









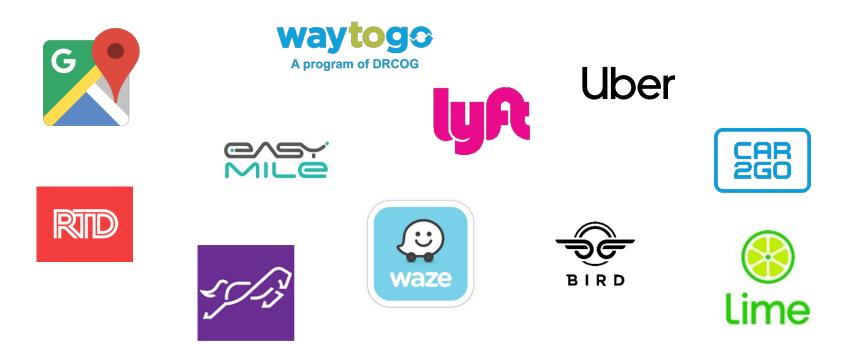


Today's Presentation

- Emerging Mobility Systems
- Imagining the Year 2030
- Objectives
- Tactical Actions
- Mile High Travelers
- Mobility Gridlock vs. Mobility Bold
- Moving Forward
- Action Initiators

Public Consumption

Transformative technologies are changing the ways people "consume" transportation



Emerging Mobility Systems

- $\checkmark\,$ Shared mobility
- ✓ Vehicle technology
- $\checkmark\,$ Transportation systems optimization
- \checkmark Travel information and payment
- $\checkmark\,$ Freight and delivery

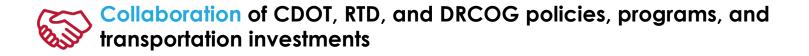




Imagining the Year 2030

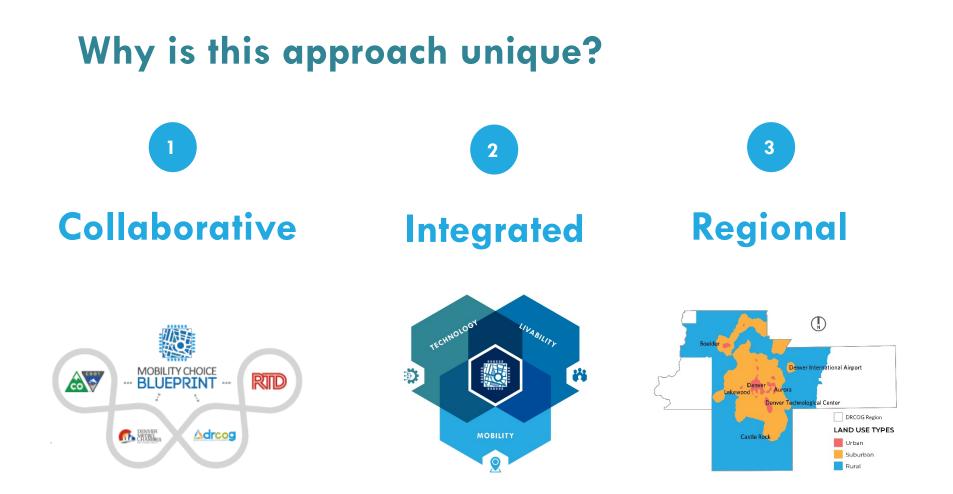
Together, we are deciding how new technologies will transform the way we travel.

What does the Blueprint seek to accomplish?





