Examples of Performance Measures for State Traffic Record Systems

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What is a Performance Measure?

- For each cell, a performance measure is an indicator of the performance criterion for that data system
- Performance measures apply to data systems, not activities
- Performance measures are not performance goals
  - States will set their own goals
  - measures will be used to track progress within a State, not to compare across States

Data Systems

- Crash: State crash file
- Vehicle: State vehicle registration file
- Driver: State driver license and history files
- Roadway: State files on roadway characteristics, condition, Average Annual Daily Traffic (AADT)
- Citation and Adjudication: traffic citations, arrests, convictions, sentences
  - State, municipal, and local files
- Injury: State EMS, Emergency Department (ED), Hospital Discharge (HD), Trauma Registry files
  - not all States have all these files

Criteria for Performance Measures

- Quantifiable
  - numeric value
  - not unreasonable burden on States to derive
- Meaningful
  - measures core functions of the data system
- Useful to States
  - to obtain State funding, 408/405c grants
- Straightforward
  - clear and concise, easy to explain and understand in non-technical language

Performance Areas

- Timeliness:
  - time from event until data on file and available for use
  - time from event until data passed on to user system
- Accuracy:
  - data valid, internally consistent
  - data coded properly per external checks
- Completeness:
  - no missing data for records on file
  - file contains all events

Performance Areas

- Uniformity (consistency):
  - all reporting jurisdictions have same procedures, data
  - agree with national guidelines and standards
- Integration:
  - data files can be linked to appropriate other files
- Accessibility:
  - information readily and easily available to main users

Performance Measure Matrix

	Timely	Accurate	Complete	Uniform	Integrated	Access
Crash						
Vehicle						
Driver						
Roadway						
Cit/Adj						
Injury						

What They Look Like (in General)

- Timeliness
  - time from event generating the data until it reaches the data file
  - sometimes until “available for analysis or reporting”
  - median or mean; sometimes percent within fixed time period
- Accuracy
  - internal to file: errors for critical data elements
  - external: validation from external sources (like VIN) or audits
- Completeness
  - internal: missing values for critical data elements
  - external: percent of agencies reporting (for applicable files)

What they look like (in general)

- Uniformity - consistency
  - use of common variables statewide
  - compliance with national standards
- Integration
  - linkage with appropriate other files
- Accessibility
  - ability of authorized users to access in timely manner
  - use of files by authorized users

Examples of Recommended Measures

- Crash timeliness:
  - Median number of days from the date of a reported crash until it is entered into the State crash file.
- Vehicle accuracy:
  - Percent of records on the State vehicle registration file with successfully validated VINs using standardized VIN verification software.
- Driver completeness:
  - Percent of missing or unknown critical data elements on the State driver record file.

    Critical elements are those required by CDLIS except for those that apply only to commercial drivers.

Examples of Recommended Measures

- Roadway uniformity/consistency:
  - Number or percent of MMIRE roadway inventory elements collected and entered into the State roadway inventory file.
- Citation/adjudication integration:
  - Percent of law enforcement agencies issuing traffic citations that have policies in place to facilitate the transfer of citation data between authorized users.
- Injury accessibility:
  - Time (number of days after January 1) until the annual State EMS file is closed and available for analysis by other stakeholders.

Performance Measures for Crash Data

Timeliness	1- median days from crash to file entry	2- % crashes on file in #XX days	3- median days from crash to location coding on crash file
Accuracy	1- % crashes w/ < #XX data elements w/ errors	2- % in-State vehicles VIN match to vehicle file	3- % crashes w/ location code
Completeness	1- % crashes missing ≥ 1 critical data elements	2- % crashes w/ ≤ #XX incomplete data elements	
Uniformity	1- # MMUCC- compliant data elements		
Integration	1- % in-State drivers on crash file linked to driver file	2- % crashes w/ EMS linked to EMS file	
Accessibility	1- # auth. agencies capable of accessing crash file		

Performance Measures for Vehicle and Driver Data

	Vehicle	Driver		
Timeliness	1- median days from owner change to vehicle file update	1- median days from conviction to driver file entry	2- % convictions on driver file in 10 days	3- median days from final adjudication to driver file entry
Accuracy	1- % vehicles on vehicle file w/ valid VIN	1- % in-State driver convictions linked to driver file	2- % drivers on file w/ verified Soc. Sec. #	
Completeness	1- % vehicles on vehicle file w/ no missing MMUCC data elements	1- % missing or unknown critical data elements on driver file	2- % adjudication agencies reporting convictions to driver file	
Uniformity	1- % vehicle file data elements comply w/ AAMVA and MMUCC stds.	1- % driver data elements complying w/ AAMVA, MMUCC, Real ID standards		
Integration	1- # relevant data files linked to vehicle file	1- # relevant data files linked to driver file		
Accessibility	1- avg. # days from temp. vehicle reg. to vehicle file entry	1- % adj. agencies or adjudicators w/ immediate driver file access		

Performance Measures for Roadway Data

Timeliness	1- avg. days from construction project end to road file update	2- avg. days from critical data element collection to entry on road file
Accuracy	1- % road segments w/ errors on critical data elements	2- % crashes on public roads located on basemap or file
Completeness	1- # or % of public road miles on basemap	2- # or % of public road miles w/ critical data on basemap or file
Uniformity	1- # or % of MMIRE data elements collected and entered on road file	
Integration	1- road file linked to crash, other files	2- # or % of highway inventory files linked to basemap or road file
Accessibility	1- # or % of auth. users acquiring data from road file	2- % requests filled by State deadline

Performance Measures for Citation/Adjudication Data

Timeliness	1- median days from citation to file entry at first repository	
Accuracy	1- % citation file records w/ errors in critical data elements	
Completeness	1- % missing critical data elements on citation files	
Uniformity	1- % citations on driver file w/ unif violation codes	2- % law enforcement agencies w/ common citation form
Integration	1- % law enforcement agencies w/ policies for citation data transfer	
Accessibility	1- % citation files accessible to auth. users	2- % auth. users w/ access to citation files

Performance Measures for Injury Data

Timeliness	1- median days from event to file entry			
Accuracy	1- % error-free records			
Completeness	1- % agencies reporting	2- % EMS records w/ no missing NEMSIS data elements	3- % records w/ ICD-9 E-code	4- % records w/ missing data for ≤ 5 standard data elements
Uniformity	1- % records compliant w/ national standards			
Integration	1- % Trauma Reg records w/ EMS linked to EMS file	2- % EMS records fr. crash linked to State file	3- % records on file w/ crash E-code linked to crash file	
Accessibility	1- # days after Jan. 1 until file closed and available			

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