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ON-SITE NOT IN TRAFFIC SURVEILLANCE BACK OVER INVESTIGATION

CASE NUMBER - IN-07-019

LOCATION - MICHIGAN

VEHICLE - 2006 DODGE DAKOTA SLT

INCIDENT DATE - March 2007

Submitted:

November 14, 2007

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Contract Number: DTNH22-07-C-00044

Prepared for:

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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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15. <i>Supplementary Notes</i> On-site not in traffic surveillance back over investigation involving a 2006 Dodge Dakota SLT and a pedestrian.					
16. <i>Abstract</i> This report covers an on-site not in traffic surveillance back over investigation involving a 2006 Dodge Dakota SLT and a pedestrian. This incident is of special interest because the Dodge's driver backed over a pedestrian (5-year-old, female), who sustained a police-reported "A" (incapacitating) injury as a result of the incident. This incident occurred in the dirt and gravel parking lot of a rural commercial business. The Dodge Dakota and another pickup truck were parked next to each other facing east. The Dodge was on the passenger side of the other vehicle. The commercial building was located north of the vehicles. The two drivers were standing near the southwest corner of the building conversing. Meanwhile, the two daughters of the other vehicle's driver were running about playing in the parking lot. The conversation between the two driver's ended and the Dodge's driver walked to his vehicle and prepared to leave. The Dodge's driver indicated that he checked his rearview and side view mirrors, turned his head to the right, looked over his right shoulder out of the backlight and began to back up. Meanwhile, the pedestrian and her sister ran around behind the other vehicle from its left side. The pedestrian approached the path of the Dodge from its left side, slipped and fell backwards landing immediately behind and in the path of the Dodge's left rear wheel as the Dodge was backing up. Simultaneously, the Dodge's driver heard the pedestrian's father yell "stop". The driver reacted to stop the vehicle at approximately the same time he felt the left rear wheel run over something. The Dodge's driver stopped the vehicle, got out and saw that the Dodge's left rear tire was on the pedestrian's left hip and abdomen area. The driver immediately got back in the Dodge and pulled it forward off of the pedestrian's body. The pedestrian's father then transported the pedestrian to a hospital where she was admitted for treatment of her injuries. The on-site investigation and a visibility study showed that the pedestrian had fallen down well within the blind zone behind the Dodge. As a result, the Dodge's driver was unable to see the pedestrian as he backed up looking over his right shoulder through the backlight. The Dodge was not equipped with a backup/parking aid.					
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ATTACHMENTS: NOT IN TRAFFIC SURVEILLANCE BACK OVER DATA FORMS

This incident was brought to NHTSA's attention on or before May 4, 2007 by NASS GES sampling activities. The incident involved a 2006 Dodge Dakota pickup truck and a pedestrian. The incident occurred in March 2007, at 11:15 a.m., in Michigan and was investigated by the applicable Michigan State Police department. The State Police completed a standard "State of Michigan Traffic Crash Report" (i.e., UD 10) and submitted a copy of the report to the state. This incident is of special interest because the Dodge's driver backed over a pedestrian (5-year-old, female), who sustained a police-reported "A" (incapacitating) injury as a result of the incident. This contractor inspected the Dodge and scene, and interviewed the driver July 3, 2007. Due to scheduling problems related to the driver's work schedule (i.e., the driver was an over-the-road truck driver), this contractor was not able to conduct the on-site investigation at an earlier date. This report is based on the police crash report, scene and vehicle inspections, interview with the Dodge's driver, and this contractor's evaluation of the evidence.

SUMMARY

This incident occurred in the dirt and gravel parking lot of a rural commercial business. The Dodge Dakota and another pickup truck were parked next to each other facing east. The Dodge was on the passenger side of the other vehicle. The commercial building was located north of the vehicles. The two drivers were standing near the southwest corner of the building conversing. Meanwhile, the two daughters of the other vehicle's driver were running about playing in the parking lot. The conversation between the two driver's ended and the Dodge's driver walked to his vehicle and prepared to leave. The Dodge's driver indicated that he checked his rearview and side view mirrors, turned his head to the right, looked over his right shoulder out of the backlight and began to back up. Meanwhile, the pedestrian and her sister ran around behind the other vehicle from its left side. The pedestrian approached the path of the Dodge from its left side, slipped and fell backwards landing immediately behind and in the path of the Dodge's left rear wheel as the Dodge was backing up. Simultaneously, the Dodge's driver heard the pedestrian's father yell "stop". The driver reacted to stop the vehicle at approximately the same time he felt the left rear wheel run over something. The Dodge's driver stopped the vehicle, got out and saw that the Dodge's left rear tire was on the pedestrian's left hip and abdomen area. The driver immediately got back in the Dodge and pulled it forward off of the pedestrian's body. The pedestrian's father then transported the pedestrian to a hospital where she was admitted for treatment of her injuries. The on-site investigation and a visibility study showed that the pedestrian had fallen down well within the blind zone behind the Dodge. As a result, the Dodge's driver was unable to see the pedestrian as he backed up looking over his right shoulder through the backlight.

