Remote Not In Traffic Surveillance Back Over Investigation Dynamic Science, Inc. (DSI), Case Number DS08031 1996 Lincoln Town Car California July 2008 This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no responsibility for the contents or use thereof.

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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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This back over incident occurred in July 2008 in California. The subject vehicle was a 1996 Lincoln Town Car that was being driven by a 19-year-old female. The incident occurred in a residential driveway that was oriented east/west. The driveway intersected a north/south oriented roadway. The Lincoln was parked in the driveway, facing east, toward the residence. The driver began backing the vehicle out of the driveway in a westbound			

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Background

This back over incident occurred in July 2008 in California. The subject vehicle was a 1996 Lincoln Town Car that was being driven by a 19-year-old female. The incident occurred in a residential driveway that was oriented east/west. The driveway intersected a north/south oriented roadway. The Lincoln was parked in the driveway, facing east, toward the residence. The driver began backing the vehicle out of the driveway in a westbound direction. The driver was moving the vehicle away from the garage so another vehicle could enter the garage. A 1-year-old female was walking northbound across the driveway and entered the rearward path of the backing vehicle. The child was knocked down and run over by the right rear tire. The child sustained a flail chest, abrasions and contusions to the face, and a severe brain injury. She was hospitalized for two days before succumbing to her injuries. This incident was reported to the state by the state highway patrol as a traffic collision and fatality.

This remote Not In Traffic Surveillance (NITS) investigation was identified by the National Highway Traffic Administration (NHTSA) from a review of internet news articles. The articles stated that a 1-year-old child was injured when a vehicle backed over her in a residential neighborhood. On July 25, 2008, DSI was sent the news article and instructed to obtain cooperation. DSI obtained the police report and scene photos on September 2, 2008. DSI was instructed to continue the case as a remote investigation, and a case number was assigned on September 10, 2008. The following information was obtained from the police report, scene photos, and the news article. In the original police report, the child's father was reported to be the driver and was arrested for driving while intoxicated. It was later determined that the mother was the driver and the original police report was amended.

SUMMARY

Incident Site

This back over incident occurred at 2108 hours. The weather was cloudy, the roadway was dry, and no unusual conditions were present. The temperature at the nearest reporting station was 26 degrees C (79 degrees F). The wind was calm and the relative humidity was 47%. The incident occurred on a private driveway (Figure 1). The driveway was approximately 7.6 m (25 ft) wide and was constructed of concrete. There was a slight downward grade to the west. The driveway was bordered on right by a grass lawn and on the left by a wrought iron fence. At the west end of the driveway, there was a metal gate on a track which blocked access to the driveway from the street. The gate was open at the time of the incident. The entrance to the residence was to the



Figure 1. Overview of driveway (east). Green arrow shows path of non-motorist

right of the driveway. A Chevrolet sport utility vehicle was parked on the left side of the driveway facing west. A Mazda compact pickup truck was parked on the right side of the driveway facing

east. It was dark at the time of the incident and the street lights were illuminated.

Pre-Crash

The 1996 Lincoln Town Car was being driven by a 19-year-old female, who was the mother of the non-motorist. The mother believed that the 1-year-old child was inside the residence. There were at least two adults in the yard who had been visiting the mother at the time of the incident. The Lincoln was parked in the driveway and facing east, towards the residence. The father of the child was out in the street in an unknown model Honda. There were two adult males also in the Honda. The father had been out all evening after work and had just come home. Upon returning home, he asked his wife to move the Lincoln so he could park the Honda in the garage.

Crash

The driver of the Lincoln did not realized that her daughter was out of the house. The father reported at one point that he did not see his daughter until she was near the right rear of the Lincoln. The child was walking from south to north and was within the blind zone behind the Lincoln. As the driver backed the vehicle the child was knocked down and run over by the right rear tire (**Figure 2**).

