U.S. Department
of Transportation
Federal Highway Administration

400 Seventh St., S.W.
Washington, D.C. 20590

June 9, 2005

In Reply Refer To: HSA-10/WZ-209

Mr. Steven McKinley
Traffic Solutions, Inc.
2323 Greens Road
Houston, Texas 77032

Dear Mr. McKinley:

Thank you for your letter of March 14, 2005, requesting the Federal Highway Administration (FHWA) acceptance of your company's Tracker vertical panel as a crashworthy traffic control device for use in work zones on the National Highway System (NHS). Accompanying your letter were reports of informal crash testing conducted at the Houston Motor Speedway who certified the impact speeds and video of the tests. You requested that we find these devices acceptable for use on the NHS under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

Introduction

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices are those lightweight devices which are to be self-certified by the vendor, Category II devices are other lightweight devices which need individual crash testing but with reduced instrumentation, Category III devices are barriers and other fixed or heavy devices also needing crash testing with normal instrumentation, and Category IV devices are trailer mounted lighted signs, arrow panels, etc. for which crash testing requirements have not yet been established. The second guidance memorandum was issued on August 28, 1998, and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This later memorandum lists devices that are acceptable under Categories I, II, and III.

A brief description of the devices follows:

The Tracker panel is blow-molded UV stabilized low-density polyethylene plastic measuring 43 inches tall. It is 9.3 inches wide and 1.3 inches thick at the top tapering to 12.6 inches wide and 5.4 inches thick at the bottom. The bottom flange measures 8.2 inches by 15.4 inches.

The Tracker's bases are black tire rubber, the smaller weighing 20 pounds and measuring 20 x 20 x 1.75 inches while the 30 pound base is 20 x 28 x 1.75 inches. The area for retroreflective sheeting is 8 inches wide by 36 inches tall. The tested devices had a reflector of Coroplast substrate that was attached using a 3/8 inch x 1 ½ inches galvanized carriage bolt with a 3/8 inch flat washer, lock washer, and nut.

Testing
Informal automobile testing was conducted on your company's devices using a Mercury Tracer. Two stand-alone examples of the device were tested in separate live-driver runs, one head-on turned at 90 degrees. The Houston Motor Speedway verified the 70 mph impact speeds. Although the test vehicle is larger than the 820C vehicle specified in the NCRHP Report 350, the vehicle mass is irrelevant when testing a lightweight traffic control device that is not affixed to the pavement. The front profile of the vehicle was adequate to demonstrate the crash performance of the test article.

Findings
Damage was limited to scuffing and minor indentations to the front of the hood of the test vehicle. The test article did not contact the windshield. The results of the testing met the FHWA requirements and, therefore, the device described above and detailed in the enclosed drawings is acceptable for use on the NHS under the range of conditions tested, when proposed by a State.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-209 shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.

- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

Sincerely yours,

/original signed by/

John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

FHWA:HSA-10:NArtimovich:tb:x61331:6/8/05
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N.Artimovich, HSA-10)