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ON-SITE NOT IN TRAFFIC SURVEILLANCE BACK OVER INVESTIGATION

CASE NUMBER - IN08025
LOCATION - KANSAS
VEHICLE - 1994 FORD BRONCO
CRASH DATE - May 2008

Submitted:

July 28, 2008
Revised: August 28, 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.* IN08025	2. *Government Accession No.*	3. *Recipient's Catalog No.*	
4. *Title and Subtitle* On-Site Not In Traffic Surveillance Back Over Investigation Vehicle - 1994 Ford Bronco Location - Kansas		5. *Report Date:* July 28, 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 501 South Madison Street, Suite 105 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: May 2008 14. *Sponsoring Agency Code*	
15. *Supplementary Notes* On-site not in traffic surveillance back over investigation involving a 1994 Ford Bronco and a pedalcyclist.			
16. *Abstract* This report covers an on-site not in traffic surveillance back over investigation involving a 1994 Ford Bronco and a pedalcyclist, who was backed over in a driveway. The Ford was parked on a level residential driveway. After entering the vehicle and conversing with her two passengers and another adult that was standing adjacent to the left front door, the driver checked her mirrors and began to back the vehicle. She was looking over her right shoulder and continuing to converse with the front right passenger as she backed up. Unknown to the driver, the pedalcyclist was riding a toy tricycle behind and to the right of the Ford. His specific location relative to the Ford when the driver prepared to back up was unknown. As she backed up and to the right, the back bumper impacted the pedalcyclist, the vehicle's right rear tire rolled over him, and he sustained fatal head injuries.			
17. *Key Words* Back Over Child Fatality Motor Vehicle Traffic Crash Injury Severity		18. *Distribution Statement* General Public	
19 *Security Classif. (of this report)* Unclassified	20. *Security Classif. (of this page)* Unclassified	21. *No. of Pages* 8	22. *Price*

Form DOT 1700.7 (8-72) Reproduction of completed page authorized

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BACKGROUND

IN08025

This incident was brought to the National Highway Traffic Safety Administration's attention on or before May 14, 2008 by an on-line article from a Kansas newspaper. This incident involved a 1994 Ford Bronco (**Figure 1**) and a pedalcyclist. The incident occurred in May, 2008, at 16:10 hours, in Kansas and was investigated by the applicable city police department. An incident report was completed and a copy submitted to the state government. This incident is of special interest because the Ford's driver backed over a pedalcyclist (2-year-old, male) who sustained fatal injuries. This contractor established contact with local police on May 26, 2008 and obtained a copy of the police incident report on June 2, 2008. Contact was made with the Ford's driver on June 9, 2008 and cooperation was finalized on June 13, 2008. This contractor inspected the scene and Ford, and interviewed the Ford's driver on June 26, 2008. This report is based on the police incident report, scene and Ford inspections and an interview with the Ford's driver.

Figure 1: The 1994 Ford Bronco

SUMMARY

This incident occurred during daylight hours under clear and dry weather conditions. The Ford was parked on a level residential driveway. After entering the vehicle and conversing with her two passengers and another adult that was standing adjacent to the left front door, the driver checked her mirrors and began to back the vehicle. She was looking over her right shoulder and continuing to converse with the front right passenger as she backed up. Unknown to the driver, the pedalcyclist was riding a toy tricycle behind and to the right of the Ford. His specific location relative to the Ford when the driver prepared to back up was unknown. As she backed up and to the right, the back bumper impacted the pedalcyclist, the vehicle's right rear tire rolled over him, and he sustained fatal head injuries.

CRASH CIRCUMSTANCES

Crash Environment: The Ford was parked, heading east at the east end of a residential driveway (**Figure 2**) that traversed east/west and was located on the north side of the driver's residence. The Ford was parked on the gravel portion of the driveway and another car was parked immediately to the Ford's right, on the concrete portion of the driveway. The gravel did not extend to the street. At the time of the incident, the light condition was daylight, the atmospheric condition was clear, and the driveway

Figure 2: Parked vehicle (left arrow) represents initial position of Ford; right arrow shows area of impact

was dry and level. The site of the incident was located within a residential area. See the Scene Diagram at the end of this report.

