Small-area forecast

Distribution of households and jobs for the 2050 Metro Vision Regional Transportation Plan
Forecasting for the regional transportation planning process

Like different legs in a relay race

Statewide forecasts
(State Demography Office, Colo. Department of Local Affairs)
- 2050 forecasts: population, households, jobs
- 64 counties

Small-area forecasting
(DRCOG)
- Forecast internal distribution of 2050 forecasts (aka control totals)
- 2,800+ small areas (aka zones)

Travel demand modeling
(DRCOG, other studies)
- Forecast travel patterns between zones, on transportation network
Feedback loops outside regional transportation planning process

Statewide forecasts
(State Demography Office, Colo. Department of Local Affairs)
- 2050 forecasts: population, households, jobs
- 64 counties

Small-area forecasting
(DRCOG)
- Forecast internal distribution of 2050 forecasts (aka control totals)
- 2,800+ small areas (aka zones)
- Piloting more formal feedback loop with State Demography Office in 2021

Travel demand modeling
(DRCOG, other studies)
- Forecast travel patterns between zones, on transportation network

Metro Vision gap analysis
(DRCOG, local government cohorts)
- Gap between this forecast and region’s aspirations in Metro Vision (~Oct 2020)
Total forecast for the DRCOG region

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households</td>
<td>1,126,500</td>
<td>1,345,900</td>
<td>1,570,100</td>
<td>1,741,300</td>
<td>1,858,400</td>
</tr>
<tr>
<td>Jobs</td>
<td>1,677,900</td>
<td>2,160,400</td>
<td>2,440,700</td>
<td>2,701,900</td>
<td>2,964,500</td>
</tr>
</tbody>
</table>

Data sources:  

Data notes:  
Job forecast extended from 2040 to 2050 by DRCOG staff. Weld County portion reflected as output of DRCOG small-area forecast.  
2020 reflects a pre-COVID forecast of 2020.
Slowing growth: 2010-2030 vs. 2030-2050

Yesterday and today aren’t tomorrow

<table>
<thead>
<tr>
<th></th>
<th>2010-2020</th>
<th>2020-2030</th>
<th>2030-2040</th>
<th>2040-2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household growth</td>
<td>219,400</td>
<td>224,200</td>
<td>171,200</td>
<td>117,000</td>
</tr>
<tr>
<td>Job growth</td>
<td>482,500</td>
<td>280,300</td>
<td>261,200</td>
<td>262,700</td>
</tr>
</tbody>
</table>
More perspective: past and future growth

Looking 30 years back and 30 years forward

<table>
<thead>
<tr>
<th></th>
<th>1990-2020</th>
<th>2020-2050</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Households</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>593,800</td>
<td>512,500</td>
</tr>
<tr>
<td>Pct. Change</td>
<td>79%</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Jobs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>1,021,100</td>
<td>804,100</td>
</tr>
<tr>
<td>Pct. Change</td>
<td>90%</td>
<td>37%</td>
</tr>
</tbody>
</table>

Less absolute growth in the coming 30 years
• State’s growth rate continuing to outpace nation’s, though both declining

• Expected retirements 2025-2030 forecast to drive migration higher than 2020-2025 rate (labor force replacement vs. growth)

• Long run, 2030-2050, slowing due to:
  • Lower birth rates
  • Slowing job growth ← tight labor market
  • Slowing net migration ← domestic and international
2019: UrbanSim modeling improvements

• Updated model codebase in the cloud
• Tuning of capacity of local zoning constraints to better reflect local conditions
  ▪ Past approach: 17 regional categories local zoning assigned to
  ▪ Updated approach: 1,400+ local categories used to estimate
  ▪ September – Initial results under new approach shared with local government via web map (to inform regional scenario baseline)

≈ 300 comments from 17 jurisdictions

• Ability to incorporate scheduled development information
  ▪ Observed housing and employment data through 2018
  ▪ Develop committed projects dataset for 2018 and beyond
Q1 2020: Deploy modeling improvements for scenarios

- Three household and employment forecasts using *regional control totals*
  - Baseline
  - Infill
  - Centers

- **Note:** “What if…?” scenario questions did not *directly* inform subsequent predictive small-area forecast run (next slide)
Q2-3 2020: Small-area forecast development

- April – prep forecast using county control totals
- May – invite local government feedback via web map
- June – review and integrate feedback, focus on comments affecting 2020 (RTD system optimization scenarios)
- July – continue to review and integrate feedback
- August – post forecast to Regional Data Catalog
- August and September – Committee and Board informational items on these household and employment assumptions for the 2050 Metro Vision Regional Transportation Plan

≈ 600 comments from 29 jurisdictions (and numerous follow-ups)
Forecast distribution of households (2020 and 2050)

Households 2020

Households 2050*

* Reminder: Forecast small-area growth must remain within state-forecast county control totals

Map Disclaimer: DRCOG makes no claims, representations, or warranties, express or implied, concerning the validity (express or implied), the reliability or the accuracy of the data herein, including the implied validity of any uses of such data. DRCOG shall have no liability for the data or lack thereof, or any decisions made or action not taken in reliance upon any of the data.

Base Map Sources: ESRI, HERE, Garmin, OpenStreetMap contributors, NOAA, USGS, NGA, NASA, CGIAR, N Robison, NCEAS, NLS, FEMA, Geoland, Intermap, and the GIS user community.
Forecast distribution of jobs (2020 and 2050)

**Jobs 2020**

**Jobs 2050***

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**Areas of Household Growth, 2020-2050***

**Areas of Job Growth, 2020-2050***

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What’s next?

• Use these forecast assumptions in air quality conformity analysis for the 2050 Metro Vision Regional Transportation Plan

• Present additional analysis to inform discussion of the "gap" between this forecast and region’s aspirations in *Metro Vision*

• Additional small-area forecast model staff activities in 2021 (non-RTP)
  • Revisit predictive models in UrbanSim
  • Explore hybrid control total functionality
  • Collaboration with State Demography Office
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