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ON-SITE NOT IN TRAFFIC SURVEILLANCE BACK OVER INVESTIGATION

CASE NUMBER - IN08002
LOCATION - ARKANSAS
VEHICLE - 2004 HONDA ELEMENT
CRASH DATE - December, 2007

Submitted:

February 26, 2008
Revised: March 27, 2008

Contract Number: DTNH22-07-C-00044

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
National Center for Statistics and Analysis
Washington, D.C. 20590-0003

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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

1. *Report No.* IN08002	2. *Government Accession No.*	3. *Recipient's Catalog No.*	
4. *Title and Subtitle* On-Site Not In Traffic Surveillance Back Over Investigation Vehicle - 2004 Honda Element Location - Arkansas		5. *Report Date:* February 26, 2008 6. *Performing Organization Code*	
7. *Author(s)* Special Crash Investigations Team #2		8. *Performing Organization Report No.*	
9. *Performing Organization Name and Address* Transportation Research Center Indiana University 222 West Second Street Bloomington, Indiana 47403-1501		10. *Work Unit No. (TRAIS)* 11. *Contract or Grant No.* DTNH22-07-C-00044	
12. *Sponsoring Agency Name and Address* U.S. Department of Transportation (NVS-411) National Highway Traffic Safety Administration National Center for Statistics and Analysis Washington, D.C. 20590-0003		13. *Type of Report and Period Covered* Technical Report Incident Date: December 2007 14. *Sponsoring Agency Code*	
15. *Supplementary Notes* On-site not in traffic surveillance back over investigation involving a 2004 Honda Element and a nonmotorist.			
16. *Abstract* This report covers an on-site not in traffic surveillance back over investigation involving a 2004 Honda Element and a nonmotorist. This incident is of special interest because the Honda was being driven in reverse (i.e., backing up), and the driver backed over a nonmotorist (5-year-old, female), who sustained minor injuries. The Honda Element was parked in the attached garage of the driver's residence. The driver entered the garage from the residence through a door located in front of the Honda. The driver pushed the wall-mounted garage door opener button as she left the residence and the garage door began to rise. The driver entered the Honda and prepared to back out of the garage. Meanwhile, the nonmotorist (i.e., a neighbor's child) came from a neighbor's yard and was running through the driver's front yard, near the driver's residence, chasing a puppy and was approaching the path of the Honda from the left. The driver started backing out of the garage while looking out the backlight to the right. As she cleared the garage door, she turned her head to the left and immediately saw a puppy near the Honda. The driver stated that when she saw the puppy, she immediately applied the brakes and as she was stopping, she heard a child scream. The Honda's left rear tire had passed over the nonmotorist's left leg. It could not be determined if the back or left side of the Honda had also contacted the nonmotorist. The driver stated she did not see the nonmotorist at any time prior to the incident. The on-site investigation and interview information indicated that rear visibility was not a factor in this incident because the driver never looked toward the left rear at any time, which was the area where the nonmotorist came from. In addition, when the driver stopped looking to the back right and turned her head to the left as the Honda cleared the garage door, she was distracted by the appearance of the puppy on the sidewalk of her residence near the driveway and did not look to the left rear because she immediately applied the brakes and stopped. The nonmotorist was transported by ambulance to a hospital and treated and released for a contusion to her left knee.			
17. *Key Words* Back Over Child Injury Motor Vehicle Incident Injury Severity		18. *Distribution Statement* General Public	
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Form DOT 1700.7 (8-72) Reproduction of completed page authorized

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BACKGROUND

IN08002

This incident was brought to NHTSA's attention on or before January 7, 2008 by an on-line article from an Arkansas newspaper. This incident involved a 2004 Honda Element and a nonmotorist. The incident occurred in December, 2007 at 12:59 p.m., in Arkansas and was investigated by the applicable city police department. The investigating police agency completed a "Private Property Motor Vehicle Accident" report. The report was retained at the investigating police agency, and a copy was not sent to any state agency. This incident is of special interest because the Honda was being driven in reverse (i.e., backing up), and the driver backed over a nonmotorist (5-year-old, female), who sustained minor injuries. This contractor inspected the Honda, the scene, conducted a visibility study, and interviewed the driver on January 15, 2008. This contractor also interviewed the nonmotorist's mother on January 29, 2008 and conducted a second interview with the driver on February 7, 2008. This report is based on the police incident report, scene and Honda inspections and interviews with the Honda's driver and the nonmotorist's mother.

