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**National Highway
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Administration**



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December 2025

**Special Crash Investigations:
Remote Move-Over-Law Crash
Investigation;
Vehicle: 2020 Ford F-150;
Location: Utah;
Crash Date: April 2022**

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16. Abstract This report documents the remote investigation of a crash selected by NHTSA's Special Crash Investigations group of the National Highway Traffic Safety Administration to be included in its Move-Over-Law investigations. The crash occurred in April 2022 in Utah when a 2020 Ford F-150 county sheriff's vehicle was stopped straddling the right and middle lanes with its red and blue emergency lights activated. The Ford was occupied by two sheriff deputies, the unbelted 37-year-old female driver, and an unbelted 42-year-old male front right seat passenger. An unoccupied 1998 Honda Accord involved in the previous crash was parked in front of the Ford. A 2014 Kenworth tractor pulling a refrigerated trailer was being driven by a belted 42-year-old male when it drove through a traffic cone pattern and struck the back of the Ford. The Kenworth continued north and struck the right plane of the Honda. The Honda rotated clockwise and struck a metal guardrail, struck the Kenworth a second time, and struck the guardrail a second time. Both sheriff deputies were transported to a local trauma center where they were treated and released. The Kenworth driver was not injured.					
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Special Crash Investigations
Remote Move-Over-Law Crash Investigation
Case Number: DS22013
Vehicle: 2020 Ford F-150
Location: Utah
Crash Date: April 2022

Background

This report documents the remote investigation of a crash selected by the Special Crash Investigations (SCI) group of the National Highway Traffic Safety Administration to be included in its Move-Over-Law investigations. The investigation used data obtained from local authorities including the police report and on-scene police photos. The investigation documented the facts of the case and reconstructed the causal factors of the crash relative to Utah's Move-Over Law. The law requires drivers approaching stationary emergency vehicles, highway maintenance vehicles, or towing vehicles displaying flashing red, red and white, red, and blue lights, or amber lights to slow down, provide as much space as practical to the stationary vehicles, and move over a lane if it's safe and clear. This investigation was initiated by SCI in response to a notification sent by the SCI team in June 2022 containing the police crash report and an online news report. The case was assigned as a remote investigation in June 2022.

The crash occurred in pre-dawn hours in April 2022 in Utah. The crash site was the northbound lanes of a three-lane divided north/south interstate highway. Conditions at the time were dark without artificial illumination. The roadway had three through lanes. It was bordered on the right by a solid painted white edge line and a paved shoulder and on the left by a solid painted yellow edge line, a paved shoulder, and a cable guardrail. The roadway was bordered by rumble strips. The posted speed limit was 129 km/h (80 mph).

The crash site was the scene of an earlier crash. The right and middle lanes were blocked by orange cones in a tapered pattern directing traffic to the left lane. The struck vehicle was a 2020 Ford F-150 county sheriff's vehicle that was stopped and was straddling the right and middle lanes with its red and blue emergency lights activated. It was occupied by two sheriff deputies, an unbelted 37-year-old female driver, and an unbelted 42-year-old male front right seat passenger. An unoccupied 1998 Honda Accord involved in the previous crash was parked in the right lane in front of the Ford facing east. A 2014 Kenworth tractor pulling a 53-ft refrigerated trailer was traveling northbound in the right lane. It was driven by a belted 42-year-old male. According to the police report, the driver stated he was tired and was reaching for something in the cab just prior to the crash. The Kenworth drove through the cone pattern and struck the back plane of the Ford (Figure 1) during Event 1 with its front plane (Figure 2). The Ford was displaced forward, rotated counterclockwise, and came to final rest in the middle lane facing south. The Kenworth continued north and struck the Honda's right plane with its front plane (Event 2). The Honda rotated clockwise and struck a metal guardrail (Event 3), struck the Kenworth a second time (Event 4), and struck the guardrail a second time (Event 5). The Kenworth struck and overrode the guardrail with its right plane (Event 6). The Kenworth came to rest with the tractor off-road and the trailer in the right lane in contact with the Honda.

