Welcome!

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

• Introductions
• MVRTP refresher
• November meeting recap
• What is scenario planning?
• DRCOG scenarios
• Predict the future activity
• Initial scenario trends
• Almost-March Madness activity
• Wrap up
Introductions
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
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
2050 Metro Vision Regional Transportation Plan video

https://www.youtube.com/watch?v=r802cmpCvig&feature=emb_logo
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 asked...

How do you envision that people will get around our region in the year 2050?

What *should* transportation in our region look like in 2050?

What do we need to prioritize to get there?
What did we do with your input?

1. Mass transit | Environment
2. Alternative transportation
3. Outward growth
4. Technology

2.5 Safety
Scenarios are studying:

• Transit

• Alternative transportation

• Land use focus on location on growth

• Greenhouse gas emissions

• Impact of technology

• Safety
SCENARIO PLANNING
What is scenario planning?

A process that evaluates the effects of alternative policies, plans, and/or programs on the future of the region.
Why is it helpful?

This activity can provide information to decision-makers as they develop transportation plans. Scenarios may be used by stakeholders to explore and debate alternatives and trade-offs.
What is the purpose?

By testing several scenarios against performance indicators, decision-makers can identify an appropriate set of actions that will lead toward a preferred vision.
Steps of scenario planning

1. How should we get started?
2. Where are we now?
3. Who are we and where do we want to go?
4. What could the future look like?
5. What impacts will scenarios have?
6. How will we reach our desired future?

*FHWA Scenario Planning Guidebook (February 2011)*
What could the future look like?

https://www4.uwm.edu/cuts/primer.htm
What impacts will scenarios have?

*Example from different region*
How will we reach our desired future?
Define Vision & Desired Outcomes
- Phase I Engagement
  • What’s important to us about our transportation system?

Prepare Tools
- 2050 Land Use Forecasts
- Land Use Model
- Updated Travel Model
  • Tools to model and test regional scenarios

Define & Test Scenarios
- Transportation
- Urban Form
  • Explore regional relationships between urban form, transportation investments, and mobility outcomes

Prepare 2050 MVRTP
- Major Projects
- Investment Strategy
  • How do scenario analysis outcomes inform project & investment decisions in the 2050 MVRTP?
Steps of scenario planning

- How should we get started?
- Where are we now?
- Who are we and where do we want to go?
- What could the future look like?
- What impacts will scenarios have?
- How will we reach our desired future?

*FHWA Scenario Planning Guidebook (February 2011)*
Where are we now?

Urban Form
- Land use (residential, commercial, industrial, etc.)
- Building design
- Block design
- Housing density
- Job locations
- + many more

Travel & Mobility Patterns

Transportation System
- Highways
- Local roads
- Bike lanes
- Bus routes
- Rail lines
- Mobility options
- + many more
Who are we and where do we want to go?

MOBILITY PERFORMANCE MEASURES

- **NON-SINGLE OCCUPANT VEHICLE (SDV) TRAVEL TO WORK**
  - non SDV mode share
  - 2014 Baseline: 25.1%
  - 2016 Observation: 25.1%
  - 2040 Target: 35.0%

- **VEHICLE MILES TRAVELED (VMT)**
  - 2010 Baseline: 25.2
  - 2016 Observation: 25.4
  - 2040 Target: 10.0%
  - decrease from 2010

- **PERSON DELAY**
  - minutes delay per capita per day
  - 2014 Baseline: 5.7
  - 2017 Baseline: 6.4
  - 2040 Target: Less than 9.0

- **TRAFFIC FATALITIES**
  - fatalities per year
  - 2014 Baseline: 185
  - 2016 Observation: 278
  - 2040 Target: Less than 100

- **TRAVEL TIME VARIATION (TTV)**
  - average rate of peak period to off-peak travel time
  - 2014 Baseline: 1.22
  - 2016 Observation: 1.21
  - 2040 Target: Less than 1.30

- **COMPREHENSIVE PERFORMANCE MEASURES STATUS REPORT**
  - GO
What could the future look like?

Urban Footprint

Compact → Expanded

Transportation Investment Priorities

Highways

Transit

Scenario A → Scenario B → Scenario C

Scenario D → Scenario E → Scenario F

Scenario B “Baseline”
How will we reach our desired future?

- 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
What could the future look like?