CRASH CIRCUMSTANCES

Crash Environment: This incident occurred in the parking lot of a rural commercial business on the south side of the commercial building. The parking lot of the business was located adjacent to a state highway. The parking lot was level and composed of dirt and gravel and did not have designated parking spaces. There was one other vehicle parked in the parking lot at the time of the incident. The vehicles were parked parallel to each other facing east, and the Dodge was on

the passenger side of the other vehicle. The southwest corner of the building was located approximately 12 meters (~39 feet) north of the Dodge (**Figure 1**). The distance between the two vehicles was estimated to be approximately 2 meters (~7 feet). At the time of the incident the light condition was daylight, the surface condition was dry, the atmospheric condition was partly cloudy, and the temperature was approximately 0 degrees Celsius (32 degrees Fahrenheit). The site of the incident was rural, undeveloped. See the Scene Diagram at the end of this report.

Pre-Crash: The Dodge Dakota's driver was conversing with the father of the pedestrian at the outside southwest corner of the building. As this was occurring, the pedestrian and her sister were running about playing in the parking lot. The conversation between the pedestrian's father and the Dodge's driver ended, and the Dodge's driver walked around the front end of the other vehicle and approached the Dodge from the left front. According to the driver, as he was approaching the Dodge, he observed the pedestrian and her sister standing near the open left front door of the other vehicle. He thought they were about to enter the other vehicle. The Dodge's driver indicated that he entered his vehicle through the left front door and started the vehicle almost immediately. The driver then put on his safety belt. The driver stated he checked his rearview mirror and both side view mirrors, turned his head to the right, looked over his right shoulder out of the backlight (**Figure 2**) and began to back up. The driver indicated his intent was to back counterclockwise to turn around, and then pull forward into the roadway. The driver estimated the time between entering his vehicle and the beginning of the backing maneuver was between 11-30 seconds. He also estimated that the time between starting to back up and the impact was between 2 to 5 seconds. The police crash report indicated that the driver was not under the influence of alcohol or drugs. In addition, there was no indication on the police crash report that an alcohol or drug test was given. The incident occurred in the parking lot as the driver backed up the Dodge.

Crash: Just prior to the Dodge Dakota's driver backing up, the pedestrian and her sister ran around behind the other vehicle from its left side and approached the path of the Dodge from its left side. The pedestrian then slipped and fell backwards landing immediately behind and in the path of the Dodge's left rear wheel as the Dodge was backing up. She landed on her back with her head toward the north and her lower torso directly in the path of the Dodge's left rear wheel. Simultaneously, the Dodge's driver heard the pedestrian's father yell "stop". Based on the



Figure 1: View northeast to incident site and Dodge, which is parked in approximate same location as at time of incident



Figure 2: View out of Dodge's backlight from driver's seat

driver's interview, he reacted and began to stop the vehicle at approximately the same time he felt the left rear wheel (Figure 3) run over something. It is this contractor's opinion that when the pedestrian saw the Dodge backing and heard her father yell stop, she tried to stop and her feet slipped out from under her on the gravel and she fell backwards. The Dodge's driver stopped the vehicle, got out and saw that the Dodge's left rear tire was on the pedestrian's left hip and abdomen area. The pedestrians father told the driver to pull the vehicle off of the pedestrian. The driver immediately got back in the Dodge and pulled it forward off of the pedestrian's body.

Based on the driver interview, the Dodge's impact speed was estimated to be approximately 2 km.p.h. (~ 1 mph). Based on the driver interview and the scene inspection, the distance from the Dodge's parked position to impact was determined to be approximately 2 meters (~ 7 feet). Based on the information that the pedestrian was struck only by the left rear wheel, and it was at rest partially on the pedestrians body, the distance from impact to final rest was estimated to be approximately 30 centimeters (~ 12 inches).

Post-Crash: The pedestrian was transported by her father to a hospital and admitted for treatment of her injuries. The driver of the Dodge reported that the pedestrian was hospitalized for at least five days and recovered from her injuries.

