Welcome!

2050 Metro Vision Regional Transportation Plan
Youth Advisory Panel
Tonight’s agenda

- Introductions
- February meeting recap
- DRCOG scenario planning results
- Investment priorities budget game
- Coordinated transit plan
- Transit activity
- Wrap up
Introductions

- Name
- Grade
- Which board/commission
Reminder of why you’re here....

• DRCOG is committed to meaningful public engagement of ALL the region’s residents

• Recent past plans haven’t had much if any youth input

• We are planning for our regional transportation system all the way to 2050 – it will be YOUR system

• Great opportunity with network of existing youth commissions in region
Local youth boards/committees/commissions

Aurora  Youth Commission
Boulder  Youth Opportunities Board
Brighton Youth Commission
Broomfield Teen Council
Castle Rock Teen Advisory Group
Centennial Youth Commission
Commerce City Youth Commission
Denver  Mayor’s Youth Commission
Lafayette Youth Advisory Committee
Littleton Next Generation Advisory Committee
Lone Tree Youth Commission
Longmont Youth Council
Louisville Youth Advisory Board
Lyons  Student Advisory Commission
Northglenn Youth Commission
Superior Youth Leadership Council
Thornton Youth Council
Westminster Youth Advisory Panel
MVRTP overview

- Region’s Multimodal Vision
- Fiscally-Constrained (Cost Feasible)
- Capacity Projects (Road & Transit) for TIP Funding
- Implements Metro Vision
- Updated Every 4-Years/Amended Frequently
- Federal Requirements (MPO Function)
Project schedule

**SUMMER/FALL 2019**
Phase 1: visioning and education

**WINTER 2019/SPRING 2020**
Phase 2: investment priorities and scenario options

**FALL/WINTER 2020**
Phase 3: plan development

**SPRING 2021**
Phase 4: draft plan review
Last meeting, we focused on...

Scenario planning

Almost-March Madness: which are the most important measures to use to evaluate scenario results
What did we do with your input?

1. More people have access transit & jobs
2. Fewer greenhouse gas emissions
3. More electric vehicles
4. Fewer deaths on roads

**Winner:** More people have access to *electric* transit and jobs
Draft 2050 Scenario Outcome Results
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

Transportation Scenarios

2050 Base (2040 FCRTP)

- Off-Peak Congestion
- Managed Lanes & Operations
- Travel Choices
- Transit
- Automated/Connected Vehicles
DRCOG Region Demographic Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>3,362,000</td>
<td>2,168,000</td>
</tr>
<tr>
<td>2030</td>
<td>3,802,000</td>
<td>2,451,000</td>
</tr>
<tr>
<td>2040</td>
<td>4,170,000</td>
<td>2,714,000</td>
</tr>
<tr>
<td>2050</td>
<td>4,387,000</td>
<td>2,979,000</td>
</tr>
</tbody>
</table>
2040 Fiscally Constrained Networks
2050 Base

Roadway Capacity Projects

Rapid Transit System
Scenario Combinations Summary

- 2050 Base
- Off-Peak Congestion
- Managed Lanes & Operations
- Travel Choices
- Transit

- Infill
- Travel Choices

- Centers
- Transit

- 2050 Base Transportation

[Image description: Diagram illustrating various transportation and scenario combinations.]

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Off-Peak Congestion Outcomes

Compared to the 2050 Base

Less than 1% change in vehicle miles traveled and transit trips

(Regional person delay decreases by 3%)

<table>
<thead>
<tr>
<th>AM Peak</th>
<th>Daily Volume I-25 @ Speer</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-25 from C-470 (Lone Tree) to SH-7 (Broomfield)</td>
<td></td>
</tr>
<tr>
<td>2020 Base</td>
<td>70 minutes</td>
</tr>
<tr>
<td>2050 Base</td>
<td>88 minutes</td>
</tr>
<tr>
<td>Off-Peak Congestion Scenario</td>
<td>79 minutes</td>
</tr>
</tbody>
</table>

Some traffic is diverted from arterial streets onto I-70 and I-25.

