

Stretch Limousine Run-Off-Road Crash
Near Schoharie, New York
October 6, 2018



Accident Report

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PB2020-101008



National
Transportation
Safety Board

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Highway Accident Report

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National
Transportation
Safety Board

490 L'Enfant Plaza, S.W.
Washington, D.C. 20594

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Abstract: On October 6, 2018, about 1:55 p.m., a 2001 Ford Excursion XLT stretch limousine, operated by Prestige Limousine and Chauffeur Service, was traveling south on New York State Route 30 (NY-30) near Schoharie, New York. The limousine, occupied by a driver and 17 passengers, was descending a grade that began 1.81 miles north of a T-intersection with New York State Route 30A (NY-30A). The posted speed limit was 55 mph. Although the driver likely applied the brakes while descending the hill, the brake system failed to effectively slow the limousine, and its speed increased to over 100 mph. The driver steered to avoid a car stopped at the NY-30/NY-30A intersection, proceeded past a stop sign, crossed the intersection, and entered the driveway of a restaurant parking lot. The limousine struck an unoccupied sport utility vehicle (SUV) parked in a field adjacent to the driveway. Two pedestrians standing near the SUV were struck by it when the SUV was forced forward by the limousine. The limousine continued into a ravine, where it struck an earthen embankment and several trees. As a result of the crash, 20 people died, including all 18 limousine occupants and the 2 pedestrians

The National Transportation Safety Board (NTSB) identified the following safety issues: inadequate brake system maintenance, vehicle alteration affecting compliance with applicable *Federal Motor Vehicle Safety Standards*, drivers falsifying medical histories in medical certification examinations for commercial driver's licenses, ineffective state oversight of intrastate motor carrier operations, and insufficient occupant protection for limousine passengers. On the basis of its findings, the NTSB makes safety recommendations to the Federal Motor Carrier Safety Administration, the State of New York, the New York State Department of Motor Vehicles, and the National Limousine Association.

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For more detailed background information on this report, visit the [NTSB investigations website](#) and search for NTSB accident ID HWY19MH001. Recent publications are available in their entirety on the [NTSB website](#). Other information about available publications also may be obtained from the website or by contacting—**National Transportation Safety Board; Records Management Division, CIO-40; 490 L'Enfant Plaza, SW; Washington, DC 20594; (800) 877-6799 or (202) 314-6551.**

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Acronyms and Abbreviations

AAMVA	American Association of Motor Vehicle Administrators
AASHTO	American Association of State Highway and Transportation Officials
ABS	antilock brake system
ADHD	attention deficit hyperactivity disorder
BUSNET	Bus Safety Information Network
CDL	commercial driver's license
CFR	<i>Code of Federal Regulations</i>
CVSA	Commercial Vehicle Safety Alliance
CVSP	Commercial Vehicle Safety Plan
DMV	Department of Motor Vehicles
EMS	emergency medical services
ETA	Emergency Temporary Authority
FMCSA	Federal Motor Carrier Safety Administration
FMVSSs	<i>Federal Motor Vehicle Safety Standards</i>
Ford	Ford Motor Company
GPS	global positioning system
GVW	gross vehicle weight
GVWR	gross vehicle weight rating
NATC	Nevada Automotive Test Center
NHTSA	National Highway Traffic Safety Administration
NLA	National Limousine Association
NOV	Notice of Violation
NTSB	National Transportation Safety Board
NYCRR	<i>Codes, Rules, and Regulations of the State of New York</i>
NYS	New York State
NYSDMV	New York State Department of Motor Vehicles
NYSDOT	New York State Department of Transportation
NYSP	New York State Police
NY-7	New York State Route 7
NY-30	New York State Route 30
NY-30A	New York State Route 30A

OEM	original equipment manufacturer
OOS	out-of-service
Prestige	Prestige Limousine and Chauffeur Service (also Prestige Limousine)
QVM	qualified vehicle modifier
RCM	restraint control module
rpm	revolutions per minute
SCVFD	Schoharie County Volunteer Fire Department
SMS	Safety Measurement System
SUV	sport utility vehicle
THC	delta-9-tetrahydrocannabinol [marijuana]
USDOT	US Department of Transportation
VIN	vehicle identification number

Executive Summary

Crash Summary

On October 6, 2018, about 1:55 p.m. (local time), a 2001 Ford Excursion XLT stretch limousine, operated by Prestige Limousine and Chauffeur Service, was traveling south on New York State Route 30 (NY-30) near Schoharie, Schoharie County, New York. The limousine, occupied by a 53-year-old driver and 17 passengers, was descending a downhill grade that began about 1.81 miles north of a T-intersection with New York State Route 30A (NY-30A). The posted speed limit was 55 mph.

Although the driver likely applied the brakes while descending the hill, the brake system failed to effectively slow the limousine down the grade, and the vehicle's speed increased to over 100 mph. The driver steered the vehicle over the double pavement striping to avoid a car stopped at the NY-30/NY-30A intersection, proceeded past a stop sign, crossed the intersection, and entered the driveway of a restaurant parking lot. The limousine struck an unoccupied 2015 Toyota Highlander sport utility vehicle (SUV) that was parked in a grassy field adjacent to the driveway. Two pedestrians who were standing near the SUV were struck by it when the SUV was forced forward by the limousine. The limousine continued across the edge of the driveway and into a ravine, where it struck an earthen embankment and several trees. As a result of the crash, 20 people died, including all 18 limousine occupants and the 2 pedestrians.¹

Probable Cause

The National Transportation Safety Board determines that the probable cause of the Schoharie, New York, crash was Prestige Limousine and Chauffeur Service's egregious disregard for safety, in dispatching a stretch limousine with an out-of-service order for a passenger charter trip, resulting in the failure of its brake system while descending the steep grade of New York State Route 30. Contributing to the crash was the New York State Department of Transportation's ineffective oversight of Prestige Limousine, despite its knowledge of the carrier's multiple out-of-service violations and lack of operating authority, as well as the department's inadequate repair verification process. Further contributing to the crash was the New York State Department of Motor Vehicles' inadequate oversight of state-licensed inspection stations and its failure to properly register the limousine, which enabled Prestige Limousine to circumvent the state's safety regulations and more rigorous inspection requirements.

Safety Issues

The safety issues identified in this crash include the following:

- **Inadequate brake system maintenance.** The limousine's brake system was poorly maintained. While descending a downhill grade, the brake system failed to effectively slow the vehicle and stop it at the bottom of the hill.

¹ Additional information about this investigation can be found in the [NTSB public docket](#) for this crash (NTSB accident HWY19MH001) at www.nts.gov.

- **Vehicle alteration affecting compliance with applicable *Federal Motor Vehicle Safety Standards*.** The vehicle involved in this crash had originally been a Ford Excursion SUV; it was altered to become a stretch limousine. There is no evidence that, when the SUV was altered, the alterer, 21st Century Coachworks, conducted the required testing and engineering analyses to ensure that the altered vehicle conformed to required federal safety standards. As a consequence of the increase in vehicle weight and seating capacity, the classification of the vehicle changed from an SUV to a “bus,” as defined by the National Highway Traffic Safety Administration, which affected how certain federal safety standards applied to the vehicle. The report discusses the vehicle alteration and certification processes for stretch limousines, the results of a brake performance test that evaluated the effect of increased weight on a properly maintained vehicle, and the steps that limousine operators should take to ensure the safety of altered or stretched vehicles being purchased or operated as limousines in passenger transportation.
- **Drivers falsifying medical histories in medical certification examinations for commercial driver’s licenses.** The limousine driver was required to be medically certified to operate a commercial vehicle. During the medical examination process, the driver failed to disclose pertinent information about his medical history, which prevented an accurate assessment of his physical qualifications to operate a stretch limousine. Based on the driver’s marijuana use, he would not have been medically certified to drive the limousine.
- **Ineffective state oversight of intrastate motor carrier operations.** The New York State Department of Motor Vehicles (NYSDMV) and Department of Transportation (NYSDOT) were responsible for the oversight of the limousine operator, Prestige Limousine and Chauffeur Service, and its commercial stretch limousines. The NYSDMV was responsible for properly registering limousines. The report discusses deficiencies in the NYSDMV registration process, which allowed Prestige Limousine to circumvent more rigorous state bus safety and inspection requirements by improperly registering its vehicles. The report also discusses the NYSDOT’s ineffective safety enforcement efforts, which failed to prevent the unauthorized operator Prestige Limousine from operating. Although the NYSDOT was aware that Prestige Limousine was operating, it failed to verify whether Prestige Limousine had made vehicle safety repairs, required due to out-of-service vehicle inspection violations, which enabled the carrier to continue transporting passengers in limousines that had serious safety deficiencies. The report addresses the need for additional efforts at the state and national levels to prevent motor carriers from operating with active out-of-service violations.
- **Insufficient occupant protection for limousine passengers.** As part of the Schoharie crash investigation, the National Transportation Safety Board (NTSB) adopted a safety recommendation report on September 13, 2019, on providing occupant protection for limousine passengers. This report briefly summarizes the 2019 safety report and describes the insufficient occupant protection systems in the limousine at the time of the crash.

Investigative Constraints

The New York State Police and the Schoharie County District Attorney's Office are conducting a criminal investigation of this crash. These state entities (particularly the District Attorney's Office) denied the NTSB timely access to the crash vehicles and related information that would have allowed the NTSB to follow its usual investigative protocols. The involved motor carrier, Prestige Limousine, would not permit access to its records, maintenance history, some witnesses, and other investigative material. These impediments delayed and complicated the NTSB's investigation, but they did not affect its quality, as investigators used the factual information collected and developed alternative methodologies to complete an accurate investigation. In particular, to compensate for the District Attorney and state police denying our timely access to vehicle and braking components for any actions other than a visual inspection, the NTSB contracted an independent testing firm to conduct performance-based testing to examine the braking performance of a Ford Excursion SUV at the original manufacture gross vehicle weight rating and at the weight of the stretch limousine at the time of the crash. The testing included brake dynamometer testing to simulate braking performance over the route the crash vehicle traveled. The testing was instrumental to understanding factors relevant to the crash.

Findings

1. None of the following were factors in this crash: (1) the driver's experience or familiarity with the limousine, (2) roadway signage, (3) alcohol impairment or fatigue, (4) cell phone use, (5) weather conditions, or (6) visibility and stopping sight distance at the intersection where the crash occurred.
2. The emergency response to the crash was timely and adequate.
3. The limousine was unable to slow on the downhill grade approaching the intersection due to a failure within the poorly maintained brake system.
4. Although 21st Century Coachworks, the company that altered the Ford Excursion sport utility vehicle into a stretch limousine, does not appear to have certified that the altered vehicle met the applicable *Federal Motor Vehicle Safety Standards*, the results of a brake system performance study show that, had the brake system been properly maintained, the limousine should have been capable of stopping safely at the bottom of the New York State Route 30 downgrade.
5. Limousine operators can help ensure the safety of altered vehicles being acquired for use in passenger transportation service by (1) obtaining an engineer's certification that the altered vehicle meets the *Federal Motor Vehicle Safety Standards* and (2) ensuring that a secondary certification label is affixed to the limousine before purchase.
6. The limousine driver failed to disclose pertinent information about his medical history as required on the examination form for commercial driver's license medical certification, which prevented accurate assessment of his fitness to drive a vehicle transporting passengers.

7. Based on the limousine driver's medical conditions, it cannot be determined whether he would have been granted medical certification to drive a limousine had he fully disclosed his medical history on the examination form for commercial driver's license medical certification; however, had he disclosed his use of marijuana, he would not have been medically certified.
8. Although toxicology tests detected evidence of marijuana and prescription drug use by the limousine driver, insufficient information was available to determine whether the drugs in his system were at levels that would have impaired his ability to respond to the emergency situation.
9. Despite numerous warnings and Notices of Violation issued by the New York State Department of Transportation, Prestige Limousine and Chauffeur Service violated the law by transporting passengers in its limousines without having operating authority.
10. On the day of the crash, Prestige Limousine and Chauffeur Service was knowingly operating a limousine in poor mechanical condition that had recently been placed out of service for safety deficiencies, including brake equipment violations.
11. Prestige Limousine and Chauffeur Service did not have an effective maintenance program in place to ensure the safety of its passenger-carrying vehicles.
12. Despite knowing that the crash limousine driver was not properly licensed, Prestige Limousine and Chauffeur Service repeatedly assigned him to transport passengers, in direct violation of a New York State Department of Transportation out-of-service order, which indicates deficiencies in driver-related safety controls at the motor carrier.
13. The New York State Department of Motor Vehicles' failure to verify information in its vehicle registration program allowed the crash limousine to be incorrectly classified and improperly registered, which enabled Prestige Limousine and Chauffeur Service to circumvent the more thorough state safety and inspection requirements that might have prevented the crash.
14. The state inspection stations Mavis Discount Tire and Wilton Truck Center knowingly inspected and certified the crash limousine, which was clearly an altered vehicle, in contravention of the New York State Department of Motor Vehicles' policy that prohibited stations from inspecting modified or altered vehicles, including stretch limousines.
15. By not ensuring that state inspection stations adhered to the policy that prohibited them from inspecting altered vehicles, the New York State Department of Motor Vehicles enabled the crash limousine to undergo annual vehicle inspections instead of the more rigorous semiannual New York State Department of Transportation bus safety inspections, as required.
16. The New York State Department of Motor Vehicles did not provide effective oversight of state inspection stations, allowing Mavis Discount Tire and Wilton Truck Center to perform inadequate inspections of the crash limousine that failed to detect serious safety deficiencies before the crash.

17. The New York State Department of Transportation's ineffective enforcement and lack of repair verification processes allowed Prestige Limousine and Chauffeur Service to continue to transport passengers in the crash limousine despite the carrier's (1) not having operating authority and (2) failing to repair out-of-service vehicle violations that compromised the limousine's safety.
18. The State of New York's implementation of Assembly Bill A.9056 should help resolve the safety problem of stretch limousines continuing in commercial operation without having their out-of-service violations repaired.
19. The New York State Department of Transportation's enforcement efforts directed toward motor carriers that continue operating after being cited for serious out-of-service violations have been inadequate, and additional strategies and repair verification processes are needed.
20. Making the definition of what constitutes a "bus" consistent between the New York State agencies responsible for registering and inspecting higher occupancy passenger-carrying vehicles would reduce the likelihood of miscommunication between these safety oversight agencies and of motor carriers exploiting administrative loopholes to avoid safety scrutiny.
21. Although the extent of the problem is unknown, some motor carriers across the nation are likely continuing to operate without correcting out-of-service violations, placing the motoring public at risk.

Recommendations

New Recommendations

To the Federal Motor Carrier Safety Administration:

Provide guidance and best practices to states to enforce carrier compliance with state-issued out-of-service orders, based on available information on state efforts to prevent vehicles and drivers from continuing to operate without authority or after being cited for out-of-service violations. (H-20-24)

To the State of New York:

Require the New York State Department of Transportation to implement the "key recommendations" in the 2014 New York Office of the State Comptroller Report 2012-S-13 addressing vehicle repair certification requirements, strategies to improve carrier compliance with out-of-service violations, and progressive enforcement actions for continued operation of out-of-service vehicles. (H-20-25)

Require the New York State Department of Motor Vehicles to adopt the New York State Department of Transportation's definition of a bus as a passenger vehicle for hire with a seating capacity of 10 or more. (H-20-26)

To the New York State Department of Motor Vehicles:

Review your policies and protocols on the inspection of stretch limousines, and establish stricter safeguards and more rigorous enforcement protocols to ensure that state-contracted inspection stations do not inspect stretch limousines that have a seating capacity of 10 or more. (H-20-27)

Renotify state-contracted inspection stations that they may not inspect stretch limousines that have a seating capacity of 10 or more. (H-20-28)

To the National Limousine Association:

Inform your member limousine operators of the importance of verifying the safety of altered vehicles planned for passenger transportation by ensuring that the altered vehicle passes a structural and mechanical safety inspection, obtaining from the alterer an engineer's certification that the altered vehicle meets the *Federal Motor Vehicle Safety Standards* affected by the alteration, and checking that a secondary certification label is affixed to the limousine before purchase. (H-20-29)

Previously Issued Recommendations

In September 2019, the NTSB issued a safety recommendation report titled *Providing Occupant Protection for Limousine Passengers*, which issued and reiterated the following safety recommendations addressing occupant protection safety issues identified during the Schoharie crash investigation (NTSB 2019a):

To the National Highway Traffic Safety Administration:

Require lap/shoulder belts for each passenger seating position on all new vehicles modified to be used as limousines. (H-19-14)

Require that seating systems installed in new vehicles modified to be used as limousines meet minimum performance standards to ensure their integrity during a crash. (H-19-15)

The status of Safety Recommendations H-19-14 and -15 is “Open—Unacceptable Response.”

To the New York State Department of Transportation:

As an addition to your regular state inspection process, ensure that seat belts are functional and accessible in all limousines in the state equipped with passenger seat belts. (H-19-16)

The status of Safety Recommendation H-19-16 is “Closed—Acceptable Alternate Action.”

To the National Limousine Association:

Educate member limousine operators on the life-saving benefits of proper seat belt use, and recommend that they develop methods to (1) ensure that seat belts are functional and accessible to the passengers and (2) encourage passengers to use them. (H-19-17)

The status of Safety Recommendation H-19-17 is “Open—Acceptable Response.”

In the Safety Recommendation Report, the NTSB reiterated Safety Recommendation H-15-42 to the State of New York:

Enact legislation that provides for primary enforcement of a mandatory seat belt use law for all vehicle seating positions equipped with a passenger restraint system. (H-15-42)

The status of Safety Recommendation H-15-42 to the State of New York is “Open—Acceptable Response.”

1 Factual Information

1.1 Crash Narrative

On Saturday, October 6, 2018, about 1:55 p.m. (local time), a 2001 Ford Excursion XLT stretch limousine, operated by Prestige Limousine and Chauffeur Service, was traveling from Amsterdam, New York, to Cooperstown, New York, occupied by a 53-year-old driver and 17 passengers on a charter trip.¹ The trip route was through a rural environment, consisting of rolling terrain with frequent changes in vertical grade and numerous curves. After making a right turn from New York State Route 7 (NY-7) onto New York State Route 30 (NY-30) near Schoharie, Schoharie County, New York, the limousine began a 1.81-mile descent to a stop sign-controlled T-intersection with New York State Route 30A (NY-30A) (see figure 1). The posted speed limit on this section of NY-30 was 55 mph.

Shortly after the limousine made the right turn onto NY-30, witnesses reported seeing it move toward the right shoulder with its hazard lights activated.² Subsequently, the limousine returned to the travel lane, continued south on NY-30, and began to accelerate down the descent to the T-intersection with NY-30A. The limousine did not stop at the intersection.

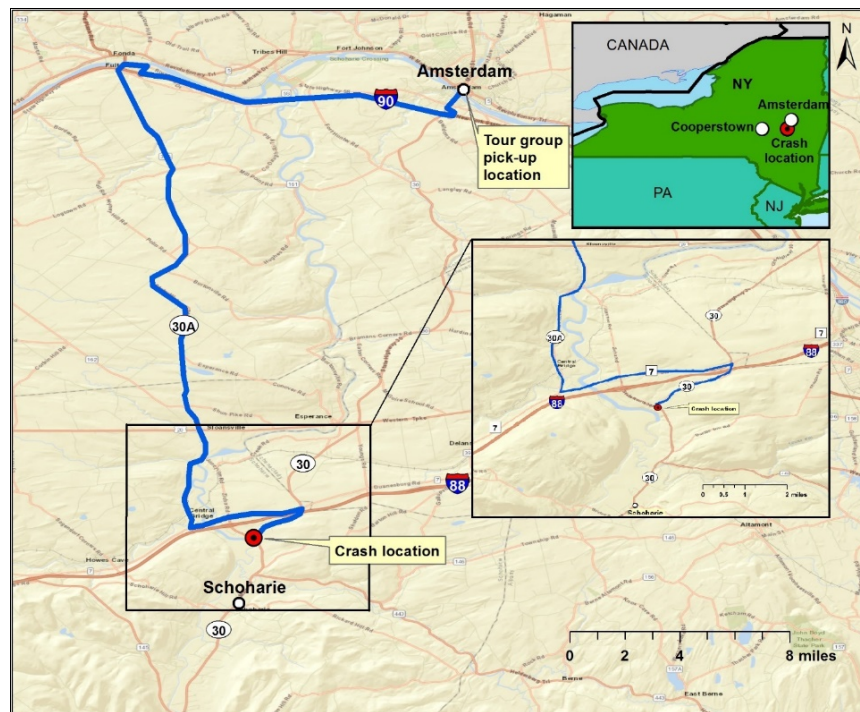


Figure 1. Map showing route of travel from charter group pick-up location to crash site.

¹ Throughout the report, Prestige Limousine and Chauffeur Service is referred to as Prestige Limousine or Prestige.

² The reason for the limousine's move to the shoulder (and whether the limousine came to a complete stop on the shoulder) could not be determined. Refer to the Human Performance Factors Attachment titled "New York State Police Supporting Depositions" in the [NTSB public docket](#) for this investigation; search for NTSB accident HWY19MH001.

As the limousine neared the bottom of the grade, it approached the rear of a 2016 Jeep Patriot sport utility vehicle (SUV) in the same lane, which was stopped at the stop sign for NY-30 at the T-intersection with NY-30A. The two SUV occupants reported hearing the limousine—which they said sounded like a “jet engine”—and seeing it approach the SUV from behind at a high rate of speed. The limousine driver steered left to avoid the SUV, proceeded past the stop sign and through the intersection without slowing, and crossed the east- and westbound travel lanes of NY-30A (traffic on NY-30A did not have a stop sign for the intersection). The limousine entered the driveway of the parking lot of the Apple Barrel Country Store restaurant and struck an unoccupied 2015 Toyota Highlander SUV parked in a grassy field adjacent to the driveway. The limousine was traveling an estimated 101–118 mph when it collided with the Toyota SUV.³ The SUV was propelled in a southerly direction and struck two pedestrians who were standing near the SUV. The speed of the limousine was reduced to about 80 mph as it continued about 55 feet south, entered a ravine, and then struck an earthen embankment and several trees. At final rest, the limousine was in a streambed at the bottom of the ravine facing west with the driver’s side against the backslope of the ravine. The SUV came to rest facing south on the opposite side of the ravine (see figure 2).⁴

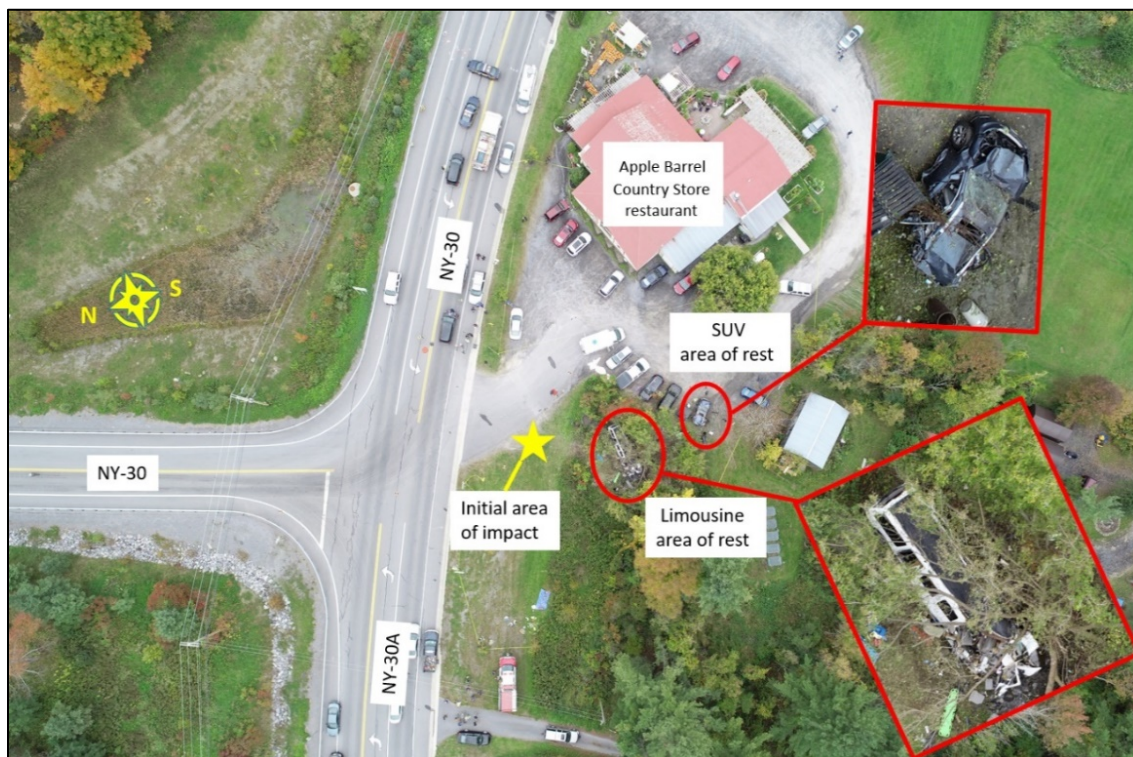


Figure 2. Aerial view of crash scene showing initial area of impact and vehicle areas of rest. (Source: New York State Police with National Transportation Safety Board annotations)

³ The estimated impact speed was derived from the change in velocity recorded by the limousine’s restraint control module (RCM) and an analysis of the SUV’s postimpact travel. Refer to the Technical Reconstruction Group Factual Report in the [NTSB public docket](#) for additional information regarding the electronic event data recorded by the RCM. (Search for NTSB accident HWY19MH001.)

⁴ Scene photographs show the areas of rest for the vehicles.

1.2 Injuries

As a result of the crash, 20 people died, including the limousine driver, 17 passengers, and 2 pedestrians. The 17 passengers were 9 females and 8 males, ranging in age from 24 to 34 years old. The two pedestrians were 70- and 46-year-old males, respectively. The New York State Police (NYSP) forensic team coordinated the autopsies of all 20 victims with the Albany Medical Center. The medical examinations indicated that all victims died of blunt force trauma.

The high death rate in this crash raised immediate questions of occupant protection in stretch limousines. The National Transportation Safety Board (NTSB) issued a focused safety recommendation report on this topic, titled *Providing Occupant Protection for Limousine Passengers*, in September 2019 (NTSB 2019a). The issue of occupant protection and the recommendations made in this safety recommendation report are discussed in section 1.8.

1.3 Emergency Response

A multiagency response consisted of the NYSP; Schoharie County Sheriff's Office; Schoharie County Volunteer Fire Department (SCVFD); and a variety of public, volunteer, and private emergency medical services (EMS). The first 911 call was received by the Schoharie County Office of Emergency Services at 1:55 p.m. Units from the Schoharie County Sheriff's Office, SCVFD fire/rescue, and EMS were dispatched to the scene at 1:56 p.m. The first units arrived at the crash location at 1:59 p.m.

The SCVFD had primary jurisdiction for the fire/rescue services. At 2:00 p.m., the severity of the incident was upgraded to a level D mass casualty incident, which invoked mutual aid response from other agencies.⁵ EMS responded to the scene, including resources from the Central Bridge Fire District, Esperance Volunteer Fire Department, Scho-Wright Ambulance Service, and Life Net of NY Glen, as well as several medical helicopters. Of the 20 crash victims, only 2 limousine passengers initially survived the impacts and were transported by ambulance from the scene to Cobleskill Regional Hospital. One of the patients was pronounced dead on arrival at the hospital. The other patient was transferred from the hospital via medical helicopter to Albany Medical Center (an advanced trauma center). The patient was later pronounced dead at Albany Medical Center.

⁵ The Schoharie County Office of Emergency Services defines events from level A (lowest) to level E (highest). Levels A and B invoke a basic life support response. Levels C and higher require both basic and advanced life support EMS units. The term "mass casualty incident" refers to an incident within the United States in which EMS resources, such as personnel and equipment, are overwhelmed by the number and severity of casualties.

1.4 Highway Factors

1.4.1 General Characteristics

The highway factors investigation focused on the limousine's final 1.81 miles of travel on NY-30, on a descending grade toward the T-intersection with NY-30A (see figure 3).⁶



Figure 3. Map showing NY-30 between NY-7 and crash location. (Source: Google Earth)

NY-30 is configured as a two-lane highway with one lane of travel in each direction. The 5,300-foot segment of NY-30 south of NY-7 features 12-foot-wide travel lanes and 10-foot-wide paved shoulders. South of this segment, over a distance of 3,568 feet, shoulder widths decrease to between 17 inches and 46 inches and then widen to about 9 feet about 670 feet before the intersection. The northbound and southbound travel lanes of NY-30 are delineated by yellow pavement striping, with supplemental striping designating when passing is not permitted. The shoulder areas are delineated by solid white pavement striping. The intersection is generally oriented such that NY-30 approaches it at a heading of 204° south-southwest. NY-30A approaches the intersection from the west and, after it, continues as NY-30 in a southeasterly direction from

⁶ The highway is operated and maintained by the New York State Department of Transportation. See the Highway Factors Group Factual Report in the [NTSB public docket](#) for this investigation (NTSB accident HWY19MH001) for an in-depth description of the highway operating environment.

the intersection. The NY-30/NY-30A intersection bisects the highway into NY-30 and NY-30A (see figure 4).