SUMMARY

The Honda Element was parked in the attached garage of the driver's residence. The driver entered the garage from the residence through a door located in front of the Honda. The driver pushed the wall-mounted garage door opener button as she left the residence and the garage door began to rise. The driver entered the Honda and prepared to back out of the garage. Meanwhile, the nonmotorist (i.e., a neighbor's child) came from a neighbor's yard and was running through the driver's front yard, near the driver's residence, chasing a puppy and was approaching the path of the Honda from the left. The driver started backing out of the garage while looking out the backlight to the right. As she cleared the garage door, she turned her head to the left and immediately saw a puppy near the Honda. The driver stated that when she saw the puppy, she immediately applied the brakes and as she was stopping, she heard a child scream. The Honda's left rear tire had passed over the nonmotorist's left leg. It could not be determined if the back or left side of the Honda had also contacted the nonmotorist. The driver stated she did not see the nonmotorist at any time prior to the incident. The on-site investigation and interview information indicated that rear visibility was not a factor in this incident because the driver never looked toward the left rear at any time, which was the area where the nonmotorist came from. In addition, when the driver stopped looking to the back right and turned her head to the left as the Honda cleared the garage door, she was distracted by the appearance of the puppy on the sidewalk of her residence near the driveway and did not look to the left rear because she immediately applied the brakes and stopped.

Figure 1: Scene of incident; Honda parked in garage in same location as at time of incident, arrow shows driver reported area of incident

CRASH CIRCUMSTANCES

Crash Environment: This incident occurred in the driveway of a residence located in a residential

subdivision (**Figure 1** above). The Honda Element was parked in the attached garage of the driver's residence. The driveway was oriented in an east/west direction. The driveway intersected a sidewalk from the driver's residence as well as a sidewalk adjacent to a two-lane, undivided, residential street. The street traversed in a north-south direction in front of the driver's residence. The garage floor was constructed of concrete and was level. The driveway was also constructed of concrete and had a negative 1.5% grade in the direction the Honda was backing. The width of the driveway was 5.2 meters (17.1 feet). The length of the driveway from the garage door to the street was 12.9 meters (42.3 feet). At the time of the incident it was daylight, clear and dry. Refer to the Scene Diagram at the end of this report.

Figure 2: Honda parked in garage in same location as at time of incident; red arrow shows door where driver entered garage; green arrow shows button for garage door opener

Figure 3: View out of garage door from Honda's left front door

Pre-Crash: The Honda was parked in the garage with the garage door down. The driver entered the garage from the residence through a door located in front of the Honda (**Figure 2**). The driver pushed the wall-mounted garage door opener button as she left the residence and the garage door began to rise. She then approached the Honda from the left front (**Figure 3**) and entered the vehicle through the driver's door. The driver was the only person who drove the Honda. The driver indicated she put on her safety belt and sunglasses (the darkness of the sunglass tinting is not known), and adjusted the rearview mirror. The driver made no adjustment of the side view mirrors. They did not need adjusting. The driver then shifted the transmission into reverse and looked over her right shoulder toward the back right and began to back out of the garage. The driver estimated that the elapsed time from entering the Honda to beginning to back up was approximately 30 seconds. Meanwhile, the nonmotorist was running through the driver's front yard, near the residence, chasing a puppy and was approaching the Honda from the left (**Figure 4** below). The incident occurred in the driveway as the driver backed out of the garage.

