



TOWN OF BRUNSWICK
DOWNTOWN BRUNSWICK AND OUTER PLEASANT
STREET CORRIDOR
MASTER PLAN IMPLEMENTATION COMMITTEE
85 UNION STREET, BRUNSWICK, ME 04011

Margo Knight, Chair
Citizen-at-Large

Jane Millett
Councilor – District 6

Kathy Wilson
Councilor – At Large

Paul Dostie
Resident - Downtown

Debora King, Vice Chair
BDA Member

Toby Tarpinian
Business Owner - Downtown

Crystal Card
Creative Economy/Non-profit

Vacant
Citizen at Large

Kathleen Stevens
Resident – Pleasant Street

Lori Bourgeois
Business Owner – Pleasant Street

JOINT WORKSHOP WITH BRUNSWICK
BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE
TUESDAY, DECEMBER 1, 2015; 5:00 PM
TOWN HALL, COUNCIL CHAMBERS
85 UNION STREET

- 1. Introductions/Public Comment**
- 2. Complete Streets Policy Discussion**
- 3. Proposed FHWA Design Criteria Changes Discussion**
- 4. Other Business**

Town of Brunswick
Complete Streets Policy

September-22November 7, 2015 - Draft

Vision

Promoting pedestrian, bicycle and public transportation travel reduces negative environmental impacts, promotes healthy living, advances the well being of travelers, supports the goal of compact development and meets the needs of the diverse populations that comprise our communities. The vision of the Town of Brunswick is of a community in which all residents and visitors, regardless of their age, ability, or financial resources, can safely and efficiently use the public right-of-way to meet their transportation needs regardless of their preferred mode of travel.

Policy

The Town will plan for, design construct, operate and maintain an appropriate and integrated transportation system that will meet the needs of motorists, pedestrians, bicyclists, wheelchair users, transit vehicles and riders, freight haulers, emergency responders, and residents of all ages and abilities.

Transportation facilities that support the concept of complete streets include, but are not limited to pavement markings and signs; street and sidewalk lighting; sidewalk and pedestrian improvements; Americans with Disabilities Act Title VI compliance; transit accommodations; bicycle accommodations, including appropriate signage and markings; streetscapes that appeal to and promote pedestrian use.

The system's design will be consistent with and supportive of local neighborhoods, the historic downtown, Bowdoin College and Route 1 Corridor, recognizing that transportation needs vary and must be balanced and flexible, safe and cost effective.

Projects

Those involved in the planning and design of projects within the public right-of-way will give consideration to all users and modes of travel from the start of planning and design work.

Street projects may exclude elements of this policy that would require accommodation of street use prohibited by law. Ordinary maintenance activities such as mowing, snowplowing, sweeping, spot repair, joint of crack sealing or

pothole filling do not require that elements of this policy be applied beyond the scope of that maintenance activity.

Street projects may exclude the development of sidewalks in areas falling outside those identified as appropriate for sidewalks on the basis of an adopted sidewalk policy of other plans.

Transportation improvements shall be viewed as opportunities to create safer, more accessible streets for all users. This shall apply to new construction, reconstruction, and rehabilitation. The Town's Bicycle and Pedestrian Advisory Committee shall be briefed on potential future projects of this nature during and immediately following the annual development of the Town's capital improvement program. This will allow the Committee an opportunity to provide its views regarding complete streets policy early in the planning and design process.

If the Bicycle and Pedestrian Advisory Committee determines that the project is not consistent with the Policy, the Town Engineer must request an exception from the Town Manager. In order for an exception to be granted under the conditions stated below the Director of Public Works must first consult with the Town Manager.

If the Town Manager concludes that an exception to the policy is warranted, the Manager or his designee shall consult with the Committee regarding the project and the requested exception. If a difference of opinion exists between the Committee and staff, the Committee may forward its concerns to the Town Council for its consideration.

