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ON-SITE CERTIFIED ADVANCED 208-COMPLIANT VEHICLE INVESTIGATION

CASE NUMBER - IN-04-041
LOCATION - TEXAS
VEHICLE - 2005 Ford F-150
CRASH DATE - October 2004

Submitted:

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

Technical Report Documentation Page

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On-site air bag deployment investigation involving a 2005 Ford F-150 with manual safety belts and dual front advanced air bag system, and a 2001 Oldsmobile Alero.

16. *Abstract*

This report covers an on-site investigation of an air bag deployment crash involving a 2005 Ford F-150 extended cab pickup truck (case vehicle) and a 2001 Oldsmobile Alero four-door sedan (other vehicle). This crash is of special interest because the case vehicle was equipped with multiple Advanced Occupant Protection System (AOPS) features, including certified advanced 208-compliant front air bags, and the case vehicle's driver (47 year-old female) sustained a police reported "B" (non-incapacitating-evident) injury as a result of the crash. The case vehicle was traveling south-southwest in the left lane of a four-lane, one-way city street approaching a signalized, four leg intersection. The Oldsmobile was traveling southeast in the center lane of a three-lane, one-way city street approaching the same intersection. As the vehicles approached impact in the intersection, the case vehicle's driver initiated a left steer avoidance maneuver. The front right of the case vehicle impacted the left front of the Oldsmobile causing the case vehicle's driver air bag to deploy. As the vehicles rotated post-impact, the Oldsmobile's left rear side impacted the right rear door of the case vehicle. The case vehicle continued through the intersection, departed the southeast corner of the intersection, and the front right corner of the case vehicle impacted a steel traffic signal pole. The case vehicle came to rest against the signal pole facing south. The Oldsmobile came to rest partially in the south leg of the intersection in the left lane facing south. Just prior to the crash, the case vehicle's driver was seated in an upright posture. Her seat track was located in its middle position, the seat back was slightly reclined and the tilt steering wheel was located in its center position. She was restrained by her manual, lap-and-shoulder safety belt system. Due to the left steer maneuver, the driver's right forearm became positioned over the top right portion of the upper air bag module cover flap. The module cover flap impacted her anterior right forearm as the air bag deployed causing an abrasion and bruise to her forearm. The driver also sustained several other injuries including two fractured lower right ribs, a laceration on her chest and right hip, and a bruise to her chest, abdomen and right hip all due to loading her safety belt system during the initial impact. The police crash report indicated that the case vehicle's driver was transported by ambulance to a local hospital. She was treated in the emergency room and released.

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This investigation was brought to NHTSA's attention on or before November 23, 2004 by NASS CDS/GES sampling activities. This crash involved a 2005 Ford F-150 (case vehicle) and a 2001 Oldsmobile Alero GL (other vehicle). The crash occurred in October 2004, at 2:20 p.m., in Texas and was investigated by the applicable city police department. This crash is of special interest because the case vehicle was equipped with multiple Advanced Occupant Protection System (AOPS) features, including certified advanced 208-compliant air bags, as well as an Event Data Recorder (EDR) and the case vehicle's driver [47-year-old, White (non-Hispanic) female] sustained a police reported "B" (non-incapacitating-evident) injury as a result of the crash. Permission to harvest the Restraints Control Module (RCM), which houses the EDR, was denied by the vehicle owner on November 24, 2004. This contractor inspected the case vehicle on December 7, 2004, inspected the scene on December 8, 2004 and interviewed the driver on December 20, 2004. This contractor was unable to locate the Oldsmobile. This report is based on the police crash report, vehicle and scene inspections, an interview with the case vehicle's driver, occupant kinematic principles and this contractor's evaluation of the evidence.