Crash: The driver stated that as she backed out of the garage and cleared the garage door, she turned her head to the left and immediately saw a puppy on the sidewalk of her residence near the driveway (**Figure 4** below). The driver stated that when she saw the puppy, she immediately

applied the brakes and as she was stopping, she heard the nonmotorist scream. The driver stated she did not see the nonmotorist at this time or at any time prior to the incident. The driver indicated she never felt or heard the impact with the nonmotorist. However, based on interview information, it was determined that the Honda's left rear wheel had run over the nonmotorist's left leg. The on-site investigation and interview information, indicated that rear visibility was not a factor in this incident because the driver never looked toward the left rear at any time, which was the area where the nonmotorist came from. In addition, when the driver stopped looking to the back right and turned her head to the left as the Honda cleared the garage door, she was distracted by the appearance of the puppy on the sidewalk of her residence near the driveway and did not look to the left rear because she immediately applied the brakes and stopped.

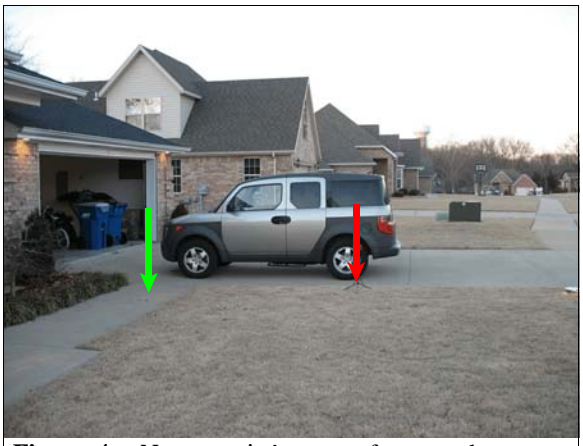


Figure 4: Nonmotorist's area of approach, green arrow shows driver reported area where she saw puppy as she backed out of garage; Honda in location where driver stated she exited vehicle after hearing nonmotorist scream; red arrow shows driver reported location of nonmotorist at final rest

The driver stated that after stopping the Honda, she opened the left front door and immediately exited the vehicle and saw the nonmotorist laying in the grass adjacent to the left rear corner of the Honda (**Figure 4**). She stated that in her haste to exit the Honda, she forgot to shift it into park and immediately got back in the Honda, which was still moving backward, and stopped the vehicle. She gave no indication that she was hit by the left front door in this simultaneous sequence of events. Based on the driver's reported final rest position of the Honda, the vehicle had rolled nearly to the sidewalk adjacent to the street by the time the driver stopped it.

There was insufficient information to determine if the nonmotorist was impacted by the back of the Honda, or if the nonmotorist had impacted the left side of the Honda prior to the wheel passing over her left leg. Inspection of the Honda revealed no evidence of nonmotorist contact. In addition, the police incident report did not indicate an impact location on the vehicle. The nonmotorist's mother reported to this contractor that the nonmotorist did not know which part of the Honda she had contacted. However, the nonmotorist did tell her mother that a tire (i.e., based on the incident circumstances, the Honda's left rear tire) had run over her left leg. The driver's 9-year-old daughter, who was across the street, was listed as a witness on the police incident report. However, a subsequent interview with the driver revealed that her daughter did not actually see the incident take place. She only saw the nonmotorist laying on the ground on the left side of the Honda immediately following the incident.

The Honda's driver indicated that the elapsed time from starting to back up to when she heard the nonmotorist scream was in a range of two to five seconds. The driver was unable to make an estimate of the speed of her vehicle just prior to applying the brakes or when she heard the nonmotorist scream. In addition, it was not possible to attempt an independent speed

reconstruction. The driver did not provide sufficient information regarding her acceleration or braking inputs as she backed. Based on the driver's description of the events, the parked location of the Honda, and the reported location of the nonmotorist and Honda following the incident, it was determined that the Honda had most likely traveled backward approximately 6.6 meters (~22 feet) from its parked position to the impact area, and traveled backward an additional approximate 4.2 meters (~14 feet) from the area of impact to final rest.

Post-Crash: The Honda's driver stated she immediately called 911 and reported the incident. The nonmotorist's father heard his daughter screaming, ran to the scene and carried the nonmotorist into the driver's residence where they waited for the ambulance to arrive. The nonmotorist was transported to a local hospital by ambulance and was treated and released for a large contusion to the inside of her left knee.