Figure 3: Arrow indicates estimated path of Ford to impact area

Figure 4: Ford's back bumper and right rear tire; numbers on scale indicate tenths of meter

Pre-Crash: The Ford's driver (18-year-old, female) stated during the interview that she was conversing with several other adults and children at the east end of the driveway. She left this group and approached the vehicle from the front right but could not remember if she walked around the front or the back end to enter. She estimated that she sat in the vehicle for 30 seconds-1 minute before the front right passenger (19-year-old, female) entered. The driver's brother (17-year-old, male) approached the Ford and stood near the right front door and conversed with the occupants for 1-2 minutes before entering the vehicle and sitting in the middle of the second seat. At this point, the pedalcyclist's father (driver's stepfather) came to the driver's door and spoke with the occupants for 30 seconds-1 minute. When the conversation ended, the driver prepared to back up by looking at the rearview mirror and left side view mirror. She could not recall if she also looked at the right side view mirror. She then looked over her right shoulder out of the backlight and began to back the vehicle while engaged in a conversation with the front right passenger. Unknown to the driver, the pedalcyclist (driver's stepbrother) was riding a toy tricycle on or near the concrete portion of the driveway, behind and to the right of the Ford. His position and movement was not known because the driver nor other people at the scene saw him just prior to the incident. The driver's intention was to back the vehicle to the right and onto the concrete (**Figure 3**) because the gravel portion of the driveway did not extend all the way to the street.

Crash: The driver backed the vehicle by moving her right foot on and off the brake, letting the Ford slowly idle backward, never touching the accelerator. She estimated that approximately 2-5 seconds after beginning the backing maneuver, she felt and heard a "rough" sound as the back bumper impacted the pedalcyclist and the right rear tire (**Figure 4**) rolled over him. Upon hearing this, the driver immediately stopped the vehicle. The vehicle traversed 16.6 meters (54.4 feet) to impact and an additional 2 meters to final rest. The vehicle's impact speed was unknown, but based on the driver's description of the incident, it was probably in a range of 2-8 km/h (1-5 mph).

Post-Crash: The Ford's driver got out of the vehicle and walked around to the right side of the vehicle. By this time, the pedalcyclist's father had picked him up from the driveway and was holding him in his arms. According to the driver, the pedalcyclist was just in front of the right rear tire at final rest. The driver subsequently moved the vehicle to a neighbor's driveway because her mother told her to make room for the ambulance. The police were notified and the pedalcyclist was transported by ambulance to a hospital. He was pronounced dead 32 minutes post-incident from an unspecified head injury.

CASE VEHICLE

The 1994 Ford Bronco was a four wheel drive, two-door sport utility vehicle (VIN: 1FMEU15HXRL------) equipped with a 5.8L, V-8 engine and automatic transmission. The back windows and backlight were tinted (AS-3). The vehicle's recommended tire size was P265/75R15 and the vehicle was equipped with 22x11.50R15LT size tires. The Ford was not equipped with a back up/parking aid. The Ford's specified wheelbase was 266 centimeters (104.7 inches), the specified rear overhang was 120 centimeters (47.2 inches), and the specified overall length was 466 centimeters (183.6 inches). The distance from the ground to the bottom of the back bumper was 44 centimeters (17.3 inches). The distance from the ground to the top of the tailgate was 131 centimeters (51.6 inches). The height of the beltline was 128 centimeters (50.4 inches).

CASE VEHICLE DAMAGE

The vehicle inspection revealed no damage or contact evidence to the Ford's back bumper, undercarriage, or right rear tire. Based on the vehicle inspection and the Collision Deformation Classification (CDC) guidelines for pedestrian impacts, the CDC was **06-BRLN-1** (**180** degrees).

