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VI. RECOMMENDATIONS

The National Transportation Safety Board has previously issued interim recommendations concerning this accident to the Illinois Central Gulf Railroad, the Federal Railroad Administration, the Chicago South Suburban Mass Transit District, and the Urban Mass Transportation Administration. (See Appendices F, G, and H, respectively.)

The National Transportation Safety Board recommends that:

- 1. The Illinois Central Gulf Railroad ensure that its employees understand and comply with its operating rules. In order to do this, the ICG should improve its training program by developing:
 - (a) Books of standard interpretations of its rules in situations met both routinely and only occasionally to provide a basis for better use of the rule book in instruction; and
 - (b) A system of regularly testing the ability of employees to interpret actions required in specific operating situations. (Recommendation No. R-73-28)
- 2. The Illinois Central Gulf Railroad review its organization systematically to ensure that safety is covered adequately in all interactions of equipment, personnel, rules, and procedures. For example, the Highliner design does not allow the conductor to use the intercom and emergency brake valve from the rear of the car, which is the logical location for supervising a reverse movement. (Recommendation No. R-73-29)
- 3. The Federal Railroad Administration and the Urban Mass Transportation Administration cooperate in sponsoring an independent study to justify or disprove the need for a requirement that high-speed commuter train operations be governed by some form of automatic train-control system or some special procedures that will prevent a collision of two trains. (Recommendation No. R-73-30)

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- 4. The Federal Railroad Administration and the Urban Mass Transportation Administration initiate research to develop the technical approaches to crashworthiness in light-weight passenger cars for use in commuter or rail rapid-transit operations. These approaches should include crash testing as part of the design and development function for new equipment. (Recommendation No. R-73-31)
- 5. The Federal Railroad Administration revise 49 CFR 230, (D) to the extent that data are now available to provide better protection for passengers in collisions. Further, the FRA should enforce regulations on new cars before they are put into revenue service. (Recommendation No. R-73-32)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/	JOHN H. REED Chairman
/s/	FRANCIS H. McADAMS Member
	Membel
/s/	LOUIS M. THAYER Member
	Member
/s/	ISABEL A. BURGESS
	Member
/s/	
	Member

June 28, 1973

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- b. Assure that safety goals are set for the system and that the tasks which must be performed to achieve these goals are defined and scheduled in the contractor work statements.
- c. Integrate and coordinate the safety output developed by each prime contractor into one total product.
- d. Support the State agency in its activities leading to the authorization of system operation. (Recommendation No. R-73-36.)
- 5. The BART management initiate their own independent safety analysis of their system to identify the hazards existing in the system and determine the alternative methods available to remove the hazards and reduce the risks; establish the operating safety factors and limitations; and determine the risks of derailments or collisions that are being assumed. (Recommendation No. R-73-37.)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/	JOHN H. REED
	Chairman
/s/	FRANCIS H. McADAMS
	Member
/s/	LOUIS M. THAYER
	Member
/s/	ISABEL A. BURGESS
	Member
/s/	WILLIAM R. HALEY
,,	Member

August 8, 1973