

STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

Appendix 11-01

DATE: September 25, 1997

FROM: Michael J. Fudala, P.E.
Chief of Final Design

SUBJECT: Bicycle Railing for Highway Applications

TO: Robert W. Greer, P.E.
Director of Project Development

MEMORANDUM

I recently read a copy of Jim Moore's recommended "Guideline for Providing Bicycle Railing on Highway Bridges". Attached to it was a transmittal slip from you to Greg Placy requesting his recommended policy for highway rail. I discussed the issue with Gil Rogers and he suggested I respond to you.

The AASHTO Guide for the Development of Bicycle Facilities (Aug. '91) states,

"Railings, fences, or barriers on both sides of a bicycle path structure should be a minimum of 4.5 feet (1.4 m) high. Smooth rub rails should be attached to the barriers at handlebar height of 3.5 feet (1.1 m)."

Unfortunately, the Guide only addresses railing on structures, not in other areas. There are several other scenarios that railing for bicyclists may be appropriate, e.g., along roadway shoulders in guardrail warrant areas; along separate bicycle paths as protection from steep slopes, large drainage crossings or other hazards; or, in other areas where a more secure barrier is desirable to prevent trespass.

In these instances and others, it's conceivable that a different height of rail may also be appropriate together with different materials, e.g., timber vs. chain link.

Other than possibly the approach area to those highway bridges requiring railing for bicyclists, it's not reasonable to provide additional height of railing for this purpose along the many miles of highway guardrail areas throughout the State.

For the bike paths where trespass isn't an issue, it appears that as long as the rail contains the "smooth rub rails ...attached to the barriers at handlebar height of 3.5 feet (1.1m)", apparently, AASHTO considers height beyond this as subjective and refers it to the designer for judgment. A total height of 4 to 4.5 feet (1.2 to 1.4 m) seems reasonable.

As you know, conventional bridge rail is 36" high. AASHTO's recommended height of bridge railing used to protect bicyclists is 54", (i.e., 18" higher than the standard bridge rail height). If the 18" higher than bridge rail height is applied to 27" highway guardrail, the

resultant 45" height (rounded to 48") may be considered appropriate, as a minimum height, with higher rail in certain areas as needed. As a recent example, 4.5 foot high timber railing was used recently along a bike path in Litchfield (on Albuquerque Ave.) to protect bicyclists from a 1 1/2:1 rock lined slope. This height was chosen consistent with the (limited) information found in the AASHTO Guide as a conservative measure in lieu of established guidelines for highway application.

In bike path areas where trespass is an issue, chain link fence is available in a variety of heights to attain the desired level of security.

CONCLUSION:

- On highway projects with paved shoulders (1.2 m / 4ft.min.) adjacent to guardrail (27" high), no additional height is warranted for economic reasons.
- On highway projects with separate bike paths, whenever rail is necessary to protect bicyclists from a hazard, a 1.2 m / 4ft. (min.) height of rail should be used.

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cc: C. Green
L. Knowlton
J. Moore

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