Post Crash

The driver stopped the vehicle almost immediately after running over the child. According to one passerby, the Lincoln was partially parked in the driveway and in the street. The driver exited the vehicle, picked up the child, and took her to the



Figure 2. Path of Lincoln to area of impact (west)

front of the vehicle. The child was placed on the hood of the vehicle so she could be examined. A passerby reported that the driver was being yelled at and struck by her husband. A neighbor who was a volunteer fireman was advised by his father that someone next door needed medical assistance. He responded to the scene and reported that he C-spined the child and assisted with her breathing until the local fire department arrived. The child sustained a flail chest, abrasions and contusions to the face, and a severe brain injury. The child was initially transported from the scene by ground ambulance to a local hospital. She was later transferred to an air ambulance and transported to a children's hospital where she survived for two days and was pronounced deceased. The Lincoln had been moved onto the street by the time the police arrived.

Vehicle Data - 1996 Lincoln Town Car

The 1996 Lincoln Town Car was identified by the Vehicle Identification Number (VIN): 1LNLM81W5TYxxxxxx. The Lincoln was a four-door sedan that was equipped with an 8-cylinder, 4.6-liter engine, automatic transmission, and rear wheel drive. The vehicle manufacturer's recommended tire size was P215/70R15 with a recommend cold tire pressure of 221kPa (32 psi) for the front and 241 kPa (35 psi) for the rear.

Parking Aids/Sensors

The 1996 Lincoln Town Car was not equipped with any parking aids or sensors.

Vehicle Dimensions

Dimensions were obtained from Canadian vehicle specifications and an exemplar vehicle. Seated eye height was estimated using a surrogate driver seated at the height of the subject vehicle driver. Eye position forward was estimated using the position of the surrogate driver with the seat in the middle track position.

Ground to belt line:	99 cm (38.9 in)
Ground to top of trunk/tailgate:	99 cm (38.9 in)
Ground to top of rear bumper:	58 cm (22.8 in)
Ground to bottom of rear bumper:	36 cm (14.1 in)
Surrogate driver's seated eye height from seat bottom:	74 cm (29.1 in)
Surrogate driver's seated eye height from ground:	122 cm (48.0 in)
Overall vehicle height:	145 cm (57.1 in)
Overall vehicle width:	195 cm (76.8 in)
Overall vehicle length:	556 cm (218.9 in)
Rear overhang:	115 cm (45.3 in)
Track width:	159 cm (62.5 in)
Longitudinal distance between rear most projection and front door latch pillar:	274 cm (107.8 in)
Distance from estimated eye position to tailgate:	264 cm (103.9 in)

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 1996 Lincoln Town Car. The standard 71 cm (28.0 in) high target was used to obtain the measurements. The measurements were taken on a paved surface.

The driver's seated eye height when measured from the seat cushion was 74 cm (29.1 in) and when measured from the ground was 1.22 m (4.0 ft). The SCI investigator was able to duplicate the driver's seated eye height by positioning a person of similar height in the driver's seat (Nominal

Sight Diagram - View 1).

When seated in a normal posture, the driver's eyes were positioned 2.74 m (8.9 ft) forward of the back bumper.

The initial set of measurements were taken with the investigator were looking over his right shoulder through the backlight (**Figures 3-4**). The target was moved rearward from the rear bumper along the Lincoln's centerline until it became visible to the investigator. The point at which the target became visible to the investigator measured 3.87 m (12.7 ft) rearward of the rear 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 visible zone that could be viewed through the backlight (View 2). The point at which the ground became visible through the backlight measured 9.2 m (30.2 ft).

Two sets of measurements were taken with the investigator using the rear view mirror to look through the backlight: one set looking above the center mounted stop lamp, and one set looking lateral to the center mounted stop lamp. The target was moved rearward from the rear bumper along the Lincoln's centerline until it became visible to the investigator above the center mounted stop lamp (View 3). The point at which the target became visible to the investigator measured 6.0 m (19.7 ft) rearward of the rear bumper. This measurement was used as the point of origin for a



Figure 3. View towards right rear of exemplar Lincoln from driver's seat



Figure 4. View out of back of exemplar Lincoln from driver's seat

set of lateral measurements which were then taken. Measurements taken laterally to the left and right would result in a visible zone that could be viewed through the backlight.

The target was then moved rearward from the rear bumper along the vehicle's centerline until it became visible at the bottom edge of the backlight and lateral to the center mounted stop lamp (View 4). The point at which the target became visible to the investigator measured 5.18 m (17.0 ft) rearward of the rear bumper.

