Agenda Overview

- Process Update
- Overview of Revised Goals
- Transportation Trends
- Small Group Breakout
- Questions and Comments
- Next Steps
- Meeting Close
1. Process Update
CITY AND COUNTY OF DENVER

Blueprint Denver Update
planning process

1. Process Update

**SUMMER 2016**
PHASE 1: KICK-OFF

**FALL 2016 - WINTER 2017**
PHASE 2: ANALYSIS AND VISION SETTING

**SPRING 2017 - FALL 2017**
PHASE 3: RECOMMENDATIONS, DRAFT MAPS AND DRAFT TEXT

**WINTER 2018**
PHASE 4: DOCUMENTATION AND ADOPTION

Iterative feedback loop
1. Process Update

**SUMMER 2016**
PHASE 1: KICK-OFF

**FALL 2016 - WINTER 2017**
PHASE 2: ANALYSIS AND VISION SETTING

**Key Outreach:**
- Task Force Meetings 3, 4 & 5
- Pop-Up Events w/ Plan Van
- Focus Groups
- Visioning Workshops
- Online Survey 3
- Think Tank Meetings

**Major Deliverables:**
- Community Profile
- 2002 Blueprint Denver Diagnostic
- Industrial Lands Study
- Vision, Values and Guiding Principles
- Growth Scenarios and Evaluation
Denveright Community Visioning Survey

- Supplemental Vision Questionnaire and Outreach to Under-Represented Groups
2. Overview of Revised Goals
Goals

1. Serve all Denver residents with a diverse range of affordable housing options and quality employment opportunities.
Goals

2. Ensure that all Denver residents have safe, convenient and affordable access to basic services and a variety of amenities.
3. Support the growth of employment centers that promote work and educational opportunities for all residents.
Goals

4. Maintain and enhance the overall character of well-established neighborhoods.
Goals

5. Focus higher intensity growth in walkable mixed-use centers and along transit corridors.
Goals

6. Foster great urban design and inviting places that thoughtfully integrate streets, public spaces and private property.
Goals

7. Promote enduring and compatible design that responds to an evolving community while embracing historic assets and cultural heritage.
Goals

8. Develop high-quality mobility options that prioritize moving people by walking, biking, and transit and connect people to their daily needs.
9. Guide growth in a way that protects and enhances our environment and natural resources.
Goals

10. Promote healthy lifestyle options for all residents.
2. Overview of Revised Goals
3. Transportation Trends
Overview

- Current conditions
- Mode shift: case studies
- Modal tradeoffs
- Funding & financing
- Demographic & technological trends
- Trendlab+ polling exercise
Denver Environmental/Mode Shift Targets

**Reduce GHG emissions by 80 percent below the level of 2005 by the year 2050 (80 by 50)**

**Denver 2015 Climate Action Plan**

**Provide mobility options (transit, carpooling, biking, walking) that reduce commuting travel in Denver done in single-occupant vehicles to no more than 60% of all trips.**

**Denver 2020 Sustainability Goals**
## 2000-2014/15 Denver Trends

### Denver Region (all trips)

<table>
<thead>
<tr>
<th>2002-2014 Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>• VMT per capita: ↓ 2%</td>
</tr>
<tr>
<td>• Transit ridership per capita: ↑ 5%</td>
</tr>
</tbody>
</table>

### City of Denver Resident Commute Mode Share

<table>
<thead>
<tr>
<th>Mode</th>
<th>2000</th>
<th>2015</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>68%</td>
<td>74%</td>
<td>↑ 5 pts</td>
</tr>
<tr>
<td>Carpool</td>
<td>14%</td>
<td>7%</td>
<td>↓ 7 pts</td>
</tr>
<tr>
<td>Transit</td>
<td>8%</td>
<td>6%</td>
<td>↓ 2 pts</td>
</tr>
<tr>
<td>Walk</td>
<td>4%</td>
<td>4%</td>
<td>0 pts</td>
</tr>
<tr>
<td>Bike</td>
<td>1%</td>
<td>2%</td>
<td>↑ 1 pts</td>
</tr>
<tr>
<td>Telecommute</td>
<td>4%</td>
<td>6%</td>
<td>↑ 2 pts</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>1%</td>
<td>0 pts</td>
</tr>
</tbody>
</table>

