Traffic Crash Data in New Mexico: Common Questions and New Tools for Data-Driven Decisions

NMDOT TRANSPORTATION SUMMIT

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Agenda

1. Options for Accessing NMDOT Crash Data

2. Common Questions

    o Data Availability

    o Crash Coordinate Accuracy

    o Top Contributing Factor and Crash Classification

3. New Tools for Visualizing Crash Data

    o Tour the Interactive Crash Map

    o Spotlight on Pedestrian and Bicycle Dashboards

Crash Data Collection in New Mexico
and the Role of UNM-GPS

NM Department of Transportation (NMDOT) Crash Database

- Crashes reported by law enforcement involving a motor vehicle
- Involves a fatality, injury or >$500 in damages
- Occurs on public roadways
- Contains over 45,000 crashes per year
- Informs decisions to improve safety for all roadway users

UNM Geospatial and Population Studies (UNM-GPS)

- Contracted by NMDOT Traffic Safety Division
- Compiles crash reports into a standardized database
- Improves data quality: Geocode, clean, and standardize
- Provides crash database expertise and analyses to NMDOT
- Produces crash statistics; Fulfills approved data requests
- Maintains NMDOT's state crash database (1978-present)
- UNM Data Security & Privacy
  - Access-controlled, firewall-protected, and securely transferred (SFTP)
  - Data request datasets are de-identified

Public Availability of Crash Statistics

Community Statistics

- Localized crash statistics for counties, cities, municipalities, and pueblos.
- On request: any U.S. Census CDP

Statewide Statistics

- Traffic Crash Annual Report
- DWI Annual Report (alcohol only)
- Both contain county crash rates

Fatality Statistics, Monthly

- Very preliminary, esp. alcohol/drug data

Geospatial Analysis

- Pedestrian/Pedalcycle Crash Dashboards
- Crash Density Maps

Request Datasets

- End users can request a dataset of crashes in New Mexico or at a specific intersection
- Data available at three levels
  - Crash-level: one row per crash
  - Vehicle/Driver-level: one row per vehicle/driver/non-motorist
  - Person-level: one row per person (passengers, drivers, non-motorists)
  - Excludes controlled unclassified information (personal identifiers)
- Crash data dictionaries
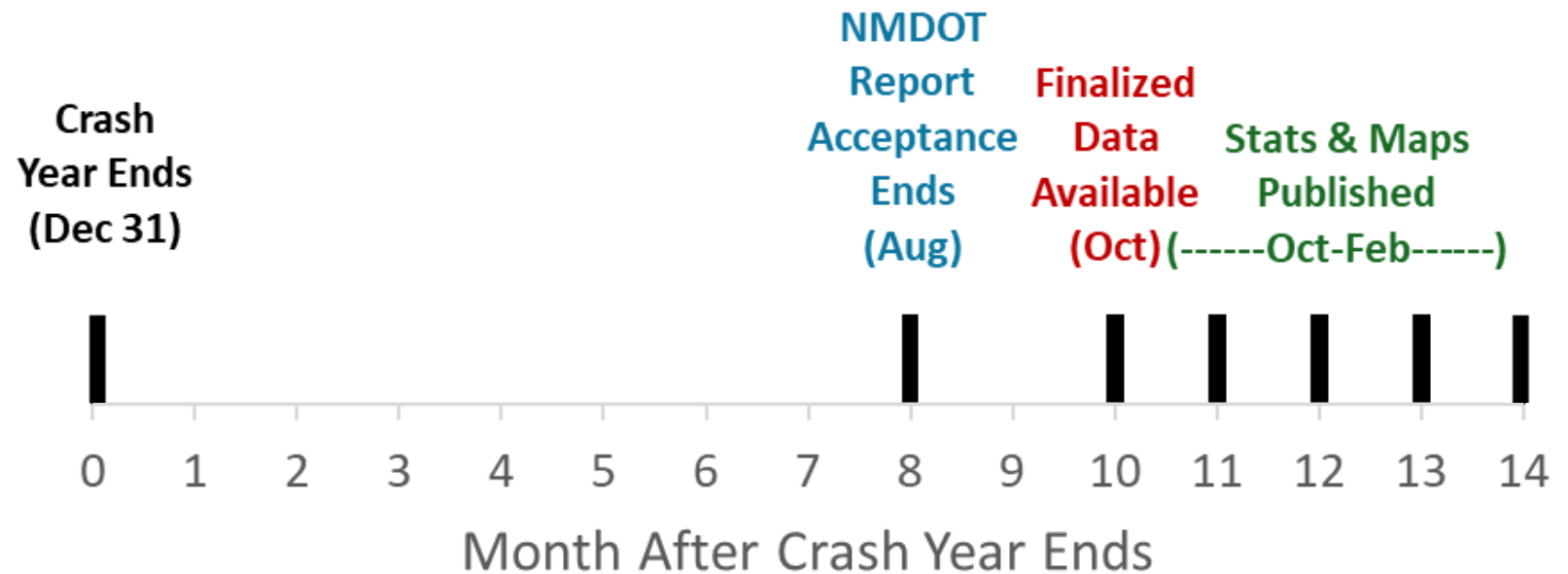
https://gps.unm.edu/tru
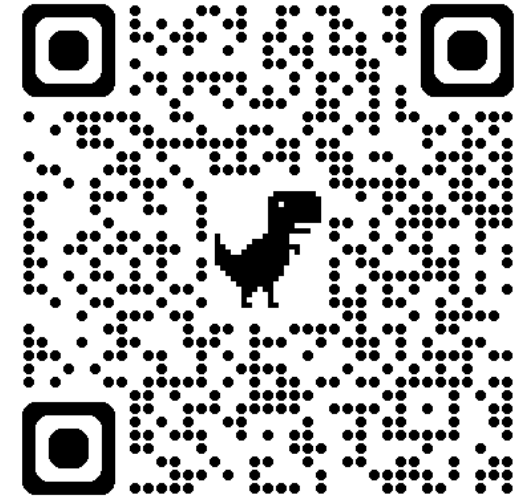
Frequently Asked Questions