While there are few changes at the regional level, some specific corridors have significant impacts.
Managed Lanes & Operations Outcomes

Compared to the 2050 Base

People in vehicles experience **25% less delay** on average

**3% increase** in vehicle miles traveled

(≈800,000 more daily VMT compared to the 2050 Base)

- **Travel reliability increases significantly on the region’s freeways.**
- **Fewer secondary crashes and improved safety due to enhanced incident management.**
Compared to the 2050 Base

- More than **twice** as many teleworkers
- **400,000 fewer** drive alone work trips every day
- **50% increase** in bicycle/pedestrian trips
  
  *Slight decrease in transit trips*

*Due to safer roadway design there are fewer crashes, injuries, and fatalities.*

*Even with reduced speed limits, there is less total delay.*
79% of households have good transit access to jobs
(Compared to 58% in the 2050 Base)

76% more transit trips
(Small decrease in walk and bike trips)

100,000 more households use transit
(14% of all households)

Free transit provides personal, mobility, and equity benefits.
There is a 2% decrease in vehicle miles traveled.
SCENARIO COMPARISONS
OUTCOMES & METRO VISION TARGETS
Vehicle Miles Traveled (% Change from 2020)

- **2050 Base/Off-Peak Congestion**: 45%
- **Managed Lanes & Operations**: 49%
- **Travel Choices**: 37%
- **Transit**: 43%
Transit, Walk, & Bicycle Trips (% Change from 2020)

- 2050 Base/Off-Peak Congestion: 47%
- Managed Lanes & Operations: 45%
- Travel Choices: 101%
- Transit: 64%
Vehicle Hours of Delay (% Change from 2020)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Percent Change from 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>2050 Base/Off-Peak Congestion</td>
<td>98%</td>
</tr>
<tr>
<td>Managed Lanes &amp; Operations</td>
<td>51%</td>
</tr>
<tr>
<td>Travel Choices</td>
<td>73%</td>
</tr>
<tr>
<td>Transit</td>
<td>87%</td>
</tr>
</tbody>
</table>
# Transportation Scenarios

## Metro Vision Targets

<table>
<thead>
<tr>
<th>Negative Trend</th>
<th>Major Decrease</th>
<th>No Change</th>
<th>Positive Trend</th>
<th>Major Increase</th>
</tr>
</thead>
</table>

### Scenario Cost (FY 20 Billions)

<table>
<thead>
<tr>
<th>Scenario Overview</th>
<th>Vehicle Miles Traveled</th>
<th>Transit Trips</th>
<th>Walk &amp; Bicycle Trips</th>
<th>Person Hours of Delay</th>
<th>Reduce Daily VMT per Capita</th>
<th>Reduce SOV Mode Share to Work</th>
<th>Minimize Increase of Daily PHD per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Peak Congestion</td>
<td>$4.0</td>
<td><img src="%E2%86%91" alt="Up" /></td>
<td><img src="%E2%86%91" alt="Up" /></td>
<td><img src="%E2%86%91" alt="Up" /></td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Build out the freeway/interstate system to address off-peak congestion.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managed Lanes &amp; Operations</td>
<td>$7.5</td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Improve operations &amp; traffic flow on region’s highways/freeways.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel Choices</td>
<td>$3.0</td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td><img src="%E2%86%91" alt="Up" /></td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Increase travel &amp; mobility choices along region’s major arterials.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit</td>
<td>$6.0 (+$1.0 Operations) Annually</td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td><img src="%E2%86%91" alt="Up" /></td>
<td><img src="%E2%86%91" alt="Up" /></td>
<td><img src="%E2%86%93" alt="Down" /></td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Improve/expand the region's transit network and service.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

[24]
LAND USE SCENARIOS
Land Use Scenarios
Households & Employment

- Regional Household Growth to 2050
- Regional Job Growth to 2050
- Anchored to Local Zoning and Permitted Plats
- Location Choice Models’ Calibration
Land Use Scenarios
Households & Employment

Sourced from our shared vision

Baseline

Infill

Centers
Introduce Change by Making Different Choices Available

**Infill**

What if local governments allow for more urban and suburban redevelopment and infill?

- Urban + Inner suburban
  - 11% of region’s land area*

**Centers**

What if local governments focus opportunity for development around key centers and corridors?

