

REGIONAL CRASH DATA CONSORTIUM

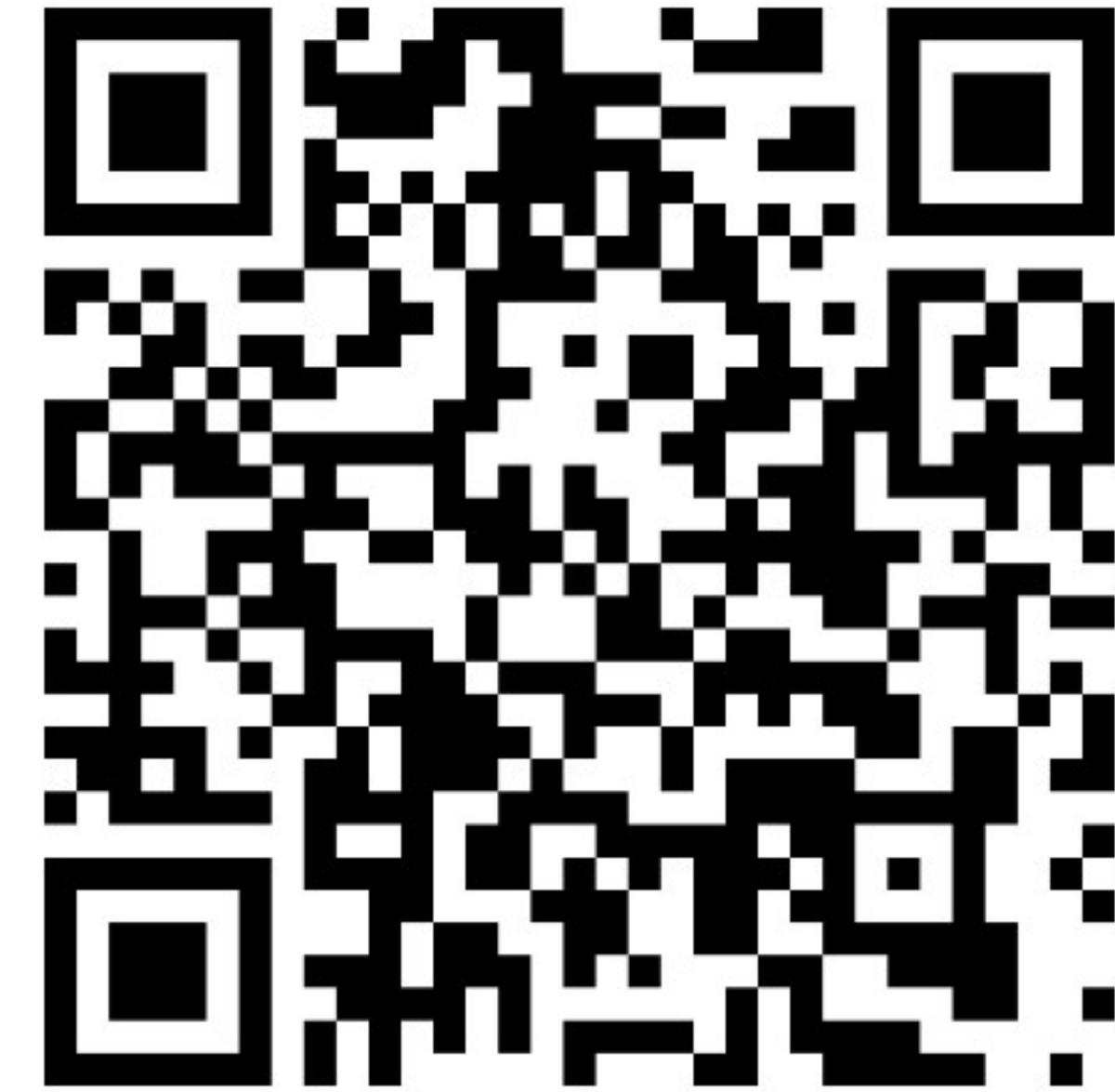
May 11, 2023

Erik Braaten, Crash Data
Consortium Senior Planner

Instructions

Go to
www.menti.com

Enter the code



Or use QR code

What are you excited about for this upcoming summer?