Crash Data Availability Timeline (Crash to Database)

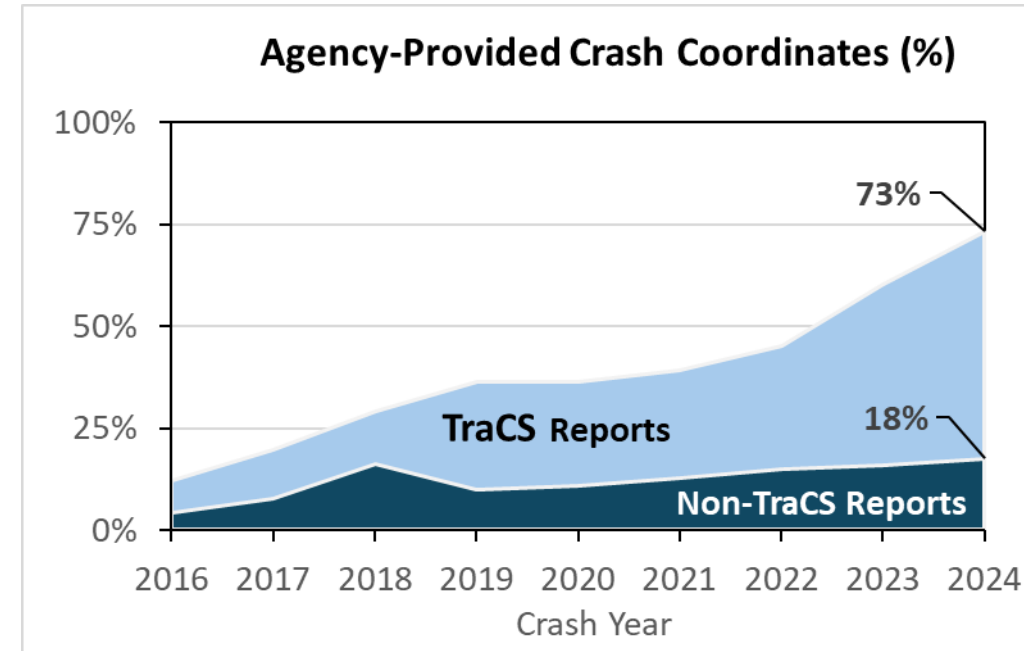Average Time from Crash to Database:

TraCS Agencies: 20 days

Non-TraCS Agencies: 128 days (~4 months)

Submitting crash reports to NMDOT promptly helps make data available faster.

