

Remote Not In Traffic Surveillance Back Over Investigation
Dynamic Science, Inc. / Case Number: DS07030
2006 Chevrolet Trailblazer
Hawaii
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.

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16. Abstract This single vehicle incident occurred at 1032 hours in March 2007. The case vehicle is a 2006 Chevrolet Trailblazer sport utility vehicle. The Chevrolet Trailblazer was being driven by a 24-year-old female. The front right seat was occupied by a 25-year-old female. The driver had pulled into the driveway to pick up her 2-1/2-year-old niece. The two involved children were playing in the parking. The driver stated that she saw the children playing in the parking area prior to backing. She stated that she started backing and then waited until the children moved out of the way before continuing to back out. The front right occupant indicated that the children were fighting over a bicycle and that both the children and bicycle had fallen over. The children were in the driver's blind zone prior to impact. The driver continued backing and felt a bump. The Trailblazer contacted both children and then backed over the 2-year-old with the right rear tire. The 4-year-old appears to have been outboard of the right rear tire. The driver heard a neighbor yell. She panicked and moved the Trailblazer forward and ran over the 2-year-old a second time. After getting out of the vehicle she saw the children and realized that she had run them over. The 2-year-old female child sustained a skull fracture, a chest injury, and a right thigh injury. She was transported to a local hospital where she was pronounced dead at 1134 hours. The 4-year-old male child sustained minor lacerations and abrasions. He was transported to a local hospital where he was treated and released.				
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**Dynamic Science, Inc.
Crash Investigation
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BACKGROUND

This remote Not In Traffic Surveillance (NITS) back over investigation was initiated in response to an on-line news article reporting the death of a 2-year-old female child and the injury of a 4-year-old male child who were involved in a back over incident. DSI was notified of the article on April 12, 2007. DSI contacted the investigating police agency and requested the police report and on-scene photographs. The case materials were received on July 17, 2007 and DSI was assigned the case on the same day. A State of Hawaii Motor Vehicle Accident Report was completed by the investigating police agency. The police agency indicated that this would not be reported to the state because it occurred on private property.



Figure 1. 2006 Chevrolet Trailblazer

This single vehicle incident occurred at 1032 hours in March 2007. The case vehicle is a 2006 Chevrolet Trailblazer sport utility vehicle. The Chevrolet Trailblazer was being driven by a 24-year-old female. The front right seat was occupied by a 25-year-old female. The driver had pulled into the driveway to pick up her 2-1/2-year-old niece. The two involved children were playing in the parking area and appears to have been arguing over a bicycle. The driver stated that she saw the children playing in the parking area prior to backing. She stated that she started backing and then waited until the children moved out of the way before continuing to back out. The front right occupant indicated that the children were fighting over a bicycle and that both the children and bicycle had fallen over. It is not clear if she actually saw them fall over or this was conjecture on her part based on their location at impact. The driver continued backing and felt a bump. The Trailblazer contacted both children and then backed over the 2-year-old with the right rear tire. The 4-year-old appears to have been outboard of the right rear tire. The driver heard a neighbor yell. She panicked and moved the Trailblazer forward and ran over the 2-year-old a second time. She stopped the vehicle. After getting out of the vehicle she saw the children and realized that she had run them over. The 2-year-old female child sustained a skull fracture, a chest injury, and a right thigh injury. She was transported to a local hospital where she was pronounced dead at 1134 hours. The 4-year-old male child sustained minor lacerations and abrasions. He was transported to a local hospital where he was treated and released.

SUMMARY

Incident Site

This incident took place in a long private driveway/parking area. The driveway was comprised of three sections. There is a north/south section that was approximately 5.8 m (19.0 ft) wide. The residence is to the right (east) of this section of the driveway. This section leads into a parking area that is generally oriented northeast to southwest. The parking area is in the southwest section. There was a parked vehicle in the southern section of the parking area facing southwest. There was a 5.1 m (16.7 ft) wide driveway to the northeast of the parking area. There was a parked vehicle in this driveway facing northeast. The residence would be to the left (west) of the smaller driveway. The parking area was connected to a 3.0 m (10 ft) wide section that travels approximately 34.4 m (112.9 ft) to the street entrance. The weather was clear and calm at the time of the crash. The driveway surface in the area of impact was wet and muddy.



