



COLORADO

Department of Transportation

Applications of the CDOT State-Wide Activity-Based Model

January 6, 2021



State-wide Focus Model

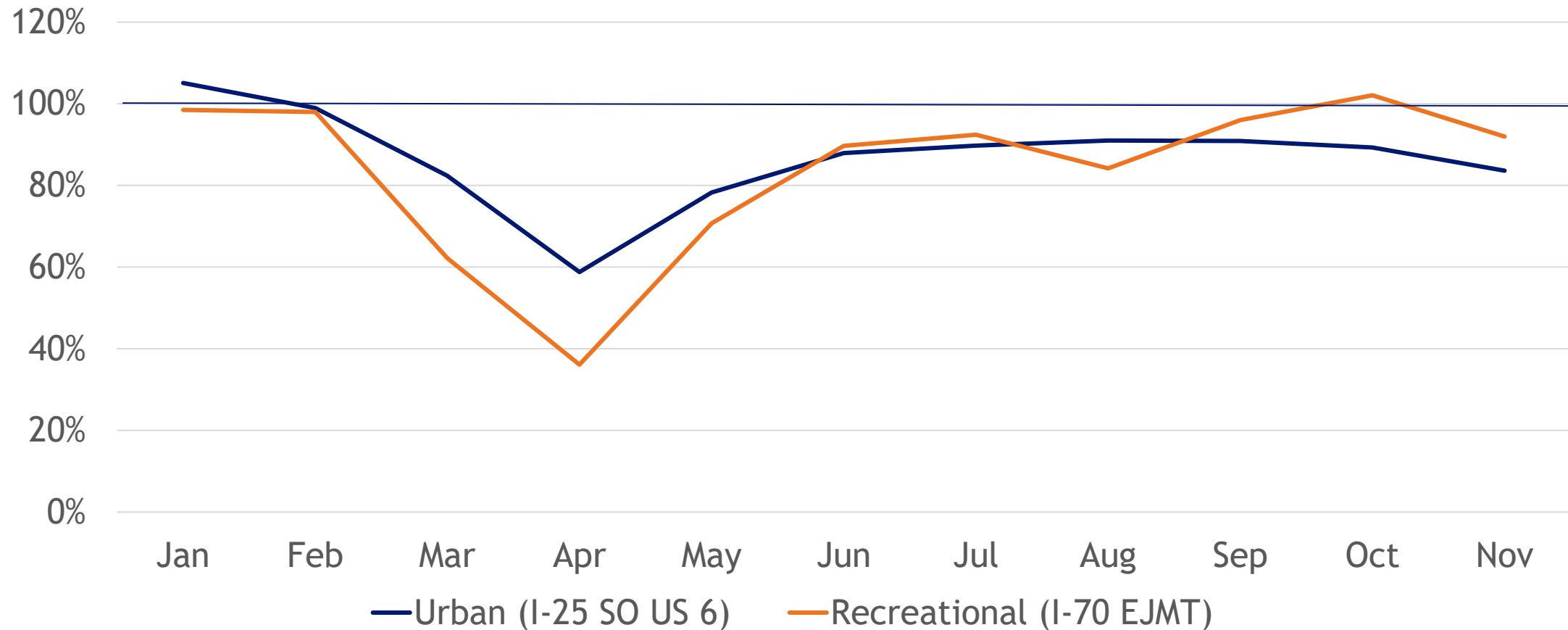
- Network platform: TransCAD
- ABM platform: custom C# with text input/output
- Number of zones: 6,440 internal + 40 external
- Number of links: 53,000 to 55,000
- Run time: 36 hours (5 speed feedback iterations)
- Model day: typical weekday when school in session, mountain passes open

Statistic	2015	2030	2045
Population	5.4 million	7.0 million	8.2 million
Households	2.3 million	3.0 million	3.5 million
Employment	3.2 million	4.0 million	4.5 million
VMT	140 million	190 million	220 million
Transit boardings	410,000	700,000	790,000



