

Transportation Advisory Committee

Meeting date: October 28, 2024

Agenda Item #: 9 (Attachment G)

2050 Regional Transportation Plan Scenario Planning Introduction

Agenda item type: Discussion

Summary

Introduction to scenario planning analysis activities for the update to the 2050 Metro Vision Regional Transportation Plan.

Background

An early and significant effort while developing the 2050 Metro Vision Regional Transportation Plan was developing and testing multiple transportation and land use scenarios. As the next major update to the RTP begins, staff are interested in completing a new scenario analysis to further refine the investment priorities identified in the 2050 RTP.

The future analysis is not intended as a rigorous “evaluation”, to “choose” a specific scenario (or hybrid), or to label a particular scenario “good” or “bad” based on its characteristics or results. The objective will be to understand how and to what extent each scenario influences regional relationships between urban form, transportation system approaches, travel and mobility patterns.

At the October TAC meeting, staff will provide a recap of the original scenario planning analysis results, discuss the latest population and employment forecasts for the region, and seek feedback from members on the most important topics impacting transportation and land use in the region.

Action by others

None

Previous discussion/action

None

Recommendation

None

Attachment

Staff presentation

For more information

If you need additional information, please contact Alvan-Bidal Sanchez, Regional Transportation Planning Program Manager, at 720-278-2341 or asanchez@drcog.org.





Regional Transportation Plan Scenarios Introduction

Transportation Advisory Committee: October 28, 2024



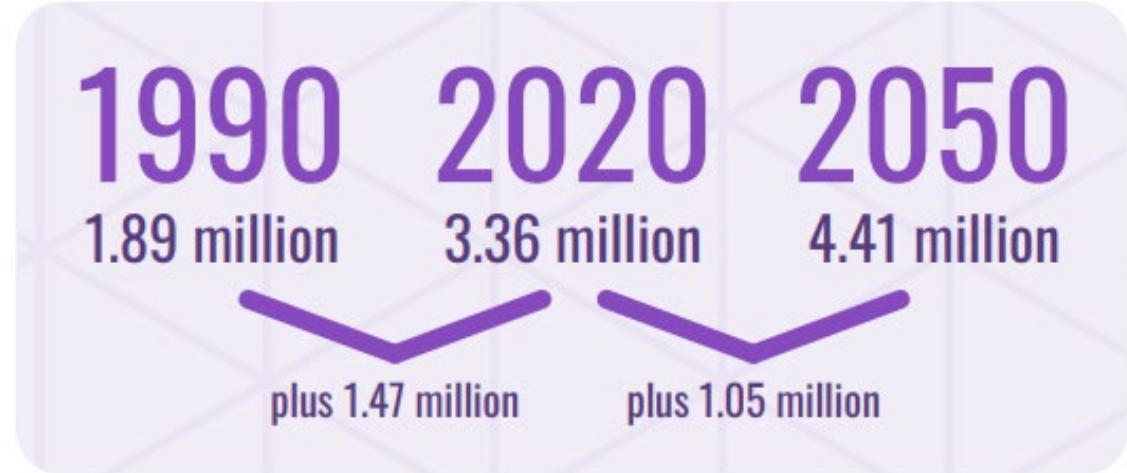
2050 RTP Update - Major activities

	2024				2025				2026			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Scenario planning												
Financial planning												
Candidate projects												
AQ and GHG modeling												
Document development												
Public and stakeholder												
Adoption and finalization												



2020 scenarios analysis recap

A growing region and a mature transportation system



5 
Interstates

6 
U.S. Highways

36 
State highways

2 
Toll highways

2 Class 1 railroads
(BNSF and Union Pacific)

3 
Mountain passes

4,000 
Signalized intersections

9,800 
Bus stops

17,700 
Sidewalk miles

8 
Airports

DRCOG's Approach



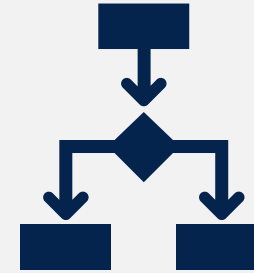
Explores “**what if**” alternative futures