- Rapid transit stations + Urban centers + Employment centers
  - 3% of region’s land area

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*2010 Census
Urban Area was 15% of region’s land area
Compared to the 2050 Base

6% decrease in vehicle miles traveled

People in vehicles experience 11% less delay on average

Almost twice as many transit trips

(and a 50% increase in walk and bike trips)

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

Commercial vehicle trips decrease with consolidation of stops.
Infill + Travel Choices Outcomes

Compared to the 2050 Base

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.
Centers Outcomes

Compared to the 2050 Base

- **8% decrease** in vehicle miles traveled
- **Over 3 times** as many transit trips
- **Over twice** as many walk and bicycle trips

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

**Average Person Delay per Trip decreases by 27%. Some localized areas experience more congestion.**
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

Vehicle Miles Traveled
- 2050 Base: 45%
- Transit: 31%
- Centers: 26%
- Centers + Transit: 10%

Transit, Walk, and Bicycle Trips
- 2050 Base: 47%
- Transit: 313%
- Centers: 257%
- Centers + Transit: 368%

Percent Change from 2020
Vehicle Miles Traveled (% Change from 2020)

- 2050 Base: 45%
- Infill: 36%
- Centers: 33%
- Infill + Travel Choices: 28%
- Centers + Transit: 10%
Land Use + Transportation Scenarios
Outcomes

Transit, Walk, & Bicycle Trips (% Change from 2020)

- 2050 Base: 47%
- Infill: 119%
- Centers: 257%
- Infill + Travel Choices: 178%
- Centers + Transit: 368%
Vehicle Hours of Delay (% Change from 2020)

<table>
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<tr>
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<tbody>
<tr>
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<td>98%</td>
</tr>
<tr>
<td>Infill</td>
<td>78%</td>
</tr>
<tr>
<td>Centers</td>
<td>51%</td>
</tr>
<tr>
<td>Infill + Travel Choices</td>
<td>53%</td>
</tr>
<tr>
<td>Centers + Transit</td>
<td>-15%</td>
</tr>
</tbody>
</table>
### Scenario Overview

<table>
<thead>
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<th>Scenario Overview</th>
<th>Scenario Cost (FY 20 Billions)</th>
<th>Vehicle Miles Traveled</th>
<th>Transit Trips</th>
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<th>Person Hours of Delay</th>
<th>Reduce Daily VMT per Capita</th>
<th>Reduce SOV Mode Share to Work</th>
<th>Minimize Increase of Daily PHD per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infill</td>
<td>NA</td>
<td>$7.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
</tr>
<tr>
<td>Centers</td>
<td>NA</td>
<td>$7.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
</tr>
<tr>
<td>Infill + Travel Choices</td>
<td>$3.0</td>
<td>$7.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
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</tr>
<tr>
<td>Centers + Transit</td>
<td>$7.0</td>
<td>$10.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.0</td>
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</table>
ELECTRIC & AUTOMATED VEHICLES
Reduce Daily Transportation GHG per Capita
by Electric Vehicle Share of All Vehicles

Current Estimate  25% EVs  75% EVs

<table>
<thead>
<tr>
<th>Scenario</th>
<th>GHG per Capita (Daily)</th>
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</thead>
<tbody>
<tr>
<td>2020</td>
<td>24.6</td>
</tr>
<tr>
<td>2050 Base</td>
<td>16.4</td>
</tr>
<tr>
<td>Infill</td>
<td>15.3</td>
</tr>
<tr>
<td>Centers</td>
<td>14.7</td>
</tr>
<tr>
<td>Infill + Travel Choices</td>
<td>14.4</td>
</tr>
<tr>
<td>Centers + Transit</td>
<td>12.3</td>
</tr>
</tbody>
</table>

2040 MV Target: 10
Automated/Connected Vehicles

- Connected/ Autonomous Vehicles (Inefficiencies)
- 2020 Base to 2050 Base
- Connected/ Autonomous Vehicles (Efficiencies)

VMT per Capita

Percent of VMT in Severe Congestion

- 2020
- 2050
Next phase of public engagement

• Virtual engagement

• Need to understand people’s reactions to the scenario results and what choices and tradeoffs to be made