Figure 5: Overview of Honda from front right corner

Figure 6: Overview of back and right side of Honda

CASE VEHICLE

The 2004 Honda Element (**Figures 5** and **6**) was a four wheel drive, four-door sport utility vehicle (VIN: 5J6YH28584L-------) equipped with an automatic transmission and four wheel, anti-lock brakes. The Honda's backlight, rear-most side windows and the left and right rear windows were equipped with original equipment manufacturer (OEM) tinted glazing (AS3). The manufacturer's recommended tire size was: P215/70R16, and the Honda was equipped with tires of this size. The Honda was not equipped with any after market equipment and was not equipped with a back up/parking aid. The Honda's specified wheelbase was 258 centimeters (101.4 inches), the specified rear overhang was 92 centimeters (36.2 inches), and the specified overall length was 430 centimeters (169.3 inches). The measured distance from the ground to the bottom of the back bumper was 37 centimeters (14.6 inches). The height of the beltline was measured as 119 centimeters (46.9 inches).

The Honda Element sustained no visible damage in this incident. The Honda remained at the driver's residence following the incident.

CASE VEHICLE DRIVER

The Honda's driver was a 50-year-old, White (non-Hispanic) female. She was 165 centimeters (65 inches) tall and weighed 48 kilograms (105 pounds). The driver drove the Honda daily. She was the only person that drove the Honda. The driver was wearing sunglasses at the time of the incident. The driver did not have a vision deficiency.

CASE VEHICLE VISIBILITY STUDY

A visibility study was conducted during the inspection of the Honda Element in order to determine the nominal blind zone behind the Honda as well as the nominal blind zone of both side view mirrors and the rearview mirror. The standard 71 centimeters (28 inches) high target was used for the observations. The Honda's driver assisted the SCI investigator in making the visibility observations. The observations were made with the Honda in the same parked location in the garage as at the time of the incident. The driver's eye height above the ground was measured as she sat in the driver seat with the seat adjusted to the middle track position, which was her normal seat track position. The driver's eye height was measured as 135 centimeters (53.1 inches). The driver did not adjust the rearview or either side view mirrors prior to the observations. They were in the same position as at the time of the incident. It was not possible to obtain any suitable photographs of the target through the rearview or side view mirrors because by the time the observations had been completed it had gotten too dark. Please refer to the Nominal Visibility Diagram at the end of this report when reading the following description.

Figure 7: View out of back of Honda from driver's seat

Figure 8: Overview of Honda in garage in same position as at time of incident, arrow shows location of target where driver could first see it as she looked over her right shoulder out of backlight

The initial set of observations was made with the driver looking over her right shoulder out of the backlight (**Figure 7**). The target was moved rearward from the back bumper along the Honda's approximate centerline until it came into the driver's view. The target had to be moved

rearward from the back bumper 16.9 meters (55.4 feet, **Figure 8** above) before the top of target came into the driver's view over the top of the Center High Mounted Stop Lamp (CHMSL). The CHMSL is not the focus of the view when looking to the back right. The target was then moved 6.0 meters (19.7 feet) to the right of the approximate centerline where it became obstructed by the back right head restraint. The target was not visible again until it was moved an additional 5.5 meters (18.0 feet) further to the right where it became visible to the driver through the right rear-most window. When the target was moved 2.4 meters (7.9 feet) to the left of the approximate centerline, it became obstructed by the left "D"-pillar. The driver could not see the target beyond the left "D"-pillar because it was not natural for her to turn her head any further to the right.

The Honda's driver was then asked to view behind the vehicle through the rearview mirror as the target was moved rearward from the back bumper along the vehicle's approximate centerline. The target did not become visible to the driver until it was moved rearward 8.2 meters (26.9 feet). The target was then moved 1.4 meters (4.6 feet) to the right from the approximate centerline where it became obstructed by the back right head restraint. The target did not become visible again when moved further to the right because it went out of the rearview mirror's field of view. The target was returned to the approximate centerline and moved to the left. The target immediately went out of the driver's view when it was blocked by the back left head restraint.

