

## **APPENDIX G**

### **Occupant Risk Assessment Summary Report from TRAP**

#### **-Finite Element Analysis Results-**

Test Summary Report

General Information

Test Agency: WPI  
Test Number: A-70-05  
Test Date: Dec 2001  
Test Article: A Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.3927 seconds on right side of interior  
x-direction 1.4  
y-direction 1.3

THIV (km/hr): 6.9 at 0.4053 seconds on right side of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)

x-direction -2.9 (1.4210 - 1.4310 seconds)  
y-direction -2.9 (1.3863 - 1.3963 seconds)

PHD (g's): 4.0 (1.4203 - 1.4303 seconds)

ASI: 0.18 (0.2313 - 0.2813 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.0 (0.0850 - 0.1350 seconds)  
y-direction -1.6 (0.2317 - 0.2817 seconds)  
z-direction -1.1 (1.3870 - 1.4370 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -6.4 (0.9360 seconds)  
Pitch 3.0 (1.3833 seconds)  
Yaw 22.6 (1.7000 seconds)

Figure G.1: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO A Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: A-70-15  
Test Date: Dec 2001  
Test Article: A Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6040 seconds on front of interior  
x-direction 1.8  
y-direction -0.9

THIV (km/hr): 6.4 at 0.6080 seconds on front of interior  
THIV (m/s): 1.8

Ridedown Accelerations (g's)  
x-direction -2.8 (0.6083 - 0.6183 seconds)  
y-direction -3.8 (0.6037 - 0.6137 seconds)

PHD (g's): 4.4 (0.6343 - 0.6443 seconds)

ASI: 0.20 (0.5427 - 0.5927 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.0 (-0.0050 - 0.0450 seconds)  
y-direction 1.7 (0.5390 - 0.5890 seconds)  
z-direction -1.4 (0.5870 - 0.6370 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -6.5 (0.6013 seconds)  
Pitch 3.1 (0.5773 seconds)  
Yaw 27.4 (1.7000 seconds)

Figure G.2: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO A Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: A-70-25  
Test Date: Dec 2001  
Test Article: A Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5293 seconds on front of interior  
x-direction 1.9  
y-direction -0.7

THIV (km/hr): 7.5 at 0.5393 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)  
x-direction -1.1 (0.5977 - 0.6077 seconds)  
y-direction 1.6 (0.5850 - 0.5950 seconds)

PHD (g's): 2.5 (1.5970 - 1.6070 seconds)

ASI: 0.22 (0.3147 - 0.3647 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.5 (0.2043 - 0.2543 seconds)  
y-direction 1.7 (0.0877 - 0.1377 seconds)  
z-direction -1.8 (0.2343 - 0.2843 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.4 (0.2200 seconds)  
Pitch 2.4 (0.4893 seconds)  
Yaw 12.0 (1.6107 seconds)

Figure G.3: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO A Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: B-70-05  
Test Date: Dec 2001  
Test Article: B Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6273 seconds on front of interior  
x-direction 1.7  
y-direction -0.8

THIV (km/hr): 6.3 at 0.6200 seconds on front of interior  
THIV (m/s): 1.8

Ridedown Accelerations (g's)

x-direction -2.2 (1.1470 - 1.1570 seconds)  
y-direction -3.1 (1.1110 - 1.1210 seconds)

PHD (g's): 3.6 (1.1103 - 1.1203 seconds)

ASI: 0.11 (1.1927 - 1.2427 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.7 (1.0577 - 1.1077 seconds)  
y-direction 0.9 (0.4737 - 0.5237 seconds)  
z-direction 1.0 (1.1930 - 1.2430 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -6.9 (0.7647 seconds)  
Pitch 2.4 (1.1113 seconds)  
Yaw 20.2 (1.7000 seconds)

Figure G.4: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO B Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: B-70-15  
Test Date: Dec 2001  
Test Article: B Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5987 seconds on front of interior  
x-direction 1.8  
y-direction -0.1