Both sheriff deputies were transported by ambulance to a local trauma center where they were treated and released. The Kenworth driver was not injured. All the vehicles were towed from the scene due to damage.



Figure 1. The 2020 Ford F-150, looking south (police photo)



Figure 2. The 2014 Kenworth tractor-trailer, looking south (police photo)

Summary

Crash Site

The crash site was the northbound lanes of a divided north/south interstate highway (Figure 3). The asphalt roadway was straight, level, and wet. It had three northbound lanes that were separated by dashed white painted lines. The roadway was bordered on the left by a solid yellow painted edge line, milled-in rumble strips, an asphalt shoulder, and a W-beam guardrail that transitioned to a cable guardrail near the crash site. The road was bordered on the right by a solid white painted edge line, milled-in rumble strips, an asphalt shoulder, and a W-beam guardrail. The posted speed limit was 129 km/h (80 mph). The weather at the nearest reporting station was 1.6° C (35° F), 89 percent humidity, and calm winds. Conditions were dark and clear. A crash diagram is included at the end of this report.



Figure 3. Overview of the crash site, north at the top of the image (Image source: Google Maps ©2022 Maxar Technologies)

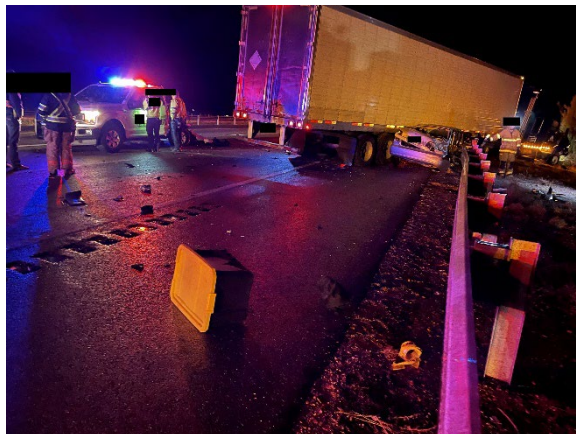
Pre-Crash

The crash site was the scene of an earlier crash. The right and middle lanes were blocked by orange cones in a tapered pattern directing traffic to the left lane. The Ford was stopped and straddling the right and middle lanes with its red and blue emergency lights activated. It was occupied by two sheriff deputies, an unbelted 37-year-old female driver, and an unbelted 42-year-old male front right seat passenger. An unoccupied 1998 Honda Accord involved in the previous crash was parked in the right lane in front of the Ford facing east, perpendicular to the roadway. The location of the Honda driver was not known. The Kenworth tractor pulling a trailer was traveling northbound in the right lane. The Kenworth was driven by a belted 42-year-old male. According to the police report, the Kenworth driver stated he was tired and was reaching for something in the cab just prior to the crash.

Crash

The Kenworth drove through the cone pattern and struck the Ford's back plane with its front plane (Event 1). The Ford was rotated counterclockwise and came to final rest in the middle lane facing south. The Kenworth continued north and struck the Honda's right plane with its front plane (Event 2). The Honda rotated clockwise, struck a guardrail (Event 3), struck the Kenworth a second time (Event 4), and struck the guardrail a second time (Event 5).

The Kenworth struck and overrode the guardrail (Event 6). The Kenworth came to final rest with the tractor off-road and the trailer in the right lane in contact with the Honda (Figure 4).



*Figure 4. Final rest, looking north
(police photo)*

Post-Crash

The sheriff deputy driver sustained “B” (non-incapacitating) injuries. She was transported by ambulance to a local trauma center where she was treated and released. The deputy in the front row right seat sustained “B” (non-incapacitating) injuries that included a head laceration and contusions to the lower leg and shoulder. He was transported to a local trauma center where he was treated and released. The Kenworth driver was not injured. All three vehicles were towed from the scene due to damage.

