(iii) Which and how many hatchbacks, station wagons, passenger vans, and sport utility vehicles would need to be upgraded to meet the proposed requirements? What is the consumer cost and relative strength increase for each upgrade?

(iv) Identify and/or provide the agency with any data that would assist the agency in quantifying the safety or other benefits of the proposed requirements.

(6) Costs and Benefits

Assuming an effective date on or before September 1, 1997, the agency estimated that about 1.5 million hatchbacks, 0.4 million station wagons, 1.6 million sport utility vehicles, and 1.8 million passenger vans, for a total of 5.3 million vehicles expected to be produced during model year 1998, could be affected by these amendments. In a NHTSA evaluation of 8 passenger minivan back door latches (docket No. 97-70-N 01), representing about 1 million vehicles sold in 1993, 2 failed the longitudinal load test (equivalent to Load Test One) and another failed the transverse load test (equivalent to Load Test Two). All the others exceeded the proposed load requirements. The 5 complying latches represent about 50 percent (0.5 million) of the 1993 minivan sales. The agency concluded, therefore, that about half the minivan fleet already meets or exceeds the requirements proposed in the NPRM. Although the back door latch assemblies of hatchbacks, station wagons and sport utility vehicles were not tested, NHTSA considered that since most of the 1.6 million sport utility vehicles have back door latch systems similar to those of minivans, about 50 percent (0.8 million) of sport utility vehicles would also meet the proposed requirements. Although the remaining vehicles could require some upgrading of their current back door locks and retention components, the agency estimated that the proposed requirements would not require more than minor changes in either latch, hinge, or locking mechanisms.

The retail costs of the tested latches ranged from \$22.03 to \$81.74. The costs of the 3 failing latches were \$23.52, \$63.19, and \$81.74. The tests showed that a latch that complies with Standard No. 206 need not be more expensive than one that does not. Assuming, therefore, that no more than 4.0 million vehicles may require upgrades and that the cost of the upgrades may not be higher than that of current designs, NHTSA estimated that the cost of extending the requirements of Standard No. 206 to the back doors of the proposed vehicles would be minimal.

Compliance tests for back door locks and retention components would typically be conducted with similar, but perhaps slightly modified, test equipment of the type currently used to evaluate side door locks and retention components. NHTSA estimated, therefore, that no significant test equipment costs should be incurred by manufacturers.

The agency pointed out that of the deaths and injuries that occur annually involving occupant ejection through back doors, over 80 percent involve hinge or latch damage. The agency anticipated, therefore, that the proposed upgrades should reduce such deaths and injuries, although the agency is not able to quantify such benefits or costs. Accordingly, the agency solicited comments and data on that issue.

II. Overview

Today's final rule is based on the NPRM of August 30, 1994, summarized above. This final rule:

* Extends the motor vehicle door latch, hinge, and lock requirements of Standard No. 206 to the back doors of passenger cars and MPVs so equipped, including hatchbacks, station wagons, sport utility vehicles, and passenger vans with a GVWR of 4,536 kg (10,000 pounds) or less;

* Revises existing performance requirements and test procedures, insofar as they apply to back doors, and establishes an additional test for back door latches and hinges;

* Requires inertia load testing of back door latches in 3 directions instead of in any direction, as proposed in the NPRM;

* Requires door locks and interior and exterior release mechanisms only for back doors equipped with interior door handles or that lead directly into compartments containing one or more seating accommodations, instead of all back doors as proposed in the NPRM;

* Revises definition of "back door" from that proposed in the NPRM to exclude passenger car trunk lids as well as doors and windows composed entirely of glazing materials where the latches and/or hinges are mounted directly onto the glazing;

* In addition to adding a definition of "back door," adds definitions of "auxiliary door latch," "fork-bolt," "fork-bolt opening," and "primary door latch" to the standard; and

* Replaces the reference to Society of Automotive Engineers (SAE)
Recommended Practices J839b,
Passenger Car Side Door Latch Systems,
May 1965, in S5.1.1.1, S5.1.1.2, and
S5.2.1 with reference to the revised
version of J839, which is dated June
1991; and the reference in S5.1.2 and

S5.2.2 to SAE J934, Vehicle Passenger Door Hinge Systems, July 1965, with reference to the revised version of J934, which is dated July 1982.

III. Public Comments and Agency Responses

Fourteen interested parties submitted comments in response to the NPRM, including 2 private citizens, 2 safety organizations, 2 automotive trade associations, and 8 motor vehicle manufacturers. A summary of their significant comments and the agency's responses are set forth below.

(a) Vehicle Population Trends

The American Automobile Manufacturers Association (AAMA) commented that, since 1989, sales of hatchback style vehicles have been steadily declining, being replaced by sales of passenger minivans and sport utility vehicles. Referring to NHTSA's 1994 report, AAMA stated that back door openings in towaway crashes were the highest for hatchback cars (18,059) and lowest for minivans (767). AAMA argued that minivan and sport utility vehicles are rapidly replacing hatchback style vehicles and that the already low incidence of door openings and ejections should further decline as the vehicle mix changes in the future.

While NHTSA does not dispute the fact that the total number of back door openings in minivans is lower than in hatchback cars, the agency believes this discrepancy to be due primarily to the larger number of hatchbacks on the road compared to minivans. In its 1994 report, NHTSA analyzed the incidence of back door openings as a rate per 100 towaway crashes for minivans, utility vehicles, and hatchback cars. The agency's analysis shows that back door openings for minivans is about 1.9 compared to 3.6 for hatchback cars. The back door opening rates for utility vehicles were 2.6 and 4.1 for large and compact utility vehicles respectively. The overall rate for all light trucks equipped with back doors and hatches is 2.7 percent. Based on this data, AAMA's contention that increasing numbers of minivans in the fleet will reduce the number of back door openings and ejections in future crashes is not well founded, although if the observed rates continue into the future. the problem size could diminish somewhat.

(b) Load Requirements and Test Procedures

(1) Magnitude of Test Load

Toyota Motor Corporate Services of North America, Inc. (Toyota) suggested