Figure 2. View of backing travel path and final rest (southeast)

Pre-Crash

This single vehicle incident occurred at 1032 hours in March 2007. The case vehicle was a 2006 Chevrolet Trailblazer sport utility vehicle (VIN:1GNET16SX6xxxxxx). The Trailblazer was part of a rental fleet. The Trailblazer was being driven by a 24-year-old female. The front right seat was occupied by a 25-year-old female. Both occupants had initially left the residence and got into the Trailblazer at about the same time. The driver initially drove forward into the north/south portion of the driveway to pick up her 2-1/2 year-old niece. The two involved children, a 2-year-old female and a 4-year-old male, were playing in the parking area and appear to have been arguing over a bicycle. They were near the area where the north/south part of the driveway joins the parking area. The driver stated that she saw the children playing in the parking area prior to backing. She stated that she started backing and then waited until the children moved out of the way before continuing to back out. It appears that the driver saw them moved off to the right side of the driveway.

Crash

It appears that as the driver began backing, the children and bicycle fell over and were no longer visible to the driver. The driver continued backing and felt a bump. The Trailblazer contacted both children and then backed over the 2-year-old with the right rear tire. The 4-year-old appears to have been outboard of the right rear tire. The driver heard a neighbor yell. She panicked and moved the Trailblazer forward and ran over the 2-year-old a second time. The police report indicated that the driver ran over both children, but this appears to be unlikely due to the relatively minor injuries to the 4-year-old.

After running over the 2-year-old, the driver stopped the vehicle. After getting out of the vehicle she saw the children and realized that she had run them over.

Post-Crash

The 2-year-old female child sustained a skull fracture, a chest injury, and a right thigh injury. She was transported to a local hospital where she was pronounced dead at 1134 hours. The 4-year-old male child sustained minor lacerations and abrasions. He was transported to a local hospital where he was treated and released.



Figure 3. Case vehicle at final rest (arrow shows location of bicycle). Looking southeast.



Figure 4. Close up of damaged bicycle

VEHICLE DATA - 2006 Chevrolet Trailblazer

The 2006 Chevrolet Trailblazer was identified by the Vehicle Identification Number (VIN): 1GNET16SX66xxxxxx. The Trailblazer was a four-door, four-wheel drive sport utility vehicle that was equipped with a 4.2 liter, six-cylinder engine, an automatic transmission, and disc brakes. The Trailblazer was configured with Continental ContiTrac P245/55R17 tires. The police report indicated that all the tires had good tread and were inflated.



Figure 5. Left side, 2006 Chevrolet Trailblazer

Position	Measured Pressure	Measured Tread Depth	Restricted	Damage
LF	Unknown	Unknown	No	None
RF	Unknown	Unknown	No	None
LR	Unknown	Unknown	No	None
RR	Unknown	Unknown	No	None

Vehicle Damage - 2006 Chevrolet Trailblazer

There was no damage to the Chevrolet and no reports of any contact evidence. Two no residual damage Collision Deformation Classifications (CDCs) were assigned to the two non-motorist impacts.



Figure 6. Right side view of 2006 Chevrolet Trailblazer



Figure 7. View of right rear tire

Parking Aids/Sensors

The case vehicle was not equipped with any parking aids or backing up sensor/video technology.

Vehicle Dimensions

Dimensions obtained from Canadian vehicle specifications and an exemplar vehicle. Seated eye height and position were measured with a surrogate driver positioned in the exemplar vehicle seated at the height of a 50th percentile female (approximately 75.0 cm/29 in above seat bottom).

Ground to belt line:	117.0 cm (46.0 in)
Ground to top of trunk/tailgate:	124.0 cm (48.8 in)
Ground to top of rear bumper:	76.2 cm (30.0 in)
Ground to bottom of rear bumper:	52.0 cm (20.5 in)
Driver's seated eye height:	Estimated 145.0 cm (57.0 in)
Eye position (seated forward facing):	10.0 cm (3.9 in)
Overall vehicle height:	196.0 cm (77.2 in)
Overall vehicle width:	190.0 cm (74.8 in)
Overall vehicle length:	528.0 cm (207.9 in)
Rear overhang:	110.0 cm (43.3 in)
Track width:	158.0 cm (62.2 in)
Longitudinal distance between rear most projection and front door latch pillar:	259.0 cm (102.0 in)
Distance from estimated eye position to tailgate:	260.0 cm (102.4 in)

Vehicle Sight Distances

A visibility study was conducted on an exemplar vehicle in order to determine the nominal blind zone behind the Trailblazer as well as the nominal blind zone of both side view mirrors and the rear view mirror. The standard 71.0 cm (28.0 in) high target was used for the observations. The exemplar vehicle was placed on a level surface for the visibility study. A surrogate driver positioned in the exemplar vehicle seated at the height of a 50th percentile female. The seat was in the middle track position.

