Remote Not In Traffic Surveillance Back Over Investigation
Dynamic Science, Inc. / Case Number: DS07021
2006 Chrysler 300
California
March 2007

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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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16. Abstract

This Remote Not in Traffic Surveillance (NITS) investigation was initiated in response to an online news article reporting the serious injury of a 3-year-old female involved in a back over incident. This single vehicle incident occurred in March 2007. The subject vehicle was a 2006 Chrysler 300 four-door sedan. The incident took place on an urban roadway in front of the driver's residence. The weather was clear and calm at the time of the incident. The roadway was dark but streetlights were present and on. The Chrysler was being driven by a 25-year-old male. The involved child was 2-years-11months-old. The driver was traveling eastbound on the urban roadway and was attempting to park his vehicle along the south curb line in front of his residence. As the driver of the Chrysler stopped his vehicle, he observed a vehicle attempting to pull out of his driveway. The Chrysler was partially blocking the driveway entrance and the driver needed to back up to allow room for the second vehicle to pull out. The 3-year-old female child was initially standing on the sidewalk directly in front of the residence. The driver indicated that he looked behind his vehicle and saw the child and felt that it was safe to back up to allow the other vehicle to pull out. The driver of the Chrysler began backing. The child left her position on the sidewalk and ran into the street behind the backing Chrysler. The driver recalled a "bump" and thought he may have struck the curb. The driver put his vehicle into DRIVE and pulled forward and made a U-turn to park along the north curb line, across the street from the residence. As he was turning, he looked to his left and observed that he had struck his daughter. The child sustained serious head injuries. She was transported to a local hospital where she was admitted and hospitalized.

17. Key Words	18. Distribution Statement
Not in Traffic Surveillance, back over, injury	

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Dynamic Science, Inc.
Crash Investigation
Case Number: DS07021

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BACKGROUND

This Remote Not in Traffic Surveillance (NITS) investigation was initiated in response to an online news article reporting the serious injury of a 3-year-old female involved in a back over incident. DSI was notified of the article on April 12, 2007. The investigating police agency was contacted. The police report was obtained on April 22, 2007. DSI was assigned the case on May 9, 2007. On scene photographs were requested and were obtained. The scene was inspected during an in-person interview attempt. This incident occurred on public property. According to the investigating police agency, all collisions occurring on public property are reported to the state.

Figure 1. Subject vehicle, 2006 Chrysler 300

This single vehicle incident occurred in March 2007 at 1936 hours. The subject vehicle was a 2006 Chrysler 300 four-door sedan (**Figure 1**). The incident took place on an urban roadway in front of the driver's residence. The weather was clear and calm at the time of the incident. The roadway was dark but streetlights were present and on. The Chrysler was being driven by a 25-year-old male. The involved child was 3 years old and was the daughter of the driver. The driver was traveling eastbound on the urban roadway and was attempting to park his vehicle along the south curb line in front of his residence. As the driver of the Chrysler stopped his vehicle, he observed a vehicle attempting to pull out of his driveway. The Chrysler was partially blocking the driveway entrance and the driver needed to back up to allow room for the second vehicle to pull out. The 3-year-old female child was initially standing on the sidewalk directly in front of the residence, approximately 0.6-0.9 m (2-3 ft) from the south curb line. The driver indicated that he looked behind his vehicle and saw the child and felt that it was safe to back up to allow the other vehicle to pull out. The driver of the Chrysler began backing. The child left her position on the sidewalk and ran into the street behind the backing Chrysler. The driver recalled a "bump" and thought he may have struck the curb. The driver put his vehicle into DRIVE and pulled forward and made a U-turn to park along the north curb line, across the street from the residence. As he was turning, he looked to his left and observed that he had struck his daughter. The child sustained serious head injuries. She was transported to a local hospital where she was admitted and hospitalized.