Exceptions

Exceptions to this policy may be made under the circumstances listed below:

1. Street projects may exclude elements of this policy that would require accommodation of street uses prohibited by law;
2. Ordinary maintenance activities such as mowing, snowplowing, sweeping, spot repair, joint or crack sealing, granted when a street reconstruction project or pothole filling do not require that elements of this policy be applied beyond the scope of that maintenance activity;
3. Ordinary maintenance paving projects may only exclude elements of this policy that would require increasing pavement width. However, when such projects do occur, the condition of existing facilities supporting alternative transportation modes should be evaluated as well as the appropriateness of modifying existing pavement markings and signage that supports such alternate modes. This exception does not apply to street reconstruction projects;

Formatted: Font: Bold

Formatted: Font: Bold

4. ~~Street reconstruction projects and maintenance paving projects which involve widening pavement may exclude elements of this policy when the accommodation of a specific use project is expected to:~~

Formatted: Normal, No bullets or numbering

- a. require more space than is physically available, or
- b. ~~be~~ located where both current and future demand is ~~proven absent~~not evident, or
- c. ~~drastically would~~ increase project costs ~~and beyond the approved budget,~~
or
- e.d. equivalent alternatives exist ~~with~~within proximity, or
- d.e. have adverse impacts on environmental resources such as streams, wetlands, floodplains, or on historic structures or sites above and beyond the impacts of currently existing infrastructure.

Formatted: Font: Bold

~~In order for an exception to be granted under the conditions stated above and prior to finalizing the design and budget for the intended project, the Director of Public Works must first consult with the Director of Planning and Development and the Town Manager.~~

~~If the Town Manager concludes that an exception to the policy is warranted, the Manger or a staff representative to the Bicycle and Pedestrian Advisory Committee shall consult with the Committee regarding the project and requested exception. If a difference of opinion exists between the Committee and staff, the Committee may forward its concerns to the Town Council for its consideration.~~

~~Street projects may exclude the development of sidewalks in areas falling outside those identified as appropriate for sidewalks on the basis of an adopted sidewalk policy of other plans.~~

Intergovernmental Cooperation

The Town will cooperate together and with other transportation agencies including the Maine Department of Transportation (MDOT) to ensure the principles and practices of complete streets are embedded within their planning, design, construction, and maintenance activities.

Design Criteria

The Town through its Public Works and Planning Departments, shall develop and adopt design criteria, standards, and guidelines based upon recognized best practices in street design, construction, and operation. To the greatest extent possible the Town shall adopt the same standards with particular emphasis on pedestrian and bicycle markings and wayfinding signage.

Resources to be referenced in developing these standards shall include, but not necessarily be limited to, the latest editions of:

1. American Association of State Highway Transportation Officials (AASHTO) policy on Geometric Design of Highways and Streets, Guide to Planning, Designing, and Operating Pedestrian Facilities, and Guide to Development of Bicycle Facilities;
2. Institute of Transportation Engineers (ITE) Designing Walkable Urban Thoroughfares: A Context Sensitive Approach;
3. National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide;
4. U.S. Access Board Public Right-of-Way Accessibility Guidelines;
5. Highway Capacity Manual and Highway Safety Manual; and
6. The Manual of Uniform Traffic Control Devices.

The Town will be permitted to consider innovative or non-traditional design options that provide a comparable level of safety and utility for users as those listed above.

Performance

The Director of Public Works or his designee shall report to the Town Council on an annual basis on transportation projects ~~undertake~~undertaken within the prior year and planned within the coming year ~~and~~highlighting the extent to which each of these projects has met ~~or will meet~~ the objectives of this policy.

Community Context and Network

Implementation of this Policy shall take into account the goal of enhancing the context and character of the surrounding ~~build~~built and natural environments. Transportation facilities, including roads, should be adapted to fit and enhance the character of the surrounding neighborhood.

Special attention should be given to projects that enhance the overall transportation system and its connectivity. Specifically, high priority should be given to:

1. Corridors providing primary access to one or more significant destinations such as parks or recreation areas, schools, shopping/commercial areas, public transportation or employment centers;
2. Corridors serving a relatively high number of users ~~on~~of non-motorized transportation modes;
3. Corridors providing important continuity or connectivity links to existing pedestrian or bicycle networks;
4. Projects identified in regional or local thoroughfare, bicycle and pedestrian plans.

T4AMERICA BLOG

News, press releases and other updates

USDOT proposes to remove restrictive design guidelines that make safer streets more difficult to build (/2015/11/12/usdot-proposes-to-remove-restrictive-design-guidelines-that-make-safer-streets-more-difficult-to-build/)

12 Nov 2015 Posted by Joe McAndrew (<http://t4america.org/author/joe-mcandrewt4america-org/>)

The Federal Highway Administration (FHWA) took an encouraging and surprising step, proposing to ease federally-mandated design standards on many roads, making it dramatically easier for cities and communities of all sizes to design and build complete streets that are safer for everyone.

This proposal is open for comment, and FHWA is waiting to hear from the public.



