

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: April 12, 1984

Forwarded to:

Mr. James L. Larocca
Commissioner
New York State Department
of Transportation
1220 Washington Avenue, State Campus
Albany, New York 12232

SAFETY RECOMMENDATION(S)

H-84-5 through -7

On April 5, 1983, a 2-ton flatbed truck, loaded with a farm plow and towing another farm plow, was traveling southbound on a two-lane, two-way rural highway near Holmesville, New York. An adult passenger bus, with 20 persons on board, was following the flatbed truck at a distance of about 100 feet. As both vehicles entered a 3,820-foot-radius right curve, the towed plow suddenly separated from its hitch attachments and veered left into the opposing northbound traffic lane. A northbound tractor car-carrier semitrailer struck the plow, rupturing the tractor's left front tire. As a result, the driver lost control of the vehicle, and the vehicle veered left across the highway centerline and collided head-on with the bus. The busdriver and four bus passengers were killed. The truckdriver of the car carrier and 9 bus passengers were hospitalized with various degrees of injury. Six bus passengers were treated and released. 1/

The Community Work Shop (CWS) 2/ bus was purchased by the New York State Department of Transportation (NYSDOT) under a grant program funded by the Urban Mass Transportation Administration (UMTA). The CWS bus was one of seven similar buses funded by the UMTA grant on which bids were received and a single contractor selected by NYSDOT. The award was made to the lowest bidder, the American Transportation Corporation, and the vehicle was delivered through Country Club Chevrolet of Oneonta, New York, a dealer for the American Transportation Corporation.

The NYSDOT purchased the buses under the Office of General Services Specification 40520-404, which cites New York's regulations for buses Part 720, which applies to "motor vehicles with seating capacity of not more than 16 passengers," and Part 721, which applies to "motor vehicles with seat capacity of more than 16 passengers." The accident bus was purchased under the specifications for part 721. To meet the regulation, buses are required to meet all Federal Motor Vehicle Safety

1/ For more detailed information, read: Highway Accident Report--"Valley Supply Company Truck Towing Farm Plow, Anchor Freight Inc. Car-Carrier Truck, New York State Association for Retarded Children Bus Collisions and Fire, State Route 8, near Holmesville, New York, April 5, 1983" (NTSB/HAR-84/01).

2/ The Community Work Shop is an affiliate of the New York State Association for Retarded Children.

Standards (FMVSS) applicable to buses; buses under the "schoolbus" ^{3/} specification must also meet those Federal standards applicable to schoolbuses. The buses purchased were, in the understanding of the NYSDOT and the contractor, not required to and did not meet FMVSS 221, School Bus Body Joint Strength. FMVSS 221 requires that both inside and outside panels of a schoolbus be fastened to other parts and each other by joints which have at least 60 percent of the strength of the metal of the thinner panel which is joined.

The transportation director of CWS believed that CWS was purchasing a "regular schoolbus with some improved modifications," and he assumed that the bus had "the same structural value and requirements as a regular schoolbus." The purchasing procedures established by NYSDOT did not disclose to the end users all of the safety options available for the bus.

When purchasing buses, especially for transporting mentally and physically handicapped persons, any government agency should explicitly consider any deviation from the minimum Federal standards for schoolbuses built after April 1977. Because of their physical and developmental impairments, the occupants in the accident bus were not able to protect themselves from secondary impacts with interior items (e.g., seats). With some purchases, the number of model/option combinations available to the purchaser may need to be limited in order to ensure that selected options do not jeopardize the overall occupant protection provided in the vehicle. For example, the accident bus was purchased with transit type seats to accommodate adult passengers. Several passengers were injured as a result of contact with these seats. Possibly, some of these low level injuries (AIS level 1 and 2) could have been mitigated by selecting padded seats (similar to those required for post-1977 schoolbuses) in lieu of the transit type seats. The post-1977 schoolbus seats are designed to absorb energy through controlled yielding. Similarly, in cases where the bus is modified, for example, to provide for wheelchair stations, the environmental surfaces at these stations should be adequately padded. The CWS ordered some options it considered to be safety related, such as air brakes and warning buzzers to indicate if the rear windows or doors were ajar.

The Safety Board is concerned that CWS was not fully knowledgeable of the type of bus that was being purchased for its use. The CWS believed that the structural integrity of the bus it was purchasing was similar to that of a schoolbus. CWS had requested certain safety features which were provided. If it had been offered the option of structural integrity similar to that required by FMVSS 221, CWS most likely would have requested the option. The misunderstanding could have easily been resolved had NYSDOT simply provided a copy of the purchase specification order to CWS. Nevertheless, the Safety Board believes that the NYSDOT should review its procedures for purchasing transportation equipment using State or Federal assistance for small community organizations to assure that all interested parties are well informed of the type of vehicle being purchased.

The main door was damaged and jammed closed as a result of the initial impact, and the stairwell was blocked by the body of the busdriver. Passengers were unable to evacuate the bus through this exit. The rear door was jammed closed when the bus contacted and came to rest against a tree and consequently could not be used to evacuate the bus. The rear door was placarded as an emergency exit on the inside of the bus, but not on the outside of the bus. Although the circumstances of this accident precluded the use of the rear door as an evacuation route, emergency exits should be placarded both on

3/ 49 CFR 571.3 defines "schoolbus" as a "motor vehicle. . .designed for carrying more than 10 persons. . .that is sold, or introduced into commerce, for purposes that include carrying students to and from school or related events. . ."

the inside and the outside of the bus to inform emergency response personnel of all possible evacuation routes.

The wheelchair ramp door, which was located in the right rear of the bus, was placarded on the outside of the bus as an emergency exit. The doorway was not a two-way exit and could not be opened from the inside. The elevator ramp inside the doorway had to be lowered to permit occupants to exit easily. When electrical power was off, the ramp must be lowered by a manual control, which was located inside the bus and not accessible from the outside. Thus, a rescue person would find it extremely difficult to lower the ramp for evacuation purposes. Although specific instructions on the operation of the hydraulic controls would have enhanced the evacuation efforts, a wheelchair ramp door does not constitute an emergency exit.

The CWS bus was used to transport medically and physically handicapped persons to and from the Work Shop. There was no placard on the outside of the bus to indicate that the bus was carrying handicapped persons and there is no requirement for this type of bus to have such a placard. Although the lack of such a placard did not affect rescue attempts in this accident, the Safety Board believes that it would be prudent for buses which routinely carry handicapped persons to display such a placard to alert rescue personnel to the fact that some of the bus occupants may have mobility impairments and may need assistance evacuating the bus.

As a result of its investigation of this accident, the National Transportation Safety Board recommends that the New York State Department of Transportation:

Revise, if necessary, your procedures for purchasing special purpose buses to provide end users full information about the type of vehicles and the safety options available. Provide the end user with a copy of the agreed-upon purchase specifications. (Class II, Priority Action) (H-84-5)

Require that all emergency exits are properly labeled both on the interior and exterior of special-purpose buses, and that these exits are readily accessible exits. (Class II, Priority Action) (H-84-6)

Install placards on the front, rear, and sides of mass transportation vehicles which routinely carry mentally retarded and physically handicapped persons to alert motorists and rescue personnel to the fact that bus passengers may have mobility and other impairments and may need assistance in evacuating the vehicle in an emergency situation. (Class II, Priority Action) (H-84-7)

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (P.L. 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations, and the Board would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter.

BURNETT, Chairman, and BURSLEY and GROSE, Members, concurred in these recommendations. GOLDMAN, Vice Chairman, and ENGEN, Member, did not participate.

By: 
Jim Burnett
Chairman