SUMMARY

Incident Site

The incident took place on an east/west urban roadway (**Figure 2**). The roadway was configured with two lanes in each direction that were separated by a double row of raised yellow pavement markers. The travel lanes were separated by single rows of raised white pavement markers. Just east of the area of impact, the yellow pavement markers shift to the south to accommodate a left turn lane. The roadway was bordered on both sides by raised concrete curbs. The curb at the area of impact is painted red, indicating a No Parking area. To the south of the roadway, there is a 1.8 m

(6 ft) concrete sidewalk, followed by a 1.2 m (4 ft) high chain link fence. The incident took place during darkness, just after sunset[1]. The weather was clear and dry. The temperature at the nearest reporting station was 18 degrees C (65 degrees F). The asphalt roadway was dry and level. The area where the incident occurred was illuminated with streetlights. The closest streetlight was on the north side of the roadway, directly across the street from the driveway. The posted speed limit for the urban roadway was 56 km/h (35 mph).

Figure 2. Overview of vehicle backing path (west)

Pre Crash

The Chrysler was being driven by a 25-year-old male. The involved child was 3 years old and was the daughter of the driver. The driver was returning home from work. He had moved into this residence a week earlier. The driver was initially traveling eastbound on the urban roadway and was attempting to park his vehicle along the south curb line in front of his residence. As the driver of the Chrysler stopped his vehicle, he observed a vehicle attempting to pull out of his driveway. The Chrysler was partially blocking the driveway entrance and the driver needed to back up to allow room for the second vehicle to pull out. The 3-year-old female child was initially standing on the sidewalk directly in front of the residence, approximately 0.6-0.9 m (2-3 ft) from the south curb line. The driver indicated that he looked behind his vehicle and saw the child and felt that it was safe to back up to allow the other vehicle to pull out. The driver of the Chrysler began backing.

Crash

The child left her position on the sidewalk and ran into the street and into the path of the Chrysler as it was backing. The child would have been in the driver's blind spot at this time. The driver's vision was likely degraded due to the vehicle's tinted windows, but he did report that he was able to see the child before backing. It is not known why the child left the sidewalk, but police investigators indicated that it was most likely that she was excited to see her father get home from work and was running to meet him at the driver's door of the vehicle. The driver reported a backing speed of 3.2-4.8 km/h (2-3 mph). The Chrysler traveled rearward approximately 5.1 m (16.7 ft). The driver recalled a "bump" and thought he may have struck the curb. The child was struck by the right rear bumper, knocked down, and likely hit her head on the curb (**Figure 3**).

Figure 3. Area of impact (looking east)

[1]Sunset was at 1913 hours, per U.S. Naval Observatory

The driver indicated that he may have also ran over her body in some fashion.

Post Crash

After the impact, the driver put his vehicle into DRIVE and pulled forward and made a U-turn to park along the north curb line (**Figure 4**), across the street from the residence. As he was turning, he looked to his left and observed that he had struck his daughter. The driver exited the vehicle and ran to the child who was lying near the curb (**Figure 5**). At this same time, a police patrol vehicle drove up to the scene while on their way to an unrelated call. The driver moved aside to allow the police officers to assist the injured child. The child sustained serious head injuries. She was transported to a local hospital where she was admitted and hospitalized for an unknown number of days.

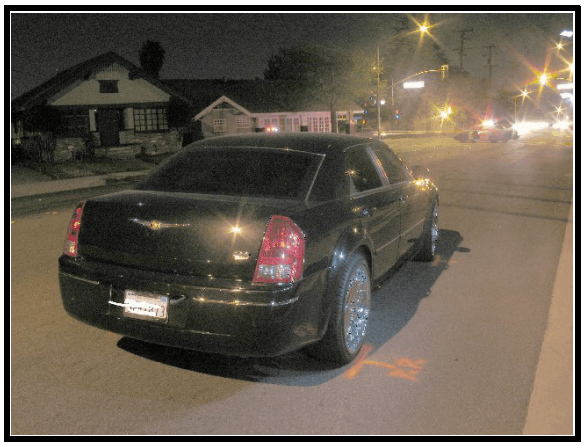


Figure 4. Chrysler 300 at final rest (west)

Figure 5. Final rest of pedestrian/non-motorist (south)

VEHICLE DATA - 2006 Chrysler 300

The 2006 Chrysler 300 was identified by the Vehicle Identification Number (VIN): 2C3KA53GX6Hxxxxxx. The vehicle had been driven 23,292 km (14,473 miles). The Chrysler 300 was a 5-passenger, four-door sedan that was equipped with 3.5 liter, 6-cylinder engine, a 4-speed automatic transmission, rear wheel drive, and disc brakes. There was dark tinting on all the windows with the exception of the windshield (**Figure 6**). The Chrysler 300 was configured with P265/35R22 tires that were mounted on after market chrome rims. The original tire configuration for this vehicle is P215/65R17. The P265/35R22 tire has an outside diameter of 74.4 cm (29.3 in); the P215/65R17 tire has an outside diameter of 71.1 cm (28.0 in). According to the police report, all four tires mounted on the Chrysler were in good condition and within the legal tread depth.

