CRASH DATA RESEARCH CENTER
Calspan Corporation
Buffalo, NY 14225

NOT-IN-TRAFFIC SURVEILLANCE
CALSPAN ON-SITE BACKOVER CRASH INVESTIGATION

SCI CASE NO: CA12008

VEHICLE: 2002 FORD F150 PICKUP

LOCATION: NEW YORK

CRASH DATE: MARCH 2012

Contract No. DTNH22-07-C-00043

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

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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 are 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 STANDARD TITLE PAGE

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16. Abstract This on-site investigation focused on the circumstances, injury sources, and rear visibility of a 2002 Ford F150 extended-cab pickup driven by a 40-year-old female that was involved in a Not-In-Traffic backover crash with a 70-year-old female non-motorist. The crash occurred in the curb-side parking lane of a two-lane road that was located in an urban commercial setting. The driver of the Ford was operating the vehicle in a commercial district intending to park on the roadside parking lane. The driver maneuvered the vehicle into the parking lane, stopped and then backed up. The 70-year-old non-motorist was in the parking lane behind the Ford intending to cross the street. As the vehicle backed up, the left rear bumper corner of the Ford contacted the non-motorist and knocked her to the ground. The non-motorist sustained an incapacitating head injury as a result of the fall. Based on the impact location, the non-motorist had nearly cleared the vehicle.			
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BACKGROUND

This on-site investigation focused on the circumstances, injury sources, and rear visibility of a 2002 Ford F150 extended-cab pickup (**Figure 1**) driven by a 40-year-old female that was involved in a Not-In-Traffic backover crash with a 70-year-old female non-motorist. The crash occurred in the curb-side parking lane of a two-lane road that was located in an urban commercial setting. Notification of the crash was forwarded to the Crash Investigation Division (CID) of the National Highway Traffic Safety Administration (NHTSA) by the Calspan Special Crash Investigations (SCI) team on March 14, 2012. The CID assigned an on-site investigation on March 15, 2012 to support the Not-In-Traffic Surveillance research that is being conducted by the Agency. The Calspan SCI team immediately contacted and obtained cooperation with the investigating police officer. The officer supplied the Police Crash Report, a Reconstruction Report and on-scene images of the crash. The SCI team also obtained cooperation with the vehicle owner to inspect and measure the rear visibility of the Ford. The vehicle owner would not allow the driver to be interviewed. A witness was interviewed by telephone and detailed the events of the crash.

Figure 1: Left rear oblique view of the Ford.

The driver of the Ford was a 40-year-old female. She was operating the vehicle in a commercial district intending to park on the road side parking lane. The driver maneuvered the vehicle into the parking lane, stopped and then backed up. The 70-year-old non-motorist was in the parking lane behind the Ford intending to cross the street. As the vehicle backed up, the left rear bumper corner of the Ford contacted the non-motorist and knocked her to the ground. The non-motorist sustained an incapacitating head injury as a result of the fall. Based on the impact location, the non-motorist had nearly cleared the vehicle.

CRASH SUMMARY

Crash Site

This backover crash occurred within the curb-side parking lane of a two lane east/west road. The parking lane of interest was located on the south side of the road. **Figure 2** is an eastbound approach view of the crash site. The travel lanes measured 5.9 m (19.4 ft) in width and were separated by a broken yellow centerline. Each travel lane was of sufficient width to accommodate through-traffic and curb-side parking. The roadway was bordered by concrete curbs and 3.9 m (12.8 ft) wide sidewalks. Commercial businesses were located on both sides of the road. A two-lane north/south road intersected the primary road from the south. This three-leg intersection was located immediately west of the crash location. The posted speed limit was 48 km/h (30 mph).

Figure 2: Eastward view approaching the crash site.

Pre-Crash

The crash occurred during the morning hours of March 2012. The environmental conditions were daylight, clear and dry. The weather station-reported temperature was 10 degrees C (50 degree F) with southwest winds at 31.5 km/h (19.6 mph). The female driver of the Ford was operating the vehicle into this small commercial district with the intention of parking along the south curb. The purpose of parking at this location was to pick up her child who was being cared for by her estranged husband. The child was located within a nearby commercial business.