(http://action.smartgrowthamerica.org/p/dia/action3/common/public/?action_KEY=21698) **Send a letter of support to FHWA**

(http://action.smartgrowthamerica.org/p/dia/action3/common/public/?action_KEY=21698)

These outdated federal guidelines get in the way of better street design, but FHWA is proposing to scrap many of them. This is indeed great news, **but for these changes to go ahead, FHWA needs to hear that they have strong support for the proposed changes.**

Join us and generate a letter to FHWA today.

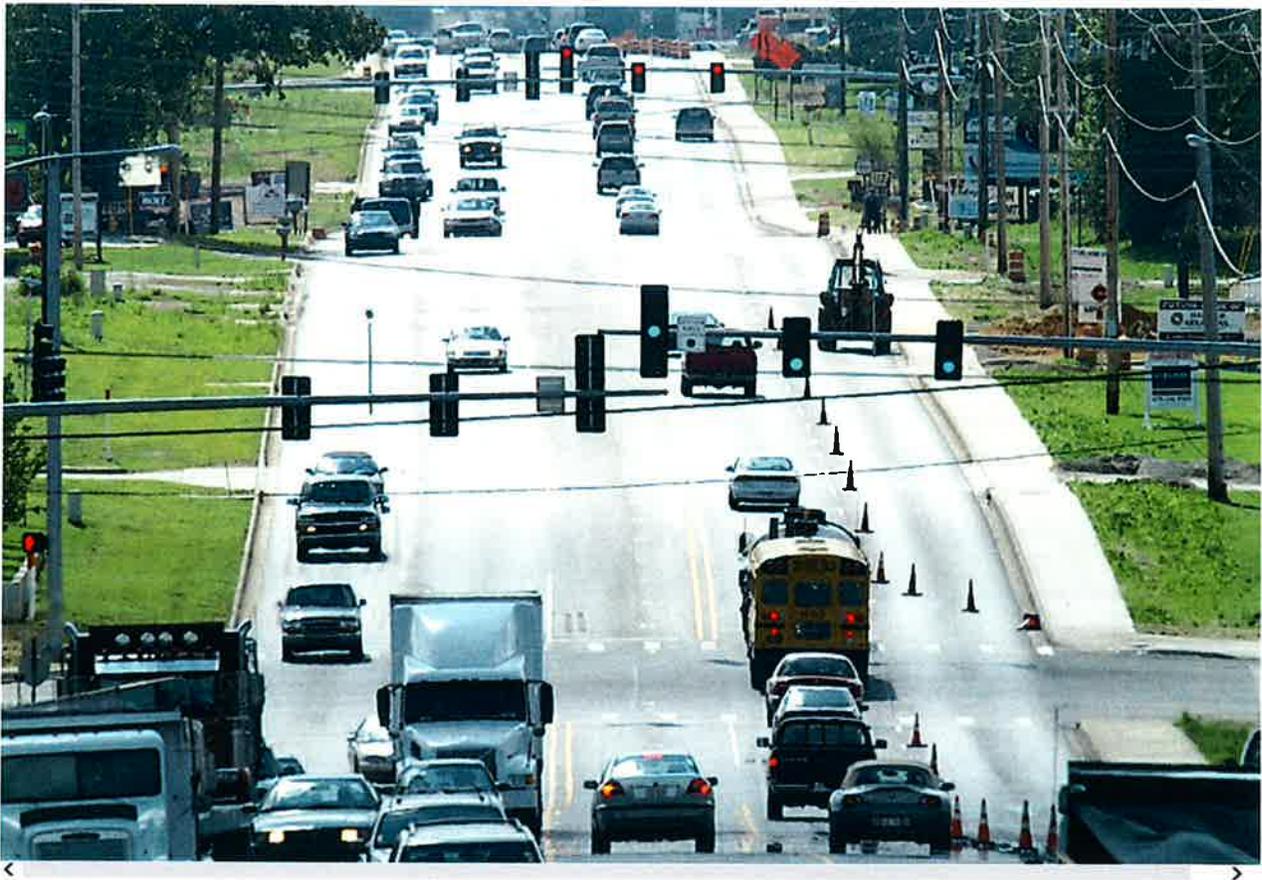
(http://action.smartgrowthamerica.org/p/dia/action3/common/public/?action_KEY=21698)

We'll be delivering your letters in person to FHWA all at once before the December 7th deadline.