Figure 6. Left side, Chrysler 300, side glass tinting

Vehicle Dimensions

Dimensions obtained from Canadian vehicle specifications and an exemplar vehicle. Eye height was estimated using male of similar stature and the seat height of the exemplar vehicle.

Ground to belt line:	109 cm (42.9 in)
Ground to top of trunk/tailgate:	115 cm (45.3 in)
Ground to top of rear bumper:	73 cm (28.7 in)
Ground to bottom of rear bumper:	33 cm (12.9 in)
Ground to sway bar:	N/A
Ground to axle:	N/A
Driver's seated eye height:	122 cm (48 in)
Eye position (seated forward facing):	Estimated 10 cm (3.9 in)
Overall vehicle height:	148 cm (58.3 in)
Overall vehicle width:	188 cm (64.0 in)
Overall vehicle length:	500 cm (196.9 in)
Rear overhang:	110 cm (43.3 in)
Track width:	160 cm (63.1 in)
Longitudinal distance between the center of the rear bumper and the center of the base of the backlight:	59 cm (23.2 in)

Parking Aids/Sensors

The subject vehicle was not equipped with any parking aids or backing up sensor/video technology. Parking aid was available as on option for this vehicle.

Vehicle Sight Distances

A visibility study was conducted in order to determine the nominal blind zone behind the vehicle as well as the nominal blind zone of both side view mirrors. Measurements were taken using an exemplar 2006 Chrysler 300 four-door sedan. The exemplar vehicle did not have tinted windows like the subject vehicle. The standard 71 cm (28 in) high target was used to obtain the measurements. The measurements were taken on a paved level surface.

The driver's seated eye height when measured from the seat cushion was 68 cm (27 in) and when measured from the ground was 122 cm (48 in). The SCI investigator was able to duplicate the driver's seated eye height by measuring his own eye height from the seat cushion and ground.

The initial set of measurements were taken as if the driver were looking over his right shoulder through the backlight. The target was moved rearward from the back bumper along the vehicle's centerline until it became visible to the investigator. The point at which the target became visible to the investigator measured 7.32 m (24.0 ft) rearward of the back bumper. This measurement was used as the point of origin for two sets of lateral measurements which were then taken. Measurements taken laterally to the left and right would result in a visibility zone that could be viewed through the backlight. The second row head restraints and the center high-mounted stop lamp partially blocked the investigator's rearward vision through the backlight (**Figure 7**). The lateral measurements were taken from the vehicle's center line to the left and right sides of the backlight until the target was out of view either due to the presence of the head restraints, center high-mounted stop lamp or the C-pillars. At 7.32 m (24.0 ft) rearward of the back bumper, the left lateral aspect of the visibility zone fell between the lamp and the left rear head restraint and measured 1.47 m (4.8 ft) in width. The right lateral aspect fell between the lamp and the right rear head restraint and measured 1.73 m (5.7 ft) . The blind zone created by the lamp was 0.94 m (3.1 ft) in width. The distance at which the roadway surface became visible to the driver when looking though the backlight was estimated to be 17.92 m (58.8 ft).

Figure 7. View over right shoulder, exemplar vehicle

Another set of measurements were taken to simulate the driver using the rear view mirror to look through the backlight. The target was moved rearward from the back bumper along the vehicle's centerline until it became visible to the investigator. The point at which the target became visible to the investigator measured 6.86 m (22.5 ft) rearward of the back bumper. This measurement was used as the point of origin for a set of lateral measurements which were then taken. Measurements taken laterally to the left and right would result in a visibility zone that could be viewed through the backlight. The lateral measurements were taken from the vehicle's center line to the left and right sides of the backlight until the target was out of view either due to the presence of the head restraints, center high-mounted stop lamp or the C-pillars. At 6.86 m (22.5 ft) rearward of the back bumper, the left lateral aspect of the visibility zone measured 0.93 m (3.1 ft) in width.. The right lateral aspect measured 0.94 m (3.1 ft). The blind zone created by the lamp was 0.65 m (2.1 ft) in width.