The target was then placed at the back left bumper corner as the driver viewed through the left side view mirror. It was necessary to move the target rearward from the back bumper 1.1 meter (3.6 feet) before the driver could see it at the bottom of the mirror. The target was then moved left 0.3 meter (1.0 feet) where the driver indicated she could no longer see it in the mirror. The target was then positioned at the back right bumper corner and the same process was repeated for the right side view mirror. It was necessary to move the target rearward from the back bumper 1.2 meter (3.9 feet) before the driver could see it in the right side view mirror. The target was then moved to the right 0.4 meter (1.3 feet) where the driver indicated she could not longer see it. The driver had the side view mirrors adjusted for her preference. It did not appear that they were adjusted significantly inward. However, each side view mirror curved slightly upward at the bottom toward the outside of the mirror, and since the target was in a position where it just came into the driver's view, it had a tendency to drop below the bottom contour of the mirror as it was moved outward.

NONMOTORIST

The nonmotorist was a 5-year-old, (unknown race and ethnic origin) female. She was 114 centimeters (45 inches) tall and weighed 20 kilograms (45 pounds). The driver indicated that the nonmotorist was wearing a heavy coat and blue jeans. She could not recall the color of the coat or the type and color of the nonmotorist's shoes.

NONMOTORIST INJURIES

The police incident report indicated that the nonmotorist was transported by ambulance to a hospital and was treated and released. The nonmotorist's injury and injury mechanism is 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 {bruise}, large, medial left knee, not further specified	890402.1,2	Exterior of other motor vehicle: left rear tire	Probable	Interviewee (relative)

IN08002

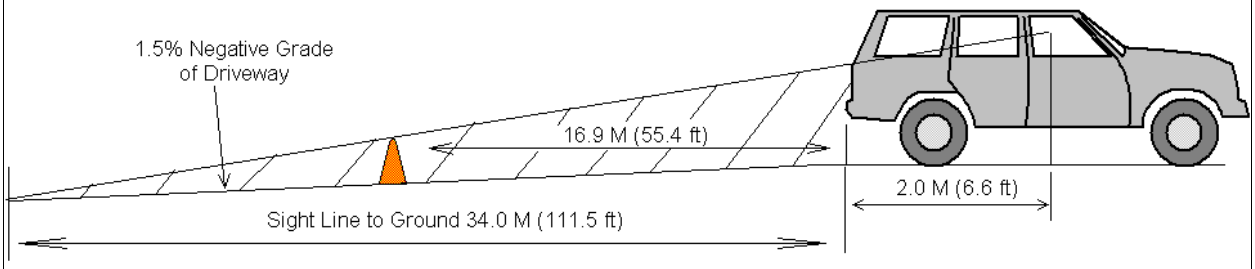
Nominal Visibility Diagram
2004 Honda Element

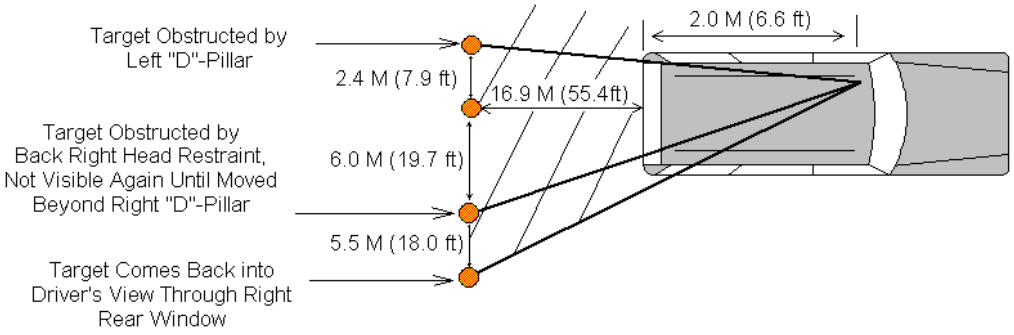
Driver's Eye Height From Ground = 135 cm (53.1 in)