The initial set of observations were made with the surrogate driver looking over the right shoulder out of the backlight over the top of the center high mounted stop lamp on the rear deck. The target was moved rearward from the back bumper along the Trailblazer's centerline until it came into the driver's view. The target had to be moved 7.47 m (24.5 ft) before the top of the target came into the driver's view (see Nominal Visibility Diagram in Figure 8).

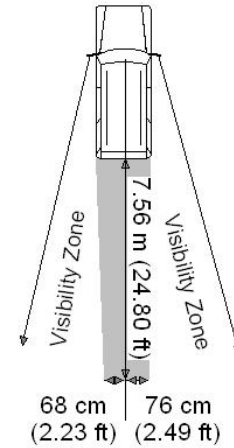
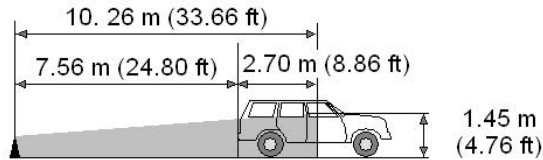
A second set of observations were made with the surrogate driver looking through the rear view mirror over the top of the center high mounted stop lamp on the rear deck. The target was again moved rearward along the center line until it came into the driver's view. The target was moved 7.56 m (30.1 ft) rearward from the rear bumper.

A third set of observations were made with the surrogate driver looking over the right shoulder out the backlight to the side of the center high mounted stop lamp. The target was moved rearward from the back bumper along the Trailblazer's centerline until it came into the driver's view. The target had to be moved 17.65 m (57.9 ft) before the top of the target came into the driver's view.

A fourth set of observations were made with the driver looking through the left and right side mirrors. The target was placed at the center line 7.56 m (24.8 ft) rear of the vehicle. The target was moved laterally until it became visible to the driver. For the right, the target became visible 68.0 cm (26.7 in) from the center line. For the left, the target became visible 76.0 cm (29.9 in) from the center line.

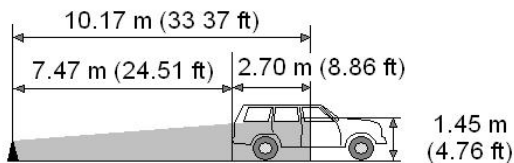
Based on these observations, it was not possible for the driver to have seen the children by looking backwards. It is possible that she could have observed them through the right mirror.

Sight Distance To 71.0 cm (28.0 in) Tall Reference
Using Rear View Mirror Through Backlight
Over Top Of Center High Mounted Stop Lamp

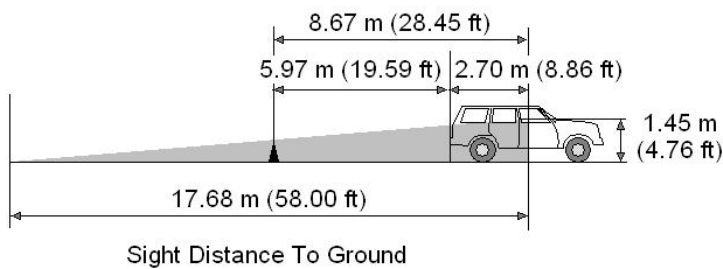


Driver Field Of Vision
Using Side View Mirrors

Sight Distance To 71.0 cm (28.0 in) Tall Reference
Looking Over Right Shoulder Through Backlight
Over Top Of Center High Mounted Stop Lamp



Sight Distance To 71.0 cm (28.0 in) Tall Reference
Looking Over Right Shoulder Through Backlight
To Side Of Center High Mounted Stop Lamp



Rear Visibility Diagram DS07030

Vehicle: 2006 Chevrolet Trailblazer

Seated Eye Height From Ground
145.0 cm (57.1 in)

Seated Eye Height From Seat Bottom
74.0 cm (29.1 in)

Legend

Blind Zone

Sight Reference
Height: 71.0 cm (28.0 in)

Figure 8. Nominal Visibility Diagram

Interior Damage - 2006 Chevrolet Trailblazer

There was no interior damage.

