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

NHTSA

DOT HS 813 680

March 2025

Special Crash Investigations: On-Site Rollover and Child Restraint System Crash Investigation; Vehicle: 2009 Honda Odyssey; Location: Ohio; Crash Date: November 2022

This page is intentionally left blank.

DISCLAIMER

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade names, manufacturers' names, or specific products are mentioned, it is because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Suggested APA Format Citation:

Crash Research & Analysis, Inc. (2025, March). *Special Crash Investigations: On-site rollover and child restraint system crash investigation; Vehicle: 2009 Honda Odyssey; Location: Ohio; Crash Date: November 2022* (Report No. DOT HS 813 680). National Highway Traffic Safety Administration.

This page is intentionally left blank.

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
DOT HS 813 680		

4. Title and Subtitle	5. Report Date
Special Crash Investigations: On-Site Rollover and Child Restraint System Investigation; Vehicle: 2009 Honda Odyssey; Location: Ohio; Crash Date: November 2022	March 2025
	6. Performing Organization Code
7. Author	8. Performing Organization Report No.
Crash Research & Analysis, Inc.	CR22019
9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
Crash Research & Analysis, Inc. PO Box 302 Elma, NY 14059	
	11. Contract or Grant No. 693JJ919C000004
12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
National Highway Traffic Safety Administration 1200 New Jersey Avenue SE Washington, DC 20590	Technical Report
	14. Sponsoring Agency Code

15. Supplementary Notes

Each crash represents a unique sequence of events, and generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicles or their safety systems. This report and associated case data are based on information available to the Special Crash Investigation team on the date this report was submitted.

16. Abstract

This report documents the on-site investigation of a 2009 Honda Odyssey involved in a multi-event/road departure crash with two occupied child restraint systems onboard. The Honda departed the left side of the roadway and struck a landscape embankment and a small tree, becoming airborne. It then struck the ground, rolled end-over-end, striking its top plane on the embankment surrounding a pond, then rolled side-over-side onto the frozen pond where it came to final rest on its wheels. The Honda broke through the ice and sank. The 30-year-old female driver, 10-year-old female front-right passenger, and 7-year-old female second-row-center passenger were belted. A 4-year-old female in the second row, left seating position, and 2-year-old male in the second row, right seating position, were secured within child restraint systems. The crash resulted in fatal injuries to the 4-year-old female and 2-year-old male occupants. The 30-year-old female driver, 10-year-old female front-right passenger, and 7-year-old female second-row-center passenger were transported to a local hospital for treatment of police-reported serious injuries (A-level). The extent of their treatment is unknown. The 4-year-old female and 2-year-old male were transported by ambulance to a local hospital where they were both declared deceased.

17. Key Words	18. Distribution Statement
child restraint system, fatal, rollover, roadway departure	This document is available to the public from the DOT, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, https://crashstats.nhtsa.dot.gov.

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	27	

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

This page is intentionally left blank.

Table of Contents

Special Crash Investigations
On-Site Rollover and Child Restraint System Crash Investigation
Case Number: CR22019
Vehicle: 2009 Honda Odyssey
Location: Ohio
Crash Date: November 2022

Background

This report documents the on-site investigation of a 2009 Honda Odyssey (Figure 1) involved in a multi-event/road departure crash with two occupied child restraint systems within the vehicle. At final rest the Honda was submerged in a pond. The crash resulted in fatal injuries to a 4-year-old female in the second-row-left seating position, and a 2-year-old male occupant in the second-row-right seating position, who were secured within child restraint systems (CRS). The 30-year-old female driver, 10-year-old female front-right passenger, and 7-year-old female second-row-center passenger, all belted, were transported to a local hospital for treatment of police-reported serious injuries (A-level). The extent of their treatment is unknown. The 4-year-old female and 2-year-old male were transported by ambulance to a local hospital where they were both declared deceased.