Move-Over-Law Discussion

Utah’s Move-Over Law (41-6a-904¹) requires drivers approaching stationary emergency vehicles, highway maintenance vehicles, or towing vehicles displaying flashing red, red and white, red, and blue lights or amber lights to slow down, provide as much space as practical to the stationary vehicles, and move over a lane if it’s safe and clear.

The Kenworth driver was cited for section 2 of the law which states that the operator of a vehicle, upon approaching a stationary authorized emergency vehicle that is displaying alternately flashing red, red and white, or red and blue lights, shall reduce the speed of the vehicle, provide as much space as practical to the stationary authorized emergency vehicle, and if traveling in a lane adjacent to the stationary authorized emergency vehicle and if practical, with due regard to safety and traffic conditions, make a lane change into a lane not adjacent to the authorized emergency vehicle.

¹ <https://le.utah.gov/xcode/Title41/Chapter6a/41-6a-S904.html>

2020 Ford F-150

Description

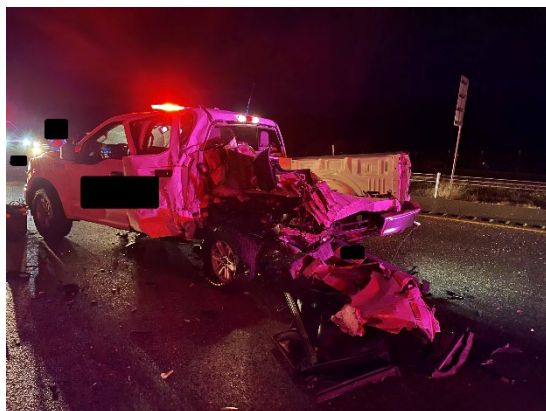
The struck vehicle was a 2020 Ford F-150 crew cab pickup configured as a police vehicle. It was identified by the police using VIN 1FTEW1E4XLKxxxxxx. It had a 3.5-liter, 6-cylinder gasoline engine coupled to an automatic transmission, 4-wheel drive, and 4-wheel ABS. The vehicle had safety features that included crash imminent braking, forward collision warning, automatic emergency braking, automatic crash notification, and daytime running lights. The exterior color was Oxford white with gold-colored lettering on the side doors and gold-colored striping on the bed.

Lighting (Move-Over Data)

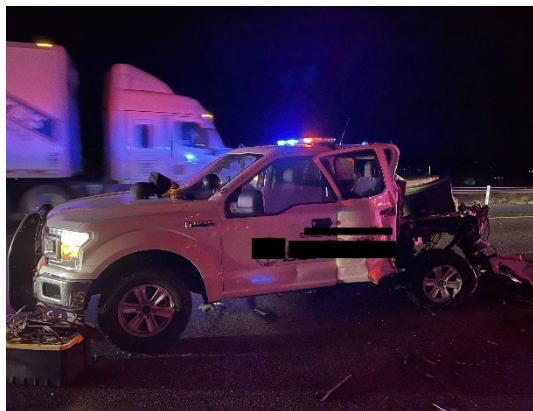
Type of lighting:	Roof-mounted light bar, grille lights, rear cab lights, 4-way flashers
Lighting source:	Strobe
Lighting color:	Blue/amber (rear), red/blue (front)
First responder directional arrows/signals in use:	No
Supplemental traffic controls:	Yes
Location of supplemental traffic controls	Cone pattern, right two lanes
Retroreflective tape power unit/cargo body:	No tape
Secondary collisions from first harmful event:	Yes

Exterior Damage

The Ford sustained severe back plane damage from the impact with the front plane of the Kenworth (Figures 5–6). The Field L extended from the left bumper corner to the right bumper corner. The direct damage began at the left bumper corner and extended approximately halfway across the rear plane. The tailgate was detached from the vehicle. The left side of the bed was displaced and overridden, and the back of the cab was crushed forward. There was induced damage and buckling to the cab and left rear door. The left rear tire was de-beaded and was displaced forward, shortening the wheelbase. The left and rear window glazing was disintegrated. The collision deformation classification (CDC) was 07BYAW7.