= Honda Blind Zones

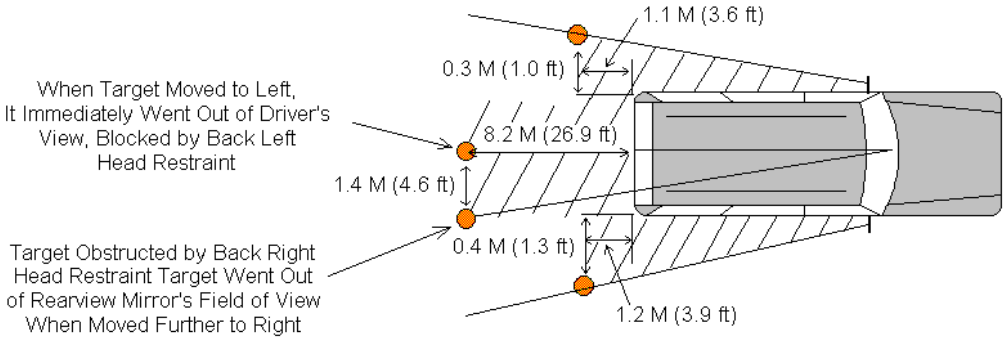
= 71 cm (28 in) High Target

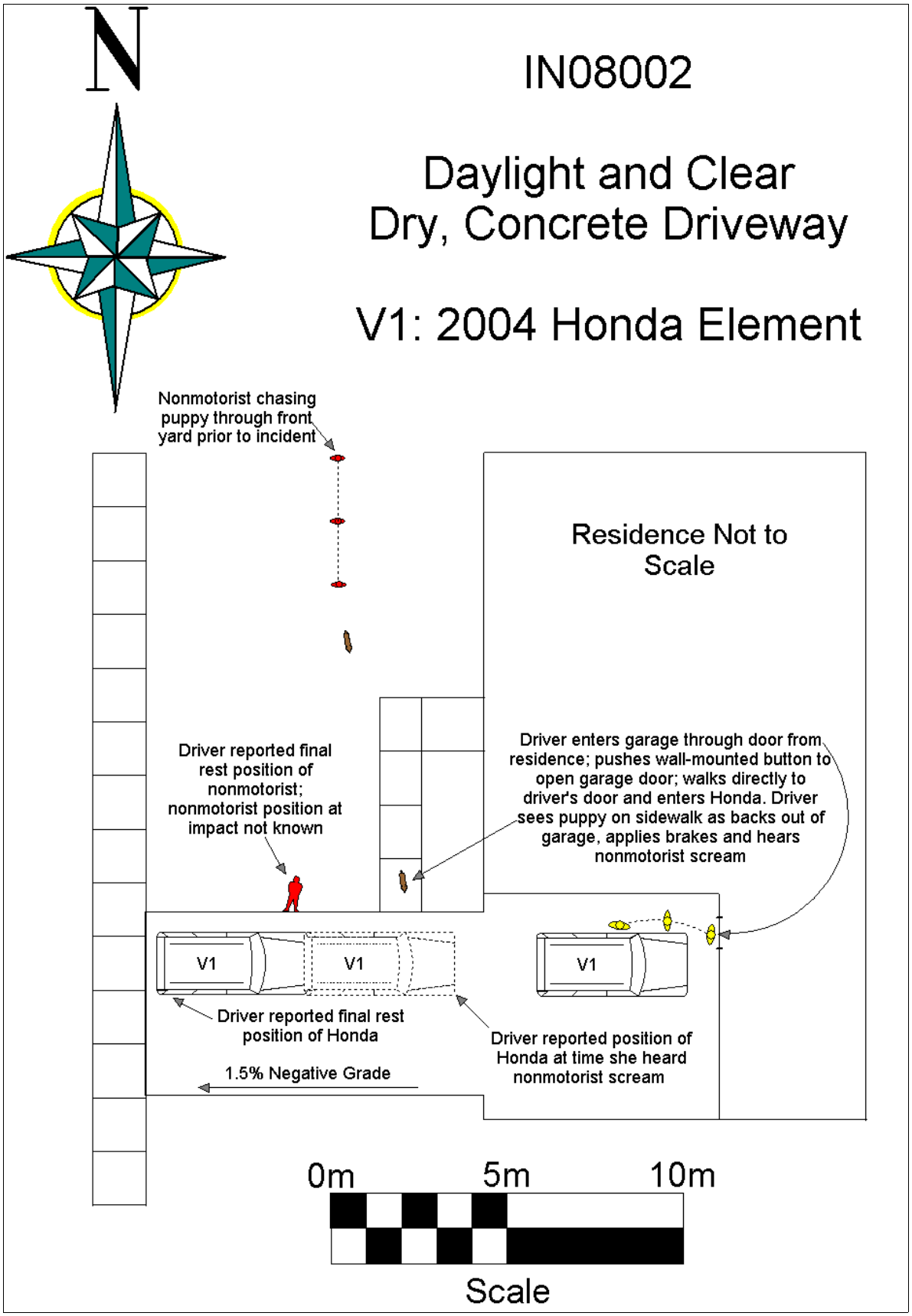
1. Distance Back of Honda
To Point a 71 cm (28 in) High Reference Target
Comes Into Driver's View as She Looks Over Right Shoulder Out of Backlight