THIV (km/hr): 6.4 at 0.5753 seconds on front of interior  
THIV (m/s): 1.8

Ridedown Accelerations (g's)  
x-direction -3.1 (0.6823 - 0.6923 seconds)  
y-direction -3.6 (0.6730 - 0.6830 seconds)

PHD (g's): 4.2 (0.6730 - 0.6830 seconds)

ASI: 0.19 (0.1947 - 0.2447 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.5 (0.1930 - 0.2430 seconds)  
y-direction 1.5 (0.5443 - 0.5943 seconds)  
z-direction 1.4 (0.3337 - 0.3837 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -6.6 (0.6740 seconds)  
Pitch 3.3 (0.6600 seconds)  
Yaw 25.2 (1.2280 seconds)

Figure G.5: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO B Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: B-70-25  
Test Date: Dec 2001  
Test Article: B Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5820 seconds on front of interior  
x-direction 1.7  
y-direction -0.8

THIV (km/hr): 6.9 at 0.5887 seconds on front of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)  
x-direction -0.7 (0.7637 - 0.7737 seconds)  
y-direction 1.4 (0.5817 - 0.5917 seconds)

PHD (g's): 1.6 (0.7097 - 0.7197 seconds)

ASI: 0.25 (0.1987 - 0.2487 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.3 (0.1617 - 0.2117 seconds)  
y-direction -1.9 (0.1983 - 0.2483 seconds)  
z-direction 1.9 (0.3023 - 0.3523 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.4 (0.2100 seconds)  
Pitch 2.8 (0.4767 seconds)  
Yaw 26.9 (1.7000 seconds)

Figure G.6: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO B Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: B-100-05  
Test Date: Dec 2001  
Test Article: B Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5300 seconds on front of interior  
x-direction 2.0  
y-direction -0.5

THIV (km/hr): 7.3 at 0.5253 seconds on front of interior  
THIV (m/s): 2.0

Ridedown Accelerations (g's)  
x-direction -2.0 (0.9763 - 0.9863 seconds)  
y-direction -3.6 (0.9403 - 0.9503 seconds)

PHD (g's): 4.0 (0.9757 - 0.9857 seconds)

ASI: 0.19 (0.2067 - 0.2567 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.0 (0.2070 - 0.2570 seconds)  
y-direction -1.5 (0.2070 - 0.2570 seconds)  
z-direction -1.1 (0.1343 - 0.1843 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -7.6 (0.6533 seconds)  
Pitch 2.3 (0.5320 seconds)  
Yaw 21.4 (1.7000 seconds)

Figure G.7: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO B Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: B-100-15  
Test Date: Dec 2001  
Test Article: B Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5333 seconds on front of interior  
x-direction 2.0  
y-direction 0.6

THIV (km/hr): 7.7 at 0.5260 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)

x-direction -1.2 (0.6150 - 0.6250 seconds)  
y-direction 1.7 (0.5697 - 0.5797 seconds)

PHD (g's): 1.7 (0.5697 - 0.5797 seconds)

ASI: 0.22 (0.2420 - 0.2920 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.2 (0.1157 - 0.1657 seconds)  
y-direction -1.6 (0.2417 - 0.2917 seconds)  
z-direction -1.4 (0.1650 - 0.2150 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.0 (0.2607 seconds)  
Pitch 2.6 (0.4827 seconds)  
Yaw -20.0 (1.7000 seconds)

Figure G.8: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO B Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: B-100-25  
Test Date: Dec 2001  
Test Article: B Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5440 seconds on front of interior  
x-direction 2.0  
y-direction -0.9

THIV (km/hr): 7.8 at 0.5473 seconds on front of interior  
THIV (m/s): 2.2

Ridedown Accelerations (g's)  
x-direction -1.2 (1.6417 - 1.6517 seconds)  
y-direction 1.9 (0.5963 - 0.6063 seconds)

PHD (g's): 3.3 (1.6630 - 1.6730 seconds)

