DRCOG
2020 CRASH DATA

Jenny Wallace, GISP
GIS Manager
DRCOG’s Planning Area

Area

- **Nine-plus counties:** Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, Gilpin, Jefferson, Weld (partial)
- **5,288 square miles**
  comparable to Connecticut
- **809 square miles of urban area**
  (15 percent)

Elevation

- **From Grays Peak**
  (14,278 feet)
- **To Badger Creek on eastern plains**
  (4,505 feet)

Stats

- **3.1 million people**
  comparable to Nevada
- **2.0 million jobs**
  comparable to Alabama
DRCOG CRASH DATA

- data is received from CDOT and **processed annually**
- processing steps include:
  - prepping table schemas
  - geocoding off-system crashes
  - flagging high priority records
  - QC
- data is available on the DRCOG Regional Data Catalog

[https://data.drcog.org](https://data.drcog.org)
DRCOG CRASH DATA USES

Regional Vision Zero
High-Injury Network and Critical Corridors

About
Data
Disclaimer

This map provides data resources for local jurisdictions to display the regional high-injury network and Critical Corridors identified in Taking Action on Regional Vision Zero using DRCOG CRASH data from years 2015-2017. The map will assist local jurisdictions in identifying areas with the highest density of fatal and serious injury crashes in the DRCOG region. To interact with the data, please navigate to the Data tab.

Please also consider local data, observations, and estimates when identifying areas with high crash density. DRCOG hosts data on its Regional Data Catalog that is compiled from various sources. DRCOG offers its data in several formats, including shapefiles, Excel, and CSVs. Data can be downloaded at DRCOG Regional Data Catalog.

Figure 15: Pedestrian Age and Sex as a Percentage of Serious Injury and Fatal Crashes, 2013-2015

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage of Serious Injury and Fatal Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 14 and younger</td>
<td>Male: 12%  Female: 8%  Male: 5%  Female: 3%</td>
</tr>
<tr>
<td>15 to 24</td>
<td>Male: 15%  Female: 12%  Male: 5%  Female: 3%</td>
</tr>
<tr>
<td>25 to 44</td>
<td>Male: 15%  Female: 12%  Male: 5%  Female: 3%</td>
</tr>
<tr>
<td>45 to 54</td>
<td>Male: 15%  Female: 12%  Male: 5%  Female: 3%</td>
</tr>
<tr>
<td>55 to 64</td>
<td>Male: 15%  Female: 12%  Male: 5%  Female: 3%</td>
</tr>
<tr>
<td>65 to 74</td>
<td>Male: 15%  Female: 12%  Male: 5%  Female: 3%</td>
</tr>
<tr>
<td>75 and older</td>
<td>Male: 15%  Female: 12%  Male: 5%  Female: 3%</td>
</tr>
</tbody>
</table>

All killed and seriously injured (KSI) crashes
DRCOG Critical Corridors
DRCOG High Injury Network
CHANGES TO CRASH DATA 2020

Data deliverable format changed
• dbf to csv

Data structure changed
• 1 table to 4 tables
• Field schema
• DR2447 to DR3447
• **Crash** – main table. Information about the actual crash, such as date, location, narrative, etc.

• **Vehicle** – ancillary table. Information about each vehicle involved in a crash, such as vehicle type, make, model, etc.

• **Occupant** – ancillary table. Information about each occupant of a vehicle involved in a crash, such as age, position in vehicle, injury severity, etc.

• **Nonmotorist** – ancillary table. Information about each nonmotorist involved in a crash, such as safety equipment, injury severity, movement prior to impact, etc.
PROCESSING STEPS

**PREP SCHEMA**
- Insert data
- Populate city & county
- Create geometries

**STEP 01**

**STEP 02**

**STEP 03**

**STEP 04**

**STEP 05**

**STEP 06**

**COMBINE**
- Combine on-system and off-system geocoded records

**FLAG**
- Flag high priority
- Delete outside
- Final QC

**GEOCODE**
- Geocode off-system
- Rematch
- QC

**LINK FIELD**
- Move points on link field
- Snap points to nearest road

**FINISH**
- Recalculate fields
- Export table
<table>
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<th>File Name</th>
<th>Last Modified</th>
<th>File Size</th>
</tr>
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<tbody>
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<td>Crash Step10_Delete_Fields_For_Internal_Data.ipynb</td>
<td>a month ago</td>
<td></td>
</tr>
<tr>
<td>Crash Step1_Import_Crash_Table.ipynb</td>
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REPLACING CODED VALUES