SUMMARY

The case vehicle was traveling south-southwest in the left lane of a four-lane, one-way, city street approaching a signalized, four leg intersection at a driver estimated speed of 64 - 72 km.p.h. (40 -45 m.p.h.). The Oldsmobile was traveling southeast in the center lane of a three-lane, one-way city street approaching the same intersection. As both vehicles entered the intersection, the case vehicle's driver perceived the impending crash and steered left in an attempt to avoid the impact. The front right of the case vehicle impacted the left front of the Oldsmobile causing the case vehicle's driver air bag to deploy. The impact caused the case vehicle to rotate counterclockwise and the Oldsmobile to rotate clockwise. As the two vehicle's rotated, the left rear corner of the Oldsmobile impacted the right rear door of the case vehicle. The case vehicle continued through the intersection, departed the southeast corner of the intersection, and the front right corner of the case vehicle impacted a steel traffic signal pole. The case vehicle came to rest against the signal pole facing south. It is estimated that the Oldsmobile traveled through the intersection and came to rest partially in the south leg of the intersection in the left lane facing south. At the time of the crash the light condition was daylight, the atmospheric condition was clear, and the roadway pavement was level, dry, travel polished concrete. Traffic density was moderate, and the site of the crash was urban commercial.

The CDCs for the case vehicle were determined to be: **01-FZEW-2** (**20** degrees) for the initial impact with the Oldsmobile, **03-RPEN-1** (**90** degrees) for the right rear door impact with the Oldsmobile, and **12-FREE-** (**0** degrees, extent zone is unknown due to overlapping damage) for the impact with the steel traffic signal pole. The CDCs for the Oldsmobile could not be determined because it was not inspected and no photographs of the vehicle were available.

The WinSMASH reconstruction program, missing vehicle algorithm was used to reconstruct the case vehicle's Delta V for the front impact with the Oldsmobile. The Total, Longitudinal, and Lateral Delta Vs are, respectively: 19 km.p.h. (11.8 m.p.h.), -17.9 km.p.h. (-11.1 m.p.h.), and -6.5 km.p.h. (-4.0 m.p.h.). The WinSMASH reconstruction program, missing vehicle algorithm, was also used for the case vehicle's right rear door impact with the Oldsmobile. The Total,

Longitudinal, and Lateral Delta Vs for this impact are, respectively: 2.0 km.p.h (1.2 m.p.h.), 0.0 km.p.h. (0.0 m.p.h.), and -2.0 km.p.h. (-1.2 m.p.h.). The collision fit the reconstruction module and the results appeared reasonable for the front impact, but appeared low for the right rear door impact.

Immediately prior to the crash the case vehicle's driver was seated in an upright posture with her back against the seat back, her left foot on the floor, her right foot on the accelerator, and both of her hands on the steering wheel with her right arm resting on the armrest. The driver was restrained by her manual, three-point, lap-and-shoulder safety belt system, and her seat track was located in its middle position, the seat back was slightly reclined and the tilt steering wheel was located in its center position. In addition, the driver was wearing sunglasses at the time of the crash.

Just prior to the impact, the case vehicle's driver had both hands on the steering wheel and steered to the left, attempting to avoid the crash. As a result of this attempted avoidance maneuver, her right forearm became positioned partially over the top right portion of the steering wheel hub. The case vehicle's front impact with the Oldsmobile caused the case vehicle's driver to continue forward and slightly rightward along a path opposite the case vehicle's 20 degree direction of principal force as the case vehicle decelerated. The driver's anterior right forearm contacted the right portion of the upper air bag module cover flap as the air bag deployed bruising and abrading her forearm. She loaded her safety belt lacerating her upper left chest and right hip, bruising her chest, abdomen and right hip, and fracturing two lower right ribs, and her face and chest contacted her deployed air bag. The driver also impacted her right thigh, just above the knee, on the knee bolster bruising her thigh, and her right foot impacted the brake pedal lacerating and bruising her middle right toe. Following this forward movement, the driver likely moved to the right along a path opposite the case vehicle's 90 degree direction of principal force as a result of the right rear door impact with the left rear of the Oldsmobile. As the case vehicle continued forward through the intersection, the driver remained in her seat. The case vehicle's front right impact with the metal traffic signal pole caused the driver to move forward along a path opposite the 0 degree direction of principal force as the case vehicle decelerated to final rest, and she loaded her safety belt. The driver most likely rebounded back into her seat and remained in her seat at final rest. The driver was able to exit the case vehicle with some assistance.