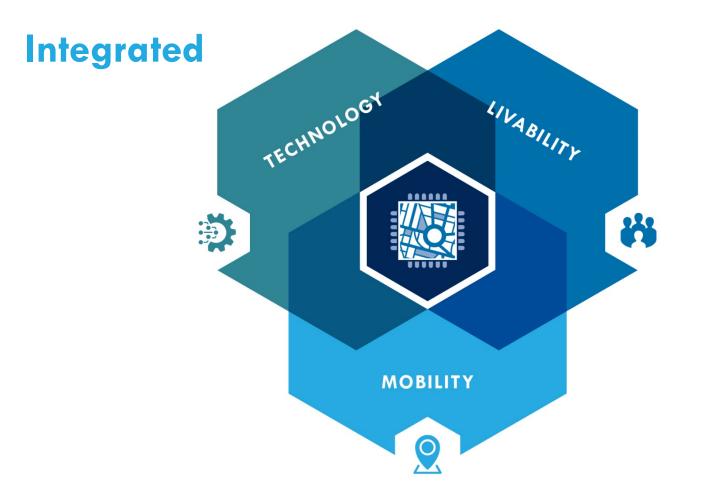
Identifying potential for efficient technology-leveraged investments



Collaborative

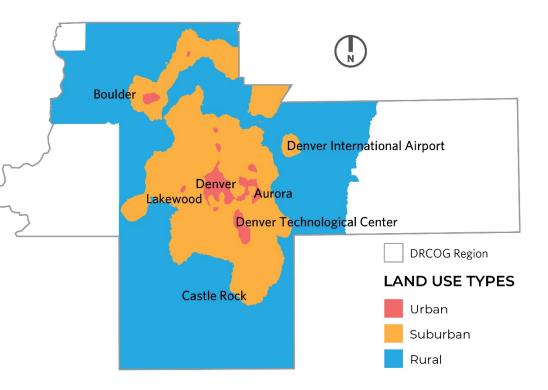


Building on the collaborative momentum of the Blueprint's effort going forward, these partners will initiate Tactical Actions and engage the private sector, county and municipal agencies, along with interested organizations and community groups to integrate the actions into our region.



Regional

The Denver region encompasses more than 3 million people living in urban, suburban, and rural areas stretched over 9 counties and more than 5,000 square miles.



Community Engagement

- \checkmark Inclusive citizen interviews
- ✓ Metro ambassadors
- ✓ Digital outreach
- ✓ Educational events
- ✓ Public workshops

2,000+ REACHED



What did we learn from our community?



Importance of mobility – it's a key enabler of quality of life



It's about more than infrastructure



Missing links create gaps to connectivity



Safety and security are critical

Our Vision

Our metropolitan region employs a full array of flexible technology and services to maximize safety and access to mobility choices connecting people of all ages, incomes, and abilities to jobs, recreation, healthcare, amenities, and other daily activities, enhancing and protecting our quality of life now and in the future.



Objectives



Regional Collaboration

System Optimization

Shared Mobility

Data Security & Sharing

Mobility Electrification

Driverless Vehicle Preparation

New Transportation Funding

Action Initiators

Initiator : CDOT

- 1.1 Establish a mobility technology advisory committee
- 1.2 Establish a new public-private partnership mobility entity or entities to pursue mobility technology implementation
- 1.5 Develop regional guidelines for drone delivery and drone passenger travel
- 2.2 Prepare for technology upgrades and interoperability in project development of transportation projects
- 2.7 Implement "smart corridor" operations on all regional freeways.
- 2.8 Coordinate traffic management center systems and operations
- 2.9 Pilot mobility technologies on mountain corridors
- 2.10 Pilot modular lanes
- 4.1 Establish a regional mobility data platform
- 5.3 Transition government fleets to electric and other zero-emission vehicles
- 6.2 Minimize zero occupancy and encourage high shared use of driverless automated vehicles
- 6.3 Support Legislative efforts to ensure that automated vehicles operate safely
- 7.2 Explore the concept of a road usage charge for Colorado