CASE VEHICLE

The 2006 Dodge Dakota SLT (Figures 4 and 5) was a four door, four wheel drive pickup truck (VIN: 1D7HW48N36S-----) equipped with a 4.7L, V8 engine and automatic transmission. The Dodge was equipped with anti-lock brakes. The front seating row was equipped with bucket seats with head restraints. The back seat was equipped with a split bench seat with separate back cushions. The back seat was also equipped with integral head restraints in the outboard seating positions. The back seat side windows and the backlight were both equipped with Original Equipment Manufacturer (OEM) tinted glass. The Dodge's manufacturer recommended tire size was P265/65R17, and the Dodge was equipped with



Figure 3: Dodge's left rear tire and back bumper, measurement tape is in tenths of meter



Figure 4: Overview of Dodge Dakota from front left



Figure 5: Overview of Dodge Dakota from back left corner

tires of this size. Lastly, the Dodge was not equipped with a backup/parking aid. The Dodge's specified wheelbase was 333 centimeters (131.3 inches). The specified rear overhang was 124 centimeters (48.8 inches) and the specified overall length was 556 centimeters (218.8 inches). The distance from the ground to bottom of the back bumper was measured as 45 centimeters (17.7 inches). The distance from the ground to the beltline was measured as 123 centimeters (48.4 inches). The distance from the ground to the top of the tailgate was measured as 124 centimeters (48.8 inches).

CASE VEHICLE DAMAGE

There was no evidence of pedestrian contact to the Dodge Dakota's's back bumper and no evidence of contact to any of the Dodge's rear undercarriage components or the left rear tire. Based on the driver interview indicating the left rear tire struck the pedestrian and the Collision Deformation Classification (CDC) guidelines for pedestrian impacts, a CDC was assigned as: **06-BLWN-4 (180 degrees)** to describe the left rear tire contact to the pedestrian. The Dodge was driven from the scene.

CASE VEHICLE DRIVER

The Dodge Dakota's driver was a White (non-Hispanic) 57-year-old male. He was 183 centimeters (72 inches) tall and weighed 95 kilograms (210 pounds). The driver was not wearing eyeglasses or sunglasses at the time of the incident. He indicated he was far sighted and wore glasses only for reading. He indicated he had driven the Dodge more than 10 times in the last three months. He also indicated that he had driven in this parking lot several times per month.

CASE VEHICLE VISIBILITY STUDY

A visibility study was conducted during the Dodge Dakota's inspection in order to determine the nominal blind zone behind the Dodge. In addition, the blind zones of the rearview mirror and both side view mirrors were also determined. The Dodge's driver assisted the SCI investigator in making the visibility observations. The driver's eye height was measured as 143 centimeters (56.1 inches) above the ground as he sat in the driver's seat. The standard 71 centimeters (28 inches) high target was used for the visibility observations. Please refer to the Nominal Visibility Diagram at the end of this report when reading the following discussion.

The blind zone behind the Dodge was determined by placing the target at the back of the vehicle and moving it rearward until it came into the driver's view as he looked over his right shoulder out of the backlight. The target had to be moved 6.7 meters (22 feet) rearward before



Figure 6: Arrow shows location of target where it was first visible to Dodge's driver as he looked over his right shoulder out of backlight

becoming visible to the driver (**Figure 6** above). When the target was moved 4.3 meters (14.1 feet) to the right of the Dodge's approximate centerline, it became obstructed by the back right head restraint (**Figure 7**). The head restraint was constructed with two rectangular cut-out sections located above and below a central solid cross-section. It was possible to see through these two small cut-outs in the head restraint, but these views were limited and were not assessed. The target had to be moved an additional 2.7 meters (8.9 feet) to the right of the centerline before it was visible once again at the right side of the head restraint. The target was moved an additional 0.8 meters (2.6 feet) to the right where it became obstructed by the right C-pillar and was not visible again until it was moved an additional 4 meters (13.1 feet) to the right, where it became visible through the right rear window. When the target was moved 1.3 meters (4.3 feet) to the left of the centerline, it became obstructed by the back left head restraint (**Figure 2** above). The target was not visible to the driver again because it was unnatural for him to turn his head any further to the right. The target was also placed at the back right corner of the Dodge and moved to the right. It could not be seen through the backlight because it was blocked by the right side of the truck bed. However, it became visible through the right rear window when moved out 3 meters (9.8 feet) from the back right corner.