CASE VEHICLE DRIVER

The Ford's driver (18-year-old, female) was 157 centimeters (62 inches) tall and weighed 54 kilograms (120 pounds). She resided at the site of the incident and drove the vehicle in and out of the driveway daily. She was not wearing eyeglasses or contacts at the time of the incident.

CASE VEHICLE VISIBILITY STUDY

A visibility study was conducted during the inspection of the Ford in order to determine the nominal blind zone behind the Ford 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 SCI investigator drove the Ford's driver to a remote location where the vehicle was located. The driver assisted the SCI investigator in making the visibility observations, as well as a surrogate that served as the back center passenger. The driver's eye height above the ground was measured as 155 centimeters (61 inches) as she sat in the driver's seat with the seat adjusted between the middle and full forward track position, which was her normal seat track position. The top of the surrogate passenger's head was measured as she sat in the second row center seat position and was 177 centimeters (64.6 inches) above the ground. The driver was the primary

driver of the Ford and rarely adjusted her rearview and side view mirrors, and did not have to adjust them prior to the observations. Please refer to the Nominal Visibility Diagram at the end of this report when reading the following description.

Figure 5: Arrow at target shows extent of blind zone with driver looking over shoulder

Figure 6: Arrow at target shows driver's over right shoulder view

Figure 7: Surrogate second row center passenger obstructing view of driver; camera view does not accurately represent driver's view

The initial set of observations was made with the driver looking over her right shoulder out of the backlight as she did at the time of the incident. The target was moved rearward from the back bumper along the Ford's centerline 6.9 meters (22.6 feet) before it came into the driver's view (**Figures 5** and **6**). When the target was moved 1.1 meters (3.6 feet) to the right of the centerline, it became obstructed by the spare tire, which was mounted on the Ford's tailgate. The target had to be moved 2.8 meters (9.2 feet) further to the right to become visible to the driver on the right side of the spare tire. When the target was moved 1.4 meters (4.6 feet) further to the right, it became obstructed by the right C-pillar and second row center passenger (**Figure 7**). The target had to be moved an additional 7 meters (23 feet) before it became visible on the right side of the second row center passenger. The target was repositioned at the centerline and when moved to the left 1.5 meters (4.9 feet), passed beyond the driver's view because it was unnatural to turn her head further to the right.

The Ford's driver was asked to view behind the vehicle through the rearview mirror. The target was moved rearward from the back bumper 7.1 meters (23.3 feet) before the driver could see it (**Figure 8**). The target was moved 0.3 meter (1 foot) to the right of the centerline where it became obstructed by the second row center passenger and spare tire. The target did not become visible again until it was moved 2.1 meters (6.9 feet) further to the right, and when moved another 1.1 meters (3.6 feet), the target became obstructed by the right C-pillar. When moved another 0.7 meter (2.3 feet) to the right, the target became visible to the driver on the right side of the C-pillar. The target was moved another 0.6 meter (2 feet) it was no longer visible because it went out of the mirrors's field of view. The target was returned to the initial location at the centerline

and moved left. The target immediately went out of the driver's view, dropping below the second row seat back. This was due to a depression in the gravel driveway where the target was positioned. The Ford was not driveable at the time of inspection and could not be moved.

The target was placed at the back left bumper corner while the driver viewed through the left side view mirror. It was necessary to move the target rearward 3.2 meters (10.5 feet) before the driver could see it. The target was moved left 1.3 meters (4.3 feet) where it went out of the mirror's field of view and the driver could no longer see it (**Figure 9**). The target was 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 2.5 meters (8.2 feet) before the driver could see it. The target was then moved to the right 1.9 meters (6.2 feet) where it went out of the right side view mirror's field of view and the driver could no longer see it (**Figure 10**).

The visibility study determined that the Ford had a large blind zone behind and on both sides of the vehicle as well as blind zones caused by the spare tire, second row center occupant, and right C-pillar. The driver stated she did not see the pedalcyclist at any time prior to or during the backing maneuver. It is not known if the pedalcyclist was within a blind zone when the driver checked her mirrors and then looked out of the backlight and began to back up because his location relative to the vehicle at that time could not be determined.