Regional Collaboration

System Optimization

Shared Mobility

Data Security & Sharing

Mobility Electrification

Driverless Vehicle Prep

New Transportation Funding

Initiator : DRCOG

- 1.1 Establish a mobility technology advisory committee
- 1.2 Establish a new public-private partnership mobility entity or entities to pursue mobility technology implementation
- 1.3 Engage university resources to develop technology mobility research and development
- 1.6 Establish a regional smart mobility navigator
- 2.1 Evaluate technology upgrades and interoperability in projects in DRCOG's Transportation Improvement Program
- 2.2 Prepare for technology upgrades and interoperability in project development of transportation projects
- 2.5 Implement smart traffic signal control technology on all major regional arterial corridors
- 2.6 Pilot integrated corridor management on ten arterial corridors
- 3.2 Adopt a regional compact defining common standards for micromobility services
- 3.4 Implement curbside management Standards
- 3.5 Pilot neighborhood-scale mobility hubs
- 3.6 Partner with the private sector to provide transportation in mobility-challenged communities

Regional Collaboration

System Optimization

Shared Mobility

Data Security & Sharing

Mobility Electrification

Driverless Vehicle Prep

New Transportation Funding

Initiator : DRCOG (CONT.)

- 4.1 Establish a regional mobility data platform
- 4.2 Establish data sharing requirements for private sector roadway users
- 5.1 Incentivize ridehailing and ridesharing providers to use electric vehicles
- 5.3 Transition government fleets to electric and other zero-emission vehicles
- 6.2 Minimize zero occupancy and encourage high shared use of driverless automated vehicles
- 7.1 Expand DRCOG funding earmark for a mobility technology innovation fund

Initiator : RTD

- 1.1 Establish a mobility technology advisory committee
- 1.2 Establish a new public-private partnership mobility entity or entities to pursue mobility technology implementation
- 1.4 Make Mobility as a Service available to all
- 2.4 Implement transit priority on all major bus corridors
- 3.1 Develop a universal mobility app for trip planning and payment
- 3.3 Develop incentives to improve ridehailing and ridesharing operations
- 3.4 Implement curbside management standards
- 3.5 Pilot neighborhood-scale mobility hubs
- 3.6 Partner with the private sector to provide transportation in mobility-challenged communities
- 3.7 Pilot smart parking at Park-n-Rides
- 4.1 Establish a regional mobility data platform
- 5.3 Transition government fleets to electric and other zero-emission vehicles
- 6.1 Pilot driverless microtransit to increase public exposure to automated vehicle technology

System Optimization Data Security & Sharing Shared Mobility Mobility Electrification

Regional Collaboration

Driverless Vehicle Prep

Regional Collaboration

Data Security & Sharing

Mobility Electrification

New Transportation Funding

Initiator : Denver Metro Chamber

- 1.1 Establish a mobility technology advisory committee
- 1.2 Establish a new public-private partnership mobility entity or entities to pursue mobility technology implementation
- 4.1 Establish a regional mobility data platform
- 5.2 Create an electrified mobility development program
- 7.3 Support legislative efforts to ensure that driverless automated vehicles generate appropriate funding

System Optimization

Shared Mobility

Initiator : Cities & Counties

- 2.3 Accelerate testing of bicycle/pedestrian detection at crossings
- 3.3 Develop incentives to improve ridehailing and ridesharing operations

Tactical Actions

Regional Collaboration

1.1

Establish a mobility technology advisory committee

THEME

Funding & Finance Infrastructure Governance

TACTIC INITIATOR CDOT, DRCOG, RTD, Denver Metro Chamber

ADDITIONAL PARTICIPANTS

New mobility entity



Regional Collaboration

1.4

Make Mobility as a Service available to all

THEME Human Experience

TACTIC INITIATOR RTD

ADDITIONAL PARTICIPANTS

New mobility entity, nonprofit organizations, human services providers



Develop regional guidelines for drone delivery and drove passenger travel

THEME

Safety Human Experience Infrastructure Governance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS

Federal Aviation Administration, state legislature, Denver Metro Chamber



Prepare for technology upgrades and interoperability in project development of transportation projects

THEME

Infrastructure Governance Efficiency & Sustainability

TACTIC INITIATOR CDOT, DRCOG

ADDITIONAL PARTICIPANTS New mobility entity



Implement transit priority on all major bus corridors

THEME

Human Experience Efficiency & Sustainability Infrastructure Governance

TACTIC INITIATOR RTD

ADDITIONAL PARTICIPANTS

Cities, counties, CDOT



Implement smart traffic signal control technology on all major regional arterial corridors