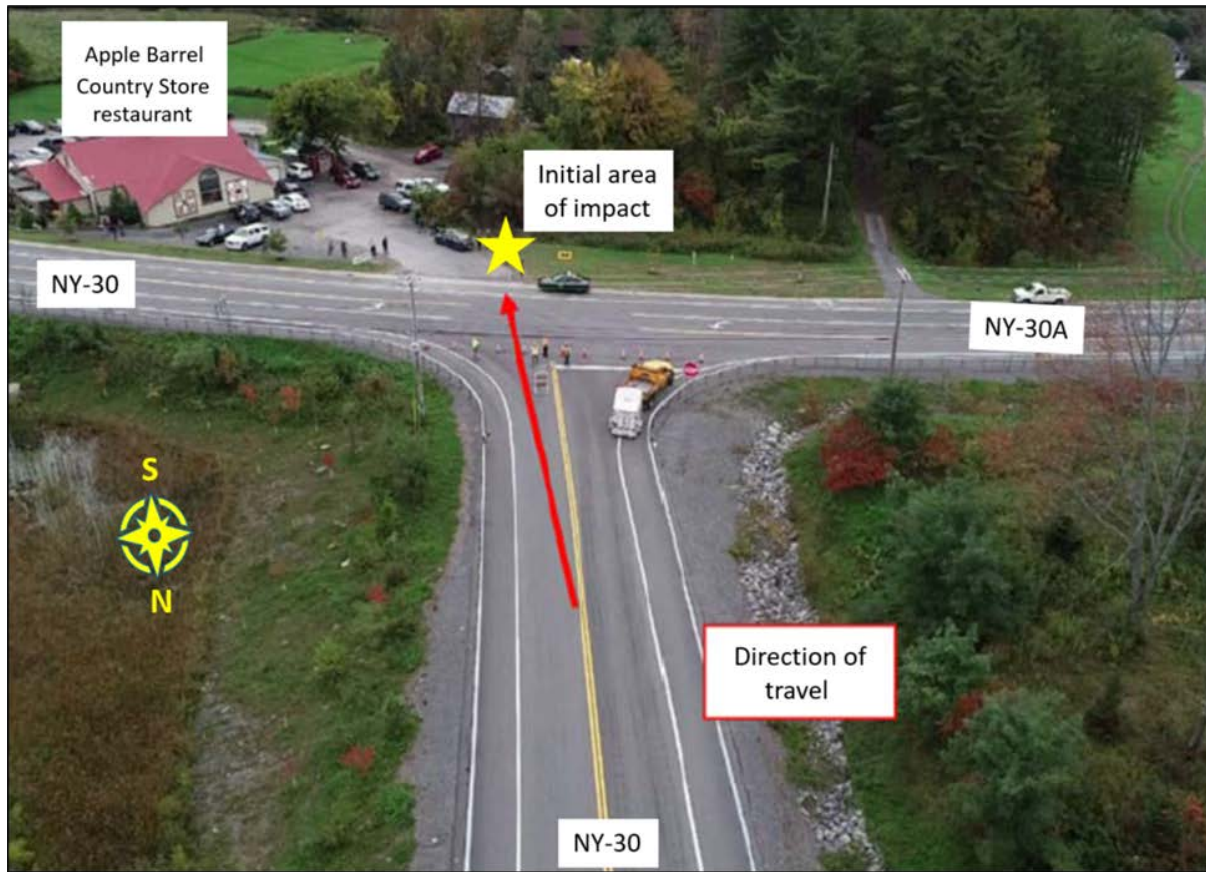


Figure 4. Southbound view of crash scene, showing limousine's direction of travel and area of initial impact. (Source: NYSP)

The speed limit on NY-30 is 55 mph, and the speed limit on NY-30A is 50 mph. The sole regulatory speed limit sign (55 mph) on southbound NY-30 is posted 5,039 feet north of the NY-30/30A intersection.⁷ While headed down the hill on NY-30, the limousine driver would have encountered an advisory 50 mph speed limit sign posted 914 feet from the intersection stop sign.

A 2018 speed study conducted on NY-30 just north of the NY-30A intersection reported the 85th percentile speed as 58 mph.⁸ A 2016 New York State Department of Transportation (NYSDOT) traffic study reported that the average daily traffic for this segment of NY-30 was 650 northbound and 707 southbound vehicles per day.

⁷ This speed reduction advisory is for the segment of NY-30 south of the intersection. It does not pertain to traffic on NY-30 before the NY-30A intersection.

⁸ The 85th percentile speed is the speed that 85 percent of the traffic did not exceed. The 2018 speed study comprised a 1-hour observation period. A 2016 study based on a 72-hour observation period at the top of the grade just south of NY-7 identified an 85th percentile speed of 45.3 mph.

1.4.2 Intersection Crash Location

NY-30 intersects NY-30A at a near right angle from the north. The approach from NY-30 to the intersection with NY-30A is controlled by a stop sign and a painted stop line. There is a stop ahead warning sign about 481 feet before the stop sign on NY-30.

The stop ahead warning sign and intersection stop sign on NY-30 southbound came into the southbound driver's view simultaneously about 1,125 feet before the intersection stop sign. The available sight distance on the approach to the intersection with NY-30A exceeded the minimum standards for stopping sight distance outlined in the American Association of State Highway and Transportation Officials (AASHTO) *Policy on Geometric Design of Highways and Streets*. (See figure 5.)



Figure 5. Southbound approach view of NY-30/NY-30A intersection about 660 feet before intersection. (Stop ahead warning sign and intersection stop sign are circled in yellow.)

After the limousine maneuvered around the stopped vehicle at the intersection, passed through the intersection, and left the southern edge of NY-30A, it collided with the rear of the SUV that was parked in the grassy field adjacent to the arced driveway for the Apple Barrel Country

Store restaurant. The initial area of impact was identified by linear soil furrows beginning about 38 feet south of the highway edge.⁹ (See figure 6.)



Figure 6. Southbound view of soil furrows leading to limousine area of rest.

About 18 feet south of the impact area, the terrain slopes and begins to define a ravine and streambed. At final rest, the limousine was in the streambed with its driver's side against the backslope of the ravine.

1.4.3 Highway Alignment

The final 1.81-mile descending grade consists of four discernable curves—one rightward curve and three leftward curves with long tangent sections separating them.¹⁰ Vertical alignment involves 13 changes in grade that range from less than 1 percent to 11.35 percent (see table 1). The total change in elevation during the 1.81-mile descent is about 573 feet. Figure 7 shows an example of the downhill grade (9.64 percent) about 0.56 miles north of the intersection.

⁹ Furrow characteristics were insufficient to identify precisely where the SUV was initially positioned or whether the SUV or the limousine created each specific furrow. The furrows appeared to be essentially perpendicular to the highway and were offset from the NY-30 centerline by 12–13 feet.

¹⁰ (1) The first horizontal curve is a 1,432-foot-radius rightward curve that begins 117 feet south of NY-7 and continues for 2,358 feet. The curve is followed by a 2,077-foot-long tangent segment. (2) The second curve is a 2,004-foot-radius leftward curve, 784 feet in length. The curve is followed by a 1,861-foot-long tangent segment. (3) The third curve is a 1,641-foot-radius leftward curve, 458 feet in length. The curve is followed by a 1,119-foot-long tangent segment. (4) The fourth curve is a 3,000-foot-radius leftward curve, 626 feet in length. This curve is followed by a 168-foot-long tangent segment that meets the NY-30A intersection.

Table 1. Summary of vertical alignment data in the final 1.81 miles approaching the intersection.

Vertical Alignment % Grade	Length of Downgrade Segment	Distance from Intersection
-2.95%	478 feet	1.81 miles
-1.34%	800 feet	1.72 miles
-5.00%	1,200 feet	1.57 miles
-0.93%	1,670 feet	1.34 miles
-9.80%	1,421 feet	1.03 miles
-7.20%	570 feet	0.76 miles
-11.28%	498 feet	0.65 miles
-9.64%	439 feet	0.56 miles
-7.71%	262 feet	0.47 miles
-11.35%	281 feet	0.42 miles
-8.63%	814 feet	0.37 miles
-5.92%	961 feet	1,135 feet
-1.82%	174 feet	174 feet



Figure 7. Southbound view of downhill grade on NY-30 about 0.56 miles north of the crash location.

In addition to examining the horizontal and vertical alignment of the NY-30 roadway on the final 1.81-mile downgrade from NY-7 to the NY-30/NY-30A intersection, investigators examined the highway topography. The topography consisted of rolling terrain with frequent

changes in vertical grade, although the overall grade was ascending.¹¹ Figure 8 depicts the vertical profile of the trip along the route.¹² These data were used to examine the brake system's performance under different operating and loading characteristics (see section 1.5.6).

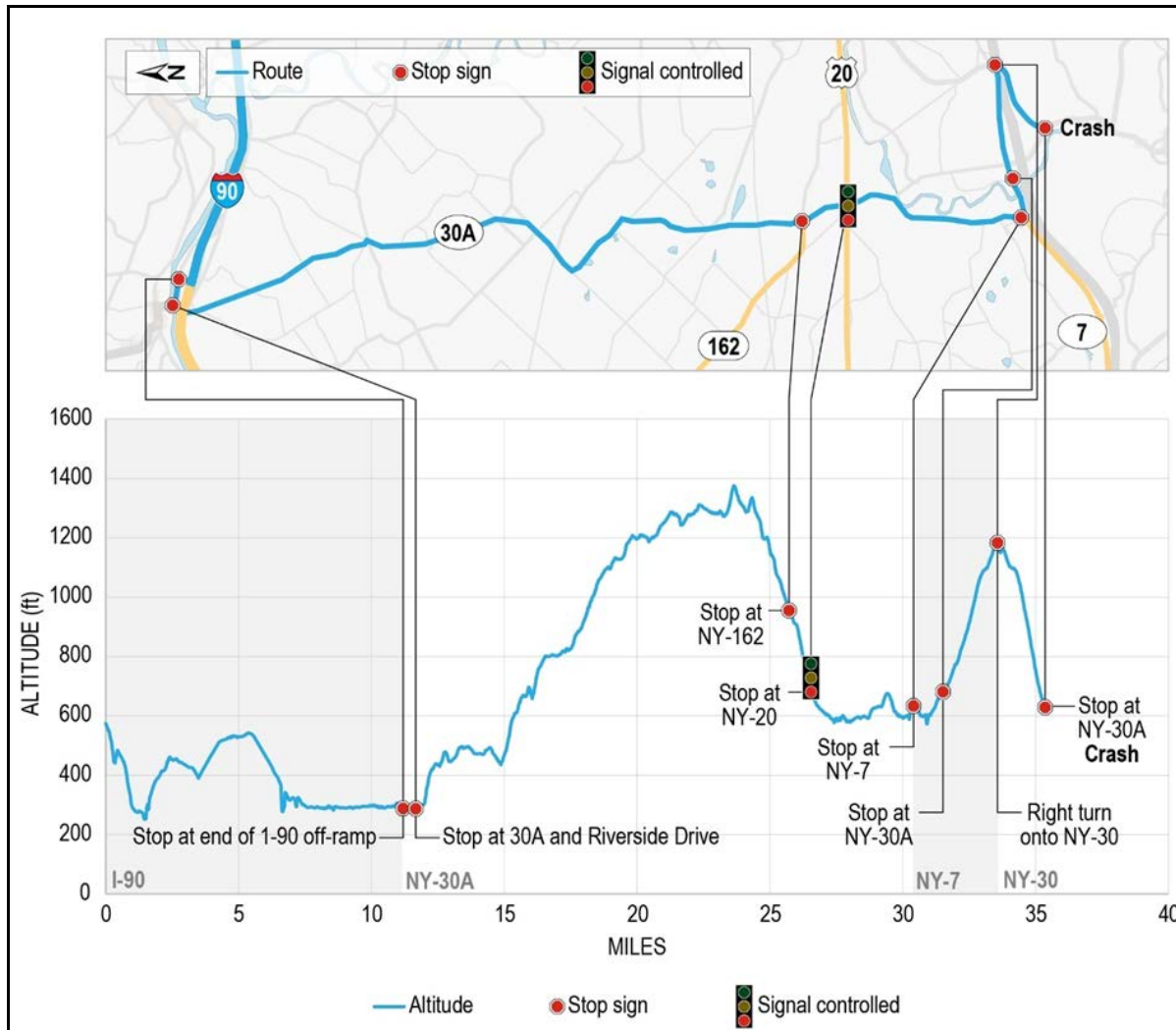


Figure 8. Highway profile graph showing altitude measurements taken along limousine's charter trip from Amsterdam, New York, to crash location.

1.4.4 Signage

Three hill warning signs are posted in advance of the descending grade on which the crash limousine traveled before reaching the NY-30/NY-30A intersection. Each warning sign is posted with an advisory plaque indicating the approximate length of the grade section. The placement of regulatory and warning signs on NY-30 between NY-7 and NY-30A is depicted on a map in

¹¹ During the trip from Amsterdam, the limousine encountered multiple changes in vertical alignment, including one descending grade on NY-30 that covered 2.3 miles, with an elevation decrease of more than 700 feet. The route also included multiple stop signs, traffic signals, and curves that would require speed reductions for safe navigation.

¹² Altitude measurements are based on the height (in feet) above sea level.

appendix C. The mounting height of each sign ranges between 6.2 feet and 7.0 feet, and the signs are located 10–12 feet off the right side of the travel lane.

1.4.5 Crash History

During the 5-year period 2013–2018, four crashes were reported at the NY-30/NY-30A intersection; one was coded as an intersection crash. Of the four crashes, one involved a multiple-vehicle collision and included a citation for stop sign violation. A second crash was coded as “failure to yield while executing a left turn.”

1.4.6 Weather and Illumination

Weather station data for Schoharie on October 6, 2018, at 1:55 p.m. showed conditions as no precipitation, a temperature of 66.8°F, and winds from the west–northwest at 3.4 mph. The roadway was dry. According to the US Naval Observatory Astronomical Applications Department, at the location and time of the crash, the sun altitude was 39.5° (angle up from the horizon) and the azimuth was 202.7° (angle east of true north).¹³ Based on the limousine’s headway angle (204° east of north), the sun at the time of the crash was about 1.3° to the left of the driver and 39.5° above the horizon.¹⁴

1.5 Vehicle Factors

1.5.1 Damage

1.5.1.1 Limousine. The limousine sustained severe damage to its front end, with greater deformation to the driver’s side (see figures 9 and 10). Overall, the left front of the vehicle was displaced rearward about 60 inches, and the left wheel was displaced rearward about 49 inches. The engine was pushed down and rearward into the driver’s footwell, and the steering wheel was pushed rearward and up toward the vehicle roofline.

¹³ The altitude and azimuth values are for the center of the apparent disk of the sun.

¹⁴ At the time of the crash, the sky was overcast, which would have reduced sun glare.



Figure 9. Postcrash front view of limousine (not in final rest position).



Figure 10. Postcrash passenger side view of limousine (not in the crash final rest position).

There was a complete loss of occupant survival space for the driver and front passenger seating positions, and partial intrusion into the left front corner of the rear passenger compartment. Figure 11 shows a driver-side and overhead view of the limousine created by 3D scans of the vehicle. Portions of both views have a yellow outline that roughly represents the original structure of the limousine before the crash. The red-shaded areas represent the approximate regions of intrusion and compromised survival space. The green-shaded areas highlight the portions of the limousine that remained relatively intact and where survival space was maintained in the vehicle structure.

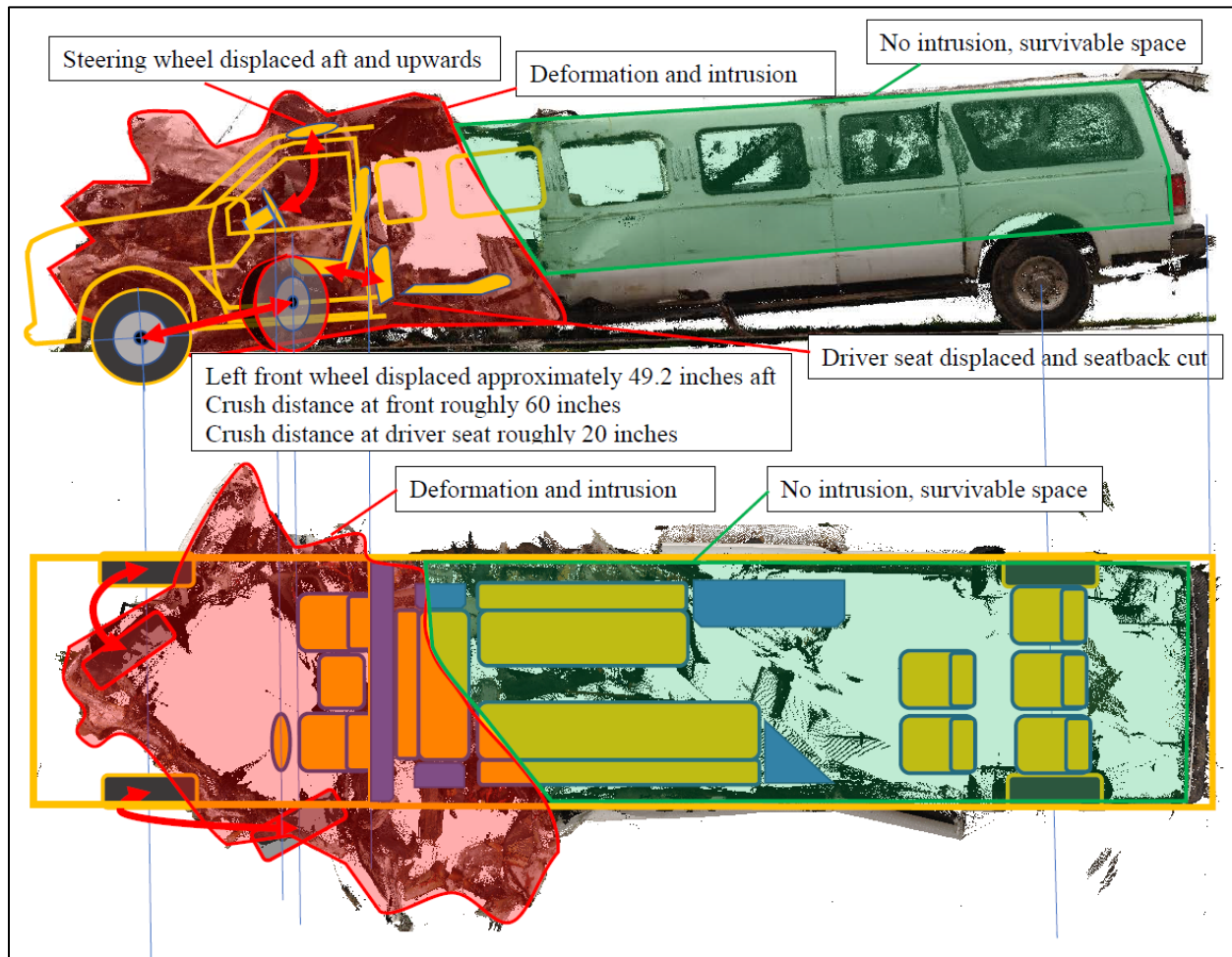


Figure 11. Diagrams of limousine crash damage. Top image shows side view postcrash 3D image of limousine with overlaid reconstruction of vehicle's precrash structure. Bottom image shows overhead view of postcrash 3D image of limousine with overlaid reconstruction of vehicle's precrash structure.

1.5.1.2 Toyota Highlander SUV. The unoccupied, parked SUV sustained extensive rear-end impact damage. The rear axle and body structure were pushed forward, decreasing the vehicle's length by about 48 inches.¹⁵ Additional contact damage and rearward displacement was observed to the SUV's hood (see figure 12). The leading edge and upper surface of the hood showed distinct areas of direct contact. The upper radiator support and surrounding features also showed rearward displacement. The front windshield was fractured, with the cracks showing characteristics of direct contact damage.

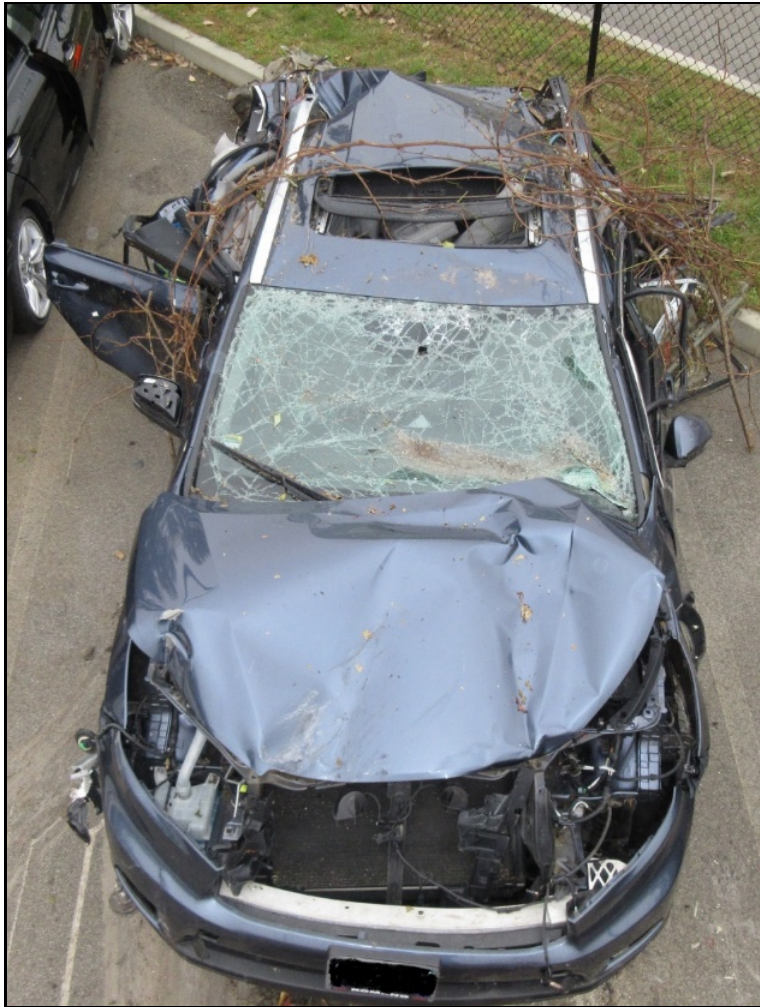


Figure 12. Front overhead view of Toyota SUV depicting damage to hood, windshield, and roof. (Windshield shows evidence of impact with the ground during crash event.)

¹⁵ Manufacturer data show that the precrash overall length of the SUV was 15.92 feet. Depending on the reference source, the SUV's curb weight was in the range of 4,300–4,500 pounds. Curb weight is the actual weight of the vehicle with a full tank of fuel and other fluids needed for travel but no occupants or cargo on board.

1.5.2 Alteration of Ford SUV into Limousine

1.5.2.1 Limousine design. The 2001 Ford Excursion SUV was manufactured by Ford Motor Company (Ford) in October 2000, making Ford the original equipment manufacturer (OEM). The Ford Excursion SUV had been built with a 137.1-inch (11.4-foot) wheelbase and a designated gross vehicle weight rating (GVWR) of 8,600 pounds.¹⁶ The SUV had three rows of seats with a seating capacity of eight persons; the vehicle measured 226.7 inches long. The original SUV was certified by Ford as compliant with all *Federal Motor Vehicle Safety Standards* (FMVSSs) applicable at the time of manufacture.¹⁷

In January 2001, the vehicle alterer 21st Century Coachworks in Springfield, Missouri, purchased the Ford SUV from a Ford dealer. The New York motor carrier Royale Limousine selected the Ford SUV for alteration from the vehicles displayed in the 21st Century parking lot. After 21st Century Coachworks had altered it into a stretch limousine, Royale purchased the vehicle from 21st Century.¹⁸ Royale Limousine owned the vehicle until 2006, when the company was purchased by Advantage Transit Group, doing business as RLS Limousines of Albany, New York. RLS Limousines operated the altered vehicle until it was sold to Prestige Limousine on July 21, 2016.

The alteration in 2001 entailed cutting the SUV's factory frame and welding an additional 144 inches of frame rail to extend the factory frame rail. The alteration increased the vehicle's wheelbase to 281.1 inches (23.4 feet) and its overall length to 370.7 inches (30.9 feet). (See figures 13 and 14.)

Once it had been altered to this design, the vehicle met the definition of a "bus," per 49 CFR 571.3(b) of the FMVSSs, as follows: "A motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons."

¹⁶ The GVWR is the maximum operating weight of a vehicle as specified by the manufacturer. Title 49 *Code of Federal Regulations* (CFR) 567.4 states that the GVWR "shall not be less than the sum of the unloaded vehicle weight, rated cargo load, and 150 pounds times the vehicle's designated seating capacity." The GVWR guides the vehicle design. (The GVWR cited above includes the tow package for the Ford Excursion SUV.)

¹⁷ The FMVSSs are federal regulations that specify the design, construction, performance, and durability requirements for motor vehicles and regulated automobile safety-related components, systems, and design features. The FMVSSs are currently codified in 49 CFR Part 571. Compliance with the FMVSSs is a self-certification process.

¹⁸ The vehicle alterer 21st Century Coachworks is no longer in business.



Figure 13. Precrash photograph of crash limousine. (Source: Times Union newspaper [James Goolsby photographer])

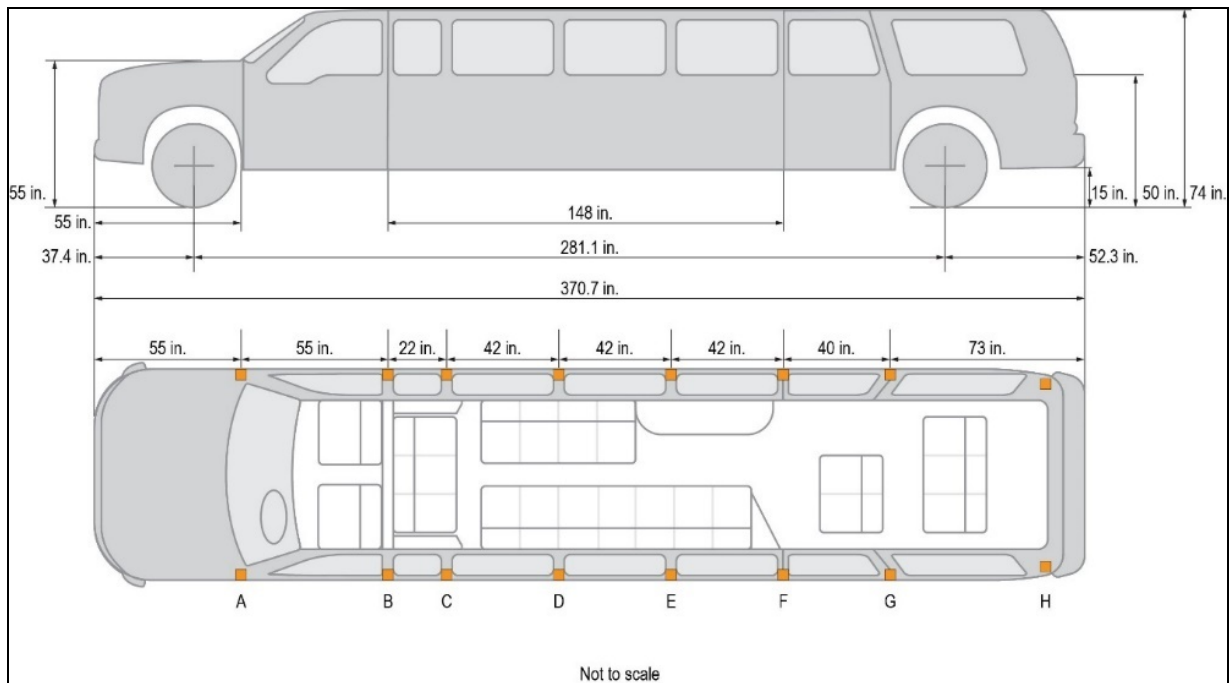


Figure 14. Diagram of limousine exterior and interior. Letters A–H denote positions of structural pillars from front to rear. Pillars C–F were added during alteration from SUV to limousine.

In the alteration, the driver and front passenger seats installed by the OEM were retained. A privacy divider was added between the driver/front passenger seating compartment and the (rear) passenger compartment. A rear-facing bench seat was added, with its back to the privacy divider, facing aft into the passenger compartment (see figure 15). Non-OEM side-facing bench seats were installed along each side of the passenger compartment, forming a perimeter seating layout (see figure 16).¹⁹ A refreshments bar was installed next to the passenger-side bench seat, forward of the rear door. A small table was added next to the driver-side side-facing bench seat. At the back of the passenger compartment were five OEM rear seats that faced forward into the compartment. The sixth OEM seat, originally located next to the passenger-side rear door, was removed to allow access into the rear of the passenger compartment.