Relative comparisons between scenarios and baseline



Not rigorous evaluation of scenarios, nor choosing/ judging scenarios



Choices & tradeoffs from individual scenarios



Provide **guidance and direction** for plan development

Scenario analysis

Land Use Scenarios

2050 Base



Infill



Centers



2050 Base
(2040 FC RTP)



Transportation Scenarios

Off-Peak
Congestion



Managed Lanes &
Operations



Travel
Choices



Transit



Automated/Connected
Vehicles



Scenario combinations summary

2050 Base



2050 Base
Transportation



Off-Peak
Congestion



Managed
Lanes &
Operations



Travel
Choices



Transit

Infill



2050 Base
Transportation



Travel
Choices

Centers



2050 Base
Transportation



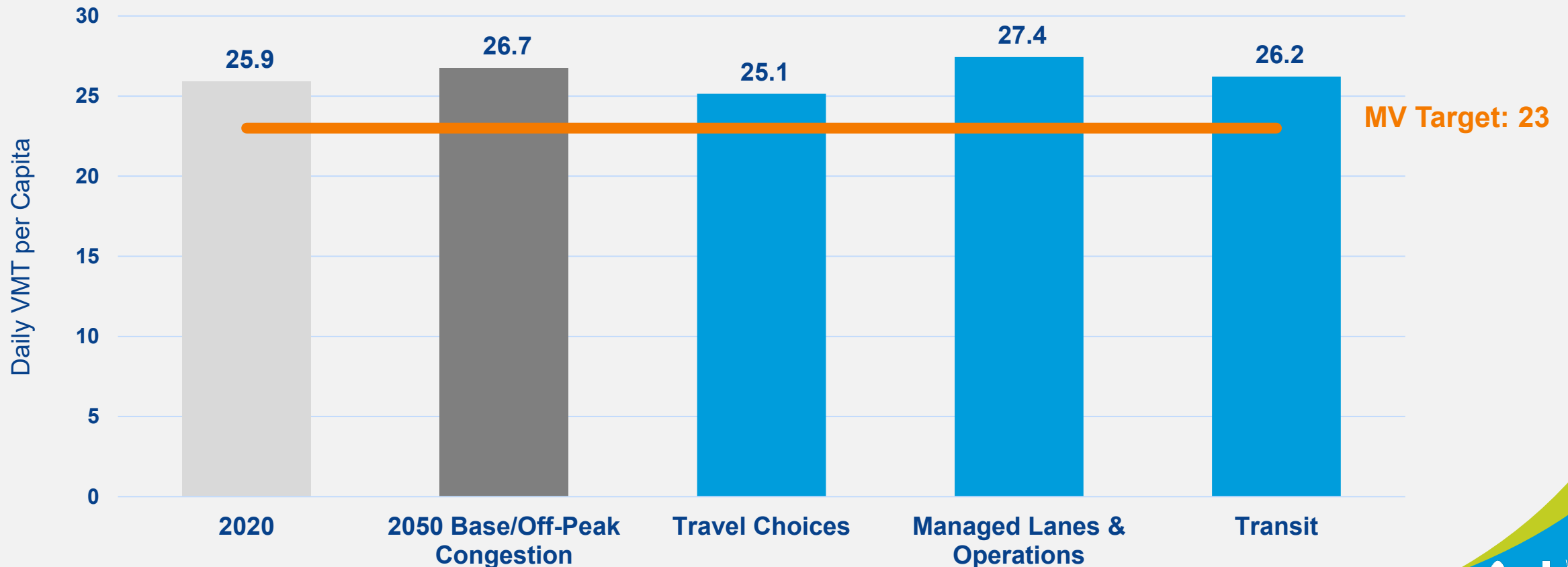
Transit

Transportation Scenarios

Metro Vision Targets



Reduce Daily Vehicle Miles Traveled (VMT) per Capita

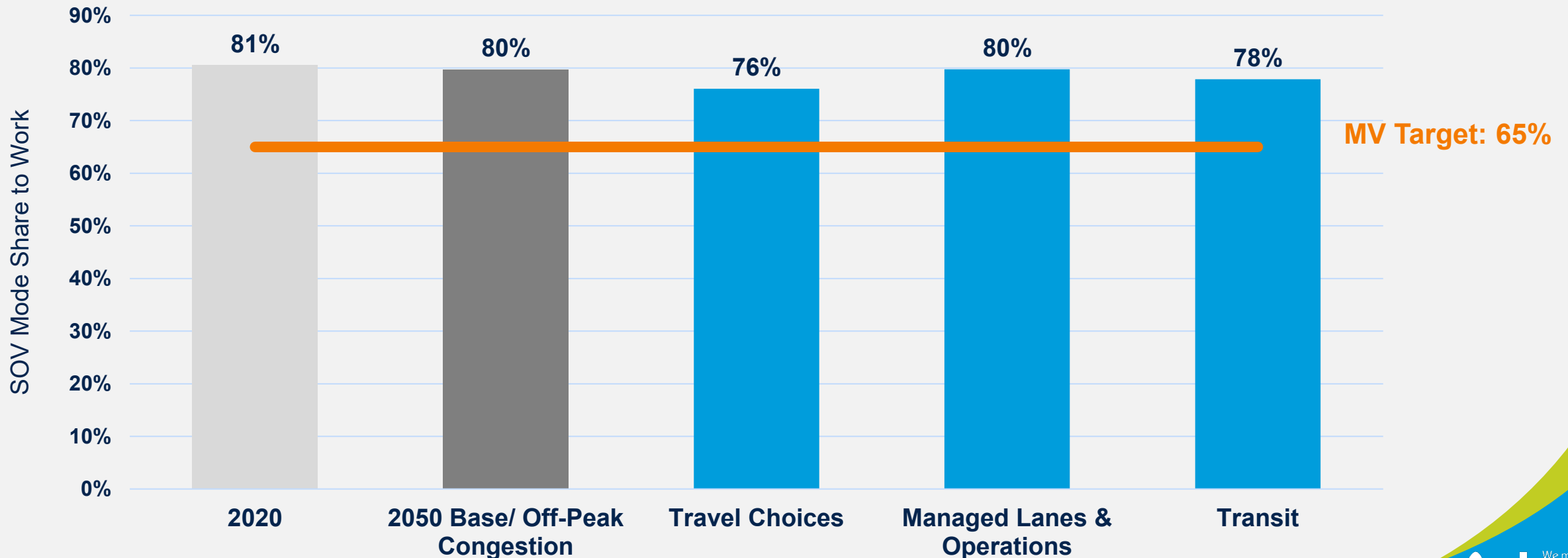


Transportation Scenarios

Metro Vision Targets