Changes in traffic counts

2020 Monthly Average Daily Traffic versus Previous Five Years (for which a count is available)



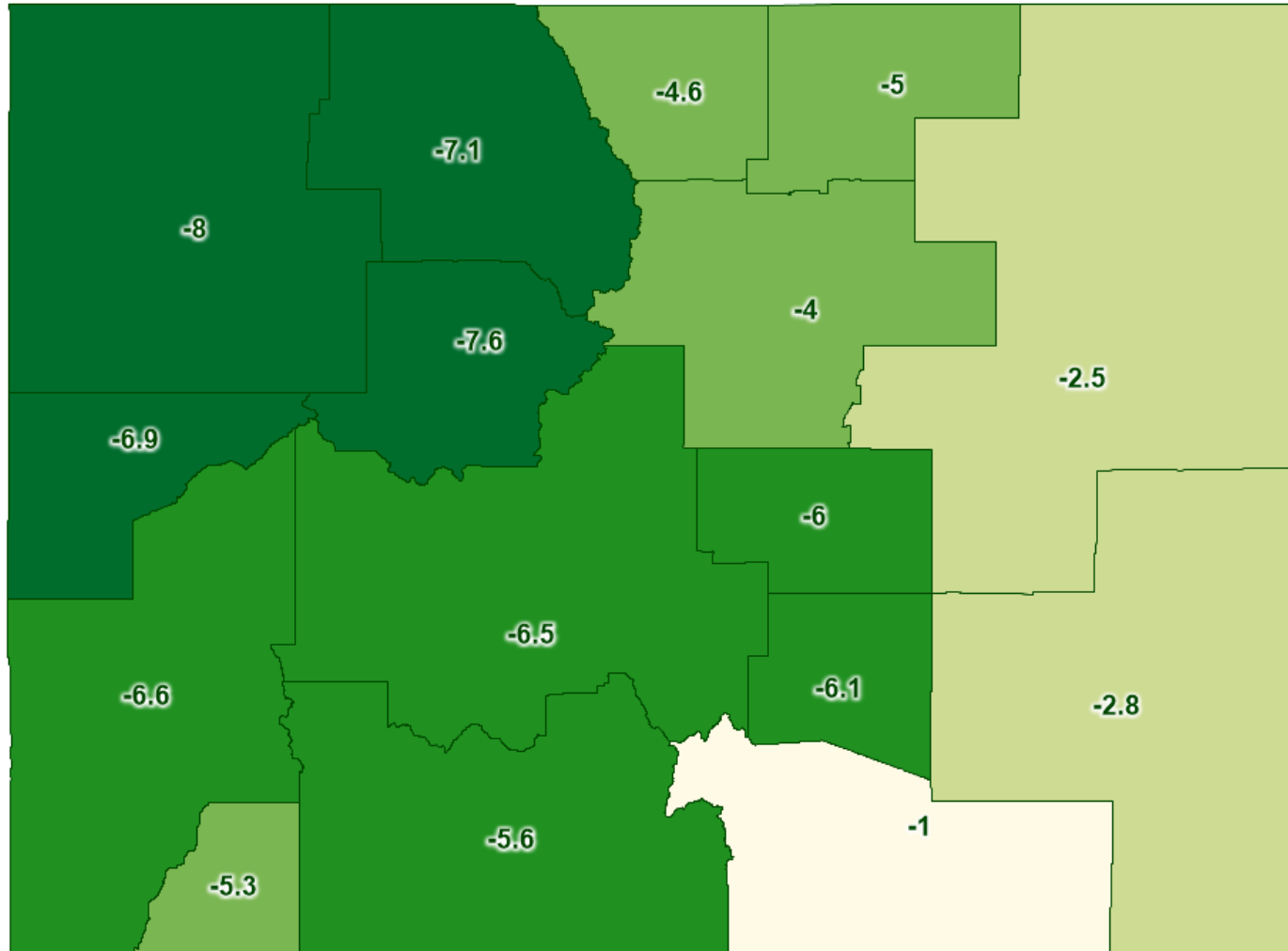


Potential responses to pandemic

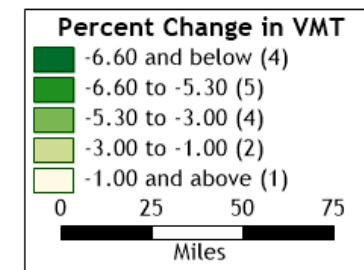
- Reduce or eliminate discretionary travel
- Change in employment status
- Employees work from home (telework) as feasible
- Shop locally when possible
- Favor individual modes (drive alone, bike, walk) over group modes (shared ride, transit)



