

Introduction

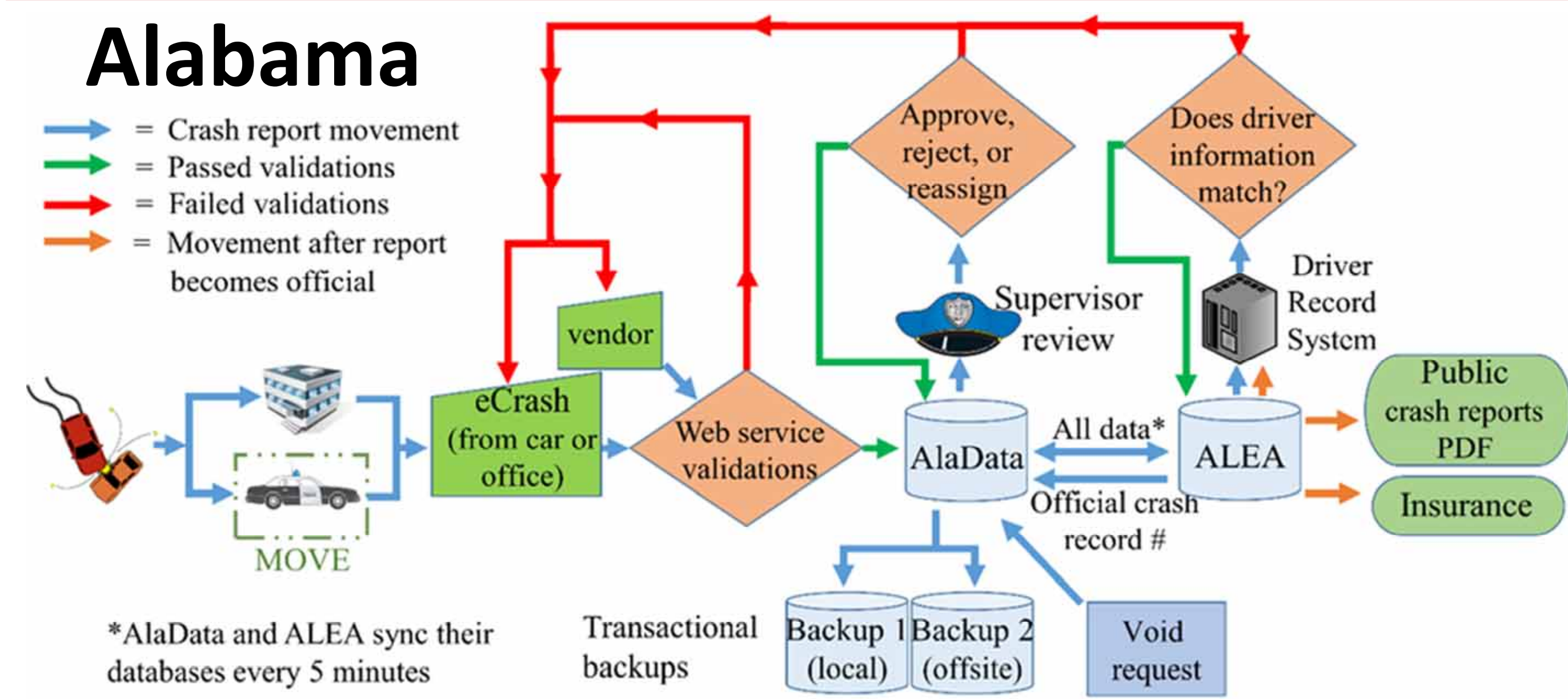
Electronic crash reporting has become the normal method for tracking crashes in many states, but little publicly available information on data provenance of these procedures exists. U.S. states are encouraged to meet **Model Minimum Uniform Crash Criteria (MMUCC)** standards. Reporting practices for Alabama and Wisconsin were analyzed, and a tool was created to assist states in mapping existing crash reports to MMUCC standards. The analysis of state workflows and introduction to the MMUCC tool are presented.