Since the SCI investigator was using an exemplar vehicle, he adjusted the side mirrors appropriately for the driver's seated eye height. With the SCI investigator seated, the side views were examined. The target was placed at the right side of the back bumper. The target was moved from the side of the vehicle laterally to the right until the target became visible through the right side view mirror. The target was then moved laterally to the right to the point where the target was no longer visible. These measurements resulted in a visibility zone which could be viewed through the side view mirror (**Figure 8**). This process was repeated on the left side of the vehicle. The area between the left and right visibility zones resulted in a blind zone. Directly behind the back bumper, the blind zone measured 1.9 m (6.2 ft) in width. The overall width of the vehicle was 1.88 m (6.2 ft). The target was then placed at 7.93 m (26.0 ft) rearward of the back bumper. Lateral measurements were

taken to the left and right at the points at which the investigator could view the target through the side view mirrors. The area between the two visible points resulted in a blind zone. At 7.93 m (26.0 ft) rearward of the rear bumper, the blind zone was approximately 1.2 m (4.0 ft) in width. The target was then moved further to the left and right until it could no longer be viewed through the rear view mirrors. The areas to the left and right in which the target could be viewed resulted in side view visibility zones. At 7.93 m (26.0 ft) rearward of the rear bumper, the resulting visibility zones measured 2.95 m (9.7 ft) for the left side and for the right side 3.69 m (12.1 ft).

A nominal visibility diagram is included on the following page (**Figure 9**).

