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MOBILITY  
PARTNERSHIP

# Working Group

February 1, 2022



COLORADO  
Department of Transportation



# Quick Notes about the Meeting

Emily Lindsey, Vice Chair of the Working Group, will be facilitating the meeting today.

- **Please add your agency affiliation to your name.**  
(Right click on your name and “Rename” to include agency)
- Everyone has the ability to unmute and/or show video, if we’re hearing feedback, you may be muted.
- Feel free to use the chat box.

....and now quick introductions!

# Agenda Snapshot

## Informational Briefings

*Montbello Connector Transit Project*

*Mobility Data Interoperability Principles*

*Mobility Analytics and Big Data*

## Data and Data Sharing: Survey

## Partner Agency Updates

## Other Matters



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# **Montbello Connector Microtransit Pilot**

Stephen Rijo, City and County of Denver



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# Mobility Data Interoperability Principles

Jonathan Wade, RTD



**We Make Lives Better  
Through Connections.**

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# Mobility Data Interoperability Principles

Jonathan Wade, Service Development Support Manager

April 28, 2022

# Vision casting for multimodal travel

*Wouldn't it be nice if discovery, planning, reservation, and payment could be done once for the whole trip?*

*Red = RTD doing now; red/yellow partially implemented*

## Easy

Home → Bus → Train → Bus → Work

## A little more difficult

Home → FlexRide → Train → Bus → Work

## More difficult

Home → TNC (Uber or Lyft) → Train → Bike Share → Event

## Much, much more difficult

Home → Taxi → Airplane → Bike Share → Hotel

# Building an interoperable mobility future



*Wouldn't it be nice if all our technology fit together like Legos?*

The mobility interoperability initiative is a set of principles to guide the development of standards and technology to enable an interoperable mobility future

# What are the principles?

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1. All systems creating, modifying, or consuming mobility data should be interoperable
2. Interoperability should be achieved through the development, adoption, and widespread implementation of open standards that support the efficient exchange and portability of mobility data
3. Transit agencies and other mobility service providers should have access to tools that present high-quality mobility data accessibly, equitably, and in real-time to assist travelers in meeting their mobility needs
4. Transit agencies, other mobility service providers, and consumers should be able to select the transportation technology components that best meet their needs
5. All individuals and the public should be empowered through high-quality, well-distributed mobility data to find, access, and utilize high-quality mobility options that meet their needs as they see fit, while maintaining their privacy

**Principle 1:** All systems creating, modifying, or consuming mobility data should be interoperable

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- Anything that handles mobility data should be interoperable with anything else that handles mobility data
- **MOBILITY DATA** = data created by (and/or used in the operation of) a mobility service
- **INTEROPERABILITY** = the ability for software or hardware to communicate with other software or hardware using open standards

**Principle 2:** Interoperability should be achieved through the development, adoption, and widespread implementation of open standards that support the efficient exchange and portability of mobility data.

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- Open standards are like languages for components to exchange information about mobility
- Software and hardware components need to be able to “speak” the language
- But they also need to be able to understand what they’re “hearing”
- The common languages need to cover all the uses we might have for mobility data

**Principle 3:** Transit agencies and other mobility service providers should have access to tools that present high-quality mobility data accessibly, equitably, and in real-time to assist travelers in meeting their mobility needs.

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- If we improve the interoperability of our mobility system, ride providers and customers will be more likely to have mobility data when they need it
- A transit agency's ability to consolidate its mobility data regardless of source is a positive for the agency and its riders

**Principle 4:** Transit agencies, other mobility service providers, and consumers should be able to select the transportation technology components that best meet their needs.

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- Right-sizing should be as easy as possible
- An agency should be able to select the vendor(s) that match their size and budget
- Vendors with interoperable products will be more likely to be able to transition easily into an existing ecosystem of agency vendors

**Principle 5:** All individuals and the public should be empowered through high-quality, well-distributed mobility data to find, access, and utilize high-quality mobility options that meet their needs as they see fit, while maintaining their privacy.