14 Answers

Naps in the hammock 🧡

Travel

Camping

Warmth

Kayaking

mountains

Camping

biking and travel

Vacation

What are you excited about for this upcoming summer?

14 Answers

Red Rocks concerts

Hiking

Biking!

Chautauqua concerts

Family time

AGENDA



- Introduction
- State and Regional Data Process
 - Erin Beckett, Colorado Department of Revenue
 - David Swenka and Alyssa Herrin, Colorado Department of Transportation
 - Jenny Wallace, Denver Regional Council of Governments
- Crash Data Inventory Summary
- Consortium Guiding Principles
- Next Steps, Questions & Answers

GRANT TIMELINE UPDATED





STATE AND REGIONAL DATA PROCESS



CRASH DATA INVENTORY SUMMARY



CRASH DATA INVENTORY



- Engagement
- Inventory
 - Data used and sources
 - Analysis use cases and objectives
 - Issues or problems encountered
 - Other relevant information
 - Data process model

ENGAGEMENT



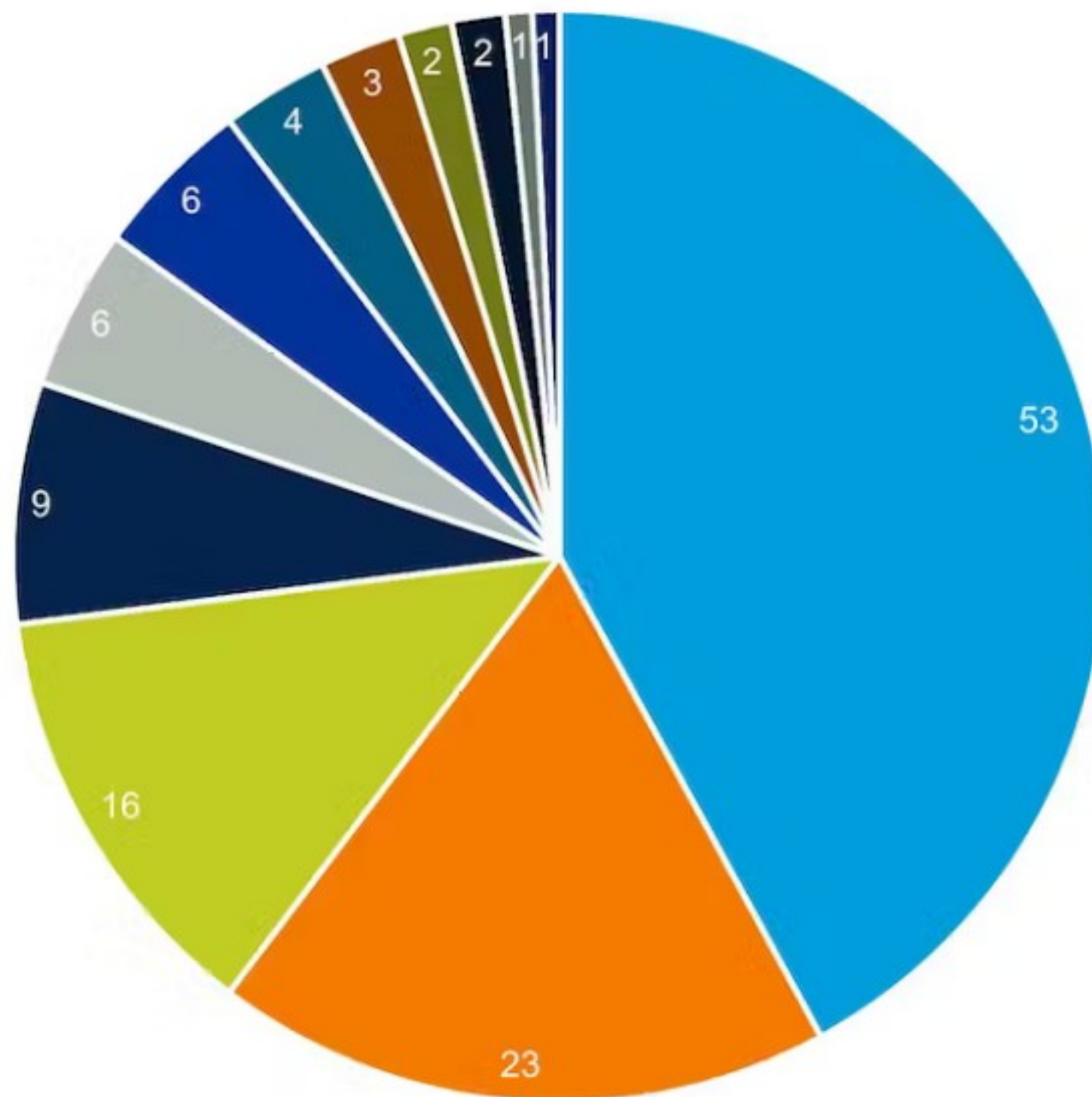
- Number of individuals: 126
- Some engaged through multiple methods