Figure 8: Close view of target through rearview mirror (arrow shows target)

Figure 9: Close view through left side view mirror; arrow shows target

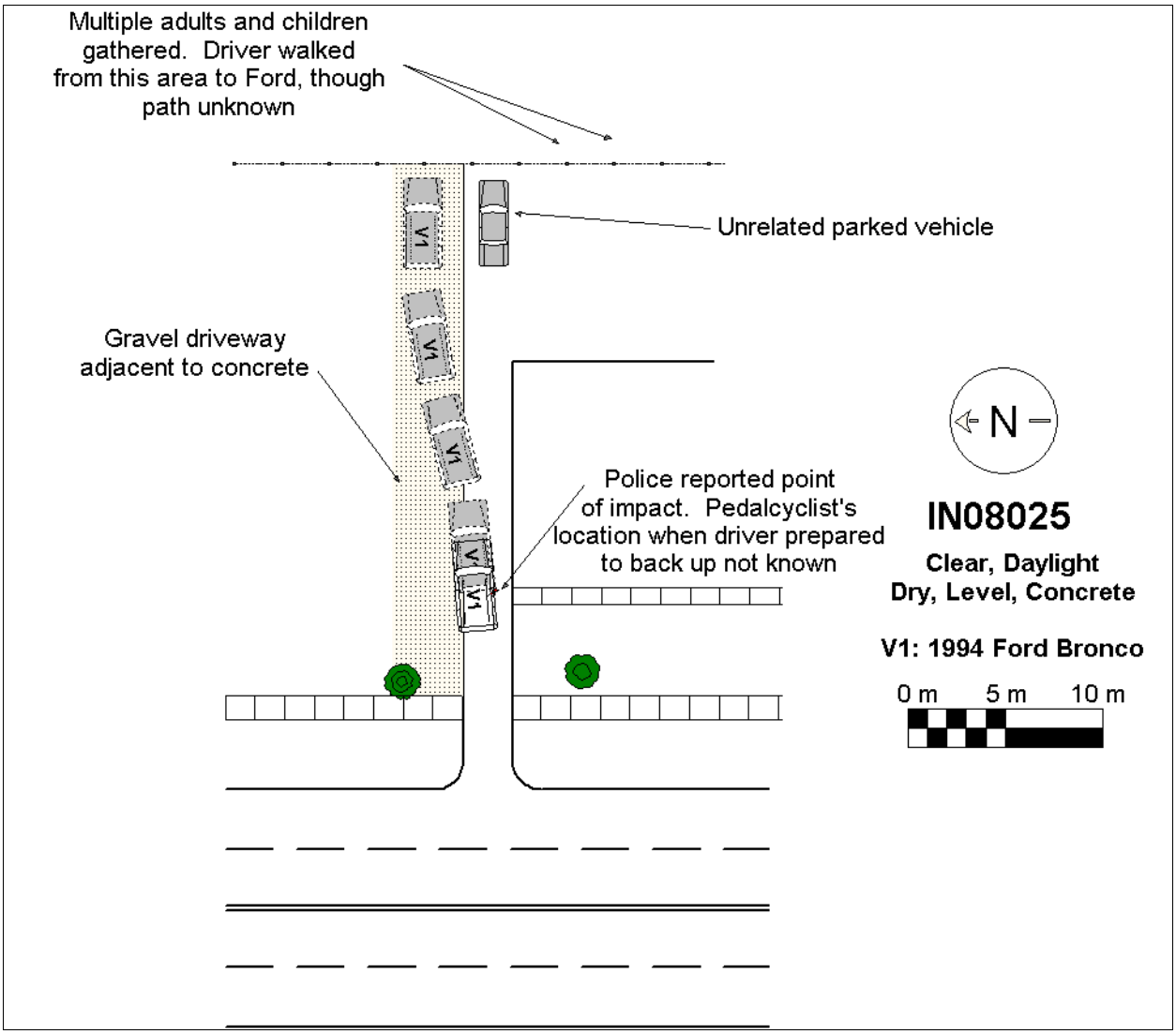
Figure 10: Close view through right side view mirror; arrow shows target