The police crash report indicated that the case vehicle's driver sustained a "B" (non-incapacitating-evident) injury and was transported by ambulance to a local hospital. She was treated in the emergency room and released.

CRASH CIRCUMSTANCES

Crash Environment: The trafficway on which the case vehicle was traveling was a four-lane, undivided, one-way, city street, traversing in a south-southwesterly direction. The case vehicle was approaching a signalized four-leg intersection, and the roadway had four through lanes. Each travel lane was approximately 3.3 meters (10.8 feet) wide, and the roadway was bordered by barrier curbs. Pavement markings consisted of a solid yellow left edge line, broken white lane lines and a solid white right edge line. The trafficway on which the Oldsmobile was traveling was

a three-lane, undivided, one-way city street, traversing in a southeasterly direction. The Oldsmobile was approaching the same intersection, and the roadway had three through lanes and was bordered by barrier curbs. The left lane was approximately 4.4 meters (14.4 feet) wide, the center lane was 4.3 meters (14.1 feet) wide and the right lane was 5 meters wide (16.4 feet). Pavement markings consisted of broken white lane lines. The speed limit for both vehicles was 48 km.p.h. (30 m.p.h.). There was no speed limit sign posted in the vicinity of the crash. There were one-way signs posted at the intersection for each vehicle's approach. At the time of the crash the light condition was daylight, the atmospheric condition was clear, and the roadway pavement was level, dry, travel polished concrete with an estimated coefficient of friction of 0.68. Traffic density was moderate, and the site of the crash was urban commercial. See the Crash Diagram at the end of this report.

Figure 1: Approach of case vehicle south-southwest bound to the intersection in the left lane, arrow shows area of impact

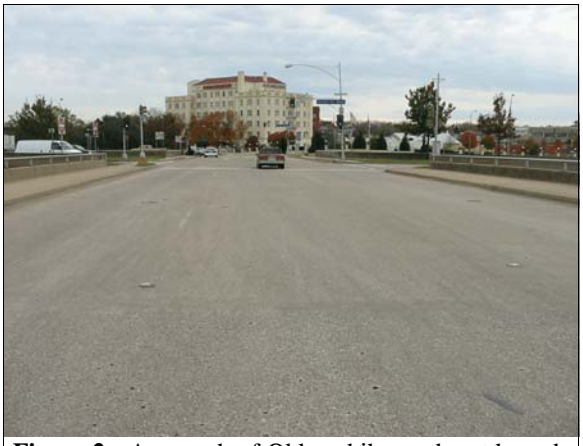


Figure 2: Approach of Oldsmobile southeast bound to the intersection in the center lane.

Figure 3: View southeast to area of impact, indicated by arrow

Figure 4: Frontal damage to case vehicle

Pre-Crash: The case vehicle was traveling south-southwest in the left through lane (**Figure 1**) at a driver estimated speed of 64 - 72 km.p.h. (40 -45 m.p.h.), and the driver was intending to continue straight ahead through the intersection. The Oldsmobile was traveling southeast in the center through lane (**Figure 2**), and the driver was also intending to continue straight ahead through the intersection. As both vehicles entered the intersection, the case vehicle's driver

perceived the impending crash and steered left in an attempt to avoid the impact. The crash occurred in the four-leg intersection of the two roadways (**Figure 3** above).