Method	Date Range	Responses
Denver Regional Data Consortium Survey	July – September 2021	33
Survey123	September – October 2022	70
SurveyMonkey	November 2022 – April 2023	29
Crash Data Conversations	November 2022 – April 2023	55

ENGAGEMENT

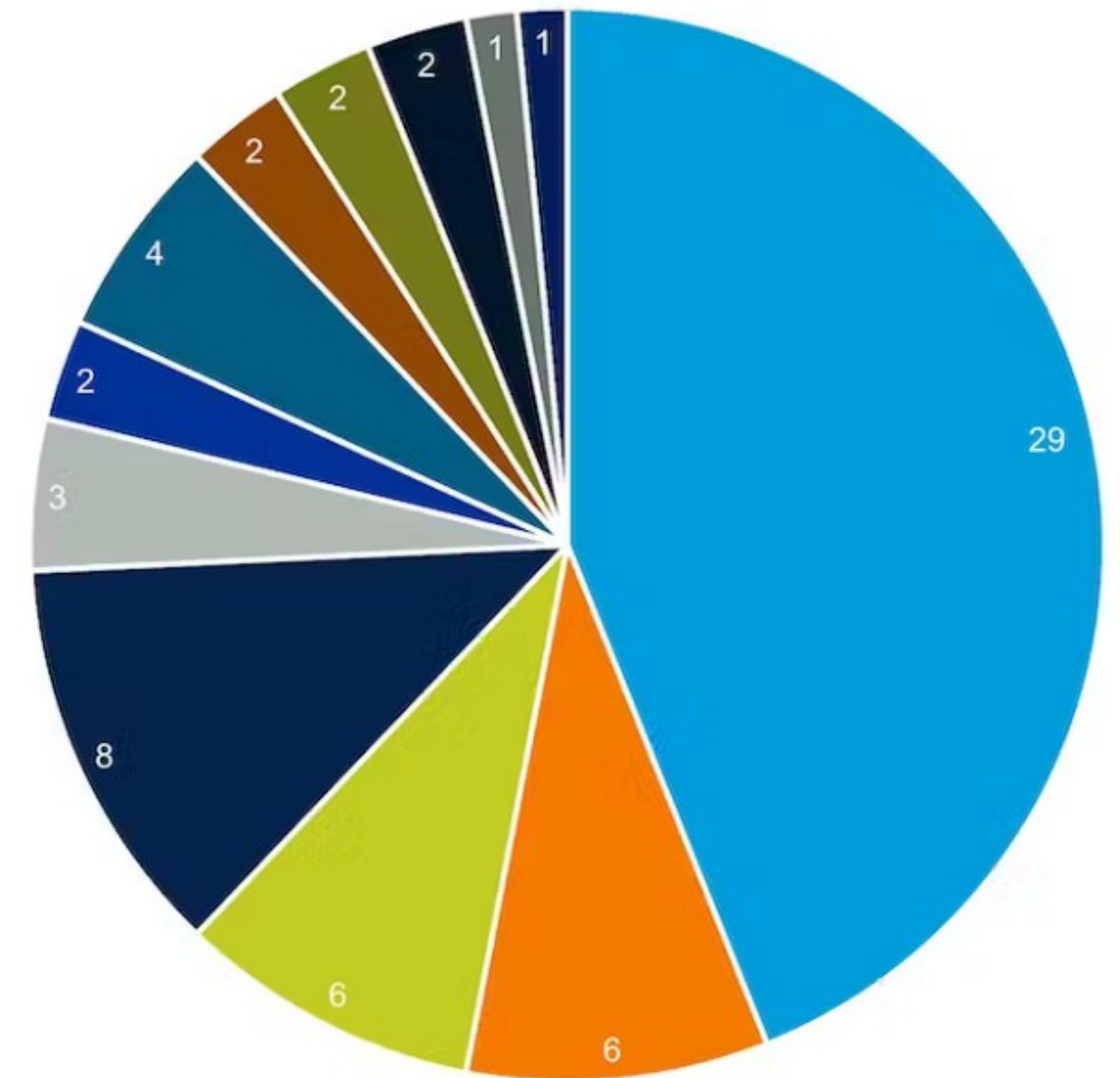


Individual Responses
by Type of Organization



- Municipality
- State
- County
- Consultant
- Federal
- Fire District
- Advocacy
- Vendor
- Higher Education
- MPO
- Airport
- Regional Transportation