NONMOTORIST

The pedalcyclist was a 2-year-old, male. He was 56 centimeters (22 inches) tall and weighed 11 kilograms (25 pounds). He was wearing pink long john bottoms with green and yellow stripes and green flip flops. There was no information regarding his height while seated on the tricycle. The tricycle was not available for inspection.

He was transported by ambulance to a hospital and pronounced dead 32 minutes post-incident from an unspecified head injury. The table below shows the pedalcyclist's injury and injury source.

Injury Number	Injury Description (including Aspect)	NASS Injury Code & AIS 90	Injury Source	Source Confidence	Source of Injury Data
1	Blunt head trauma {major, disfigured, partially flattened}, not further specified	unknown 115099.7,0	Tire, right rear	Certain	Police Incident Report


Multiple adults and children gathered. Driver walked from this area to Ford, though path unknown
Unrelated parked vehicle
Gravel driveway adjacent to concrete
Police reported point of impact. Pedalcyclist's location when driver prepared to back up not known
V1
N
IN08025
Clear, Daylight
Dry, Level, Concrete
V1: 1994 Ford Bronco
0 m
5 m
10 m

IN08025

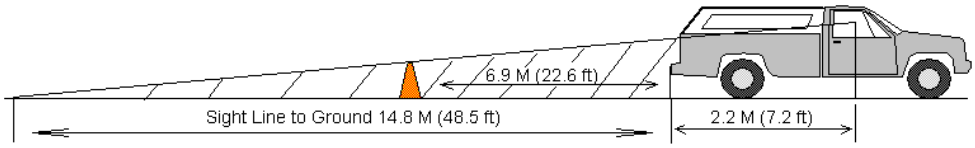
Nominal Visibility Diagram
1994 Ford Bronco

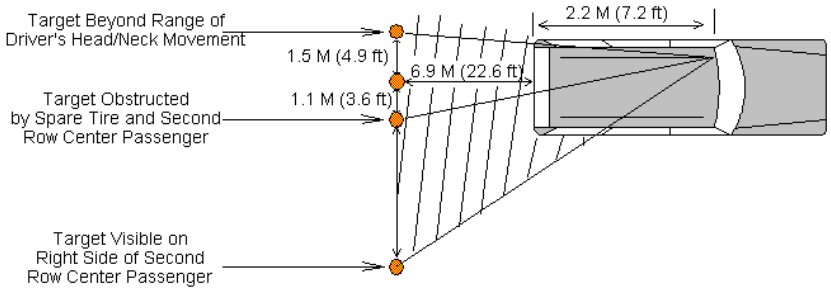
Driver's Eye Height From Ground = 155 cm (61 in)