Figure 7: View of Dodge's back left head restraint and view out of backlight from driver's seat



Figure 8: View through Dodge's rearview mirror from driver's seat

The driver was then asked to view behind the Dodge through the rearview mirror (**Figure 8**). The target was again moved rearward from the back center of the Dodge. The target was not visible to the driver until it had been moved 6.1 meters (20 feet) rearward. The target was then moved to the right of the Dodge's approximate centerline 1.6 meters (5.2 feet), where it became obstructed by the left edge of the back right head restraint. If moved further to the right, the target could be seen through the head restraint, but when moved 2.7 meters (8.9 feet) from the centerline, the target became obstructed by the right edge of the head restraint. The target could not be seen beyond this point because it was beyond the rearview mirror's field of view. The target was then moved to the left 1.1 meters (3.6 feet) where it became obstructed by the back left head restraint. The driver could not see beyond the back left head restraint because it was beyond the rearview mirror's field of view.

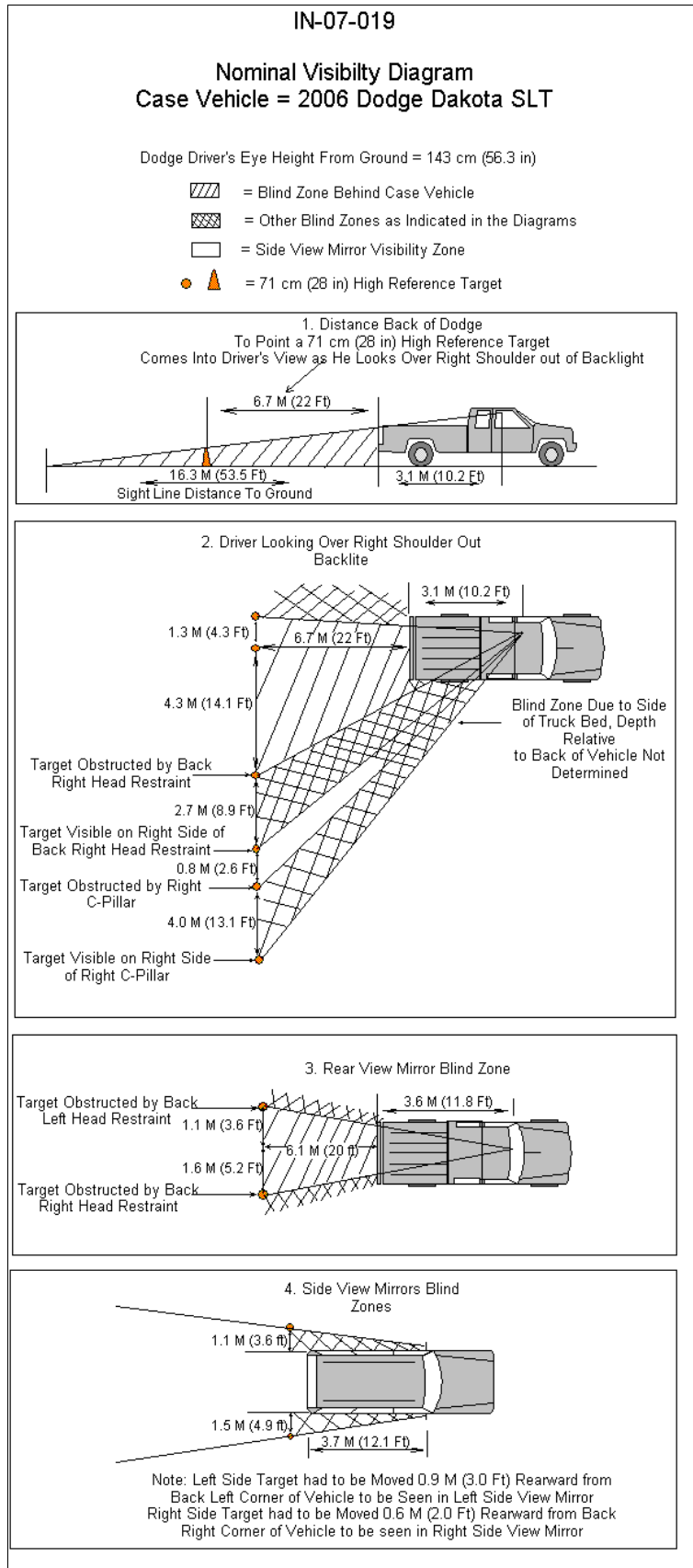
The left and right side view mirror blind zones were assessed by first placing the target at each back bumper corner of the vehicle. For the left side view mirror, the target had to be moved rearward 0.9 meter (3 feet) before the driver could see it in the mirror. It was then moved to the left 1.1 meter (3.6 feet) where it went out of the left side view mirror's field of view. For the

right side view mirror, the target had to be moved rearward from the back right bumper corner 0.6 meter (2 feet) before the driver could see it in the mirror. It was then moved to the right 1.5 meters (4.9 feet) where it went out of the right side view mirror's field of view and the driver could no longer see it. The driver did not have either mirror adjusted significantly inward.