The police reconstruction report indicated that five cellular telephone calls were placed from the driver to the estranged husband during the seven minutes preceding the crash. Apparently there was a dispute concerning whether the estranged husband was going to transfer the child. The fifth call lasted for 33 seconds and was initiated approximately one minute prior to the crash time that was reported through the Emergency Response System. Although unconfirmed, the driver was most likely preoccupied by this dispute during her operation of the vehicle. Further, it was also possible that the driver was distracted by the telephone use.

The Ford was traveling east as it the approached the crash site (**Figure 3**). A non-contact vehicle was already parked at the south curb and the driver maneuvered the Ford into the parking lane directly behind this vehicle. The driver applied the brakes and the Ford came to a controlled stop. During her interview with the investigating police officer, she stated that she shifted the transmission into reverse, looked over her right shoulder and began to back up. The non-motorist was reported to have been walking east on the sidewalk. She had crossed the

intersecting north/south roadway and was adjacent to the corner as the Ford was parking. A Crash Diagram is included on Page 8 of this report.

A witness to the crash was traveling east behind the Ford in a (second) non-contact vehicle. This witness intended to turn right onto the intersecting roadway. He stated that as he approached the intersection, he observed the non-motorist and the Ford's backing maneuvers.

Figure 3: East view of the crash site.

The witness stated to the investigating officer that as the Ford was backing up, he observed the non-motorist standing in the parking lane intending to cross the street. The non-motorist was attempting to cross the street at mid-block, not at the corner. He recalled that the non-motorist was standing between the Ford's centerline and its left rear corner and that she was observing traffic in order to cross the street. He could not recall how or when the non-motorist became positioned behind the Ford. **Figure 4** is a west view along the Ford's backing trajectory.

Crash

When the witness recognized that the Ford was backing up, he stated that he began to blow his horn to alert the driver of the Ford of the potential hazard. The left corner of the rear bumper contacted the non-motorist and knocked her to the ground. A blood stain evidenced the non-motorist head contact with the ground (**Figure 5**). This blood evidence was located 1.9 m (6.2 ft) north of the curb and 5.2 m (17.0 ft) east of the intersection. Without recognizing that the contact with the non-motorist had occurred, the Ford then stopped. The witness stopped, exited his vehicle and ran up to the driver's window of the Ford. The driver of the Ford stated to the investigating officer that she did not realize she had contacted the non-motorist until the witness came to her window.

Figure 4: West view along the backing trajectory.

Figure 5: Close-up view of the crash site and the location of the non-motorist's head contact with the ground.

Post-Crash

Multiple calls to the Emergency Response System were made by people within the local businesses. The police and Emergency Medical Services (EMS) responded to the crash. The non-motorist sustained an incapacitating head injury as a result of the fall. She was transported to a regional trauma center in critical condition. At the time of the SCI investigation, the non-motorist was still hospitalized in a medically-induced coma.

2002 FORD F150 PICKUP

Description

The 2002 Ford F150 pickup (**Figure 6**) was identified by the Vehicle Identification Number (VIN): 2FTRX18L82Cxxxxxx. The extended cab, four-wheel drive, ½ ton, short box pickup was configured on a 353 cm (139 in) wheelbase. The powertrain consisted of a 5.4 liter/V8 engine linked to a 4-speed automatic transmission. The service brakes were a four-wheel disc system with ABS. The cloth-upholstered interior was configured with two front row bucket seats and a second row folding bench seat. The two front head restraints were in the fully raised position. The second row was not equipped with head restraints. The driver was adjusted to the full-forward position. The front row windows were AS2 tempered glazing. The rear windows and backlight were OEM AS3 (tinted) glazing. The vehicle was equipped with P265/70R17 tires, which were the OEM recommended tire size for this vehicle. Inspection of the undercarriage did not yield any evidence of after-market modification (i.e. lift kits or altered suspension). The Ford was not equipped with an electronic parking aid (i.e. back-up camera or sensor system).

Figure 6: Left side view of the 2002 Ford F150.