*Figure 5. The 2020 Ford F-150
(police photo)*



*Figure 6. The 2020 Ford F-150
(police photo)*

NHTSA Recalls and Investigations

A search in July 2022 and December 2024 using the Ford F-150's VIN revealed two unrepaired recalls. One was related to a transmission cable clip and the other was related to the rear view camera.

Interior Damage

The Ford sustained interior damage to the second row from intrusion. The second-row left door was jammed shut. The backlight and second-row left glazing was disintegrated.

Manual Restraint Systems

The front row had manual lap and shoulder seat belts. The police report stated the seat belts were not in use.

Supplemental Restraints System

The Ford had a supplemental restraints system that included driver's and passenger's dual-stage frontal air bags, outboard seat-mounted side-impact air bags, inflatable curtain air bags (IC), and front seat outboard seat belt retractor pretensioners. There were no air bag deployments.

2020 Ford F-150 Occupants

Driver Demographics

Age/sex: 37 years/female
Height: 170 cm (67 in)
Weight: 88 kg (194 lb)
Eyewear: Unknown
Seat type: Bucket
Seat track position: Unknown
Manual restraint usage: Lap and shoulder seat belt available, not used
Usage source: Police report
Air bags: Frontal, seat-mounted, IC air bags available; none deployed
Alcohol/drug data: Not tested
Egress from vehicle: Removed by fire department
Transport from scene: Ambulance
Type of medical treatment: Treated and released

Driver Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Contusion, left shoulder	710402.1	Seat back	Probable
2	Contusion, left side rib	410402.1	Seat back	Probable
3	Contusion, right lower leg	810402.1	Seat bottom	Probable
4	Neck strain	640278.1	Seat back	Probable

Source: Emergency department, radiology.

Driver Kinematics

The 37-year-old female driver was seated in an unknown posture and was unbelted. She was likely displaced rearward and to the right in response to 7 o'clock direction of force. She was likely displaced further to the right as the vehicle was pushed in a sharp counterclockwise rotation. She sustained police-report "B" (non-incapacitating) injuries. She was removed from the vehicle by the fire department and was transported by ambulance to a local trauma center where she was treated and released.

Front-Right Occupant Demographics

Age/sex: 42 years/male
Height: 170 cm (67 in)
Weight: 91 kg (200 lb)
Eyewear: Unknown
Seat type: Bucket

Seat track position:	Unknown
Manual restraint usage:	Lap and shoulder belt available, not used
Usage source:	Police report, ER records
Air bags:	Frontal, seat-mounted, IC air bags available; none deployed
Alcohol/drug data:	Not tested
Egress from vehicle:	Removed by fire department
Transport from scene:	Ambulance
Type of medical treatment:	Treated and released

Front-Right Occupant Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Scalp laceration	110602.1	Head restraint	Probable
2	Contusion, left lower leg	810402.1	Seat bottom	Possible
3	Contusion, left shoulder	710402.1	Seat back	Probable
4	Headache, head injury, no LOC	110009.1	Head restraint	Probable

Source: Emergency room records, radiology, discharge summary.

Front-Right Occupant Kinematics

The 42-year-old male front-right occupant was seated in an unknown posture and was unbelted. He was likely displaced rearward and to the right into the head restraint and seat back in response to 7 o'clock direction of force. He was likely displaced further to the right as the vehicle was pushed in a sharp counterclockwise rotation. He sustained police-reported "B" (non-incapacitating) injuries that included a head laceration and contusions to the lower leg and shoulder. He was extricated by the fire department from the vehicle and transported by ambulance to a local trauma center where he was treated and released.