Source: 2000 U.S. Census, 2015 American Community Survey (1-year estimates)
### Inducing Mode Shift to Transit: Peer Cities

#### 2000-2015 Change in Transit Commute Mode Share

<table>
<thead>
<tr>
<th>City</th>
<th>Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington DC</td>
<td>5%</td>
</tr>
<tr>
<td>Oakland</td>
<td>3%</td>
</tr>
<tr>
<td>Seattle</td>
<td>3%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>2%</td>
</tr>
<tr>
<td>Boston</td>
<td>2%</td>
</tr>
<tr>
<td>Tucson</td>
<td>1%</td>
</tr>
<tr>
<td>Charlotte</td>
<td>1%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>1%</td>
</tr>
<tr>
<td>Denver</td>
<td>-2%</td>
</tr>
</tbody>
</table>

3. Transportation Trends
Inducing Mode Shift to Transit: Seattle Case Study

- Multiple rail services added since 2000
  - Commuter rail, light rail, & streetcar
- RapidRide - 6 new intracity BRT corridors
- Bus passes
  - State Commute Trip Reduction Program
  - ORCA card (smart cards)
  - Discounted passes for low-income
- Sound Transit ridership up 7-fold since 2000
Inducing Mode Shift to Bicycling: Peer Cities

2000-2015 Change in Bicycle Commute Mode Share

<table>
<thead>
<tr>
<th>City</th>
<th>Change in Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland</td>
<td>4.6%</td>
</tr>
<tr>
<td>Washington DC</td>
<td>2.8%</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>2.4%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>2.0%</td>
</tr>
<tr>
<td>Oakland</td>
<td>1.9%</td>
</tr>
<tr>
<td>Seattle</td>
<td>1.9%</td>
</tr>
<tr>
<td>New Orleans</td>
<td>1.8%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>1.3%</td>
</tr>
<tr>
<td>Denver</td>
<td>1.2%</td>
</tr>
</tbody>
</table>
Inducing Mode Shift to Bicycling: Case Study

Portland, OR
• 130 miles new bikeways since 2000
  – 77 miles of neighborhood greenways
  – 17 miles of protected bike lanes
• Design innovations
  – 27 bike boxes
  – 19 intersections with bike signals
• 6,500 publicly-installed bike racks in public ROW
  – 134 bike corrals
• 100+ schools served by SRTS programs
• Robust monitoring program

Minneapolis, MN
• 144 miles new bikeways since 1997
  – 19 miles of bike boulevards
  – 35 miles of off-street bikeways
• Most bike lanes per sq. mile in U.S
• Robust snow removal program for all bikeways

Denver
• 100 miles of new bikeways since 2008
  – Building momentum on protected bike lanes
Inducing Mode Shift to Walking: Peer Cities

2000-2015 Change in Walk Commute Mode Share

- Seattle: 2.2%
- Boston: 2.0%
- Atlanta: 1.1%
- Washington DC: 1.1%
- San Francisco: 1.0%
- Portland: 0.6%
- Oakland: 0.5%
- Salt Lake City: 0.4%
- Denver: -0.4%
Inducing Mode Shift to Walking: Boston Case Study

• Vision Zero early adopter
• Complete Streets planning in mid 2000’s
• New pedestrian network along greenways in Downtown & East Boston
• Significant downtown population growth
Modal Tradeoffs

“We are going to have a fair bit of traffic. Actually that’s a good thing. When all the cars disappear and all the traffic disappears that’s a sign our city isn’t driving.”

– Former Seattle Mayor Mike McGinn (2012)

“The changes may make traffic 15 percent worse instead of just 5 percent worse each year, but the situation is already becoming untenable.”

Modal Tradeoffs
Los Angeles Layered Network Planning

3. Transportation Trends
## Modal Tradeoffs

### Montgomery County, MD Performance Measures

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Network</th>
<th>Function/Quality</th>
<th>Usage</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentrate Development</strong></td>
<td>Expand Street Network</td>
<td>Improve Efficiency/Capacity</td>
<td>Increase Carpool</td>
<td>Improve Safety</td>
</tr>
<tr>
<td><strong>Encourage Transit-Oriented Development Opportunities</strong></td>
<td>Viable Alternative to Driving Alone</td>
<td>Maximize Person Throughput</td>
<td>Increase Transit Use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improve Connectivity and Access</td>
<td></td>
<td>Increase Non-Auto Mode Share</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implement Bus Rapid Transit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Provide Mixed Uses</strong></td>
<td>Safe, Direct, and Convenient</td>
<td>Comfortable Facilities</td>
<td>Increase Non-Auto Mode Share</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improve Connectivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variety of Skill Levels</td>
<td>Improve Access for People with Disabilities</td>
<td>Increase Non-Auto Mode Share</td>
<td></td>
</tr>
</tbody>
</table>
## Modal Tradeoffs