The ground heights of the rear bumper and undercarriage components were measured. The clearance heights are summarized below:

- Height of beltline at the driver window: 130 cm (51.2 in)
- Height of the tailgate: 139 cm (54.7 in)
- Height at top of bumper: 74 cm (29.1 in)
- Bumper bottom clearance: 51 cm (20.1 in)
- Trailer hitch receiver clearance: 41 cm (16.1 in)
- Rear axle clearance: 33 cm (13.0 in)
- Shock mount clearance: 25 cm (9.8 in)
- Differential clearance: 21 cm (8.3 in)

Exterior Damage

The subject vehicle was not physically damaged in the crash. The police investigation did determine that there was an area of contact to the left corner of the rear bumper and to the left rear mud flap. Dust was removed from these two components and was considered contact areas by the police investigator. **Figures 7 and 8** are on-scene police images of the contact area. Due to the passage of time between the crash date and the SCI investigation, these areas of contact were not apparent during the SCI inspection.

Figure 7: On-scene police image of the left rear bumper corner of the Ford.

Figure 8: On-scene police image of the Ford's left rear mud flap.

Rear Visibility

The rear visibility of the Ford was measured utilizing a surrogate driver with the vehicle located in a level parking lot. The eye height of a 160 cm (63 in) tall surrogate driver was positioned 74 cm (29.1 in) above the seat cushion with the driver seat adjusted to the full-forward position. This estimated eye height was based on comparative measurements of a 157 cm (62 in) tall female with a 73 cm (28.7 in) seated eye height and a 170 cm (67 in) tall female with a 76 cm (29.9 in) seated eye height.

A 71 cm (28 in) tall red reflective target was placed on the vehicle's centerline and moved rearward to a location where the surrogate driver could first see the red target by looking through the rear view mirror (**Figure 9**). The centerline distance measured from the rear bumper to the reflector was 11.8 m (38.7 ft). The driver's line of sight through the rear view mirror projected to the ground was an additional 12.2 m (40.0 ft) for a total distance of 24 m (78.7 ft). **Figures 10 and 11** depict the location of the targets relative to the parked Ford.

Figure 9: Image through the center mirror to the reference targets positioned aft of the Ford.

Figure 10: Oblique view depicting the distance from the Ford's rear bumper to the reference targets.

Figure 11: View along the extended centerline of the Ford depicting the reference target locations.

Cones of visibility were also established using the outside mirrors. These lateral visibility measurements were established at the centerline reference distance of 11.8 m (38.7 ft). By using the mirrors, the surrogate driver located the 71 cm (28 in) targets that were placed laterally relative to the centerline from a normal seated position. The visibility for the left mirror began 0.7 m (2.3 ft) left of center and ended 5.5 m (18.0 ft) left of center. The cone for the right mirror began 1.2 m (3.8 ft) right of center and ended 7.4 m (24.3 ft) right of center. These visibility measurements are depicted graphically in a Rear Visibility Diagram on Page 9 of this report.