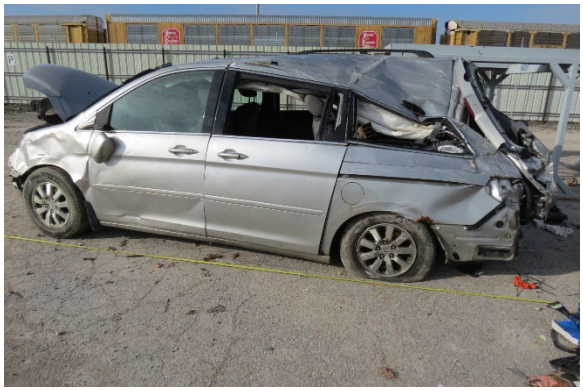


Figure 1. Left-plane view of the 2009 Honda Odyssey

The Honda departed the left side of the roadway and struck a landscape embankment and a small tree, becoming airborne. It then struck the ground with the right-front corner, rolled end-over-end striking its top plane on an embankment surrounding a pond, then rolled right-side-leading two quarter turns onto the frozen pond where it came to final rest on its wheels. It broke through the ice and sank. The 30-year-old female driver, 10-year-old female front-right passenger, and 7-year-old female second-row-center passenger were belted. The 4-year-old female, second-row-left seating position, and 2-year-old male, second-row-right seating position, were secured in their respective CRSs at the time of the crash.

The crash was identified by Crash Research & Analysis, Inc., through an online search of police crash reports (PCR) and the PCR was forwarded to NHTSA's Special Crash Investigations (SCI) Group for review in November 2022. NHTSA assigned the case for on-site investigation in

December 2022. Cooperation with the Honda's insurer was obtained and it was inspected at a regional insurance vehicle salvage facility. The vehicle and scene inspections occurred in December 2022.

The SCI team inquired about the status of the CRSs and were told by the salvage facility that two CRSs were located in the Honda. Upon arrival and inspection of the Honda, the SCI investigator found one booster seat and the base to a rear-facing infant seat in the cargo area of the vehicle. After interviewing first responders and reviewing dashcam footage provided by them, it was confirmed that the second CRS was removed from the vehicle and tossed into the pond during the rescue process. No recovery of the second CRS was attempted from the pond.

Summary

Crash Site

This crash occurred at night on a two-lane rural roadway (Figure 2) south of a four-leg intersection. The intersection was a four-way stop with all stop signs erect and visible. The south leg of the intersection angled to the driver's right. Reported weather included fair skies, a temperature of 0.5 ºC (33 ºF), 46-percent humidity, and winds from the east-southeast at 5 km/h (3 mph) according to local weather reports. The roadway was level and traversed in a north-south direction. Travel lanes were 3.7 m (12.0 ft) wide. Prior to the intersection, the north and southbound travel lanes were separated by painted solid double yellow lines. Figure 2 shows the south view of the roadway on approach to the crash site. The posted speed limit was 89 km/h (55 mph). A crash diagram is included at the end of this report.

Figure 2. South view of the Honda's pre-crash approach to the crash site

Pre-Crash

The Honda was traveling in the south travel lane at an unknown speed and proceeded through the intersection without stopping, crossed the center line, and departed the left side of the road.

Crash

After departing the roadway, the driver steered right, trying to regain the roadway but was unable to. The Honda traveled through a private yard, over a private driveway, and then struck a landscape embankment with its undercarriage (Event 1), indicated in Figure 3 by the orange arrow. The vehicle climbed the 85 cm (33.5 in) tall embankment and became airborne. At the top of the embankment the Honda struck a small tree (Event 2) with the front plane, indicated in Figure 3 by the green arrow. The tree was sheared off approximately 100 cm (39 in) above the ground. The Honda vaulted approximately 24 meters (79 feet) where it struck the embankment surrounding the pond with its front plane, right aspect (Event 3), indicated in Figure 4 by the red arrow. The impact to the front plane was the likely source of deployment for the frontal air bags. This resulted in the Honda rolling end-over-end (Event 4) striking the ground with its top plane at the left D-pillar area, indicated in Figure 4 by the yellow arrow. It then began a left-side-leading roll onto the surface of the frozen pond. The Honda broke through the ice and was found upright, partially submerged in the pond facing north (Event 5). The top and roof rail were

exposed an estimated 15 cm (5.9 in) above the water line. The green fencing around the pond seen in Figures 3 and 4 was not present at the time of the crash.