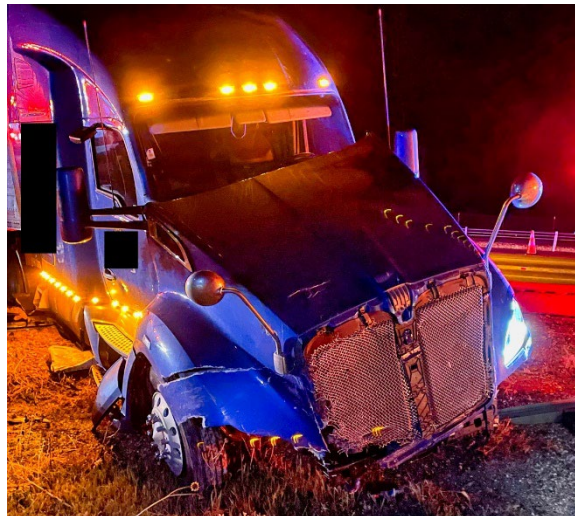
2014 Kenworth T680 Tractor Wabash 53-ft Refrigerated Trailer

Description

The striking vehicle was a 2014 Kenworth T680 tractor pulling a Wabash 53-ft refrigerator trailer with a Thermo King refrigeration unit. The tractor was identified by the VIN 1XKYD49X2EJxxxxxx. The cab behind engine tractor had a 15-liter, 6-cylinder Cummins diesel engine, automatic transmission, and a 6 x 4 drive. The gross vehicle weight was 36,287 kg (80,000 lb).

Exterior Damage

The Kenworth sustained moderate front plane damage from the impacts to the back plane of the Ford, right plane of the Honda, and the impact to the metal guardrail (Figure 7). The impact damage could not be separated. The overall truck deformation classification (TDC) was 12FDEW1. The trailer sustained minor damage to the right plane from the impact with the left plane of the Honda (Figure 8). The TDC for this impact was 12RTFWA.



*Figure 7. The 2014 Kenworth T680 tractor, looking south
(police photo)*



*Figure 8. The Wabash trailer, looking south
(police photo)*

Striking Vehicle Driver

(Move-Over data, obtained from police)

Police injury severity:	0-not injured
Speeding related:	No
Condition (impairment) at time of crash:	None
Police reported alcohol presence:	None
Alcohol test:	None given
Alcohol test result:	None
Police reported other drug presence:	No
Method of drug determination by police:	None
Other drug test result:	None given
Physical/mental conditions:	Unknown
Driver fatigue:	Police indicated tired
Driver's distraction/inattention to driving:	Yes
Driver's distractions:	Other distraction, reaching for object
Driver illness:	No illness
Driver's license type/status:	Full driver license
GDL status:	NA
Violations charged:	Failure to obey traffic control devices; Violate duties of vehicle operator approaching emergency vehicle (Move- Over Law)
Striking vehicle driver sight line to the struck firstresponder vehicle clear:	Yes
Striking vehicle driver view of other subject vehicle obscured:	NA
Driver notes:	None

Occupant Data

The belted 42-year-old male, the Kenworth driver, was not injured. He exited the vehicle under his own power and was not transported.

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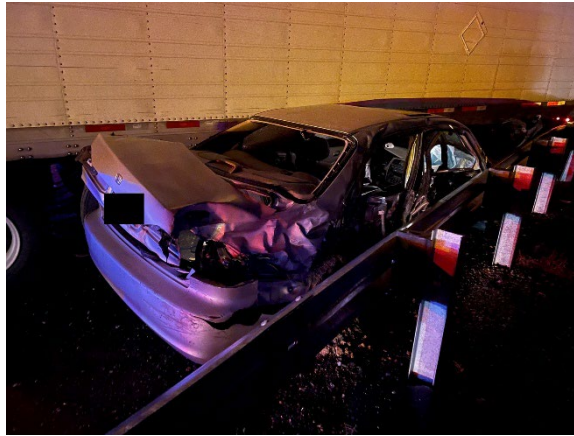
1998 Honda Accord

Description

The other involved vehicle was a 1998 Honda Accord. The vehicle was identified by the VIN 1HGCG565XWAxxxxx. The vehicle had a 2.3-liter, 4-cylinder gasoline engine, automatic transmission, and front-wheel drive. The vehicle was unoccupied.