2002 FORD F150 OCCUPANT

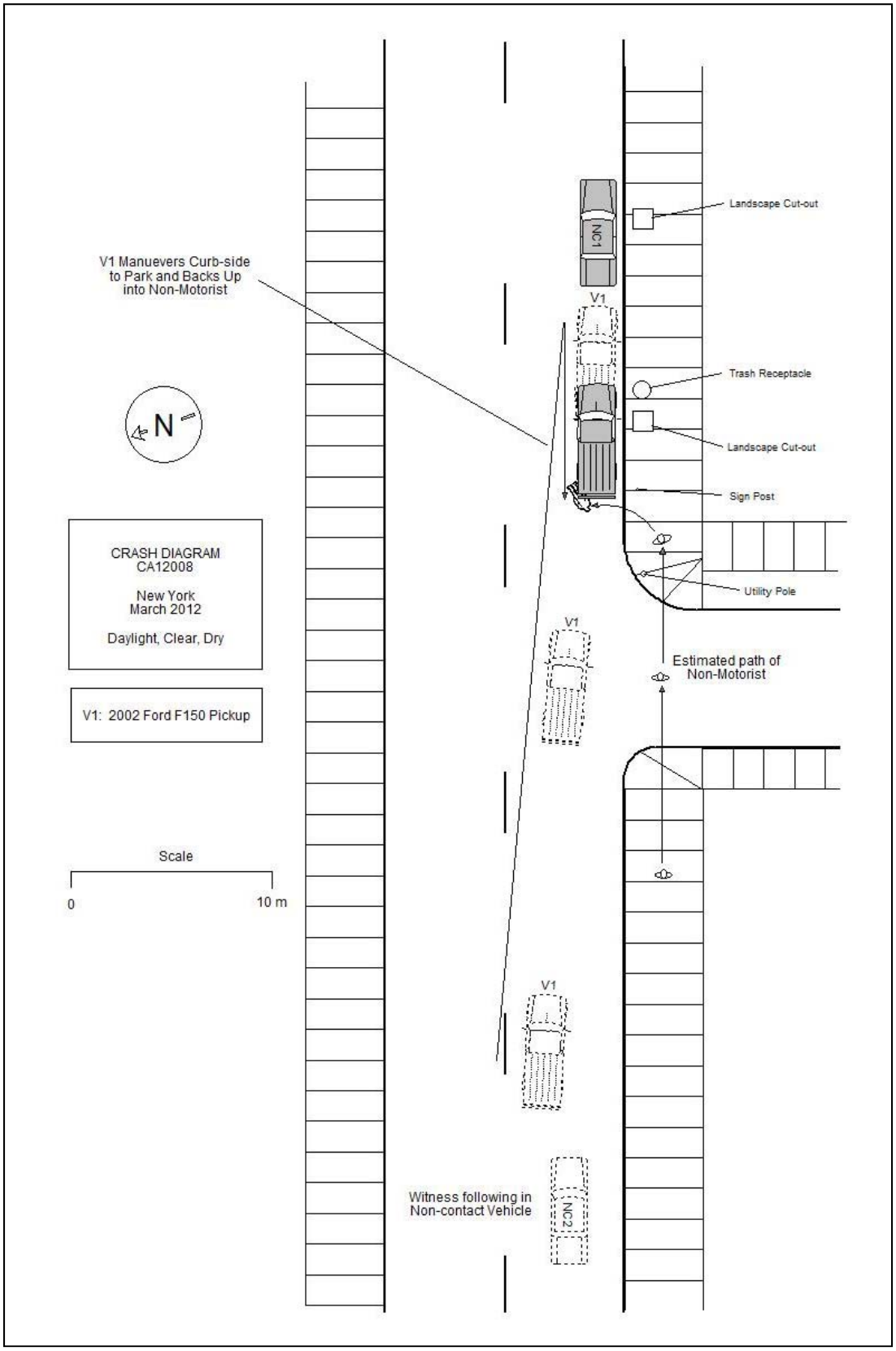
Driver Demographics

Age / Sex:	40 years / Female
Height:	160 cm (63 in)
Weight:	Unknown, described as petite by vehicle owner
Eyewear:	None
Seat Type:	Bucket
Seat Track Position:	Full-forward
Manual Restraint Usage:	Unknown
Usage Source:	N/A
Air Bags:	None deployed
Alcohol/Drug Data:	None
Egress from Vehicle:	Exited vehicle without assistance through left front door
Transport from Scene:	None
Medical Treatment:	None