Figure 3. South view of the Honda's area point of impacts to the landscape embankment (Event 1) and tree (Event 2)

Figure 4. Northeast view of the Honda's area point of impacts to the ground for Events 3 and 4

Post-Crash

Local emergency services were notified of the incident by cellphone calls from inside the vehicle. An interview with local law enforcement officials said that dispatch heard screaming on the calls prior to the calls ending. Local law enforcement was able to determine the location of the cellphone and officers were dispatched. Approximately 23 minutes after the first call was received, officers arrived at the scene and were able to locate the top of the vehicle in the pond. Based on video provided by police, the roof and roof rail were visible above the water line. Despite the limited space for air, the driver was able to breathe. An officer made his way onto the roof of the Honda where he was given a baseball bat that was found on-scene by another officer. The officer on the roof broke the second-row-right side window in an effort to remove the occupants out of the vehicle.

Approximately 35 minutes after the initial call, the first occupant pulled from the vehicle was the 7-year-old female. She was taken to the shore where medical personnel carried her to an ambulance for treatment and transport to a local hospital with incapacitating (A-level) injuries. A minute later the second occupant pulled from the vehicle was the 2-year-old male. He was taken to the shore where medical personnel began cardiopulmonary resuscitation (CPR). He was then taken to an ambulance for transport while emergency personnel continued CPR. He was later pronounced deceased at the hospital. Two minutes later the third occupant pulled from the vehicle was the 10-year-old female. She was pulled onto the roof of the van and was then taken to the shore for initial treatment. She was then taken to an ambulance for treatment and transport to a local hospital with incapacitating (A-level) injuries.

Emergency personnel were unable to extract the driver through the second-row-left side window and were unable to locate the 4-year-old female while the vehicle was in the water. Approximately 47 minutes after the initial call, a local tow company was able to pull the vehicle to the shore. The driver was removed from the vehicle and taken to an ambulance for treatment and transport to a local hospital with incapacitating (A-level) injuries. Approximately 51 minutes

after the initial call, the 4-year-old female was found in the floorboard in front of the driver's seat. It is unknown how she was released from the CRS. She was taken to an ambulance where CPR was performed during transport to a local hospital. She was later pronounced deceased at the hospital. The Honda was removed from the scene by a local tow company and later transferred to a salvage yard by the insurance provider.

This page is intentionally left blank.

2009 Honda Odyssey

Description

The 2009 Honda Odyssey (Figure 5) was identified by the VIN 5FNRL38499Bxxxxxx. The Honda was built on a front-wheel-drive platform powered by a 3.5-liter, 6-cylinder gasoline engine that was linked to a continuous variable transmission. Its service brakes were power-assisted 4-wheel disc with antilock. The gross vehicle weight rating was 2,695 kg (5,941 lb). The vehicle manufacturer's recommended tire size was P235/65R16. The Honda had four Sumitomo HTR Enhance LX2 tires of the recommended size. The left front, right front, and right rear tires had 3 mm (4/32) of tread and the left rear tire had 5 mm (6/32) of tread. None of the tires were damaged.

Figure 5. Front-right oblique view of the Honda Accord

The Honda had seating of 8 occupants (2/3/3) with front-row bucket seats and split-bench seats with folding backs in the second and third rows. All seating positions were equipped with adjustable head restraints. Manual restraint systems consisted of 3-point lap and shoulder belts for all seating positions. Supplemental restraint systems included front-seat belt pretensioners, six air bags consisting of driver's and passenger's frontal, driver, and passenger front outboard seat-mounted side-impact, and inflatable curtain (IC) air bags.

Exterior Damage

The crash resulted in damage to the undercarriage, front plane, and top plane of the Honda. The assigned collision deformation classification (CDC) for this undercarriage impact to the embankment (Event 1) is 00UDDW99, where 99 indicates unknown values.

The damage from the small tree (Event 2) is unknown due to overlapping damage from the ground and was assigned an estimated CDC of 12FCEN1.

The direct damage from the pond embankment (Event 3), shown in Figure 6, began 62 cm (24.4 in) right of the front center point extending left 62 cm (24.4 in). The field-L was 130 cm (51.2 in). The crush measurements, taken at bumper level, were C1= 6 cm (2.4 in), C2 = 11 cm (4.3 in), C3 = 17 cm (6.7 in), C4 = 23 cm (9.1 in), C5 = 26 cm (10.2 in), and C6 = 10 cm (3.9 in).