Objectives

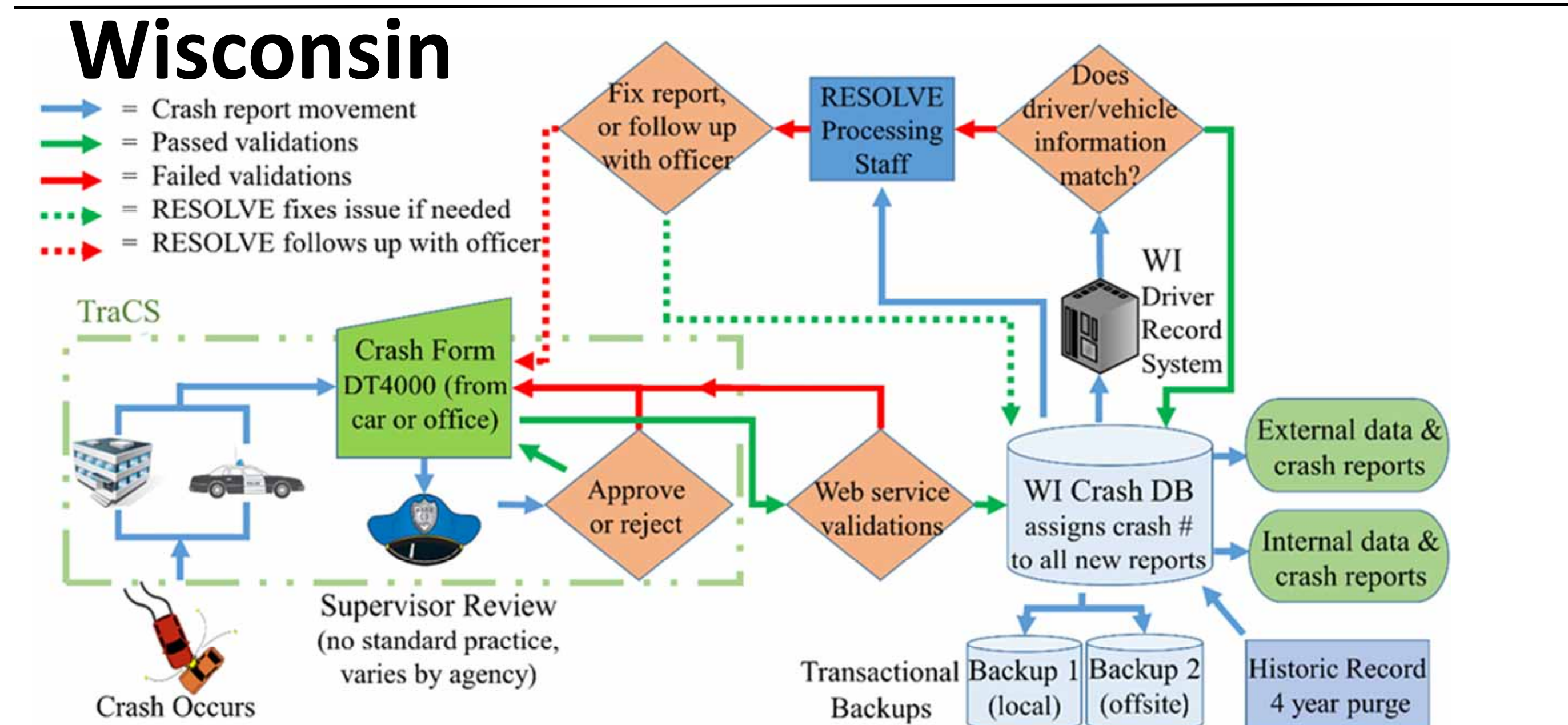
- Analyze Wisconsin DT4000 and Alabama Uniform Traffic Crash Report (AUTCR) data criteria against MMUCC standards.
- Create a tool to assist states in comparing existing crash reports with MMUCC and locating missing data elements.
- Present data workflows for Alabama and Wisconsin to begin discussion of best practices in crash reporting.