Land Use Scenarios
- Baseline
- Infill
- Centers

Transportation Scenarios
- Baseline
- Transit
- Regional Highway & Operations
- Freeway/Interstate Congestion
- Technology/Connected Vehicles
- Travel Choices
Land use scenarios to test

**Infill Emphasis**

- **Key Concept:** Allow for more urban/suburban redevelopment and infill

- **Key Components:**
  - Allow for more housing/jobs in existing urban and inner suburban areas

**Centers Emphasis**

- **Key Concept:** Focus development around key centers and corridors, employment centers, and transit stations

- **Key Components:**
  - Allow for more housing/jobs around rapid transit stations, urban centers, and employment centers
Urban centers in the Denver region are locally identified and regionally designated as a part of Metro Vision. For full list of urban centers, see Appendix B.
Employment locations

Source: DRCOG, Exel, Colorado Department of Labor and Employment’s Quarterly Census of Employment and Wages, Infographic, Tier 1 of the 2040 Metro Vision Rapid Transit System, see 2040 Metro Vision Regional Transportation Plan

Areas of concentrated employment cover 18 percent of the region, yet host 94 percent of total jobs. The region’s investment in transit will increase access to jobs and expand mobility.
Transportation scenarios to test: Transit

- **Key Concept**: Improve/expand the region's transit network and service

- **Key Components**:
  - RTD Bus Rapid Transit (BRT) study – federal & state funding candidate corridors
  - Finish FasTracks & key extensions
  - Free fares (conceptual)
  - Increased transit frequency
  - Expand/improve transit access
Regional Highway & Operations

• **Key Concept:** Improve operations & traffic flow on region’s highways/freeways

• **Key Components:**
  - Build out freeway managed lanes system with direct connections (HPTE Express Lanes Master Plan)
  - Roadway operations & incident management strategies (CDOT State Farm Safety Patrol)
• **Key Concept:** Build out freeway/interstate system to address off-peak congestion

• **Key Component:**
  - Add general purpose lanes to region’s freeways & interstates with severe off-peak (not rush hour) congestion
Technology/Connected Vehicles

- **Key Concepts**: Mobility technology & autonomous vehicles *benefit (Version A)* or *limit (Version B)* regional mobility

- **Key Components**:  
  - Increase or decrease operating capacities on highways/freeways
• **Key Concept:** Increase travel & mobility choices along region’s major arterials

• **Key Components:**
  - Increase walking/bicycling attractiveness (complete streets approach)
  - Telecommuting & other Transportation Demand management (TDM) strategies
  - Increase access to existing transit network
  - Reduce speed limits on major arterials (safety emphasis)
What outcomes will scenarios have?

- Total Transit Trips (Rail and Bus)
- Bicycling Trips
- Pedestrian Trips

- Share of Total Population w/ Good Transit-Job Accessibility
- Share of Low-Income/Minority Areas w/ Good Transit-Job Accessibility

- Total Vehicle Trips
- Average Vehicle Speed
- Person Hours of Delay

- Share of Total Population w/ Good Transit
- Job Accessibility
- Share of Low-Income/Minority Areas w/ Good Transit-Job Accessibility
<table>
<thead>
<tr>
<th>Transportation system measures</th>
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<tbody>
<tr>
<td><strong>Population</strong></td>
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<td><strong>Households</strong></td>
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<td><strong>Employment</strong></td>
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<td><strong>Person Trips</strong></td>
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<td><strong>Within Region (Internal-Internal) SOV Drivers</strong></td>
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<td><strong>Internal-External SOV Drivers</strong></td>
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<td><strong>External-External SOV Drivers</strong></td>
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<td><strong>Commercial Vehicle Trips</strong></td>
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<td><strong>Total SOV Driver Trips</strong></td>
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<td><strong>Shared Ride Driver</strong></td>
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<td><strong>Shared Ride Passenger</strong></td>
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<td><strong>School Bus Trips</strong></td>
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<td><strong>Total Transit Trips (Bus and Rail)</strong></td>
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<tr>
<td><strong>Drive Trips to and from Transit</strong></td>
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<tr>
<td><strong>Pedestrian/Bicycle Trips to and from Transit</strong></td>
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<tr>
<td><strong>Bicycling Trips</strong></td>
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<td><strong>Pedestrian Trips</strong></td>
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<td><strong>Total Person Trips</strong></td>
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<tr>
<td><strong>Vehicle and Congestion Performance Measures</strong></td>
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<td><strong>Vehicle Miles Traveled (VMT)</strong></td>
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<td><strong>Total Vehicle Trips</strong></td>
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<td><strong>VMT Per Capita</strong></td>
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<td><strong>Vehicle Hours Traveled</strong></td>
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<td><strong>Vehicle Hours of Delay</strong></td>
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<tr>
<td><strong>Person Miles Traveled (PMT)</strong></td>
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<td><strong>Person Hours Traveled</strong></td>
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<td><strong>Person Hours of Delay</strong></td>
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<td><strong>Average Vehicle Speed - Peak Hours (mph)</strong></td>
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<td><strong>Average Person Delay Per Trip (minutes)</strong></td>
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<td><strong>VMT/PMT</strong></td>
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<td><strong>Severely Congested Lane Miles (roadways with three or more severe congestion) (volume to capacity ratio ≥ 0.95)</strong></td>
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<tr>
<td><strong>Percent of VMT in Severe Congestion</strong></td>
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<td><strong>Fixed Route Transit Performance Measures</strong></td>
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<td><strong>Rail Transit Boardings</strong></td>
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<td><strong>Bus Transit Boardings</strong></td>
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<td><strong>Total Transit Boardings:</strong></td>
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<td><strong>Total Transit Trips</strong></td>
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<td><strong>Person Miles Traveled on Transit</strong></td>
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<td><strong>Transit Share of Daily Work Trips</strong></td>
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<td><strong>Transit Share of Total Daily Trips</strong></td>
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<tr>
<td><strong>Percent of Households Making a Transit Trip</strong></td>
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<tr>
<td><strong>Accessibility Performance Measures</strong></td>
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<tr>
<td><strong>Share of total population with good transit-job accessibility (100,000+ jobs within a 45-minute transit trip)</strong></td>
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<tr>
<td><strong>Share of population in low-income or minority areas with good transit-job accessibility (1)</strong></td>
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Other outcome measures/topics