2. Rearview Mirror and Side View Mirror Blind Zones




N
IN08002
Daylight and Clear
Dry, Concrete Driveway
V1: 2004 Honda Element
Nonmotorist chasing puppy through front yard prior to incident
Residence Not to Scale
Driver reported final rest position of nonmotorist; nonmotorist position at impact not known
Driver enters garage through door from residence; pushes wall-mounted button to open garage door; walks directly to driver's door and enters Honda. Driver sees puppy on sidewalk as backs out of garage, applies brakes and hears nonmotorist scream
V1
V1
V1
Driver reported final rest position of Honda
Driver reported position of Honda at time she heard nonmotorist scream
1.5% Negative Grade
0m
5m
10m
Scale

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

I N 0 8 0 0 2

IDENTIFICATION

2. Date of Crash 1 2 / x x / 0 7

3. Time of Crash 1 2 5 9

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
- ( ) 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
- ( ) 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 6 . 6 m

13. Estimated speed at impact 9 9 9 kmph

14. Grade at impact +/ - - 0 2 %

15. Estimated distance from impact to vehicle final rest

0 0 4 . 2 m

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

Rev September/2007

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 I N 0 8 0 0 2

VEHICLE IDENTIFICATION

2. VIN 5 J 6 Y H 2 8 5 8 4 L X X X X X X

3. Model Year 2 0 0 4

4. Vehicle Make (specify): Honda

5. Vehicle Model (specify): Element

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	☐	
2nd Left	☑	☐ Fixed / ☑ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☑ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☑	
2nd Right	☑	☐ Fixed / ☑ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☑ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☑	
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	☑	
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 P215/70R16

7. LF Tire Size P215/70R16

8. LR Tire Size P215/70R16

9. RF Tire Size P215/70R16

10. RR Tire Size P215/70R16

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	
Front Middle	0	☐	☐ Full Down / ☐ Mid / ☐ Full Up	
Front Right	1	☑	☑ Full Down / ☐ Mid / ☐ Full Up	
2nd Left	1	☑	☑ Full Down / ☐ Mid / ☐ Full Up	
2nd Middle	0	☐	☐ Full Down / ☐ Mid / ☐ Full Up	
2nd Right	1	☑	☑ 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		119	
Top of trunk/tailgate		55	
Bottom of bumper		37	
Trailer hitch (if applicable)		N/A	
Undercarriage			
	Sway bar	26	
	Axle	15	
	Differential	N/A	
	Other (specify): _____	25	Other = tail pipe
Sensor Height (if equipped)		N/A	
Camera Height (if equipped)		N/A	

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

I N 0 8 0 0 2

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

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

I N 0 8 0 0 2

DRIVER PROFILE

2. Driver's Age 5 0
99 = Unknown

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

4. Driver's Height 1 6 5 cm
999 = Unknown

5. Driver's Weight 0 4 8 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): press gar dr opnr
- ○ 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:

Pick up mother

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): Saw puppy

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) CHMSL
- ○ 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
I N 0 8 0 0 2

NON-MOTORIST PROFILE

2. Non-motorist's Age
99 = Unknown
0 5 ○ Months ◉ Years

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

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

5. Non-motorist's Weight
999 = Unknown
0 2 0 kg

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)			

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