OCCUPANT DEMOGRAPHICS - 2006 Chevrolet Trailblazer

	Driver	Front Right Passenger	Unknown Rear Seat Passenger
Age/Sex:	24/Female	25/Female	2/Female
Seated Position:	Front left	Front right	Unknown
Seat Type:	Bucket	Bucket	Unknown
Height:	Unknown	Unknown	Unknown
Weight:	Unknown	Unknown	Unknown
Occupation:	Unknown	Unknown	Unknown
Pre-existing Medical Condition:	None noted	None noted	None noted
Alcohol/Drug Involvement:	None	N/A	N/A
Driving Experience:	Unknown	N/A	N/A
Body Posture:	Unknown	Unknown	Unknown
Hand Position:	Unknown	Unknown	Unknown
Foot Position:	Unknown	Unknown	Unknown
Restraint Usage:	Unknown	Unknown	Unknown

NON MOTORIST DEMOGRAPHICS

Age/Sex: 2/Female
Height: 94 cm (37 in)
Weight: 14 kg (30 lbs)
Pre-existing Medical Condition: None noted
Alcohol/Drug Involvement: None

Age/Sex: 4/Male
Height: Unknown
Weight: Unknown
Pre-existing Medical Condition: None noted
Alcohol/Drug Involvement: None

INJURIES - 2006 Chevrolet Trailblazer

Driver: Not injured.

Front Right Passenger: Not injured.

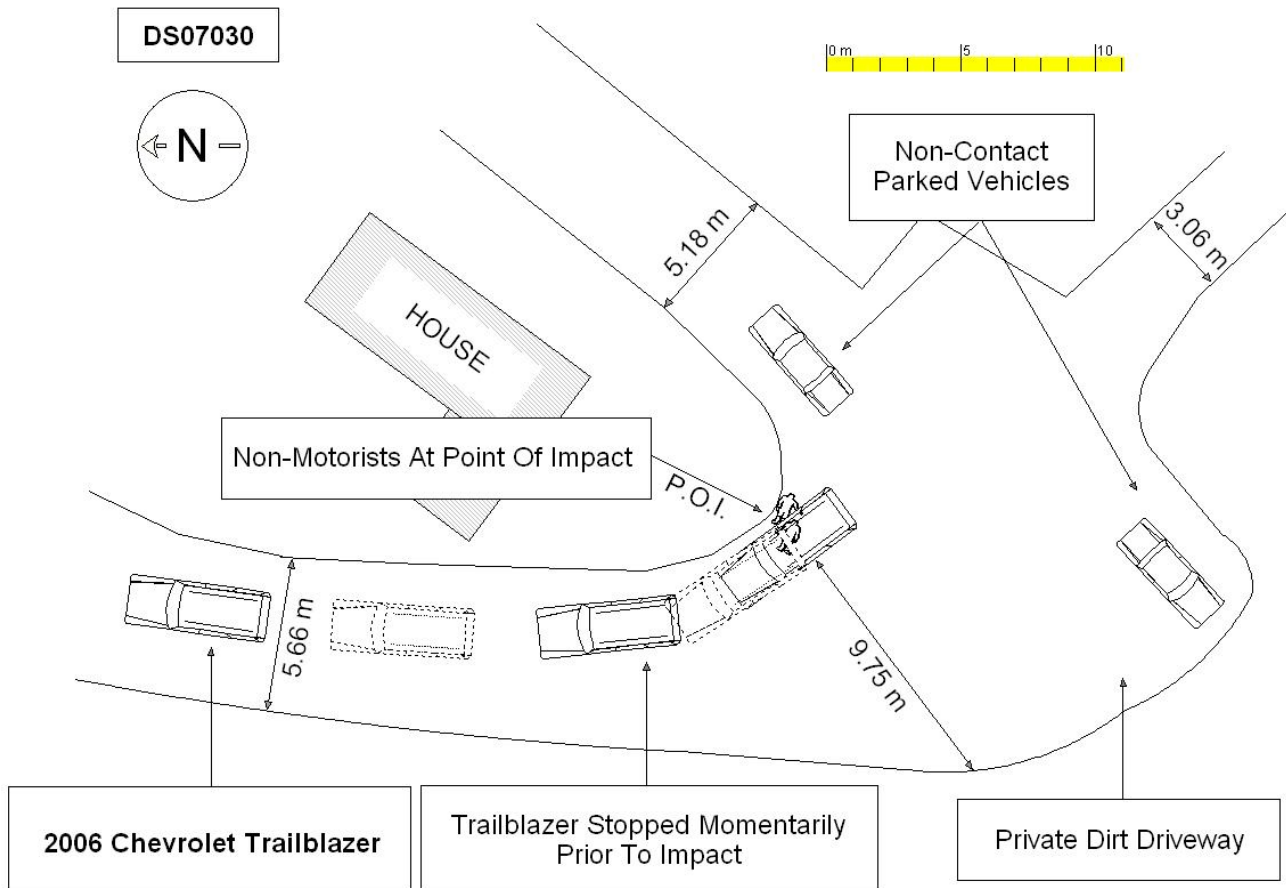
Pedestrian/Non-Motorist (2-year-old): Injuries obtained from police report.