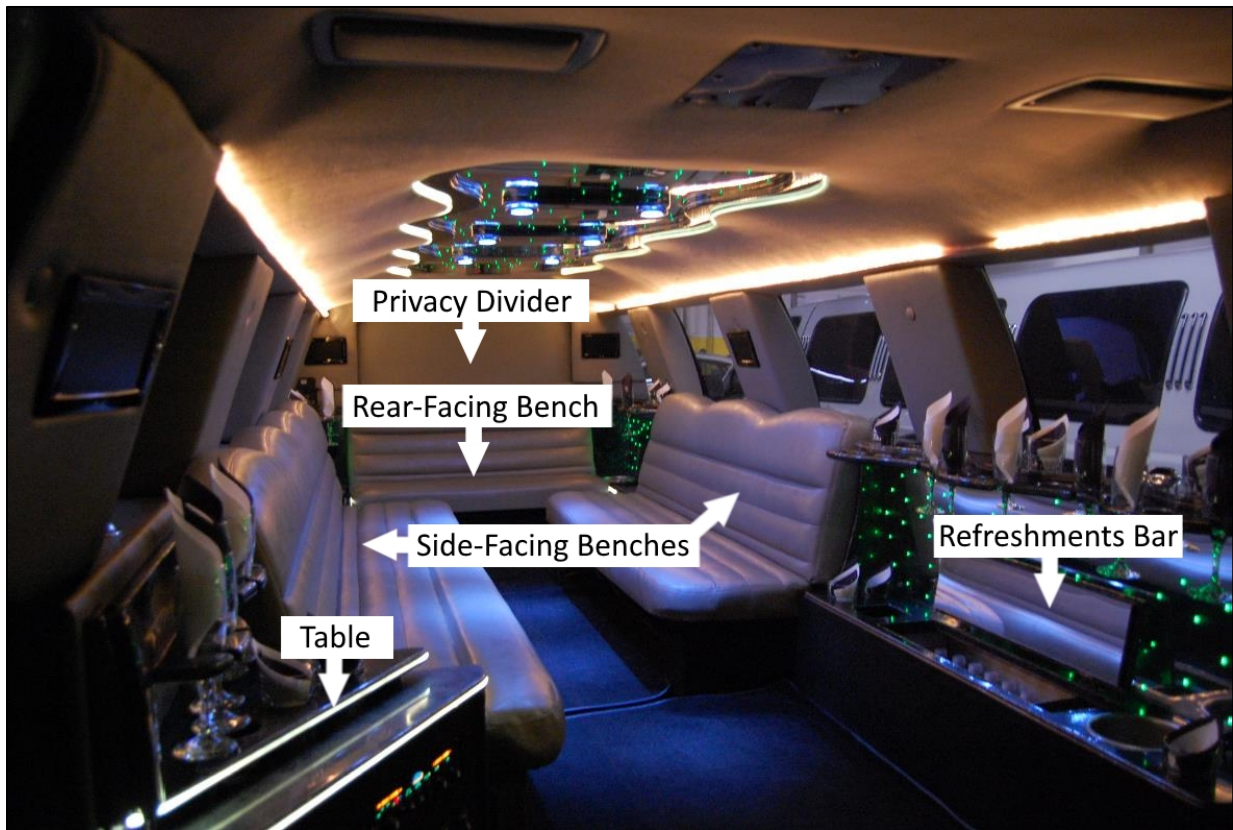


Figure 15. Photograph of limousine's interior, looking from rear of passenger compartment toward driver's compartment. (Source: Advantage Transportation Group, 2010)

¹⁹ The side-facing bench seat on the passenger side of the vehicle was shorter than the one on the driver side.



Figure 16. Photograph of limousine's interior, looking from front of vehicle toward rear of passenger compartment. (Source: Advantage Transportation Group, 2010)

The three non-OEM bench seats (two side-facing and one rear-facing) were equipped with passenger lap belts for each seating position; the OEM seats retained their original lap/shoulder belts on the outboard seats and lap belts on the middle seats. The NTSB postcrash inspection of seat belt anchor points indicated 21 potential belted seating positions in the vehicle. The seating positions available in the vehicle could range from 18 to 22, depending on how “seating position” is defined.²⁰

After the crash, the NYSP weighed the limousine, vehicle components, and debris using certified portable scales. The overall limousine weight was determined to be about 10,000 pounds. With the additional weight of the 18 limousine occupants, the total weight of the limousine at the time of the crash was estimated to total about 13,565 pounds.²¹ (As has been noted, the GVWR of the original SUV was 8,600 pounds.)

²⁰ Somewhat different criteria may be used for determining what constitutes a seating position, which accounts for the range of possible seating capacity numbers. There was no clear definition of the total number of seat positions because the capacity of the bench seats in the perimeter seating area could differ, depending on the source of the information. The sources included the following: an NYSDOT commercial motor vehicle inspections Driver/Vehicle Examination Report, obtained from a previous owner of the limousine; the number of people sitting in the limousine on the subject charter trip; the National Highway Traffic Safety Administration's definition of seat placements; and the number of installed seat belts. Depending on the source used, the limousine could have a capacity ranging from 18 to 22 people.

²¹ Limousine occupant weights were obtained from individual autopsy reports.

The brake system components examined by NTSB investigators exhibited no obvious modifications or alterations from the design and configuration of the original system installed on the Ford Excursion.

1.5.2.2 Vehicle alteration requirements. The vehicle alterer, 21st Century Coachworks, was required to register as a manufacturer in the National Highway Traffic Safety Administration (NHTSA) vehicle manufacturer database (known as vPIC); however, investigators found no listing for the company.²² As a vehicle alterer, 21st Century was responsible for ensuring that the vehicles it altered conformed with all federal safety standards for vehicle features affected by any alterations.²³ Additionally, the alterer was required to affix an additional or secondary certification label to the vehicle affirming that the vehicle conformed with the applicable FMVSSs as well as reporting certain post-alteration vehicle parameters.²⁴ In addition to indicating the identity of the alterer, the secondary label should have reported a change to the vehicle's GVWR and type classification. NTSB investigators found no secondary certification label on the limousine during the postcrash inspection.²⁵

1.5.2.3 Compliance with FMVSSs. At the time the Excursion was altered, 49 CFR 567.7 and 568.8 required a vehicle alterer to ensure that the vehicle, as altered, conformed to the FMVSSs affected by the alteration(s) and to certify FMVSS conformance. In the case of the crash limousine, the vehicle as altered exceeded its loaded weight at the time of original brake system certification

²² Registration with NHTSA is required by 49 CFR Part 566, with the registration information comprising the Manufacturer Information Database. This database is accessible through the NHTSA Product Information Catalog and Vehicle Listing (vPIC) online portal (see [NHTSA vPIC webpage](#), accessed August 23, 2020). The portal supports features such as online manufacturer registration and lookup.

²³ Before the 2006 printing of the CFR, this requirement appeared in 49 CFR 568.8. In 2006, this section was moved to 49 CFR 567.7.

²⁴ The additional label is required by 49 CFR 567.7 and is to be affixed in addition to the certification label that affirms the original certification, required from Ford under 49 CFR 567.4. The original certification label must contain the name of the manufacturer assuming responsibility for conformance with standards; the month and year of manufacture; the vehicle's GVWR; the gross axle weight rating; a text statement that "this vehicle conforms to all applicable FMVSSs in effect on the date of manufacture shown above"; the vehicle identification number; and the type classification of the vehicle as defined in 49 CFR 571.3 (for example, truck, bus, etc.). The additional label must include the name of the individual or corporation that altered the vehicle; the month and year the alteration was completed; a statement that "as altered this vehicle conforms to all applicable Federal Motor Vehicle Safety Standards affected by the alteration and in effect in (month, year)"; the revised GVWR and/or the gross axle weight rating, if different from the original manufacture; and a statement of any revision in the vehicle type classification if different from the original manufacture.

²⁵ Investigators interviewed the proprietor of Royale Limousines, the original owner of the limousine, and he reported that no Part 567 certification label was affixed to the vehicle at the time of purchase. He said that an identification label was later sent to him by 21st Century Coachworks; however, it is unknown whether that label was a Part 567 certification label. In February 2010, an NYSDOT inspector notified the then-owner of the vehicle, RLS Limousines, that the secondary label was unreadable, and that the vehicle was required to be "recertified." RLS Limousines took the limousine to A1 Limo Depot, a licensed NYSDOT facility in Massapequa, New York, for repairs and a follow-up inspection. On February 24, 2010, the NYSDOT inspected the limousine at A1 Limo Depot and verified the presence of a new identification label. The NYSDOT inspections of the limousine in July 2014, January 2015, and June 2015 verified the presence of an identification label and recorded the vehicle's GVWR as 13,080 pounds with a seating capacity of 18. It was not disclosed whether the secondary label issued after February 2010 was Part 567-compliant or one authorized under New York code; see 17 *Codes, Rules, and Regulations of the State of New York* (NYCRR) 720.

specified by Ford for the Excursion SUV under 49 CFR Part 571.105 (FMVSS 105).²⁶ As such, 21st Century Coachworks, the alterer, was required to ensure that the altered vehicle met the applicable FMVSS 105 brake system performance standards, which prescribed a series of performance-based tests, some conducted at the vehicle GVWR, to demonstrate compliance.²⁷ To recertify the vehicle, given its higher GVWR due to the alterations, 21st Century Coachworks should have performed compliance testing or engineering analyses to confirm compliance with the safety standards. NTSB investigators found no evidence that 21st Century Coachworks performed such tests.²⁸

1.5.2.4 OEM guidance. Since 1989, Ford has provided guidance to vehicle alterers who work with selected Ford vehicles. The program is called the Qualified Vehicle Modifier (QVM) program. The program is voluntary for alterers; however, following the QVM program ensures that the final altered vehicle meets Ford's engineering parameters.²⁹ Other manufacturers maintain similar programs. For example, Cadillac has a Master Coachbuilder program. Most of the major companies that perform vehicle alterations are involved in such programs.

There is no record that 21st Century Coachworks participated in Ford's QVM program. When 21st Century purchased the Ford Excursion SUV in January 2001, Ford had not yet published formal guidance on the alteration of Excursion model vehicles. In March 2001, the altered limousine was transferred from 21st Century to its first owner.

On July 13, 2001, Ford's engineering office issued guidance to all voluntary QVM builders regarding the alteration of Excursion SUVs. The guidance limited the vehicle stretch to a maximum length of 120 inches. It also limited the seating capacity to 10 occupants, including the driver. Ford set the maximum gross vehicle weight (GVW) of the stretched vehicles to 9,900 pounds. Additionally, Ford's guidance called for the installation of a chassis upgrade kit, which included a brake Hydro-Boost® kit, higher load capacity tires, and a new rear spring assembly.³⁰ Front springs were to be upgraded based on the length of stretch and weight added.

On December 3, 2002, Ford issued updated guidance to its voluntary QVM builders in a memorandum regarding the stretching of Excursion SUVs. The updated guidance increased the

²⁶ As previously noted, the GVWR for each vehicle is the maximum weight a vehicle is designed to carry when loaded, including the weight of the vehicle itself plus fuel, passengers, and cargo (49 CFR 571.3). The passenger portion of the GVWR includes the calculation of 150 pounds multiplied by the number of the vehicle's designated seating positions.

²⁷ Other FMVSS requirements could have been affected by the vehicle alterations; this report focuses on the braking, due to the circumstances of this crash.

²⁸ Alterers make such certification by affixing a permanent label to the altered vehicle identifying the alterer and the date of alteration. The label must also include a statement that the vehicle, as altered, continues to comply with all applicable FMVSSs. Finally, the alterer must allow the original manufacturer's certification label to remain fixed to the vehicle.

²⁹ To qualify as a QVM, an alterer must be successfully evaluated by Ford Motor Company on criteria such as engineering, manufacturing process, quality control, and adherence to Ford QVM guidelines. The QVM program requires that the builders are capable of performing weight and FMVSS compliance analysis and be subject to an initial inspection and follow-up annual inspections of manufacturing facilities. They must also be registered with NHTSA.

³⁰ The kit uses fluid pressure from the existing power steering pump to power the brake master cylinder and assist in providing greater braking force.

acceptable stretch vehicle length from 120 to 140 inches, raised the allowable passenger capacity from 10 to 15 passengers, and increased the maximum acceptable GVW from 9,900 pounds to 11,000 pounds. Ford included additional safety elements in this guidance, such as roof and side emergency exits. Current 2020 Ford QVM guidance states that only Lincoln MKT Town Cars are approved for conversion into stretch limousines.³¹ In addition, the QVM guidance specifies that an MKT Town Car can only be stretched to 120 inches.³²

1.5.3 Limousine Mechanical Condition

1.5.3.1. Vehicle investigation challenges. Based on the circumstances of the crash and the lack of physical evidence on the roadway indicating precrash braking, the focus of the mechanical inspection was on the brake system (see section 1.5.3.8). However, the NYSP and the Schoharie County District Attorney's Office repeatedly denied the NTSB timely access to the vehicle and its components, removing investigators' opportunity to perform functional testing of vehicle systems.³³ As a result, investigators could not collect—as would be done normally—critical information regarding the operating condition of mechanical components on the crash limousine, such as the brake system, steering, and transmission.³⁴ Although this delayed the progress of the investigation and required the NTSB to develop and use alternative methods of investigation, including use of a contractor to conduct braking simulations (see section 1.5.6 “Brake Performance Study”), NTSB investigators developed an accurate assessment of the crash limousine's braking system and its capacity. In short, the challenges posed by the denial of timely access to the vehicle did not compromise the results of the investigation, but they did significantly extend the length of our investigation and delayed our release of critical safety information to the public.

1.5.3.2 Background. The 2001 Ford Excursion was equipped with a 6.8-liter, electronically controlled, fuel-injected, 10-cylinder gasoline engine and a four-speed automatic transmission. At the time of the crash, the mileage on the vehicle was about 194,000 miles.

1.5.3.3 Body, frame, and suspension. The visual-only examination of the limousine's body conducted on October 8–9, 2018, revealed numerous and significant areas of sheet metal rust.³⁵ The exterior floorboard showed severe deterioration and rust that had come through the underbody, exposing interior carpeting. The entire frame was substantially corroded and rusted,

³¹ Ford has not manufactured Excursion SUVs since 2006.

³² For more information, see [Ford QVM webpage](#), accessed August 23, 2020.

³³ The NYSP and the Schoharie County District Attorney's Office have been conducting a criminal investigation of this crash concurrent with the NTSB crash investigation, for which reason they denied the NTSB timely access to investigation materials, including the crash limousine and its components.

³⁴ NTSB investigators were permitted to conduct a visual-only inspection of the vehicle on October 8–9, 2018 (2 days after the crash). Investigators were permitted to conduct another visual-only inspection on January 29–31, 2019. The NYSP disassembled vehicle components from the limousine on October 14 and 15, 2018, at the NYSP Troop G impound area. NTSB investigators were not allowed to participate in the inspection and disassembly of components. The NYSP contracted for an outside consultant firm, Comprehensive Motor Vehicle Services and Consulting of Concord, New Hampshire, to perform a mechanical inspection of the components. On May 23, 2019 (7 months after the crash), the NTSB was permitted to conduct a visual-only inspection of the vehicle components.

³⁵ Postcrash, the crash limousine was first housed under a fully enclosed tent; later, it was sheltered in a rigid enclosure/shed.

including the underbody structural supports and chassis support gussets.³⁶ Frame welds and underbody structural supports were inspected, and the welds appeared intact. The front suspension and components were displaced rearward by the crash forces, but they showed no evidence of precrash component failure. The rear seven-leaf spring suspension assemblies showed evidence of corrosion, but the structural integrity appeared intact.

1.5.3.4 Driver controls and steering. The steering column and wheel were displaced rearward against the driver's seatback. Damage prevented rotation of the steering wheel or column. The steering gearbox remained mounted to the frame, but functional testing was not possible.³⁷ A thorough inspection and functional tests of the accelerator pedal assembly would have been limited, due to the extensive damage to the driver compartment.

1.5.3.5 Tires and wheels. The limousine was equipped with three different brands of tires, and the left front tire was over 10 years old and not the size recommended by the OEM. Nevertheless, the tires and wheels revealed no evidence of a precrash failure. Damage to the front wheels was consistent with impacts during the collision sequence and resulted in deflation of both front tires.

1.5.3.6 Transmission. The automatic transmission was damaged and had fractured into several pieces. The output shaft separated from the transmission case during the crash. There was significant wear to the transmission bushings, and the forward clutch friction disc showed very little friction material remaining. The four-speed automatic transmission had six gearshift positions (park, reverse, neutral, drive, 2, and 1). The first and second gears are sometimes used to provide additional engine braking on steep downgrades, which uses the drivetrain to slow the vehicle.³⁸

1.5.3.7 Brake system description. The limousine's brake system consisted of a hydraulic, vacuum power-assisted, dual circuit, front-rear split, four-wheel disc brake system with antilock brakes on all axles. Before describing the mechanical condition of the individual brake components on the limousine, this section provides a brief overview of how a hydraulic disc brake system operates. Figure 17 depicts some key brake system components.

³⁶ Rust was noted in both the March 21, 2018, and September 4, 2018, roadside inspections conducted on the crash limousine. Notes from the March 21 inspection state: "Inspection, repair and maintenance of parts and accessories: Deterioration of 'B' post left side at frame (rusted through)." The September 4 inspection recorded similar findings.

³⁷ Because the limousine driver was able to steer and navigate multiple curves and initiate an evasive steering maneuver immediately before the crash, the functionality of the steering system was not investigated further.

³⁸ The mechanical examination did not reveal the gearshift position; however, engine speed limits the transmission gear selection. Published data indicate that the 6.8-liter engine had a maximum operating limit of 5,200 revolutions per minute (rpm) as measured at the crankshaft. Using transmission gear ratios, rear differential ratio, and tire circumference, a maximum speed for a given gear position can be calculated. At the maximum engine rpm, the maximum speed for the first and second gears was calculated at 48 mph and 84 mph, respectively. If the vehicle were traveling above those speeds, the transmission's electronic controller most likely would not have allowed a downshift and would have maintained the higher gear position.

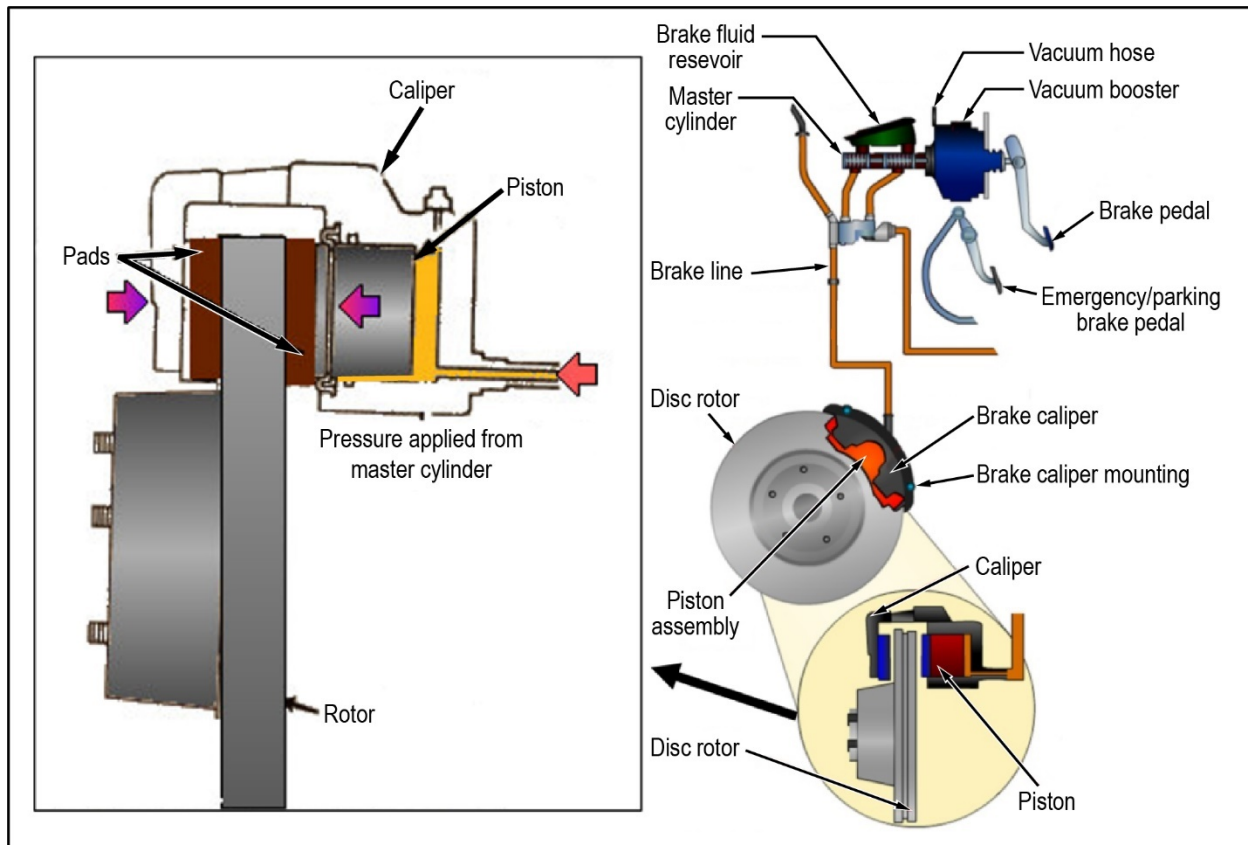


Figure 17. Diagram of hydraulic brake system and components. (Source: AA1 Car [NTSB added to and adjusted fonts of item labels])

In a hydraulic brake system, when the brake pedal is pressed, a pushrod exerts force on pistons in the master cylinder, pushing fluid from the brake fluid reservoir into a pressure chamber. The increased pressure of the hydraulic system forces fluid through the brake line into the brake calipers at each wheel assembly. The hydraulic fluid at the brake calipers pushes the pistons, which apply force to the brake pads, pushing them against the spinning rotor. The friction between the pads and the rotor generates a braking torque that slows the vehicle. Heat generated by this friction is dissipated through cooling vents in the rotor and through the brake pads, which are made of heat-resistant materials. More information on the individual components of a hydraulic brake system, as well as details specific to the crash limousine's hydraulic brake system, is provided below:

- **Vacuum booster.** The vacuum booster is attached between the brake pedal and the master cylinder and is used to multiply the braking force applied by the driver. The booster receives its power via a vacuum system attached to the engine's intake manifold. The vacuum created within the booster's dual diaphragm creates a pushing force against the pistons in the master cylinder, which increases the hydraulic pressure being applied throughout the brake system.
- **Master cylinder.** The master cylinder pumps brake fluid from a reservoir to the brake line. On the crash limousine, the master cylinder was a dual-circuit system divided into two

sections, each of which pressurized a separate hydraulic circuit. The limousine had a front/rear split brake system that used one master cylinder section to pressurize the front wheel brake calipers and the other section to pressurize the rear brakes.

- **Brake calipers.** Brake calipers house the brake pads and pistons. Each brake caliper on the limousine had a two-piston sliding design. When pressurized brake fluid reached the caliper, it applied pressure against the back of two pistons seated within their bores. The pistons then moved outward from the bores and pushed against a brake pad on the inboard side of the rotor. The caliper slid on pins and squeezed the outboard pad against the rotor, which initiated braking action.
- **Brake pads.** Brake pads apply pressure and friction to the brake rotors. The limousine's brake pads consisted of a friction material (lining) and a backing plate for the lining. The limousine's brake pads were of a bonded design with a semi-metallic composition.³⁹
- **Brake discs (rotors).** Brake rotors receive the force applied by the brake pads. On the crash limousine, the rotors were mounted on the hub and rotated with the wheel and tire. As the caliper clamped the brake pads against the rotor, a substantial friction was created between the pads and the rotors.⁴⁰ This friction slowed the wheel and caused intense heat. Each rotor was made of cast iron with two friction surfaces separated by cooling vents. As the rotor spun, air was pulled through the cooling vents to remove heat from the friction surfaces and cool the rotor.

1.5.3.8 Brake system mechanical condition. On May 23, 2019, NTSB investigators were given access to perform a visual-only inspection of the individual brake components. The following summarizes the brake system inspection:

- **Master cylinder and vacuum booster.** The master cylinder appeared to be new, but it was damaged in the crash, and the fluid reservoir was detached from the body. The vacuum booster and brake fluid reservoir sustained impact-related damage (see figure 18).

³⁹ Semi-metallic pads contain iron, steel, copper, and graphite, which are mixed into a friction compound.

⁴⁰ On the rotor, the "swept area" would be the disc area in direct contact with the pads.



Figure 18. Photographs of brake components, postcrash. Left photo shows damaged power brake vacuum booster. Right photo shows damaged plastic brake fluid reservoir. (Source: NYSP)

- Steel brake line.** The steel brake line (tubing) attached to the right of the rear differential housing was corroded, as evidenced by spalling and flaking of the surface corrosion scaling.⁴¹ The brake tubing was coated in oil consistent with brake fluid, which indicated that, at some point, this area of the brake line experienced a leak. Although NTSB investigators did not have the opportunity to conduct a laboratory examination of the brake line, they observed more fluid near the section of the line with the greatest corrosion damage. On this basis, it appeared likely that the leak from the brake line was a preexisting condition rather than crash damage.⁴² In addition to the corrosion, the tubing exhibited a crimp near the connection to the right rear flexible rubber brake hose.⁴³ The crimp was downstream of the oil flow, which would have reduced the amount of brake fluid that could flow to the rear brakes, potentially affecting braking performance (see figure 19). No service records or vehicle inspection notes indicated a crimp; however, the uniform corrosion on the crimped region is consistent with the crimp having been present before the corrosion occurred—a preexisting condition.

⁴¹ A differential is part of the axle assembly and is designed to transfer the vehicle's engine power to the rear wheels.

⁴² A loss of integrity of the brake tubing near the right rear brake assembly could result in overall brake failure at both the left and right rear wheel locations due to loss of hydraulic pressure. Because the brake system had a front-rear split design, the front brakes would continue to function if there was a failure of the rear brake line.

⁴³ The left rear inner and outer brake pads were in good condition, with little-to-no evident wear. (This may have been a result of inadequate hydraulic brake pressure being supplied to the rear brake line over an extended period due to the corrosion and the crimp in the line.) The right rear brake pads were worn and deteriorated.

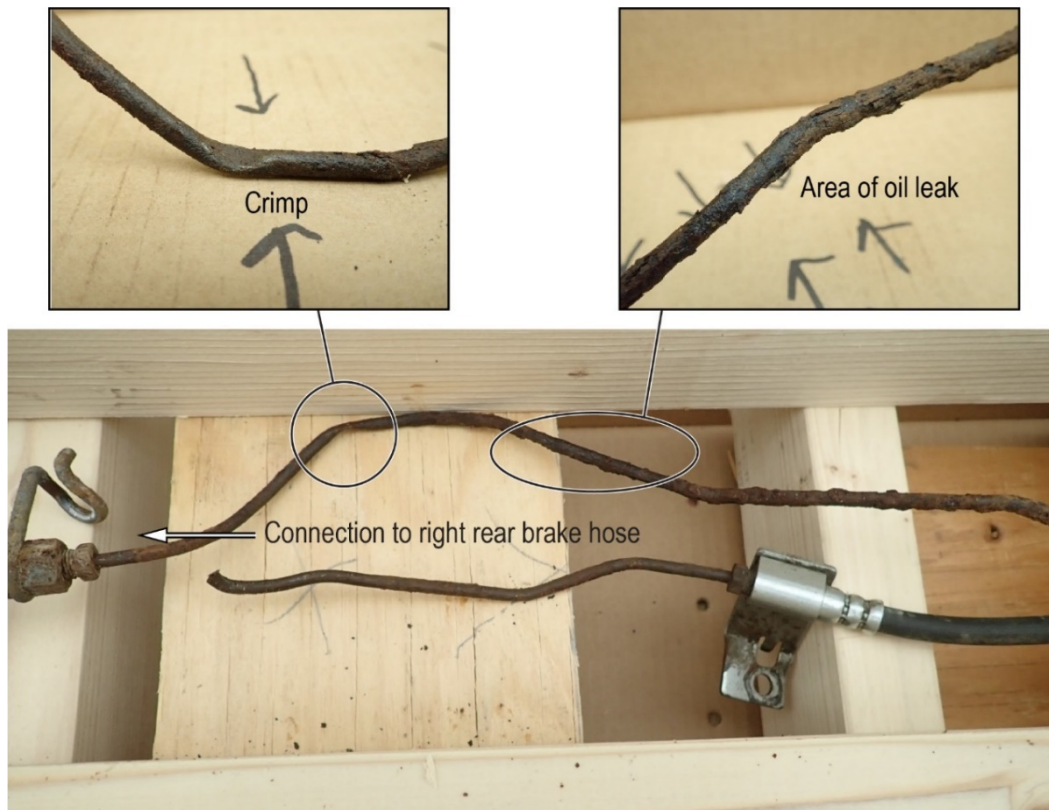


Figure 19. Photographs of brake line segments, postcrash. Left top photo shows crimp in brake line (downstream of oil flow) that was attached near right rear brake assembly. Right top photo shows corroded steel brake tubing with an area of brake fluid coating. Bottom photograph shows locations of both brake line segments. (Source: NYSP, with NTSB labels added)

- Rear brakes.** Both the right and left rear brake calipers and slide pins showed evidence of corrosion across all surfaces. The two pistons on the right rear caliper appeared to be seized (frozen) in place.⁴⁴ One of the pistons on the left rear caliper was extruding from the piston bore and appeared to be binding within the bore (see figure 20). NTSB investigators did not have the opportunity to examine the brake components further to determine whether the corrosion resulted in the seized pistons or whether the pistons seized due to lack of the movement from a loss of brake fluid. The thicknesses of the rear brake pads and rotors were within federal commercial vehicle regulatory specifications. Both rear rotors were corroded and had scoring to the inner and outer swept brake rotor surfaces. The left rear disc brake pads, both inner and outer, were in good condition, with little to no evident wear. The right rear disc pads were corroded, and the friction material showed uneven wear.