• Next step is creating investment priorities, which will then inform the project selection that goes into the plan

• Developed a new engagement site, budget game

• We want to hear what you think – about investment priorities and about the game!
Investment priorities activity

• Go to [bit.ly/yap-mvrtp](bit.ly/yap-mvrtp) on your phone or computer
• Scroll to “Get Involved” section, read instructions
• Submit your budget and fill out survey
• Come back together
  • Discuss your responses
  • How to improve the tool? Did it make sense? Were the amounts hard to work with?
2050 Metro Vision Regional Transportation Plan: Coordinated Transit

Youth Advisory Panel Meeting
COORDINATED PUBLIC TRANSIT HUMAN SERVICES TRANSPORTATION PLAN (CPTHSTP)
CPTHSTP - “Coordinated Transit Plan”

- Required by FAST ACT federal legislation
- Incorporated into 2050 MVRTP – scheduled for Spring 2021 adoption
- Describes existing coordinated transportation activities
- Analyzes available data, recent surveys (such as CASOA, AHC, RTD)
- Identifies gaps, needs, strategies
- Outlines future coordinated transportation activities
- Helps define eligible FTA 5310 projects
  - New role for DRCOG as administrator
Coordinated Transit Plan does not…

• Fund specific projects

• Preclude local coordination plans
Current plan identified needs & gaps

- **Access**
  - Affordable fares, especially for older adults, individuals with disabilities and/or low incomes
  - Increase service areas, frequency, service hours (nights and weekends) where gaps exist
  - Remove barriers to ride fixed route, including improving access to bus stops and rail stations and providing travel training

- **Coordination**
  - More cross-jurisdictional trips, better trip coordination, and more accessibility
  - Better regional coordination to build on improving local coordination

- **Service expansion**
  - Meet increasing demand for transportation as the population increases and ages
  - Expand volunteer driver programs
  - Increase transportation options for quality of life trips such as hair appointments and social visits
  - Improve access to healthcare for non-emergent visits

- **Other**
  - Accessible and understandable transportation information and referral services
  - Make sure that veterans have access to transportation
Current plan strategies to address needs & gaps

- Infrastructure improvements such as curb cuts
- Transit-supportive land use
- First-last mile connections
- Travel training
- Affordable fares programs
- Pilot new technology and practices to improve mobility
- Coordination
  - Spend local, regional, state, and federal funds more efficiently
  - Increase human service transportation coordination efforts
  - Address cross-jurisdictional, cross service boundary, and interregional trips
  - Improve access to key services such as healthcare and employment through coordination
Plan engagement

- Questionnaire to local governments, TMAs, Local Coordinating Councils, County Councils on Aging, Accountable Health Communities (AHC) Advisory Board and AHC Provider Group members

- DRCOG Advisory Committee on Aging

- MVRTP Youth Advisory Panel & Civic Advisory Group

- Colorado Access meetings (if possible)

- Local Coordinating Council meetings

- 2050 MVRTP engagement: Draft plan review in early 2021
Activity
In which county do you reside?

- Adams: 2
- Arapahoe: 3
- Boulder: 2
- Broomfield: 0
- Denver: 1
- Douglas: 0
- Jefferson: 0
- Weld: 0
- Other: 0
How often do you use public transportation to get somewhere in the Denver region?

- 0% More than once a week
- 13% A few times a month
- 88% A few times a year
- 0% Never
What types of public transportation have you used?

- Light rail: 7
- Bus: 1
What do you think are the main barriers to Denver region residents using public transportation more?

- Frequency of service
- Safety concerns
- Habit of driving
- Proximity to work/school
- Proximity to home
- Reliability of service
- Long travel time
- Needing to make multiple connections
- Lack of direct transport
Which Denver region residents do you feel have the greatest need to be served by transit?

- Older adults: 1
- Individuals with disabilities: 0
- Low-income individuals: 6
- All residents: 3
Next steps
Next steps

- Committees and Board of Directors reviewing scenario results
- Will put out information about budget tool when it is ready for general public – please help share!
- Investment priorities will inform project selection, plan drafting this summer/fall
- Next Youth Advisory Panel meeting – Sept. or Oct.