Currently, FHWA has a long list of design criteria that local communities and states must adhere to when building or reconstructing certain roads, unless they choose to go through an arduous process of requesting an exception to do things like line a downtown street with street trees, reduce the width of lanes to add a bike lane, or curve a street slightly to slow traffic and make it safer for people in cars and on foot.

In this new proposed rule (<http://www.regulations.gov/#!documentDetail;D=FHWA-2015-0020-0003>), FHWA decided after a thorough review to scrap **11 of 13 current design criteria** for certain roads because they decided these criteria have “minimal influence on the safety or operation on our urban streets” and has a stronger connection for rural roads, freeways and higher speed urban arterials.

This new freedom for local planners and engineers would cover all roads on the National Highway System (NHS) with designed speeds under 50 mph. This covers most of the non-interstate roads and highways running through communities of all sizes that are built with federal funds, like the typical four-lane state highway through town that we're all familiar with, perhaps with a turning lane on one side. Incidentally, many of these roads are among the most unsafe for pedestrians.



In FHWA's own words, this move will "refine the focus on criteria impact on road safety and operation" and "encourages engineered solutions rather relying on minimum, maximum, or limiting values found in design criteria."

In our words, this move will liberate local communities that have been working hard to make their roads safer for everyone that uses them, and rid them of the need to petition FHWA for exceptions to do exactly that. It's a win for the movement for safer and more complete streets and also a liberating change for transportation engineers, especially those that have been working hard with their planners and elected leaders to bring innovative, safer street designs to their communities.

Since these controlling design criteria were first established in 1985, any project that didn't meet all of the minimum design standards had to receive individual approval from FHWA. This was done on a project-by-project basis and added time and difficulty for those wanting to create safer roads. Now, for these NHS roads under 50 mph, engineers will only be required to attain design variances for just two criteria – design speed and structural capacity.

Today's proposed rule follows on the heels of FHWA's summer release of the *Bicycle and Pedestrian Funding, Design, and Environmental Review: Addressing Common Misconceptions* (http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/misconceptions.cfm) that addresses

10 misconceptions that often prevent or slow construction of safer roads. This is a valuable resource that will help local governments, metropolitan planning organizations and civic leaders improve the safety of our roads by debunking misconceptions ranging from the pots of money available for bike and pedestrian projects to explaining that FHWA rules are not the roadblock to complete street road design.

FHWA deserves praise for their leadership on this important issue. The rule is open to public comment for 60 days through December 7, 2015. Let's take the opportunity to provide public comment and thank FHWA for their leadership and make sure it is implemented to help make safer streets for all to enjoy.

For these proposed changes to go ahead, FHWA needs to hear that they have strong support for the proposed changes.

Generate a letter to FHWA now, and urge your friends to join in.

(http://action.smartgrowthamerica.org/p/dia/action3/common/public/?action_KEY=21698) It only takes a moment.

← Older (/2015/11/06/where-did-the-additional-billions-in-new-revenue-come-from-for-the-house-transportation-bill/)

Newer → (/2015/11/12/with-conference-underway-how-do-the-house-and-senate-bills-stack-up/)



2 Comments

Pingback: USDOT proposes to remove restrictive design guidelines that make safer streets more difficult to build | Smart Growth America (<http://www.smartgrowthamerica.org/2015/10/08/usdot-proposes-to-remove-restrictive-design-guidelines-that-make-safer-streets-more-difficult-to-build/>)

Pingback: Feds Propose Major Rule Changes to Eliminate Barriers to Safer Streets | Streetsblog USA (<http://usa.streetsblog.org/2015/10/08/feds-propose-major-rule-changes-to-eliminate-barriers-to-safer-streets/>)

© Copyright 2013 Transportation For America | All Rights Reserved.

 (<http://facebook.com/transportationforamerica>)  (<https://twitter.com/t4america>)  (<http://www.youtube.com/user/T4America>)  (<http://www.flickr.com/photos/t4america/>)



Revision of Thirteen Controlling Criteria for Design

This Notice document was issued by the **Federal Highway Administration (FHWA)**

For related information, [Open Docket Folder](#)

Action

Notice; request for comment.

Summary

The geometric design standards for projects on the National Highway System (NHS) are incorporated by reference in FHWA regulations. These design standards are comprehensive in nature, covering a multitude of design characteristics, while allowing flexibility in application. Exceptions may be approved on a project basis for designs that do not conform to the minimum or limiting criteria set forth in the standards, policies, and standard specifications.