### Montgomery County, MD Performance Measures

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Network</th>
<th>Function/Quality</th>
<th>Usage</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varied Auto Performance Standards by Area</td>
<td>None</td>
<td>Congested Speeds, Travel Time Index, Highway Capacity Manual, Level of Service, Critical Lane Volume</td>
<td>Counts, Non-Auto Driver Mode Share, Vehicle Miles Traveled</td>
<td>None</td>
</tr>
<tr>
<td>None</td>
<td>Coverage</td>
<td>Peak Headway, All-Day Headways, Span of Service</td>
<td>Ridership, Non-Auto Driver Mode Share</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facility Inventory</td>
<td></td>
<td>Counts, Non-Auto Driver Mode Share</td>
<td></td>
</tr>
</tbody>
</table>

### 3. Transportation Trends
Modal Tradeoffs
Montgomery County, MD Performance Measures

01 ACCESSIBILITY
- Jobs Accessible within 45 minutes by Mode
- Person Trips Accessible within 45 minutes by Mode
- Jobs Accessible by Travel Time by Mode
- Person Trips Accessible by Travel Time by Mode
- Person Trip Duration by Mode
- Access to Transit by Mode

02 TRAVELER EXPERIENCE
- Frequency of Service
- Span of Service
- Reliability
- Bicyclist Comfort
- Pedestrian Comfort

03 INTERSECTION PERFORMANCE
- Person Delay

04 ACTIVITY
- Raw Person Trips by Mode
- Person Trips Per Capita by Mode
- Vehicle Miles of Travel per Person Trip
- Vehicle Hours of Travel per Person Trip
- Person Trips per Collision

3. Transportation Trends
Modal Tradeoffs
Sacramento, California Level of Service Policy

The City shall implement a flexible, context-sensitive Level of Service (LOS) standard… The City will strive to operate the roadway network at LOS D or better for vehicles… with the following exceptions described below…

• Central City – LOS F allowed
• Priority Investment Areas – LOS F allowed
• [Other] LOS E/LOS F Roadways

-City of Sacramento 2035 General Plan Mobility Element, March 2015
Modal Tradeoffs
Davis, California Geometric Policy

In each direction, Davis streets shall have no more than two through automobile lanes plus a single left-hand turning lane, even if this requirement reduces level of service. Additional turning lanes may be added for safety or design considerations.

-City of Davis General Plan Transportation Element, December 2013
Funding & Financing

• Existing local sources:
  – Capital Improvement Program appropriation
  – Better Denver Bond Program (renewed by voters in 2016)
  – 2.5 mil property tax for infrastructure repair (passed by voters in 2007)
  – FasTracks (0.6 cents regional sales tax passed in 2004)
  – Limited funding for multimodal projects

• Denver Strategic Transportation Plan (2008)
  – Explore options for transportation finance (including PPPs)
  – Leverage non-City funding
Federal & State Funding

- Gas tax
- Other Opportunities
  - FASTER
  - Federal grants
  - Partnerships with other agencies (RTD, DRCOG, CDOT, etc.)
- Not a reliable long-term source

3. Transportation Trends
Models for Local Funding

- Property tax (Seattle, SF Bay Area)
- Gas tax (Portland, Las Vegas, Chicago)
- Sales tax (Seattle, L.A., Phoenix, Atlanta, Columbus)
- Motor vehicle excise tax (Seattle, Boston)
- Income tax (Indianapolis)
- VMT charge (pilot programs - OR, CA, CO)
- Utility fee (Austin, Provo, Eugene)
- User charge
- Bond measures
Demographic & Technological Trends

