Learning Objectives

- How to find incomplete records

    - What fields count toward the Completeness measures?

- How to correct incomplete records

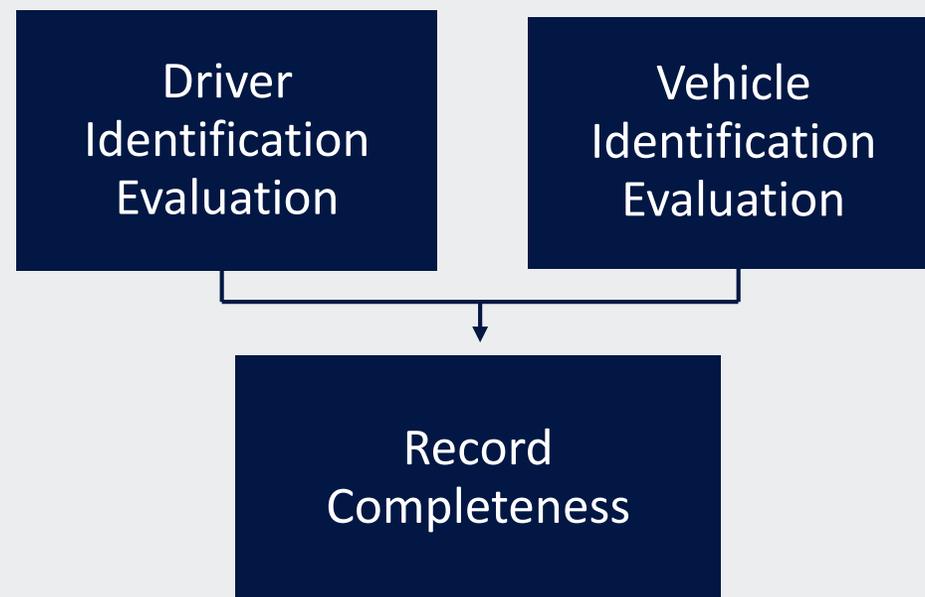- How to make use of new option to indicate legitimately incomplete records

Why Completeness Matters

- Improves data quality and the accuracy of reports

- Helps FMCSA associate crashes and inspections to the appropriate driver, vehicle, and motor carrier – and then prioritize efforts accordingly

- This information drives the safety information used by SMS to identify the motor carriers that pose the greatest safety risk to our Nation's roads

What Are SSDQ Completeness Measures?

Crash and **Inspection Record Completeness** each have a **Driver and Vehicle component** that are averaged together for the overall rating

You can find methodology details for all measures in the Data Quality Help Center: https://ai.fmcsa.dot.gov/DataQuality/HelpCenter.aspx

Exercise 1: Find Your State's Completeness Issues

Exercise 1: Inspection Record Completeness SDAR Reports

- Log in at: https://portal.fmcsa.dot.gov/login

- Click "A&I(SMS)" at left

- Choose "Data Quality"→ "State Data" and select your State and Measure

- View your State's Measures: https://ai.fmcsa.dot.gov/DataQuality/StateOverall.aspx

Finding Incomplete Records

Tools for Identifying Incomplete Records and Trends

- State Data Analysis Reports

- SAFETYNET Data Quality Tool

- Queries

Finding Incomplete Records – Driver

SAFETYNET Data Quality Tool:
Inspection Driver Completeness

FIRST and LAST NAME: Initials only, numbers, non-alphanumeric characters, words like 'PUBLIC,' 'STATED,' etc.

DATE OF BIRTH: age <16 >90 years

LICENSE NUMBER: Three characters or less, non-alphanumeric characters, words like 'UNREADABLE,' 'LICENSE,' etc.

REPORT NUMBER	INSPECTION DATE	INSPECTION TIME	DRIVER/CO-DRIVER	DRIVER FIRST NAME	DRIVER LAST NAME	DRIVER DATE OF BIRTH	DRIVER LICENSE NUMBER
IN0000577607	01-DEC-19	12:30	Driver	BOB	ROGERS	01-JAN-05	4470933
IN0000711011	09-NOV-19	13:10	Driver	MAGGIE	GRAHAM	22-OCT-83	UNKNOWN
IN0000732434	10-MAY-19	16:02	Driver	CARLOS	ACEVEDO	22-FEB-14	19135746

Finding Incomplete Records – Driver

SAFETYNET Data Quality Tool:
Crash Driver Completeness

FIRST and LAST NAME: initials only, numbers, non-alphanumeric characters, words like 'PUBLIC,' 'STATED,' etc.