Maximum crush was located 39 cm (15.4 in) right of the front center point and measured 27 cm (10.6 in). The CDC assigned to this damage profile was 00FZEW2.

Figure 6. View of the front-plane damage of the Honda Odyssey

The rollover event (Event 4) resulted in a maximum vertical crush of 30 cm (11.8 in) and maximum lateral crush of 30 cm (11.8 in) located at the left D-pillar (Figure 7). The assigned CDC for this damage was 00TDDO4.

Figure 7. Left-rear oblique view of the Honda Odyssey

The Honda broke through the ice and sank (Event 5). It filled with water and was submerged with an estimated 15 cm (6 in) of the roof above the water for approximately 47 minutes after the initial call to local emergency services. No physical damage was sustained; therefore, no CDC was assigned to this event.

Interior Damage

When the Honda became submerged its interior became covered in mud and water that hampered identification of interior contacts. One contact point was located on the lower left instrument

panel in the first row. This contact point was attributed to the driver's left knee striking the instrument panel during the crash sequence. Vertical and lateral intrusions were observed in the second and third rows (Figure 8). In the second row, the estimated maximum vertical intrusion was 30 cm (11.8 in) located at the C-pillar. In the third row, the estimated maximum vertical intrusion was 45 cm (17.7 in) at the left D-pillar.

Figure 8. View of the interior of the Honda depicting the left-side intrusions at the C and D-pillars

Manual Restraint System

The Honda had 3-point lap and shoulder seat belts for all eight seating positions. All seat belts had continuous loop webbing with sliding latch plates. The driver's seat belt retracted onto an emergency locking retractor (ELR). The front passenger's and second row seating positions seat belt systems used switchable ELR/automatic locking retractor (ALR).

At inspection, the front seat belt retractors were locked in place due to the actuated pretensioners and each belt's webbing was extended indicative of use during the crash. The driver's latch plate was abraded by occupant loading. No evidence was observed on the front-right latch plate. The second row seat belts were not equipped with pretensioners. Due to the damage of the roof and pillars, the second-row left and right belt's webbing were lying loose and extended. It is likely that the retractors were locked due to deformation. The second-row latch plates showed evidence of historical use. No evidence of loading was found on the latch plates. However, it should be noted that it is unlikely to find loading due to the size and weight of the occupants in those seating positions. No evidence could be found of usage on any seat belt webbing due to the water damage they sustained.

Supplemental Restraint System

The Honda had supplemental restraints for the occupants. These included dual-stage driver's and passenger's frontal air bags, front outboard seat-mounted side-impact air bags, and IC air bags. The IC air bags were designed to deploy for a rollover and/or side-impact collisions. The driver's and passenger's frontal air bags and IC air bags deployed during the crash sequence. The driver's frontal air bag (Figure 9) had water that had frozen inside it at the time of inspection. The passenger's frontal air bag (Figure 10) had a small hole in it that was sustained after the crash

from post-crash debris being placed in the Honda's front row. There was no evidence found on either frontal air bag. This vehicle did not have a supported event data recorder.

Figure 9. View of the driver's deployed frontal air bag in the Honda

Figure 10. View of the passenger's deployed frontal air bag in the Honda

Figures 11 and 12 show both IC air bags as they were found at the time of the inspection. The left IC was cut by emergency personnel, indicated in Figure 11 by the red arrow, after the vehicle was removed from the pond to assist with the removal of the 4-year-old female. It should be noted that it is likely the driver and front passenger contacted them at some point during the crash sequence. However, due to the vehicle being submerged in water, there was no physical contact evidence found.