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- Mobility data is critical to helping the public make mobility decisions
- Interoperability helps mobility data get to where it's needed
- Using standard formats does not mean losing privacy

# Stakeholders

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The public, our customers

Mobility Service Providers

- Transit agencies
- Private mobility companies
- Anyone who offers rides to members of the public

Transportation System Manager

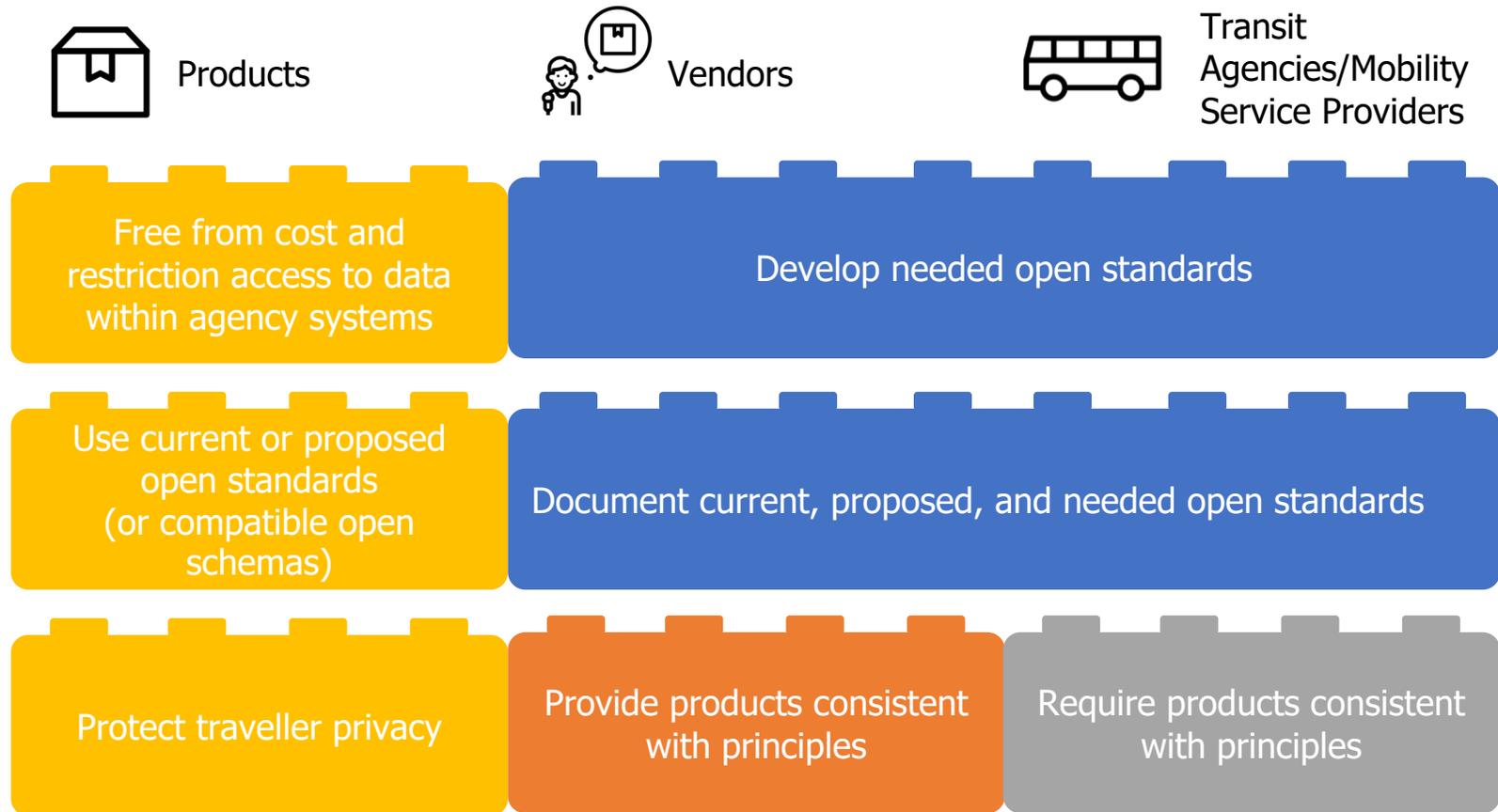
- Service coordinators (e.g., MPOs, cities, counties)
- Regulators (e.g., DOTs, PUCs)