DATE OF BIRTH: age <16 or >90 years

LICENSE NUMBER: three characters or less, non-alphanumeric characters, words like 'UNREADABLE,' 'LICENSE,' etc.

LICENSE CLASS: Blank or not equal to A, B, C, D or M

REPORT NUMBER	CRASH DATE	CRASH TIME	SEQ#	FIRST NAME	LAST NAME	DATE OF BIRTH	LICENSE NUMBER	LICENSE CLASS
IN0000000000	28-JUL-20	12:00	1	DRIVER	123415	11-NOV-11		M
IN0000044444	17-OCT-19	09:15	1	MARY	QUINN	16-AUG-76	AC037213	
IN0011009246	17-MAR-19	12:28	1	BOB	ALLEN	21-JAN-64	47010139	

Finding Incomplete Records – Vehicle

SAFETYNET Data Quality Tool:
Inspection Vehicle Completeness

LICENSE NUMBER: Three characters or less, non-alphanumeric characters, words like 'UNREADABLE,' 'LICENSE,' etc.

GVWR: Blank or values between 0 and 1,000.

REPORT NUMBER	INSPECTION DATE	INSPECTION TIME	UNIT NUMBER	VEHICLE LICENSE NUMBER	GVWR
IN0000475027	29-MAY-19	08:30	1	P147112	
IN0000475030	24-NOV-19	10:00	2	98X22H	
IN0000475030	24-NOV-19	10:00	1	980CF2	

Finding Incomplete Records – Vehicle

SAFETYNET Data Quality Tool:
Crash Vehicle Completeness

Vehicle Configuration: Blank

Cargo Body Type: Blank

GVWR: Blank

LICENSE NUMBER: Three characters or less, non-alphanumeric characters, words like 'UNREADABLE,' 'LICENSE,' etc.

REPORT NUMBER	CRASH DATE	CRASH TIME	SEQ#	VEHICLE CONFIG	CARGO BODY TYPE	GVWR	LICENSE PLATE NUMBER
IN0000000000	28-JUL-20	12:00	1	5	6	2	111111111
IN0000022222	08-SEP-15	10:05	1			2	B42856
IN0000022222	02-JUL-20	10:05	1			2	B42856

Exercise 2: Using the SAFETYNET Data Quality Tool

Exercise 2: Data Quality Tool

- Run the tool for crashes for _____ to _____

- Run the tool for inspections for _____ to _____

- Review the results to identify the specific problem(s) for each returned record

State Data Analysis Reports (SDARs)

- Visit https://ai.fmcsa.dot.gov/DataQuality/
- Click on your State
- Scroll down and click Crash or Inspection Record Completeness
- When logged in, you will see "Supplemental Reports"

Crash

Inspection

Supplemental Reports

- Prior Methodology Results
- Records to Research
- Complete Record Analysis
- Driver Evaluation by Upload Month
- Vehicle Evaluation by Upload Month

Supplemental Reports

- Prior Methodology Results
- Records to Research
- Driver Evaluation by Upload Month
- Vehicle Evaluation by Upload Month
- Driver Records Reported by Inspector ID
- Vehicle Records Reported by Inspector ID

Resources to Improve SAFETYNET Completeness

Crash and Inspection Resources for Missing Data

Driver's Name, DOB, License (# and Class)

- DIR
- DSMS
- NLETS
- Query Central
- MCMIS
- SAFER
- SMS
- Call the carrier

GVWR, Vehicle Configuration, Cargo Body Type, License Number, VIN

- DIR
- DSMS
- NLETS
- Query Central
- VIN decoder
- Call the carrier

Discussion: Best Practices

Exercise 3: Improving Completeness

Exercise 3: Finding Missing Data

- Look at the results from the Data Quality Tool

- Pick a record to investigate

- Consult your job aid "Finding Missing Information" for ideas and conduct research to complete the record

Coding Legitimately Incomplete Records

- Optional

- Only use after research shows data are not available or applicable

- Enter keywords in the driver "last name" field of a crash record to exclude the record from the driver evaluation:

  - Attenuator

  - Autonomous

  - Hit and run

  - Parked

  - Stolen

  - Driverless

  - Unknown

Other Known Issues

Situation	Accounted for in SSDQ Methodology
Legitimately missing data (parked, driverless, stolen, attenuator, hit and run, autonomous)	X
Driver with no license and a citation	
New vehicles with no plates	
Glider kit VINs	X (mostly)
VINs that are not 17 digits	

Have Questions? Let Us Know!

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Additional Resources:
Data Quality Website
http://ai.fmcsa.dot.gov/Data Quality

DataQs Website
http://dataqs.fmcsa.dot.gov/

Thank You!