Reduce Single-Occupant Vehicle (SOV) Mode Share to Work

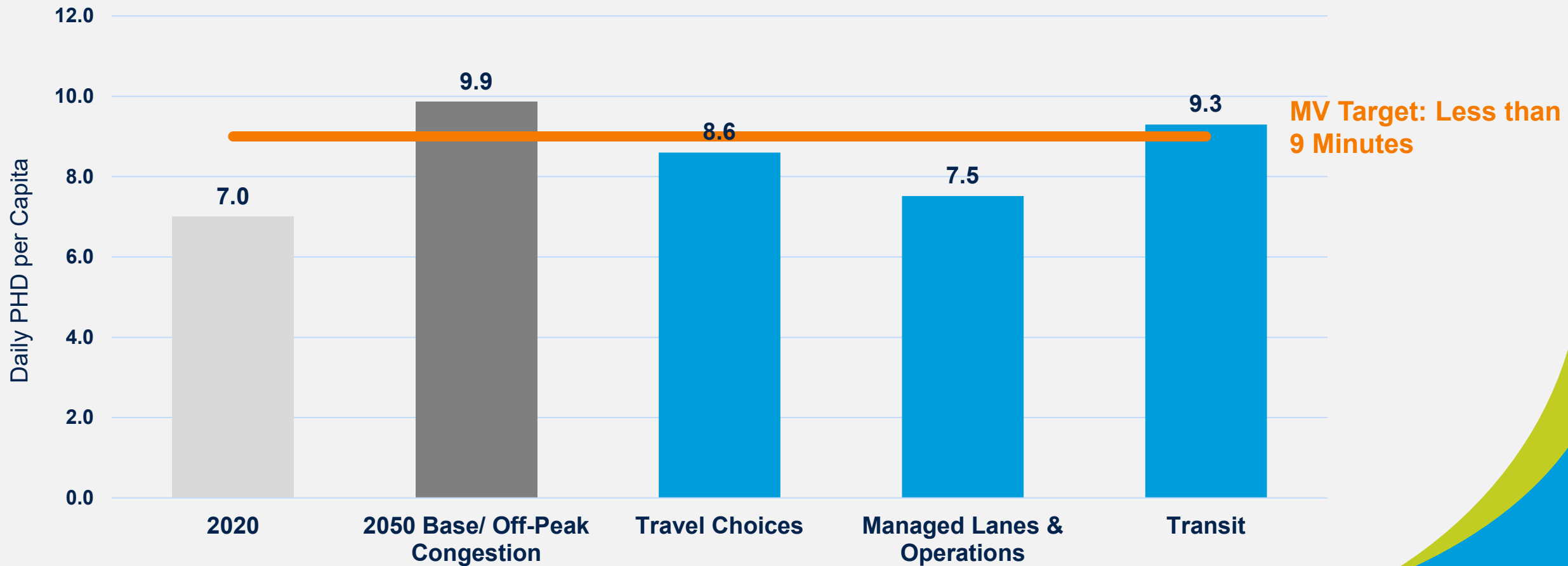


Transportation Scenarios

Metro Vision Targets



Minimize Increase of Daily Person Delay per Capita



Infill + Travel Choices Scenario



i Increase travel & mobility choices along region's major arterials.



Allow for more housing/jobs in **existing urban and inner suburban areas**



Active transportation is encouraged through **better infrastructure and lower speeds** on high activity urban arterials



Telecommuting & other Transportation Demand management (TDM) strategies



Infill + Travel Choices Outcomes



Vehicle miles traveled decreases by **14.5 million** each day
(~11% less VMT compared to the 2050 Base)



Twice as many walking and biking trips
(~16% of all trips taken in the region)

A range of housing options across the region benefits individuals and families and can improve the economic vitality and diversity of local communities.

More transit trips than in the "Transit" Scenario.