= Ford Blind Zones

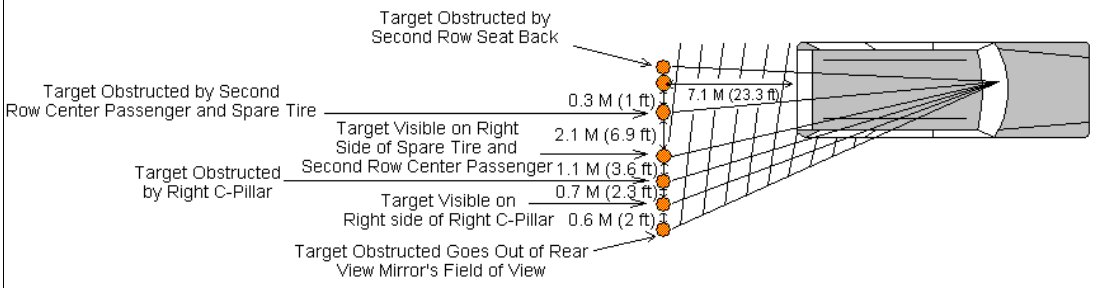
= 71 cm (28 in) High Target

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

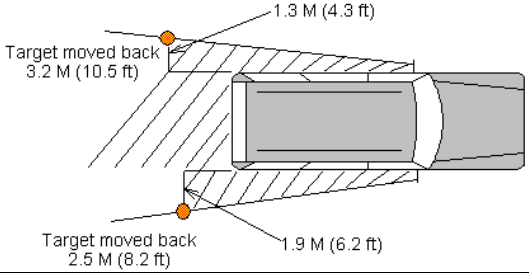




2. Rearview Mirror Blind Zones



3. Side View Mirror Blind Zones



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 2 5

IDENTIFICATION

2. Date of Crash 0 5 / 1 1 / 0 8

3. Time of Crash 1 6 1 0

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 1 6 . 6 m

13. Estimated speed at impact 9 9 9 kmph

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

15. Estimated distance from impact to vehicle final rest

0 0 2 . 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 I N 0 8 0 2 5

VEHICLE IDENTIFICATION

2. VIN 1 F M E U 1 5 H X R L X X X X X X

3. Model Year 1 9 9 4

4. Vehicle Make (specify): Ford

5. Vehicle Model (specify): Bronco

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	☑	2nd row occupant
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	☑	2nd row occupant
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	☐	LF2 & RF 2

TIRE DATA

6. Vehicle Manufacturer Recommended Tire Size P265/75R15

7. LF Tire Size 22X11.50R15LT

8. LR Tire Size 22X11.50R15LT

9. RF Tire Size 22X11.50R15LT

10. RR Tire Size 22X11.50R15LT

Seats / Head Restraint Data

Seat Position	Seat Type (Select from below)	Head Restraint (Check if available)	Head Restraint Adjustment (select)
Front Left	2	☑	Full Down / Mid / Full Up
Front Middle	0	☐	Full Down / Mid / Full Up
Front Right	2	☑	Full Down / Mid / Full Up
2nd Left	5	☐	Full Down / Mid / Full Up
2nd Middle	5	☐	Full Down / Mid / Full Up
2nd Right	5	☐	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:

Front head restraints are integral.

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		128	
Top of trunk/tailgate		131	
Bottom of bumper		44	
Trailer hitch (if applicable)		53	
Undercarriage			
	Sway bar		
	Axle	32	
	Differential	21	
	Other (specify): _____	32	Trailer hitch support bar
Sensor Height (if equipped)		N/A	
Camera Height (if equipped)		N/A	

Not Applicable ☑

Undo Not Applicable

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Back Up / Parking Aid Form

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

I N 0 8 0 2 5

PARKING AID PRESENCE

2. Type of backing/parking aid present

- ☐ OEM camera
- ☐ OEM ultrasonic/radar sensor
- ☐ OEM combination camera-ultrasonic/radar sensor
- ☐ OEM Fresnel lens
- ☐ OEM interior mirrors
- ☐ Aftermarket camera
- ☐ Aftermarket ultrasonic/radar sensor
- ☐ Aftermarket combination camera-ultrasonic radar sensor
- ☐ Aftermarket Fresnel lens
- ☐ Aftermarket interior mirrors
- ☐ Other (specify): _____

CAMERA INFORMATION

Specify field of view measurements on diagram

3. System make/model

_____

4. Video monitor type

- ☐ None present
- ☐ LCD (color)
- ☐ CRT (black & white)
- ☐ Unknown

5. Video display size _____ cm
(Diagonal)

6. Camera location

- ☐ None present
- ☐ Bumper
- ☐ License plate
- ☐ Tailgate/Hatch/Trunk
- ☐ Other (specify): _____