Organizations
by Organization Type



INVENTORY – DATA USES AND SOURCES



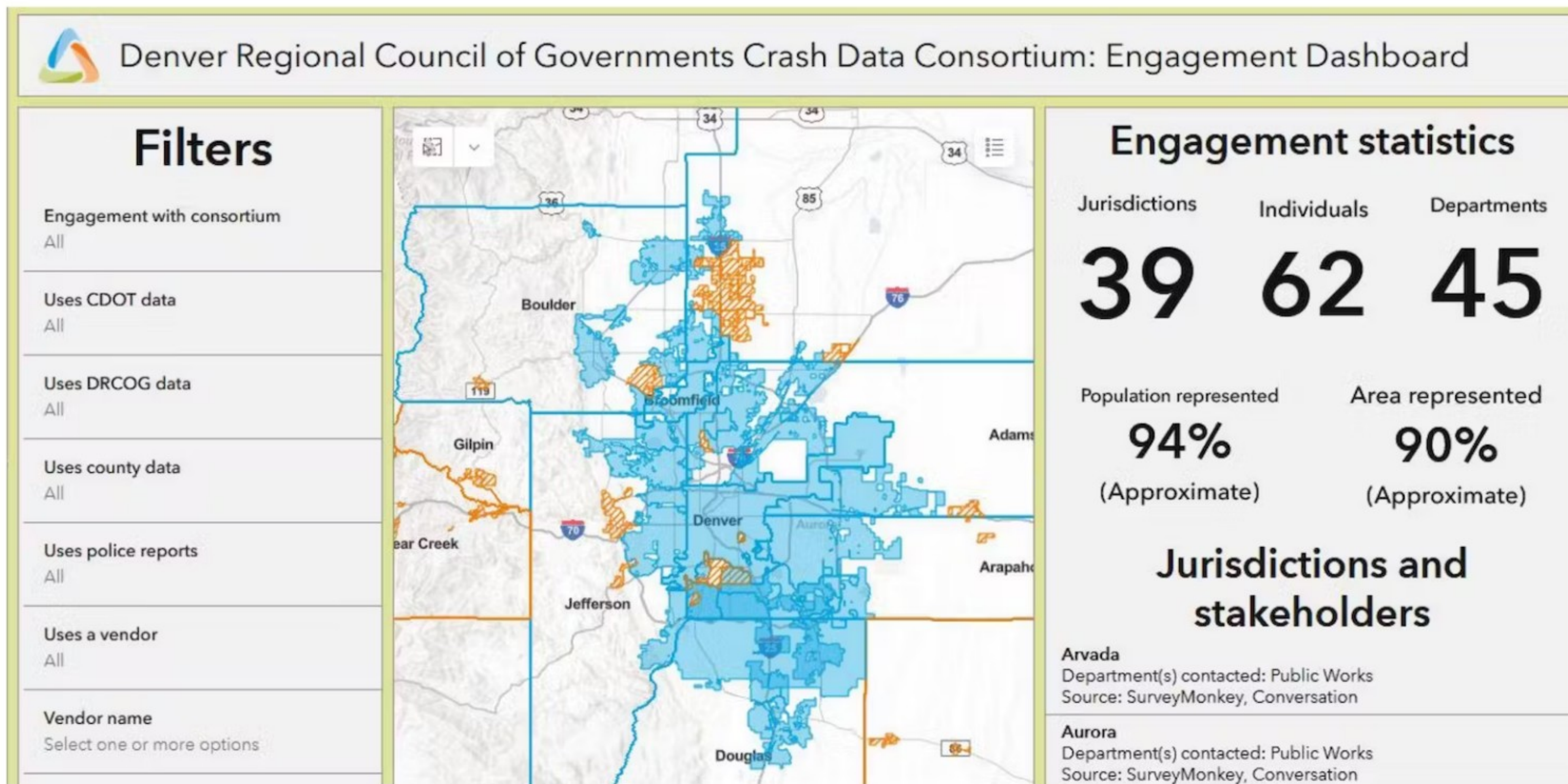
- Data sources
 - CDOT
 - DRCOG
 - Municipal Police
 - County Sheriff
 - Colorado State Patrol
 - Vendor
 - Crash Magic (uses municipal police data)
 - DiExSys (uses CDOT data)
 - Other local records
 - Fire Districts and Departments
 - Hospital/Emergency
 - Fatality Analysis Reporting System (FARS), National Highway Traffic Safety Administration (NHTSA)