Crash Coordinates: Accuracy Depends on Reporting Method

- **Why Crash Points Cluster in Intersection Centers**
  - No crash coordinates provided by agency
  - UNM-GPS geocodes to nearest intersection, milepost, or center of interchange
  - Ensures location queries capture nearby crashes
- Roll of TraCS Software
  - Officers click crash location on a map
  - Software auto-fills coordinates
- Issue: crash location versus vehicle's final location

Agency-Provided Crash Coordinates (%)

2024 Coordinates: 73% of all TraCS reports vs. 18% all non-TraCS

TraCS = electronic reporting system used by law enforcement to record crash, citation, and incident data. Includes mapping tool to capture crash coordinates.

"Top Contributing Factor" retired—why and what replaced it

- Never collected on the crash report

- Top Contributing Factor (TCF) was determined using a pre-set ranking of Apparent Contributing Factors (ACF)

  - Priority 1 = Alcohol/Drug, 2 = Pedestrian Error, 3 = Disregarded Traffic Signal, etc.

- Only one factor is retained per crash

- Highlights one factor, masking others

- Became unreliable after ACF list expanded to 53 (in year 2020)

- Now: request **vehicle-level** ACF data or **new crash-level fields**

APPARENT CONTRIBUTING FACTORS
(Check 1 or more for each)

DRIVER
Avoid no contact - other
Avoid no contact - vehicle
Cell phone
Disregarded traffic signal
Driver distracted by texting
Driver distracted by talking on cell phone
Driver distracted by talking on hand free device
Driver distracted by passenger
Driver distracted by other activity
Driver Inattention
Drove left of center
Excessive Speed
Failed to yield - Emrgcy Veh(s)
Failed to yield - Police Veh(s)
Failed to yield right-of-way
Following too closely
High speed pursuit
Improper backing

Improper lane change
Improper overtaking
Made improper turn
No driver error
Other improper driving
Passed stop sign
Pedestrian error
Speed too fast for conditions
Under influence of alcohol
Under influence of drugs or medication
ENVIRONMENT
Animal(s) in roadway
Low visibility due to glare
Low visibility due to smoke
Other visual obstruction(s)
Weather conditions
MOTOR VEHICLE
Coupling device (hitch, chains)
Defective Steering

Defective Tires
Exhaust System
Inadequate brakes
Lights (head, signal, tail)
Mirrors
Other mech. Defect
Suspension
Wheels
Windows/Windshield
Wipers
ROADWAY
Backup - prior crash
Backup - prior incident
Debris
Obstruction in road
Road defect
Road surface conditions
Traffic Congestion
Traffic control not functioning

Crash Classification Retired — Replaced with First Harmful Event

Before

- Crash Classification and Analysis
- Phased out in 2020 to meet federal requirements