THEME

Safety Efficiency & Sustainability

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS

Cities, counties, CDOT



Shared Mobility

3.1

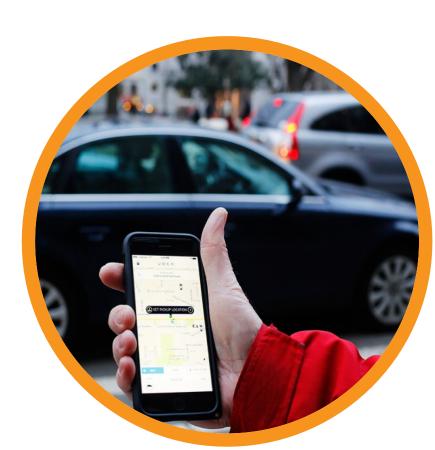
Develop a universal mobility app for trip planning and payment

THEME Human Experience

TACTIC INITIATOR RTD

ADDITIONAL PARTICIPANTS

New mobility entity, E-470 Public Highway Authority, Northwest Parkway Public Highway Authority



Adopt a regional compact defining common standards for micromobility services

THEME

Safety Infrastructure Governance

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS Cities, counties



Shared Mobility

3.3

Develop incentives to improve ridehailing and ridesharing operations

THEME

Safety Human Experience

TACTIC INITIATOR RTD, cities, counties

ADDITIONAL PARTICIPANTS DRCOG



Implement curbside management standards

THEME

Safety Human Experience Efficiency & Sustainability

TACTIC INITIATOR DRCOG, RTD

ADDITIONAL PARTICIPANTS

Cities, counties, new mobility entity



Partner with the private sector to provide transportation in mobility-challenged communities

THEME

Human Experience Efficiency & Sustainability

TACTIC INITIATOR RTD, DRCOG

ADDITIONAL PARTICIPANTS

Cities, counties, neighborhood groups, transportation management associations



Data Security & Sharing

4.1

Establish a regional mobility data platform

THEME

Human Experience Infrastructure Governance

TACTIC INITIATOR

CDOT, DRCOG, RTD, Denver Metro Chamber

ADDITIONAL PARTICIPANTS

Cities, counties, National Renewable Energy Laboratory, universities, new mobility entity, Colorado Office of Information Technology



Transition government fleets to electric and other zeroemission vehicles

THEME Efficiency & Sustainability

TACTIC INITIATOR CDOT, DRCOG, RTD

ADDITIONAL PARTICIPANTS

Cities, counties, Colorado Energy Office, Regional Air Quality Council



Pilot driverless microtransit to increase public exposure to automated vehicle technology

THEME

Human Experience Efficiency & Sustainability

TACTIC INITIATOR RTD

ADDITIONAL PARTICIPANTS

New mobility entity, cities, counties, CDOT, DRCOG, transportation management associations



Support legislative efforts to ensure that automated vehicles operate safely

THEME

Safety Infrastructure Governance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS USDOT, Denver Metro Chamber, state legislature



Mobility Gridlock vs. Mobility Bold





- Gridlock & Disarray
- Limited Access
- Economic Barriers
- Congestion





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- Economic Opportunity
- Happier Commute

- Accessibility for All
- Options & Choice



ECONOMY



Losing Ground

Increased traffic congestion and uncoordinated adoption of new technologies could

cost \$50 million

in unrealized benefits across the region each year by 2030.





Opportunities for All

Less time spent traveling, more efficient freight movement, improved safety and new accessibility contribute to an annual benefit to the region in excess of

\$1.9 billion

gained

Mile High Travelers



Meet our Mile High Travelers



MARIA is a 22-year-old mother who lives in Aurora. She is a student at Metro State University who also works part time at a restaurant in downtown Denver. Her pride and joy is her 4year old son Gabriel, who is taken care of by Maria's mother each day.



TONYA is a 34-year-old Colorado native who lives in Boulder and is married with two young children.