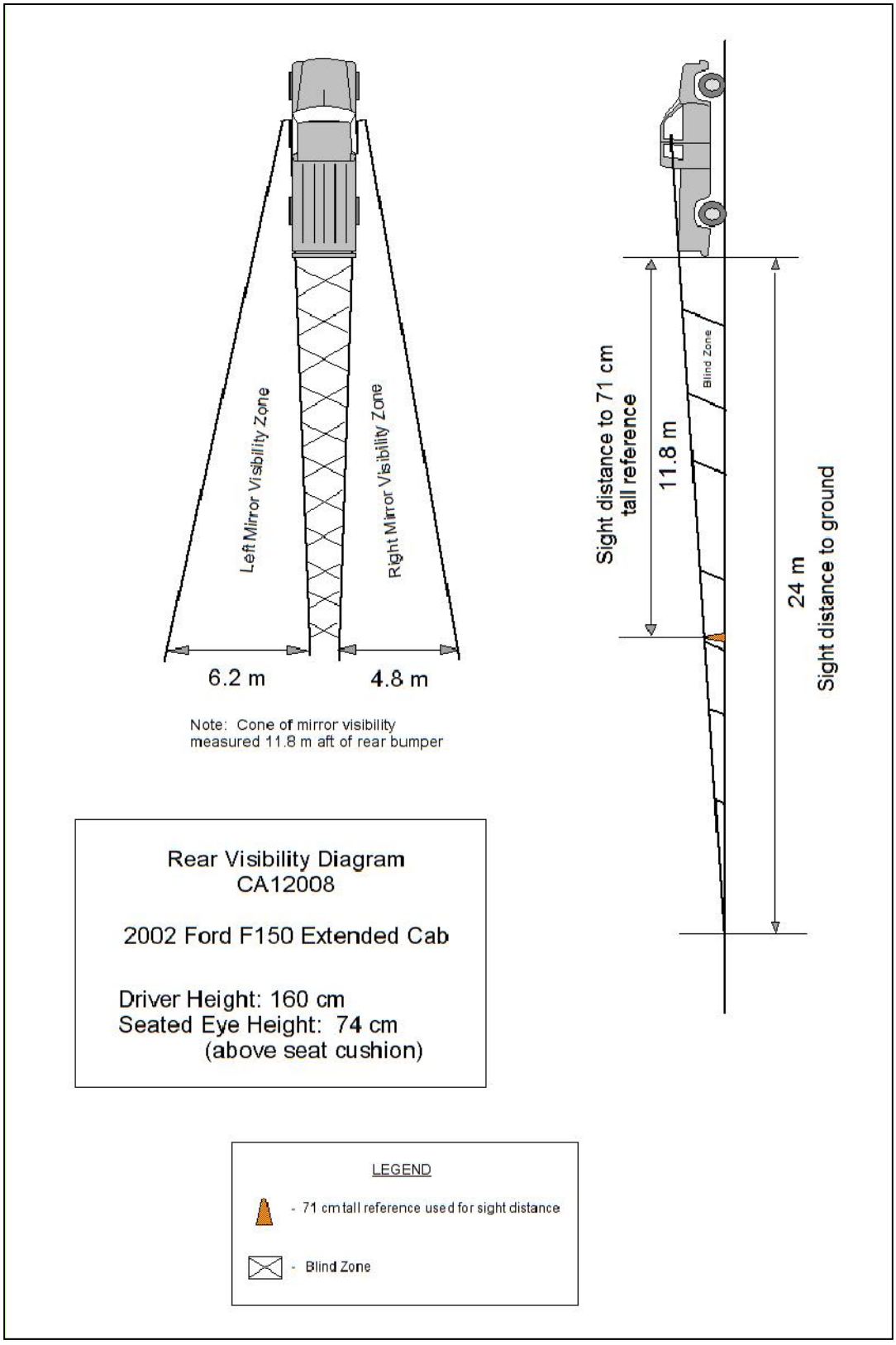
NON-MOTORIST DEMOGRAPHICS

Age / Sex:	70 years / Female
Height:	165 cm (65 in)
Weight:	Unknown, described by witness as average build for height
Clothing:	Black pants, red rain jacket (thigh length), no head gear
Alcohol/Drug Involvement:	None
Transport from Scene:	Ground ambulance to a regional trauma center
Medical Treatment:	Hospitalized by an incapacitating head injury

CRASH DIAGRAM



REAR VISIBILITY DIAGRAM



ATTACHMENT A:

Not-In-Traffic Surveillance Forms

Not Applicable ☐

Reset Values

Print Forms

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

SCENE FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 1 2 0 0 8

IDENTIFICATION

2. Date of Crash 0 3 / X X / 1 2

3. Time of Crash X X X X

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 4 . 0 m

13. Estimated speed at impact 0 0 1 kmph

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

15. Estimated distance from impact to vehicle final rest

0 0 0 . 0 m

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

Not Applicable ☐

Reset Values

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

VEHICLE FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number C A 1 2 0 0 8

VEHICLE IDENTIFICATION

2. VIN 2 F T R X 1 8 L 8 2 C X X X X X X

3. Model Year 2 0 0 2

4. Vehicle Make (specify): FORD

5. Vehicle Model (specify): F150 4X4 EXTENDED CAB

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 P265/70R17

7. LF Tire Size P265/70R17

8. LR Tire Size P265/70R17

9. RF Tire Size P265/70R17

10. RR Tire Size P265/70R17

Seats / Head Restraint Data

Seat Position	Seat Type (Select from below)	Head Restraint (Check if available)	Head Restraint Adjustment (select)
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	10	☐	☐ ☐ ☐ Full Down / Mid / Full Up
2nd Middle	10	☐	☐ ☐ ☐ Full Down / Mid / Full Up
2nd Right	10	☐	☐ ☐ ☐ 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