⁴⁴ The right rear caliper was of an older design, and its pistons were composed of steel rather than having the phenolic (plastic) composition of the pistons in the left rear, right front, and left front calipers. Assuming that both pistons for the right rear caliper were seized in place before the crash, there would have been no braking at the right rear brake assembly. Functional testing would be required to determine the extent to which the pistons were seized in place.



Figure 20. Photographs of brake calipers, postcrash. Left photo shows left rear brake caliper with one piston extruding from piston bore. Right photograph shows right rear brake caliper with both pistons seated within piston bores.

- Front brakes.** When examining both the left and right front brake components, NTSB investigators detected an odor of burned materials.⁴⁵ The brake pads were corroded and displayed uneven wear patterns, glazing, and deterioration of the friction surfaces (see figure 21). The brake rotors were corroded across all areas except the swept surfaces, which appeared to contain embedded friction material from the pads. All brake component measurements (pads and rotors) were within commercial vehicle regulatory specifications.



Figure 21. Photographs of right front disk brake rotor and inner right front brake pad surface. Left photo shows right front disc brake rotor with corrosion and swept surfaces. Right photo shows the inner right front brake pad surface with corrosion and uneven wear patterns, glazing, and deterioration.

⁴⁵ The NYSP troopers who responded to the crash told NTSB investigators (recorded in investigators' field notes) that they had detected a strong odor of overheated brakes at the crash scene.

- **Antilock brake system (ABS).** The limousine was equipped with a four-wheel ABS.⁴⁶ The ABS operates by detecting the onset of wheel lockup during brake applications and compensates by preventing wheels from locking. Records of the NYSDOT inspections of the limousine conducted on March 21, 2018, and September 4, 2018, noted that the ABS warning light for the limousine remained on when the vehicle was in motion. The 2001 Ford Excursion owner's manual states that, when the ABS light is on, the ABS is disabled and service is needed. Normal braking remains effective when the ABS is disabled.

1.5.4 Limousine Maintenance

On July 21, 2016, the limousine was sold to Prestige Limousine. Between July 2016 and September 2018, the limousine was driven 11,212 miles—an average of 431 miles per month. Mavis Discount Tire, in Saratoga Springs, New York, was the auto repair shop that serviced the limousine. Table 2 shows the maintenance performed by Mavis Discount Tire during the 2 years preceding the crash. No records were found for any repairs to the front brakes on the limousine.

Table 2. Recorded maintenance on limousine, July 2016—September 2018.

Date	Items Repaired
9/10/2016	Right rear brakes repaired. Replaced brake caliper, brake pads, and rotor. Brake system flushed.
6/9/2017	Replaced alternator.
9/28/2017	Changed oil and checked tire pressure.
1/25/2018	Repaired exhaust system. Windshield wipers replaced. Power steering flushed.
5/11/2018	Repaired left rear brakes. Replaced brake caliper with factory-rebuilt caliper and installed new brake pads. Replaced brake hose. Replaced oil filter and changed oil. Conducted New York State safety and emissions inspections. Mavis Discount Tire passed vehicle on both inspections.*
* See section 1.7.2. for more information on New York State Department of Motor Vehicle oversight of state inspection facilities.	

1.5.5 Prestige Limousine Fleet Inspection

At the time of the crash, Prestige Limousine maintained a fleet of four limousines. In addition to the Ford Excursion stretch limousine, Prestige owned three Lincoln Town Car stretch limousines. After the crash, the NYSP inspected the three Lincoln limousines to assess company maintenance standards. NTSB investigators were present during the NYSP inspections but were

⁴⁶ The purpose of ABS is to help maintain directional stability and control during braking and possibly to reduce stopping distances on some road surfaces, especially wet roads. ABS may prevent crashes involving loss of control. FMVSS 105, effective March 1, 1999, requires buses with a GVWR greater than 10,000 pounds to be equipped with ABS and to meet additional stopping distance requirements.

only allowed to photograph the vehicles and components.⁴⁷ The visual inspection revealed that all three limousines were poorly maintained and had extensive corrosion throughout. The floorboards in all the vehicles had disintegrated through to the carpet in multiple locations. The NYS SP inspections of the limousines revealed numerous safety violations for each vehicle (including three out-of-service [OOS] violations).⁴⁸

1.5.6 Brake Performance Study

1.5.6.1 Background. When the crash occurred, the weight of the altered vehicle exceeded the manufacturer's GVWR (8,600 pounds) for the original vehicle (SUV) by about 4,965 pounds. No evidence was found that the limousine or brake system had ever been certified as meeting the FMVSS 105 brake system requirements for the new weight.

To determine how the additional weight, assuming proper maintenance, would have affected the performance of the OEM brake system, the NTSB contracted with Greening Testing Laboratories in Detroit, Michigan, to conduct performance-based testing to examine the braking performance of a Ford Excursion SUV at the manufacturer's GVWR and at the weight of the limousine at the time of the crash.⁴⁹ The testing also included brake dynamometer testing to simulate braking performance over the route the vehicle traveled.⁵⁰ The purpose of the testing was to assess what braking would have been possible had the limousine been properly functioning and maintained (independent of whatever brake or suspension upfitting should have been undertaken at the time of vehicle alteration).⁵¹

⁴⁷ The NTSB investigator would have obtained maintenance records for those limousines and compared the records with the components to verify repairs performed. Additionally, the investigator would have taken brake fluid samples from each vehicle to compare them with the samples obtained from the crash-involved limousine. Investigators were unable to take either action because Prestige Limousine would not make the records or vehicles available for inspection.

⁴⁸ One vehicle had two OOS violations: "(1) Tire-flat and/or audible air leak: Axle #1 left side tire is flat and (2) Brakes (general) Explain: Hydraulic fluid reservoir for brake system below the minimum marking level." For one vehicle, the OOS violation was "Tire-other tread depth less than 2/32 of inch measured in a major tread groove: Axle #2 left side tire measure at less than 1/32 of an inch in more than two major tread grooves more than 8 inches apart."

⁴⁹ Greening Testing Laboratories, Detroit, Michigan, is an ISO 17025-certified testing laboratory that provides performance testing of commercial vehicle, light truck, and passenger car brakes.

⁵⁰ During braking, the brakes generate torque, which slows the rotation of the tires. A brake dynamometer is a machine used to measure the relationship between brake torque, speed, pressure, and temperature.

⁵¹ The brake performance tests were conducted to address the question of whether the alteration process played a role in the crash. The tests were designed to determine whether an altered Ford Excursion SUV with functional brakes would have met the *Federal Motor Vehicles Safety Standards* for brake requirements. See the Brake Performance Study in the [NTSB public docket](#) for this investigation (NTSB accident HWY19MH001) for study details.

1.5.6.2 FMVSS 105 baseline testing. The purpose of the testing was to determine whether the exemplar Ford Excursion vehicle (1) loaded to the crash weight of 13,565 pounds and (2) with properly functioning braking would meet certain performance criteria (stopping distance, burnishing, brake fade and recovery, and pedal force) described in FMVSS 105.⁵² The NTSB established a test objective, and Greening Testing Laboratories managed and conducted the testing using an exemplar Ford Excursion. The exemplar testing was conducted by the Nevada Automotive Test Center (NATC) in Carson City, Nevada.⁵³

The brake components used in the testing were Ford-recommended original equipment parts specified for the unmodified accident vehicle.⁵⁴ The original equipment brake parts were selected for the study because they best represented the level of performance the original manufacturer intended for the Ford Excursion SUV.⁵⁵ The FMVSS 105 procedures included the regulatory sections covering minimum stopping distance, partial system failure, brake booster failure, and brake fade and recovery. The test objective did not cover the entire FMVSS 105 protocol, as the results were intended to represent an exemplar performance baseline and not to establish regulatory compliance. Exemplar testing was also used to identify brake cooling and coast-down (drag) curves for use in the route simulations.

The FMVSS 105 test maneuvers performed as part of the evaluation included stopping distance effectiveness, partial brake system failure (front and rear), ABS failure, and inoperable brake power assist unit, as well as brake fade and recovery.⁵⁶ As summarized in table 3, the results of the testing indicate that the limousine, at a weight of 13,565 pounds, with a properly functioning brake system, would have been capable of meeting the parameters of the FMVSS 105 stopping distance requirements, with the exception of the heavy load test for inoperable brake power assist (indicated in table 3 by the blue-shaded cell). In addition, the testing indicated that the limousine, weighing 13,565 pounds with a properly functioning brake system, would have had sufficient braking capacity to meet the FMVSS 105 brake fade and recovery test requirements.

⁵² (a) *Brake fade* is the reduction in stopping power that can occur after repeated or sustained application of the brakes. Brake fade is caused by a build-up of heat on the braking surfaces. (b) For more information on FMVSS 105, see 49 CFR 571.105 at [Standard No. 105; Hydraulic and electric brake systems](#), accessed August 23, 2020.

⁵³ The vehicle used in the evaluation was a 2000 Ford Excursion SUV.

⁵⁴ The exemplar testing was used to determine vehicle-specific parameters that were then incorporated into route situations with a dual-end dynamometer (testing conducted by Greening) to evaluate braking performance along the known route traveled by the crash limousine, with the vehicle loaded to the crash weight.

⁵⁵ Because FMVSS 105 testing is designed to evaluate the brake system performance of a newly manufactured vehicle, new brake components were used. These brake components were not meant to reflect the brake components that were on the limousine at the time of the crash. Poorly maintained brakes and aftermarket brake pads and rotors would negatively affect the overall brake system performance and result in longer stopping distances.

⁵⁶ In reference to the “inoperable brake power assist unit” element, the test requires that the vehicle stop within a defined distance with the power assist unit being disabled or depleted of all reserve capacity.

Table 3. Results of FMVSS 105 testing of exemplar Ford Excursion SUV.

Evaluation	FMVSS 105 Requirement for Vehicle $\geq 8,000$ lbs. and $\leq 10,000$ lbs. GVWR	FMVSS 105 Requirement for Vehicle $> 10,000$ lbs. GVWR	Measured Stopping Distance of Exemplar Vehicle
1st effectiveness test, 6 stops, 30 mph Heavy test load (13,565 lbs.)	72 feet	88 feet	84.2 feet
1st effectiveness test, 6 stops, 60 mph Heavy test load (13,565 lbs.)	267 feet	388 feet	337.4 feet
2nd effectiveness test, 6 stops, 30 mph Heavy test load (13,565 lbs.)	57 feet	78 feet	65.2 feet
2nd effectiveness test, 6 stops, 60 mph Light test load (10,145 lbs.)	216 feet	310 feet	268.8 feet
3rd effectiveness test, 6 stops, 60 mph Light test load (10,145 lbs.)	242 feet	335 feet	208.5 feet
Partial systems failure (front), 60 mph Light test load (10,145 lbs.)	517 feet	613 feet	445.2 feet
Partial systems failure (rear), 60 mph Light test load (10,145 lbs.)	517 feet	613 feet	361.7 feet
Partial systems failure (front), 60 mph Heavy test load (13,565 lbs.)	517 feet	613 feet	594.1 feet
Partial systems failure (rear), 60 mph Heavy test load (13,565 lbs.)	517 feet	613 feet	466.9 feet
ABS failure, 60 mph Heavy test load (13,565 lbs.)	517 feet	613 feet	269.7 feet
Inoperable power assist Heavy test load (13,565 lbs.)	517 feet	613 feet	718.5 feet

As part of the testing, the NTSB compared the stopping distances for a Ford Excursion SUV with a GVWR of 8,600 pounds with those of one weighing 13,565 pounds (see table 4). Although the data indicate that the stopping distances were significantly greater for the heavier vehicle, the test results were still within the FMVSS 105 stopping distance requirements, with the exception of the inoperable power assist test (indicated in table 4 by the blue-shaded cell).

Table 4. Comparison of stopping distances for Ford Excursion weighing 8,600 pounds with one weighing 13,565 pounds.

Test	2000 Ford Excursion GVWR 8,600 lbs. Stopping Distance (Ford Testing)	2000 Ford Excursion Weight 13,565 lbs. Stopping Distance (NATC Testing)
1st effectiveness test, 6 stops, 30 mph	49.5 feet	84.2 feet
1st effectiveness test, 6 stops, 60 mph	192 feet	337.4 feet
2nd effectiveness test, 6 stops, 30 mph	47.6 feet	65.2 feet
2nd effectiveness test, 6 stops, 60 mph	174.3 feet	268.8 feet
3rd effectiveness test, 6 stops, 60 mph	170.3 feet	208.5 feet
Partial systems failure (front), 60 mph	364 feet	445.2 feet
Partial systems failure (rear), 60 mph	241 feet	361.7 feet
Partial systems failure (front), 60 mph	352.1 feet	594.1 feet
Partial systems failure (rear), 60 mph	289.5 feet	466.9 feet
ABS failure, 60 mph	174.1 feet	269.7 feet
Inoperable power assist	416.8 feet	718.5 feet

1.5.6.3 Brake dynamometer testing. To evaluate the braking characteristics of the limousine along the 35.4-mile route of travel from when it entered I-90 to the crash location, a series of simulations were performed using a brake dynamometer at Greening Testing Laboratories. The road profile along the route was simulated, and the effects of road grades were modeled by adding or subtracting energy by applying torque through the drive motor in the dynamometer (refer to figure 8 for the road profile). The dynamometer testing evaluated four vehicle conditions:

- Condition 1: Vehicle weight = 8,600 pounds, all brakes functioning properly.
- Condition 2: Vehicle weight = 13,565 pounds, all brakes functioning properly.
- Condition 3: Vehicle weight = 13,565 pounds, front brakes functioning properly, no rear brakes functioning.
- Condition 4: Vehicle weight = 13,565 pounds, front brakes functioning properly, 1 rear brake functioning.

Some of the key findings of the brake dynamometer simulation testing included the following:

- The simulated limousine with a weight of 13,565 pounds with properly functioning brakes would have had sufficient braking capacity to safely negotiate the simulated route at the posted speed limit in any of conditions 2–4 listed above.⁵⁷
- With all brakes functioning, increasing the weight of the limousine from 8,600 pounds to 13,565 pounds increased the maximum measured brake rotor temperatures by 23–24 percent for the front and rear brakes.
- The maximum brake temperatures during all four weight/brake system conditions occurred at the bottom of the descent to the stop sign at the NY-30/NY-30A intersection. The highest brake rotor temperatures were measured at the front brakes when the rear brakes were disabled (no rear brakes functioning simulation). This simulated condition resulted in a temperature increase of approximately 34 percent when comparing the 13,565-pound vehicle with all brakes functioning to the vehicle with only front brakes functioning.
- The simulations corroborated the anticipated rise in brake rotor temperatures as one or more conditions changed. Those conditions included increasing the vehicle weight, disabling the rear brakes, and continuing application of the brakes to control speed along the downgrade. Although brake fade can be a consequence of higher brake temperatures, a complete loss of braking due to brake fade was not encountered during the simulations.
- Under all simulated conditions, the vehicle was able to stop at the bottom of the downgrade.

1.6 Limousine Driver Factors

1.6.1 Licensing and Experience

1.6.1.1 Licensing. The limousine driver, a 53-year-old male, held a New York class A commercial driver's license (CDL) with double and triple trailer and tank endorsements.⁵⁸ He had held a CDL since 1991. The driver did not possess a passenger transport (P) endorsement, which is required to operate a vehicle designed to transport 15 or more passengers.⁵⁹

⁵⁷ The condition 1 simulated limousine, at the lower weight of 8,600 pounds with all brakes functioning, would also have had sufficient braking capacity to safely negotiate the route.

⁵⁸ A class A CDL permits the holder to operate a vehicle with a GVWR exceeding 26,000 pounds.

⁵⁹ To obtain a P endorsement, the driver would have to demonstrate specific knowledge pertaining to section 4 of the *New York State Commercial Driver's Manual*. Section 4 addresses issues such as pre- and post-trip vehicle inspections, loading of passengers, on-the-road safety, use of brake-door interlocks, and prohibited practices.

During a roadside NYSP inspection conducted on August 25, 2018, the inspector noted that the driver was operating a limousine without a P endorsement. When the inspection took place, the driver was operating the 2001 Ford Excursion limousine involved in the Schoharie crash. A notice was sent to Prestige Limousine stating that “pursuant to the authority contained in NYS [New York State] Transportation Law, I hereby declare the driver [driver’s name] out-of-service. No motor carrier shall permit or require this driver to operate any motor vehicle until the driver has proper CDL endorsement.” The driver did not obtain an endorsement to operate the limousine before the October 6, 2018, crash.

1.6.1.2 Traffic violations and accidents. The driver’s New York driving record shows two traffic citations, one license suspension, and one accident (failure to yield right-of-way while operating a private vehicle in November 2015). The traffic citations, which were issued in March and May 2018, were for operating an uninspected private vehicle and for operating an unregistered private vehicle. His personal driver’s license was suspended on September 6, 2018, for failing to pay the fine related to the March 2018 traffic citation. His license was reinstated on September 7, 2018, after he paid the fine.

1.6.1.3 Experience. Prestige Limousine refused to provide NTSB investigators access to driver qualification, training, and other records, due to the ongoing criminal investigation of the crash. According to the driver’s wife, her husband began work at Prestige Limousine in 2017, a year before the crash. She said that before 2017, the driver had only operated trucks. The driver was employed part-time by the limousine company, primarily operating limousines on weekends on an on-call basis. The driver also drove for a commercial ride-sharing service during the week.⁶⁰

1.6.2 Health, Toxicology, and Medical Certification

1.6.2.1 Health and prescribed medication. The limousine driver was reported by his wife to have been in good health. When asked about life stressors, the driver’s wife said that he was worried about family finances and the death of his younger brother (who had died a year earlier). She described her husband as being in good spirits when he left for work on the day of the crash. Regarding drug and alcohol use, the wife reported that her husband “drank a beer every now and then, nothing heavy,” and “smoked weed.” She did not provide information regarding when he last used marijuana or when he last took his prescribed medications.

NTSB investigators reviewed the driver’s medical records from January 2016 through January 2018. Records show that the driver had a total right hip replacement in July 2017 and was being treated for elevated cholesterol and gastric reflux. The driver’s medical condition at the time of the crash included attention deficit hyperactivity disorder (ADHD).⁶¹ ADHD is associated with deficits in attention and susceptibility to distraction as well as with impulsivity and impairments in motor inhibition, reaction time, visual-motor coordination, executive functioning,

⁶⁰ The driver worked for Uber for about 3 months before the crash. He drove his personal vehicle and typically worked 4 days a week, between Monday and Friday, usually about 5 hours a day.

⁶¹ Detailed psychiatric records were requested but, due to state statutes, the records were not released to investigators.

decision-making, and rule-governed behavior that interfere with functioning (American Psychiatric Association 2013).

A limited psychiatric examination conducted during the driver's latest physical, performed by his primary care provider on December 18, 2017, documented that the driver had a normal mood with good judgment. The treating physician documented that the driver received monthly evaluations for bipolar disorder. The driver's prescribed medications are listed in table 5.

Table 5. Prescription medications filled by driver in 2018.

Drug/Strength/#Filled	First Filled	Last Filled	Indications
Aripiprazole 10 mg #30	12/2016	09/18/2018	Psychoactive medication
Bupropion SR 200 mg #30	05/2018	09/14/2018	Antidepressant medication
Oxcarbazepine 300 mg #60	10/2016	10/02/2018	Anti-epileptic drug
Famotidine 20 mg #60	10/2016	09/07/2018	Gastroesophageal reflux medication
Atorvastatin 10 mg #30	10/2016	06/12/2018	High-cholesterol medication

1.6.2.2 Toxicology. The Schoharie County Coroner's Office had responsibility for victim autopsies, including the one conducted on the limousine driver; the coroner's office outsourced the autopsies to an independent medical examiner, who performed them at the Albany Medical Center morgue. At the request of the NTSB, the medical examiner sent biological samples from the driver to the Federal Aviation Administration Forensic Sciences Laboratory for additional testing.⁶² No ethanol was detected in the tissue samples. The tests detected the antidepressant bupropion, the anti-epileptic/bipolar disorder medication oxcarbazepine, and the heartburn medication famotidine.

Testing also detected marijuana's primary psychoactive chemical, delta-9-tetrahydrocannabinol (THC), in the driver's bile, gastric, kidney, brain, spleen, muscle, lung, liver, and heart samples. THC's most prominent psychoactive metabolite, 11-hydroxy-delta-9-THC (11-OH-THC), and the inactive metabolite carboxy-delta-9-THC (THC-COOH) were also detected in tissue samples from the driver.⁶³

THC has multiple effects on the central nervous system; it may alter perception, create euphoria, make thinking difficult, impair psychomotor performance, and cause depression. Specific performance effects include a decreased ability to concentrate and maintain attention. Impairment in reaction time and tracking, subjective sleepiness, distortion of time and distance, changes in vigilance, and loss of coordination in divided attention tasks have been reported (Compton 2017). Although researchers have consistently found impairment of driving-related measures (such as tracking, attention, and vigilance), when conducting driving simulator,

⁶² Due to the circumstances of the crash, little blood was available for testing. Various tissue samples were tested instead. The drug concentrations found in the tissue samples are not reported, as the levels do not correlate with the actual level in the driver's bloodstream at the time of the crash. As such, the concentration levels cannot be used to determine impairment.

⁶³ Drug concentrations from tissue samples can be used to infer drug presence; they cannot be used to determine impairment.

closed-course, and open-course testing, results have shown THC to have minor to moderate effects on driving performance (Robbe 1998).

Commercial drivers are prohibited from using THC.⁶⁴

1.6.2.3 Medical certification. The limousine driver was required to be medically certified to operate a commercial vehicle. The driver's most recent CDL medical examination was performed on September 6, 2017. In that examination, the driver omitted information and indicated no medical conditions or health history issues. He stated that he was not taking any prescription or over-the-counter medications. He did tell the examiner that he had had a hip replacement but marked "NO" on the examination form to the following questions: "Do you have or have you ever had anxiety, depression, nervousness, or other mental health problems?"; "Have you ever spent the night in a hospital?"; and "Have you used an illegal substance in the past two years?" He also responded "NO" to having high blood pressure, high cholesterol, or stomach problems. The examining certified medical examiner, an advanced practice registered nurse, determined that the driver met the requirements established by 49 CFR 391.41 and qualified him for 2 years.

1.6.3 Precrash Activities

1.6.3.1 General information. The limousine driver's activities preceding the crash, which were developed based on interviews with the driver's wife, an NYSP deposition statement from the driver's manager at the limousine company, information from the driver's ride-sharing employer, witness statements, and the driver's cell phone records, are shown in table 6. The driver had about 10.5 hours of sleep opportunity the night before the crash. His wife said that he "slept like a log," and indicated that he had no problem falling asleep. She said that the driver would sometimes wake in the middle of the night due to stress over family finances but would easily fall back to sleep. She said that the driver snored occasionally, but medical records showed that he had never been diagnosed with a sleep disorder, such as obstructive sleep apnea.⁶⁵

⁶⁴ Title 49 CFR 382.213(a) states in part that "no driver shall report for duty or remain on duty requiring the performance of safety functions when the driver uses any drug or substance identified as a Schedule I substance." Additionally, 49 CFR 392.4(a) states in part that "No driver shall be on duty and possess, be under the influence of, or use, any of the following drugs or other substances: (1) Any 21 CFR 1308.11 Schedule I substance."

⁶⁵ During his CDL medical exam on September 6, 2017, the driver reported his height as 5 feet 10 inches and weight as 188 pounds. His body mass index was calculated at 27.

Table 6. Precrash activities of limousine driver, October 4–6, 2018.

Time	Activity	Source
Thursday, October 4*		
~7:00 a.m.–7:30 a.m.	Awakens	Driver's wife
10:32 a.m.	Makes outgoing cell phone call	Cell phone records
1:35 p.m.–1:59 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
3:01 p.m.–3:21 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
9:08 p.m.–9:37 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
9:41 p.m.–10:00 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
10:06 p.m.–10:26 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
10:35 p.m.–10:52 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
11:16 p.m.–11:28 p.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
11:38 p.m.–12:17 a.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
12:45 a.m.–1:00 a.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
1:19 a.m.–1:53 a.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
1:53 a.m.–2:00 a.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
2:09 a.m.–2:15 a.m.	Ride-share pick up and drop off of passenger(s)	Ride-sharing records
Unknown	Goes to bed after final ride-share trip	Not applicable
Friday, October 5		
~7:00 a.m.–7:30 a.m.	Awakens	Driver's wife
8:20 a.m.	Makes outgoing cell phone call	Cell phone records
8:20 a.m.–8:07 p.m.	Activity unknown	Not applicable
8:07 p.m.	Checks voicemail on cell phone	Cell phone records
~ 9:00 p.m.	Goes to bed	Driver's wife
Saturday, October 6		
~7:00 a.m.–7:30 a.m.	Awakens	Driver's wife
9:09 a.m.	Receives incoming cell phone call	Cell phone records
9:21 a.m.	Receives incoming text	Cell phone records
~10:00 a.m.	Leaves home to get limousine	Driver's wife
1:05 p.m.	Receives incoming call from wife	Cell phone records
~1:50 p.m.	Turns limousine onto NY-30 from NY-7	Witness
1:55 p.m.	Crash – Schoharie	Dispatch logs
* Although specific clock times are provided, each calendar "day" in this table begins at the driver's time of arising and ends with his last action of that day.		

1.6.3.2 Pretrip activities. On October 6, 2018, about 10:00 a.m., the driver left his residence in Lake George, New York, to drive to Saratoga Springs, New York, where the limousine was parked.⁶⁶ Prestige Limousine had four vehicles in its fleet, but only the 2001 Ford Excursion stretch limousine had the seating capacity to accommodate the charter group that hired it. It is unknown whether the driver performed a pretrip inspection of the limousine.⁶⁷ The New York State CDL manual contains several pages of information regarding how drivers should perform a seven-step pretrip inspection.⁶⁸ Inspection elements include an evaluation of the engine compartment; an examination of gauges; a check of the condition of controls; an inspection of brakes, tires, and lighting system; and a functionality test of service and parking brakes. If the limousine driver had followed the inspection guidelines, he might have noticed that (1) the ABS was inoperative, as indicated by a warning light on the dash, and (2) the left front tire did not match the size of the other tires on the vehicle. After obtaining the limousine, the driver drove to Amsterdam, New York, to pick up a charter group consisting of 17 passengers.

1.6.3.3 Trip activities. About 1:00 p.m. on October 6, the driver arrived in Amsterdam to pick up the charter passengers.⁶⁹ Shortly thereafter, the limousine departed. For unknown reasons, the driver did not take a direct route to the destination of Cooperstown, New York. Cell phone records show that the driver was not using his cell phone for calls or text messaging during the trip, but he may have been using the global positioning system (GPS) function on his phone for navigation purposes.⁷⁰ The route taken (refer to figure 1) involved traveling through rural, hilly terrain rather than taking major highways. About 1:50 p.m., witnesses observed the driver turn right from NY-7 onto NY-30 south. Shortly after making the turn, the limousine was seen moving toward the right shoulder with its hazard lights activated. The reason for the limousine's moving toward the shoulder could not be determined.

Before the crash, a passenger in the limousine expressed concern about the vehicle's mechanical condition in text messages to a friend.⁷¹ The text messages included statements that "the limo sounds like it's going to explode"; "yes haha it's a junker literally"; "the motor is making everyone deaf"; and "when we get to [destination] we will all b deaf."

1.6.3.4 Driver's actions immediately preceding crash. Information is lacking about the driver's actions after the limousine was seen moving to the right shoulder at the top of the steep grade until the vehicle reached the intersection and crash location 1.81 miles farther south on

⁶⁶ The driving distance from Lake George to Saratoga Springs, New York, is about 28 miles.

⁶⁷ As indicated earlier, the driver did not have a passenger endorsement as required. A passenger endorsement would have required him to have demonstrated knowledge of pre- and post-trip vehicle inspections.

⁶⁸ The inspection guidelines apply to all commercial drivers; however, some of the information regarding the inspection of air brakes and other components found on trucks does not apply to the inspection of a limousine.

⁶⁹ The NTSB does not know the route of travel the driver took from the Prestige Limousine parking location to Amsterdam. Considering transit times and the time necessary to check out the limousine, NTSB investigators cannot account for about 1 hour 50 minutes of the driver's time before he arrived to pick up the charter group. His activities during this period are unknown.

⁷⁰ The driver's wife said that there was no GPS unit in the limousine and that her husband would use the navigation applications on his phone. The NTSB was not permitted access to the driver's phone to perform a forensic analysis.