The FHWA is updating its policy regarding controlling criteria for design. The current policy identifies 13 controlling criteria for design and requires formal design exceptions when any of the 13 controlling criteria are not met. The FHWA intends to further streamline the controlling criteria, and the application of these criteria, based on the results of recent research that evaluated the safety and operational effects of the 13 controlling criteria. The FHWA also intends to clarify when design exceptions are required and the documentation that is expected to support such requests. This notice solicits comments on the proposed revisions to the 13 controlling criteria for the design of projects on the NHS that require a design exception when adopted design criteria are not met, in accordance with FHWA regulations.

Dates

Comments must be received on or before December 7, 2015. Late comments will be considered to the extent practicable.

Addresses

Mail or hand deliver comments to the U.S. Department of Transportation, Dockets Management Facility, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590, or fax comments to (202) 493-2251. Alternatively, comments may be submitted to the Federal eRulemaking portal at <http://www.regulations.gov>. All comments must include the docket number that appears in the heading of this document. All comments received will be available for examination and copying at the above address from 9 a.m. to 5 p.m., e.t., Monday through Friday, except Federal holidays. Those desiring notification of receipt of comments must include a self-addressed, stamped postcard or you may print the acknowledgment page that appears after submitting comments electronically. Anyone is able to search the electronic form of all comments in any one of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, or labor union). Anyone may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70, Pages 19477-78).

For Further Information Contact

For questions about the program discussed herein, contact Elizabeth Hilton, Geometric Design Engineer, FHWA Office of Program Administration, (512) 536-5970 or via email at elizabeth.hilton@dot.gov. For legal questions, please contact Robert Black, Office of the Chief Counsel, (202) 366-1359, or via email at Robert.Black@dot.gov. Office hours are from 8:00 a.m. to 4:30 p.m., e.t., Monday through Friday, except Federal holidays.

Supplementary Information

Electronic Access and Filing

You may submit or retrieve comments online through the Federal eRulemaking portal at: <http://www.regulations.gov>. The Web site is available 24 hours each day, 365 days each year. Please follow the instructions. Electronic submission and retrieval help and guidelines are available under the help section of the Web site. An electronic copy of this document may also be downloaded from the Office of the Federal Register's home page at: <http://www.archives.gov> and the Government Printing Office's Web page at: <http://www.access.gpo.gov/nara>.

Site Data

Regulatory
Agenda

Agency
Report

Required by
Statute

[Comment Now](#)

Due Dec 7 2015, at 11:59 PM ET

ID: FHWA-2015-0020-0003

View original printed format: [PDF](#)

Document Information

Date Posted:

Oct 7, 2015

Federal Register Number:

2015-25526

[Show More Details](#)

Comments

84

Comments Received *

I am writing to support FHWA's streamlining of the controlling criteria for roadway design, so that they have a more significant impact on pedestrian and...

[View Comment](#)

This is a big step in the right direction.

[View Comment](#)

This revision is critically important to ensuring safe, comfortable, and convenient travel by all users of our streets. Current regulations are unnecessarily...

[View Comment](#)

Docket Information

This document is contained in [FHWA-2015-0020](#)

Related Dockets:

None

Related RINs:

None

Related Documents:

[1985 Memo - Implementation of New Design Criteria for...
Draft Policy Memo: Revisions to the Controlling Criteria for...](#)

Purpose of This Notice

The FHWA is requesting comment on proposed revisions to the 13 controlling criteria for the design of projects on the NHS that require a design exception when not met, in accordance with 23 CFR 625.3 (f). Design exceptions are an administrative tool used to document an engineer's evaluation of possible solutions to a specific design issue, including the operational and safety performance of each option, impacts to the human and natural environment, and other factors, and demonstrating the reasons a particular solution that does not meet applicable design standards was selected. Many States have their own process for reviewing design deviations when State or Federal design criteria are not met. When used in this Notice, the term 'design exception' refers to documentation prepared for projects on the NHS when a controlling criterion is not met, and that must be approved by the FHWA or on behalf of FHWA if a State Transportation Agency (STA) has assumed this responsibility through a Stewardship and Oversight agreement. Stewardship and Oversight agreements set forth the agreement between FHWA and each STA on the roles and responsibilities of FHWA and the STA with respect to Title 23 project approvals and related responsibilities and oversight activities. The FHWA also intends to clarify when design exceptions are required and the documentation that is expected to support such requests.

Comments received through this Notice will be considered by FHWA when revising the controlling criteria for the design of projects on the NHS, as well as design exception documentation and application.