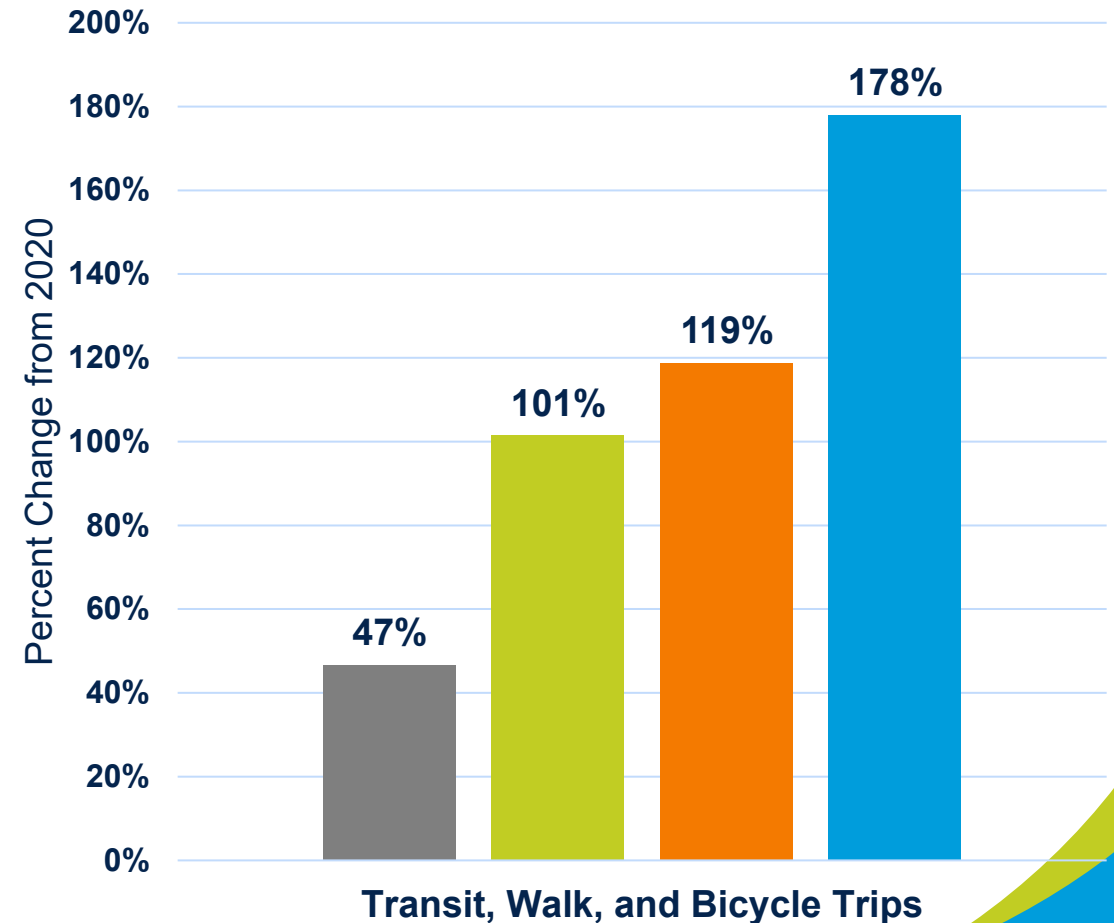
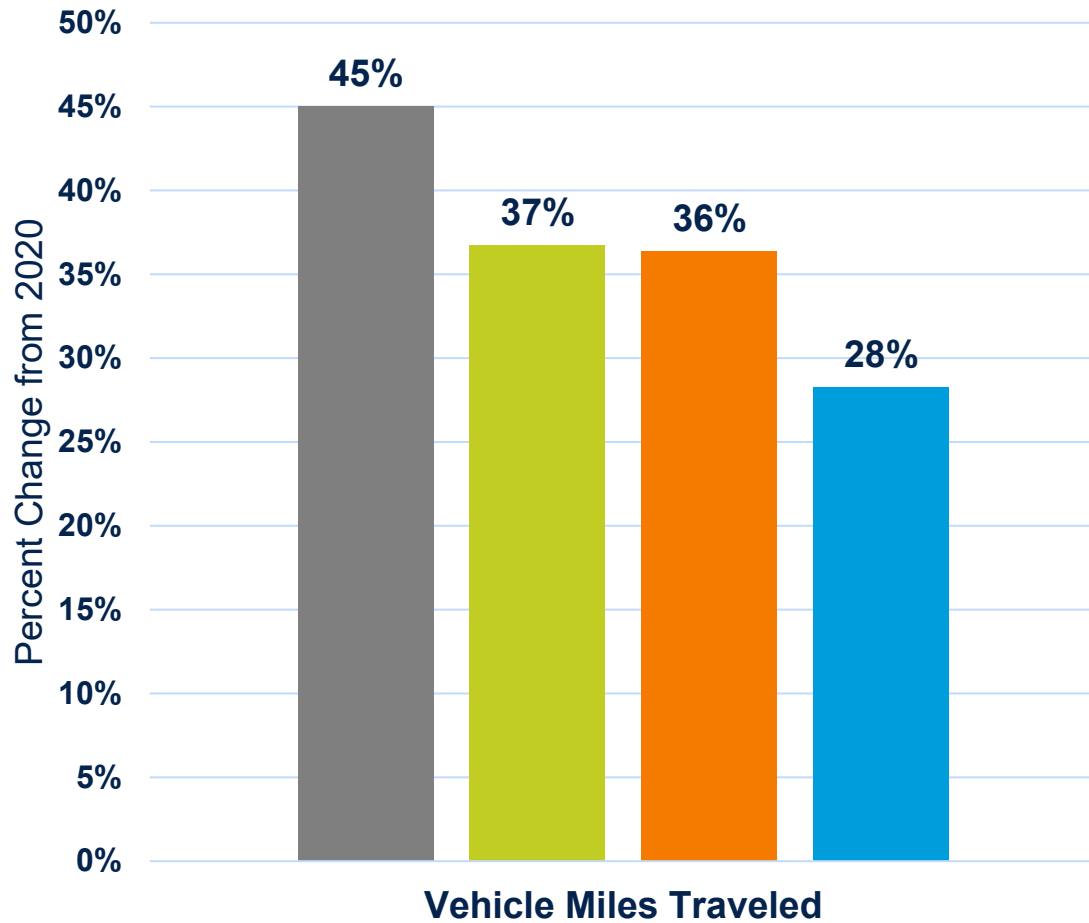
Scenario Comparison Change from 2020

■ 2050 Base
■ Infill



■ Travel Choices

■ Infill + Travel Choices



Centers + Transit Scenario



i Improve/expand the region's transit network and service.



Focus housing/jobs around **key centers and corridors**



Cost of driving and parking increases significantly



Completion of **FasTracks** and **additional miles of rail**



Extensive **BRT network** and expanded service



Free fares & improved station/stop access



Centers + Transit Outcomes



Vehicle miles traveled **decrease 24%**



3 times as many walk and bicycle trips



6 times as many transit trips
(2.4 million transit trips daily)

Connected urban centers across the region accommodate a growing share of the region's housing and employment and support existing neighborhoods.

More total person trips since there is more free-time for short trips.

People in vehicles experience 50% less delay on average.



