

MEMORANDUM

TO: Tom DiPaolo, Assistant Chief Engineer, MassDOT Highway Division

FROM: David Watson, Executive Director, MassBike
On behalf of: LivableStreets Alliance, WalkBoston, and the Institute for Human Centered Design

CC: Luisa Paiewonsky, Administrator, MassDOT Highway Division

DATE: January 5, 2010

RE: MassHighway Engineering Directive E-09-005

Introduction

This memorandum is presented in preparation for the meeting scheduled for January 7, 2010, to discuss the above-referenced Engineering Directive entitled "Design Criteria for MassHighway Projects and Bicycle and Pedestrian Accommodation Requirements". Outlined below are a number of concerns and questions regarding the directive. Please note that these questions and concerns are in draft form, and we offer them to help frame our upcoming discussion, but they do not necessarily represent all of the issues raised by the directive. We appreciate the opportunity to share our concerns with you, and gain a better understanding of the meaning and intent of the directive.

Concerns

The directive appears to undercut the flexible approach expressed in the Project Development and Design Guide, and is not sensitive to compromises that may be necessary and appropriate especially in urban and suburban environments. The directive clearly states that the Commonwealth will not allow less than 11 feet for a travel lane on a road that it controls, or on a project it is funding with state or federal aid. It further requires a 2-foot offset to a left side raised median. These rules apply regardless whether the posted speed is 30 mph or 55 mph and regardless of rural vs. urban or suburban context. It therefore appears to discourage the flexibility that may be critical to allowing the inclusion of a bike lane or wider sidewalk, particularly in environments where lower speed limits remove the need for the wide travel lanes and median offsets.

While the directive allows for design exceptions, its tone suggests exceptions will be granted rarely, if ever. The tone is therefore not aligned with the Project Development and Design Guide, particularly Chapter 3 (Basic Design Controls, roadway context) and Chapter 5 (Cross-section & Roadside Elements, the five cases of multimodal accommodation). The directive takes what are provided as guidelines ("should") in the AASHTO Green Book and makes them standards ("shall"), contrary to the Design Guide's emphasis on flexibility in design.

The directive focuses on the minimum standards for bicycle accommodation rather than a context-sensitive approach, saying that if the required minimum lane and shoulder (4-foot) widths are provided, that provides "desirable" bicycle accommodation. In many situations, this may not be appropriate or desirable accommodation. Also, the referenced Table 7-3 from the AASHTO Green Book applies to rural arterials, which may not always be the situation at hand. For example, if a road with 4-foot shoulders

enters a traditional business district or village setting with on-street parking and zero-setback buildings, there may not be room to retain the prescribed lane widths and add 5-foot bike lanes. Yet a 4-foot shoulder between the parking and curb lane (as suggested by the directive) would amount to a substandard and undesirable bike lane alongside parked cars. More flexibility needs to be provided to allow for compromises or alternative accommodations in this scenario.

We are further concerned about the directive's treatment of pedestrian accommodations. The directive appears to suggest that a 4-foot sidewalk is a minimum, while the Project Development and Design Guide calls for a minimum of 5 feet. However, in many contexts, especially urban environments with moderate to high pedestrian volumes, either width might be highly substandard. In addition, the suggestion that a sidewalk on one side of the road is a "desirable" condition would also result in substandard conditions. Many roadways in the Commonwealth carry bus service, which of course includes the need for walking access on both sides of the roadway. Similarly, where signalized crossings are some distance apart, sidewalks on only one side of the road will encourage pedestrians to cross anywhere along the road if they wish to walk on a sidewalk – a condition that is highly detrimental to pedestrian safety. The directive is also silent about accessible pedestrian signals, countdown signals, and ensuring adequate walk time such that all pedestrians can safely cross.

We are also concerned with a few specific exemptions, such as for resurfacing projects and bridge projects, which could prevent improvement of bicycle and pedestrian accommodations during the course of normal maintenance. Resurfacing projects by their nature include restriping, allowing lane-width adjustments at no additional construction cost. Crosswalk-only projects are inherently pedestrian projects; signing and signaling projects affect bicyclists and pedestrians. Bridge-deck repair projects may have a direct bearing on bicycling conditions (for example, expansion joints and grid decks cause hazards which can be alleviated during such projects). Because bridges are often critical links, the need to provide for bicyclists and pedestrians is greater on bridges than on most highway segments. If the opportunity to provide those accommodations during a bridge project is foregone, it could be far more expensive to add them later. The Department of Conservation and Recreation (DCR) made it routine practice to include pedestrian and bicycle accommodation in its bridge reconstruction projects, even if it meant going beyond the footprint of the bridge to provide accommodation on approaches, and we hope MassDOT will continue this practice.

Finally, the directive states that, "Alternatively, a separate shared-use or bicycle path provides desirable accommodation," and, "Pedestrian accommodation may also be provided in the roadway shoulder in accordance with the Guide, or on a separate shared-use path." These statements appear to contradict the Project Development and Design Guide, which (1) clearly states that shared-use paths are not a substitute for on-road bicycle accommodations, and (2) seeks to discourage development of shared shoulders as pedestrian accommodations, except in rural natural areas, rural developed areas, and some suburban low density areas, where on-street parking, curbs and sidewalks are rarely encountered. The directive also gives no consideration to the proximity of the shared-use path to the roadway. A facility that is not adjacent to the roadway may not provide adequate access to abutting businesses and residences.

Questions

- What if there isn't enough space for the required lane widths, median offsets, or pedestrian and bicycle accommodations? Is the answer reduced or no pedestrian and bicycle accommodation, or

can lane widths be compromised? If a design exception is required to narrow the lane width, under what circumstances is MassDOT likely to grant such an exception?

- Research has shown that when parking lanes are marked 7 feet wide instead of 8 feet, motorists park closer to the curb, leaving more operating space for bicycles and lowering their risk of being “doored,” assuming the distance from curb to inside of bike lane stays constant. While the Project Development and Design Guide provides the flexibility to mark 7-foot parking lanes, the directive indicates that the Green Book’s recommendation of 8 feet is to be taken as standard. Is MassDOT willing to consider allowing 7-foot parking lanes as a means of improving bicycling safety as a matter of policy (i.e., without having to file an exception)?
- What will be the effect of this directive on urban roadway projects currently proposed or underway, such as the Massachusetts Avenue redesign in Boston, where compromises including reduced lane widths and left-side median offsets are being considered? For example, for Massachusetts Avenue, an 11-foot right lane with 10-foot left lane scheme and 1-foot median offset has been recommended to allow a bicycle lane while still accommodating frequent bus service. This 11-10 scheme appears to run contrary to this new directive.
- Under the terms of this directive, the bike lanes installed in 2008 on Commonwealth Avenue in Boston would not be allowed, either. While Commonwealth Avenue keeps travel lanes at 11 feet, its left-side median offset was reduced to 1 foot in some places in order to keep the bicycle lane. What is the implication for similar projects in the future?
- Does MassDOT plan to update the directive once the new Manual on Uniform Traffic Control Devices, which will include shared-lane markings and “bikes may use full lane” signage, becomes official, and the new AASHTO bicycle facility guidelines are published? If so, how? Will organizations representing bicyclists and pedestrians be consulted before any revised directive is issued, and, if so, how will that be accomplished?
- Would it be practical to eliminate exemptions for resurfacing projects and bridge maintenance projects, to ensure that bicycle and pedestrian accommodations could be improved in such cases, often at minimal cost?
- Can MassDOT provide any criteria for when a shared-use path provides adequate accommodation, considering access, connectivity, circuitry, etc.? Is it only for facilities directly adjacent to the roadway alignment?