NOTES:

Second Row Seat has a vertical-folding cushion and a fixed back

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		130	Height of Top of Bumper: 74 cm
Top of trunk/tailgate		139	
Bottom of bumper		51	
Trailer hitch (if applicable)		41	
Undercarriage			
	Sway bar	N/A	
	Axle	33	
	Differential	21	
	Other (specify): Shock Mt	25	
Sensor Height (if equipped)		N/A	
Camera Height (if equipped)		N/A	

Not Applicable ✔

Undo Not Applicable

Reset Values

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

Back Up / Parking Aid Form

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 1 2 0 0 8

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

Not Applicable

14. Did driver react to warning

- ☐ No sensor present
- ☐ Yes
- ☐ No
- ☐ Unknown
- ☐ Sensor present, did not sound

15. Did driver report common false warnings

- ☐ No sensor present
- ☐ Yes
- ☐ No
- ☐ Unknown

Not Applicable

No Driver Present ☐

Reset Values

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

DRIVER FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 1 2 0 0 8

DRIVER PROFILE

2. Driver's Age 4 0
   99 = Unknown

3. Driver's Sex
   ☐ Male
   ☉ Female
   ☐ Unknown

4. Driver's Height 1 6 0 cm
   999 = Unknown

5. Driver's Weight 9 9 9 kg
   999 = Unknown

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

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

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

DRIVER ACTIONS

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

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

11. Purpose of backing
    ☐ Leaving parking space in parking lot
    ☐ Backing onto roadway from driveway
    ☐ Entering parking space in parking lot
    ☐ Backing into driveway from roadway
    ☉ Other (specify): Parking curb-side
    ☐ N/A
    ☐ Unknown

12. Where was driver going
    Description:

Driver was parking vehicle to pick up passengers

13. Driver in a hurry
    ☐ Yes ☐ N/A
    ☐ No ☉ 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

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
C A 1 2 0 0 8

NON-MOTORIST PROFILE

2. Non-motorist's Age 7 0 ☐ Months ☉ Years
99 = Unknown

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

4. Non-motorist's Height 1 6 5 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
☐ Bending at waist
☐ Sitting
☐ Crouching
☐ Kneeling
☐ On skates/skateboard
☐ On bike/scooter
☐ Other (specify)_____
☐ Unknown

11. Non-motorist motion

☉ Not moving
☐ Walking slowly
☐ Walking rapidly
☐ Running or jogging
☐ Skipping/Hopping/Jumping
☐ Falling/Stumbling/Rising
☐ On skates/skateboard
☐ On bike/scooter
☐ Other (specify): _____
☐ Unknown

12. Non-motorist approach relative to rear of vehicle

☐ Stationary
☐ From left
☉ From right
☐ From behind
☐ Other (specify): _____
☐ Unknown

13. Non-motorist first avoidance action

☉ No avoidance actions
☐ Stopped
☐ Accelerated pace
☐ Ran away (along vehicle path)
☐ Jumped
☐ Turned away from vehicle
☐ Turned toward vehicle and braced
☐ Dove or fell away from vehicle
☐ Other (specify): _____
☐ Unknown

14. Non-motorist primary focus of attention

☐ Striking vehicle
☐ Play object
☐ Person
☉ Surrounding traffic
☐ Animal
☐ Handheld electronic (phone, MP3 player, etc.)
☐ Other Object (specify) _____
☐ Unknown

15. Were any other Non-motorists present?
(Select all that apply)

☉ Alone
☐ One adult present
☐ One other child present
☐ Multiple adults present
☐ Multiple children present
☐ Unknown

NON MOTORIST CLOTHING

NOTES:

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

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

	Clothing	Color	Fabric	Texture	Weight
HEADWEAR	Hat	None			
	Helmet				
	Hood				
	Other (specify): _____				
	Unknown				
UPPER BODY	Short Sleeve				
	Long Sleeve				
	Light Jacket	Red	Natural	Soft	Medium
	Heavy Jacket				
	Other (Specify): _____				
	Unknown				
LOWER BODY	Shorts				
	Pants	Black	Natural	Soft	Medium
	Shoes				
	Other (specify): _____				
	Unknown				