7. Video image quality under scene lighting conditions

- ☐ None present
- ☐ Good
- ☐ Average
- ☐ Poor (specify): _____
- ☐ Unknown

8. Was the camera functioning properly

- ☐ None present
- ☐ Yes
- ☐ No, poor image quality due to glare
- ☐ No, poor image quality due to atmospheric conditions
- ☐ No, camera turned off
- ☐ No, camera inoperable
- ☐ Unknown

ULTRASONIC/RADAR SENSOR

Specify object detection range on diagram

9. System make/model

_____

10. Auditory warning illumination

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

11. Number of sensors ____

12. Sensor locations
(Select all that apply)

- ☐ No sensor present
- ☐ Left bumper
- ☐ Center bumper
- ☐ Right bumper
- ☐ License plate area
- ☐ Tailgate/Hatch/Trunk

13. Was warning system functioning properly

- ☐ No sensor present
- ☐ Yes, system alerted driver
- ☐ No, system did not alert driver
- ☐ No, system turned off
- ☐ No, system inoperable
- ☐ Unknown

14. Did driver react to warning

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

15. Did driver report common false warnings

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

Not Applicable

No Driver Present ☐

Reset Values

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DRIVER FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

I N 0 8 0 2 5

DRIVER PROFILE

2. Driver's Age 1 8
99 = Unknown

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

4. Driver's Height 1 5 7 cm
999 = Unknown

5. Driver's Weight 0 5 4 kg
999 = Unknown

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

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

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

DRIVER ACTIONS

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

To a park

13. Driver in a hurry
- ☐ Yes
- ◉ No
- ☐ N/A
- ☐ Unknown

14. How did driver check behind (rear area of vehicle) after vehicle entry
(Select all that apply)
- ☐ Did not look
- ◉ Checked mirrors
- ◉ Turned right and looked back
- ☐ Turned left and looked back
- ☐ Viewed Camera
- ☐ Listened for auditory/visual warning from system
- ☐ Other (specify): _____
- ☐ N/A
- ☐ Unknown

15. Estimated time between vehicle entry and start of backing
- ☐ 0-10 Seconds
- ☐ 11-30 Seconds
- ☐ 31-60 Seconds
- ◉ Over 60 Seconds
- ☐ N/A
- ☐ Unknown

16. What direction was the driver looking during backing maneuver
(Select all that apply)

- ☐ Straight ahead
- ☐ Right
- ☐ Left
- ☉ Rearward
- ☐ At object inside the car
- ☐ At mirrors
- ☐ Other (specify): _____
- ☐ N/A
- ☐ Unknown

17. Was the driver distracted during back up maneuver
(Select all that apply)

- ☐ No non-driving activities

External

- ☐ Looking at other vehicles
- ☐ Looking at other non motorist
- ☐ Looking at intended turn destination
- ☐ External focus, not specified
- ☐ Other external focus (specify): _____

Internal

- ☐ Looking at other occupant
- ☉ Talking to passenger
- ☐ Dialing phone
- ☐ Talking on phone
- ☐ Listening to radio/cd/portable playback device
- ☐ Adjusting radio/cd player
- ☐ Adjusting climate controls
- ☐ Using a device/controls integral to vehicle (specify): _____
- ☐ Reading/adjusting navigation system
- ☐ Eating or drinking
- ☐ Smoking related
- ☐ Retrieving fallen object (specify): _____
- ☐ Internal focus, not specified
- ☐ Focused on other internal object (specify): _____
- ☐ N/A
- ☐ Unknown

18. Driver avoidance actions prior to impact
(Select all that apply)

- ☉ None
- ☐ Braking
- ☐ Steering left
- ☐ Steering right
- ☐ Accelerating
- ☐ Other (specify): _____
- ☐ N/A
- ☐ Unknown

19. Did driver see struck non motorist prior to impact
(Select all that apply)

- ☉ No, never saw non motorist
- ☐ Saw non motorist prior to entering vehicle
- ☐ Saw non motorist after entering vehicle
- ☐ Other (specify): _____
- ☐ N/A ☐ Unknown