Scenario Comparisons Change from 2020



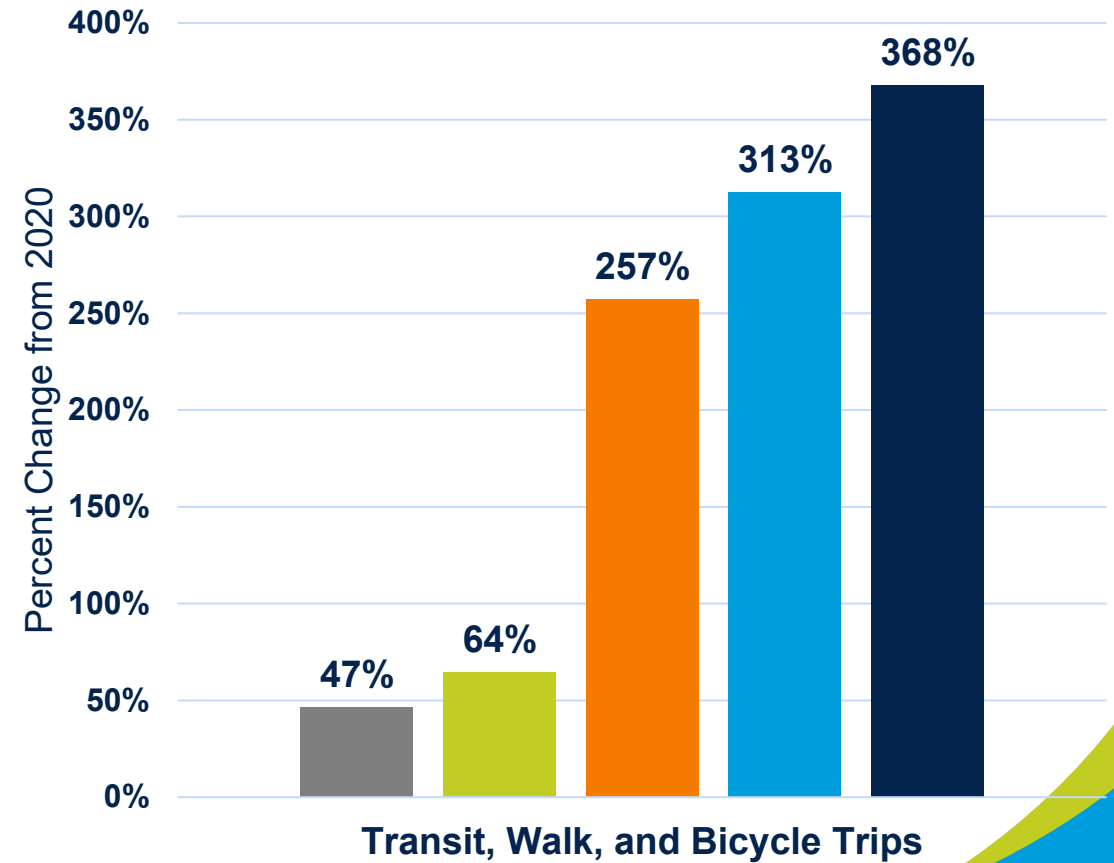
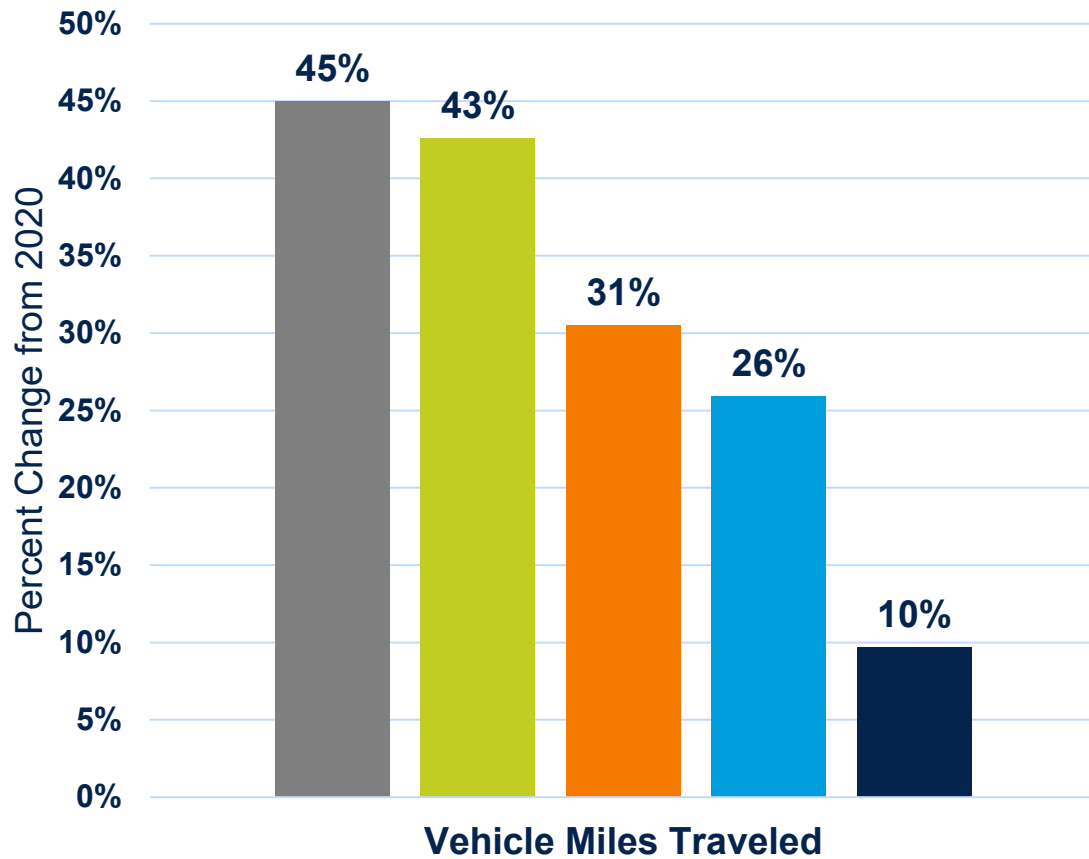
■ 2050 Base

■ Centers

■ Centers + Transit + Costs

■ Transit

■ Centers + Transit



Project types in the MVRTP



Air quality regionally significant **roadway capacity** projects



Air quality regionally significant **rapid transit capacity** projects



Arterial safety, Complete Streets retrofits, and **regional Vision Zero** improvements



Active transportation improvements (bicycle facilities, pedestrian facilities, trails)



Freight improvements (bridge reconstructions, overpasses/underpasses, new bridges)



Corridor planning – roadway and transit (generalized corridors/concepts)

Fiscally constrained projects



Multimodal mobility

Multimodal capital projects

\$8.2 billion



Air quality

Transportation Improvement Program set-asides

\$373 million



Regional transit

Regional bus rapid transit projects
Corridor transit planning projects and program

