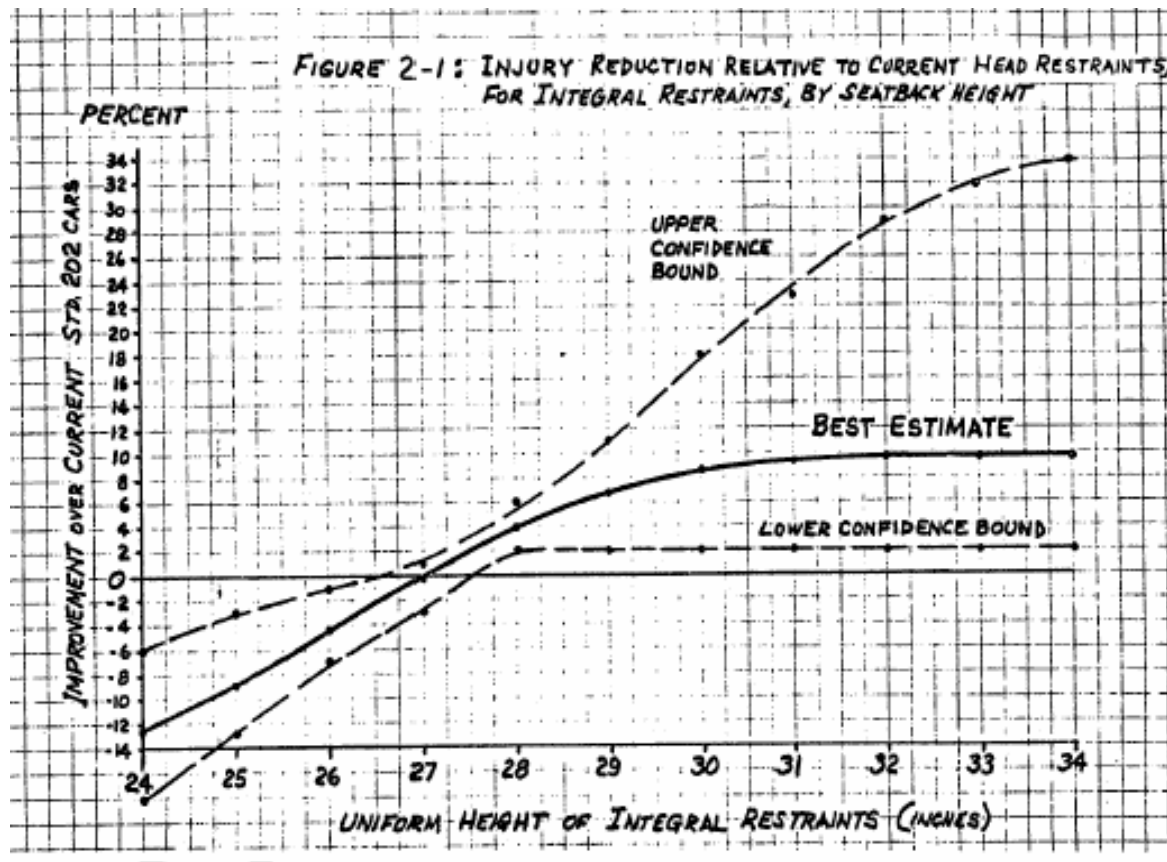


U.S. Height and Backset Benefits

*Head Restraint Informal Working Group GTR Meeting
Montreal, Canada
Sept 12-14, 2006*

Draft

Injury Reduction Due to Head Restraint Height



- After 31 inches (787 mm), the benefits due to increasing the height do not increase. (34 in = 864 mm)

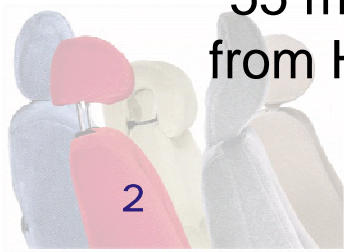
*Chart from HR-3-14

Passenger Car Effectiveness Estimate

- **To calculate benefits we looked at the effectiveness of height and backset individually and use the higher value.**

	Height	Backset
Front Seat: Integral	1.68	5.83
Adjustable: Up	1.68	5.83
Adjustable: Down	5.83	5.83

*55 mm backset at 25 degree design angle. Table V-13
from HR-1-3



Backset Effectiveness

Backset	Whiplash Effectiveness	Injuries Prevented
55 mm	5.83	15,272
60 mm	4.17	12,231
65 mm	2.83	9,766
70 mm	1.50	7,643

*Calculated from info in HR-1-3