⁷¹ The text message was sent by the limousine passenger at 1:37 p.m., about 18 minutes before the crash. See the Human Performance Factors Attachment titled "New York State Police Supporting Depositions" in the [NTSB public docket](#) for this investigation (NTSB accident HWY19MH001).

NY-30. The vehicle was traveling at a high rate of speed at the bottom of the grade; however, no evidence was found indicating that the driver was applying the accelerator instead of the brakes.⁷²

Although it is not possible to determine what actions the driver may have taken to maintain a reasonable/safe speed while descending the downgrade, substantial guidance is available to commercial drivers on what actions to take to properly traverse a grade and respond to an emergency involving loss of braking. The postcrash mechanical inspection of the limousine did not yield sufficient information to determine whether the driver took such actions, such as attempting to put the vehicle into a lower gear or trying to apply the parking brake. The only known action taken by the driver was an evasive steering maneuver to avoid the SUV that was stopped at the stop sign at the NY-30/NY-30A intersection.

1.7 Motor Carrier Factors

Prestige Limousine operated out of Gansevoort, New York, and provided intrastate passenger carrier services in the state of New York.⁷³ Before beginning passenger-carrying operations in the state, a motor carrier is required to obtain operating authority from the NYSDOT. Investigators' review of records showed that Prestige Limousine had been providing charter and group passenger transportation without such authority from 2016 until the crash.

1.7.1 New York Operating Authority to Transport Passengers

In the state of New York, a motor carrier must apply to the NYSDOT for authority to transport passengers.⁷⁴ The application process can take 6 to 16 weeks, and it requires that the applicant carrier certify that it will operate only vehicles that have passed an NYSDOT vehicle safety inspection. The process further requires that the NYSDOT complete safety inspections of all vehicles the carrier plans to use in passenger service and that it issue a finding on whether the motor carrier applicant is fit, willing, and able to provide passenger transportation service. Applicants are required to complete an *Application for Authority to Transport Passengers* (RA 52-1 form) providing specific details about the carrier, the owner or company officials, and its commercial vehicles. The applicant must also provide proof of an active US Department of Transportation (USDOT) number obtained from the Federal Motor Carrier Safety Administration (FMCSA).

⁷² No evidence was found indicating that the driver intended to crash the vehicle.

⁷³ Prestige Limousine had operated under other business names, including "Hasy Limousine" and "Saratoga Luxury Limousine." For detailed information regarding Prestige operations, see the Motor Carrier Factual Report in the [NTSB public docket](#) for this investigation (NTSB accident HWY19MH001). Due to the ongoing criminal investigation, legal counsel for Prestige did not permit access to company business records or documents such as the limousine driver's qualification file, training records, or any information concerning the existence or absence of a company drug and alcohol testing program.

⁷⁴ For more information, see [NYSDOT passenger authority](#), accessed August 23, 2020.

1.7.2 New York State Department of Motor Vehicles Oversight

1.7.2.1 Registration of stretch limousines. The New York State Department of Motor Vehicles (NYSDMV) is the state agency responsible for vehicle registration and licensing, as well as annual inspections of vehicles operating in the state. In 2011, the State of New York began requiring that any passenger vehicle that has been “stretched” or “modified,” regardless of seating capacity, be inspected by the NYSDOT before it can be used in for-hire passenger service and that it be registered in the state. When application is made to the NYSDMV for a New York vehicle title, license plates, and registration (new or renewal), if the vehicle has a seating capacity of 15 or more passengers, the NYSDMV classifies it as a “bus.” The NYSDMV requires that a bus be inspected by the NYSDOT as part of the NYSDOT bus inspection program.⁷⁵

Prestige Limousine purchased the crash limousine on July 21, 2016. While it had been under previous ownership in the state of New York from 2001 through 2015, the limousine had been inspected twice a year by the NYSDOT as part of the bus inspection program. The NYSDOT listed the vehicle as a “bus” with a seating capacity of 18.⁷⁶ On the NYSDMV application for title and registration form MV-82, dated July 21, 2016, Prestige listed the purchased vehicle’s seating capacity as 11, checked the box stating that the vehicle was a passenger car, and did not report that the vehicle had been altered (which would have changed its registration class). On October 12, 2017, Prestige renewed the registration for the stretch limousine with most of the same information but reduced the vehicle’s listed seating capacity to eight. On May 11, 2018, Prestige again renewed the vehicle registration but again changed the vehicle’s listed seating capacity, this time to 10.⁷⁷ Table 7 provides an overview of the NYSDMV registration history for the limousine.

Table 7. Registration history of crash-involved limousine.

Registration Date	Reported Seating Capacity	Vehicle Owner	NYSDMV Classification	Safety Inspection Type
2001–2006	18	Royale Limousine	Bus	Semiannual NYSDOT – bus
2006–2016	18	RLS Limousine	Bus	Semiannual NYSDOT – bus
July 21, 2016	11	Prestige Limousine	Passenger vehicle	Annual NYSDMV
October 12, 2017	8	Prestige Limousine	Passenger vehicle	Annual NYSDMV
May 11, 2018	10	Prestige Limousine	Passenger vehicle	Annual NYSDMV

⁷⁵ There are inconsistencies in the definition of what constitutes a “bus.” Both the NYSDOT and federal safety standards (49 CFR 571.3[b]) define as a bus any vehicle used in for-hire service that seats 10 or more passengers.

⁷⁶ The previous owners of the limousine, Royale Limousine and RLS Limousines of Albany, New York, registered the stretch limousine as a “bus,” which automatically put the oversight and inspection of the vehicle under the authority of the NYSDOT. Due to this registration classification, the limousine was required to submit to more rigorous semiannual inspections.

⁷⁷ On October 4, 2018, Prestige Limousine management advertised the 2001 Ford Excursion limousine for sale. The limousine was advertised as having an 18-passenger seating capacity.

All vehicles are titled and registered at state DMVs with the vehicle identification number (VIN). The VIN is issued by the manufacturer (in this case, Ford) and is specific to each vehicle. The NYSDMV had access to the crash limousine’s registrations from previous owners, from 2001 to 2016, which showed the vehicle’s seating capacity and its vehicle classification as a “bus.” The NYSDMV did not use this information to verify Prestige’s registration. The NYSDMV also had access to the “Abstract of Title Record,” which showed the vehicle registered as a “bus” by previous owners in the state of New York. Additionally, when in 2018 Prestige applied for registration renewal, it provided the NYSDMV (as required) with the insurance certificate for the vehicle, which showed that the vehicle had a seating capacity of 16, inconsistent with the seating capacity of 10 listed by Prestige on the MV-82 registration form.

As of 2019, the NYSDMV updated its form MV-82, application for title and registration, and included additional required fields for vehicle details. (An additional form, MV-82 NPSUP, must be filled out if the vehicle is used in for-hire operations.) Figure 22 is the May 2020 version of the MV-82 form, with red outlining the new areas (sections 2 and 5) that would apply to the crash limousine.

The image shows a portion of the NYSDMV MV-82 form. Section 2, titled 'SECTION 2', contains several fields: 'VEHICLE IDENTIFICATION NUMBER' (a grid for the VIN), 'VEHICLE DESCRIPTION' (Year and Make), 'Body Type (mark one)' (checkboxes for 2-Door, 4-Door, Pick-up, Van, Convertible, Suburban/SUV, Limo, Trailer, Motorcycle, Tow), 'Type of Power (Fuel)' (checkboxes for Gas, Diesel, Electric, Flex, CNG, Propane, None), 'Color', 'Unladen Weight', 'Cylinders', 'For trailers & commercial vehicles Maximum Gross Weight', 'Adult Seating Capacity (Including Driver)', and 'Odometer Reading in Miles'. Below these are checkboxes for 'Office Use Only' (A, E, N) and 'For commercial vehicles' (Axles, Distance). A red box highlights a question: 'Was this vehicle altered to increase the capacity beyond that provided by the manufacturer by method of extended chassis, lengthened wheel base, or a lengthened seating area?' with 'Yes' and 'No' options. Below this is another question: 'If YES, do you have the required Federal Alterer’s Safety Certification (normally found on the door jamb)?' with 'Yes' and 'No' options. An 'IMPORTANT' note follows. Section 5, titled 'SECTION 5', is 'NON-PERSONAL VEHICLE USE'. It includes a note about NYS DOT Operating Authority and Inspection. Below is a 'Check one:' section with several options: 'A commercial tow truck with a gross vehicle weight rating of at least 8,600 pounds', 'Used only as a farm vehicle (form MV-260F, Part 1 must be submitted)', 'Used only as an agricultural truck or agricultural trailer', 'Ambulance', 'Ambulette*', 'Hearse', 'Combination Hearse/Invalid Coach*', 'Used to transport passengers* (Bus, Livery, School Bus, School Car)', 'Operates as a taxi* (you must complete the “Taxis Only” section below)', 'Rented without a driver (private rental)', 'Used to pick up passengers for compensation only in jurisdictions that do not regulate taxis*', and 'Other - describe the use:'. The 'Used to transport passengers*' option is circled in red, and the 'Other' field has a red box next to it.

Figure 22. Sections of MV-82 form.

1.7.2.2 NYSDMV inspection station protocol and oversight. In 2016 and 2018, Prestige Limousine brought the crash limousine for annual inspection (as required by NYSDMV for cars and similar passenger vehicles) to state-certified inspection stations.⁷⁸ These inspection stations, which are operated by contractors, did not follow NYSDMV policy-based instructions not to inspect a modified or “stretch” limousine; instead, stations were to require the vehicle’s owner to contact the NYSDOT to undergo a semiannual bus safety inspection.⁷⁹ The most recent NYSDMV annual inspection of the crash limousine was performed by Mavis Discount Tire on May 11, 2018. Mavis Discount Tire was a state-certified inspection station, and Prestige also used it to perform maintenance on its fleet of limousines.

The NYSDMV inspection process must follow the state’s *Regulations of the Commissioner of Motor Vehicles*, “Part 79, Motor Vehicle Inspections.” This 103-page regulation details all the requirements of the NYSDMV inspection program.⁸⁰ It is unknown whether Mavis Discount Tire inspected the crash limousine in accordance with all inspection criteria.⁸¹ For example, the criteria require that inspectors check seat belt function by buckling the belts, tugging on them, and unbuckling them. Postcrash, many of the non-OEM seat belts were found inaccessible and tucked under the bench seat. The inspection guidelines state that vehicles shall not pass inspection if any of the brake components are broken, frozen, or seized in place or if there is a break or crimp in any brake hose or line. The postcrash inspection of the limousine (refer to section 1.5.3) found deficiencies with individual brake components and a corroded and crimped steel brake line. Criteria also stated that vehicles shall not pass inspection if any brake line is not properly secured.

The NYSDOT roadside inspection of the limousine on March 21, 2018, found the hydraulic brake line not secured and hanging near the left front wheel. The September 4, 2018, roadside inspection found that an ABS line was not secure and was able to make contact with the left front wheel.⁸²

On May 11, 2018, after conducting repair work on the crash limousine’s left rear brake assembly and brake master cylinder, Mavis Discount Tire performed an emissions and safety inspection. Mavis Discount Tire passed the limousine in both areas.

⁷⁸ Wilton Truck Center, of Wilton, New York, performed the first inspection on July 22, 2016, and issued a certificate of inspection decal. NTSB investigators found no evidence of an annual safety inspection on the crash limousine in 2017.

⁷⁹ See *Regulations of the Commissioner of Motor Vehicles*, “Part 79, Motor Vehicle Inspections,” Section 79.20 “Inspection procedure generally,” F(2).

⁸⁰ The regulations include 17 pages of inspection protocols that cover all the areas to be inspected, including the service brakes, parking brake, tires, steering, suspension, chassis/frame, lighting and reflectors, windshield and other glass, mirrors, windshield wipers, horn, seat belts, and fuel leaks.

⁸¹ The NYSDMV has the authority to suspend, revoke, or not renew the license of an official New York inspection station if the facility fails to conduct inspections in accordance with regulations.

⁸² These statements are from the written findings of the NYSDOT inspectors. An NYSDOT inspector indicated that both findings (from the March 21 and September 4 inspections) were referring to the same brake line fault.

1.7.3 New York State Department of Transportation Oversight

The NYSDOT conducts two types of vehicle safety inspections: (1) standard vehicle safety inspections, in this case, under the bus inspection program—which occur every 6 months on a regular and scheduled basis—and (2) inspections that are conducted at the discretion of an NYSDOT inspector or law enforcement officer. Inspections of the second type include both roadside and terminal inspections of vehicles operating in the state.

1.7.3.1 NYSDOT bus inspection program. Participation in the NYSDOT bus inspection program is required for all for-hire passenger-carrying vehicles with a seating capacity of 10 or more, and for all “stretch vehicles,” regardless of the seating capacity, subject to NYSDOT operating authority. The NYSDOT bus inspection program requires that a certified NYSDOT inspector inspect passenger-carrying vehicles every 6 months. The NYSDOT bus (or limousine) safety inspection is different from the annual inspection program overseen by the NYSDMV for passenger vehicles. The NYSDOT bus inspection program is more rigorous and is modeled after the Commercial Vehicle Safety Alliance (CVSA) North American Standard Inspection Program.⁸³ NYSDOT inspectors are CVSA-certified to conduct level 1 through level 8 inspections.⁸⁴ A bus (or limousine), as well as its motor carrier, is to undergo inspections semiannually.

NYSDOT inspectors maintain inspection records for each inspected vehicle and any required vehicle repairs completed as a result of each inspection. If a vehicle fails an inspection, the NYSDOT places the vehicle in OOS status and puts an “Out-of-Service” sticker on the windshield. Such a vehicle cannot be operated until it has been repaired and reinspected by a department inspector.⁸⁵ Table 8 show the history of NYSDOT semiannual inspections and reinspections of the crash limousine from 2010 through 2015, when it was owned by RLS Limousine and properly registered with the NYSDMV as having a seating capacity of 18, which made it a bus. (The vehicle was not inspected in the NYSDOT bus inspection program between 2016 and 2018.)

⁸³ The NYSDOT inspection program was adopted into New York State regulations 17 NYCRR Parts 720–723 and Part 820.

⁸⁴ A level 1 inspection is a full North American Standard inspection encompassing both driver and vehicle issues; level 2 is a walkaround driver/vehicle inspection; level 3 is a driver-only inspection; level 4 is a special inspection to look at specific problem areas; level 5 is a vehicle-only inspection; level 6 relates to transport of radioactive materials; level 7 is a jurisdictional-mandated inspection (that is, for hotel shuttles, school buses, taxis, etc.); and level 8 is an electronic inspection.

⁸⁵ See New York State regulations 17 NYCRR Part 720.2 (d).

Table 8. NYSDOT bus inspection program history for 2001 Ford Excursion stretch limousine, 2010 to 2018.

Year	Date	Inspection Type		Seats	FMVSS Code
2010	February 24	Initial		18	Bus
	September 2	Regular	Reinspected September 16	18	Bus
2011	March 17	Regular	Reinspected April 7	18	Bus
	September 29	Regular		18	Bus
2012	March 29	Regular		18	Bus
	September 14	Regular		18	Bus
2013	February 28	Regular		18	Bus
	August 22	Regular		18	Bus
2014	February 5	Random		18	Bus
	July 30	Regular		18	Bus
2015	January 8	Regular		18	Bus
	June 25	Regular	Reinspected June 26	18	Bus
	December 4	Placed out of use by owner		18	Bus
2016-2017	None			Reported variously to NYSDMV as 11, 8, and 10	Passenger car
2018	See section 1.7.3.2 below for details				

All NYSDOT inspections are recorded in the Bus Safety Information Network (BUSNET) computer system, which the state uses to perform targeted inspections of problem carriers.⁸⁶ Because Prestige Limousine never received state operating authority to transport passengers, state inspection information for the limousine was not entered into BUSNET.

1.7.3.2 NYSDOT roadside and terminal inspections. Unlike the NYSDOT bus inspection program, the NYSDOT roadside and terminal inspections are not conducted at regularly scheduled intervals. Instead, the subjects of these inspections are systematically selected using nationwide OOS criteria.⁸⁷ Roadside and terminal inspections occur when a Motor Carrier Safety Assistance Program inspector examines individual commercial motor vehicles and drivers to determine whether they are in compliance with the *Federal Motor Carrier Safety Regulations*

⁸⁶ BUSNET contains a carrier profile that includes the number of inspections (passed and percentage) as well as the average number of defects found and OOS defects per inspection.

⁸⁷ The Inspection Selection System recommends vehicles for inspection based on one or both of the following: (1) poor prior safety performance evidenced by an unsatisfactory safety compliance fitness rating and/or higher than average driver/vehicle OOS rates; (2) very few or no roadside inspections in the previous 2 years relative to the carrier's size.

and/or *Hazardous Materials Regulations*.⁸⁸ These inspections constitute on-the-spot safety checks of the driver and the vehicle. Roadside inspections are typically conducted at weigh stations and ports of entry; however, the inspection can be conducted anywhere deemed safe by the inspector. Terminal inspections are conducted where the vehicle is regularly garaged or maintained, or from which it is operated or dispatched, including a private business or residence.

Prestige Limousine received six NYSDOT inspections from March 21 to September 4, 2018; five were conducted by the NYSDOT, one by the NYSP. Three of the inspections were performed on the crash limousine and driver. Table 9 summarizes the NYSDOT inspection history of the limousine and driver.

Table 9. NYSDOT inspection history for crash limousine and driver.

Date/Type	Violations
March 21, 2018 (Level 5 – Vehicle)	14 violations (4 OOS) <ul style="list-style-type: none"> • Brakes OOS: More than 25% brakes defective (OOS violation) • Operating a passenger vehicle with seating in excess of FMVSS label (10) (OOS violation) • Hydraulic brake line going to front axle left dangling. Can make contact with front left tire (OOS violation) • No or defective bus emergency exit (OOS violation) • Vice grip placed on hydraulic brake line, axle number 2 left side • ABS light remains on while vehicle is in operation • Deterioration of B-post pillar on left side of frame • Vehicle missing final FMVSS label • No USDOT number • USDOT number not displayed • State operating authority violation • License plate violation • Operating commercial motor vehicle without proof of periodic inspection • Carrier not certified through NYSDMV bus driver unit
August 25, 2018 (Level 3 – Driver)	3 violations (1 OOS) <ul style="list-style-type: none"> • No passenger vehicle endorsement on CDL (OOS violation) • Carrier name and USDOT number not displayed on sides of vehicle • Motor carrier failed to file paperwork (MCS-150) for USDOT number
September 4, 2018 (Level 5 – Vehicle)	14 violations (3 OOS) <ul style="list-style-type: none"> • Operating a passenger vehicle with seating in excess of FMVSS label (10) (OOS violation) • ABS brake line going to front axle left dangling. Can make contact with front left tire (OOS violation) • No or defective bus emergency exit (OOS violation) • Other non-OOS violations similar to violations found during March 21, 2018, inspection, including ABS light remaining on when vehicle is in operation

⁸⁸ For more information on the roadside inspection program, see the [FMCSA webpage on roadside inspections by inspection level](#), accessed August 23, 2020.

1.7.3.3 NYSDOT interactions with Prestige Limousine. The NYSDOT first interacted with Prestige in May 2016, when Prestige applied for and was denied emergency temporary operating authority (to participate in that year’s prom transport season). Prestige continued to operate without authority, but the NYSDOT took no action against the carrier. In June 2017, an NYSDOT inspector observed the limousine parked outside Mavis Discount Tire. The inspector recognized that this vehicle would require NYSDOT operating authority due to its size and classification (stretch limousine). The investigator conducted additional inquiries, which uncovered evidence that the carrier had misrepresented itself in official documents. Based on this evidence, the NYSDOT began a Notice of Violation (NOV) process against Prestige.⁸⁹ (A record of the NYSDOT’s numerous interactions with Prestige Limousine as part of a lengthy investigation by the agency into the company’s operating without authority appears in appendix D.)

An NOV process is designed to provide a continuous and structured approach to encourage acceptable inspection results by all operators subject to an NYSDOT semiannual inspection.⁹⁰ The process begins with the NYSDOT sending a written NOV to the carrier. The motor carrier can appear before a New York administrative law judge to plead its case or accept the penalties for the violation and pay the accompanying monetary fine. As detailed in appendix D, Prestige did not address the second NOV until the registration for the vehicle was suspended as a result of failure to appear. When Prestige paid the fine to the NYSDOT, the department reinstated the vehicle registration a few weeks before the crash, even though Prestige still had not applied for or received NYSDOT operating authority to transport passengers. It also still had an outstanding NOV because the crash limousine had not yet received an NYSDOT inspection. Prestige’s three NOVs are summarized in table 10.

Table 10. NYSDOT Notice of Violation history for Prestige Limousine.

Date	Notice of Violation	Violation Description and Disposition
August 15, 2017	10138	Violation: Transporting passengers without operating authority Hearing date: October 6, 2017 – Failure to appear by Prestige Disposition: May 6, 2018 – Prestige paid \$500 fine
January 8, 2018	8320	Violation: Transporting passengers without operating authority Hearing date: May 4, 2018 – Failure to appear by Prestige Disposition: Prestige’s vehicle registrations suspended on September 17, 2018. Registrations reinstated on September 19, 2018 after Prestige paid \$500 fine
September 1, 2018	8858	Violations: (1) Transporting passengers without operating authority (2) Not having NYSDOT semi-annual vehicle inspection (3) Not having an active USDOT number (4) Using a driver not qualified (no “P” endorsement) Hearing date: October 5, 2018 – Failure to appear by Prestige Disposition: October 6, 2018 – Crash \$2,000 civil penalty remains outstanding

⁸⁹ For additional information, see the Motor Carrier Attachment in the [NTSB public docket](#) for this investigation (NTSB accident HWY19MH001) titled “Notice to Appear NOV Issued August 15, 2017 dated September 14, 2017.”

⁹⁰ Refer to the Motor Carrier Attachment in the [NTSB public docket](#) for this investigation (NTSB accident HWY19MH001) titled “NYSDOT Passenger Carrier Guidebook Section 2.12 dated December 1, 2017.”

1.7.3.4 Measures of effectiveness of NYSDOT inspection program. In a 2004 audit report, the New York Office of the State Comptroller examined the NYSDOT's inspection program and determined that the agency did not effectively monitor compliance and did not have an adequate system to verify that OOS violations were repaired (NYOC 2004). The audit found more than 19,065 motor carriers, both interstate and intrastate, with recurring violations during a 14-month audit period. The agency made 111 repair verification visits to carriers. The New York Office of the State Comptroller recommended that the NYSDOT "establish an enforcement strategy that will increase the number of repair verification visits during truck inspector's downtime to identify motor carriers that do not make the required repairs." In response to the recommendation, the NYSDOT stated that "the repair verification function is labor intensive and due to the surprise nature of the visits, may end with the motor carrier not being available. Therefore, the NYSDOT will continue to focus its resources primarily on more value-added activities such as roadside inspections."

Ten years later, in 2014, the New York Office of the State Comptroller again issued a report of an audit of the NYSDOT and found that the department did not monitor whether carriers submitted required certifications that OOS violations had been repaired (NYOC 2014). It also found that the NYSDOT did not always impose penalties when it found that carriers knowingly placed the public at risk by continuing to operate OOS vehicles without repairing them. The 2014 report proposed that the NYSDOT fulfill the following "key recommendations":

- Actively monitor carrier compliance with the requirements for certification that vehicles have been repaired. Develop strategies to improve carrier compliance, particularly for those with poor safety histories and OOS violations.
- Impose progressive enforcement actions, such as compliance reviews and formal Notices of Violation, when carriers are found to have continued to operate OOS vehicles.

The report included NYSDOT's response to the draft report and the key recommendations. In the response, the NYSDOT indicated that it would take steps to address both recommendations.

During the first two quarters of fiscal year 2018, repair verifications were conducted on 244 of the 6,059 New York State-domiciled carriers with OOS defects, representing 4 percent of those carriers (NYS 2019).

In the NYSDOT's submission of its 2019–2021 Commercial Vehicle Safety Plan (CVSP) to the FMCSA, the agency stated:

Through its monitoring efforts, New York has identified carriers, who continually violate the requirement to correct previously cited defects discovered during roadside inspections, prior to continuing operations (49 CFR 396.9(c)(2)). By continuing to operate without correcting the defects that have been cited, these carriers pose a major threat to safety on the state's roadways. Carriers, who fail to comply with federal regulations regarding the correction of defects, are subject to intervention by federally certified NYSDOT Investigators. Other carriers are

subject to intrastate review and action by NYSDOT. New York included a State Specific Objective in the FFY 2016, FFY 2017, and FFY 2018 CVSPs to increase the percentage of intrastate carriers identified as having failed to correct previously cited defects.

1.7.4 Federal Oversight

The FMCSA oversees, and takes steps to ensure compliance with, motor carrier safety regulations. Although the FMCSA has limited oversight responsibility for intrastate passenger-carrying companies, such as Prestige Limousine, New York is one of several states that require intrastate commercial motor vehicle carriers to obtain an FMCSA USDOT number before obtaining state operating authority.⁹¹ The USDOT number serves as a unique identifier when collecting and monitoring a company's safety information acquired during audits, compliance reviews, crash investigations, and inspections. Prestige Limousine received a USDOT number on August 29, 2018 (less than 40 days before the crash).⁹² Once Prestige Limousine was issued a USDOT number, its previous NYSDOT inspections were uploaded into the FMCSA's Safety Measurement System (SMS) database.⁹³ Based on the inspection data, Prestige Limousine had a vehicle OOS rate of 80 percent, which compares with a national average of 6.2 percent for inspected vehicles of passenger motor carriers.⁹⁴ Prestige Limousine's driver OOS rate was 100 percent, which compares with a national average of 4.2 percent for passenger motor carriers.

1.8 Occupant Protection

1.8.1 Seat Belts and Seat Integrity

1.8.1.1 Seat belts. Postcrash evidence indicated that the limousine driver was wearing his lap/shoulder belt at the time of the crash. The driver airbag deployed during the crash sequence. Evidence from first responders and postcrash examinations indicated that none of the passengers were wearing their passenger lap or lap/shoulder belts at the time of the crash. Based on photographs of the crash limousine taken before the crash and examination of the other limousines in the Prestige Limousine fleet, the non-OEM lap belts were likely under the bench seats and inaccessible to passengers on the day of the crash. In addition, the seat belt anchor points and geometry relative to the possible occupant seating positions indicated that many of the lap belts in the rear passenger portion of the limousine were poorly designed. In some locations, the spacing between the anchorage points was extremely narrow (5.75 inches), which would result in improper passenger positioning for seat belt effectiveness.

⁹¹ Oversight is limited to areas of the *Federal Motor Carrier Safety Regulations* pertaining to CDL regulations and drug and alcohol testing requirements.

⁹² Prestige Limousine applied for a USDOT number only after being directed by the NYSDOT to do so.

⁹³ The SMS is the FMCSA's workload prioritization tool. The FMCSA uses the SMS to identify for interventions those interstate motor carriers with potential safety problems. The SMS is designed to incorporate the safety-based regulations related to motor carrier operations. The data are also available for state use.

⁹⁴ The OOS rate is the percentage of all inspections that resulted in an OOS order.

At the time of the crash, New York State law governing seat belt use required the driver and front passengers to wear a seat belt; this law did not apply to rear seat passengers (unless they were 16 years old or younger). After the crash, New York revised its mandatory seat belt use law (A.8990) to require all passengers in a taxi or livery vehicle (including those older than 16 years) to wear a seat belt regardless of their seating position.⁹⁵ The law also prohibits a person from operating a taxi or livery vehicle unless all passengers between the ages of 8 and 15 are restrained by seat belts.⁹⁶

New York authorizes primary enforcement for seat belts for front seat occupants, which means that a police officer can issue a traffic ticket solely for failure by the driver or front seat passenger to wear a seat belt. The law at the time of the crash also allowed the officer to issue a ticket for a driver who does not ensure that rear seat passengers 16 years old or younger are properly secured by a seat belt or in a safety seat appropriate for their age and weight.

1.8.1.2 Seat integrity. Postcrash examination of the limousine's non-OEM side- and rear-facing bench seats showed that the seat frames were constructed from welded square tubular steel and were attached to the floor using individual screws that were mounted through the metal seat anchor straps.⁹⁷ The seat cushions had separated from the seat frames. The seat frames were deformed and separated from their anchorage points; they were displaced forward toward the driver's compartment. When the crash occurred, the non-OEM side- and rear-facing bench seats and their anchorages were not sufficiently strong to keep them secured to the floor during the collision (even without the additional loading that would have occurred had the passengers been belted). In contrast, the rear OEM seats remained attached to the floor and intact, despite experiencing some damage.

1.8.2 Providing Occupant Protection for Limousine Passengers

In September 2019, the NTSB issued a safety recommendation report titled *Providing Occupant Protection for Limousine Passengers*, which addressed occupant protection safety issues identified during the early stages of the Schoharie crash investigation (NTSB 2019a). The report focused on the importance of maintaining adequate seat integrity, providing well-designed passenger lap/shoulder belts, and encouraging seat belt use.

The recommendations issued in that report, as well as their current status, are provided in section 2.4 of this report.

⁹⁵ A livery vehicle is a vehicle for hire, such as a taxicab or chauffeured limousine, excluding a rented vehicle driven by the renter.