Scenario: 5x as many workers work at home

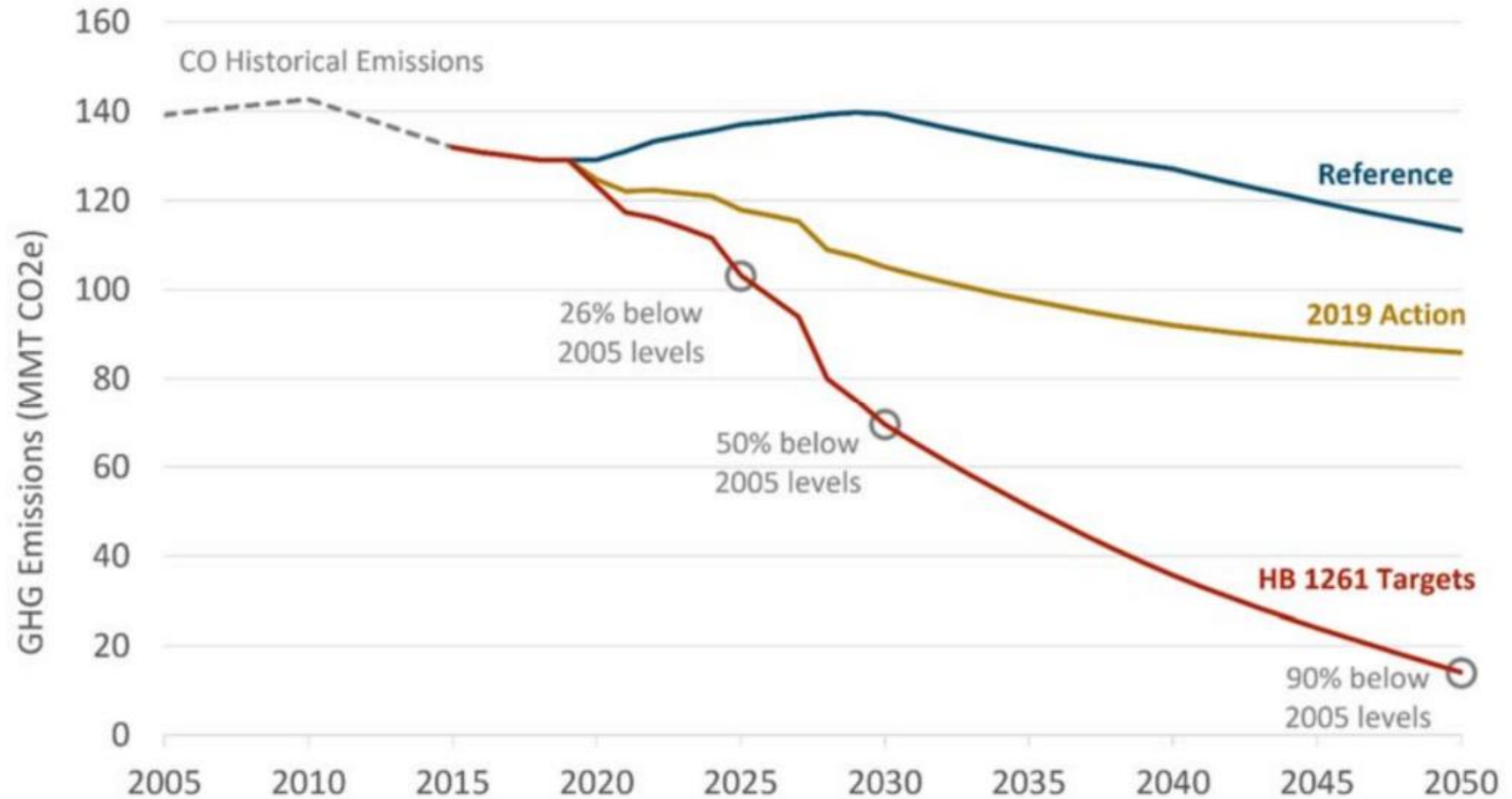


Statewide
reduction:
-4.7%



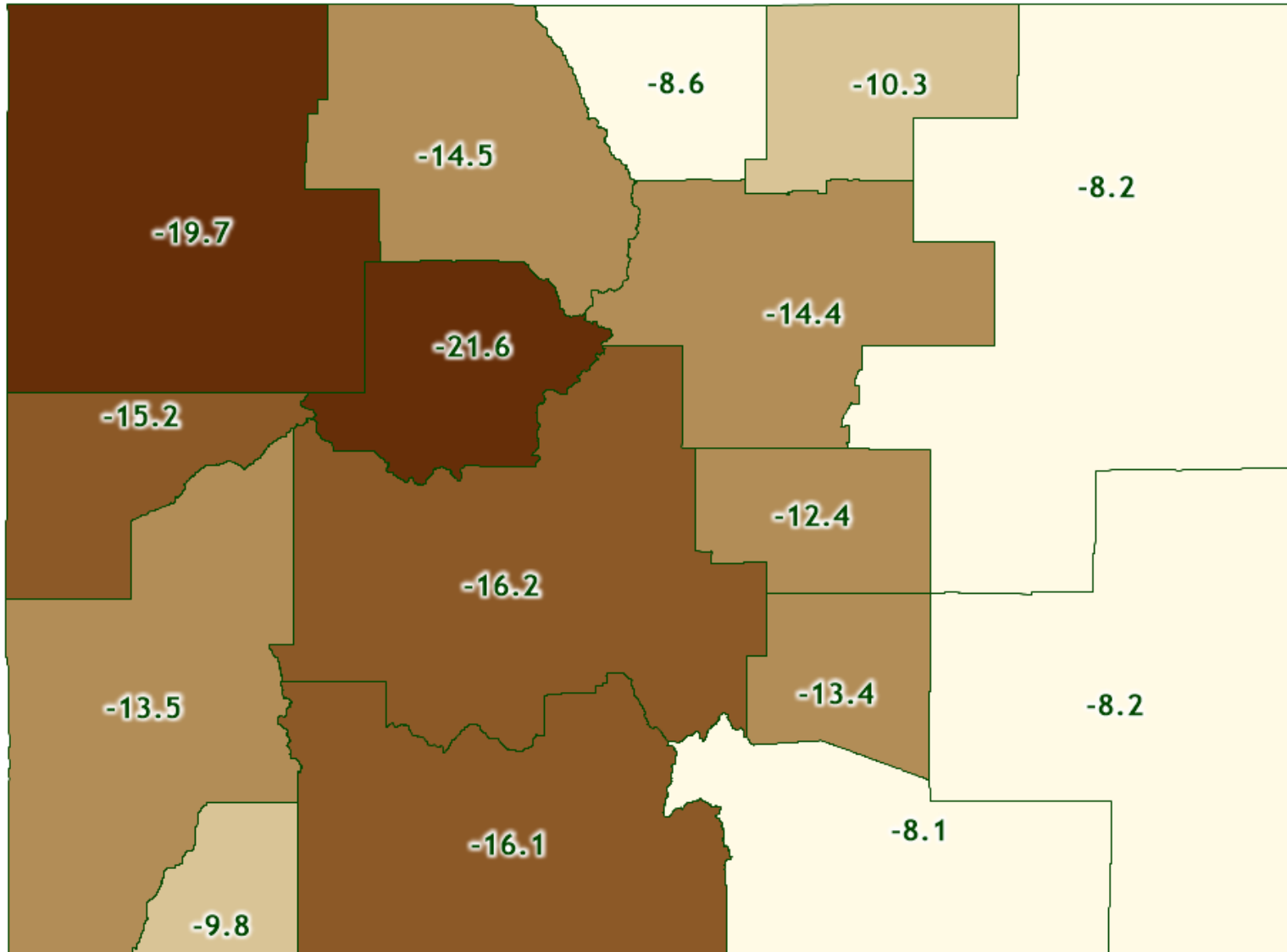


Colorado GHG reduction goals

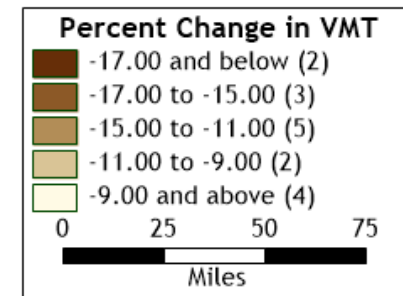




Scenario: double auto operating cost rate



Statewide
reduction:
-11.9%





COLORADO

Department of Transportation

For further information

Scott Ramming
Travel Modeling Unit, Division of Transportation Development
scott.ramming@state.co.us | 303.870.6643 (cell)

Thanks to:

Erik Sabina, Shahida Mirza, Juan Robles - CDOT DTD

Michelle Bina - Cambridge Systematics