Crash: The front right of the case vehicle (**Figure 4** above) impacted the left front of the Oldsmobile, causing the case vehicle's driver air bag to deploy. Due to the impact, the case vehicle rotated counterclockwise, the Oldsmobile rotated clockwise, and the left rear corner of the Oldsmobile impacted the case vehicle's right rear door (**Figure 5**). The case vehicle continued through the intersection, departed the southeast corner of the intersection, and the front right corner impacted a steel traffic signal pole (**Figure 6**) located about 1.3 meters (4.3 feet) off the roadway.

Figure 5: Side-slap damage to case vehicle's right rear door.

It is not known whether more than one stage of the dual-stage air bag activated as a result of the case vehicle's front impact with the Oldsmobile. The case vehicle's front right passenger air bag did not deploy in the crash because there was no front right passenger seated in the case vehicle.

Figure 6: Traffic signal pole impacted by case vehicle, dent in base of pole is old damage

Post-Crash: The case vehicle came to rest against the steel traffic signal pole facing south (**Figure 7**). It is estimated that the Oldsmobile traveled through the intersection and came to rest partially in the south leg of the intersection facing south (**Figure 7**). The police crash sketch did not show a final rest position for the Oldsmobile.

Figure 7: Overview of area of final rest of case vehicle against traffic signal pole and Oldsmobile, indicated by arrow

CASE VEHICLE

The 2005 Ford F-150 was a rear wheel drive, four-door pickup truck (VIN: 1FTRW12W05K------) equipped with a 4.7L, V-8 engine and four-speed automatic transmission. Braking was achieved with four-wheel, anti-lock brakes. The front seating row was equipped with a split bench seat with folding backs, adjustable head restraints in the driver and front right seat positions, dual stage driver and front right passenger air bags, driver seat position sensor, driver and front right passenger safety

belt usage sensors; driver and front right passenger manual, height adjustable, three point, lap-and-shoulder safety belt systems, energy management retractors and buckle-mounted pretensioners; a center lap belt, and a front right passenger seat weight sensor. The back seating row was equipped with a split bench with folding backs; manual, three point, lap-and-shoulder safety belt systems in all three rear seat positions and adjustable head restraints in the outboard seat positions. In addition, the case vehicle was equipped with a LATCH system for securing child safety seats.

The various sensors in the case vehicle's advanced occupant restraint system analyze a combination of factors including the predicted crash severity and driver and front right passenger safety belt usage to determine the front air bag inflation level appropriate for the severity of the crash. For the front right seat position, a passenger weight sensor determines if a passenger is seated. If the weight on the seat is at or below a threshold value [the specific value is not known but must be 30 kilograms (66 pounds) or less], then the air bag will be suppressed and a warning light on the instrument panel will be illuminated with the message "Passenger Air Bag Off". If the weight sensor determines that an adult is seated properly in the passenger seat, then the front right passenger air bag will be automatically enabled.

Figure 8: Crush to case vehicle's front bumper due to impact with the Oldsmobile, each stripe on rods in 5 cm (2 in)

Figure 9: Overview of damage to front and right side of case vehicle

CASE VEHICLE DAMAGE

Exterior Damage: The case vehicle's initial contact with the Oldsmobile involved the front plane of the vehicle. Direct damage began at the right front bumper corner and extended 126 centimeters (49.6 inches), along the front bumper. Residual maximum crush was measured as 27 centimeters (10.6 inches) occurring at C_6 (**Figure 8**). The case vehicle's front bumper, bumper fascia, grille, radiator, right fender, right turn signal and headlamp assemblies and hood were directly damaged and crushed rearward (**Figure 9**). The case vehicle's side-slap with the Oldsmobile involved the right rear door. Direct damage began 113 centimeters (44.5 inches) forward of the right rear axle and extended forward 26 centimeters (10.2 inches) along the mid-door. Residual maximum crush was measured as 4 centimeters (1.6 inches) occurring at C_4. The traffic signal pole impact involved the right fender, hood and right front tire. The table below shows the crush measurements for the front impact and the right side impact.