Transportation Technology Company

- Hardware manufacturers
- Software developers

Researchers

# Stakeholder expectations



# Open standards available now or soon

A partial list... Red = RTD using now

Standard	Description	No Cost	No restrictions to use	Public documentation	Independently Maintained	Structured releases	Open community	Transparent inclusive governance
<b>GTFS</b>	General transit feed specification	✓	✓	✓	✓	✓	✓	✓
<b>SIRI</b>	Service interface for real time	☒	☒	☒	✓	✓	☒	Transparent ✓ Inclusive ☒
<b>GTFS-RT</b>	General transit, real time	✓	✓	✓	✓	✓	✓	✓
<b>MDS</b>	Mobility data standard	✓	✓	✓	✓	✓	✓	✓
<b>GBFS</b>	Bikeshare	✓	✓	✓	✓	✓	✓	✓
<b>GTFS-Flex</b>	Flex Rides	✓	✓	✓	✓	✓	✓	✓
<b>GTFS-Pathways</b>	Station wayfinding	✓	✓	✓	✓	✓	✓	✓
<b>GTFS-Elevator</b>	Elevator availability in stations	✓	✓	✓	✓	✓	✓	✓

# The co-author coalition



# Co-signatories



# Additional information

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- [interoperablemobility.org](https://interoperablemobility.org)
  - Specific information about the governance and initiatives for open mobility standards
    - Looking for additional authors/co-signatories for version 2
- [mobilitydata.org](https://mobilitydata.org)
  - “The one-stop organization for mobility data standards”
- [gtfs.org](https://gtfs.org)
  - Standards for GTFS and GTFS-Real Time
- [jonathan.wade@rtd-denver.com](mailto:jonathan.wade@rtd-denver.com)

# Questions?

April 28, 2022

# We Make Lives Better Through Connections.

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# **Mobility Analytics and Big Data**

Robert Spotts, DRCOG  
Melissa Balding, DRCOG

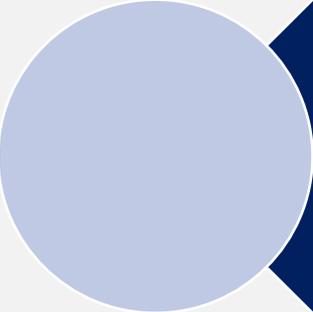


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# **Data and Data Sharing Survey**

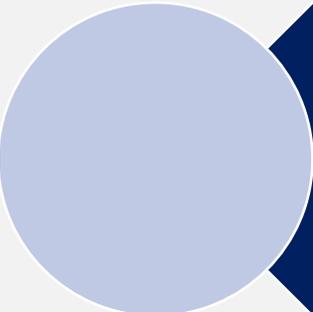
Emily Lindsey, DRCOG

# Challenges and Use Cases



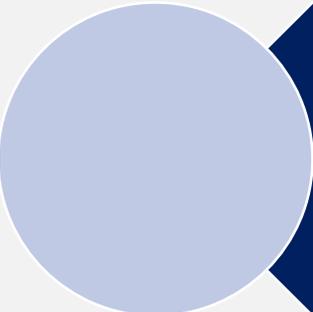
Understand how people move throughout the region.

- Volumes, travel times, delays, O/D
- Trip behavior and mode choice



Ensure safe mobility and situational awareness.

- Crash data improvements
- Real-time operations information



Preparation for new modes.

- Partnerships, standards and systems for integration
- Measuring benefits/costs of pilots and new modes

# Help us prioritize the use cases!



<https://www.surveymonkey.com/r/RHBQ CJY>



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# **Partner Agency Announcements**



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# CV Corridor Testing

Mike King, CDOT



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# **Next Month: Chair/Vice Chair Election**



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# Shared Micromobility Story Map

Emily Lindsey, DRCOG



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# Regional TIP Call for Projects

Josh Schwenk, DRCOG

The Curb Data Specification (CDS) connects public agencies with private companies and aligned nonprofits, giving them the common language they need to:

### UNDERSTAND

how and by whom the curb  
is used

### OPTIMIZE

incentives and policies  
governing access to curb  
space

### COMMUNICATE

regulations to curb users in  
real time

### MEASURE IMPACT

by calculating ROI and curb  
productivity

# Curb Data Specification Release

Emily Lindsey, DRCOG



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## **Other Matters**

Type in the chat box or chime in (just unmute yourself).



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**Thanks for joining the conversation.**

See you in March.