INVENTORY – DATA USES AND SOURCES



- Many organizations use multiple sources of data for different reasons
 - State and regional level useful to identify trends and how communities compare
 - State and regional level data not always sufficient or recent enough when making engineering decisions in response to individual crashes, identified patterns or other concerns

INVENTORY – DATA USES AND SOURCES



INVENTORY – ANALYSIS USE CASES AND OBJECTIVES



- Overarching Use Cases
 - Engineering
 - Identify dangerous areas and areas with excessive crashes
 - Intentional safety studies, in response to specific crashes, or as part of other roadway projects
 - Justify traffic engineering interventions
 - Education
 - Inform system users of dangerous areas
 - Behavioral factors involved in crashes
 - Enforcement
 - Local police and CSP use crash data to help direct patrols

INVENTORY – ANALYSIS USE CASES AND OBJECTIVES



- Major analysis objectives
 - Identify crash locations and patterns
 - What kind of crashes are occurring?
 - Understanding crashes to inform solutions

INVENTORY – ANALYSIS USE CASES AND OBJECTIVES



- Identify crash locations and patterns
 - Hotspots, top incident intersections and roadway stretches
 - Are there excess crashes than would be expected based on Annual Average Daily Traffic (AADT)?
 - Dig into specific crash locations and individual crashes
 - Does the number or severity of crashes meet thresholds for specific interventions
 - Historical data can inform systemic approach to roadway safety



INVENTORY – ANALYSIS USE CASES AND OBJECTIVES



- What kind of crashes are occurring?
 - What type of movements are causing crashes?
 - Harmful event sequences
- What kinds of traffic units are involved?
 - Motor vehicles, bicycles, pedestrians and more



INVENTORY – ANALYSIS USE CASES AND OBJECTIVES



- Understanding crashes to inform solutions
 - Are there problems with how the infrastructure is constructed?
 - Design
 - Roadway conditions
 - Sightline obstructions to other traffic units or signage
 - Lighting and weather conditions – time of day and year
 - Surface treatment
 - Issues with signal network and timing that may contribute to crashes?



INVENTORY – ANALYSIS USE CASES AND OBJECTIVES



- Understanding crashes to inform solutions (continued)
 - Behavioral factors
 - Impairment
 - Speeding
 - Distraction
 - Crash narratives



INVENTORY – ISSUES OR PROBLEMS ENCOUNTERED



- Major issues or problems encountered
 - Location Accuracy
 - Timeliness
 - Consistency of reporting
 - Discrepancies between data sources
 - Difficult to link data

INVENTORY – ISSUES OR PROBLEMS ENCOUNTERED



- Location Accuracy
 - Methodologies
 - GPS Coordinates (Latitude/Longitude)
 - Route and Mile point, and appropriate offset
 - Intersection, and offset distance
 - Off-system data from CDOT is not geocoded
 - Many local governments do not have geocoded crash data
 - Address often not useful for data users



INVENTORY – ISSUES OR PROBLEMS ENCOUNTERED



- Timeliness
 - State data often considered highly delayed by end users
 - Constituents and local decision makers often expect information that is more recent than CDOT/DRCOG
 - Especially regarding fatal and serious injury crashes
 - Municipal data often available within a few days to weeks of crash depending on the jurisdiction