ASI: 0.29 (0.1753 - 0.2253 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.9 (0.1170 - 0.1670 seconds)  
y-direction 2.0 (0.0817 - 0.1317 seconds)  
z-direction -2.8 (0.1750 - 0.2250 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.2 (0.2933 seconds)  
Pitch 2.4 (0.5087 seconds)  
Yaw 23.1 (1.5887 seconds)

Figure G.9: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO B Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: C-70-05  
Test Date: Dec 2001  
Test Article: C Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7040 seconds on left side of interior  
x-direction 1.5  
y-direction -1.6

THIV (km/hr): 7.2 at 0.6687 seconds on left side of interior  
THIV (m/s): 2.0

Ridedown Accelerations (g's)  
x-direction -0.6 (0.8623 - 0.8723 seconds)  
y-direction 1.3 (1.0077 - 1.0177 seconds)

PHD (g's): 1.3 (1.0077 - 1.0177 seconds)

ASI: 0.09 (0.7980 - 0.8480 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.4 (0.1163 - 0.1663 seconds)  
y-direction 0.7 (0.7977 - 0.8477 seconds)  
z-direction 0.6 (1.0550 - 1.1050 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -6.0 (0.7027 seconds)  
Pitch 1.6 (0.2900 seconds)  
Yaw 12.6 (1.5633 seconds)

Figure G.10: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO C Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: C-70-15  
Test Date: Dec 2001  
Test Article: C Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7007 seconds on front of interior  
x-direction 1.6  
y-direction -1.2

THIV (km/hr): 7.0 at 0.6880 seconds on left side of interior

THIV (m/s): 1.9

Ridedown Accelerations (g's)

x-direction -0.5 (0.7197 - 0.7297 seconds)  
y-direction 1.0 (0.7377 - 0.7477 seconds)

PHD (g's): 1.1 (0.7370 - 0.7470 seconds)

ASI: 0.11 (0.5653 - 0.6153 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.4 (0.2070 - 0.2570 seconds)  
y-direction 0.8 (0.4210 - 0.4710 seconds)  
z-direction -1.0 (0.5643 - 0.6143 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.2 (0.5787 seconds)  
Pitch 2.1 (0.5740 seconds)  
Yaw 11.4 (1.3147 seconds)

Figure G.11: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO C Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: C-70-25  
Test Date: Dec 2001  
Test Article: C Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6767 seconds on front of interior  
x-direction 1.6  
y-direction -1.3

THIV (km/hr): 7.0 at 0.6760 seconds on left side of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)

x-direction -0.7 (0.8823 - 0.8923 seconds)  
y-direction 1.6 (0.7230 - 0.7330 seconds)

PHD (g's): 1.7 (0.7243 - 0.7343 seconds)

ASI: 0.16 (0.4513 - 0.5013 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.7 (0.1903 - 0.2403 seconds)  
y-direction 1.2 (0.4550 - 0.5050 seconds)  
z-direction 1.2 (0.3397 - 0.3897 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.9 (0.2380 seconds)  
Pitch 2.5 (0.4667 seconds)  
Yaw 23.7 (1.7000 seconds)

Figure G.12: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO C Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: C-100-05  
Test Date: Dec 2001  
Test Article: C Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6200 seconds on front of interior  
x-direction 1.9  
y-direction -1.0

THIV (km/hr): 7.5 at 0.6240 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)

x-direction -1.7 (0.6370 - 0.6470 seconds)  
y-direction -1.2 (0.8843 - 0.8943 seconds)

PHD (g's): 2.2 (0.6423 - 0.6523 seconds)

ASI: 0.09 (0.6693 - 0.7193 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.6 (0.5970 - 0.6470 seconds)  
y-direction 0.7 (0.6690 - 0.7190 seconds)  
z-direction 0.7 (0.8877 - 0.9377 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.7 (0.6147 seconds)  
Pitch 1.4 (0.4147 seconds)  
Yaw 9.1 (1.6267 seconds)