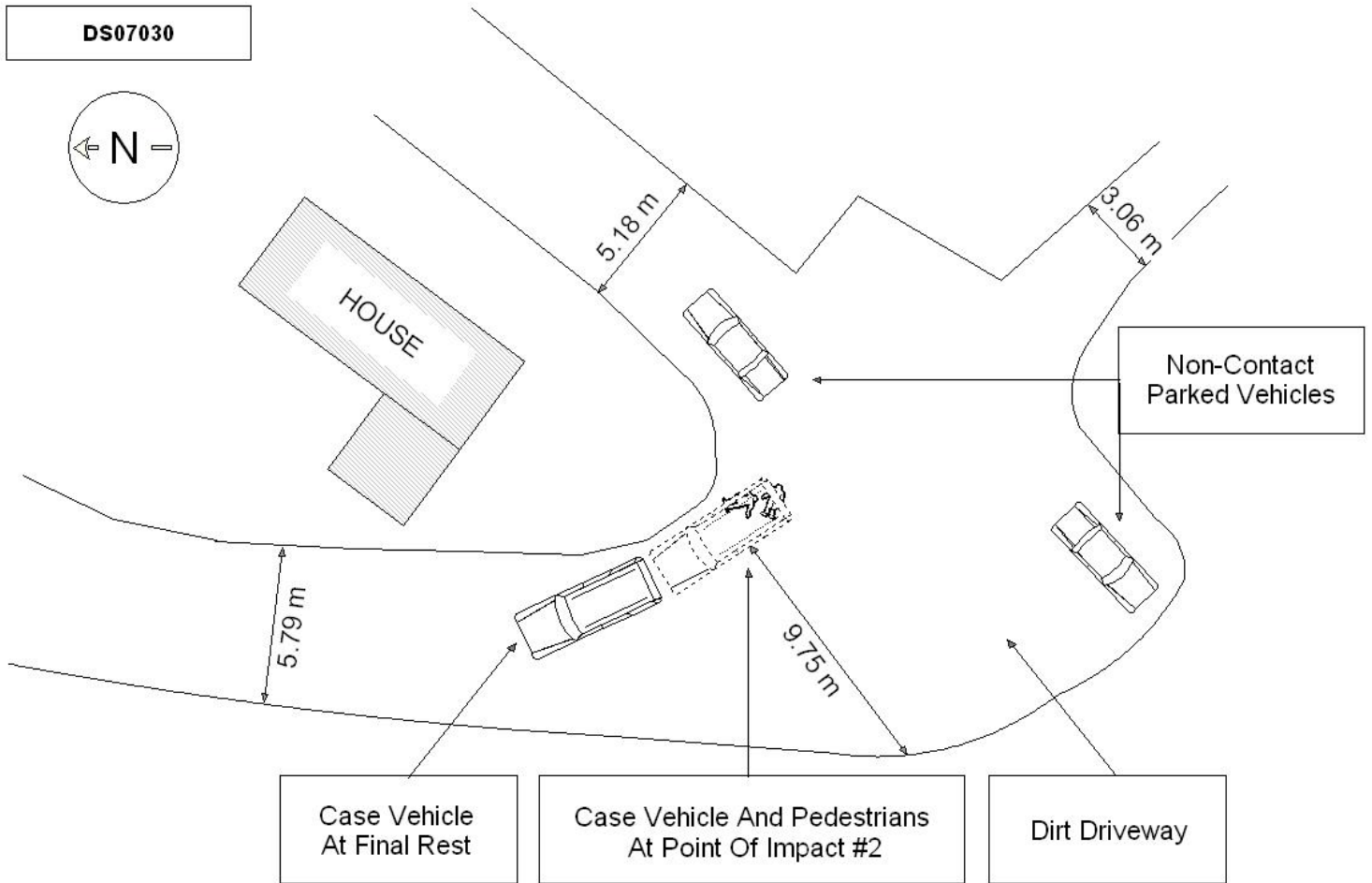
<u>Injury</u>	<u>OIC Code</u>	<u>Injury Mechanism</u>	<u>Confidence Level</u>
Skull fracture	150400.2,9	Tire	Probable
Chest injury	415099.7,0	Tire	Probable
Right thigh injury	815099.7,0	Tire	Probable

Pedestrian/Non-Motorist (4-year-old): Injuries obtained from police report.