JORDAN is a 29-year-old who recently moved to Denver from the Bay Area. Central Denver is not affordable for him, so he bought a home in Parker, which also provides him a yard for his dog.



CARL is middle-aged and married with a teenage son. His biggest concern is a recent health issue that is beginning to limit his mobility and forcing him to walk with a cane.



DAN is a 75-year-old semi-retired professor who is married and lives in a South Denver neighborhood.



Maria is a 22-year-old mother who lives in Aurora. She is a student at Metro State University who also works part time at a restaurant in downtown Denver. Her pride and joy is her 4-year old son Gabriel, who is taken care of by Maria's mother each day.

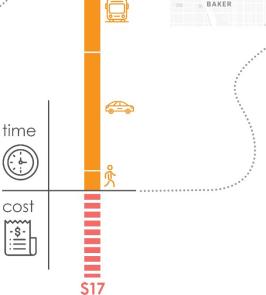
DAILY TRAVEL

Aurora > Five Points > Metro State > Downtown Denver > Five Points > Home 110 minutes MOBILITY GRIDLOCK

DAILY TRAVEL EXAMPLE



Getting back and forth between my home, school, job and mother's home takes a long time each day. My car is becoming a money pit, always needing repairs I can't afford."



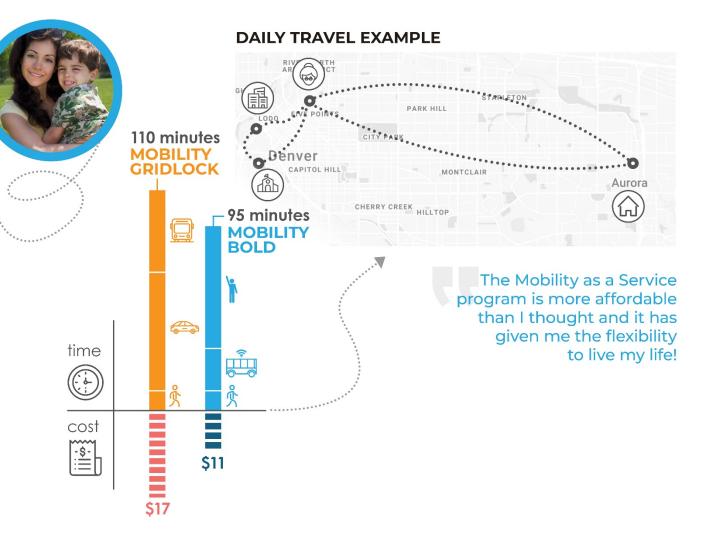


BENEFITS

The microtransit service is great for getting around downtown with more direct options which saves me time.

The time savings in my commute allow me to work an extra hour at the restaurant or spend more time with my son.

Sometimes my mom takes my son Gabriel downtown to ride the driverless microshuttle as an afternoon adventure. He loves it!"

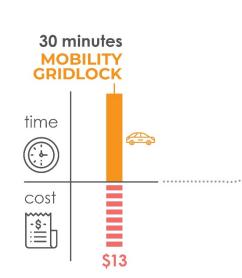




Dan is a 75-year-old semiretired professor who is married and lives in a south Denver neighborhood. He occasionally drives to the university in bad weather, but prefers to bike.

DAILY TRAVEL

Home > University > Grocery Store > Coffee > Home



DAILY TRAVEL EXAMPLE



I used to be very active in my community, but I'm feeling more limited now that it doesn't feel as safe or easy to bike or walk to where I want to go."



BENEFITS

We've noticed that traffic is being routed onto arterials, which means less neighborhood traffic and safety streets.

Converting on-street parking to more bike lanes and wider sidewalks makes it easier for us to get around.

I spend a lot less time driving and more time walking and biking for my neighborhood trips. Not only am I spending less money on transportation, my health is better and I feel great."



time

cost

\$-

80

\$13

\$1

DAILY TRAVEL EXAMPLE



I feel safe and comfortable walking and biking around my community. There are new pedestrian detection systems in place at intersections in our neighborhood and new separated bike lanes that allow me to not only bike to the university, but also to my library and coffee shop."