Units	Event	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	Direct	Field L
		Width CDC	Max Crush								±D	±D
cm	1	126	27	150	0	0	25	16	7	27	6	0
in		49.6	10.6	59.1	0.0	0.0	9.8	6.3	2.8	10.6	2.4	0.0

Units	Event	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	Direct	Field L
		Width CDC	Max Crush								±D	±D
cm	2	26	4	92	0	1	3	4	2	0	-55	-47
in		10.2	1.6	36.2	0.0	0.4	1.2	1.6	0.8	0.0	-21.7	-18.5

The wheelbase on the case vehicle's left side was shortened 1 centimeter (0.4 inches) while the right side wheel base was extended 10 centimeters (4 inches). There was induced damage to the hood and left fender (**Figure 10**), but no other obvious induced damage or remote buckling from the front impact was noted. Induced damage from the side-slap impact was limited to the right rear door.

Figure 10: Overview of front and left side of case vehicle

The recommended tire size was: P255/65R17, and the case vehicle was equipped with tires of this size. The case vehicle's tire data are shown in the table below.

Tire	*Measured Pressure*		*Recommend Pressure*		*Tread Depth*		*Damage*	*Restricted*	*Deflated*
	kpa	psi	kpa	psi	milli-meters	32nd of an inch			
LF	228	33	241	35	9	11	None	No	No
RF	214	31	241	35	9	11	None	No	No
LR	221	32	241	35	9	11	None	No	No
RR	228	33	241	35	9	11	None	No	No

Interior Damage: Inspection of the case vehicle's interior revealed a diagonal scuff approximately 4 centimeters (1.6 inches) long on the top, right side of the driver's air bag flap. The driver stated

that she sustained an abrasion and a bruise to the underside of her right forearm. The air bag flap was most likely the source of these injuries (**Figure 11**). There also appeared to be some scuffs on the lower steering wheel rim. In addition, there was no intrusion of the occupant compartment or damage to the steering wheel, and there appeared to be no compression of the energy absorbing steering column (**Figure 12**).

Figure 11: Tape shows scuff on upper air bag module cover flap

Figure 12: Case vehicle's steering column and steering wheel showing lack of damage

Damage Classification: Based on the vehicle inspection, the CDCs for the case vehicle were determined to be: **01-FZEW-2** (**20** degrees) for the initial impact with the Oldsmobile, **03-RPEN-1** (**90** degrees) for the side-slap impact and **12-FREE-** (**0** degrees, extent zone is unknown due to overlapping damage) for the impact with the metal traffic signal pole. Due to the overlapping damage from the first impact, the extent zone for this CDC is unknown.

The impact with the metal traffic signal pole produced overlapping damage to the sheet metal at the front right corner of the case vehicle (**Figure 4** above), and the right front tire impacted the base of the pole. However, due to the leftward movement of the front bumper from the initial impact with the Oldsmobile and the aged appearance of the dent in the base of the metal traffic signal pole (**Figure 6** above), it appeared that the overlapping damage from the pole impact did not involve the case vehicle's front bumper. Therefore, since the front bumper crush was not contaminated by the subsequent impact with the traffic signal pole, the WinSMASH reconstruction program, missing vehicle algorithm was used to reconstruct the case vehicle's Delta V for the front impact with the Oldsmobile. The Total, Longitudinal, and Lateral Delta Vs are, respectively: 19 km.p.h. (11.8 m.p.h.), -17.9 km.p.h. (-11.1 m.p.h.), and -6.5 km.p.h. (-4.0 m.p.h.). The WinSMASH reconstruction program, missing vehicle algorithm, was also used for the case vehicle's right rear door impact with the Oldsmobile. The Total, Longitudinal, and Lateral Delta Vs for this impact are, respectively: 2.0 km.p.h (1.2 m.p.h.), 0.0 km.p.h. (0.0 m.p.h.), and -2.0 km.p.h. (-1.2 m.p.h.). The collision fit the reconstruction module and the results appeared reasonable for the front impact, but appeared low for the right rear door impact. The case vehicle was towed due to damage.