Figure G.13: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO C Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: C-100-15  
Test Date: Dec 2001  
Test Article: C Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5747 seconds on front of interior  
x-direction 2.0  
y-direction -0.9

THIV (km/hr): 7.8 at 0.5813 seconds on front of interior  
THIV (m/s): 2.2

Ridedown Accelerations (g's)

x-direction -0.7 (0.8703 - 0.8803 seconds)  
y-direction 1.3 (0.6703 - 0.6803 seconds)

PHD (g's): 1.5 (0.6750 - 0.6850 seconds)

ASI: 0.15 (0.0947 - 0.1447 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.7 (0.1070 - 0.1570 seconds)  
y-direction 1.3 (0.0943 - 0.1443 seconds)  
z-direction -1.0 (0.1690 - 0.2190 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.8 (0.2553 seconds)  
Pitch 2.3 (0.4287 seconds)  
Yaw 22.8 (1.7000 seconds)

Figure G.14: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO C Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: C-100-25  
Test Date: Dec 2001  
Test Article: C Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5747 seconds on front of interior  
x-direction 1.9  
y-direction -0.9

THIV (km/hr): 7.6 at 0.5813 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)  
x-direction -0.7 (0.7990 - 0.8090 seconds)  
y-direction 1.3 (0.6703 - 0.6803 seconds)

PHD (g's): 1.4 (0.6677 - 0.6777 seconds)

ASI: 0.18 (0.1793 - 0.2293 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.1 (0.1270 - 0.1770 seconds)  
y-direction 1.5 (0.0950 - 0.1450 seconds)  
z-direction -1.7 (0.1797 - 0.2297 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.4 (0.3173 seconds)  
Pitch 2.0 (0.5393 seconds)  
Yaw 23.7 (1.7000 seconds)

Figure G.15: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO C Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: D-70-05  
Test Date: Dec 2001  
Test Article: D Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7067 seconds on front of interior  
x-direction 1.6  
y-direction -1.4

THIV (km/hr): 7.2 at 0.7080 seconds on front of interior  
THIV (m/s): 2.0

Ridedown Accelerations (g's)

x-direction -0.7 (1.0463 - 1.0563 seconds)  
y-direction -1.3 (1.0723 - 1.0823 seconds)

PHD (g's): 1.3 (1.1030 - 1.1130 seconds)

ASI: 0.10 (0.8660 - 0.9160 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.4 (0.1063 - 0.1563 seconds)  
y-direction 0.8 (0.8657 - 0.9157 seconds)  
z-direction 0.9 (1.1650 - 1.2150 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -7.4 (0.7453 seconds)  
Pitch 2.2 (1.0800 seconds)  
Yaw 11.8 (1.3427 seconds)

Figure G.16: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO D Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: D-70-15  
Test Date: Dec 2001  
Test Article: D Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6467 seconds on front of interior  
x-direction 1.8  
y-direction -0.2

THIV (km/hr): 6.7 at 0.6440 seconds on front of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)  
x-direction -1.0 (0.6890 - 0.6990 seconds)  
y-direction 1.1 (0.7810 - 0.7910 seconds)

PHD (g's): 1.4 (0.6437 - 0.6537 seconds)

ASI: 0.14 (0.5920 - 0.6420 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.8 (0.0450 - 0.0950 seconds)  
y-direction 1.2 (0.0977 - 0.1477 seconds)  
z-direction -1.3 (0.5917 - 0.6417 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.4 (0.3573 seconds)  
Pitch 2.6 (0.5980 seconds)  
Yaw -8.4 (1.7000 seconds)

Figure G.17: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO D Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: D-70-25  
Test Date: Dec 2001  
Test Article: D Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5640 seconds on front of interior  
x-direction 1.9  
y-direction -0.7

THIV (km/hr): 6.8 at 0.5727 seconds on front of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)  
x-direction -1.2 (0.5743 - 0.5843 seconds)  
y-direction 1.6 (0.7330 - 0.7430 seconds)