Since the SCI investigator was using an exemplar vehicle, he adjusted the side mirrors appropriately to the driver's seated eye height. With the SCI investigator seated, the side views were examined (View 5). The target was placed at the right side of the rear bumper. The target was moved from the side of the vehicle laterally to the right until the target became visible through the right 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 visible zone which could be viewed through the side view mirror. This process was repeated on the left side of the vehicle. The area between the left and right visible zones resulted in a blind zone. Directly behind the rear bumper, the blind zone measured 1.83 m (6.0 ft) in width. The target was then placed at 3.87 m (12.7 ft) rearward of the rear 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 3.87 m (12.7 ft) rearward of the rear bumper, the blind zone was approximately 1.4 m (4.6 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 visible zones.

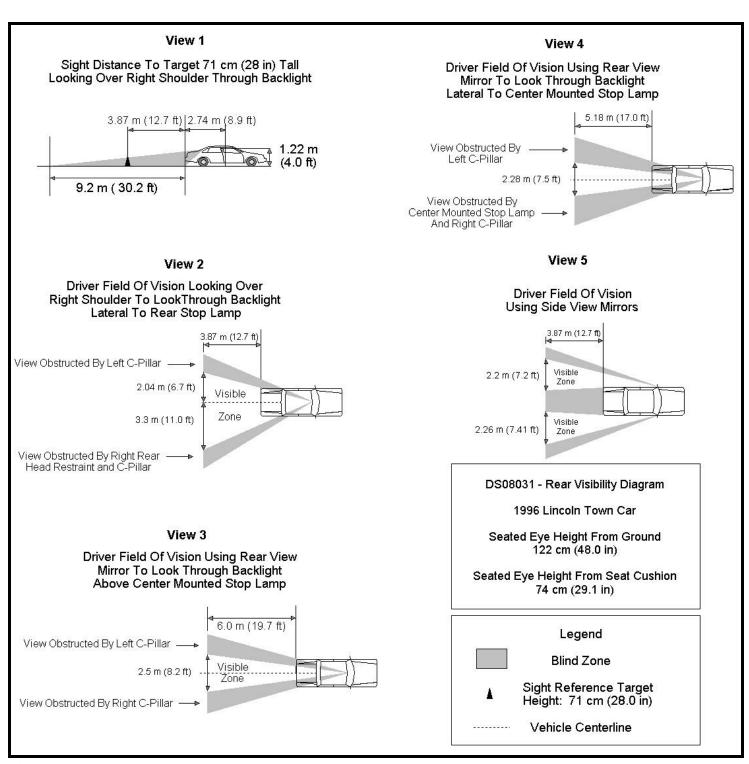


Figure 5. Nominal Sight Diagram

Vehicle Damage

According to the police report, there was no external damage to the Lincoln.

Occupant Demographics

Driver

Age/Sex:	19/Female
Height:	168 cm (66 in)
Weight:	79 kg (175 lbs)
Seat track position:	Unknown
Manual restraint use:	Unknown
Usage source:	Unknown
Eyewear:	Unknown
Type of medical treatment:	None

Non-motorist Demographics

Age/Sex:	1/Female
Height:	46 cm (18 in)
Weight:	7 kg (16 lbs)
Type of medical treatment:	Transported from scene by ground ambulance to local hospital. Later transferred to an air ambulance and transported to a children's hospital.