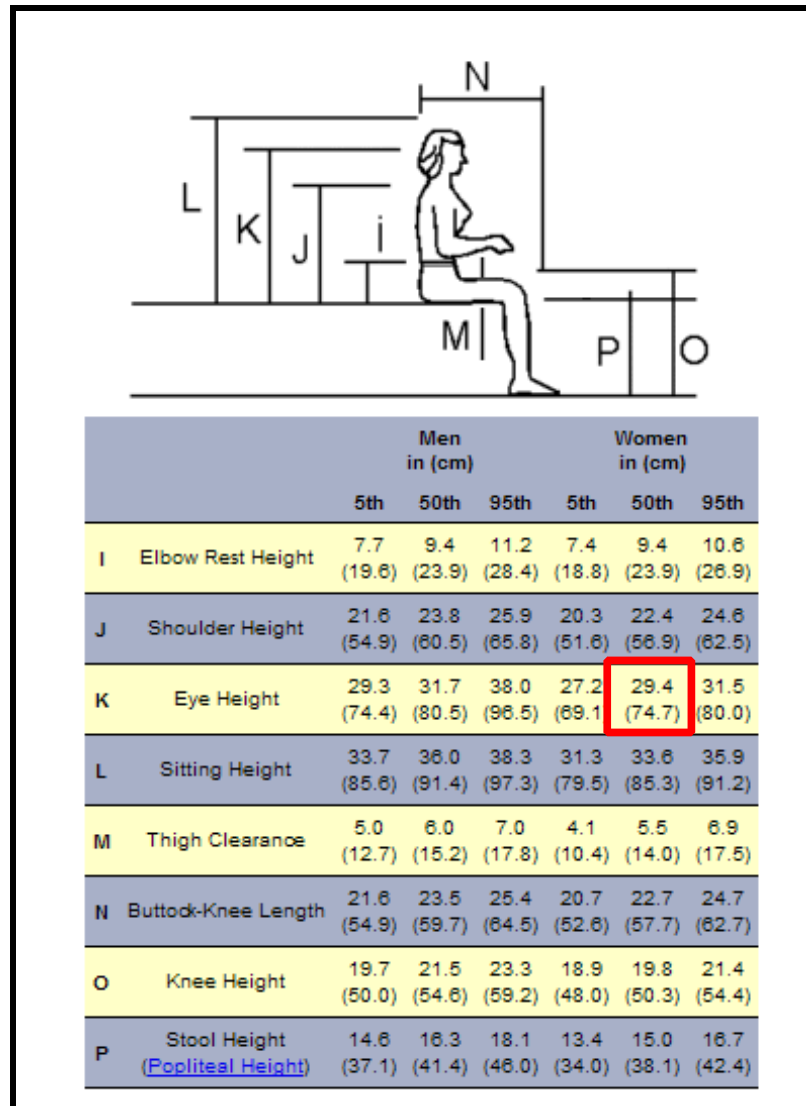
<u>Injury</u>	<u>OIC Code</u>	<u>Injury Mechanism</u>	<u>Confidence Level</u>
Minor lacerations and abrasions	990600.1,9 990200.1,9	Ground	Possible

Attachment 1. Scene Diagram





Attachment 2. Anthropometric Measurements



Attachment 3. Field Data Forms



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

999 = Unknown

_____ cm

5. Driver's Weight

999 = Unknown

_____ kg

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): _____				



1. Case Number
 D S 0 7 0 3 0

NON-MOTORIST PROFILE

2. Non-motorist's Age 0 4 Months
99 = Unknown Years

3. Non-motorist's Sex Male
 Female
 Unknown

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

5. Non-motorist's Weight 9 9 9 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 On skates/skateboard
 Bending at waist On bike/scooter
 Sitting Other (specify) FALLEN
 Crouching Unknown
 Kneeling

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