The on-site investigation and the visibility study showed that the pedestrian had fallen down well within the blind zone behind the Dodge. As a result, the Dodge's driver would have been unable to see the pedestrian as he backed up looking over his right shoulder through the backlight.

PEDESTRIAN

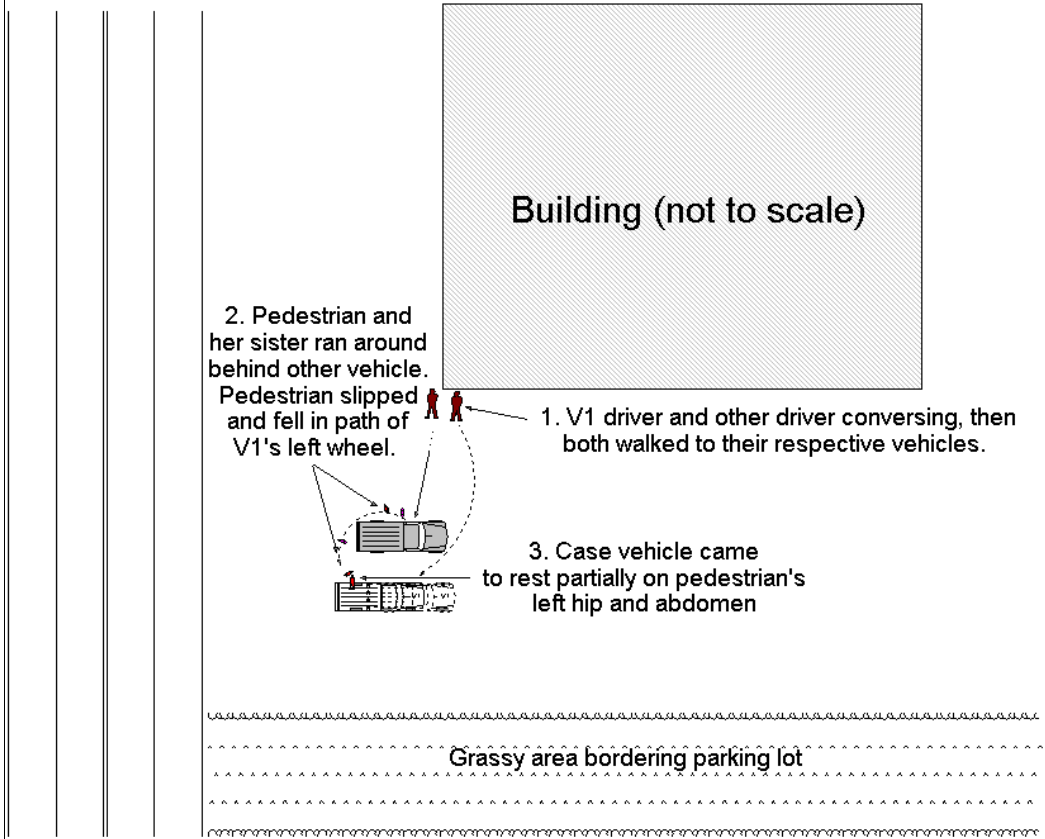
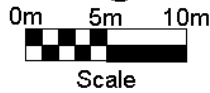
The pedestrian was a 5-year-old, (White, non-Hispanic) female. She was 91 centimeters (36 inches) tall and weighed 20 kilograms (45 pounds). The pedestrian was reportedly wearing a heavy jacket of unknown color, unknown type of pants and unknown color sneakers. She was transported by her father to a hospital and hospitalized for at least 5 days. The exact number of days she spent in the hospital is not known. There was no information regarding the pedestrian's injuries on the police crash report.





IN-07-019
Cloudy, Daylight
Dry, Level, Gravel/Dirt Parking Lot
Estimated Coefficient of Friction:
0.65

V1 = 2006 Dodge Dakota SLT





1. Case Number

IDENTIFICATION

2. Date of Crash ____ / ____ / ____

3. Time of Crash _____

Code reported military time of crash.