The case vehicle was equipped with Certified Advanced 208-Compliant front air bags at the driver and front right passenger positions. The driver's air bag deployed as a result of the case vehicle's frontal impact with the Oldsmobile. The case vehicle's front right air bag did not deploy because there was no passenger seated in the front right seat.

The case vehicle's driver air bag was located in the steering wheel hub. An inspection of the air bag module's cover flaps and the air bag's fabric revealed that the cover flaps opened at the designated tear points (**Figure 13**), and there was no evidence of damage during the deployment to the air bag or the cover flaps. The module cover consisted of symmetrical "H" configuration cover flaps constructed of thick vinyl. There was a rounded contour in the center of each cover flap at the tear seam to accommodate the Ford emblem. The top module cover flap was 11 centimeters wide (4.3 inches)and 8 centimeters (3.1 inches) high. The bottom module flap was 11 centimeters (4.3 inches) wide and 11.5 centimeters (4.5 inches) high. The deployed driver's air bag (**Figure 14** below) was round with a diameter of approximately 59 centimeters (23 inches), and was designed with two tethers, each approximately 14 centimeters (5.5 inches) in width. The driver's air bag had two vent ports (**Figure 15**), each approximately 2.5 centimeters (1 inch) in diameter, located at the 11 and 1 o'clock positions. The distance between the mid-center of the driver's seat back, as positioned at the time of the vehicle inspection, and the front surface of the air bag at full excursion was 29 centimeters (11.4 inches). An inspection of the driver's air bag fabric revealed no evidence of occupant contact. The front right passenger's air bag was located in the middle of the right instrument panel. This air bag did not deploy because there was no occupant seated in the front right seat.

Figure 13: Case vehicle's steering wheel and air bag module flaps

Figure 14: Case vehicle's driver air bag

Figure 15: Vent ports located on back, top portion of case vehicle's driver air bag, indicated by arrows

Immediately prior to the crash the case vehicle's driver [47-year-old, White (non-Hispanic) female, 170 centimeters and 66 kilograms (67 inches, 145 pounds)] was seated in an upright posture with her back against the seat back, her left foot on the floor, her right foot on the accelerator, and both of her hands on the steering wheel with her right arm resting on the armrest. Her seat track was located in its middle position, the seat back was slightly reclined, and the tilt steering wheel was located in its center position. In addition, the driver was wearing sunglasses at the time of the crash.

The case vehicle driver was restrained by her manual, three point, lap-and-shoulder safety belt system. The driver sustained belt-pattern injuries to her chest, abdomen and right hip.

Just prior to the impact, the case vehicle's driver had both hands on the steering wheel and steered to the left, attempting to avoid the crash. As a result of this attempted avoidance maneuver, her right forearm became positioned partially over the top right portion of the steering wheel hub, and she most likely moved slightly to her right due to the left steer maneuver. The case vehicle's front impact with the Oldsmobile caused the case vehicle's driver to continue forward and slightly rightward along a path opposite the case vehicle's 20 degree direction of principal force as the case vehicle decelerated. The underside of the driver's right forearm contacted the right portion of the upper air bag module cover flap as the air bag deployed bruising and abrading her forearm. She loaded her lap-and-shoulder safety belt lacerating her upper left chest and right hip, bruising her chest, abdomen and right hip, and fracturing two lower right ribs, and her face and chest contacted her deployed air bag. The driver also impacted her right thigh, just above the knee, on the knee bolster bruising her thigh, and her right foot impacted the brake pedal lacerating and bruising her middle right toe. Following this forward movement, the driver likely moved to the right along a path opposite the case vehicle's 90 degree direction of principal force as a result of the side-slap impact with the Oldsmobile, and her right hip likely contacted the center armrest. As the case vehicle continued forward, the driver remained in her seat. The case vehicle's front right impact with the metal traffic signal pole caused the driver to move forward along a path opposite the 0 degree direction of principal force as the case vehicle decelerated to final rest, and she loaded her safety belt. The driver most likely rebounded back into her seat, and she remained in her seat at final rest. The driver was able to exit the case vehicle with some assistance.