\$1.2 billion
\$725 million



Safety

Arterial safety and Regional Vision Zero projects and program

\$465 million



Active transportation

Active transportation program

\$180 million



Freight

Freight program

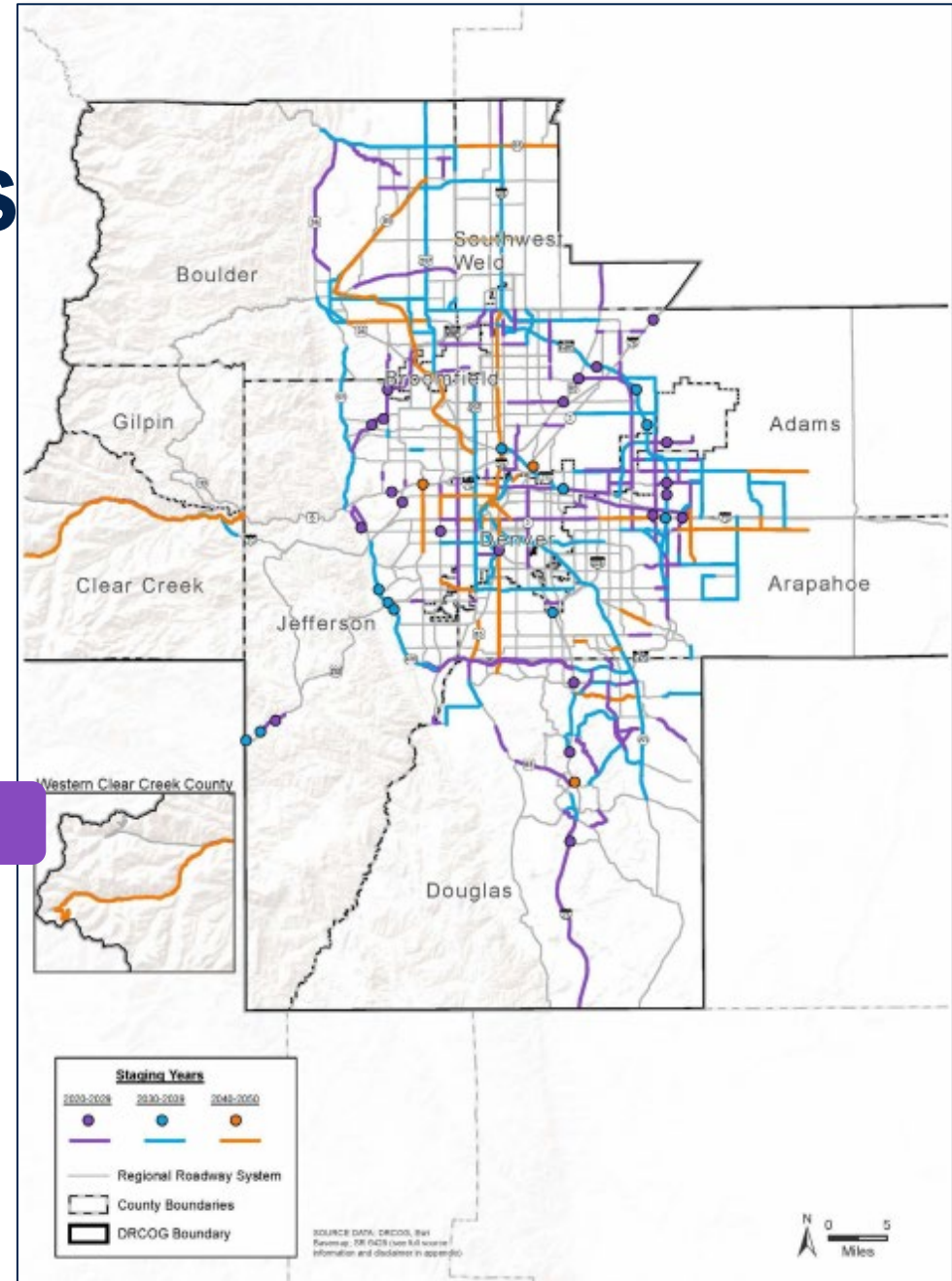
\$220 million



Local projects

Locally funded projects

\$4.0 billion



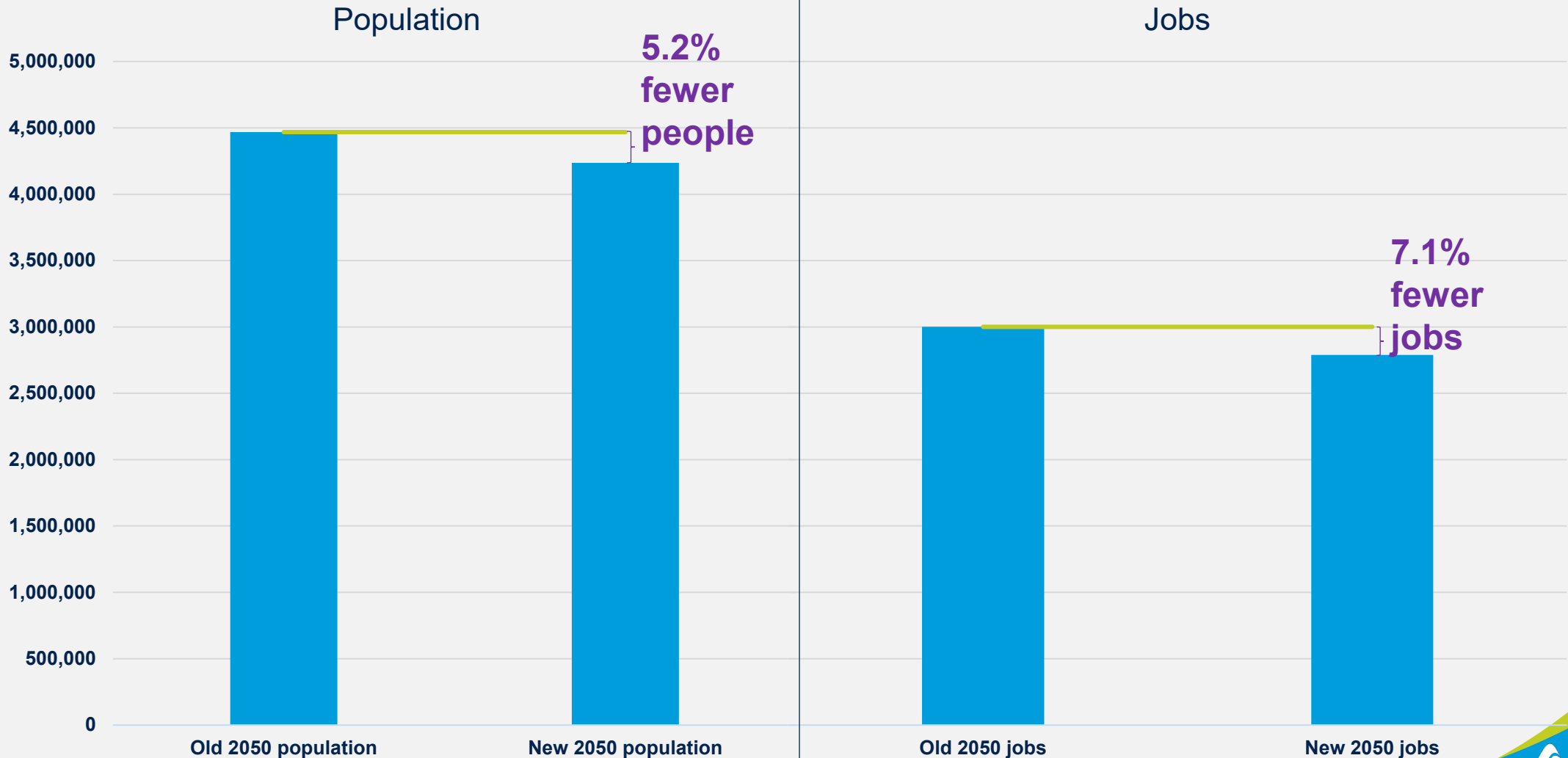


Latest population and employment forecasts

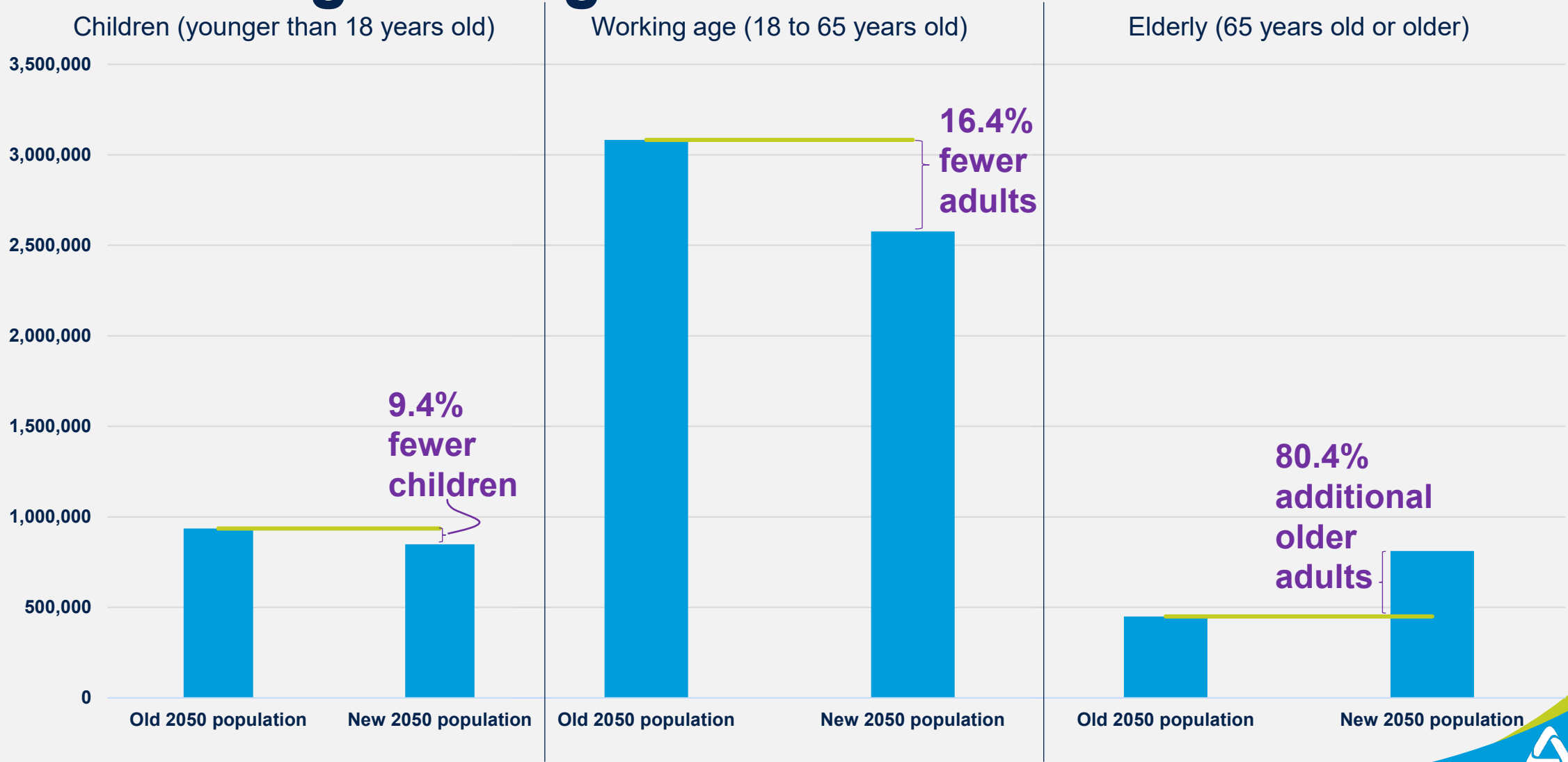
Changes since the last scenario planning

- Control totals from the state demographer's office **reduce 2050 population by about 231,400 people** compared to previous estimates.
- Updates were made to the land use portion of the model to **better represent the region's population**, including how it ages and makes choices.
- As a result of these modifications, key changes were observed in **age, household income and number of workers per household**.