Methodology

Alabama



Wisconsin



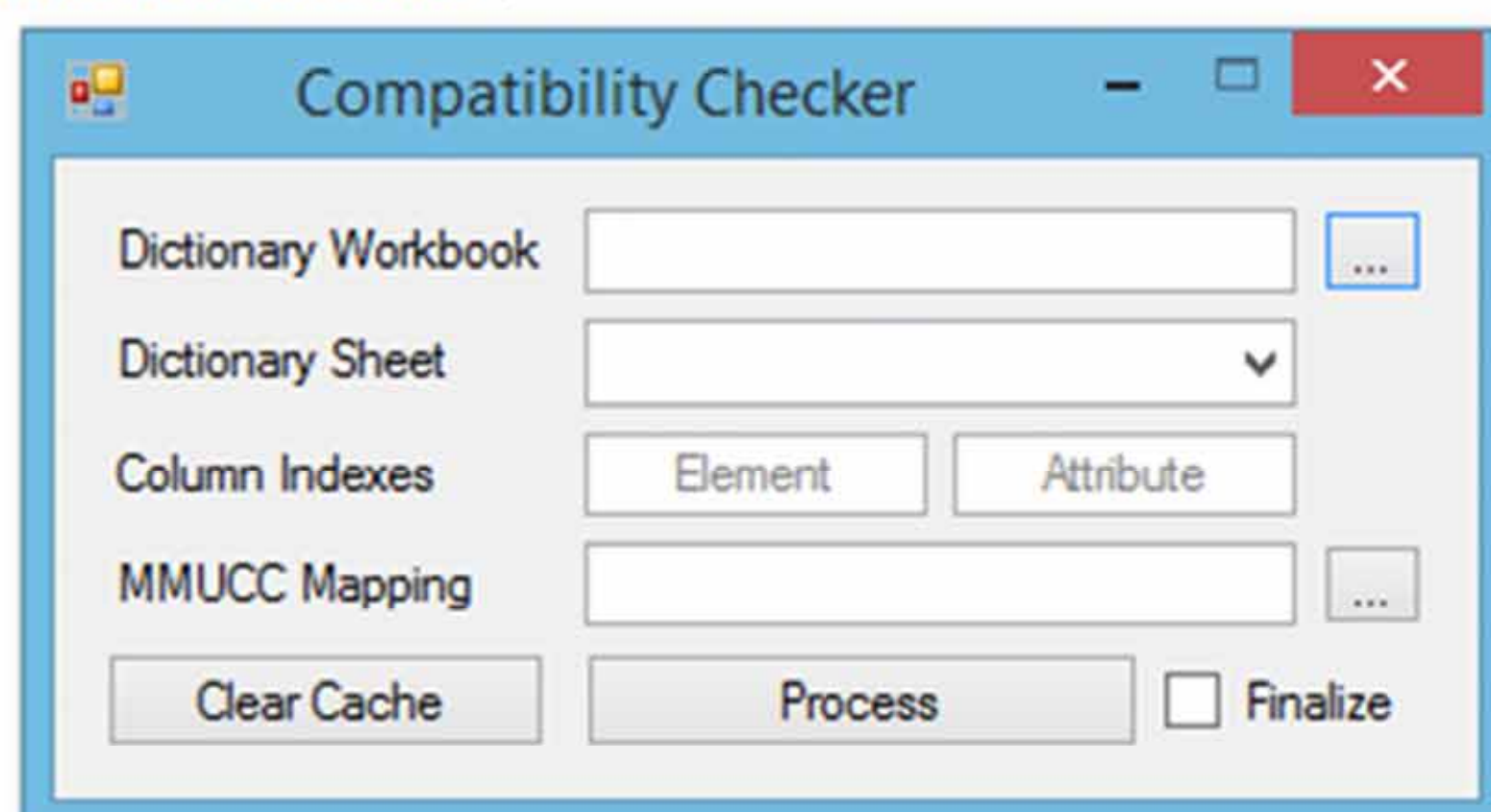
Workflow Analysis and Recommendations

Recommendations for crash report workflows:

- **Create initial validation checks** to ensure data is correctly formatted before crash reports can be accepted.
- **Include supervisor review** for quality validation check, to ensure accurate data entry (such as Crash Narrative). Grant supervisor ability to reassign crash report to editing officer when original reporting officer is no longer able to edit.
- **Crash report should link to driver record system** as a further validation to ensure driver information accuracy and update driver record system with new crash data.
- **Transactional backups should be implemented** to ensure the safety of data in case of database malfunction.
- **Void requests should be included** to remove duplicate crash reports from databases

Percent Mappable in Relation to MMUCC 4th Edition

24.7%	Total Percent Mappable for ALL Elements
39.3%	Crash Percent Mappable
12.6%	Vehicle Percent Mappable
23.2%	Person Percent Mappable
25.0%	Roadway Percent Mappable



Items Missing but could be included to include score:

MMUCC Identifier	Element	Attribute
c1	case identifier	
c3	crash date and time	
c4	crash county	
c5	crash city/place	
c6	crash location	
c7	first harmful event	overturn/rollover
c7	first harmful event	fire/explosion
c7	first harmful event	immersion, full or partial
c7	first harmful event	jackknife
c7	first harmful event	cargo/equipment loss of shift

MMUCC Tool

- Elements and attributes which automatically map to MMUCC are located automatically
- Elements and attributes which do not automatically map can be hand selected by users. These hand selected features are saved to automatically map in future use.
- A report is generated to show percentages of MMUCC sections that were mapped (Crash, Vehicle, Person, and Roadway elements). Missing elements and attributes are listed.

Alabama	Total Percent Mappable	76.8%
	Crash Percent Mappable	75.7%
	Vehicle Percent Mappable	80.9%
	Person Percent Mappable	75.1%

Wisconsin	Total Percent Mappable	93.8%
	Crash Percent Mappable	97.7%
	Vehicle Percent Mappable	94.2%
	Person Percent Mappable	93.8%

Results and Conclusion

- MMUCC tool created and validated using Alabama and Wisconsin crash reports; AUTCR mapped 76.8%, DT4000 mapped 93.8%
- Recommendations for crash reporting workflow best practices created

Future Work

- Update tool to be consistent with MMUCC v5.0 when available
- Expand workflow analysis and best practices to other states

Acknowledgements

- Alabama Department of Transportation
- Wisconsin Department of Transportation
- Center for Advanced Public Safety (UA)
- Traffic Operations and Safety Laboratory
- Beau Elliot