⁹⁶ Passengers under 8 are required to be properly restrained in an age-appropriate child safety seat.

⁹⁷ The anchor straps appeared to be made from commonly available, thin steel pipe-hanging strap.

1.9 New York State Postcrash Legislative Actions

As a result of the Schoharie crash, the State of New York enacted several new laws related to limousine operations. These included the following:

- **New York Assembly Bill A.712A—Drug Testing:** Requires motor carriers to conduct preemployment and random drug and alcohol testing of drivers who operate for-hire limousines, taxis, and liveries with seating capabilities of nine or more passengers including the driver. The bill also prohibits consuming drugs or alcohol within 8 hours of going on duty and consuming or possessing a drug, controlled substances, or alcohol while on duty.
- **New York Assembly Bill A.1316C—Limousine Safety Task Force:** Creates an 11-member “stretch limousine passenger safety task force” to conduct a comprehensive review of the industry, including “matters influencing the safety, adequacy, efficiency and reliability of stretch limousine transportation.” A final report from the task force is due November 1, 2021.⁹⁸
- **New York Assembly Bill A.8214B—Safety Reporting:** Requires the NYSDOT and NYSDMV to establish and maintain a toll-free hotline for reporting safety issues about for-hire stretch limousines. The NYSDOT and NYSDMV are authorized to investigate reports and consider enforcement actions.
- **New York Assembly Bill A.8474A—Commercial Driver’s License:** Requires stretch limousine drivers to have a CDL with a passenger endorsement and requires that stretch limousines comply with safety regulations and vehicle inspections.
- **New York Assembly Bill A.8990—Seat Belts:** Requires taxi or livery vehicle passengers age 16 and older to wear seat belts regardless of their seating position and prohibits a person from operating a taxi or livery vehicle unless all passengers between the ages of 8 and 15 are restrained by seat belts. (Previously enacted law required passengers 16 years of age and older sitting in the front seat of a taxi or livery vehicle to wear a seat belt.)
- **New York Assembly Bill A.9056—Vehicle Impoundment:** Authorizes the NYSDOT to impound or immobilize stretch limousines that fail safety inspections, placing them out of service. Requires a vehicle to be held until the NYSDOT is satisfied that repairs have been scheduled (or made) and that the OOS defect has been fixed and the vehicle has been reinspected.⁹⁹

⁹⁸ As of the date of this report, the NTSB could not find evidence that a task force had yet been created.

⁹⁹ Specifically, the new inspection law “allows the commissioner of transportation to impound or immobilize stretch limousines in certain situations; provides that such impounded motor vehicle shall not be released unless the commissioner of transportation is satisfied that repairs have been scheduled or been made to satisfactorily adjust such vehicle’s out-of-service defect or defects; provides that release of such impounded vehicle without approval by such commissioner shall be punishable by a fine of up to ten thousand dollars; makes related provisions.”

- **New York Assembly Bill A.9057—Seat Belt Installation:** Requires that all stretch limousines altered on and after January 1, 2021, have at least one seat belt installed in the rear area for each passenger that the vehicle was designed to hold. Stretch limousines altered before that day must be retrofitted with approved seat belts by January 1, 2023.
- **New York Assembly Bill A.9059—Driver’s License Validation:** Requires the NYSDMV to maintain and annually update its website to provide information on motor carriers operating stretch limousines. The NYSDMV is also required to review driver files and annually verify that each driver holds a valid driver’s license.
- **New York Assembly Bill A.9646—Seat Belt Use Requirement:** Provides that a police officer shall only issue a summons for a violation of failure to wear a seat belt in a taxi or a livery for minors 8 years of age or older but under age 16 to the parent or guardian, if the violation by such person occurs in the presence of such person’s parent or guardian and where such parent or guardian is 18 years of age or more. Also makes provisions concerning the posting of information in taxis and livery vehicles concerning seat belt availability and use requirements.

2 Analysis

2.1 Introduction

The Schoharie crash occurred when a 2001 Ford Excursion stretch limousine, traveling south on NY-30, occupied by a driver and 17 charter group passengers, was descending a grade; the limousine brake system failed to slow the vehicle, and its speed increased to over 100 mph. After the driver made a steering maneuver to avoid a vehicle stopped at a stop sign near the bottom of the grade, the limousine entered and crossed the NY-30/NY-30A intersection, and then struck a 2015 Toyota Highlander SUV parked in a grassy field adjacent to a restaurant driveway. Two pedestrians who were standing near the SUV were struck when it was forced into them by the limousine's impact. The limousine continued into a ravine, where it struck an earthen embankment and several trees. As a result of the crash, 20 people died, including all 18 limousine occupants and the 2 pedestrians.

Section 2.2 discusses the crash factors, including the crash sequence (2.2.1). The section addresses the safety issues of inadequate brake system maintenance (2.2.2) and vehicle alteration affecting compliance with applicable FMVSSs (2.2.3). The section also addresses factors that might have influenced the driver's actions in response to the emergency driving situation, which includes a discussion of the safety issue of drivers falsifying medical histories in medical certification examinations for CDLs (2.2.4).

Section 2.3 examines Prestige Limousine's operations (2.3.1) and the oversight provided by the NYSDMV (2.3.2) and the NYSDOT (2.3.3), addressing the safety issue of ineffective state oversight of intrastate motor carrier operations. Federal oversight (2.3.4) is also discussed.

Section 2.4 details the actions that have been taken in response to the NTSB's 2019 safety recommendation report on limousine occupant safety issues uncovered during the Schoharie investigation (NTSB 2019a). The section addresses the safety issue of insufficient occupant protection for limousine passengers.

Following a comprehensive review of the circumstances that led to the Schoharie crash, the NTSB established that the following factors did not contribute to the cause of the crash:

- ***Driver experience and familiarity with the limousine.*** The limousine driver had over 25 years of commercial driving experience (mostly as a truck driver), and he had driven limousines for about a year for Prestige Limousine. He was familiar with driving the crash limousine, although his behind-the-wheel time was limited because he drove for Prestige only part-time, usually on weekends.¹⁰⁰

¹⁰⁰ Although the limousine driver was an experienced driver familiar with the stretch limousine, he did not have CDL authority to drive a vehicle carrying passengers. (See section 2.3.1.) He held a New York class A CDL but did not have a passenger endorsement, which is required to operate a vehicle designed to transport 15 or more passengers. Obtaining a passenger endorsement would have required him to demonstrate knowledge of pre- and post-trip vehicle inspections. It is unknown whether, or how thoroughly, the driver conducted a pretrip inspection of the limousine on the day of the crash. However, a pretrip vehicle inspection would not necessarily have revealed any issue with the brake system that would have affected the outcome of this crash (although it might have detected the ABS failure).

- **Roadway signage.** The limousine's route of travel was not the most direct one from the passenger pick-up location to the planned destination in Cooperstown, New York (refer to figure 1). We do not know why he chose this indirect route.¹⁰¹ Based on available information, it is likely that the driver was not familiar with the downgrade on NY-30 to the NY-30/NY-30A intersection, nor was he aware that it was the most severe grade on the trip, resulting in the heaviest load on the limousine's brakes. There were, however, three hill warning signs posted in advance of the descending grade. Posted with each warning sign was an advisory plaque indicating the approximate length of the grade. Although the limousine driver was most likely unfamiliar with his route of travel and the final downhill grade to the crash location, the roadway had adequate hill warning signs that should have alerted him to the steep descent.
- **Alcohol impairment or fatigue.** Postmortem toxicology tests did not detect ethanol in any of the driver's tissue samples. An examination of the driver's precrash activities showed sufficient opportunity for rest. The driver had over 10.5 hours of sleep opportunity the night preceding the crash, and he had been driving the limousine for less than 2 hours when the crash occurred.
- **Cell phone use.** A review of cell phone records showed that the driver was not using his cell phone for calls or text messaging from the time he picked up the charter group passengers until the crash occurred.
- **Weather or visibility.** There was no precipitation and the roadway was dry; there was adequate visibility. The sight distance on the approach to the stop sign for the NY-30/NY-30A T-intersection exceeded AASHTO minimum standards and provided sufficient stopping sight distance.

The NTSB, therefore, concludes that none of the following were factors in this crash: (1) the driver's experience or familiarity with the limousine, (2) roadway signage, (3) alcohol impairment or fatigue, (4) cell phone use, (5) weather conditions, or (6) visibility and stopping sight distance at the intersection where the crash occurred.

Fire department, law enforcement, and emergency medical personnel arrived at the crash location within 4 minutes of the collision. The fire department quickly evaluated the crash scene and upgraded the response to a mass-casualty incident, which evoked mutual aid from multiple agencies in the surrounding jurisdictions. Despite the efforts of emergency response agencies, no limousine occupants or struck pedestrians survived. The NTSB concludes that the emergency response to the crash was timely and adequate.

¹⁰¹ The route recommended by the GPS would have had the limousine remain on Interstate 90.

2.2 Crash Discussion

2.2.1 Crash Sequence

The limousine was traveling south on NY-30, approaching a T-intersection with NY-30A after descending a 1.81-mile-long downhill grade. The grade consisted of 13 changes in vertical alignment, ranging as high as 11.35 percent, which resulted in a total change in elevation of about 573 feet. The weight of the altered stretch limousine carrying 18 occupants was about 13,565 pounds, which exceeded by 58 percent the GVWR certified by Ford for the original SUV.¹⁰² The combination of rolling terrain throughout the majority of the limousine trip, the substantial final downhill grade, and the weight of the heavily laden limousine increased the demand on the vehicle's brake system.¹⁰³

When the limousine neared the bottom of the grade, the driver steered to avoid a vehicle that was stopped at the posted stop sign for the NY-30/NY-30A intersection. After crossing the east- and westbound travel lanes of NY-30A, the limousine struck an unoccupied 2015 Toyota Highlander SUV parked in a grassy field south of the intersection. The estimated speed of impact was 101–118 mph.¹⁰⁴ The limousine's impact propelled the SUV into two pedestrians who were standing near the SUV. After colliding with the SUV, the speed of the limousine was reduced to about 80 mph as it continued south into a ravine, where it struck an embankment and trees.

Witnesses at the intersection reported that the limousine did not slow as it proceeded into and through the intersection. An NTSB survey of the crash scene revealed no tire marks or other physical evidence indicating braking. However, the driver took evasive steering maneuvers to avoid a crash, and there is no evidence that he would not have applied the brakes. Moreover, NYSP troopers examining the vehicle immediately after the crash reported noticing a strong odor of overheated brakes at the crash scene. The available information suggested brake system failure as a potential causal factor. To examine this issue further, the NTSB conducted a visual inspection of the brake system components and completed brake performance testing using an exemplar vehicle and a brake dynamometer.

¹⁰² The 2001 Ford Excursion was originally built with a designated GVWR of 8,600 pounds (before its alteration from an 8-occupant/passenger SUV into an 18-passenger stretch limousine). Because the kinetic energy possessed by the limousine while in motion was proportional to a change in weight, at any given speed, the kinetic energy the brake system had to be able to mitigate was about 58 percent greater for the altered stretch limousine.

¹⁰³ The 35.4-mile trip from the passenger pick-up location to the crash site consisted of rolling terrain with frequent changes in vertical grade. One descending grade earlier in the trip covered 2.3 miles with an elevation decrease of more than 700 feet (refer to figure 8).

¹⁰⁴ Multiple crash reconstruction methodologies were used to calculate the impact speed. An analysis of data extracted from the limousine's RCM resulted in a speed range of 101–118 mph (median 109 mph). An airborne analysis of the SUV's postimpact travel resulted in a range of 108–110 mph.

2.2.2 Inadequate Brake System Maintenance

2.2.2.1 Brake system mechanical condition. Visual inspection of the limousine revealed an inadequately maintained brake system in poor condition.¹⁰⁵ Both the frame and the undercarriage of the vehicle were heavily corroded, including a steel brake line attached to the right rear differential housing. As reported in section 1.5.3.8, the brake line was corroded and crimped. The crimp was in the brake line near where the steel line connected with the right rear flexible brake hose. The crimp would have reduced the flow of brake fluid to the right rear brake and diminished the clamping force available to the brake caliper. In addition to the poorly maintained brake line, the right rear brake caliper was heavily corroded, and both pistons appeared to be seized in place, which could have made the right rear brake components inoperable because seized pistons would be unable to apply hydraulic force to the brake pad. (Further functional examination of the brake components would be necessary to determine whether the seized pistons were a contributing factor or a result of the crash; such functional examination was not possible in this investigation because, due to the criminal investigation, the New York authorities denied NTSB investigators' timely access to the vehicle and its components.) The left rear brake caliper was also corroded, and one of the two pistons appeared to be stuck within its bore, which could have lessened the force being applied to the brake pads. The left rear inner and outer brake pads appeared to be in good condition with little to no evident wear.¹⁰⁶ That might have been a result of inadequate hydraulic brake pressure being supplied through the rear brake line over an extended period, due to the leak in the corroded line. No evidence was found of the rear brake pads or rotors having overheated.

When NTSB investigators inspected the front brakes, they found no obvious mechanical deficiencies, such as those presented by the rear brakes; however, there was evidence that the brake components had been overheated. Investigators noticed an odor of burned materials when examining the front brake components. Additionally, the front brake rotors appeared to contain embedded friction material from the brake pads. Although these observations indicated that the friction components of the front brakes experienced higher-than-normal temperatures, because investigators were denied timely access to the vehicle's brake fluid, they were unable to evaluate it for contamination and susceptibility to failure at high temperatures.

2.2.2.2 Brake system failure. A dynamometer study (refer to section 1.5.6.3) was conducted using an exemplar Ford Excursion SUV loaded to simulate the weight of the crash limousine. The simulations showed that a properly functioning brake system equipped with OEM-specified parts would have had sufficient braking capacity to have safely negotiated the route. The study showed that the highest brake temperatures reached during the limousine's final 1.81-mile-long portion of the trip would most likely have occurred near the bottom of the descent to the stop sign at the NY-30/NY-30A intersection. Brake dynamometer testing also showed that, in all the simulations, the highest brake temperatures occurred when the simulation assumed no

¹⁰⁵ According to NYSDOT records, the vehicle was placed out of service in the months before the crash for deficiencies, including brake system deficiencies, which were not repaired. (The OOS record is discussed in section 2.3.1.2.)

¹⁰⁶ Although the left rear brake pads were relatively new, there should have been at least a little wear or scoring on the pads as they broke into the wear patterns on the rotor, especially given the weight of the vehicle.

rear brakes were functioning. This resulted in the simulated front brakes reaching a temperature of more than 1,000°F.

Because of a lack of timely access to the crash vehicle, resulting in the NTSB's inability to perform functional testing of the brake system and other vehicle components, we cannot state definitively and specifically why the brake system failed. However, based on NTSB investigators' visual inspection of the crash limousine's brake system, the rear brakes had been poorly maintained, and several components in the rear braking system exhibited visual indications that they had not been appreciably working. The split (front-rear) braking system would have enabled the limousine's front brakes to function, despite the condition of the rear brakes, and the visual inspection of the front brakes did not reveal obvious mechanical deficiencies. On the day of the crash, the poorly maintained rear brakes were largely, if not entirely, nonoperational, which placed all the burden of braking on the front brakes. The extra burden would have increased the front brake temperature. During normal daily driving, the front brakes alone would have been adequate to stop the limousine. However, with the limousine's heavy load (18 occupants), the long descent as it approached the NY-30/NY-30A intersection, and the increase in front brake temperature, the front brakes—the only operational brakes—failed or lost effectiveness.

The restrictions encountered during the investigation prevented a detailed examination of specific brake components or analysis of their potential failure modes. For example, the performance parameters of the front brake pads were not known, so no assessment could be made of their potential for brake fade at higher temperatures. Additionally, the condition of the brake fluid could not be tested, so it could not be evaluated for contaminants and susceptibility to break down at higher-than-normal temperatures. Although no failure of a specific brake component could be verified, and the limited access to the limousine's brake system prevented identification of a specific failure mode, such as heat-induced failure or mechanical failure (or a combination of both), all indications point to brake failure.

Moreover, the high speed of this crash is an indicator of brake failure. An analysis of the limousine's travel along the NY-30 downgrade leading to the crash site indicates that, assuming that the vehicle began at the top of the vertical grade and no braking took place, the limousine would have achieved an impact speed of 105–116 mph when it collided with the Toyota SUV. Therefore, the NTSB concludes that the limousine was unable to slow on the downhill grade approaching the intersection due to a failure within the poorly maintained brake system.

2.2.3 Vehicle Alteration Affecting Compliance with Applicable FMVSSs

2.2.3.1 Effect of vehicle alteration on crash. When 21st Century Coachworks altered the Ford Excursion SUV into a stretch limousine, NHTSA required the company to self-certify that the vehicle as altered conformed with all standards affected by the alteration and to affix a secondary

certification label specifying that the vehicle conformed with the applicable FMVSSs.¹⁰⁷ It is not known whether 21st Century conducted such a certification process.

At the time of the crash, the estimated weight of the stretch limousine with occupants was 13,565 pounds; this exceeded the GVWR of 8,600 pounds of the original SUV. The postcrash inspection found no evidence that 21st Century certified a new GVWR for the altered vehicle, nor was there evidence that it had altered the design of the Ford Excursion's original brake system to accommodate the increase in weight caused by the additional vehicle length and passenger capacity resulting from the vehicle alteration.

To examine the effect of the added weight on the limousine's stopping capability, the NTSB conducted a brake performance study (refer to section 1.5.6). Although the test results showed that stopping distances were significantly greater for the heavier vehicle, they also showed that the altered vehicle's braking still fell within the FMVSS 105 stopping distance requirements for the new weight (with the exception of the inoperable power assist test). The test results showed that, had the brake system been properly functioning and maintained, the limousine would have been able to come to a safe stop in the conditions preceding the crash, even with the additional vehicle and passenger weight of nearly 5,000 pounds resulting from the alteration. The NTSB concludes that, although 21st Century Coachworks, the company that altered the Ford Excursion SUV into a stretch limousine, does not appear to have certified that the altered vehicle met the applicable FMVSSs, the results of a brake system performance study show that, had the brake system been properly maintained, the limousine should have been capable of stopping safely at the bottom of the NY-30 downgrade.

2.2.3.2 Ensuring that vehicle alterers certify compliance with applicable FMVSSs. The alteration of vehicles into stretch limousines is a self-certification process that relies on alterers to document that the vehicles meet applicable federal safety standards. Many vehicles altered to become limousines are rebuilt within the original manufacturer design specifications outlined in programs, such as the Ford QVM program (enabling the alterer to use the OEM certification under 49 CFR Part 567). However, vehicle alterers that are not operating in such programs must conduct engineering analyses or FMVSS tests to document compliance with the FMVSSs.

Recognizing the inconsistencies in the ways that different jurisdictions title and register altered vehicles, the American Association of Motor Vehicle Administrators (AAMVA) formed a working group and developed *Best Practices for Title and Registration of Reconstruction and Replica Vehicles* (AAMVA 2013). Included in AAMVA's best practices is a recommendation that, before being issued a title, altered vehicles pass a structural integrity and mechanical safety inspection conducted by an engineer hired by the alterer. Additionally, the alterer must supply a certification letter from an engineer to the vehicle buyer, who could then provide it to the state DMV as part of the registration process.

¹⁰⁷ Requirements for persons who alter certified vehicles are specified under 49 CFR 567.7. With respect to the vehicle alterations it performs, an alterer (1) has a duty to determine continued conformity of the altered vehicle with applicable federal motor vehicle safety, bumper, and theft prevention standards, and (2) assumes legal responsibility for all duties and liabilities for certification under the Vehicle Safety Act.

Although systems such as the Ford QVM program and AAMVA's best practices provide some safeguards against potentially unsafe altered vehicles being newly registered and titled, buyers of limousines are responsible for ensuring that their vehicles—which will be used to transport passengers—are safe. This responsibility includes purchasing vehicles only from alterers who can verify that a limousine meets the applicable FMVSSs. The NTSB concludes that limousine operators can help ensure the safety of altered vehicles being acquired for use in passenger transportation service by (1) obtaining an engineer's certification that the altered vehicle meets the FMVSSs and (2) ensuring that a secondary certification label is affixed to the limousine before purchase.

The National Limousine Association (NLA) is a nonprofit membership organization representing the interests of chauffeured transportation. Part of the NLA's charge is to inform and educate its members, which include chauffeured transportation operators, suppliers, and manufacturers, as well as local, state, and regional associations. The NTSB recommends that the NLA inform its member limousine operators of the importance of verifying the safety of altered vehicles planned for passenger transportation by ensuring that the altered vehicle passes a structural and mechanical safety inspection, obtaining from the alterer an engineer's certification that the altered vehicle meets the FMVSSs affected by the alteration, and checking that a secondary certification label is affixed to the limousine before purchase.

2.2.4 Limousine Driver Medical Factors

2.2.4.1 Health and medical certification. When the crash occurred, the driver was taking at least three prescription medications—an antidepressant, a medication to treat bipolar disorder, and a heartburn medication. There was also evidence of marijuana use by the driver at some point before the crash.

The limousine driver was required to be medically certified to operate a commercial vehicle. The driver's most recent CDL medical examination was performed on September 6, 2017. At that time, the driver purposely omitted information and indicated no medical conditions or health history on the self-report section of the medical certification examination form. He also failed to report his use of prescription medications and denied his use of illegal substances. He falsely reported that he never had mental health problems, never had spent the night in a hospital, and did not have high cholesterol or stomach problems. Based on the incomplete information provided and a physical evaluation, the certified medical examiner (an advanced practice registered nurse) determined that the driver met the medical requirements and qualified him to drive commercial vehicles for 2 years.

Medical examiners base their certification determinations largely on objective data (from the physical examination) and self-disclosed information on the examination form concerning the driver's health history, prescribed medications, and alcohol or illegal drug use. The purpose of requiring drivers to provide a health history and to undergo a physical examination is to detect the presence of physical, mental, or organic conditions that might affect their ability to safely operate a commercial motor vehicle (Blumenthal and others 2002). The examiner's determination, however, depends on the driver providing a truthful, accurate, and full health history (as well as undergoing a physical examination). Because medical certification relies on driver self-reporting, it is not always possible to systematically determine disqualifying medical conditions, especially

when a driver fails to disclose pertinent health information. Thus, drivers must certify the accuracy of their responses to this questionnaire. The NTSB concludes that the limousine driver failed to disclose pertinent information about his medical history as required on the examination form for CDL medical certification, which prevented accurate assessment of his fitness to drive a vehicle transporting passengers.

Some of the medical conditions that the driver failed to report on the certification examination form were potentially disqualifying (for example, psychiatric conditions). However, depending on treatment and circumstances, an examiner might have permitted medical certification for periods shorter than the normal 2 years.

The driver's use of marijuana would have disqualified him from medical certification. Marijuana's primary psychoactive chemical, THC, and its metabolites were detected in the driver's postcrash tissue samples.¹⁰⁸ Moreover, according to his wife, the driver smoked marijuana regularly. The driver did not report his history of marijuana use to the medical examiner. FMCSA guidance to medical examiners states specifically that a commercial driver should not be certified if the driver uses marijuana (even if the state permits medicinal use of the drug). The guidance further states that certification may require successful completion of a drug rehabilitation program, as required by a substance abuse professional. The NTSB concludes that, based on the limousine driver's medical conditions, it cannot be determined whether he would have been granted medical certification to drive a limousine had he fully disclosed his medical history on the examination form for CDL medical certification; however, had he disclosed his use of marijuana, he would not have been medically certified.

The problems associated with commercial drivers' self-reporting to obtain medical certification are well-known and longstanding. The NTSB has a history of investigating crashes in which commercial drivers with serious medical conditions obtained medical certification to drive by falsifying (including through omission) information on the medical examination form, as well as by other problematic or questionable means.¹⁰⁹ In February 2019, citing a rise in fatal crashes involving large buses and trucks, the USDOT Office of Inspector General opened a new audit to evaluate the FMCSA's procedures for oversight of its medical certificate program, including the quality of commercial driver medical certificate data.¹¹⁰

2.2.4.2 Drug use. No information could be found to indicate when the driver had last consumed marijuana or taken his prescribed medications. Toxicology testing of tissues detected marijuana's primary psychoactive chemical THC, THC's most prominent psychoactive metabolite 11-OH-THC, and the inactive metabolite THC-COOH. The tests also detected the antidepressant bupropion, the anti-epileptic/bipolar disorder medication oxcarbazepine, and the heartburn medication famotidine. Because the concentration of drugs found in body tissue samples does not

¹⁰⁸ A sufficient quantity of blood was not available for postcrash testing.

¹⁰⁹ In just the past 5 years, the issue of driver certification has been addressed in at least four NTSB reports of investigations (NTSB 2016, 2018, 2019b, and 2019c).

¹¹⁰ (1) According to FMCSA data, fatalities in crashes involving large trucks and buses grew from 4,397 in 2012 to 4,897 in 2017, an 11 percent increase. (2) The FMCSA [audit announcement](#) was issued in February 2019 (accessed August 23, 2020). Audit results are not yet available.

directly correlate with levels in a person's blood, it is difficult to determine the driver's level of impairment, if any, at the time of the crash (Kemp and others 2013).

The prescribed antidepressant bupropion and the bipolar medication oxcarbazepine can have side effects, including impaired thinking and diminished psychomotor skills. However, because the driver had been taking both drugs for over 4 months without reporting any adverse impacts, his side effects from the drugs were probably minor. Regarding the interaction of the prescribed medications with THC, the NTSB is not aware of any published studies that closely examine how marijuana interacts with these drugs.

2.2.4.3 Driver's actions. During the course of the charter trip, the driver successfully negotiated several curves. At some point while descending the grade to the NY-30/NY-30A intersection, the brake system failed to effectively slow the vehicle. At that time, the driver was sufficiently engaged with the driving task to steer to avoid a vehicle stopped at the intersection. However, it is unknown whether he took any actions other than braking and emergency steering as the situation developed. For instance, guidance in the CDL manual and the Ford Excursion owner's manual suggests that drivers consider using lower gears when going down grades so that engine braking can assist in slowing the vehicle. Additionally, the CDL manual recommends using the parking brake if the normal braking system is not working.¹¹¹ Finally, guidance recommends that drivers of vehicles with failing brakes attempt to move off the road as soon as possible, because the longer a driver waits to act, the faster the vehicle will go, making it more difficult to stop. The NTSB had no evidence to determine whether the limousine driver considered or attempted any of these actions.

It is not possible to determine whether the limousine driver's precrash actions were appropriate for the emergency driving situation. Further, the NTSB cannot accurately assess whether the driver's use of marijuana, in combination with prescription drugs, impaired him on the day of the crash. Therefore, the NTSB concludes that, although toxicology tests detected evidence of marijuana and prescription drug use by the limousine driver, insufficient information was available to determine whether the drugs in his system were at levels that would have impaired his ability to respond to the emergency situation.

2.3 Ineffective State Oversight of Intrastate Motor Carrier Operations

2.3.1 Prestige Limousine

2.3.1.1 Operating authority. Prestige Limousine was providing intrastate passenger carrier services from June 2016 until the date of the crash without having operating authority from the State of New York. New York requires a motor carrier to obtain operating authority before it may transport passengers because, for a carrier to acquire that authority, the NYSDOT must find that the applicant carrier "is fit, willing, and able to provide the service."

¹¹¹ It should be noted that, although the 2001 Ford Excursion manual also recommended that a driver use the parking brake to slow a vehicle in motion, there is no FMVSS requirement for a parking brake to be able to do so. The parking brake is not designed to (nor is it tested on its ability to) slow a vehicle in motion or be available as an emergency brake in the event of a complete failure of the service brakes.

Because it did not receive authority to transport passengers in New York, Prestige was operating without safety oversight and outside the NYSDOT bus inspection program. As an unauthorized carrier, Prestige (and its vehicles) bypassed the required semiannual NYSDOT vehicle safety and motor carrier inspections, which must be conducted by a certified NYSDOT inspector. Prestige was also not subject to the compliance reviews that examine whether a motor carrier is adhering to the state requirements for safely transporting passengers and is meeting current safety fitness standards (such as having qualified drivers, maintaining drug and alcohol testing records, and conducting vehicle maintenance and inspection recordkeeping). Although an NYSDOT inspector eventually examined the crash limousine and initiated an inspection that began the NOV process to bring Prestige under NYSDOT oversight, the process did not keep Prestige from continuing in business and transporting passengers before the October 6, 2018, crash occurred.

As shown in appendix D, the NYSDOT had extensive interactions with Prestige Limousine and warned the company more than 15 times that it was operating without authority. Additionally, Prestige Limousine received three warning NOVs and multiple NYSDOT CVSA roadside inspections. Most recently before the crash, on September 1, 2018, Prestige was issued an NOV for transporting passengers without operating authority, for not having an NYSDOT semiannual vehicle inspection, and for using a driver not qualified to drive (due to lack of passenger endorsement). Between September 1 and October 6, 2018, the NYSDOT contacted Prestige Limousine at least seven times via e-mails regarding the procedures required for the carrier to obtain operating authority. Despite all the warnings, NOVs, and guidance, Prestige Limousine continued to transport passengers without having operating authority until the crash occurred. Therefore, the NTSB concludes that, despite numerous warnings and NOVs issued by the NYSDOT, Prestige Limousine violated the law by transporting passengers in its limousines without having operating authority.

