

## GIS Based Rollover Crash Risk Map of Large Trucks on I-70 Mountain Corridor in Colorado

Truck drivers merit special attention not only because of their numbers—approximately 2.8 million in the U.S.—but also because they face extraordinary risk of on-the-job injury and death. In 2004, *U.S. truck drivers* were 7 times more likely to die on the job, and 2.5 times more likely to suffer an occupational injury or illness, than was the average worker. The existent large-truck crash and injury studies primarily focus on multi-vehicle crashes. Large trucks, however, are also very prone to single-vehicle crashes under ***adverse environments*** (e.g. inclement weather and/or complicated topographic conditions of roadways), especially the most dangerous rollover crashes. According to LTCCS database, nearly 27% of all crashes involved with large trucks were *non-collision single-vehicle crashes*. Rollover crashes occurred in about 90% all non-collision single-vehicle fatal crashes. Compared with multi-vehicle collision crashes, single-vehicle crashes are usually more complicated due to the fact of being closely related to the drivers, infrastructure and environments in a coupled manner. Despite the serious injury associated with single-vehicle rollover crashes under adverse environments, our knowledge about rollover risks considering adverse environments and subsequent injury risks for large-truck drivers, however, is still very limited. Although these adverse environments may not be as significant to common drivers or most other occupations, **large-truck drivers often have to work under those adverse environments in spite of serious occupational safety risks.** Thus to have data about single-vehicle crash risks of large trucks considering adverse environments is very important for addressing the occupational safety risks of large-truck drivers.