Figure 8. View through right side view mirror, exemplar vehicle

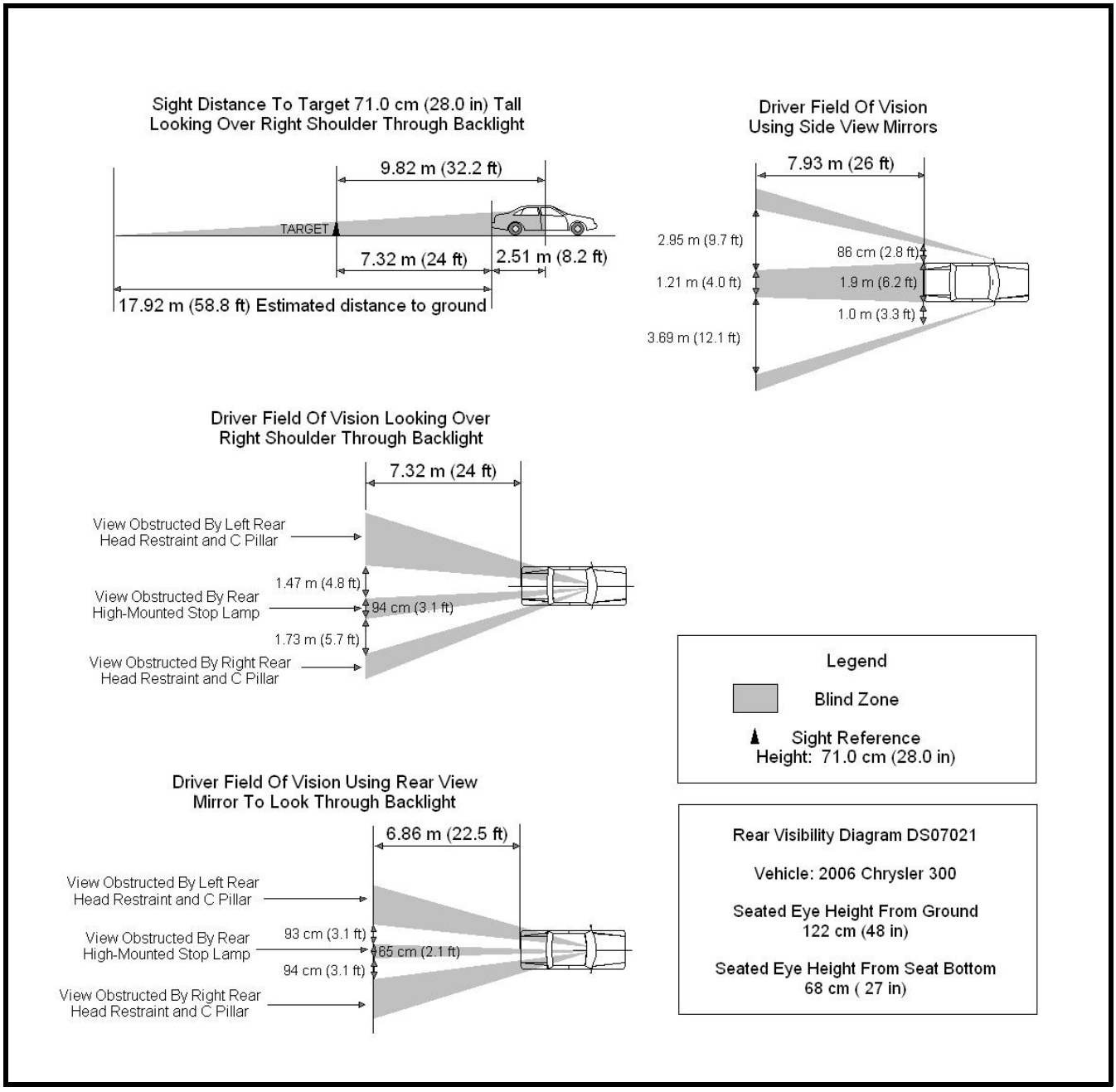


Figure 9. Nominal visibility diagram

Vehicle Damage

Exterior Damage - 2006 Chrysler 300

There was no exterior damage to the vehicle. There was some light scuffing located on the right rear bumper corner area (**Figure 10**). There was also some light scuffing along the sill area just forward of the right rear tire (**Figure 11**).

Figure 10. Scuffing to right rear bumper

Figure 11. Scuffing to area forward of right rear tire

Interior Damage - 2006 Chrysler 300

There was no interior damage.

Driver Demographics

Age/Sex:	25/Male
Height:	168 cm (66 in)
Weight:	84 kg (185 lbs)
Seat track position:	Unknown
Manual restraint use:	Lap and shoulder belt used
Usage source:	Police report
Type of medical treatment:	None

Non-Motorist Demographics

Age/Sex:	3/Female
Height:	91 cm (36 in)
Weight:	18 kg (40 lbs)
Type of medical treatment:	Transported to local hospital, hospitalized for unknown number of days

