

### **U.S. Justification for “other collisions” in the Proposed Scope**

*Scope and Purpose:* This gtr specifies requirements for head restraints to reduce the frequency and severity of [neck injury] in rear-end [and other collisions.]

Based on National Analysis Sampling System (NASS) data, we estimate that between 1995 and 2004, of almost 5 million occupants per year in towed light vehicles crashes, 410,932 received a whiplash injury.

#### **U.S. Annual Estimates of Whiplash Injury between 1995-2004**

- 38,000 whiplash injuries in rollovers,
- 179,000 in vehicles with front damage,
- 106,000 in vehicles with side damage, and
- 84,000 in vehicles with rear damage.

There are more whiplash injuries in front and side impacts than in rear impacts, but the risk of whiplash is greater in rear impacts.

#### **Risk of whiplash injury in tow away crashes**

- 9 percent in rollovers,
- 6 percent in frontal crashes,
- 8 percent in side crashes, and
- 21 percent in rear impacts

Since the U.S. believes head restraints will have their greatest effectiveness in rear impacts, the benefits analysis was restricted to that crash mode only, but improved head restraints can help reduce whiplash injuries in other collisions as well.