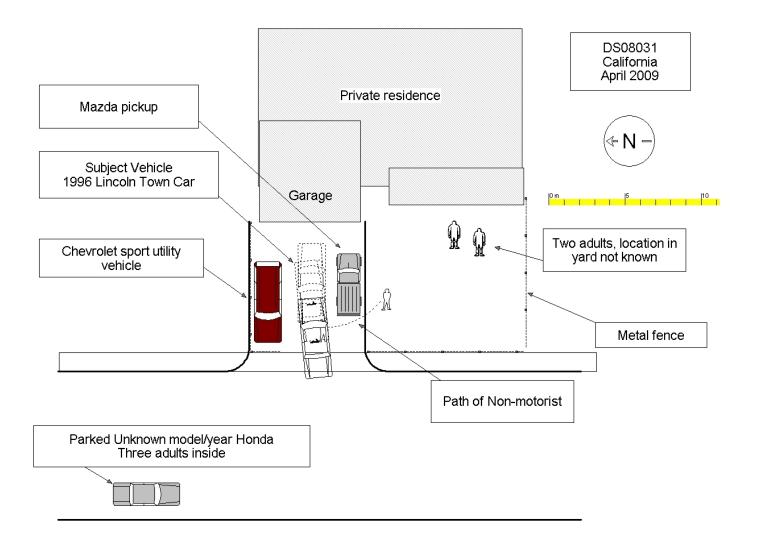
INJURIES

Driver: Not injured.

Non-motorist: Injuries obtained from police report, as reported to the police by the EMS doctor.

<u>Injury</u>	OIC Code	Injury Mechanism	Confidence Level
Flail chest	450260.4,9	Tire	Certain
Abrasions to face	290202.1,0	Tire	Certain
Contusions to face	190402.1,0	Tire	Certain
Severe brain injury	115099.7,0	Tire	Certain

Attachment 1. Incident Diagram



Attachment 2. Data Forms

SCENE FORM

	SCENE INFORMATION		
Case Number	7. Type of area in which crash occurred (Select all that apply)		
	O Single family residential		
IDENTIFICATION	O Row houses/townhouses		
	O Multi family housing O Commercial		
2. Date of Crash/	O Industrial		
	O Rural O Unknown		
3. Time of Crash	Olikilowii		
	8. Driver exterior sightline obstructions		
Code reported military time of crash.	(Select all that apply)		
NOTE: Midnight = 2400	O None O Utility poles		
Unknown = 9999	O Other vehicles O Signs O Building O Glare		
	O Trees O Unknown		
AMBIENT CONDITIONS	O Shrubbery O No driver present		
4. Light Conditions	O Other (specify)		
	9. Crash location		
O Daylight O Dark	O Driveway O Road / street		
O Dark but lighted	O Parking Lot O Roadside / shoulder		
O Dawn O Dusk	O Sidewalk O Other (specify)		
O Unknown	O Alley O Unknown O Intersection of driveway and sidewalk		
- 4	·		
5. Atmospheric Conditions (Select all that apply)	Non motorist sightline obstructions (Select all that apply)		
O Clear-No adverse conditions O Cloudy	O None O Other vehicles		
O Rain	O Building		
O Snow O Fog, Smog, Smoke	O Trees O Shrubbery		
O Sleet, Hail (freezing rain or drizzle)	O Utility poles		
O Blowing Snow	O Signs		
O Severe Crosswinds O Blowing Sand, Soil, Dirt	O Glare O Other (specify)		
O Other (specify):	O Unknown		
O Unknown	+ / - 11. Grade at parked position %		
6. Temperature	· · · · — — —		
O Below 0 degrees Celsius (Below 32 F)	12. Estimated distance from parked position to impact		
O 1-10 degrees Celsius (33-50 F)	m		
O >10-24 degrees Celsius (51-75 F) O Over 24 degrees Celsius (Over 75 F)	13. Estimated speed at impactm kmph		
O Unknown	+/ -		
	14. Grade at impact %		
	15. Estimated distance from impact to vehicle final		
	rest		
	m		
	Unknown = 999 Reference Items 11,12, 13, 14, 15		

VEHICLE FORM

1. Case Nur	mber				
		VEHICLE IDEN	TIFICATION		
2. VIN	·				
3. Model Ye	ear				
4. Vehicle N	Make (specify	/):			_
5. Vehicle N	Model (specif	y):			_
		GLAZI	NG		
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	Clear / Hazy / Very Dirty		
RF		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
2 nd Left		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
2 nd Right		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
3 rd Left		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
3 rd Right		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
Backlight		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
Left Backlight		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
Right Backlight		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
Roof		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
Other (specify)		Fixed / Closed / Open / Partially Open	Clear / Hazy / Very Dirty		
		TIRE D	ATA		
6. Vehicle	Manufactu	rer 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

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				
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)				