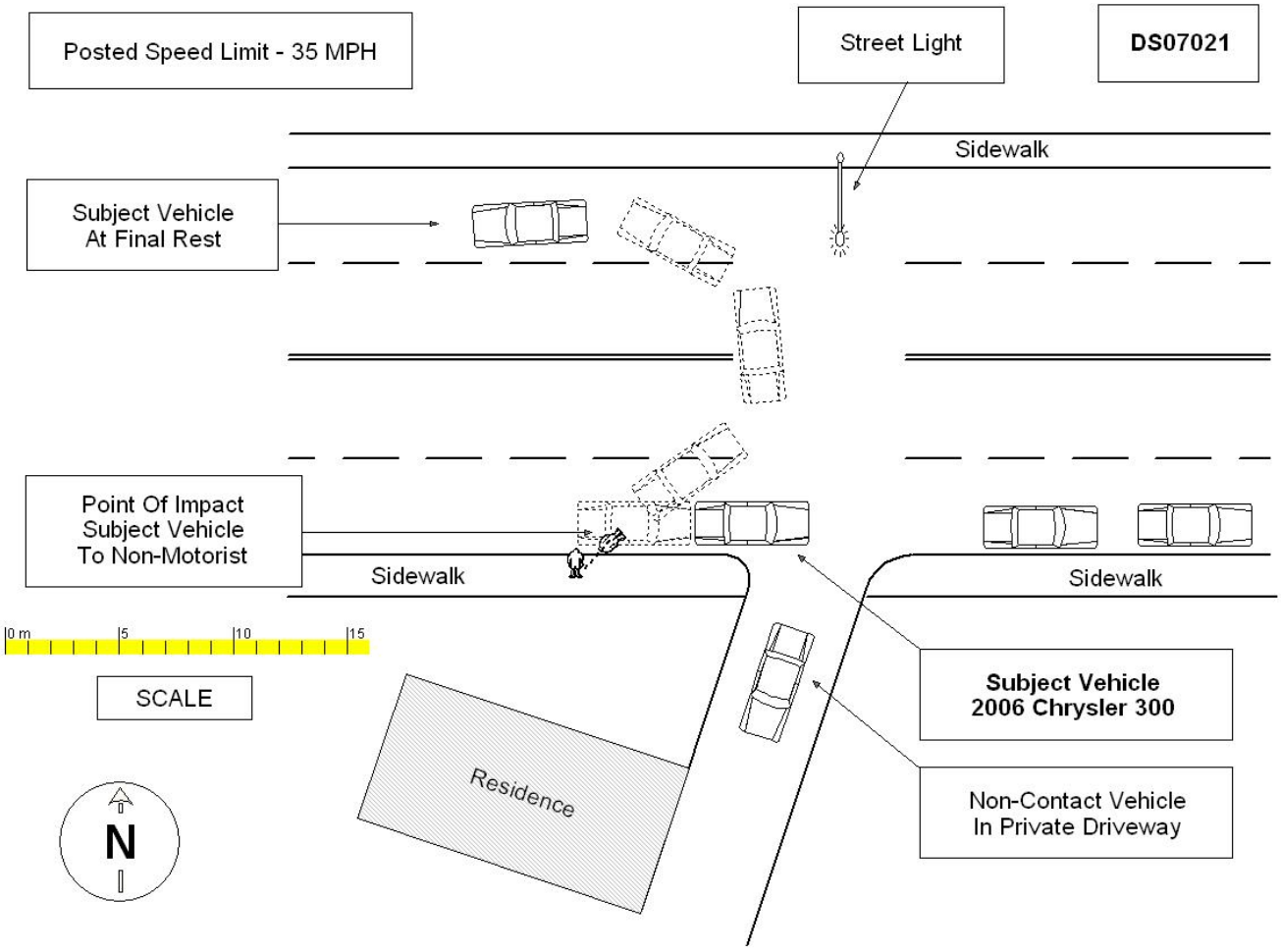
INJURIES - 2006 Chrysler 300

Driver: Not injured.

Non-motorist: Injuries obtained from police report.

Injury	AIS Code	Injury Mechanism	Confidence Level
Severe head injury	115099.7,0	Ground	Probable

Attachment 1. Scene Diagram



Attachment 2. Field Data Forms

Not Applicable ☐

Reset Values | Print Forms

U.S. Department of Transportation
National Highway Traffic Safety Administration

SCENE FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

D S 0 7 0 2 1

IDENTIFICATION

2. Date of Crash 0 3 / X X / 0 7

3. Time of Crash 1 9 3 6

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
- ☐ Shrubbery
- ☐ Other (specify)_____
- ☐ Utility poles
- ☐ Signs
- ☐ Glare
- ☐ Unknown
- ☐ No driver present

9. Crash location

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

10. Non motorist sightline obstructions
(*Select all that apply)*

- ☉ None
- ☐ Other vehicles
- ☐ Building
- ☐ Trees
- ☐ Shrubbery
- ☐ Utility poles
- ☐ Signs
- ☐ Glare
- ☐ Other (specify) _____
- ☐ Unknown

11. Grade at parked position + / - 0 0 0 %

12. Estimated distance from parked position to impact

0 0 5 . 1 m

13. Estimated speed at impact 0 0 4 kmph

14. Grade at impact +/ - 0 0 0 %

15. Estimated distance from impact to vehicle final rest

0 2 3 . 5 m

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

Not Applicable ☐

Reset Values

U.S. Department of Transportation
National Highway Traffic Safety Administration

VEHICLE FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number D S 0 7 0 2 1

VEHICLE IDENTIFICATION

2. VIN 2 C 3 K A 5 3 G X 6 H X X X X X X

3. Model Year 2 0 0 6

4. Vehicle Make (specify): CHRYSLER

5. Vehicle Model (specify): 300 FOUR DOOR SEDAN

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	☑	aftermarket tint
RF	☑	☐ Fixed / ☑ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☑ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☑	aftermarket tint
2nd Left	☑	☐ Fixed / ☑ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☑ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☑	aftermarket tint
2nd Right	☑	☐ Fixed / ☑ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☑ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☑	aftermarket tint
3rd Left	☐	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☐	
3rd Right	☐	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☐	
Backlight	☑	☑ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☑ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☑	aftermarket tint
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 P215/65R17