3. Transportation Trends
Vehicle Miles Traveled
Travel Trends Past

Fact #347: November 22, 2004
The Relationship of VMT and GDP
The nation’s highway vehicle miles of travel (VMT) and the U.S. gross domestic product (GDP) reflect strikingly similar patterns, indicating the strong relationship between the nation’s economy and its travel. The graph shows how closely the two data series track each other over the past four decades. (Reproduced from http://www1.eere.energy.gov/vehiclesandfuels/facts/2004/fcvt_fotw347.html).
Vehicle Miles Traveled
Decoupling VMT and GDP

3. Transportation Trends
VMT per capita
DRCOG Region

<table>
<thead>
<tr>
<th>Year</th>
<th>VMT per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>8,400</td>
</tr>
<tr>
<td>2006</td>
<td>9,200</td>
</tr>
<tr>
<td>2014</td>
<td>8,800</td>
</tr>
</tbody>
</table>
Why the decrease?

“It’s the pre-Great Recession macro-economy, stupid .... and a few other things ”

James Carville (kinda)
Why the decrease?
Labor Force Participation

Figure 3: Male, Female, and Total Labor Force Participation Rates, 1948 – 2013

Why the decrease?

Income

Figure 4: VMT per Capita and Median Household Income, 1970 – 2012

Source: Highway Administration Office of Highway Policy Information; U.S. Census Bureau.
Why the decrease?

Fuel Prices

- Regular unleaded gasoline price per gallon (U.S. average)
- $4.11/gallon July 7, 2008
- $1.61/gallon Dec. 29, 2008
- $2.69/gallon Aug. 3, 2015
- 3.08 trillion miles May 2015
- 3.1T
- 3.0T
- 2.9T
- 2.8T


SOURCES: Energy Information Administration; Federal Highway Administration
Why the decrease?

E-Commerce

Breaking the Big Boxes

For perspective, here’s how Amazon’s growth compares to two of their big box competitors - Sears and Best Buy.

<table>
<thead>
<tr>
<th>Year</th>
<th>Amazon Revenue</th>
<th>Best Buy Revenue</th>
<th>Sears Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>8.49</td>
<td>10.71</td>
<td>19.70</td>
</tr>
<tr>
<td>2006</td>
<td>27.43</td>
<td>49.12</td>
<td>40.02</td>
</tr>
<tr>
<td>2007</td>
<td>30.84</td>
<td>35.93</td>
<td>53.01</td>
</tr>
<tr>
<td>2008</td>
<td>40.02</td>
<td>45.02</td>
<td>50.70</td>
</tr>
<tr>
<td>2009</td>
<td>45.02</td>
<td>49.69</td>
<td>46.77</td>
</tr>
<tr>
<td>2010</td>
<td>49.69</td>
<td>49.74</td>
<td>43.36</td>
</tr>
<tr>
<td>2011</td>
<td>49.74</td>
<td>50.70</td>
<td>42.66</td>
</tr>
<tr>
<td>2012</td>
<td>50.70</td>
<td>51.56</td>
<td>41.72</td>
</tr>
<tr>
<td>2013</td>
<td>51.56</td>
<td>39.85</td>
<td>39.85</td>
</tr>
<tr>
<td>2014</td>
<td>40.61</td>
<td>36.18</td>
<td></td>
</tr>
</tbody>
</table>
Why the decrease?
Millennials & Boomers
Why the decrease?

Licensing

Figure 6: Index of Driver Licensure Rates by Age Cohort (Base Year = 1979). 1970–2010

*Note: Licensure rates are the number of licensed drivers per capita, averaged over the preceding five years. The index pegs at 100% in 1979 and reports percentage changes. For example, if the licensure rate for a cohort were 60% in 1979 and the 2002 value of the index would be 110%.

Source: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics.
Why the decrease?
Telecommuting

Increase in Workers at Home in the 100 Largest Metropolitan Areas, 2000 to 2014

Metropolitan Change in Workers at Home, 2000 to 2014

-0.02% to 1.0%
1.0% to 2.0%
Greater than 2.0%
Why the decrease?
Transportation Network Companies (TNC’s)

Uber’s Gross Bookings

- All of 2014
- 1st Half of 2015

$0  $1  $2  $3  $4
in billions
Why the decrease?
Next Generation Vehicles
Why the decrease?