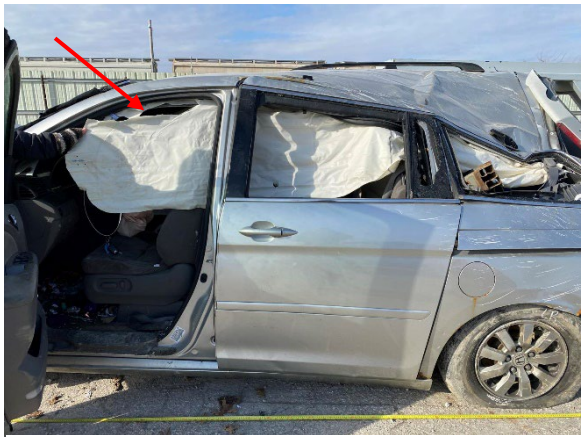


Figure 11. View of the left IC air bag in the Honda

Figure 12. View of the right IC air bag in the Honda

Child Restraint Systems

The first child restraint system found was an Evenflo Amp No Back booster seat (Figure 13). It was found in the cargo area during the inspection. The removeable back rest was separated from the base. This CRS was occupied by the 4-year-old female in the second-row-left seating position. The manufacturer label (Figure 14) on the CRS stated that it was produced on August

21, 2017, with an expiration date of August 20, 2023. There was no sign of damage to the CRS at the time of the inspection.

Figure 13. Child restraint system that was secured in the second-row-left seating position of the Honda

Figure 14. Manufacturer label on CRS

A Graco Click Connect universal base (Figure 15) was also found in the cargo area. The base could be used with a number of different Graco CRS models. The exact Graco model could not be determined. It was determined by process of elimination that this CRS base was originally used by the 2-year-old male in the second-row-right seating position. The manufacturer label (Figure 16) on the CRS base stated it was produced on August 26, 2016. Graco Click Connect CRS lifespan is 7 years after the date of manufacture, which would indicate that the base expired on August 25, 2022. The CRS that would secure into this base was discovered through dashcam footage received by local first responders to have been thrown into the pond during the extrication process. It was determined that the CRS make had to be Graco in order for the base to connect properly to the CRS. However, the model is undetermined due to not having the CRS to inspect.

Figure 15. Child restraint system base that was found in the Honda's cargo area

Figure 16. Manufacturer label on CRS base

2009 Honda Odyssey Occupants

Driver Demographics

Age/sex:	30 years/female
Height:	Unknown
Weight:	79 kg (174 lb)
Eyewear:	Unknown
Seat type:	Forward-facing bucket seat with adjustable head restraint
Seat track position:	Forward-most position at inspection
Manual restraint usage:	Lap and shoulder belt
Usage source:	Vehicle inspection
Air bags:	Driver's frontal, seat-mounted, and IC air bags available; driver's frontal and IC air bags deployed
Alcohol/drug involvement:	Unknown
Egress from vehicle:	Removed by rescue personnel
Transport from scene:	Ambulance to local hospital then transferred to Level 1 trauma center
Type of medical treatment:	Local hospital records obtained, unknown treatment at trauma center

Driver Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
1	Hypothermia 29-28 degrees C (85-82 degrees F)	010008.4	Isolated IPC Non-Contact Injury – Other non-contact injury source (specify): water	Certain

Source: Emergency room record

Driver Kinematics

The 30-year-old female drove the Honda while using the 3-point lap and shoulder seat belt system. The driver's seat was in the forward-most track position at the time of the SCI inspection; the at-crash track position remains unknown. As the Honda struck the landscape embankment, the undercarriage impacted the ground. The driver responded to the non-horizontal impact by shifting downward and forward in her seat. As the Honda continued up the embankment and became airborne, the driver likely began to lift off her seat slightly.

Upon impact with the pond embankment, the driver's frontal air bag likely deployed. The driver responded to the frontal impact with a forward trajectory loading the seat belt and deployed air bag. As the Honda began the end-over-end roll, the driver responded toward the roof. When the top plane of the Honda struck the pond embankment and then began the left-side-leading roll, the driver responded towards the left side of the Honda, likely contacting the deployed IC airbag.

During the SCI investigation, a first responder who spoke with the right-front passenger was interviewed. This person said that when the Honda started sinking in the pond, the driver unbuckled her seat belt and tried to get the children out of their restraints. After she unbuckled

herself, the driver helped the right-front passenger unbuckle and then crawled into the second row to get the remaining occupants out of their restraints.

Upon arriving at the scene, local law enforcement was unable to extract the driver from the Honda while it was in the water. When it was towed from the pond, she was found in the second row semi-conscious. She was removed from the vehicle and transported by ambulance to a local hospital due to perceived serious injuries. Local hospital records were obtained. The driver was transferred to a Level 1 trauma center but those records could not be obtained; therefore, the extent of treatment and hospitalization of the driver is unknown. Media reports said that the mother and the two surviving children were all in critical condition.