Now

- Replaced by First Harmful Event (FHE) and FHE Analysis
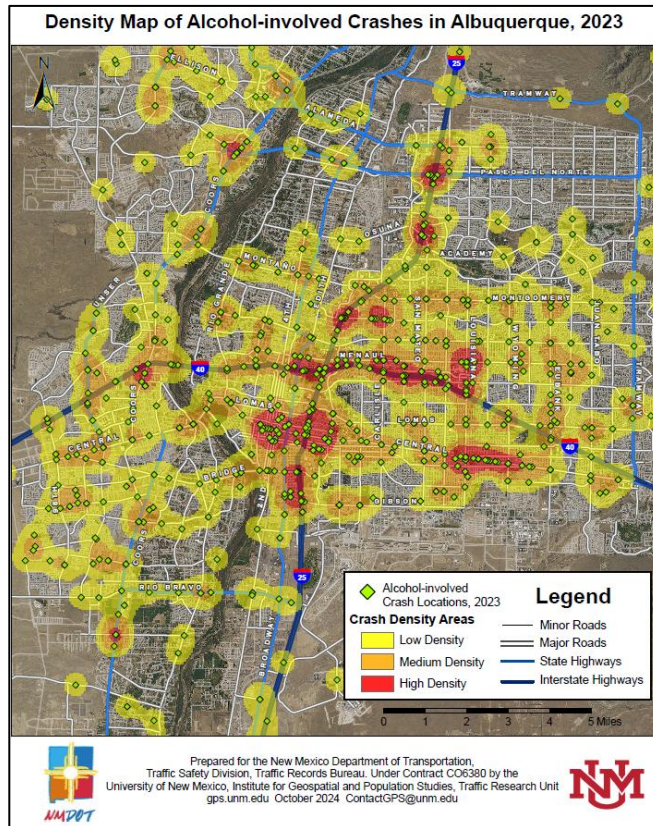- Nearly all data once in Crash Classification/Analysis is now captured in FHE/FHE Analysis.

Tips:

- For Officers: Overturn/Rollover can be found under Non-Collision, instead of "Other".
- Dataset users: Older, multi-year datasets are available with derived First Harmful Event.