Other Trends

• Resurgence in preferences for urban living and aging in place

• Increases in preference for transit use, bicycling and walking

• Rapid proliferation and adoption of new communication technologies
TrendLab+  
Factors influencing travel

3. Transportation Trends
3. Transportation Trends

Effects of Demographic, Economic, and Technology Trends on US Vehicle Miles Travelled

VMT per capita will be 10% to 20% above its 2004 peak, suggesting a need to accelerate transportation investments to keep pace with population growth.

- **2004**: 13,200 VMT per capita
- **2014**: 12,200 VMT per capita
- **2040**: 15,350

Published Forecasts:
- **17,100 VMT per capita**
  - U.S. DOT
- **16,300 VMT per capita**
  - Transportation Financing Commission
- **13,400 VMT per capita**
  - U.S. Energy Administration
- **12,200 VMT per capita**
  - Public Interest Research Group: High
- **8,200 VMT per capita**
  - Public Interest Research Group: Low

*By submitting your forecast, you are providing Fehr & Peers your permission to use the forecast anonymously in a poll summary of all users.*

Updated January 2018
Polling Slides

- 16 trends to poll
- 1 slides each (16 total)
  - Question for each trend
  - Results for each trend
Labor Force Participation
Between now and 2040 do you think the percent of the population participating in the labor force in Denver will... 

1. Go up 59%
2. Stay the same 23%
3. Go down 18%
Driving Age Population

Between now and 2040 do you think the percent of the population in Denver 16 years and older with a drivers license will... 

1. Go up 5%
2. Stay the same 27%
3. Go down 68%
Vehicle Ownership
Between now and 2040 do you think the average number of vehicles per household in Denver will . . .

1. Go up  
2. Stay the same  
3. Go down
Licensing Regulations
Between now and 2040 do you think licensing regulations restricting teen driving in Denver will.

1. Go up
2. Stay the same
3. Go down
Fuel Cost per Mile
Between now and 2040 do you think the average fuel cost per mile in Denver will . . .

1. Go up 57%
2. Stay the same 14%
3. Go down 29%
Congestion & Time Use
Between now and 2040 do you think congestion in Denver will . . .

1. Go up 77%
2. Stay the same 14%
3. Go down 9%
Non-Auto Mode Options
Between now and 2040 do you think non-driving travel options in Denver will . . .

1. Go up 77%
2. Stay the same 14%
3. Go down 9%
GDP, Real Income Growth
Between now and 2040 do you think inflation adjusted median income in Denver will . . .

1. Go up 50%
2. Stay the same 36%
3. Go down 14%
Suburban Migration
Between now and 2040 do you think the preference for suburban living among Denverites will . . .

1. Go up 14%
2. Stay the same 43%
3. Go down 43%
Household Formation
Between now and 2040 do you think traditional household formation (younger generations get jobs, buy homes, start families,) in Denver will . . .

1. Go up 18%
2. Stay the same 18%
3. Go down 64%
Goods & Services Delivery
Between now and 2040 do you think internet shopping & same day delivery in Denver will . . .

1. Go up 100%
2. Stay the same
3. Go down
Telecommuting
Between now and 2040 do you think the degree to which Denverites work remotely will . . .

1. Go up  71%
2. Stay the same  29%
3. Go down
Social Networking
Between now and 2040 do you think the degree to which virtual forums substitute face-to-face social encounters and entertainment among Denverites will . . .

1. Go up 38%
2. Stay the same 48%
3. Go down 14%
Shared Mobility Services
Between now and 2040 do you think the degree to which shared mobility services (bike and car sharing, TNCs, microtransit) are available in Denver will...

1. Go up 86%
2. Stay the same 14%
3. Go down
**Autonomous Cars**

Between now and 2040 do you think the percentage of semi-autonomous cars (requires a driver) in Denver will . . .

1. Go up 76%
2. Stay the same 19%
3. Go down 5%
Driverless Vehicles

Between now and 2040 do you think the percentage of fully autonomous vehicles (no driver required) in Denver will . . . .

1. Go up 86%
2. Stay the same 14%
3. Go down
4. Small Group Breakout
5. Questions and Comments
6. Next Steps
Late 2016/Early 2017 Outreach

- Vision and Values
- Online Commenting
- Supplemental Vision Questionnaire and Outreach to Under-Represented Groups
Upcoming Task Force Meetings

• Task Force Meeting #7
  • March 23 – Scenario Evaluation and Place Types Intro

• Task Force Meeting #8
  • April 27

• Community Meetings
  • April 2017
7. Meeting Close