Moving Forward

Level Of Investment & Coordination









mobilitychoiceblueprintstudy.com



Establish a new public-private partnership mobility entity or entities to pursue mobility technology implementation

THEME

Human Experience Funding & Finance Infrastructure Governance

TACTIC INITIATOR

CDOT, DRCOG, RTD, Denver Metro Chamber

ADDITIONAL PARTICIPANTS N/A



Engage university resources to develop technology mobility research and development

THEME

Safety Efficiency & Sustainability Infrastructure Governance

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS New mobility entity, university collaborative



Regional Collaboration

1.6

Establish a regional smart mobility navigator

THEME Infrastructure Governance

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS CDOT, RTD, cities, counties



2.1

Evaluate technology upgrades and interoperability in projects included in DRCOG's Transportation Improvement Program

THEME

Infrastructure Governance

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS

New mobility entity



2.3

Accelerate testing of bicycle/pedestrian detection at crossings

THEME

Safety Human Experience Efficiency & Sustainability

TACTIC INITIATOR

Cities, counties

ADDITIONAL PARTICIPANTS N/A



2.6

Pilot integrated corridor management on ten arterial corridors

THEME

Safety Efficiency & Sustainability

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS

CDOT, RTD, cities, counties, new mobility entity



Implement "smart corridor" operations on all regional freeways

THEME

Safety Efficiency & Sustainability Infrastructure Governance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS Cities, counties, DRCOG



2.8

Coordinate traffic management center systems and operations

THEME

Safety Efficiency & Sustainability Infrastructure Governance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS DRCOG, cities, counties



Pilot mobility technologies on mountain corridors

THEME

Safety Infrastructure Governance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS

New mobility entity, I-70 Mountain Corridor Coalition



Pilot modular lanes

THEME

Safety Efficiency & Sustainability Infrastructure Governance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS N/A



Shared Mobility

3.5

Pilot neighborhoodscale mobility hubs

THEME

Human Experience Efficiency & Sustainability

TACTIC INITIATOR DRCOG, RTD

ADDITIONAL PARTICIPANTS

Cities, counties, new mobility entity, transportation management associations



Pilot smart parking at Park-n-Rides

THEME

Efficiency & Sustainability Infrastructure Governance

TACTIC INITIATOR RTD

ADDITIONAL PARTICIPANTS

New mobility entity



Data Security & Sharing

4.2

Establish data sharing requirements for private sector roadway users

THEME Infrastructure Governance

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS

New mobility entity, cities, counties



Incentivize ridehailing and ridesharing providers to use electric vehicles

THEME Efficiency & Sustainability

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS New mobility entity



Mobility Electrification

5.2

Create an electrified mobility development program

THEME Efficiency & Sustainability

TACTIC INITIATOR Denver Metro Chamber

ADDITIONAL PARTICIPANTS

Utility companies, Public Utilities Commission, state legislature



Driverless Vehicle Prep

6.2

Minimize zero occupancy and encourage high shared use of driverless automated vehicles

THEME Efficiency & Sustainability

TACTIC INITIATOR CDOT, DRCOG

ADDITIONAL PARTICIPANTS State legislature, ridehailing providers



New Transportation Funding

7.1

Expand DRCOG funding earmark for a mobility technology innovation fund

THEME Funding & Finance

TACTIC INITIATOR DRCOG

ADDITIONAL PARTICIPANTS N/A



Explore the concept of a road usage charge for Colorado

THEME Funding & Finance

TACTIC INITIATOR CDOT

ADDITIONAL PARTICIPANTS

DRCOG, state legislature, Denver Metro Chamber



Support legislative efforts to ensure that driverless automated vehicles generate appropriate funding

THEME

Efficiency & Sustainability Funding & Finance Infrastructure Governance

TACTIC INITIATOR

Denver Metro Chamber

ADDITIONAL PARTICIPANTS CDOT