2.3.1.2 Vehicle inspection. The NYSDMV classifies vehicles that have seating capacity for 15 or more passengers as buses. The crash limousine could seat 18 passengers. For over 2 years, beginning with Prestige Limousine's falsification of its initial 2016 registration of the crash limousine with the NYSDMV, the carrier circumvented the state's safety inspection program for buses. By failing to acknowledge on the vehicle registration that the crash limousine had been altered (or stretched) and by falsely reporting that it had a seating capacity as low as only eight, Prestige avoided participation in the NYSDOT bus inspection program. This program is intended to help ensure that vehicles that transport large numbers of passengers are properly maintained and in good repair.

Because it was unaware that the crash limousine met its definition of a "bus," the NYSDMV did not require that the limousine be registered as a bus and undergo NYSDOT inspection in the bus inspection program. The NYSDMV, however, had information that it could have used to detect the falsity of the information in Prestige Limousine's registration. Specifically, for 2001–2016, the previous owners of the crash limousine had properly registered it as a bus. Its unique VIN was in the system as part of the bus inspection program. A vehicle's VIN is required on all paperwork submitted to the NYSDMV and is how the NYSDMV tracks a vehicle for title, registration, and license plates. (See section 2.3.2.)

In the months preceding the crash, the NYSDOT was working to bring Prestige within its system of oversight by issuing NOVs to the carrier. In the roadside inspections that the NYSDOT performed when it initiated enforcement action against Prestige (after determining that the carrier was operating in passenger service without authority), the carrier had a vehicle OOS rate of 80 percent, compared with a national average of 6.2 percent for passenger motor carriers. The NYSDOT inspections also documented numerous violations specific to the crash limousine. On March 21, 2018, an NYSDOT inspector found several equipment violations on the vehicle. Three of the violations involved brake system problems, including (1) a vice grip crimping the left rear hydraulic brake line, (2) a dangling ABS wire enabling contact with the left front tire, and (3) the ABS malfunction indicator light remaining on during vehicle operation. The vehicle was placed in OOS status. On September 4, 2018—about 1 month before the crash—the NYSDOT again inspected the limousine and identified 14 violations. The inspector found many of the same equipment violations that had been detected during the March 2018 inspection, including the front brake line not being properly secured and the ABS light remaining on, indicating that the limousine’s ABS was inoperative. After the Schoharie crash, no maintenance records were found to indicate that any repairs had been made to the limousine between the September 4 inspection and the October 6, 2018, crash. The poor maintenance condition of the limousine was further documented in the NTSB’s postcrash inspection of the vehicle. Therefore, the NTSB concludes that, on the day of the crash, Prestige Limousine was knowingly operating a limousine in poor mechanical condition that had recently been placed out of service for safety deficiencies, including brake equipment violations.

After the crash, NTSB investigators visually inspected three additional Lincoln Town Car limousines owned by Prestige Limousine. Many of the same mechanical and maintenance issues documented in the crash limousine were also present in those vehicles. Although component-level inspection was not performed, all three vehicles had extreme corrosion (including holes in the floorboards) that reduced their structural integrity. Based on the condition of its fleet and the similarity of the maintenance issues found, the NTSB concludes that Prestige Limousine did not have an effective maintenance program in place to ensure the safety of its passenger-carrying vehicles.

2.3.1.3 Driver oversight. NTSB investigators could not perform a full assessment of Prestige Limousine’s oversight of its drivers due to lack of access to company business records. It is unknown whether Prestige maintained driver qualification files or training records, or had a drug and alcohol testing program in place.

Regarding the qualification of the driver involved in the crash, there is clear evidence that Prestige management knew that the driver did not have authority to operate a limousine in passenger service. On August 25, 2018, the NYSP stopped the driver for transporting passengers without having the proper CDL endorsement (a passenger endorsement). The NYSP issued the driver an OOS order prohibiting him from driving limousines until he was properly licensed. The NYSP sent written notification of the driver’s status to Prestige; the notice specifically stated that “no motor carrier shall permit or require this driver to operate any motor vehicle until the driver has proper CDL endorsement.” On September 1, 2018, the NYSDOT issued Prestige Limousine an NOV for using a driver not qualified to drive due to lack of passenger endorsement. Despite the OOS order, the driver did not obtain a CDL passenger endorsement. More than a month after receiving the NOV concerning the driver’s lack of qualification, on the date of the crash

(October 6), Prestige Limousine directed the crash limousine driver to transport a group of 17 passengers from Amsterdam to Cooperstown, knowing that he did not have a passenger endorsement. The NTSB concludes that despite knowing that the crash limousine driver was not properly licensed, Prestige Limousine repeatedly assigned him to transport passengers, in direct violation of an NYSDOT OOS order, which indicates deficiencies in driver-related safety controls at the motor carrier.

2.3.2 New York State Department of Motor Vehicles Oversight

2.3.2.1 Registration of stretch limousines. The NYSDMV is responsible for the registration of vehicles operating in the state of New York. Prestige Limousine was the third owner of the crash limousine. Under previous ownership, the vehicle had been properly registered as a bus, with a seating capacity of 18. After taking ownership of the crash limousine, and for over 2 years, Prestige registered the stretch limousine as a passenger vehicle rather than a bus by falsely reporting its seating capacity.

The NYSDMV had access to multiple sources of information that could have been used to check and verify the classification of the vehicle being registered. The available verification documents included 15 years of previous registrations, an “Abstract of Title Record,” and an insurance document showing that the vehicle had a seating capacity of 16.¹¹² By failing to appropriately screen and classify the Prestige limousine, the NYSDMV enabled the carrier to circumvent state safety regulations and avoid more rigorous inspection requirements. If the NYSDMV had classified and registered the Prestige limousine properly—as a bus—the carrier would automatically have been referred to the NYSDOT and required to apply for operating authority. If the NYSDMV had taken such an action, it would have resulted in additional scrutiny to ensure that Prestige was fit, willing, and able to operate safely in passenger transportation. It would also have required the carrier to obtain a USDOT number and enter the NYSDOT bus inspection program.¹¹³ The NTSB concludes that the NYSDMV’s failure to verify information in its vehicle registration program allowed the crash limousine to be incorrectly classified and improperly registered, which enabled Prestige Limousine to circumvent the more thorough state safety and inspection requirements that might have prevented the crash.

Following the Schoharie crash, the NYSDMV took steps to improve the registration process to ensure that limousines are properly registered and that information concerning them is forwarded to the NYSDOT for operating authority and inspection, when warranted. In August 2019, the NYSDMV introduced new registration forms for registering vehicles in New York. The new form, MV-82, includes clearly marked sections concerning vehicle modifications and certifications, and an additional form must be filled out if the vehicle is used in for-hire operations. The NTSB supports these process improvements.

¹¹² As has been noted, the definition of “seating capacity” varies somewhat. However, the altered vehicle demonstrably had more than the eight seating positions Prestige claimed (in 2017).

¹¹³ Prestige did not have a USDOT number until August 29, 2018.

2.3.2.2. NYSDMV oversight of state inspection stations. In 2016 and 2018, Prestige Limousine took the crash limousine to two different official NYSDMV-certified inspection stations for annual safety inspections.¹¹⁴ These stations, operated by contractors, were authorized to perform inspections on passenger vehicles, but NYSDMV policy strictly prohibited stations from inspecting modified or altered vehicles, including stretch limousines. Instead, the inspection stations were required to refuse to conduct an inspection and, instead, to direct operators of altered vehicles to the NYSDOT so that they could be enrolled in the bus inspection program and undergo the required semiannual bus safety inspections. Failing to follow this procedure, both inspection stations improperly inspected the limousine and issued it a passenger vehicle decal showing that the vehicle had passed the inspection. The NTSB concludes that the state inspection stations Mavis Discount Tire and Wilton Truck Center knowingly inspected and certified the crash limousine, which was clearly an altered vehicle, in contravention of the NYSDMV's policy that prohibited stations from inspecting modified or altered vehicles, including stretch limousines. The issuance of the decals allowed Prestige Limousine to bypass the more demanding NYSDOT inspection process required for buses. Therefore, the NTSB concludes that by not ensuring that state inspection stations adhered to the policy that prohibited them from inspecting altered vehicles, the NYSDMV enabled the crash limousine to undergo annual vehicle inspections instead of the more rigorous semiannual NYSDOT bus safety inspections, as required.

Not only did the inspection stations inspect the Prestige limousine when they should have refused to do so, but also, they did not follow all the procedures outlined in the *Regulations of the Commissioner of Motor Vehicles*, "Part 79, Motor Vehicle Inspections," in conducting the inspections. Moreover, it appears that during the May 11, 2018, inspection of the limousine by Mavis Discount Tire, the limousine was not thoroughly inspected. Mavis Discount Tire passed the limousine even though it most likely had disqualifying conditions that should have been evident to safety inspectors. The conditions included the corroded and crimped steel brake line and a brake line hanging near the left front wheel.¹¹⁵ Based on the questionable quality of the Mavis Discount Tire inspection and the fact that two inspection stations ignored NYSDMV policy and inspected the stretch limousine when they should not have done so, the NTSB concludes that the NYSDMV did not provide effective oversight of state inspection stations, allowing Mavis Discount Tire and Wilton Truck Center to perform inadequate inspections of the crash limousine that failed to detect serious safety deficiencies before the crash.

Vehicles like the crash limousine, which carry large numbers of passengers, should undergo higher levels of safety inspection than passenger cars; the State of New York recognizes this necessity by classifying them as buses, making them subject to the state's bus inspection program. According to the NYSDMV, should a stretch limousine appear at an inspection station for inspection, whether by a carrier's error or fraudulent intent, the inspection station "shall refuse to perform the inspection" and "shall provide the motorists with instructions on how to comply with New York Department of Transportation periodic inspection requirements." In this case, the station would direct the motorist to the NYSDOT bus inspection program. Whether an administrative

¹¹⁴ Wilton Truck Center performed the first inspection on July 22, 2016. The second inspection station was Mavis Discount Tire, which reported an inspection date of May 11, 2018. (The vehicle apparently did not undergo a safety inspection in 2017.)

¹¹⁵ The hanging brake line was noted as an OOS condition on March 21, 2018, and again on September 4, 2018, before and after the Mavis Discount Tire inspection on May 11, 2018.

method is used (such as flagging the VINs of stretch limousines as ineligible for inspection at a state inspection station), or enforcement against noncompliant stations is increased, or some combination of measures is used, the NYSDMV is in the best position to determine how to keep stretch limousine carriers from exploiting this weakness in the state's bus inspection program. Therefore, the NTSB recommends that the NYSDMV review its policies and protocols on the inspection of stretch limousines, and establish stricter safeguards and more rigorous enforcement protocols to ensure that state-contracted inspection stations do not inspect stretch limousines that have a seating capacity of 10 or more. In addition, the NTSB recommends that the NYSDMV renotify state-contracted inspection stations that they may not inspect stretch limousines that have a seating capacity of 10 or more.

2.3.3 New York State Department of Transportation Oversight

2.3.3.1 Oversight of Prestige Limousine. The NYSDOT conducted six roadside inspections of Prestige Limousine from March 21 to September 4, 2018. Three of the inspections were on the crash limousine and driver; they resulted in OOS violations. These inspections were conducted as a result of the NYSDOT's investigating the carrier for transporting passengers without having New York State operating authority. In addition to the roadside inspections, the NYSDOT issued three NOVs to Prestige.

Despite these multiple interactions and enforcement actions, Prestige Limousine was able to continue its passenger operation in violation of state regulations. When the NYSDOT and the NYSP were asked why they did not impound Prestige's vehicles or confiscate their license plates, the agencies stated that they did not have clear authority to take those actions. New York State law provides broad authority to the NYSDOT commissioner to suspend and revoke the operating authority of any motor carrier of passengers when the carrier directs or allows an employee to operate a vehicle after the operator has been placed out of service.¹¹⁶ For instance, shortly after the Schoharie crash in 2018, during a focused enforcement action, the NYSDOT and the NYSDMV suspended the registrations of 59 limousines illegally operating without authority. Law enforcement seized the vehicles' license plates at the request of the NYSDMV. At the time of the action, no new legal authority had been provided to law enforcement to conduct these suspensions; the existing authority was sufficient to enable this action. Investigators found no indication that an attempt had been made to obtain authority from the NYSDOT commissioner to take more aggressive enforcement action against Prestige Limousine before the crash.

Moreover, the NYSDOT did not attempt to verify whether Prestige had repairs made after receiving multiple OOS vehicle violations. For example, after the limousine was inspected on March 21, 2018, most of the 14 OOS violation deficiencies found during that inspection were still on the vehicle when the NYSDOT inspected it again, on September 4, 2018. This means that documented OOS violations concerning the limousine, which were issued because of known vehicle safety deficiencies, were not repaired during the 6 months preceding the crash. The NTSB concludes that the NYSDOT's ineffective enforcement and lack of repair verification processes allowed Prestige Limousine to continue to transport passengers in the crash limousine despite the

¹¹⁶ See 17 NYCRR 720.32.

carrier's (1) not having operating authority and (2) failing to repair OOS vehicle violations that compromised the limousine's safety.

Following the crash, and with the intention of improving the safety of stretch limousine operations, the New York State legislature passed, and the governor signed, Assembly Bill A.9056. The new law specifically authorized the NYSDOT to impound or immobilize stretch limousines that fail safety inspections, placing them out of service. It also required that the failed vehicle be held until repairs to fix the OOS defect have been scheduled (or made) and the vehicle has been reinspected.

The NTSB is encouraged by the passage of this law and expects that the NYSDOT is developing, or already has in place, a method of verifying that scheduled repairs have been made as a precondition for a vehicle's release, as well as a means of enabling the system to re-impound the vehicle if repairs are not performed. Therefore, the NTSB concludes that the State of New York's implementation of Assembly Bill A.9056 should help resolve the safety problem of stretch limousines continuing in commercial operation without having their OOS violations repaired.

2.3.3.2 Oversight of all motor carriers. The poor oversight of the motor carrier Prestige Limousine by the NYSDOT is not an isolated occurrence. The weaknesses of the NYSDOT's inspection program have been repeatedly documented as a systemwide issue. In audit reports issued in 2004 and 2014, the New York Office of the State Comptroller found that the NYSDOT's inspection program for commercial motor carriers did not adequately monitor compliance and did not have a sufficient system to verify that OOS violations were repaired (NYOC 2004 and 2014). Further, data continue to show that the number of OOS repair verifications remains extremely low.

For fiscal year 2018, the State of New York identified a number of state objectives concerning significant problems in its *Commercial Vehicle Safety Plan for the Federal Motor Carrier Safety Administration's Motor Carrier Safety Assistance Program, Fiscal Year 2018* (NYS 2017). One problem statement in this report read as follows:

Repair verifications are not being conducted consistently and only a portion of out of service vehicle defect reports on NYS domiciled carriers are verified. For example, out of 10,046 inspections that found vehicle out of service violations, less than 1% led to repair verification.

To address the problem, the state set a fiscal year 2018 performance goal as follows:

Conduct repair verifications on 5% of NYS domiciled carriers with out of service vehicle defect inspection reports. The repair verifications will focus primarily on those with the most serious equipment violations.

During the first two quarters of fiscal year 2018, 244 repair verifications were conducted of the 6,059 New York State-domiciled carriers with OOS defects, representing 4 percent of those carriers (NYS 2019). This number of verifications most likely does not deter noncompliant carriers from operating with serious OOS vehicle and driver violations.

Based on the evidence of NYSDOT's oversight failures in connection with the limousine operator Prestige Limousine, as well as the statistical evidence of its limited enforcement effectiveness of motor carriers in general, the NTSB concludes that the NYSDOT's enforcement efforts directed toward motor carriers that continue operating after being cited for serious OOS violations have been inadequate, and additional strategies and repair verification processes are needed.

In its 2014 audit report (NYOC 2014), the New York Office of the State Comptroller issued two "key recommendations" to the NYSDOT. The first called on the NYSDOT to actively monitor motor carrier compliance with the requirements for certification that OOS vehicles have been repaired, and to develop strategies to improve carrier compliance, particularly for those carriers with poor safety histories and OOS violations. The second key recommendation was that the NYSDOT impose progressive enforcement actions, such as compliance reviews and formal NOV's, when carriers are found to have continued to operate OOS vehicles. Although the NYSDOT responded positively to these key recommendations in its comments on the audit report, based on the evidence of continuing deficiencies in the NYSDOT's oversight of motor carriers with OOS violations, these key recommendations have not yet been effectively implemented. Therefore, the NTSB recommends that the State of New York require the NYSDOT to implement the "key recommendations" in the 2014 New York Office of the State Comptroller Report 2012-S-13 addressing vehicle repair certification requirements, strategies to improve carrier compliance with OOS violations, and progressive enforcement actions for continued operation of OOS vehicles.

2.3.3.3 Consistency of "bus" definition. During the course of its investigation, the NTSB noted that the NYSDMV defines a bus as a for-hire vehicle that seats 15 or more passengers, while the NYSDOT defines a bus as a for-hire vehicle that seats 10 or more passengers. This difference in definition between the two agencies is liable to cause confusion in regulating and inspecting for-hire vehicles that transport larger numbers of passengers. Federal safety standards (49 CFR 571.3[b]), like the NYSDOT, define a bus as any vehicle used in for-hire service that seats 10 or more passengers. The NTSB concludes that making the definition of what constitutes a "bus" consistent between the New York State agencies responsible for registering and inspecting higher occupancy passenger-carrying vehicles would reduce the likelihood of miscommunication between these safety oversight agencies and of motor carriers exploiting administrative loopholes to avoid safety scrutiny. Therefore, to harmonize these definitions, the NTSB recommends that the State of New York require the NYSDMV to adopt the NYSDOT's definition of a bus as a passenger vehicle for hire with a seating capacity of 10 or more.

2.3.4 Federal Oversight

The FMCSA has limited oversight responsibility for intrastate passenger-carrying companies. It provides guidance to the states through the Motor Carrier Safety Assistance Program and financial assistance to help states reduce the number and severity of crashes involving commercial motor vehicles. Each year, states submit a CVSP to the FMCSA with the state's projected goals, activities, and objectives. Between 2016 and 2019, the NYSDOT's CVSP identified as a priority objective the need to address the problem of carriers that fail to correct defects, a problem identified by the state's own internal auditing.

The State of New York obviously has had, and is aware of, a problem concerning the verification of motor carriers' repairs to correct OOS violations. The NTSB is concerned that the problem of motor carriers ignoring OOS orders and continuing to operate may not be limited to New York. FMCSA national data show that, in 2018, federal and state inspectors performed 2,405,751 vehicle inspections with 501,113 (20.8 percent) resulting in OOS violations. That same year, 3,395,955 driver inspections were conducted with 161,585 (4.8 percent) resulting in OOS violations (FMCSA 2019). Vehicles and drivers are placed in OOS status because of conditions that pose an imminent threat to safety. As the experience of New York suggests, in the absence of an aggressive OOS and repair verification process, carriers that choose to violate OOS orders will continue to pose a safety risk on our highways. Therefore, the NTSB concludes that although the extent of the problem is unknown, some motor carriers across the nation are likely continuing to operate without correcting OOS violations, placing the motoring public at risk.

Although the FMCSA does not have oversight over intrastate carrier operations, most state regulations for intrastate commerce mirror federal regulations for interstate commerce, such as requiring motor carriers to have a USDOT number. A USDOT number is a unique identifier that allows the FMCSA to collect data about these motor carriers from states on enforcement activity, inspections, crashes, and registration statistics. The FMCSA has experience addressing the issue of interstate carriers and drivers that continue to operate in violation of OOS orders.¹¹⁷ Using its experience with interstate carriers and awareness of the strategies states use to verify repairs and ensure compliance with OOS orders with intrastate motor carriers, the FMCSA is best positioned to provide a model approach on how to address these problems, and, consequently, could provide guidance and programmatic assistance to states having difficulties with noncompliant intrastate carriers. Therefore, the NTSB recommends that the FMCSA provide guidance and best practices to states to enforce carrier compliance with state-issued OOS orders, based on available information on state efforts to prevent vehicles and drivers from continuing to operate without authority or after being cited for OOS violations.

2.4 Insufficient Occupant Protection for Limousine Passengers

In September 2019, the NTSB issued a safety recommendation report titled *Providing Occupant Protection for Limousine Passengers*, which addressed occupant protection safety issues identified during the Schoharie crash investigation (NTSB 2019a).

In the report, the NTSB reiterated Safety Recommendation H-15-42 regarding the enforcement of seat belt laws to the State of New York, as follows:

H-15-42

Enact legislation that provides for primary enforcement of a mandatory seat belt use law for all vehicle seating positions equipped with a passenger restraint system.

¹¹⁷ The FMCSA oversees the rulemaking for driver/carrier issues, including establishing penalties for OOS order violations. It publishes annual OOS rates at the federal and state levels. Additionally, the FMCSA has a grant program that provides financial assistance to states to reduce the number and severity of crashes and hazardous materials incidents involving commercial motor vehicles. This includes supporting programs that examine issues such as strategies for identifying OOS motor carriers.

On August 10, 2020, New York enacted legislation requiring that all passengers in motor vehicles wear seat belts. The NTSB is evaluating this new law to determine if it fully satisfies Safety Recommendation H-15-42, which is currently classified “Open—Acceptable Response.”

The NTSB issued two new safety recommendations to NHTSA in the safety recommendation report, as follows:

H-19-14

Require lap/shoulder belts for each passenger seating position on all new vehicles modified to be used as limousines.

H-19-15

Require that seating systems installed in new vehicles modified to be used as limousines meet minimum performance standards to ensure their integrity during a crash.

The status of both recommendations is “Open—Unacceptable Response.”

NHTSA indicated in its March 10, 2020, correspondence concerning Safety Recommendation H-19-14 that, because the safety recommendation report did not contain a probable cause for the Schoharie crash, which was an extremely severe event, its “ability to respond is limited.” The agency suggested that the NTSB close this recommendation and instead focus on a recommendation it deems similar, Safety Recommendation H-18-59, which calls for improving seat belt system integrity on newly manufactured medium-size buses. In its reply to NHTSA, the NTSB acknowledged that the intent of Safety Recommendation H-19-14 is similar to that of Safety Recommendation H-18-59, in that both recommendations are concerned with gaps in occupant protection standards for vehicles with GVWRs of 10,001–26,000 pounds, but that the two types of vehicles they address have significant differences. While classifying Safety Recommendation H-19-14 “Open—Unacceptable Response,” the NTSB stated that it believes that NHTSA can improve occupant protection for all vehicles in this weight class, including both medium-size buses and new vehicles modified to be used as limousines.

In its March 10, 2020, response to Safety Recommendation H-19-15, NHTSA again stated that, because the safety recommendation report in which it was issued did not contain a causality determination and because of the severity of the Schoharie crash, the evidence presented in the report was insufficient to establish an unmet safety need concerning the integrity of seating systems on vehicles modified to be used as limousines. The response from NHTSA also stated that “large stretch limousines comprise a relatively small vehicle population, and have a low involvement in serious crashes overall.” In its letter to NHTSA classifying Safety Recommendation H-19-15 as “Open—Unacceptable Response,” the NTSB stated that the recommendation is intended to improve seating system integrity to enhance occupant protection at all levels of crash severity, not just those involving excessive speed. Moreover, the NTSB noted that the recommendation report discussed multiple crashes involving several different vehicles used in limousine-type service in addition to the Schoharie crash.

The safety recommendation report contained the following new recommendation to the NYSDOT:

H-19-16

As an addition to your regular state inspection process, ensure that seat belts are functional and accessible in all limousines in the state equipped with passenger seat belts.

On February 3, 2020, a new state law (New York Assembly Bill A.9057) went into effect that requires all stretch limousine vehicles operating in New York to have seat belts installed at the driver and all passenger seating positions by January 1, 2021. The law includes a provision for retrofitting existing vehicles, requires the NYSDOT to approve installation, and calls for a notice to be posted informing passengers that seat belts should be available and encouraging them to use the belts. Because seat belts are a mandatory inspection item when they are required to be installed in a vehicle, the NTSB considered that the February 3 law requiring seat belts in stretch limousine vehicles satisfied this recommendation in an acceptable alternate manner. Consequently, the NTSB classified it as “Closed—Acceptable Alternate Action.”

The NTSB issued the following safety recommendation to the NLA in the safety recommendation report:

H-19-17

Educate member limousine operators on the life-saving benefits of proper seat belt use, and recommend that they develop methods to (1) ensure that seat belts are functional and accessible to the passengers and (2) encourage passengers to use them.

The status of this recommendation is “Open—Acceptable Response,” based on the NLA’s decision to develop an educational session that would include the recommended guidance about seat belt use, functionality, and accessibility, and to present the session at its next two conferences.

3 Conclusions

3.1 Findings

1. None of the following were factors in this crash: (1) the driver's experience or familiarity with the limousine, (2) roadway signage, (3) alcohol impairment or fatigue, (4) cell phone use, (5) weather conditions, or (6) visibility and stopping sight distance at the intersection where the crash occurred.
2. The emergency response to the crash was timely and adequate.
3. The limousine was unable to slow on the downhill grade approaching the intersection due to a failure within the poorly maintained brake system.
4. Although 21st Century Coachworks, the company that altered the Ford Excursion sport utility vehicle into a stretch limousine, does not appear to have certified that the altered vehicle met the applicable *Federal Motor Vehicle Safety Standards*, the results of a brake system performance study show that, had the brake system been properly maintained, the limousine should have been capable of stopping safely at the bottom of the New York State Route 30 downgrade.
5. Limousine operators can help ensure the safety of altered vehicles being acquired for use in passenger transportation service by (1) obtaining an engineer's certification that the altered vehicle meets the *Federal Motor Vehicle Safety Standards* and (2) ensuring that a secondary certification label is affixed to the limousine before purchase.
6. The limousine driver failed to disclose pertinent information about his medical history as required on the examination form for commercial driver's license medical certification, which prevented accurate assessment of his fitness to drive a vehicle transporting passengers.
7. Based on the limousine driver's medical conditions, it cannot be determined whether he would have been granted medical certification to drive a limousine had he fully disclosed his medical history on the examination form for commercial driver's license medical certification; however, had he disclosed his use of marijuana, he would not have been medically certified.
8. Although toxicology tests detected evidence of marijuana and prescription drug use by the limousine driver, insufficient information was available to determine whether the drugs in his system were at levels that would have impaired his ability to respond to the emergency situation.
9. Despite numerous warnings and Notices of Violation issued by the New York State Department of Transportation, Prestige Limousine and Chauffeur Service violated the law by transporting passengers in its limousines without having operating authority.

10. On the day of the crash, Prestige Limousine and Chauffeur Service was knowingly operating a limousine in poor mechanical condition that had recently been placed out of service for safety deficiencies, including brake equipment violations.
11. Prestige Limousine and Chauffeur Service did not have an effective maintenance program in place to ensure the safety of its passenger-carrying vehicles.
12. Despite knowing that the crash limousine driver was not properly licensed, Prestige Limousine and Chauffeur Service repeatedly assigned him to transport passengers, in direct violation of a New York State Department of Transportation out-of-service order, which indicates deficiencies in driver-related safety controls at the motor carrier.
13. The New York State Department of Motor Vehicles' failure to verify information in its vehicle registration program allowed the crash limousine to be incorrectly classified and improperly registered, which enabled Prestige Limousine and Chauffeur Service to circumvent the more thorough state safety and inspection requirements that might have prevented the crash.
14. The state inspection stations Mavis Discount Tire and Wilton Truck Center knowingly inspected and certified the crash limousine, which was clearly an altered vehicle, in contravention of the New York State Department of Motor Vehicles' policy that prohibited stations from inspecting modified or altered vehicles, including stretch limousines.
15. By not ensuring that state inspection stations adhered to the policy that prohibited them from inspecting altered vehicles, the New York State Department of Motor Vehicles enabled the crash limousine to undergo annual vehicle inspections instead of the more rigorous semiannual New York State Department of Transportation bus safety inspections, as required.
16. The New York State Department of Motor Vehicles did not provide effective oversight of state inspection stations, allowing Mavis Discount Tire and Wilton Truck Center to perform inadequate inspections of the crash limousine that failed to detect serious safety deficiencies before the crash.
17. The New York State Department of Transportation's ineffective enforcement and lack of repair verification processes allowed Prestige Limousine and Chauffeur Service to continue to transport passengers in the crash limousine despite the carrier's (1) not having operating authority and (2) failing to repair out-of-service vehicle violations that compromised the limousine's safety.
18. The State of New York's implementation of Assembly Bill A.9056 should help resolve the safety problem of stretch limousines continuing in commercial operation without having their out-of-service violations repaired.
19. The New York State Department of Transportation's enforcement efforts directed toward motor carriers that continue operating after being cited for serious out-of-service violations have been inadequate, and additional strategies and repair verification processes are needed.

20. Making the definition of what constitutes a “bus” consistent between the New York State agencies responsible for registering and inspecting higher occupancy passenger-carrying vehicles would reduce the likelihood of miscommunication between these safety oversight agencies and of motor carriers exploiting administrative loopholes to avoid safety scrutiny.
21. Although the extent of the problem is unknown, some motor carriers across the nation are likely continuing to operate without correcting out-of-service violations, placing the motoring public at risk.