Front-Row-Right Passenger Demographics

Age/sex:	10 years/female
Height:	Unknown
Weight:	Unknown
Eyewear:	Unknown
Seat type:	Forward-facing bucket seat with adjustable head restraint
Seat track position:	Forward-most position at inspection
Manual restraint usage:	Lap and shoulder belt
Usage source:	Vehicle inspection
Air bags:	Passenger's frontal, seat-mounted, and IC air bags available; passenger's frontal and IC air bags deployed
Egress from vehicle:	Removed by rescue personnel
Transport from scene:	Ambulance to local hospital then transferred to Level 1 pediatric trauma center
Type of medical treatment:	Local hospital records obtained, unknown treatment at trauma center

Front-Row-Right Passenger Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
1	Hypothermia, NFS	010000.1	Isolated Non-Contact Injury – Other non-contact injury source (specify): water	Certain

Source: Emergency room record

Front-Row-Right Passenger Kinematics

The 10-year-old passenger was seated in the right-front seat using the 3-point lap and shoulder seat belt system. The passenger's seat was in the forward-most track position at the time of the SCI inspection; the at-crash position is unknown. As the Honda encountered the landscape embankment, the undercarriage struck the ground. The passenger responded to the non-horizontal impact by shifting downward and forward in her seat. As the Honda continued up the embankment and became airborne, the passenger likely began to lift off her seat slightly.

Upon impact with the pond embankment, the passenger's frontal air bag deployed. She responded to the frontal impact with a forward trajectory, loading the seat belt and deployed air bag. As the Honda began the end-over-end roll, she responded toward the roof. When the top plane of the Honda struck the pond embankment and then began the left-side-leading roll, she responded towards the left side of the Honda. She remained within her seat throughout the crash sequence.

Upon arriving at the scene, local law enforcement officers broke the second-row-right window and were able to extract her through that window. She was transported by ambulance to a local hospital due to perceived serious injuries. Local hospital records were obtained. The right-front passenger was transferred to a Level 1 pediatric trauma center but those records could not be obtained; therefore, the extent of treatment and hospitalization of the occupant is unknown

Second-Row-Left Passenger Demographics

Age/sex:	4 years/female
Height:	107 cm (42 in)
Weight:	20 kg (44 lb)
Eyewear:	Unknown
Seat type:	Split bench with folding back and adjustable head restraint
Seat track position:	Middle track position
Manual restraint usage:	Lap and shoulder belt with CRS
Usage source:	Vehicle inspection
Air bags:	IC air bag available; deployed
Egress from vehicle:	Removed from vehicle while unconscious or not oriented to time or place
Transport from scene:	Ambulance to local hospital then transferred to Level 1 pediatric trauma center
Type of medical treatment:	Local hospital records obtained, unknown treatment at trauma center; fatal outcome

Second-Row-Left Passenger Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
1	Drowning/immersion with cardiac arrest	060006.5	Isolated IPC Non-Contact Injury – Other non-contact injury source (specify): water	Certain
2	Hypothermia <28 degrees C (<82 degrees F)	010010.5	Isolated IPC Non-Contact Injury – Other non-contact injury source (specify): water	Certain
3	Left neck contusion	310402.1	Isolated Interior – Shoulder portion of belt restraint	Certain
4	Right lateral thorax contusion; 3/16 inch diameter faint red contusion overlying left	410402.1	Isolated Interior – Shoulder portion of belt restraint	Certain

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
	parasternal region of upper chest wall			

Source: Emergency room record, coroner's report

Second-Row-Left Passenger Kinematics

The 4-year-old female was seated in a high-back booster CRS restrained by the lap and shoulder seat belt. Throughout the entire crash sequence, the child remained secured in the CRS with no ejection and loaded the seat belt riding down the forces of the crash. After the local towing company pulled the Honda from the pond the child was found in the floorboard in front of the driver's seat. It is unknown how the child exited the CRS. At that time emergency medical services began treating the child and transported her to a local hospital by ambulance. Local hospital records were obtained. The passenger was transferred to a Level 1 pediatric trauma center but those records could not be obtained. The time of death on the autopsy report indicates that the passenger was deceased prior to admission.