Back Up / Parking Aid Form

1. Case Number	Video image quality under scene lighting conditions		
PARKING AID PRESENCE 2. Type of backing/parking aid present	O None present O Good O Average O Poor (specify): O Unknown		
O OEM camera O OEM ultrasonic/radar sensor O OEM combination camera-ultrasonic/radar sensor O OEM Fresnel lens O OEM interior mirrors O Aftermarket camera O Aftermarket ultrasonic/radar sensor O Aftermarket combination camera-ultrasonic radar sensor O Aftermarket Fresnel lens O Aftermarket interior mirrors O Other (specify):	8. Was the camera functioning properly O None present O Yes O No, poor image quality due to glare O No, poor image quality due to atmospheric conditions O No, camera turned off O No, camera inoperable O Unknown ULTRASONIC/RADAR SENSOR Specify object detection range on diagram		
CAMERA INFORMATION	System make/model		
Specify field of view measurements on diagram			
3. System make/model 4. Video monitor type O None present O LCD (color) O CRT (black & white) O Unknown 5. Video display size cm (Diagonal) 6. Camera location O None present O Bumper O License plate O Trilleto (Latab Trunk	10. Auditory warning illumination O No sensor present O Yes O No O Unknown 11. Number of sensors 12. Sensor locations (Select all that apply) O No sensor present O Left bumper O Center bumper O Right bumper O License plate area O Tailgate/Hatch/Trunk		
O Tailgate/Hatch/Trunk O Other (specify):	13. Was warning system functioning properly O No sensor present O Yes, system alerted driver O No, system did not alert driver O No, system turned off O No, system inoperable O Unknown		

Spe	ecial Crash Investigations – Not In Traffic Surveill	ance:	: Ba	ck Up	/ Parkin	g Aid	Form	Page 2
14.	Did driver react to warning							
	O No sensor present O Yes O No O Unknown							
15.	Did driver report common false warnings							
	O No sensor present O Yes O No O Unknown							

DRIVER FORM

Case Number	10. Driver entry interruption (Select all that apply)
DRIVER PROFILE 2. Driver's Age 99 = Unknown 3. Driver's Sex O Male O Female O Unknown 4. Driver's Height 999 = Unknown	O Direct trip from building to vehicle O Loaded items into vehicle O Spoke with family O Spoke with neighbors O Spoke with contacted nonmotorist O Return trip (backing into driveway/lot) O Other (specify): O N/A Unknown 11. Purpose of backing
5. Driver's Weight 999 = Unknown 6. Driver eyewear worn (Select all that apply) O None O Eyeglasses O Sunglasses O Contacts O Unknown	O Leaving parking space in parking lot O Backing onto roadway from driveway O Entering parking space in parking lot O Backing into driveway from roadway O Other (specify): O N/A Unknown 12. Where was driver going Description:
7. Driver vision deficiency condition (Select all that apply) O None O Near sighted O Far sighted O Astigmatism O Other (specify) O Unknown	13. Driver in a hurry O Yes N/A O No Unknown O Unknown 14. How did driver check behind (rear area of vehicle)
8. Non motorist's relationship to driver O No relationship O Child O Grandchild O Sibling O Neighbor O Friend O Other (specify): O Unknown DRIVER ACTIONS	after vehicle entry (Select all that apply) O Did not look O Checked mirrors O Turned right and looked back O Turned left and looked back Viewed Camera Listened for auditory/visual warning from system
9. Driver approach to vehicle for entry From left front O From left O From left rear O From right rear O From right front O Circled vehicle O Return trip (backing into driveway/lot) O Other (specify): O N/A O Unknown	O Other (specify): N/A Unknown 15. Estimated time between vehicle entry and start of backing O 0-10 Seconds O 11-30 Seconds O 31-60 Seconds Unknown