3.2 Probable Cause

The National Transportation Safety Board determines that the probable cause of the Schoharie, New York, crash was Prestige Limousine and Chauffeur Service’s egregious disregard for safety, in dispatching a stretch limousine with an out-of-service order for a passenger charter trip, resulting in the failure of its brake system while descending the steep grade of New York State Route 30. Contributing to the crash was the New York State Department of Transportation’s ineffective oversight of Prestige Limousine, despite its knowledge of the carrier’s multiple out-of-service violations and lack of operating authority, as well as the department’s inadequate repair verification process. Further contributing to the crash was the New York State Department of Motor Vehicles’ inadequate oversight of state-licensed inspection stations and its failure to properly register the limousine, which enabled Prestige Limousine to circumvent the state’s safety regulations and more rigorous inspection requirements.

4 Recommendations

4.1 New Recommendations

As a result of its investigation, the National Transportation Safety Board makes the following new safety recommendations:

To the Federal Motor Carrier Safety Administration:

Provide guidance and best practices to states to enforce carrier compliance with state-issued out-of-service orders, based on available information on state efforts to prevent vehicles and drivers from continuing to operate without authority or after being cited for out-of-service violations. (H-20-24)

To the State of New York:

Require the New York State Department of Transportation to implement the “key recommendations” in the 2014 New York Office of the State Comptroller Report 2012-S-13 addressing vehicle repair certification requirements, strategies to improve carrier compliance with out-of-service violations, and progressive enforcement actions for continued operation of out-of-service vehicles. (H-20-25)

Require the New York State Department of Motor Vehicles to adopt the New York State Department of Transportation’s definition of a bus as a passenger vehicle for hire with a seating capacity of 10 or more. (H-20-26)

To the New York State Department of Motor Vehicles:

Review your policies and protocols on the inspection of stretch limousines, and establish stricter safeguards and more rigorous enforcement protocols to ensure that state-contracted inspection stations do not inspect stretch limousines that have a seating capacity of 10 or more. (H-20-27)

Renotify state-contracted inspection stations that they may not inspect stretch limousines that have a seating capacity of 10 or more. (H-20-28)

To the National Limousine Association:

Inform your member limousine operators of the importance of verifying the safety of altered vehicles planned for passenger transportation by ensuring that the altered vehicle passes a structural and mechanical safety inspection, obtaining from the alterer an engineer’s certification that the altered vehicle meets the *Federal Motor Vehicle Safety Standards* affected by the alteration, and checking that a secondary certification label is affixed to the limousine before purchase. (H-20-29)

4.2 Previously Issued Recommendations

In September 2019, the NTSB issued a safety recommendation report titled *Providing Occupant Protection for Limousine Passengers*, which issued and reiterated the following safety recommendations addressing occupant protection safety issues identified during the Schoharie crash investigation (NTSB 2019a):

To the National Highway Traffic Safety Administration:

Require lap/shoulder belts for each passenger seating position on all new vehicles modified to be used as limousines. (H-19-14)

Require that seating systems installed in new vehicles modified to be used as limousines meet minimum performance standards to ensure their integrity during a crash. (H-19-15)

The status of Safety Recommendations H-19-14 and -15 is “Open—Unacceptable Response.”

To the New York State Department of Transportation:

As an addition to your regular state inspection process, ensure that seat belts are functional and accessible in all limousines in the state equipped with passenger seat belts. (H-19-16)

The status of Safety Recommendation H-19-16 is “Closed—Acceptable Alternate Action.”

To the National Limousine Association:

Educate member limousine operators on the life-saving benefits of proper seat belt use, and recommend that they develop methods to (1) ensure that seat belts are functional and accessible to the passengers and (2) encourage passengers to use them. (H-19-17)

The status of Safety Recommendation H-19-17 is “Open—Acceptable Response.”

In the Safety Recommendation Report, the NTSB reiterated Safety Recommendation H-15-42 to the State of New York:

Enact legislation that provides for primary enforcement of a mandatory seat belt use law for all vehicle seating positions equipped with a passenger restraint system. (H-15-42)

The status of Safety Recommendation H-15-42 to the State of New York is “Open—Acceptable Response.”

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

ROBERT L. SUMWALT, III

Chairman

JENNIFER HOMENDY

Member

BRUCE LANDSBERG

Vice Chairman

MICHAEL GRAHAM

Member

THOMAS B. CHAPMAN

Member

Report Date: September 29, 2020

Board Member Statement

Chairman Sumwalt filed the following concurring statement on October 4, 2020.

Notation 64871

Chairman Sumwalt, concurring.

Consumer Protections

At a few minutes before 9 a.m. on Saturday, October 6, 2018, a call was placed to Prestige Limousine and Chauffer Service. The caller told the person answering the phone that he wanted to rent a limo that day. He explained that he had arranged a limo through another operator, but that operator had to back out due to unspecified problems. A price was quoted, and the caller agreed to hire Prestige.

What the caller didn't realize was that the operator he just contracted with had numerous warnings and Notices of Violation by the State of New York Department of Transportation (NYDOT). He didn't know that the vehicle he had just rented was officially placed out-of-service by the State of New York due to safety deficiencies and violations. He wasn't aware that Prestige Limo did not have an effective maintenance program in place to ensure the safety of its passenger-carrying vehicles. He had no way of knowing that the driver that would be assigned to drive the limo was not properly licensed to carry passengers for hire, and that the driver had also been placed out-of-service by the State. He didn't know that the vehicle wasn't inspected by NYDOT, as required by state laws. He would not have known that two years later, the NTSB would determine that Prestige Limousine and Chauffer Service displayed an "egregious disregard for safety in dispatching a stretch limousine with an out-of-service order for [this] passenger charter trip, resulting in the failure of its brake system while descending the steep grade of New York State Route 30." And, unfortunately, he had no way of knowing that this vehicle, which was operated by Prestige Limo, and driven by that driver, would ultimately drive him and 19 others to their deaths.

So, how can a customer be aware of such circumstances before chartering for such services? I believe it is essential to have an easy-to-use system where the consumer can learn important details about the limousine operator and drivers. The NYDOT has established such a system, and I applaud their efforts. That said, there's more that needs to be done to inform consumers across the nation. I'm comforted to know that NTSB staff is planning to look for innovative ways to increase consumer awareness. The Office of Highway Safety has mentioned the possibility of developing a safety alert. While that may be effective, I'd like for them to consider a more comprehensive approach, such as a recommendation package to appropriate organizations. A safety alert is good because it can inform consumers, but without the appropriate organizations developing the easy-to-use software platforms by which consumers can search for safety information, consumers will miss out on valuable information.

The bottom line is that consumers who charter vehicles have the right to know what they are getting. Much more needs to be done in this regard.

NTSB's Right to Investigate

Just as consumers have the right to know, I must point out that the NTSB has the clear and absolute right to investigate accidents and crashes such as this one.

Unfortunately, the parallel criminal investigation conducted by the Schoharie County District Attorney's Office and the New York State Police significantly impeded and curtailed the NTSB's typical investigative efforts. Particularly early in our investigation, some NTSB investigators were outright blocked from even viewing, let alone examining, critical evidence.

Specifically, our investigators were denied timely access to the crash vehicles and related information that would allow the NTSB to follow its usual investigative protocols. The involved motor carrier, Prestige Limousine and Chauffeur Service, would not permit access to its records, maintenance history, some witnesses, and other investigative material in light of the ongoing criminal case.

I certainly realize that the victims' families are entitled to justice through a criminal investigation. And, likewise, I realize that the defendants in this case are entitled to fair judicial proceedings. I certainly respect that process. But, I also know that by the powers granted by Congress, the NTSB has the statutory authority and responsibility to investigate crashes such as this one, in order to assess any safety issues that could prevent a similar crash from happening again.

Specifically, 49 *U.S.C.* §1131(a)(1)(B) states: "The National Transportation Safety Board shall investigate or have investigated (in detail the Board prescribes) and establish the facts, circumstances, and cause or probable cause of -- a highway accident... the Board selects in cooperation with a State."

To further the point, 49 *U.S.C.* § 1134(a)(1) stipulates: "An officer or employee of the National Transportation Safety Board -- on display of appropriate credentials and written notice of inspection authority, may enter property where a transportation accident has occurred or wreckage from the accident is located and do anything necessary to conduct an investigation."

Quite simply, all parties have to work together, because we all have important roles to play. Unfortunately, that didn't happen in this case.

When these issues were brought before The Honorable George R. Bartlett, III, Schoharie County Judge, Judge Bartlett stated:

It is hard to understand why the People, the NTSB, and the defense through their experts cannot work out a mutually acceptable protocol to allow all to fulfill their duties. [Underlining in original.] There must have been hundreds, if not thousands, of accidents where there has been a criminal investigation occurring cooperatively and simultaneously with an investigation by the NTSB...

What is clear is that this is an untenable situation. Two critically important investigations are being delayed over unsubstantiated concerns by the People that an NTSB investigation will taint their investigation.... [T]he People's position

effectively precludes the NTSB from performing its equally important public safety inquiry. This is despite the People's failure to articulate or provide expert opinion as to why the criminal investigation and NTSB investigation cannot be conducted side by side, in a cooperative manner with clearly defined protocols which allow the investigations to proceed forthwith and also protect defendant's rights. The victims, their families, and the public interest deserve nothing less than a complete investigation by both the People and the NTSB.¹

These impediments delayed and complicated the NTSB's investigation, but they did not affect its accuracy or completeness, as investigators used the factual information collected and developed alternative methodologies to complete an accurate investigation.

That said, NTSB investigators must be allowed to conduct their duties, per the powers granted them by Congress.

Vice Chairman Landsberg, Member Homendy, Member Graham, and Member Chapman joined in this statement.

¹ Letter and Order from The Hon. George R. Bartlett, III, to The Hon. Susan J. Mallery, Lee C. Kindlon, and Kathleen Silbaugh (January 18, 2019) at page 9. Quoted material retrieved from: <https://dms.nts.gov/pubdms/search/document.cfm?docID=486342&docketID=62797&mkey=98417>.

Appendix A: Investigation

The National Transportation Safety Board was notified of this crash on October 6, 2018, and an investigative team was dispatched to the scene. Groups were established to investigate human performance; motor carrier operations; and highway, survival, and vehicle factors. The NTSB team also included staff from the Office of Aviation Safety (aerial imagery) and the Office of Research and Engineering. Chairman Robert L. Sumwalt, III, was the NTSB spokesperson on scene.

Parties to the investigation were the Federal Motor Carrier Safety Administration, the New York State Police, the New York State Department of Transportation, and Ford Motor Company. Additionally, the NTSB contracted with Greening Testing Laboratories, Detroit, Michigan, to conduct performance-based brake system testing.

The New York State Police and the Schoharie County District Attorney's Office are conducting a criminal investigation of this crash. These state entities (particularly the District Attorney's Office) denied the NTSB timely access to the crash vehicles and related information that would allow the NTSB to follow its usual investigative protocols. The involved motor carrier, Prestige Limousine and Chauffeur Service, would not permit access to its records, maintenance history, some witnesses, and other investigative material. These impediments delayed and complicated the NTSB's investigation, but they did not affect its accuracy or completeness, as investigators used the factual information collected and developed alternative methodologies to complete an accurate investigation. In particular, to compensate for the District Attorney and state police denying our timely access to vehicle and braking components for any actions other than a visual inspection, the NTSB contracted an independent testing firm to conduct performance-based testing. The firm examined the braking performance of a Ford Excursion SUV at the original manufacture gross vehicle weight rating and at the weight of the stretch limousine at the time of the crash. The testing included brake dynamometer testing to simulate braking performance over the route the crash vehicle traveled. This testing was instrumental to understanding factors relevant to the crash.

Appendix B: Consolidated Recommendation Information

Title 49 *United States Code* (USC) 11179(b) requires the following information on the recommendations in this report.

For each recommendation—

- (1) a brief summary of the NTSB’s collection and analysis of the specific accident investigation information most relevant to the recommendation;
- (2) a description of the NTSB’s use of external information, including studies, reports, and experts, other than the findings of a specific accident investigation, if any were used to inform or support the recommendation, including a brief summary of the specific safety benefits and other effects identified by each study, report, or expert; and
- (3) a brief summary of any examples of actions taken by regulated entities before the publication of the safety recommendation to the extent such actions are known to the Board, that were consistent with the recommendation.

To the Federal Motor Carrier Safety Administration:

H-20-24

Provide guidance and best practices to states to enforce carrier compliance with state-issued out-of-service orders, based on available information on state efforts to prevent vehicles and drivers from continuing to operate without authority or after being cited for out-of-service violations.

Information that addresses the requirements of 49 USC 11179(b), as applicable, can be found in section [2.3.4 Federal Oversight](#). Information supporting (b)(1) can be found on pages 66–67; (b)(2) and (b)(3) are not applicable.

To the State of New York:

H-20-25

Require the New York State Department of Transportation to implement the “key recommendations” in the 2014 New York Office of the State Comptroller Report 2012-S-13 addressing vehicle repair certification requirements, strategies to improve carrier compliance with out-of-service violations, and progressive enforcement actions for continued operation of out-of-service vehicles.

Information that addresses the requirements of 49 USC 11179(b), as applicable, can be found in section [2.3.3 New York State Department of Transportation Oversight](#). Information supporting (b)(1) can be found on pages 64–66; (b)(2) and (b)(3) are not applicable.

H-20-26

Require the New York State Department of Motor Vehicles to adopt the New York State Department of Transportation's definition of a bus as a passenger vehicle for hire with a seating capacity of 10 or more.

Information that addresses the requirements of 49 USC 11179(b), as applicable, can be found in section [2.3.3 New York State Department of Transportation Oversight](#). Information supporting (b)(1) can be found on page 66; (b)(2) and (b)(3) are not applicable.

To the New York State Department of Motor Vehicles:**H-20-27**

Review your policies and protocols on the inspection of stretch limousines, and establish stricter safeguards and more rigorous enforcement protocols to ensure that state-contracted inspection stations do not inspect stretch limousines that have a seating capacity of 10 or more.

Information that addresses the requirements of 49 USC 11179(b), as applicable, can be found in section [2.3.2 New York State Department of Motor Vehicles Oversight](#). Information supporting (b)(1) can be found on pages 62–64; (b)(2) and (b)(3) are not applicable.

H-20-28

Renotify state-contracted inspection stations that they may not inspect stretch limousines that have a seating capacity of 10 or more.

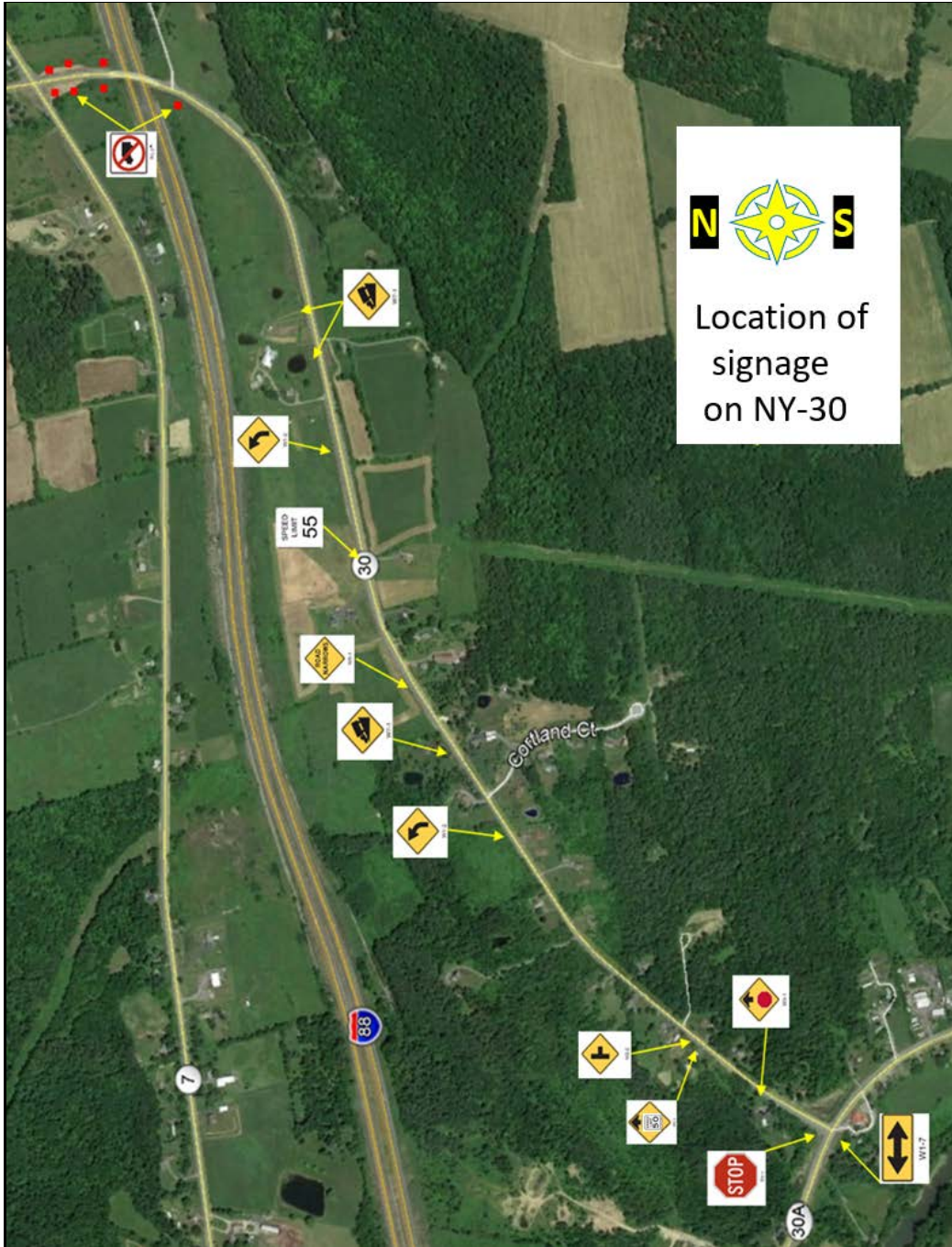
Information that addresses the requirements of 49 USC 11179(b), as applicable, can be found in section [2.3.2 New York State Department of Motor Vehicles Oversight](#). Information supporting (b)(1) can be found on pages 62–64; (b)(2) and (b)(3) are not applicable.

To the National Limousine Association:**H-20-29**

Inform your member limousine operators of the importance of verifying the safety of altered vehicles planned for passenger transportation by ensuring that the altered vehicle passes a structural and mechanical safety inspection, obtaining from the alterer an engineer's certification that the altered vehicle meets the *Federal Motor Vehicle Safety Standards* affected by the alteration, and checking that a secondary certification label is affixed to the limousine before purchase.

Information that addresses the requirements of 49 USC 11179(b), as applicable, can be found in section [2.2.3 Vehicle Alteration Affecting Compliance with Applicable FMVSSs](#). Information supporting (b)(1) can be found on pages 55–57; (b)(2) and (b)(3) are not applicable.

Appendix C: Highway Signage Map



Appendix D: NYSDOT Interactions with Prestige Limousine

The table below summarizes interactions between the NYSDOT and Prestige Limousine.

Date	Activity
May 18, 2016	Application for NYSDOT Emergency Temporary Authority (ETA) to transport passengers for prom season (under name Hasy Limousine and Prestige Limousine [Prestige Limousine had operated under other business names, including "Hasy Limousine]). Application lists 2002 Ford Excursion stretch limousine with seating capacity of 21 passengers.
May 20, 2016	NYSDOT letter denies ETA application due to failure to meet requirements. Denial states incomplete application submitted and failure to list either Hasy or Prestige as sole operator.
May 24, 2016	Application is submitted to NYSDOT for ETA to transport passengers for prom season. Application lists 2002 Ford Excursion stretch limousine with seating capacity of 21 passengers that was listed on May 18, 2016, application.
May 26, 2016	Reapplication for NYSDOT ETA to transport passengers for prom season. Includes copy of contract (dated March 28, 2016) to perform transportation in June 2016. Application lists 2002 Ford Excursion stretch limousine with seating capacity of 21 passengers.
June 8, 2017	NYSDOT Intermodal Transportation Specialist observes 21-passenger crash-involved stretch limousine parked outside Mavis Discount Tire in Saratoga Springs. Inspector recognizes that vehicle size would require NYSDOT authority to operate. Inspector checks NYSDMV database. Registration lists vehicle as having 11-passenger seating capacity. Inspector finds that NYSDOT previously inspected vehicle; it was listed as 18-passenger vehicle. Inspector also notices that vehicle has livery license plate that normally indicates it transports passengers for hire. NYSDOT Intermodal Transportation Specialist contacts limousine company via e-mail on June 9, 2017, regarding its operating authority.
June 9, 2017	E-mail from NYSDOT Intermodal Transportation Specialist, titled "Warning--No Authority." E-mail explains requirements to obtain NYSDOT operating authority. Also notes error: current crash-involved stretch limousine vehicle registration seating capacity is reported as 11, while previous NYSDOT vehicle records show seating capacity of 18.
July 24, 2017	Hasy (Prestige) Limousine receives e-mail from NYSDOT investigator (undercover) to arrange transportation from Rotterdam, New York, to Albany Airport for 8 passengers. Hasy (Prestige) Limousine quotes NYSDOT fee of \$175 plus tip.
August 15, 2017	As result of July 24, 2017, e-mail from NYSDOT to Hasy (Prestige), with Hasy acceptance to transport passenger from Rotterdam to Albany Airport, NYSDOT issues Hasy Limousine Notice of Violation and cites Transportation Law 152, Passenger Authority/None. Hasy is fined \$5,000. Notice of Violation #1: (NYSDOT violation #10138)
September 14, 2017	NYSDOT sends letter for Notice to Appear in court for hearing on October 6, 2017, to Hasy (Prestige) in response to NOV issued August 15, 2017. Notice of Violation #1 (NYSDOT violation #10138)
October 6, 2017	Hasy (Prestige) does not appear at court hearing. NYSDOT sends Order After Hearing Default Notice to Hasy. Notice of Violation #1 (NYSDOT NOV #10138)
January 5, 2018	NYSDOT Intermodal Transportation Specialist searches internet for operators transporting passengers without authority. Inspector finds Saratoga Luxury Limousines (Prestige) and photograph on Facebook of crash-involved limousine, 2001 Ford Excursion, available for transporting passengers, with same license plate observed on June 8, 2017, at Mavis Discount Tire. Inspector contacts Saratoga and receives response from Saratoga quoting contract price to transport 13 passengers for 5 hours.

Date	Activity
January 8, 2018	NYSDOT Intermodal Transportation Specialist issues Saratoga (Prestige) Notice of Violation and cites Transportation Law 152, Passenger Authority/None, as violation for quoted contract to transport passengers. Saratoga is fined \$500. Notice of Violation #2 (NYSDOT violation #8320) . Inspector sets appointment for NYSDOT to inspect 2001 Ford Excursion stretch limousine on January 12, 2018, confirmed by e-mail from NYSDOT to Saratoga. Notice of Violation #2 (NYSDOT violation #8320)
January 12, 2018	NYSDOT Intermodal Transportation Specialist e-mails Hasy Limousine (Prestige) to confirm 12 p.m. appointment to inspect 2001 Ford Excursion (limousine) based on Notice of Violation #2. E-mail from Saratoga Limousine reports 2001 stretch limousine was sent to Mavis Discount Tire in Saratoga Springs, NY, for repairs. Inspection is cancelled.
February 21, 2018	Four months after Hasy (Prestige) fails to appear at October 6, 2017, hearing for NYSDOT Notice of Violation #1 (#10138), NYSDOT sends Hasy Limousine "offer of settlement" and adjourned hearing date of March 6, 2018, for Notice of Violation #1 . Offer of settlement reduces penalty for operating without authority from \$5,000 to proposed settlement of \$500 fine and guilty plea.
March 6, 2018	Date of adjourned hearing for NYSDOT Notice of Violation #1 . Hasy (Prestige) pays reduced settlement fine of \$500 by cashier's check to settle Notice of Violation #1 .
March 15, 2018	NYSDOT Intermodal Transportation Specialist contacts Hasy (Prestige) Limousine to confirm NYSDOT inspection of 2001 stretch limo (accident vehicle) on March 21, 2018, at 12 p.m. E-mail includes request that Hasy Limousine provide two additional stretch vehicles (2008 Lincoln limousines) for NYSDOT inspection. E-mail includes instructions to Hasy on how to apply for NYSDOT operating authority, as required by law.
March 21, 2018	Intermodal Transportation Specialist performs NYSDOT inspection on crash-involved stretch limousine and one 2008 Ford stretch limousine. Four OOS violations are found on crash-involved limousine and 10 non-OOS violations, including operating without authority. 2001 Ford Excursion stretch limousine is placed in OOS status, with OOS sticker affixed to vehicle by NYSDOT. Same day, NYSDOT sends e-mail to Hasy (Prestige) Limousine, with copies of vehicle inspection reports and explanation that all vehicle repairs are required to be performed before vehicles can be used in for-hire service. NYSDOT e-mail also reminds carrier of outstanding Notice of Violation #2 (NYSDOT #8320) issued on January 8, 2018, for operating without authority and that Hasy Limousine is required to obtain active USDOT number from FMCSA per NY state law.
April 12, 2018	NYSDOT sends Notice to Appear for Notice of Violation #2 (NYSDOT NOV #8320) issued January 8, 2018, for operating without NYSDOT-issued operating authority. Notice includes notice of civil fine of \$500 for violation.
May 3, 2018	NYSDOT sends letter to Hasy Limousine, Saratoga Luxury Limousine, and Prestige Limousine and Chauffeur Service returning Prestige's application for NYSDOT operating authority.
August 2, 2018	NYSDOT Intermodal Transportation Specialist sends e-mail as follow-up to conversation about outstanding NYSDOT Notice of Violation #2 (#8320) . NYSDOT inspector advises company to become compliant with NYSDOT operating regulations, including applying for active FMCSA USDOT number, as required. Inspector's e-mail provides guidance to apply online with FMCSA.
August 26, 2018	NYSDOT Intermodal Transportation Specialist receives information that another NYSDOT inspector has come into contact with crash-involved stretch vehicle, 2001 Ford Excursion, which has new license plate.
August 27, 2018	NYSDOT Intermodal Transportation Specialist schedules NYSDOT vehicle safety inspection for 2001 Ford Excursion limousine on September 4, 2018, at 10 a.m. Specialist receives affirmative response from Prestige.

Date	Activity
September 1, 2018	NYSDOT issues a Notice of Violation #3 for four violations of NYSDOT regulations, with fine of \$2,000.
September 4, 2018	NYSDOT Intermodal Transportation Specialist performs NYSDOT vehicle safety inspection on two 2008 Ford stretch limousines, finds 3 OOS violations and 11 non-OOS violations. NYSDOT inspection is also performed on 2001 Ford Excursion stretch limousine. Inspection report lists 3 OOS violations and 10 non-OOS violations. Report also lists defects from earlier inspection on March 21, 2018, that were not corrected, and notes that no evidence has been produced that repairs were completed as required. NYSDOT Intermodal Transportation Specialist again places OOS sticker on limousine.
September 6, 2018	NYSDOT Intermodal Transportation Specialist e-mails Prestige that because Notice of Violation #2 (NYSDOT NOV #8320) has not been addressed, Prestige/Hasy Limousine's NYSDMV vehicle registrations will be suspended. Second e-mail is sent to Prestige, with copy of NYSDOT Passenger Carrier Informational Packet (published April 2016) as follow-up from email sent September 4 about how to comply with NYSDOT regulations.
September 11, 2018	NYSDOT sends Notice to Appear to Prestige regarding Notice of Violation #3 issued September 1, 2018, with hearing date of October 5, 2018.
September 11, 2018	NYSDOT Intermodal Transportation Specialist sends four separate e-mails to Prestige between September 11 and October 1, about Prestige's improper registration with FMCSA for USDOT number.
September 17, 2018	NYSDOT through NYSDMV suspends Prestige Limousine's vehicle registrations for failure to address Notice of Violation #2 issued January 8, 2018. Prestige pays fine penalty of \$500, and NYSDMV reinstates vehicle registrations on September 19, 2018.
September 19, 2018	NYSDOT Intermodal Transportation Specialist requests owner drug- and alcohol-testing records from Prestige and copies of Saratoga County Clerk's Office <i>Certificate of Doing Business Under Assumed Name</i> filings for Saratoga Luxury Limousine and Prestige Limousine & Chauffeur Service. Request is for copies of all records to be provided to NYSDOT by September 21, 2018.
September 19, 2018	Prestige vehicle registration suspensions are lifted on payment of \$500 fine by Prestige. Vehicle registrations are reinstated.
October 1, 2018	NYSDOT Intermodal Transportation Specialist e-mails Prestige owner, stating that he has not yet received documents NYSDOT requested in September 19, 2018, e-mail.
October 5, 2018	Prestige ownership fails to appear for hearing set for Notice of Violation #3 NYSDOT issued on September 1, 2018.
October 6, 2018	Crash occurs in Schoharie with Prestige-registered 2001 Ford Excursion stretch limousine.

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