Background

As codified in 23 CFR 625.3 and 625.4, the geometric design standards for projects on the NHS are A Policy on Geometric Design of Highways and Streets (2001) and A Policy on Design Standards Interstate System (2005), published by the American Association of State Highway and Transportation Officials (AASHTO). Rulemaking is underway to adopt the current (2011) edition of A Policy on Geometric Design of Highways and Streets. These design standards are comprehensive in nature, covering a multitude of design characteristics, while allowing flexibility in application. As codified in 23 CFR 625.3(f), and in accordance with the delegated authority provided by FHWA Order M1100.1A, exceptions may be approved on a project basis for designs that do not conform to the minimum or limiting criteria set forth in the standards, policies, and standard specifications adopted in 23 CFR part 625.

The FHWA issued a policy memorandum on April 15, 1985, available on the docket for this notice, and on FHWA's Web site at <http://www.fhwa.dot.gov/design/standards/850415.cfm>, which identified 13 criteria contained in A Policy on Geometric Design of Highways and Streets and designated them as controlling criteria. The policy required formal design exceptions when any of the 13 controlling criteria were not met.

The FHWA proposes to streamline the 13 controlling criteria to refine the focus on criteria with the greatest impact on road safety and operation. This streamlined application of the controlling criteria is consistent with the industry's move toward a modified design approach, often referred to as performance based practical design (PBPD), and will reduce the instances when a design exception must be prepared when applicable design standards are not met for projects on the NHS. The controlling design criteria set forth in 1985 are: Design speed, lane width, shoulder width, bridge width, horizontal alignment, superelevation, vertical alignment, grade, stopping sight distance, cross slope, vertical clearance, horizontal clearance, and structural capacity. The term 'horizontal clearance' was initially interpreted as the 'clear zone' described in the AASHTO Roadside Design Guide (<http://www.fhwa.dot.gov/design/standards/850415.cfm>), but in the early 1990s was clarified to mean 'lateral offset to obstruction' as described in the AASHTO geometric design policies (<http://www.fhwa.dot.gov/design/standards/930525.cfm>). Recent research, culminating in publications of the most recent Highway Capacity Manual (2010, Transportation Research Board) and the Highway Safety Manual (2010, AASHTO), developed much greater knowledge of the traffic operational and safety effects of the controlling criteria than was available when they were established. The NCHRP Report 783 "Evaluation of the 13 Controlling Criteria for Geometric Design" (2014) specifically examined the safety and operational effects of the existing controlling criteria.

The PBPD is an approach to decisionmaking that encourages engineered solutions rather than relying on minimum, maximum, or limiting values found in design criteria. The PBPD is grounded in an analytic framework that enables transportation agencies to utilize existing design flexibility and analytical tools in a way that maximizes benefits while minimizing costs. The PBPD does not disregard engineering guidance or standards. Rather, flexibility in design typically requires more information and a higher level of analysis when defining and deciding on the most appropriate design value for a particular location. Consistent with FHWA's efforts regarding PBPD and to ensure that design exceptions are only required for criteria with significant safety or operational effects, FHWA intends to streamline the controlling criteria based on the findings of recent research. Since 1985, the controlling criteria have been applied to all projects, regardless of roadway type or context. The NCHRP Report 783 found that the 13 controlling criteria had minimal influence on the safety or operations on urban streets. On rural roadways, freeways, and high-speed urban/suburban roadways, a stronger connection to safety and operations was found for some of the criteria than for others.

Proposed Revisions to Controlling Criteria

Related Comments:

[View all](#)

* This count refers to the total comment/submissions received on this document, as of 11:59 PM yesterday. Note: Agencies review all submissions, however some agencies may choose to redact, or withhold, certain submissions (or portions thereof) such as those containing private or proprietary information, inappropriate language, or duplicate/near duplicate examples of a mass-mail campaign. This can result in discrepancies between this count and those displayed when conducting searches on the Public Submission document type. For specific information about an agency's public submission policy, refer to its website or the Federal Register document.

Document text and images
courtesy of the
Federal Register

Based on the findings of NCHRP Report 783 and FHWA's own assessment and experience, FHWA proposes to eliminate the following controlling criteria:

- Bridge Width.
- Vertical Alignment.
- Lateral Offset to Obstruction.