NOTE: Midnight = 2400
Unknown = 9999

AMBIENT CONDITIONS

4. Light Conditions

- Daylight
- Dark
- Dark but lighted
- Dawn
- Dusk
- Unknown

5. Atmospheric Conditions
(Select all that apply)

- Clear-No adverse conditions
- Cloudy
- Rain
- Snow
- Fog, Smog, Smoke
- Sleet, Hail (freezing rain or drizzle)
- Blowing Snow
- Severe Crosswinds
- Blowing Sand, Soil, Dirt
- Other (specify):
- Unknown

6. Temperature

- Below 0 degrees Celsius (Below 32 F)
- 1-10 degrees Celsius (33-50 F)
- >10-24 degrees Celsius (51-75 F)
- Over 24 degrees Celsius (Over 75 F)
- Unknown

SCENE INFORMATION

7. Type of area in which crash occurred

(Select all that apply)

- Single family residential
- Row houses/townhouses
- Multi family housing
- Commercial
- Industrial
- Rural
- Unknown

8. Driver exterior sightline obstructions

(Select all that apply)

- None
- Other vehicles
- Building
- Trees
- Shrubby
- Other (specify) _____
- Utility poles
- Signs
- Glare
- Unknown
- No driver present

9. Crash location

- Driveway
- Parking Lot
- Sidewalk
- Alley
- Intersection of driveway and sidewalk
- Road / street
- Roadside / shoulder
- Other (specify) _____
- Unknown

10. Non motorist sightline obstructions

(Select all that apply)

- None
- Other vehicles
- Building
- Trees
- Shrubby
- Utility poles
- Signs
- Glare
- Other (specify) _____
- Unknown

11. Grade at parked position _____ +/- %

12. Estimated distance from parked position to impact

_____ m

13. Estimated speed at impact _____ +/- kmph

+/-

14. Grade at impact _____ +/- %

15. Estimated distance from impact to vehicle final rest

_____ m

Unknown = 999 Reference Items 11,12, 13, 14, 15



1. Case Number _____

VEHICLE IDENTIFICATION

2. VIN _____

3. Model Year _____

4. Vehicle Make (specify): _____

5. Vehicle Model (specify): _____

GLAZING

Location	Presence (check)	Status (select)	Clarity (select)	Tint (check)	Glazing Obstructions (specify if present)
Windshield		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
LF		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
RF		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
2 nd Left		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
2 nd Right		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
3 rd Left		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
3 rd Right		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
Backlight		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
Left Backlight		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
Right Backlight		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
Roof		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		
Other (specify)		Fixed / Closed / Open / Partially Open / Unknown	Clear / Hazy / Very Dirty / Unknown		

TIRE DATA

6. Vehicle Manufacturer Recommended Tire Size _____

7. LF Tire Size _____

9. RF Tire Size _____

8. LR Tire Size _____

10. RR Tire Size _____

Seats / Head Restraint Data

Seat Position	Seat Type (Select from below)	Head Restraint (Check if available)	Head Restraint Adjustment (select)	NOTES:
Front Left			Full Down / Mid / Full Up	
Front Middle			Full Down / Mid / Full Up	
Front Right			Full Down / Mid / Full Up	
2 nd Left			Full Down / Mid / Full Up	
2 nd Middle			Full Down / Mid / Full Up	
2 nd Right			Full Down / Mid / Full Up	
3 rd Left			Full Down / Mid / Full Up	
3 rd Middle			Full Down / Mid / Full Up	
3 rd Right			Full Down / Mid / Full Up	

Seat Type codes:

- | | |
|-------------------------------------------|--------------------------------------|
| 0 = No seat or seat folded down | 8 = Pedestal (i.e. column supported) |
| 1 = Bucket | 9 = Box mounted (i.e. van type) |
| 2 = Bucket w/ folding back | 10= Other seat type (specify) |
| 3 = Bench | 99= Unknown seat type |
| 4 = Bench with folding back cushions | |
| 5 = Bench w/ folding back | |
| 6 = Split bench w/ separate back cushions | |
| 7 = Split bench w/ separate folding back | |

VEHICLE MEASUREMENTS

Clearance Heights	Measurements (all from ground, and in centimeters)	NOTES
Beltline		
Top of trunk/tailgate		
Bottom of bumper		
Trailer hitch (if applicable)		
Undercarriage		
Sway bar		
Axle		
Differential		
Other (specify):		
Sensor Height (if equipped)		
Camera Height (if equipped)		



1. Case Number

PARKING AID PRESENCE

2. Type of backing/parking aid present

- OEM camera
- OEM ultrasonic/radar sensor
- OEM combination camera-ultrasonic/radar sensor
- OEM Fresnel lens
- OEM interior mirrors
- Aftermarket camera
- Aftermarket ultrasonic/radar sensor
- Aftermarket combination camera-ultrasonic radar sensor
- Aftermarket Fresnel lens
- Aftermarket interior mirrors
- Other (specify): _____