PHD (g's): 1.7 (0.7330 - 0.7430 seconds)

ASI: 0.21 (0.0980 - 0.1480 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.1 (0.0517 - 0.1017 seconds)  
y-direction 1.8 (0.1003 - 0.1503 seconds)  
z-direction -1.7 (0.2390 - 0.2890 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.2 (0.2320 seconds)  
Pitch 2.7 (0.4933 seconds)  
Yaw 28.1 (1.7000 seconds)

Figure G.18: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO D Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: D-100-05  
Test Date: Dec 2001  
Test Article: D Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6227 seconds on front of interior  
x-direction 1.9  
y-direction -0.8

THIV (km/hr): 7.1 at 0.6173 seconds on front of interior  
THIV (m/s): 2.0

Ridedown Accelerations (g's)  
x-direction -0.9 (0.6970 - 0.7070 seconds)  
y-direction -1.3 (0.8830 - 0.8930 seconds)

PHD (g's): 1.5 (0.9117 - 0.9217 seconds)

ASI: 0.14 (0.1680 - 0.2180 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.6 (0.1670 - 0.2170 seconds)  
y-direction -1.1 (0.1683 - 0.2183 seconds)  
z-direction 0.9 (0.9603 - 1.0103 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -7.1 (0.6380 seconds)  
Pitch 1.8 (0.4520 seconds)  
Yaw 7.8 (1.1807 seconds)

Figure G.19: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO D Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: D-100-15  
Test Date: Dec 2001  
Test Article: D Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5720 seconds on front of interior  
x-direction 2.0  
y-direction -0.3

THIV (km/hr): 7.2 at 0.5680 seconds on front of interior  
THIV (m/s): 2.0

Ridedown Accelerations (g's)  
x-direction -1.0 (0.5910 - 0.6010 seconds)  
y-direction 1.3 (0.7183 - 0.7283 seconds)

PHD (g's): 2.0 (0.5677 - 0.5777 seconds)

ASI: 0.19 (0.0847 - 0.1347 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.0 (0.0757 - 0.1257 seconds)  
y-direction 1.6 (0.0843 - 0.1343 seconds)  
z-direction -1.2 (0.1683 - 0.2183 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.3 (0.2600 seconds)  
Pitch 2.8 (0.4587 seconds)  
Yaw 24.6 (1.7000 seconds)

Figure G.20: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO D Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: D-100-25  
Test Date: Dec 2001  
Test Article: D Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5133 seconds on front of interior  
x-direction 2.0  
y-direction -0.7

THIV (km/hr): 7.5 at 0.5173 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)  
x-direction -1.4 (0.5223 - 0.5323 seconds)  
y-direction 2.4 (0.6097 - 0.6197 seconds)

PHD (g's): 2.5 (0.6097 - 0.6197 seconds)

ASI: 0.26 (0.1807 - 0.2307 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.6 (0.1203 - 0.1703 seconds)  
y-direction 2.2 (0.0850 - 0.1350 seconds)  
z-direction -2.5 (0.1803 - 0.2303 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.2 (0.2980 seconds)  
Pitch 2.4 (0.5120 seconds)  
Yaw 23.8 (1.6773 seconds)

Figure G.21: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO D Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: G-70-05  
Test Date: Dec 2001  
Test Article: G Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7293 seconds on front of interior  
x-direction 1.6  
y-direction -1.2

THIV (km/hr): 7.0 at 0.7367 seconds on front of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)

x-direction -0.5 (0.8263 - 0.8363 seconds)  
y-direction 0.5 (0.8723 - 0.8823 seconds)

PHD (g's): 0.7 (0.8463 - 0.8563 seconds)

ASI: 0.07 (0.3840 - 0.4340 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.4 (0.1097 - 0.1597 seconds)  
y-direction 0.5 (0.4577 - 0.5077 seconds)  
z-direction 0.6 (0.3830 - 0.4330 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.9 (0.6787 seconds)  
Pitch 1.6 (0.3107 seconds)  
Yaw 6.4 (1.4113 seconds)