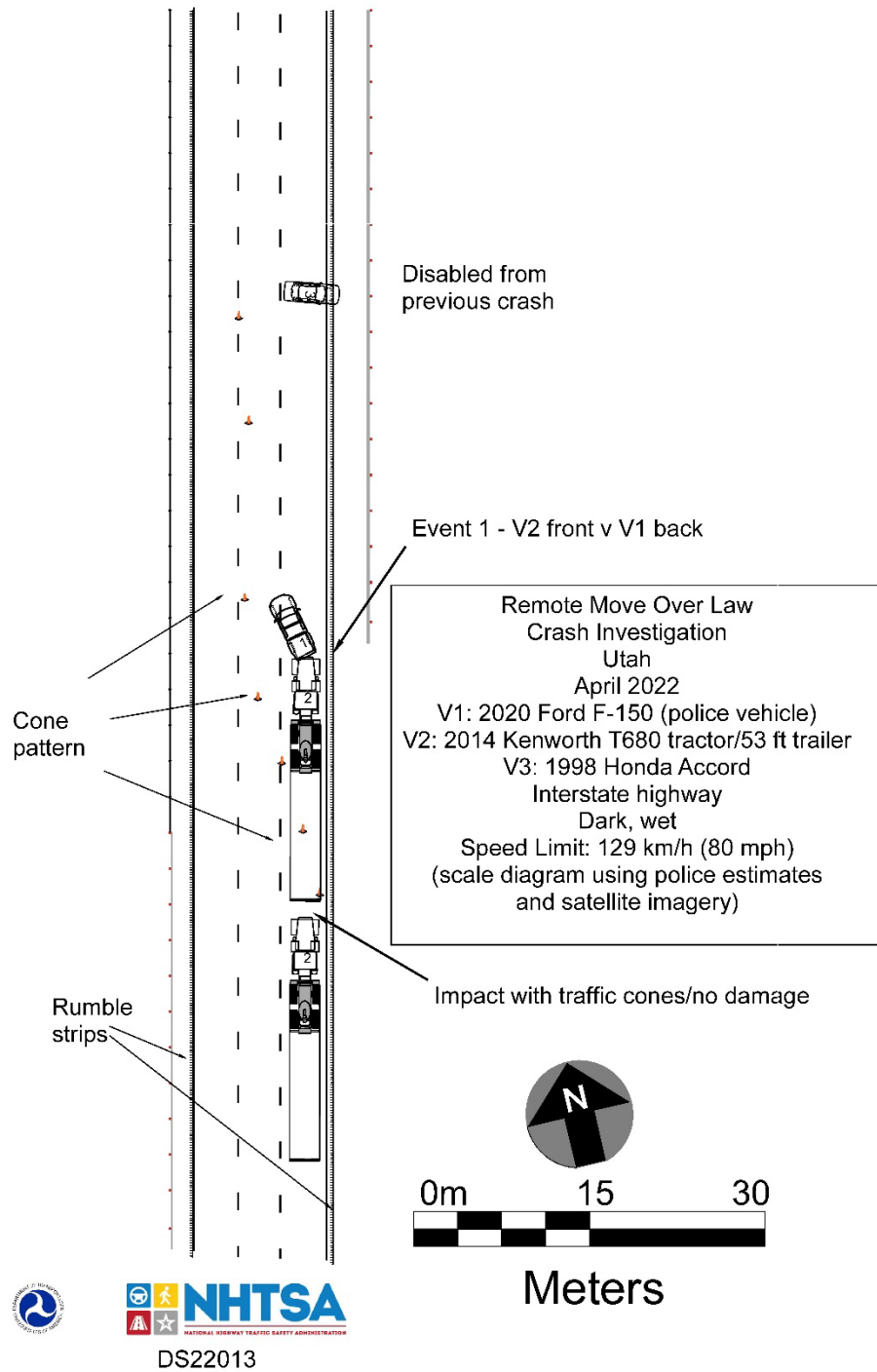
Exterior Damage

The Honda had damage to both the right and left planes from impacts with the front of the Kenworth, the side of the Wabash trailer, and the guardrail (Figure 9). The vehicle also had damage of an unknown nature from the previous crash.