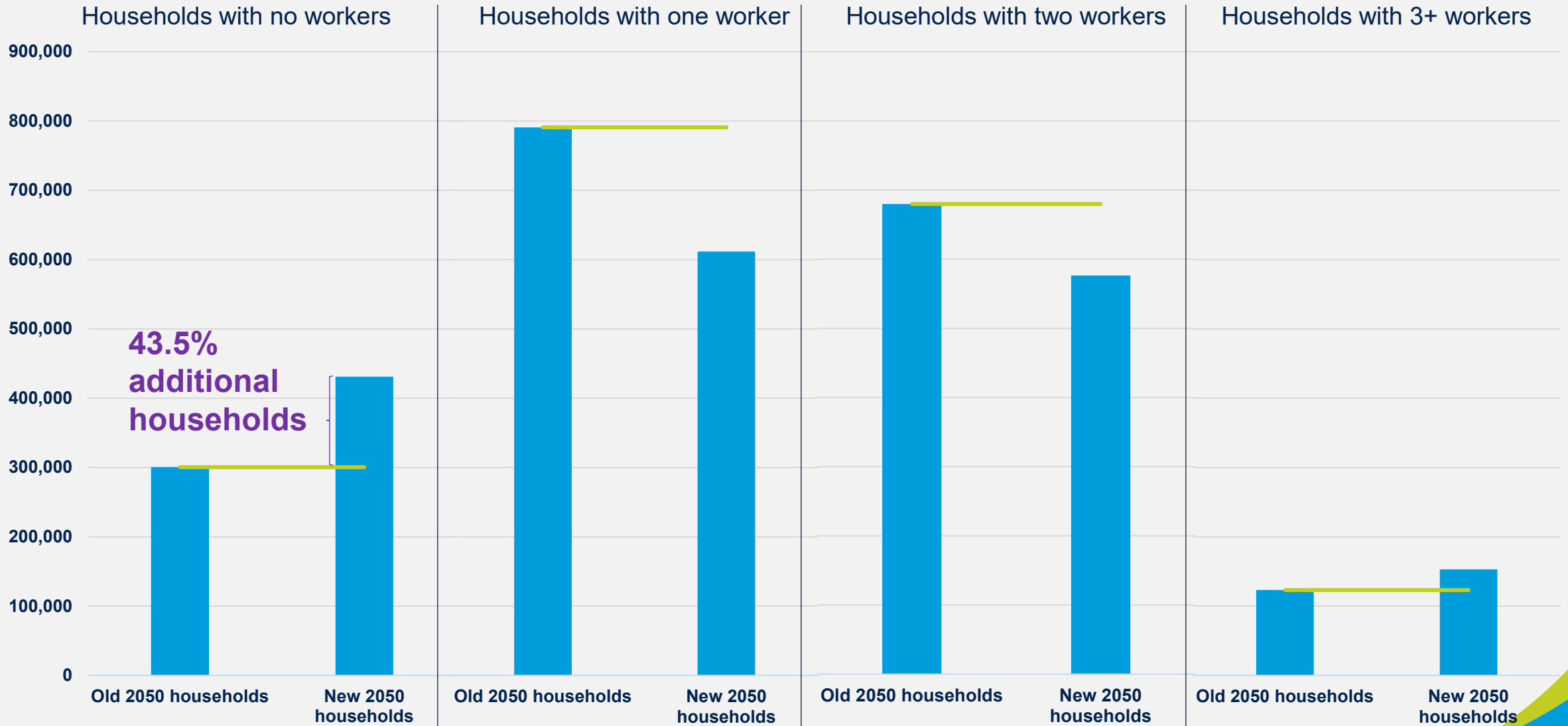
2050 population and employment changes



2050 age changes



2050 workers per household



2050 household income changes (in 2024 dollars)



Summary of population and employment changes

In 2050, the region will see...

- 231,400 **fewer** residents.
- 212,200 **fewer** jobs.
- 130,600 **additional** households with no worker.

Age:

- 361,700 **additional** older adults.
- 505,400 **fewer** working age adults.
- 87,800 **fewer** children.

Income:

- 8,600 **additional** households below the poverty line.

...compared to the previous 2050 forecast.

Transportation impacts from changes to the model

Because of these changes, the new 2050 forecast shows...

- 7% fewer person trips across all modes.
- 5% fewer vehicle trips.
- 28% fewer transit trips.
- 14% fewer bicycle and pedestrian trips.

...resulting in...

- 5% fewer vehicle miles traveled.
- A slight decrease to vehicle miles traveled per capita.
- 17% fewer vehicle hours of delay.

What this means for scenario planning

- Results may look slightly different – the new 2050 baseline bears a **smaller population** and shows **lower traffic congestion** than before.
- The modeled population **behaves differently** than prior given its better real-world representation.
- As such, this scenario planning exercise is **not directly comparable** to the previous effort.



Conceptual feedback



Next steps

- Synthesize **internal** and **external feedback**.
- Begin **defining** potential scenarios.