Figure G.22: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO G Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: G-70-15  
Test Date: Dec 2001  
Test Article: G Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6947 seconds on front of interior  
x-direction 1.6  
y-direction -0.8

THIV (km/hr): 6.3 at 0.7007 seconds on front of interior  
THIV (m/s): 1.8

Ridedown Accelerations (g's)

x-direction -0.5 (0.7197 - 0.7297 seconds)  
y-direction 0.8 (0.7083 - 0.7183 seconds)

PHD (g's): 0.9 (0.7083 - 0.7183 seconds)

ASI: 0.09 (0.2920 - 0.3420 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.5 (0.0217 - 0.0717 seconds)  
y-direction 0.7 (0.4143 - 0.4643 seconds)  
z-direction 0.9 (0.2917 - 0.3417 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.0 (0.2147 seconds)  
Pitch 2.2 (0.5587 seconds)  
Yaw 4.1 (0.8347 seconds)

Figure G.23: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO G Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: G-70-25  
Test Date: Dec 2001  
Test Article: G Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7060 seconds on front of interior  
x-direction 1.6  
y-direction -1.2

THIV (km/hr): 6.9 at 0.6993 seconds on left side of interior

THIV (m/s): 1.9

Ridedown Accelerations (g's)

x-direction -0.4 (0.7410 - 0.7510 seconds)  
y-direction 1.1 (0.7063 - 0.7163 seconds)

PHD (g's): 1.1 (0.7037 - 0.7137 seconds)

ASI: 0.14 (0.4440 - 0.4940 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.6 (0.1830 - 0.2330 seconds)  
y-direction 1.1 (0.4437 - 0.4937 seconds)  
z-direction 1.1 (0.3237 - 0.3737 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.1 (0.2260 seconds)  
Pitch 2.7 (0.4500 seconds)  
Yaw 9.8 (1.1580 seconds)

Figure G.24: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO G Curb  
Impact Speed -- 70 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: G-100-05  
Test Date: Dec 2001  
Test Article: G Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6207 seconds on front of interior  
x-direction 1.8  
y-direction -0.6

THIV (km/hr): 6.8 at 0.6213 seconds on front of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)  
x-direction -0.6 (0.7157 - 0.7257 seconds)  
y-direction 0.6 (0.7843 - 0.7943 seconds)

PHD (g's): 0.8 (0.7683 - 0.7783 seconds)

ASI: 0.08 (0.2947 - 0.3447 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.4 (0.1790 - 0.2290 seconds)  
y-direction 0.4 (0.7483 - 0.7983 seconds)  
z-direction 0.7 (0.2943 - 0.3443 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.4 (0.6267 seconds)  
Pitch 1.3 (0.4260 seconds)  
Yaw 3.3 (0.6247 seconds)

Figure G.25: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO G Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: G-100-15  
Test Date: Dec 2001  
Test Article: G Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5713 seconds on front of interior  
x-direction 1.9  
y-direction -0.5

THIV (km/hr): 7.1 at 0.5720 seconds on front of interior  
THIV (m/s): 2.0

Ridedown Accelerations (g's)  
x-direction -0.6 (0.6710 - 0.6810 seconds)  
y-direction 1.2 (0.6703 - 0.6803 seconds)

PHD (g's): 1.3 (0.6703 - 0.6803 seconds)

ASI: 0.12 (0.0900 - 0.1400 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.7 (0.0350 - 0.0850 seconds)  
y-direction 1.1 (0.0897 - 0.1397 seconds)  
z-direction -1.1 (0.1590 - 0.2090 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.0 (0.2560 seconds)  
Pitch 2.4 (0.4307 seconds)  
Yaw 6.7 (1.6547 seconds)

Figure G.26: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO G Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: G-100-25  
Test Date: Dec 2001  
Test Article: G Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5760 seconds on front of interior  
x-direction 1.9  
y-direction -1.0