7. LF Tire Size P265/35R22

9. RF Tire Size P265/35R22

8. LR Tire Size P265/35R22

10. RR Tire Size P265/35R22

Seats / Head Restraint Data

Seat Position	Seat Type (Select from below)	Head Restraint (Check if available)	Head Restraint Adjustment (select)	NOTES:
Front Left	1	☑	☐ ☐ ☐ Full Down / Mid / Full Up	UNKNOWN ADJUSTMENT POSITION
Front Middle	0	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
Front Right	1	☑	☐ ☐ ☐ Full Down / Mid / Full Up	
2nd Left	3	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
2nd Middle	3	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
2nd Right	3	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
3rd Left	0	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
3rd Middle	0	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
3rd Right	0	☐	☐ ☐ ☐ Full Down / Mid / Full Up	

Seat Type codes:

0 = No seat or seat folded down
1 = Bucket
2 = Bucket w/ folding back
3 = Bench
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
8 = Pedestal (i.e. column supported)
9 = Box mounted (i.e. van type)
10= Other seat type (specify)
99= Unknown seat type

VEHICLE MEASUREMENTS

Clearance Heights		Measurements (all from ground, and in centimeters	NOTES
Beltline		109	
Top of trunk/tailgate		115	
Bottom of bumper		33	
Trailer hitch (if applicable)		N/A	
Undercarriage			
	Sway bar	N/A	
	Axle	N/A	
	Differential	N/A	
	Other (specify): _____	N/A	
Sensor Height (if equipped)		N/A	
Camera Height (if equipped)		N/A	

Not Applicable ☑

Undo Not Applicable

Reset Values

U.S. Department of Transportation
National Highway Traffic Safety Administration

Back Up / Parking Aid Form

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

D S 0 7 0 2 1

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

Not Applicable

No Driver Present ☐

Reset Values

U.S. Department of Transportation
National Highway Traffic Safety Administration

DRIVER FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

D S 0 7 0 2 1

DRIVER PROFILE

2. Driver's Age 2 5
99 = Unknown

3. Driver's Sex
- ◉ Male
- ☐ Female
- ☐ Unknown

4. Driver's Height 1 6 8 cm
999 = Unknown

5. Driver's Weight 0 8 4 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): RETURNING HOME
- ☐ 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): MAKING ROOM FOR VEH
- ☐ N/A
- ☐ Unknown

12. Where was driver going
Description:

RETURNING HOME, MOVING VEHICLE OUT OF THE WAY

13. Driver in a hurry
- ☐ Yes
- ☐ No
- ☐ N/A
- ◉ 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
- ☐ 11-30 Seconds
- ☐ 31-60 Seconds
- ☐ Over 60 Seconds
- ◉ N/A
- ☐ 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

Not Applicable ☐

U.S. Department of Transportation
National Highway Traffic Safety Administration

Non Motorist Form

Reset Values

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number
D S 0 7 0 2 1

NON-MOTORIST PROFILE

2. Non-motorist's Age — 0 3 ☐ Months ◉ Years
99 = Unknown

3. Non-motorist's Sex
☐ Male
◉ Female
☐ Unknown

4. Non-motorist's Height — 0 9 1 cm
999 = Unknown

5. Non-motorist's Weight — 0 4 0 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:

Colors		***Fabrics***	***Textures***	***Weights***
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)			
Pink				

	Clothing	Color	Fabric	Texture	Weight
HEADWEAR	Hat				
	Helmet				
	Hood				
	Other (specify): _____				
	Unknown	Unknown	Unknown	Unknown	Unknown
UPPER BODY	Short Sleeve				
	Long Sleeve				
	Light Jacket				
	Heavy Jacket				
	Other (Specify): _____				
	Unknown	Unknown	Unknown	Unknown	Unknown
LOWER BODY	Shorts				
	Pants				
	Shoes				
	Other (specify): _____				
	Unknown	Unknown	Unknown	Unknown	Unknown