- Planning-level Scenario Cost Estimates
- Growth and Development Trends
- Safety Related Measures
- Human Service Transportation Use
- Environment, Resiliency, Accessibility
- Storytelling
- Others?
How will we reach our desired future?
ACTIVITY
What would happen if...

LET ME CHECK

MY CRYSTAL BALL
What would happen if we have more convenient transit service and free fares?

<table>
<thead>
<tr>
<th>Question</th>
<th>Definitely not</th>
<th>Absolutely</th>
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<tbody>
<tr>
<td>Would more people take transit?</td>
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<tr>
<td>Would people drive vehicles less?</td>
<td>2.9</td>
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<tr>
<td>Would more people ride bikes and walk?</td>
<td>2.1</td>
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<tr>
<td>Would greenhouse gas emissions be reduced?</td>
<td>3.6</td>
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</tbody>
</table>
What would happen if we build more housing and locate jobs in central areas?

- Would more people take transit? 2.1
- Would people drive vehicles less? 3.4
- Would more people ride bikes and walk? 3.9
- Would greenhouse gas emissions be reduced? 3.6
What would happen if biking/walking is more accessible and safer?

- Would more people ride bikes and walk? 3.6
- Would greenhouse gas emissions be reduced? 3.6
- Would fewer people drive? 3.1
What would happen if autonomous vehicles and Lyft/Uber rides replace most vehicle trips?

- Would more people take transit? 2.4
- Would people drive vehicles less? 3.9
- Would more people ride bikes and walk? 2.7
- Would greenhouse gas emissions be reduced? 3.6
INITIAL SCENARIO TRENDS
Population & employment projections

Population

2015: 3.1 million
2050: 4.4 million
approximately 40 percent increase

Employment

2015: 1.9 million
2050: 3.0 million
approximately 50 percent increase
Transit emphasis

Completion of FasTracks and additional miles of rail

Extensive bus rapid transit network and transit service on all routes

Free transit fares and improved station/stop access

More transit trips

Fewer vehicle miles traveled

Fewer walk/bike trips

* Compared to model of current plan implementation
Travel choices emphasis

- Biking/walking is more attractive, convenient
- Encourage people to work from home
- Reducing speeds on major roads (safety)

Walk/bike trips go up
Total trips (inc. transit) go down
Safety is improved
Full scenario results

Currently in process, will have results in March
Present results to DRCOG committees and Board of Directors
SCENARIO PLANNING MEASURES ACTIVITY
What impacts will scenarios have?

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Almost-March Madness

Choices and tradeoffs when thinking about how to evaluate the different scenarios

What are the most important measures to use to assess the different scenarios?

Break into two groups, build your bracket by comparing two measures and deciding which is more important until you get to what is the most important factor

We’ll come together as a group to come up with a combined bracket.
Next steps
Next steps

• We will present your priorities (and Civic Advisory Group) to our committees and Board of Directors with the scenario results

• Committees and Board of Directors will review scenario results, start to think of next steps, policy decisions

• Next Youth Advisory Panel meeting – before summer break
2020 Census

- Your family will get an invitation in the mail in mid-March
- Can take online, phone, mail, in person
- It’s super important!
- Determines transportation funding, representation for local, state, federal government
- Census data informs most planning exercises