CASE VEHICLE DRIVER INJURIES

The police crash report indicated that the case vehicle's driver sustained a "B" (non-incapacitating-evident) injury and was transported by ambulance to a local hospital. She was treated in the emergency room and released. The driver reported that she made one visit to her doctor for a follow-up examination and an X-ray. She also reported that she lost five work days as a result of the crash. The driver's injuries and injury mechanisms are shown in the table below.

Injury Number	Injury Description (including Aspect)	NASS Injury Code & AIS 90	Injury Source (Mechanism)	Source Confidence	Source of Injury Data
1	Contusion to chest over sternum, not further specified	minor 490402.1,4	Torso portion of safety belt system	Probable	Interviewee (same person)
2	Fracture right 7th and 8th ribs, laterally with minimal displacement	moderate 450220.2,1	Torso portion of safety belt system	Probable	Emergency room records
3	Laceration {cut}, 2.5 cm (1 in) upper left chest	minor 490602.1,2	Torso portion of safety belt system	Probable	Interviewee (same person)
4	Contusion abdomen, not further specified	minor 590402.1,9	Torso portion of safety belt system	Probable	Emergency room records
5	Contusion {bruise}, small, on inferior right hip, not further specified	minor 590402.1,1	Buckle on lap portion of safety belt system	Probable	Interviewee (same person)
6	Laceration {cut}, small, on inferior right hip, not further specified	minor 590602.1,1	Buckle on lap portion of safety belt system	Probable	Interviewee (same person)
7	Abrasion, 7.6 cm (3 in) long, on anterior, proximal, right forearm	minor 790202.1,1	Driver module's cover flap	Certain	Interviewee (same person)
8	Contusion {bruise}, 7.6 cm (3 in) long, on anterior, proximal, right forearm	minor 790402.1,1	Driver module's cover flap	Certain	Interviewee (same person)
9	Contusion {bruise}, [3.8 x 7.6 cm (1.5 x 3 in) on anterior distal left thigh–above knee	minor 890402.1,2	Knee bolster, driver's, left of steering column	Probable	Interviewee (same person)
10	Contusion {bruise} on middle right toe, not further specified	minor 890402.1,1	Floor, foot controls	Probable	Interviewee (same person)
11	Laceration {cut}, small, middle right toe, not further specified	minor 890600.1,1	Floor, foot controls	Probable	Interviewee (same person)