CAMERA INFORMATION

Specify field of view measurements on diagram

3. System make/model

4. Video monitor type

- None present
- LCD (color)
- CRT (black & white)
- Unknown

5. Video display size _____ cm
(Diagonal)

6. Camera location

- None present
- Bumper
- License plate
- Tailgate/Hatch/Trunk
- Other (specify): _____

7. Video image quality under scene lighting conditions

- None present
- Good
- Average
- Poor (specify): _____
- Unknown

8. Was the camera functioning properly

- None present
- Yes
- No, poor image quality due to glare
- No, poor image quality due to atmospheric conditions
- No, camera turned off
- No, camera inoperable
- Unknown

ULTRASONIC/RADAR SENSOR

Specify object detection range on diagram

9. System make/model

10. Auditory warning illumination

- No sensor present
- Yes
- No
- Unknown

11. Number of sensors _____

12. Sensor locations
(Select all that apply)

- No sensor present
- Left bumper
- Center bumper
- Right bumper
- License plate area
- Tailgate/Hatch/Trunk

13. Was warning system functioning properly

- No sensor present
- Yes, system alerted driver
- No, system did not alert driver
- No, system turned off
- No, system inoperable
- Unknown

14. Did driver react to warning

- No sensor present
- Yes
- No
- Unknown

15. Did driver report common false warnings

- No sensor present
- Yes
- No
- Unknown



DRIVER FORM

1. Case Number

DRIVER PROFILE

2. Driver's Age _____
99 = Unknown

3. Driver's Sex Male
 Female
 Unknown

4. Driver's Height _____ cm
999 = Unknown

5. Driver's Weight _____ kg
999 = Unknown

6. Driver eyewear worn
(Select all that apply)
 None
 Eyeglasses
 Sunglasses
 Contacts
 Unknown

7. Driver vision deficiency condition
(Select all that apply)
 None
 Near sighted
 Far sighted
 Astigmatism
 Other (specify): _____
 Unknown

8. Non motorist's relationship to driver
 No relationship
 Child
 Grandchild
 Sibling
 Neighbor
 Friend
 Other (specify): _____
 Unknown

DRIVER ACTIONS

9. Driver approach to vehicle for entry
From left front
 From left
 From left rear
 From right rear
 From right front
 Circled vehicle
 Return trip (backing into driveway/lot)
 Other (specify): _____
 N/A
 Unknown

10. Driver entry interruption
(Select all that apply)
 Direct trip from building to vehicle
 Loaded items into vehicle
 Spoke with family
 Spoke with neighbors
 Spoke with contacted nonmotorist
 Return trip (backing into driveway/lot)
 Other (specify): _____
 N/A
Unknown

11. Purpose of backing
 Leaving parking space in parking lot
 Backing onto roadway from driveway
 Entering parking space in parking lot
 Backing into driveway from roadway
 Other (specify): _____
 N/A
Unknown

12. Where was driver going
Description:

13. Driver in a hurry
 Yes N/A
 No Unknown
 Unknown

14. How did driver check behind (rear area of vehicle)
after vehicle entry
(Select all that apply)
 Did not look
 Checked mirrors
 Turned right and looked back
 Turned left and looked back
Viewed Camera
Listened for auditory/visual warning from
system
 Other (specify): _____
N/A Unknown

15. Estimated time between vehicle entry and start
of backing
 0-10 Seconds Over 60 Seconds
 11-30 Seconds N/A
 31-60 Seconds Unknown