SELECT DISTINCT roaddescription FROM crash_2020_final;

UPDATE drcog.crash_2020_main SET mostsharefulleventsequencedcode = 'Collision With';
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<th>DRCOG Field Name</th>
<th>DRCOG Created Field</th>
<th>CDOT Calculated Field</th>
<th>Protected Field (only external removal)</th>
<th>DRCOG Remove Field (internal/external removal)</th>
<th>CDOT/DOR Notes</th>
<th>People Friendly Field Name</th>
<th>Field Description</th>
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<td></td>
<td>Agency Code</td>
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<td>Agency detail is the Troop/shift affiliation of the investigating officer.</td>
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<td>Boolean flag to determine if the crash report has been amended.</td>
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<td>cdot_flag</td>
<td>Flags whether the geocode was performed by CDOT.</td>
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<td>City and Street</td>
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<td>City Street</td>
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<td>Boolean flag to determine if the crash occurred on a city street.</td>
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<td>Construction Zone</td>
<td>constrzone</td>
<td>construction_zone</td>
<td>Construction zone, where roadwork is in progress or where traffic control devices designate a construction/work zone.</td>
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<td>Crash Type</td>
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<td>DRCOG changed the location</td>
<td>drogchang</td>
<td>drogchang</td>
<td>DRCOG changed the location.</td>
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<td>DRCOG checked the location</td>
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<td>DRCOG checked the location.</td>
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</table>
### FIELDS OF INTEREST

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DRCOG Field Name</th>
<th>People Friendly Field Name</th>
<th>Field Description</th>
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</thead>
<tbody>
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<td>DRCOG non-motorist count</td>
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<td>drcogid</td>
<td>DRCOG unique ID</td>
<td>DRCOG unique ID</td>
</tr>
</tbody>
</table>
PRELIMINARY STATISTICS

• Record counts:
  • Main: 51,816
  • Vehicle: 105,010
  • Occupant: 112,418
  • Nonmotorist: 1,470

• Vehicles:
  • Sum: 100,146

• High priority:
  • Sum: 2,705

• Nonmotorists:
  • Sum: 1,393
  • Killed: 64
  • Seriously injured: 238

• Occupants:
  • Sum: 107,134
  • Killed: 223
  • Seriously injured: 1,273

• Total:
  • Killed: 287
  • Seriously injured: 1,511
NEXT STEPS

- Finalize cleaning of data (moving points)
- Publish data to our enterprise database
- Review data dictionary with CDOT and DOR
- Remove fields
- Finalize public schema
- Publish data to RDC
CRASH DATA CONSORTIUM
ISSUES IDENTIFIED

- duplication of efforts
- different data sources = spatial discrepancies
- DRCOG may not provide enough accuracy for local use
- analysis varies
BENEFITS OF A CRASH CONSORTIUM

- Regular meetings about improving crash data
- Better understand uses and sources from each jurisdiction
- Determine best methods for creating a regional crash dataset
- Develop standard schemas
- Develop standard queries
- Consortium data purchases and grant opportunities
• DRCOG has secured 405c grant funding to pursue a regional crash consortium

• Funding will support a limited-term, full-time, temporary crash coordinator position to develop a consortium program

• DRCOG is currently recruiting for a senior planner to fill this position

• Work on the consortium will begin soon
Investigate and demonstrate the value of a regional crash data consortium to inventory the needs of the region and work to solve common issues with crash data collection, processing, and analysis.
OBJECTIVES FOR THE CRASH COORDINATOR

• Build a robust and diverse stakeholder group

• Develop consortium guiding principles including mission and vision

• Inventory data sources, pain points and use cases

• Produce a comprehensive stakeholder needs assessment

• Hold 3 consortium meetings in 2023
STAKEHOLDER SURVEY

Please fill out this survey to help us build a stakeholder list!

DRCOG crash consortium stakeholder survey
QUESTIONS?

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303-480-6754

THANK YOU!