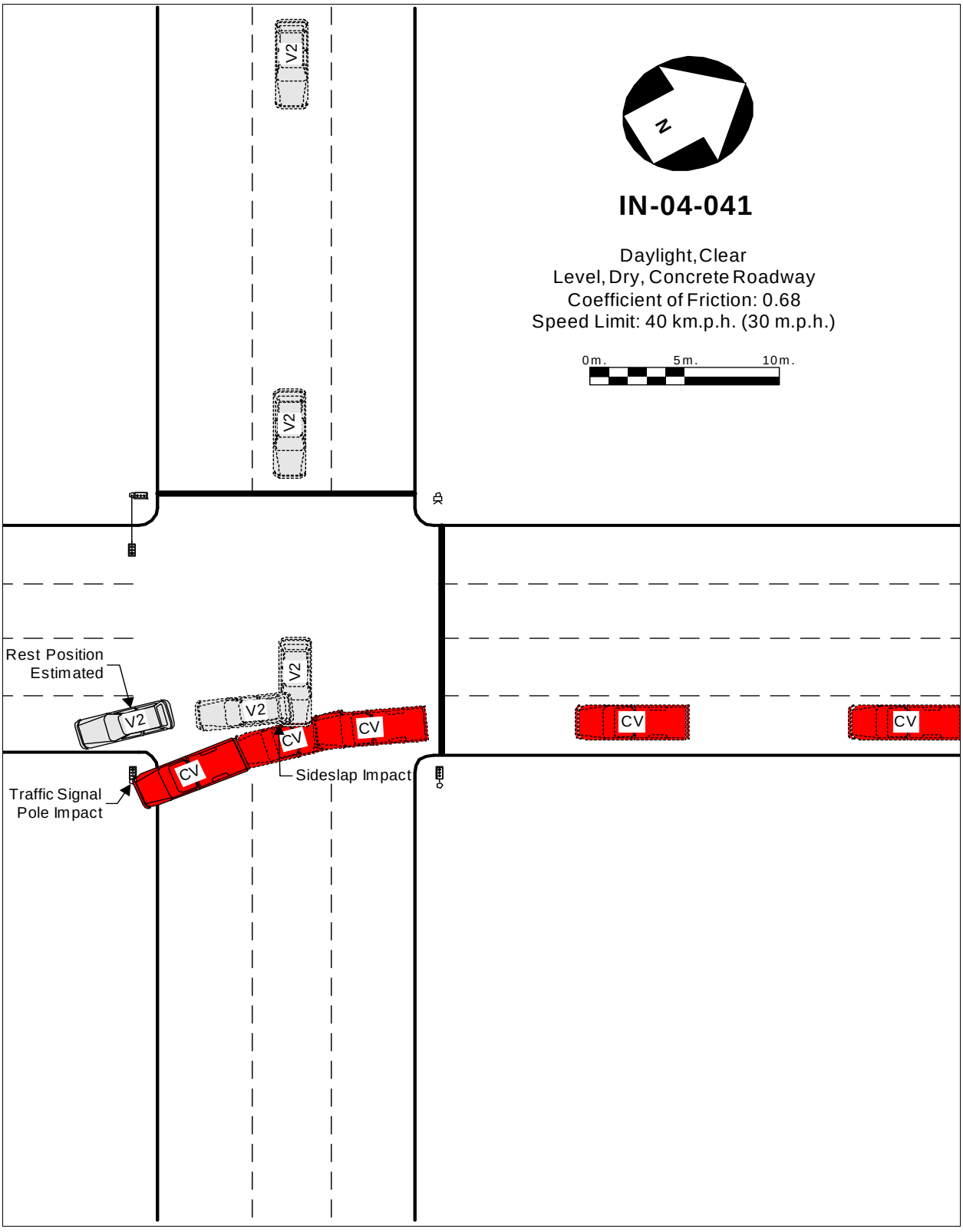
OTHER VEHICLE

The 2001 Oldsmobile Alero GL was a front wheel drive, four-door sedan (VIN: 1G3NL52T31C------). The Oldsmobile was equipped with redesigned driver and front right passenger air bags which did not deploy as a result of this vehicle's impact.

Damage Classification: The Oldsmobile was not inspected. It could not be located. No photographs of the damage to the Oldsmobile were available; therefore, no CDCs could be estimated. The Oldsmobile was towed due to damage.

Oldsmobile's Occupant: According to the police crash report, the Oldsmobile's driver [57-year-old, Black (unknown if Hispanic) female] was restrained by her manual, three-point, lap-and-

shoulder safety belt system. The police crash report indicated that the Oldsmobile's driver sustained a "B" (non-incapacitating-evident) injury and was transported by ambulance to a local hospital.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IN-04-041
Daylight, Clear
Level, Dry, Concrete Roadway
Coefficient of Friction: 0.68
Speed Limit: 40 km.p.h. (30 m.p.h.)
0m. 5m. 10m.
V2
V2
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CV
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Rest Position Estimated
Sideslap Impact
Traffic Signal Pole Impact