20. Est time between start of backing and impact

- ☐ <2 or = 1 second
- ☉ 2-5 seconds
- ☐ 6-10 seconds
- ☐ > 10 seconds
- ☐ N/A ☐ Unknown

21. Driver interior sightline obstructions
(Select all that apply)

- ☉ Pillar
- ☐ Headrest
- ☐ Cargo
- ☉ Other occupant
- ☐ Other (specify) _____
- ☐ Unknown
- ☐ None

22. Recent experience driving this vehicle

- ☉ More than 10 times the last three months
- ☐ 6-10 times the last three months
- ☐ 2-5 times the last three months
- ☐ Less than 2 times the last three months
- ☐ First time driving this vehicle
- ☐ N/A
- ☐ Unknown

23. Frequency of driving in this parking lot/driveway

- ☉ Daily
- ☐ Weekly
- ☐ Several times a month
- ☐ Monthly
- ☐ Rarely
- ☐ First time in lot/driveway
- ☐ N/A ☐ Unknown

24. Driver Impairment
(Select all that apply)

- ☉ No drugs or alcohol present
- ☐ Alcohol present (specify BAC): _____
- ☐ Drugs present (specify):_____
- ☐ Unknown

25. Source of alcohol/drug results

- ☐ Police reported
- ☐ Medical record
- ☐ Other (specify)_____
- ☉ Not Tested
- ☐ Unknown if tested

Not Applicable ☐

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

Non Motorist Form

Reset Values

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number
I N 0 8 0 2 5

NON-MOTORIST PROFILE

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

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

4. Non-motorist's Height — 0 5 6 cm
999 = Unknown

5. Non-motorist's Weight — 0 1 1 kg
999 = Unknown

6. Medical outcome
☐ Not injured
☐ ER only
☐ Hospitalized 1-4 days
☐ Hospitalized 5 days or more
☐ Treatment later
☉ Fatal
☐ Unknown

7. Source of most severe injury
☐ Bumper
☉ Tire
☐ Undercarriage
☐ Other Specify:_____
☐ Ground
☐ N/A
☐ Unknown

8. Non-motorist impairment
(Select all that apply)
☉ No drugs or alcohol present
☐ Positive for alcohol (specify BAC): _____
☐ Positive for drugs (specify): _____
☐ Unknown

9. Source of alcohol/drug results
☐ Police reported
☐ Medical Report
☐ Other (specify) _____
☉ Not Tested
☐ Unknown if tested

NON-MOTORIST ACTIONS

10. Non-motorist attitude
☐ Standing
☐ Bending at waist
☐ Sitting
☐ Crouching
☐ Kneeling
☐ On skates/skateboard
☉ On bike/scooter
☐ Other (specify)_____
☐ Unknown

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

12. Non-motorist approach relative to rear of vehicle
☐ Stationary
☐ From left
☐ From right
☐ From behind
☐ Other (specify): _____
☉ Unknown

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

14. Non-motorist primary focus of attention
☐ Striking vehicle
☐ Play object
☐ Person
☐ Surrounding traffic
☐ Animal
☐ Handheld electronic (phone, MP3 player, etc.)
☐ Other Object (specify) _____
☉ Unknown

15. Were any other Non-motorists present?
(*Select all that apply)*
☐ Alone
☐ One adult present
☐ One other child present
☉ Multiple adults present
☉ Multiple children present
☐ Unknown

NON MOTORIST CLOTHING

NOTES:

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

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

	Clothing	Color	Fabric	Texture	Weight
HEADWEAR	Hat				
	Helmet				
	Hood				
	Other (specify): _____				
UPPER BODY	Short Sleeve				
	Long Sleeve				
	Light Jacket				
	Heavy Jacket				
	Other (Specify): _____	No upper body cloths			
LOWER BODY	Shorts				
	Pants	Pink long johns w/ gree			
	Shoes	Dark green flip flops			
	Other (specify): _____				