/land value (I/L) and key geography

I/L	1/2 mi. of rail station	1/4 mi. of bus rapid transit (non-rail station area)	existing urban center (non-station area)	pedestrian focus areas (non-station, nor urb. cent.)	total
0	3,911	1,257	719	2,242	**8,128**
0-1	4,368	2,703	1,073	1,485	**9,629**
1-2	2,461	1,400	792	1,358	**6,011**
2-3	2,425	1,107	652	2,074	**6,258**
3+	32,565	22,820	8,522	46,567	**110,475**

Data notes: Analysis excludes protected open space, parcels smaller than 0.5 acres

INITIAL ANALYSIS IN KEY GEOGRAPHIES



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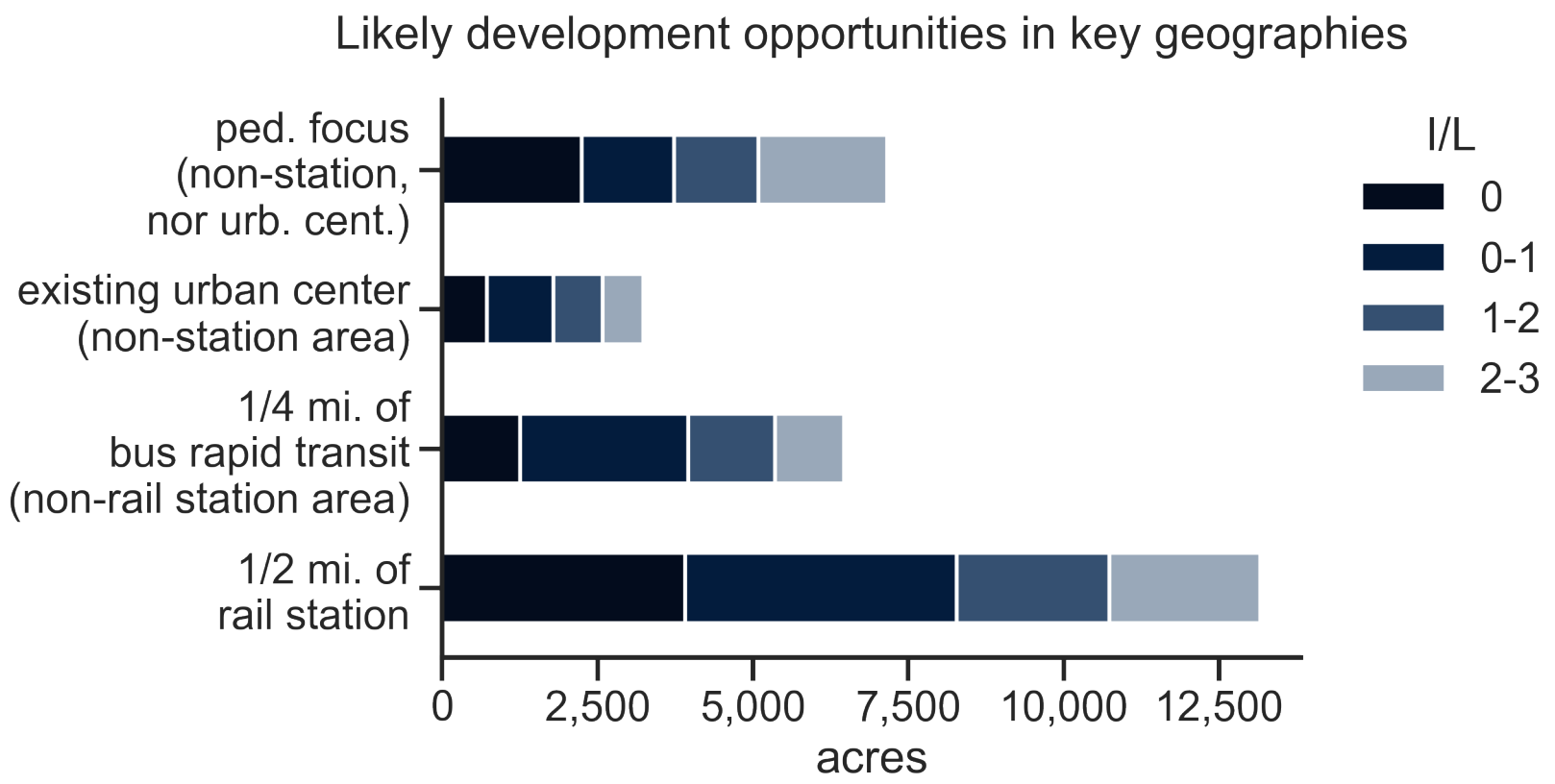
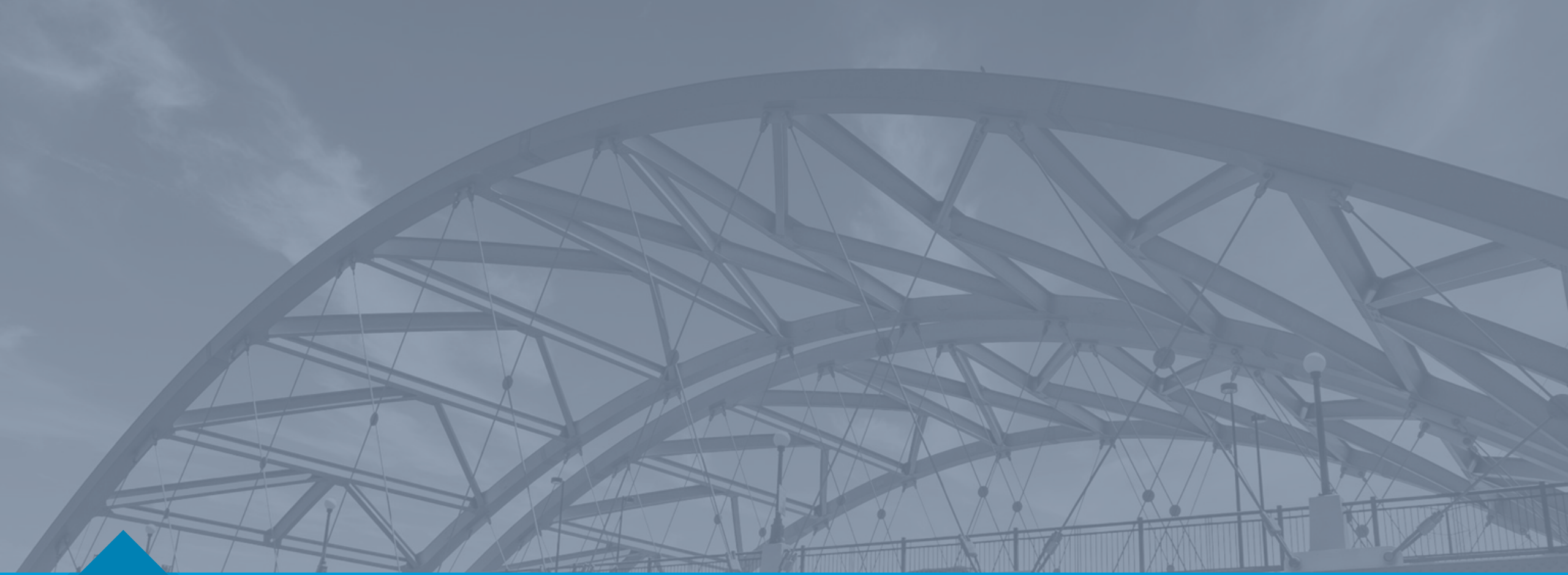


CONCLUSIONS & CONSIDERATIONS

- **Mitigation measures will be needed** to achieve the GHG targets
- Staff is **analyzing the feasibility & applicability** of parking management and land use-related measures from PD1610
- Staff is also **considering other measures outside of PD1610** to help achieve the GHG reduction levels, including:
  - Adopt local **complete streets standards**
  - Require **multimodal mitigation measures** for regionally significant roadway projects when added to the TIP
  - Adopt **local transit & pedestrian design criteria/standards** for new development in focus areas, around stations, along complete streets
  - Identify **efficient locations** based on average vehicle miles traveled (VMT) and consider integrating **targets for a higher share of growth** for those locations in **Metro Vision**



THANK YOU!

QUESTIONS?

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