Development of CMV Driver Indicator to Predict Future Crashes and Identification of Effective Enforcement

January 2005

Research Philosophy

- Currently in initial phases of the project
    - Project well-defined, but not "cast in concrete"
- Input welcome that improves project
- Appropriate division of labor
    - Research capability
    - Knowledge of industry

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Agenda

- Background
- Objectives
- Scope
- Work Approach
- Schedule

Background

- **Primarily carrier-based analysis**
  - Relate carrier's drivers' violations to carrier's crashes

- **Limited driver-based analysis**
  - Insurance industry – small sample
  - FMCSA CR work-group – unpublished
  - NDSU/UGPTI – related driver's convictions to driver's crashes

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Objectives

- Focus analysis on driver-specific behavior and its relationship to future crash involvement

- Work with CVSA and focus groups to identify effective enforcement actions

- Examine potential legal and/or operational implications

Scope

- Development of overall driver performance based indicator
  - Including moving violation, conviction, and past crash data
- Test if particular type of data has better crash predictive ability
- Effective enforcement actions (CVSA)

Work Approach

- Data includes drivers with past roadside inspections (February-April 2004)
  - About 587,000 unique drivers
- Longitudinal and predictive
  - Data gathered for three-year period
- Driver data includes:
  - Inspection and crash history from MCMIS
  - Conviction history from CDLIS

Schedule

- Time frame – Oct. 2004 to May 2005
- Initial MCMIS / CDLIS data assembly
- Environmental scan of related work
- ATRI / Advisory Team meetings
- Data analysis
- Final report with conclusions and recommendations

Future Considerations

- **Underlying causes**
  - Company culture
  - Driver personality characteristics
  - Customer demands

- **Voluntary behavior modification (carrot versus stick)**
  - Carrier and driver