To improve clarity, FHWA proposes to rename the following existing controlling criteria:

- Horizontal Alignment to be renamed Horizontal Curve Radius.
- Grade to be renamed Maximum Grade.
- Structural Capacity to be renamed Design Loading Structural Capacity.

The resulting controlling criteria for design are proposed as follows:

- Design Speed.
- Lane Width.
- Shoulder Width.
- Horizontal Curve Radius.
- Superelevation.
- Stopping Sight Distance.
- Maximum Grade.
- Cross Slope.
- Vertical Clearance.
- Design Loading Structural Capacity.

The FHWA also proposes a revision to the application of the controlling criteria. Most controlling criteria would apply only to high-speed [design speed ≥ 50 mph (80 km/h)] roadways. Only design loading structural capacity and design speed would continue to be applied to all NHS facility types. Research indicates that the current controlling criteria are less influential on the traffic operational and safety performance of low-speed urban and suburban arterials than other features such as intersection design and access management strategies. Therefore, consistent with FHWA's risk-based approach to stewardship and oversight, FHWA intends to focus application of the controlling criteria on high-speed NHS roadways [design speed ≥ 50 mph (80 km/h)]. On low-speed NHS roadways [design speed < 50 mph (80 km/h)], design exceptions are proposed to only be required by FHWA for deviations from the design speed or design loading structural capacity criteria. Exceptions to the controlling criteria must be carefully evaluated and approved by FHWA or on behalf of FHWA if an STA has assumed the responsibility through a Stewardship and Oversight agreement.

While all of the criteria contained in the adopted standards are important design considerations, they do not all affect the safety and operations of a roadway to the same degree, and therefore should not require the same level of administrative control. Based on the findings of recent research and FHWA's assessment and experience, a brief discussion on each of the proposed changes to the controlling criteria is provided below.

CONTROLLING CRITERIA FHWA PROPOSES TO ELIMINATE

1. Bridge width is proposed to be removed from the list of controlling criteria because research found little relationship between bridge width and crash frequency on rural, two-lane highways and surmised the same would be true for other roadway types. Lane and shoulder width criteria apply to roadways and bridges, so any deficiency in bridge width will require design exception documentation if the lane or shoulder width criteria is not met under this proposal. Design criteria allow lesser shoulder width, and therefore lesser bridge widths, on long bridges [overall length over 200 feet (60 m)]. If the minimum lane or shoulder widths are not provided on a long bridge, the deviation would be documented as a lane or shoulder width design exception under the proposed revisions to controlling criteria.

2. Vertical alignment is proposed to be removed from the list of controlling criteria. Three of the existing criteria relate to vertical alignment. Crest vertical curve design is covered under the stopping sight distance criterion. Grade is explicitly covered as a separate criterion, leaving only sag vertical curve length to be covered under the vertical alignment criterion. While research has confirmed the interrelationship between vehicle headlight illuminations, sag vertical curves, and sight distance to features in the roadway, no relationship has extended to the effect of these combined elements on crashes. Furthermore, except when a horizontal curve or overhead structure is also present, sag vertical curve length is not critical under daytime conditions when the driver can see beyond the sag vertical curve, or at night, when vehicle taillights and headlights make another vehicle on the road ahead visible in or beyond a sag vertical curve.

3. Lateral offset to obstruction is proposed to be removed from the list of controlling criteria because on rural roadways, the controlling criterion for shoulder width ensures that there will be at least 18 inches of lateral offset to roadside objects. Lateral offset is most relevant to urban and suburban roadways to ensure that mirrors or other appurtenances of heavy vehicles do not strike roadway objects and so that passengers in parked cars are able to open their doors. While these are important considerations, they do not rise to the same level of effect as other controlling criteria proposed to be retained.

CONTROLLING CRITERIA FHWA PROPOSES TO RETAIN FOR ROADWAYS ON THE NHS WITH A DESIGN SPEED EQUAL TO OR GREATER THAN 50 MPH (80 KM/H), UNLESS OTHERWISE NOTED