Second-Row-Center Passenger Demographics

Age/sex:	7 years/female
Height:	Unknown
Weight:	Unknown
Eyewear:	None
Seat type:	Split bench with folding back and adjustable head restraint
Seat track position:	Middle track position
Manual restraint usage:	Lap and shoulder belt
Usage source:	Vehicle inspection
Air bags:	None
Egress from vehicle:	Removed from vehicle due to perceived serious injuries
Transport from scene:	Ambulance to local hospital then transferred to Level 1 pediatric trauma center
Type of medical treatment:	Local hospital records obtained, unknown treatment at trauma center

Second-Row-Center Passenger Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
1	Closed head injury, NFS	100099.9	Injured, unknown source	Unknown
2	Concussion, NFS	161000.2	Injured, unknown source	Unknown
3	T9 fracture, NFS	650416.2	Isolated Interior – Shoulder portion of belt restraint	Possible
4	Hypothermia, NFS	010000.1	Isolated Non-Contact Injury – Other non-contact injury source (specify): water	Certain

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
5	Abrasions to right forehead	210202.1	Injured, unknown source	Unknown
6	Ecchymosis to neck	310402.1	Isolated Interior – Shoulder portion of belt restraint	Certain
7	Abrasion to neck	310202.1	Isolated Interior – Shoulder portion of belt restraint	Certain
8	Ecchymosis to anterior chest	410402.1	Isolated Interior – Shoulder portion of belt restraint	Certain
9	Abrasions to chest	410202.1	Isolated Interior – Shoulder portion of belt restraint	Certain
10	Ecchymosis to lower abdomen	510402.1	Isolated Interior – Lap portion of belt restraint	Certain
11	Abrasion to lower abdomen	510202.1	Isolated Interior – Lap portion of belt restraint	Certain

Source: Emergency room record

Second-Row-Center Passenger Kinematics

The 7-year-old passenger was probably seated in the second-row-center seating position, using the 3-point lap and shoulder seat belt system. The seat was in the middle-track position at the time of the SCI inspection. As the Honda encountered the landscape embankment, the undercarriage struck the ground. The passenger responded to the non-horizontal impact by shifting downward and forward in her seat. As the Honda continued up the embankment and became airborne, the passenger likely began to lift off her seat slightly.

Upon impact with the pond embankment, the passenger responded forward, loading the seat belt with her torso evidenced by the soft tissue neck and chest injuries. As the vehicle began the end-over-end roll, the passenger responded forward and then toward the roof of the Honda. When the top plane of the Honda struck the pond embankment and then began the left-side-leading roll, the passenger responded towards the left side of the Honda. She remained within her seat throughout the crash sequence.

Upon arriving at the scene, local law enforcement officers broke the second-row-right window and were able to extract her through that window. She was transported by ambulance to a local hospital due to perceived serious injuries and those records were obtained. The passenger was transferred to a Level 1 pediatric trauma center but those records could not be obtained; therefore, the extent of treatment and hospitalization of the passenger is unknown.

Second-Row-Right Passenger Demographics

Age/sex: 2 years/male
Height: Unknown
Weight: 14 kg (31 lb)

Eyewear:	Unknown
Seat type:	Split bench with folding back and adjustable head restraint
Seat track position:	Middle track position
Manual restraint usage:	Unknown if used with CRS
Usage source:	Vehicle inspection
Air bags:	IC air bag available; deployed
Egress from vehicle:	Removed from vehicle while unconscious or not oriented to time or place
Transport from scene:	EMS ambulance transport to local hospital
Type of medical treatment:	Hospitalized for 1 day; fatal

Second-Row-Right Passenger Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
1	Drowning/immersion with cardiac arrest	060006.5	Isolated IPC Non-Contact Injury – Other non-contact injury source (specify): water	Certain
2	Hypothermia, NFS	010000.1	Isolated Non-Contact Injury – Other non-contact injury source (specify): water	Certain