THIV (km/hr): 7.6 at 0.5853 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)  
x-direction -0.7 (0.6163 - 0.6263 seconds)  
y-direction 1.6 (0.5930 - 0.6030 seconds)

PHD (g's): 1.7 (0.5930 - 0.6030 seconds)

ASI: 0.19 (0.0880 - 0.1380 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -1.0 (0.0350 - 0.0850 seconds)  
y-direction 1.7 (0.0877 - 0.1377 seconds)  
z-direction -1.8 (0.1557 - 0.2057 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.6 (0.3140 seconds)  
Pitch 2.2 (0.5333 seconds)  
Yaw 21.7 (1.7000 seconds)

Figure G.27: Summary report of occupant risk factors from TRAP:  
Curb Type -- AASHTO G Curb  
Impact Speed -- 100 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: NY-70-05  
Test Date: Dec 2001  
Test Article: NY Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7753 seconds on front of interior  
x-direction 1.5  
y-direction -0.8

THIV (km/hr): 6.2 at 0.7753 seconds on front of interior  
THIV (m/s): 1.7

Ridedown Accelerations (g's)

x-direction -0.3 (1.4290 - 1.4390 seconds)  
y-direction -0.5 (1.0477 - 1.0577 seconds)

PHD (g's): 0.5 (1.0470 - 1.0570 seconds)

ASI: 0.05 (0.6120 - 0.6620 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.3 (0.3017 - 0.3517 seconds)  
y-direction 0.4 (0.6157 - 0.6657 seconds)  
z-direction 0.3 (0.4170 - 0.4670 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -4.9 (0.7760 seconds)  
Pitch 1.2 (1.3327 seconds)  
Yaw 4.0 (0.8313 seconds)

Figure G.28: Summary report of occupant risk factors from TRAP:  
Curb Type -- New York Curb (100 mm)  
Impact Speed -- 70 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: NY-70-15  
Test Date: Dec 2001  
Test Article: NY Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7747 seconds on front of interior  
x-direction 1.5  
y-direction -0.8

THIV (km/hr): 6.1 at 0.7800 seconds on front of interior  
THIV (m/s): 1.7

Ridedown Accelerations (g's)

x-direction -0.4 (0.8837 - 0.8937 seconds)  
y-direction -0.2 (0.8670 - 0.8770 seconds)

PHD (g's): 0.4 (0.8857 - 0.8957 seconds)

ASI: 0.07 (0.5580 - 0.6080 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.4 (0.3577 - 0.4077 seconds)  
y-direction 0.6 (0.4143 - 0.4643 seconds)  
z-direction -0.6 (0.5590 - 0.6090 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.8 (0.3580 seconds)  
Pitch 2.1 (0.5747 seconds)  
Yaw 3.0 (0.8300 seconds)

Figure G.29: Summary report of occupant risk factors from TRAP:  
Curb Type -- New York Curb (100 mm)  
Impact Speed -- 70 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: NY-70-25  
Test Date: Dec 2001  
Test Article: NY Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 70.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.7053 seconds on left side of interior  
x-direction 1.5  
y-direction -1.3

THIV (km/hr): 7.7 at 0.7173 seconds on front of interior  
THIV (m/s): 2.1

Ridedown Accelerations (g's)  
x-direction -0.5 (0.8690 - 0.8790 seconds)  
y-direction 0.7 (0.7077 - 0.7177 seconds)

PHD (g's): 0.6 (0.9197 - 0.9297 seconds)

ASI: 0.14 (0.4267 - 0.4767 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.5 (0.1963 - 0.2463 seconds)  
y-direction 1.1 (0.4270 - 0.4770 seconds)  
z-direction -1.1 (0.2217 - 0.2717 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.7 (0.2207 seconds)  
Pitch 2.3 (0.4447 seconds)  
Yaw -7.8 (1.1280 seconds)