	gament construction of the		
16.	What direction was the driver looking during backing maneuver	19.	Did driver see struck non motorist prior to impact (Select all that apply)
	(Select all that apply) O Straight ahead O Right O Left O Rearward		O No, never saw non motorist O Saw non motorist prior to entering vehicle O Saw non motorist after entering vehicle O Other (specify): Unknown
	O At object inside the car	00	
	O At mirrors O Other (specify):	20.	Est time between start of backing and impact
	O N/A		O <2 or = 1 second O 2-5 seconds
17	Unknown Was the driver distracted during back up		O 6-10 seconds
17.	maneuver		O > 10 seconds
	(Select all that apply)		O N/A Unknown
	O No non-driving activities External	21.	Driver interior sightline obstructions (Select all that apply)
	O Looking at other vehicles O Looking at other non motorist O Looking at intended turn destination O External focus, not specified		O Pillar O Other occupant O Headrest O Other (specify) O Cargo O Unknown
	O Other external focus (specify):	22	None
	Internal	22.	Recent experience driving this vehicle
	 O Looking at other occupant O Talking to passenger O Dialing phone O Talking on phone O Listening to radio/cd/portable playback device O Adjusting radio/cd player O Adjusting climate controls 		O More than 10 times the last three months O 6-10 times the last three months O 2-5 times the last three months O Less than 2 times the last three months O First time driving this vehicle O N/A Unknown
	O Using a device/controls integral to vehicle	23.	Frequency of driving in this parking lot/driveway
	(specify): O Reading/adjusting navigation system O Eating or drinking O Smoking related O Retrieving fallen object (specify): O Internal focus, not specified O Focused on other internal object		O Daily O Weekly O Several times a month O Monthly O Rarely O First time in lot/driveway O N/A Unknown
	(specify):	24.	Driver Impairment
	Unknown		(Select all that apply)
18.	Driver avoidance actions prior to impact (Select all that apply)		O No drugs or alcohol present O Alcohol present (specify): O Drugs present (specify):
	O None O Braking		O Drugs present (specify):O Unknown
	O Steering left O Steering right	25.	Source of alcohol/drug results
	O Accelerating		O Police reported
	O Other (specify):O N/A		O Medical record O Other (specify)
	Unknown		O Not Tested Unknown if tested

Non Motorist Form

1. Case Number	11. Non-motorist motion
NON-MOTORIST PROFILE	O Not moving O Walking slowly O Walking rapidly
2. Non-motorist's Age Years 99 = Unknown	O Running or joggingO Skipping/Hopping/JumpingO Falling/Stumbling/Rising
3. Non-motorist's Sex O Male O Female O Unknown	O On skates/skateboard O On bike/scooter O Other (specify): O Unknown
4. Non-motorist's Height cm 999 = Unknown	12. Non-motorist approach relative to rear of vehicle
5. Non-motorist's Weight kg999 = Unknown6. Medical outcome	O Stationary O From left O From right O From behind O Other (specify):
O Not injured O ER only O Hospitalized 1-4 days	O Unknown 13. Non-motorist first avoidance action
O Hospitalized 5 days or moreO Treatment laterO FatalO Unknown	O No avoidance actions O Stopped O Accelerated pace O Ran away (along vehicle path)
7. Source of most severe injury Bumper O Tire O Undercarriage O Other Specify: O Ground	O Jumped O Turned away from vehicle O Turned toward vehicle and braced O Dove or fell away from vehicle O Other (specify): O Unknown
O N/A Unknown	14. Non-motorist primary focus of attention
8. Non-motorist impairment (Select all that apply) O No drugs or alcohol present O Positive for alcohol (specify BAC): O Positive for drugs (specify): O Unknown	O Striking vehicle O Play object O Person O Surrounding traffic O Animal O Handheld electronic (phone, MP3 player, etc.)
Source of alcohol/drug results Police reported Medical Report	O Other Object (specify) O Unknown 15. Were any other Non-motorists present?
O Other (specify) O Not Tested O Unknown if tested	(Select all that apply) O Alone
NON-MOTORIST ACTIONS	O One adult present O One other child present
10. Non-motorist attitude	O Multiple adults present O Multiple children present
O Standing O On skates/skateboard O Bending at waist O On bike/scooter O Sitting O Other (specify) O Crouching O Unknown O Kneeling	O Unknown

NON MOTORIST CLOTHING

NOTES:

White

• Specify Color, Fabric and Texture/Weight for outermost layer only

Other (specify)

- Indicate "NONE" if applicable
- Available codes:

Colo	<u>ors</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			

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