

At an average cost per accident of \$79,873 in 2002 dollars, an accident differential of .0085, and 4,750, 9,500, and 14,300 drivers who are not hired in 2003, 2004, and 2005, respectively, the discounted value of annual accident reduction benefits is equal to \$3.3 million in 2003, \$6.5 million in 2004, and \$9.8 million in 2005 (when three years of data become available to prospective employers). This translates to a total of 41, 81, and 122 accidents avoided in these three years, respectively, as a result of the newly-available accident data. Thereafter, the accident reduction potential (122 accidents) remains the same as that in 2005, the year the accident data retention and reporting requirement would become fully implemented. First-year accident reduction benefits equal \$3.3 million, while total discounted accident reduction benefits from the new accident data are equal to \$64 million (after rounding) over the 10-year analysis period.

Alcohol and Controlled Substances Data

The second source of direct accident reduction benefits would result from the availability of driver alcohol and controlled substance use and rehabilitation program data by prospective employers. The Motor Carrier Management Information System (MCMIS) contains information on the number of accidents experienced by drivers with and without alcohol or controlled substances citations for the

period 1999–2001. Results reveal that the difference in accidents for drivers with and without citations for alcohol and controlled substances violations is .019 accidents per driver over a three-year period (1999–2001). Assuming an equal distribution of accident involvement and driver exposure over this three-year period, the difference in accident profiles between drivers with and without a citation for a serious traffic violation is roughly 0.0633 accidents per driver per year.

As was done with the accident data, we conservatively assumed that drivers who are not hired into positions in any given year because of the new data would be able to find other driver positions after an average of six months of searching. As such, the accident reduction differential used to calculate benefits in this analysis was 0.0316 per driver for new alcohol/controlled substances data.

Recall that we estimated that 1,300 commercial driver applicants would now be denied employment because of the new alcohol/controlled substance program data made available to prospective employers. Using an average cost per truck-related accident of \$79,873 and an annual difference in accidents of .0316 per driver, annual benefits associated with this provision equal roughly \$3.2 million in 2003. The number of accidents avoided as a result of the new driver alcohol and controlled substance test and program data is equal to 41 accidents each year between 2003

and 2012 (*i.e.*, $0.0316 \times 1,280$ drivers). Total discounted accident reduction benefits from the new alcohol/controlled substance test and program data over the 10-year analysis period are estimated to be \$24 million.

Benefits From a Deterrence Effect

We believe it is plausible to assume there would be a “deterrence effect” associated with this rule, (*i.e.*, where a driver may strive to improve his safety performance record if he knows that such information would be available to prospective employers in future hiring decisions). However, we were unsure as to the specific magnitude of this effect. Therefore, we incorporated a sensitivity analysis framework into this evaluation by assuming that the deterrence effect could range anywhere from zero, 10 percent, 25 percent, or 50 percent of the value of direct accident reduction benefits measured earlier. Since the “deterrence effect” benefits are a percentage of the direct accident reduction benefits associated with this rule, they are identified in the next section, where we discuss the total benefits.

Total Benefits

Total benefits associated with this rule are identified in Table 6 and are separated according to our assumptions regarding the magnitude of the deterrence effect associated with this rule.

TABLE 6.—SUMMARY OF BENEFITS, 2003–2012

[In millions of dollars]

Benefits scenario	First-year benefits	Total discounted benefits, 10-year analysis period
Direct Benefits Only ¹	\$6	\$88
With 10% Deterrence Effect ²	7	97
With 25% Deterrence Effect ²	8	110
With 50% Deterrence Effect ²	10	132

¹ Under the “Direct Benefits Only” scenario, all truck-related accident reduction benefits result from the industry’s refusal to hire drivers with the worst safety performance records.

² Under the three benefits scenarios including a “Deterrence Effect”, FMCSA assumes that the availability of and easier access to new commercial driver safety performance data would result in some drivers improving their driving behavior for fear that prospective employers would now use such data in future hiring decisions. Since we were unsure of the magnitude of this effect, we assessed the deterrence effect at zero, 10, 25, and 50 percent of direct truck-related accident reduction benefits.

First-year (2003) benefits associated with this proposed rule range from slightly less than \$6.5 million (rounded down to \$6 million in the table) when we assume there is no deterrence effect to almost \$10 million when we assume the deterrence effect is equal to 50 percent of the direct accident reduction

benefits of this rule. Total discounted benefits associated with this rule range from a low of \$88 million when we assume no deterrence effect to a high of \$132 million when we assume the deterrence effect is equal to 50 percent of the direct accident reduction benefits.

IV. Net Benefits

Total discounted net benefits associated with this proposed rule are included in Table 7.