Figure G.30: Summary report of occupant risk factors from TRAP:  
Curb Type -- New York Curb (100 mm)  
Impact Speed -- 70 km/hr  
Impact Angle -- 25 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: NY-100-05  
Test Date: Dec 2001  
Test Article: NY Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 5.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6367 seconds on front of interior  
x-direction 1.8  
y-direction -0.5

THIV (km/hr): 6.8 at 0.6373 seconds on front of interior  
THIV (m/s): 1.9

Ridedown Accelerations (g's)

x-direction -1.7 (0.6910 - 0.7010 seconds)  
y-direction 0.6 (0.8197 - 0.8297 seconds)

PHD (g's): 2.3 (0.6950 - 0.7050 seconds)

ASI: 0.08 (0.3353 - 0.3853 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.6 (0.6510 - 0.7010 seconds)  
y-direction 0.3 (0.7970 - 0.8470 seconds)  
z-direction 0.7 (0.3350 - 0.3850 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -5.5 (0.6600 seconds)  
Pitch 1.2 (0.4553 seconds)  
Yaw 4.1 (1.7000 seconds)

Figure G.31: Summary report of occupant risk factors from TRAP:  
Curb Type -- New York Curb (100 mm)  
Impact Speed -- 100 km/hr  
Impact Angle -- 5 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: NY-100-15  
Test Date: Dec 2001  
Test Article: NY Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 15.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.6813 seconds on front of interior  
x-direction 1.8  
y-direction -0.3

THIV (km/hr): 6.5 at 0.6787 seconds on front of interior  
THIV (m/s): 1.8

Ridedown Accelerations (g's)  
x-direction -0.6 (0.8783 - 0.8883 seconds)  
y-direction 0.6 (0.6923 - 0.7023 seconds)

PHD (g's): 0.8 (0.6883 - 0.6983 seconds)

ASI: 0.10 (0.1713 - 0.2213 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.5 (0.1223 - 0.1723 seconds)  
y-direction -0.8 (0.1297 - 0.1797 seconds)  
z-direction -1.0 (0.1710 - 0.2210 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.7 (0.2707 seconds)  
Pitch 2.0 (0.4300 seconds)  
Yaw 5.9 (1.3200 seconds)

Figure G.32: Summary report of occupant risk factors from TRAP:  
Curb Type -- New York Curb (100 mm)  
Impact Speed -- 100 km/hr  
Impact Angle -- 15 degrees.

Test Summary Report

General Information

Test Agency: WPI  
Test Number: NY-100-25  
Test Date: Dec 2001  
Test Article: NY Curb with Flat Backfill

Test Vehicle

Description: C2500  
Test Inertial Mass: 2000 kg  
Gross Static Mass: 2000 kg

Impact Conditions

Speed: 100.0 km/hr  
Angle: 25.0 degrees

Occupant Risk Factors

Impact Velocity (m/s) at 0.5953 seconds on front of interior  
x-direction 1.9  
y-direction -1.3

THIV (km/hr): 7.7 at 0.5820 seconds on left side of interior

THIV (m/s): 2.1

Ridedown Accelerations (g's)

x-direction -0.6 (0.6637 - 0.6737 seconds)  
y-direction 1.0 (0.6843 - 0.6943 seconds)

PHD (g's): 1.3 (0.5817 - 0.5917 seconds)

ASI: 0.17 (0.0853 - 0.1353 seconds)

Max. 50msec Moving Avg. Accelerations (g's)

x-direction -0.8 (0.1170 - 0.1670 seconds)  
y-direction 1.5 (0.0850 - 0.1350 seconds)  
z-direction -1.6 (0.1690 - 0.2190 seconds)

Max Roll, Pitch, and Yaw Angles (degrees)

Roll -3.4 (0.3093 seconds)  
Pitch 2.1 (0.5093 seconds)  
Yaw 18.4 (1.7000 seconds)

Figure G.33: Summary report of occupant risk factors from TRAP:  
Curb Type -- New York Curb (100 mm)  
Impact Speed -- 100 km/hr  
Impact Angle -- 25 degrees.