New Tools for Data-Driven Decisions

New Interactive Annual Crash Map

Static Maps
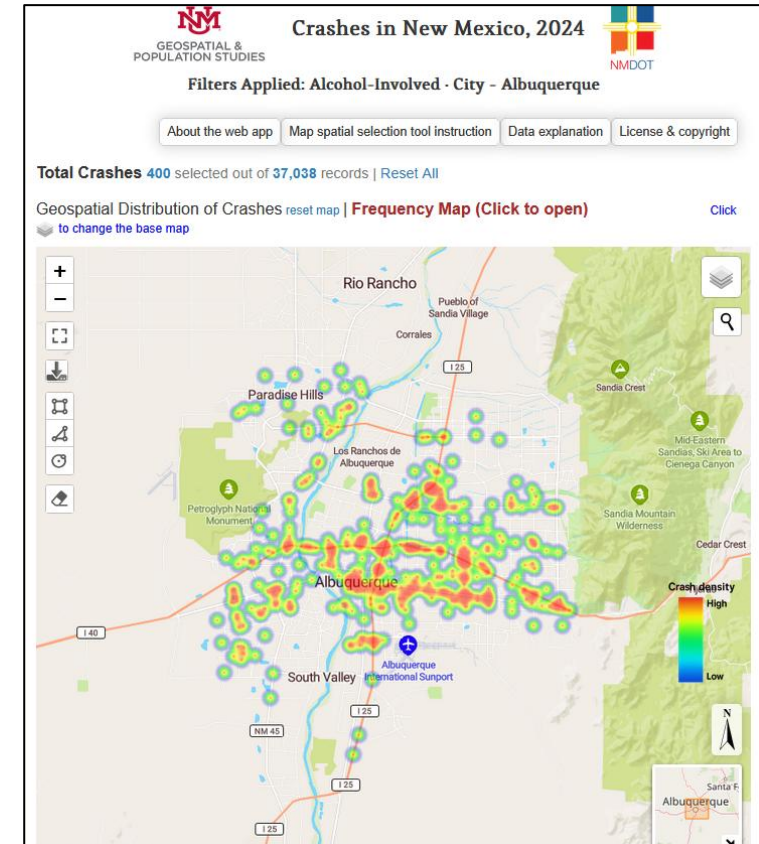
Interactive Maps

Pedestrian and Pedalcycle Crash Data Dashboards
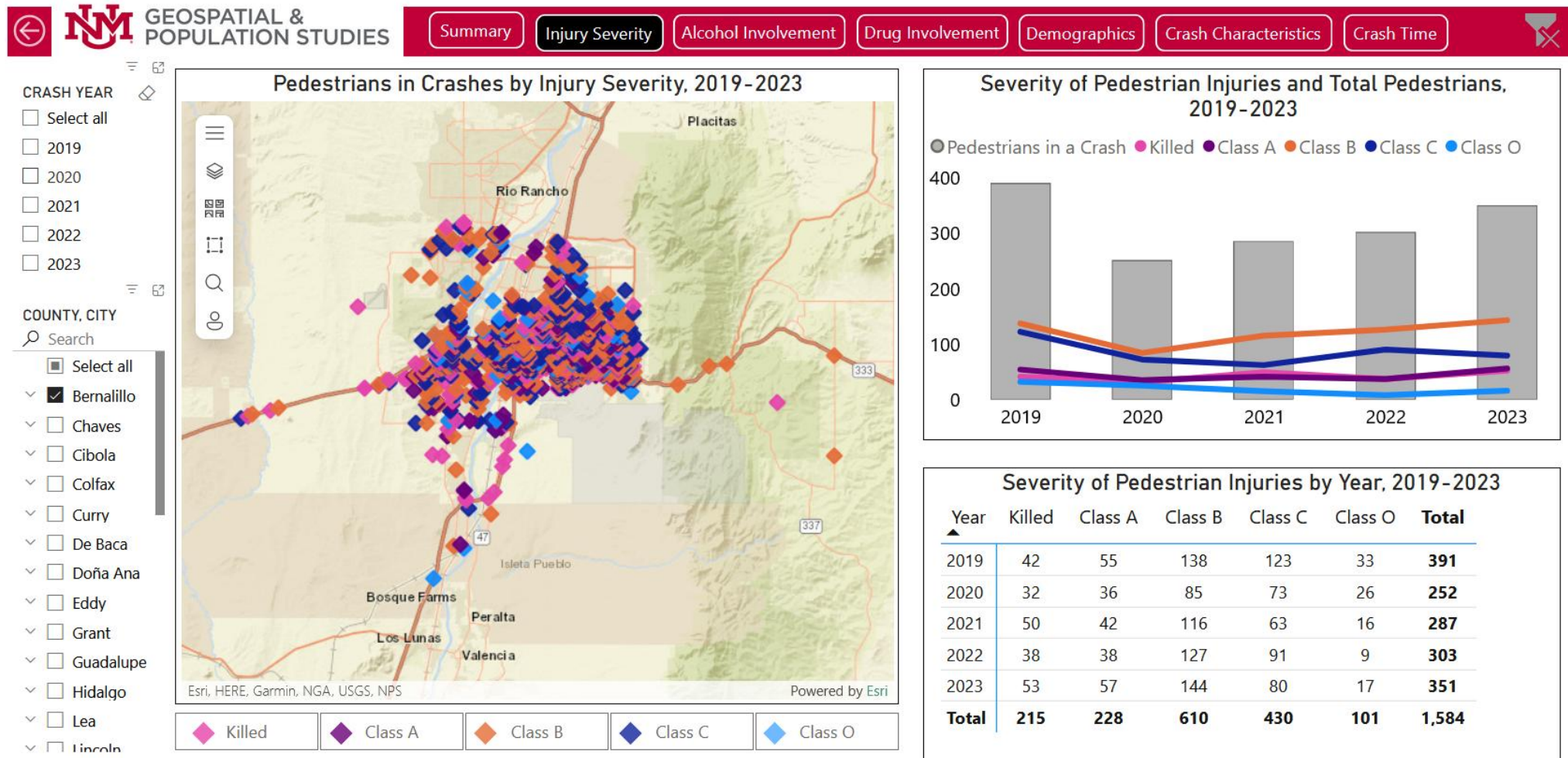
Special thanks to the staff at:
UNM-GPS,
NMDOT Traffic Records Bureau,
NMTRD Motor Vehicle Division,
and Law Enforcement Agencies

Statistics available at: **gps.unm.edu**

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Photo by NMDOT