INVENTORY – ISSUES OR PROBLEMS ENCOUNTERED



- Consistency of reporting
 - Location
 - Method
 - Spelling and naming conventions
 - Narratives
 - Impairment suspected
 - Overall level of completeness and detail



INVENTORY – ISSUES OR PROBLEMS ENCOUNTERED



- Discrepancies between data sources
 - State not always getting updated information from local governments
 - State and local data number mismatch
 - Fatal and serious crashes
 - Bike and pedestrian crashes
 - Crashes involving impaired persons



INVENTORY – ISSUES OR PROBLEMS ENCOUNTERED



- Difficult to link data
 - No common unique identifier system exists to track and link crashes
 - Hospital and Emergency Medical Service records difficult to link back to crash data
 - Likely underreporting of bike and pedestrian crashes



INVENTORY – OTHER RELEVANT INFORMATION



- Relationships between some data users and law enforcement vary greatly
 - ‘Phenomenal’ to ‘not super willing to give it [crash data] up’
- Recognition among stakeholders that the work being done by law enforcement is very difficult and important
 - Quality of data collected has huge impact on the usefulness of the data in the hands of engineers and others



INVENTORY – OTHER RELEVANT INFORMATION



- Accessibility of data and tools is important
 - Unsure where to get data and what is currently available
 - Data informs applications for roadway safety project funding
 - Highway Safety Improvement Program (CDOT)
 - Transportation Improvement Program (DRCOG)
 - Capital Improvement Program (municipal and county government)
 - Some governments and organizations lack the capacity of others in the Denver region





CONSORTIUM GUIDING PRINCIPLES



GUIDING PRINCIPLES



Vision

The consortium is a sustainable and valuable resource to further local and regional roadway safety goals by facilitating collaboration and developing high-quality crash data for the Denver region.

GUIDING PRINCIPLES



Mission

To bring stakeholders in the Denver region together and improve crash data collection, processing and analysis to reduce traffic fatalities and serious injuries. Stakeholders will share expertise and resources to address commonly identified issues of crash data such as timeliness, accuracy, consistency and accessibility.

GUIDING PRINCIPLES



Goals

- Improve completeness and accuracy of spatial locations
- Encourage consistency of high-quality data collection
- Coordinate a timely release of crash data
- Provide education on crash data collection, organization and analysis
- Develop an authoritative regional crash dataset

Vision

How does this vision resonate with you?

14 Answers

Promising

The vision resonates well with me.

Can't wait for the next steps

The collaborative nature of this group will be key to improving it for everyone :) I'm really excited to work with anyone!

I like the vision, but I'd like to see education highlighted in the vision as well (particularly as it relates to feedback to-and-from law enforcement).

This is a solid and useful vision

Promising if timely

Key is definitely collaboration!!

This works well

Vision

How does this vision resonate with you?

14

Answers

These conversations can be really valuable for coordination with the state

Education and next steps will become relevant as we move forward

Valuable to a variety of stakeholders

Maybe state it as a goal rather than an "is".

Great, there are good people in place on all sides

Mission

How does this mission resonate with you?

8

Answers

Resonates well.

Our team at CDOT works hard to constantly improve our process and our data quality and make sure its accessible

This gets to the issues we've been dealing with

As this work pans out, would it be worth moving to a statewide goal to help smaller communities better receive and process crash data

There are great people in place on all sides

Maybe add to second sentence "and to de-duplicate efforts and increase efficiencies"?

Maybe worth adding something to the effect of turning the vision into action.

Efficiency!

sources to address commonly identified issues of crash data such as timeliness, accuracy, consistency and accessibility.

Goals

How do these goals resonate with you?

2

Answers

Improve efficiency

Consistency and accuracy are good, and challenging. goals

- Encourage consistency of high quality data collection
- Coordinate a timely release of crash data
- Provide education on crash data collection, organization and analysis
- Develop an authoritative regional crash dataset



NEXT STEPS, Q&A

NEXT STEPS



September
2023

- Needs Assessment
 - Based on the inventory – identify needs, prioritize and understand the available resources in the Denver region
- Published report of Inventory and Needs Assessment
- Next meeting of the consortium
- Solution development and implementation
 - October 2023 – September 2024



THANK YOU!
QUESTIONS?

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