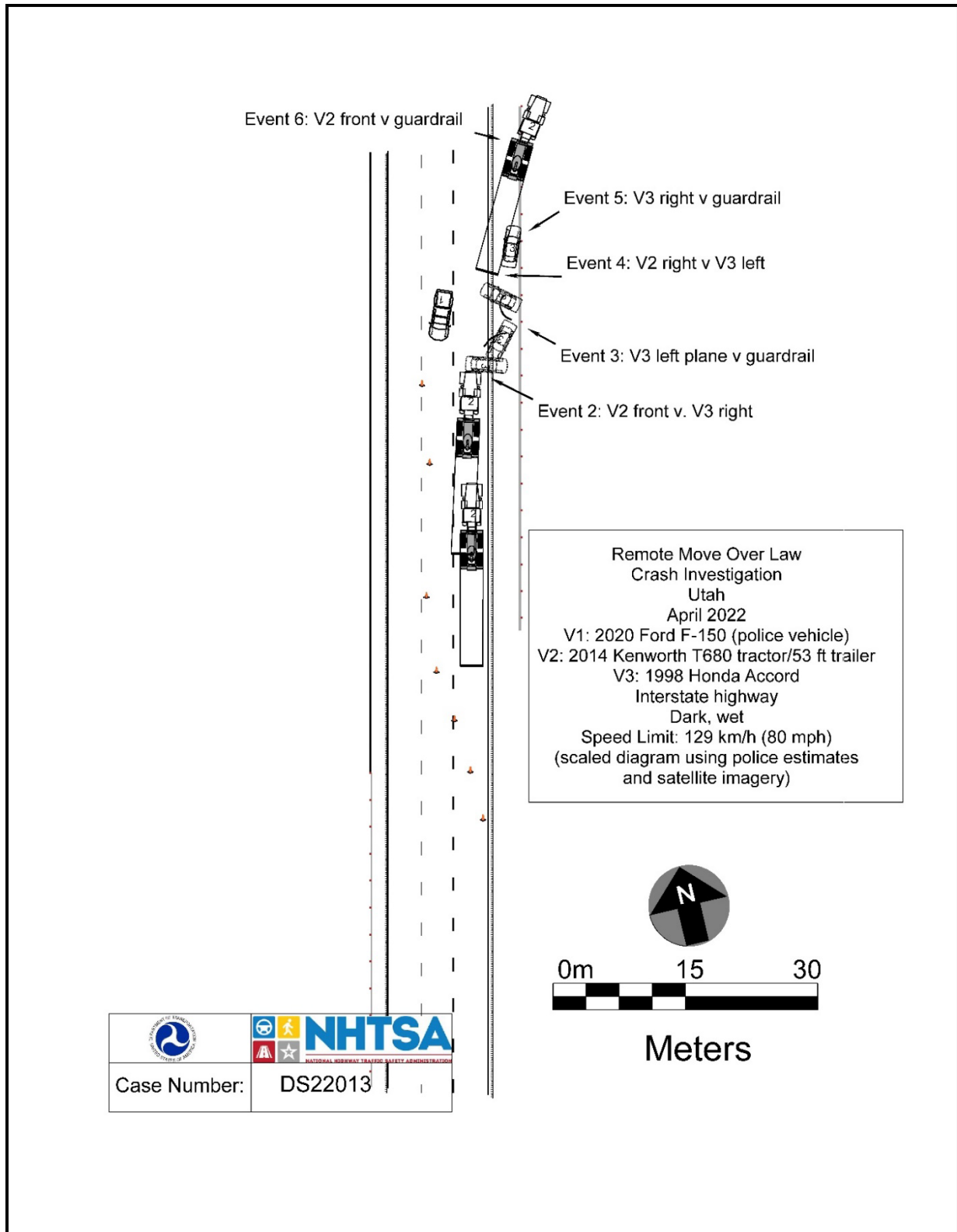


*Figure 9. The 1998 Honda Accord, left and right plane damage, looking north
(police photo)*

Crash Diagram (Event 1)



Crash Diagram (Events 2–6)



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