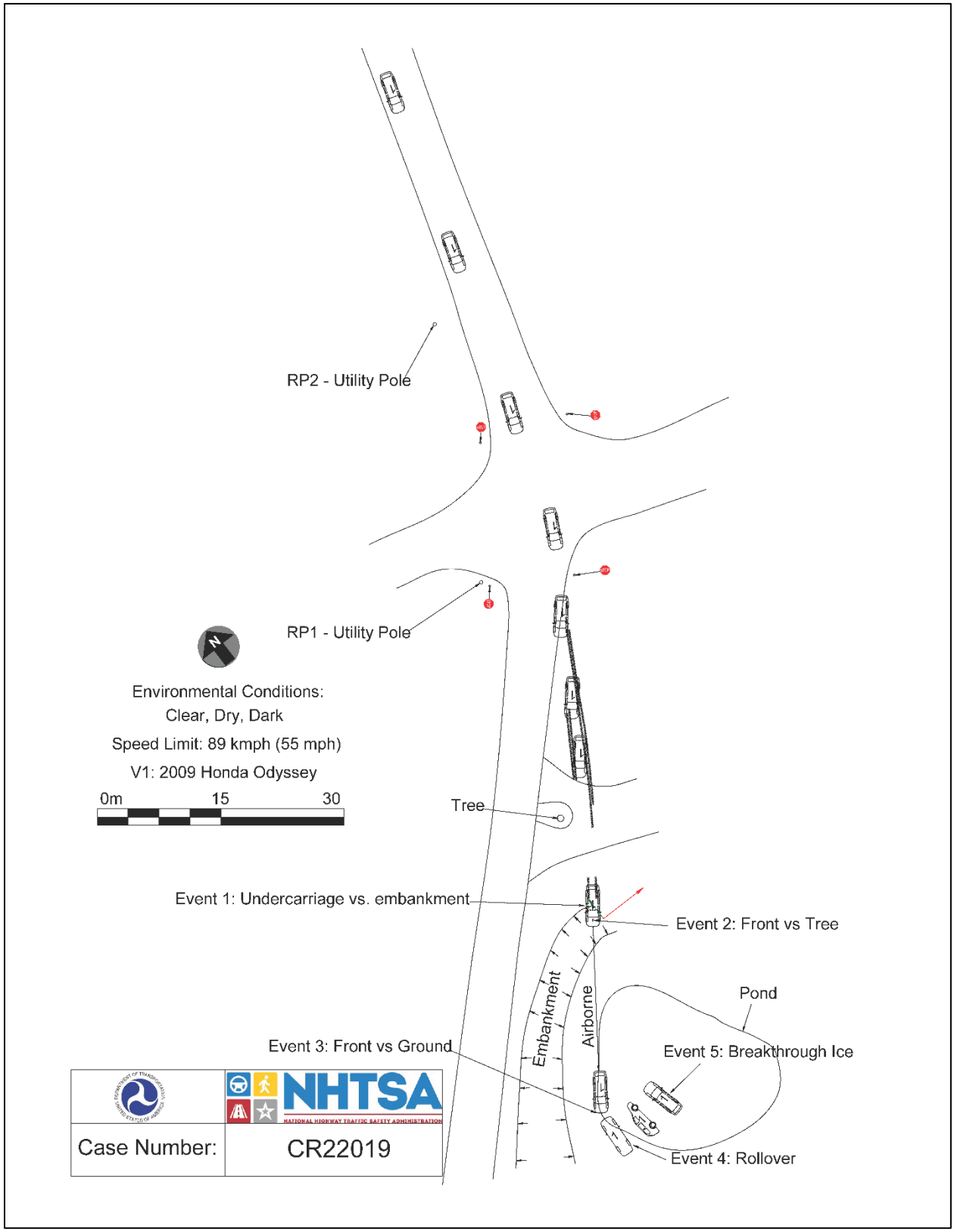
Source: Hospital record

Second-Row-Right Passenger Kinematics

The 2-year-old male was likely seated in the rear-facing CRS. Throughout the entire crash sequence, the child remained secure in the CRS with no ejection. It is unknown if the CRS was secured using the LATCH system or the Honda's seat belt.

Upon arriving at the scene, local law enforcement officers broke the second-row-right window and were able to extract him through that window. At that time emergency medical services began treating the child and transported him to a local hospital by ambulance. The child was later declared deceased at the hospital.

Crash Diagram



DOT HS 813 680
February 2025

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

16547-030625-v2