16. What direction was the driver looking during backing maneuver
(Select all that apply)
- Straight ahead
 - Right
 - Left
 - Rearward
 - At object inside the car
 - At mirrors
 - Other (specify): _____
 - N/A
 - Unknown
17. Was the driver distracted during back up maneuver
(Select all that apply)
- No non-driving activities
 - External**
 - Looking at other vehicles
 - Looking at other non motorist
 - Looking at intended turn destination
 - External focus, not specified
 - Other external focus (specify): _____
 - Internal**
 - Looking at other occupant
 - Talking to passenger
 - Dialing phone
 - Talking on phone
 - Listening to radio/cd/portable playback device
 - Adjusting radio/cd player
 - Adjusting climate controls
 - Using a device/controls integral to vehicle (specify): _____
 - Reading/adjusting navigation system
 - Eating or drinking
 - Smoking related
 - Retrieving fallen object (specify): _____
 - Internal focus, not specified
 - Focused on other internal object (specify): _____
 - N/A
 - Unknown
18. Driver avoidance actions prior to impact
(Select all that apply)
- None
 - Braking
 - Steering left
 - Steering right
 - Accelerating
 - Other (specify): _____
 - N/A
 - Unknown
19. Did driver see struck non motorist prior to impact
(Select all that apply)
- No, never saw non motorist
 - Saw non motorist prior to entering vehicle
 - Saw non motorist after entering vehicle
 - Other (specify): _____
 - N/A
 - Unknown
20. Est time between start of backing and impact
- <2 or = 1 second
 - 2-5 seconds
 - 6-10 seconds
 - > 10 seconds
 - N/A
 - Unknown
21. Driver interior sightline obstructions
(Select all that apply)
- Pillar
 - Headrest
 - Cargo
 - Other occupant
 - Other (specify) _____
 - Unknown
 - None
22. Recent experience driving this vehicle
- More than 10 times the last three months
 - 6-10 times the last three months
 - 2-5 times the last three months
 - Less than 2 times the last three months
 - First time driving this vehicle
 - N/A
 - Unknown
23. Frequency of driving in this parking lot/driveway
- Daily
 - Weekly
 - Several times a month
 - Monthly
 - Rarely
 - First time in lot/driveway
 - N/A
 - Unknown
24. Driver Impairment
(Select all that apply)
- No drugs or alcohol present
 - Alcohol present (specify BAC): _____
 - Drugs present (specify): _____
 - Unknown
25. Source of alcohol/drug results
- Police reported
 - Medical record
 - Other (specify) _____
 - Not Tested
 - Unknown if tested



Non Motorist Form

1. Case Number

NON-MOTORIST PROFILE

2. Non-motorist's Age _____ Months
99 = Unknown _____ Years

3. Non-motorist's Sex
 Male
 Female
 Unknown

4. Non-motorist's Height _____ cm
999 = Unknown

5. Non-motorist's Weight _____ kg
999 = Unknown

6. Medical outcome
 Not injured
 ER only
 Hospitalized 1-4 days
 Hospitalized 5 days or more
 Treatment later
 Fatal
 Unknown

7. Source of most severe injury
 Bumper
 Tire
 Undercarriage
 Other Specify: _____
 Ground
 N/A
 Unknown

8. Non-motorist impairment
(Select all that apply)
 No drugs or alcohol present
 Positive for alcohol (specify BAC): _____
 Positive for drugs (specify): _____
 Unknown

9. Source of alcohol/drug results
 Police reported
 Medical Report
 Other (specify) _____
 Not Tested
 Unknown if tested

NON-MOTORIST ACTIONS

10. Non-motorist attitude
 Standing
 Bending at waist
 Sitting
 Crouching
 Kneeling
 On skates/skateboard
 On bike/scooter
 Other (specify) _____
 Unknown

11. Non-motorist motion
 Not moving
 Walking slowly
 Walking rapidly
 Running or jogging
 Skipping/Hopping/Jumping
 Falling Stumbling/Rising
 On skates/skateboard
 On bike/scooter
 Other (specify): _____
 Unknown

12. Non-motorist approach relative to rear of vehicle
 Stationary
 From left
 From right
 From behind
 Other (specify): _____
 Unknown

13. Non-motorist first avoidance action
 No avoidance actions
 Stopped
 Accelerated pace
 Ran away (along vehicle path)
 Jumped
 Turned away from vehicle
 Turned toward vehicle and braced
 Dove or fell away from vehicle
 Other (specify): _____
 Unknown

14. Non-motorist primary focus of attention
 Striking vehicle
 Play object
 Person
 Surrounding traffic
 Animal
 Handheld electronic (phone, MP3 player, etc.)
 Other Object (specify) _____
 Unknown

15. Were any other Non-motorists present?
(Select all that apply)
 Alone
 One adult present
 One other child present
 Multiple adults present
 Multiple children present
 Unknown

NON MOTORIST CLOTHING

NOTES:

- Specify Color, Fabric and Texture/Weight for outermost layer only
- Indicate "NONE" if applicable
- Available codes:

	<u>Colors</u>		<u>Fabrics</u>		<u>Textures</u>		<u>Weights</u>
Black	Charcoal gray		Natural		Soft		Heavy
Lt gray/silver	Brown		Synthetic		Slick		Medium
Gold/tan	Purple		Blend		Coarse		Light
Dark blue	Light blue						
Dark green	Light green						
Maroon	Red						
Orange	Yellow						
White	Other (specify)						

	Clothing	Color	Fabric	Texture	Weight
H E A D W E A R	Hat				
	Helmet				
	Hood				
	Other (specify): _____				
U P P E R B O D Y	Short Sleeve				
	Long Sleeve				
	Light Jacket				
	Heavy Jacket				
	Other (Specify): _____				
L O W E R B O D Y	Shorts				
	Pants				
	Shoes				
	Other (specify): _____				