1. Design speed is proposed to be retained as a controlling criterion for all facilities on the NHS. Design speed is different from the other controlling criteria in that it establishes the range of design values for many of the other geometric elements of the highway. Because of its effect on a highway's design, the design speed is a fundamental and very important choice that a designer makes. In recognition of the wide range of site-specific conditions, constraints, and contexts that designers face, the design standards allow a great deal of design flexibility by providing ranges of values for design speed. For most cases, the ranges provide adequate flexibility for designers to choose an appropriate design speed without the need for a design exception. If a limited portion of an alignment must be designed to a lower speed, it is generally more appropriate to evaluate specific geometric element(s) and treat those as design exceptions, instead of evaluating an exception for the design speed of the roadway.
2. Lane width is an important design criterion with respect to crash frequency and traffic operations on high-speed and rural highways. The design standards provide the flexibility to choose lane widths as narrow as 10 feet on some facilities.
3. Shoulder width has substantial effect on crash frequency and on traffic speeds on rural highways.
4. Horizontal curve radius, previously called horizontal alignment, has a documented relationship to crash frequency on rural highways of all types. Curve radius also influences traffic operations on urban/suburban arterials. Superelevation is the other main aspect of horizontal alignment and is being retained as independent controlling criterion.
5. Superelevation has a documented relationship to crash frequency on rural, two-lane highways and research suggests this would also be true on rural multilane highways and freeways. Superelevation is generally not provided on low-speed urban/suburban streets.
6. Stopping Sight Distance (SSD) is proposed to be retained as a controlling criterion because sufficiently long SSD is needed to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. Research found that SSD less than specified by the design standards for crest vertical curve design, combined with a hidden feature such as a curve, intersection, or driveway, resulted in increased crashes on high speed roadways. Retention of SSD as a controlling criterion will ensure that deviations from this criterion are examined on a case-by-case basis, to determine whether site characteristics and crash history are indicative of potential areas needing attention. From an operational perspective, SSD generally does not affect operations on freeways under free-flow conditions. However, when freeways operate at near-capacity, limited SSD may further reduce capacity below the levels expected based on current predictive models. These impacts are typically examined during project development.
7. Maximum grade is proposed as a controlling criterion but minimum grade is not. The existing controlling criteria of 'grade' includes both maximum and minimum grade. Maximum grade is proposed to be retained due to its relationship to crash frequency on rural, two-lane highways and the effect of steep grades on traffic operations on high-speed roadways. Minimum grade is proposed to be excluded because while it does influence roadway drainage, minimum grade alone does not ensure sufficient drainage and does not rise to the level of the controlling criteria.
8. Cross slope is proposed to be retained as a controlling criterion to address drainage issues. While research has not been conducted to determine whether there is a relationship between the normal cross slope of roadway pavements and crash frequency, our experience is that inadequate drainage could contribute to vehicle loss of control under some circumstances. Due to the relationship between cross slope and drainage, especially when combined with minimum grades, cross slope is proposed to be retained as a controlling criterion.
9. Vertical clearance is proposed to be retained as a controlling criterion. While vertical clearance does not affect operations on the roadway other than for those vehicles that are taller than the available vertical clearance allows, vertical clearance crashes can have severe impacts on operations by damaging overpasses and other structures, resulting in extended road closures. In addition, inadequate vertical clearance on Interstate freeways impacts military defense routes and requires additional coordination with the Surface Deployment and Distribution Command Transportation Engineering Agency.
10. Design Loading Structural Capacity is related to the strength and service limit state designs, not to traffic operations or the likelihood of traffic crashes. Previously called 'structural capacity,' FHWA proposes to clarify that the applicable criterion covered herein relates to the design of the structure, not the load rating. Design loading structural capacity is important in maintaining a consistent minimum standard for safe load-carrying capacity and deviations from this criterion should be extremely rare. Design loading structural capacity is proposed to be retained as a controlling criterion regardless of the design speed for the project. Exceptions to design loading structural capacity on the NHS could impact the mobility of freight, emergency and military vehicles, and the traveling public and requires additional coordination with the FHWA Office of Infrastructure.

Design Documentation

As codified in 23 CFR 625.3(f), and in accordance with the delegated authority provided by FHWA Order M1100.1A, exceptions may be approved on a project basis for designs that do not conform to the minimum or limiting criteria set forth in the standards, policies, and standard specifications adopted in 23 CFR part 625. Under this proposal, formal design exceptions, subject to approval by FHWA, or on behalf of FHWA if an STA has assumed the responsibility through a Stewardship and Oversight agreement, would be required for projects on the NHS only when the controlling criteria are not met. The FHWA expects documentation of design exceptions to include all of the following:

Specific design criteria that will not be met.
Existing roadway characteristics.
Alternatives considered.
Analysis of standard criteria versus proposed design criteria.

- o Supporting quantitative analysis of expected operational and safety performance.
- o Right-of-way impacts.
- o Impacts to human and natural environment.
- o Impacts to the community.
- o Impacts on the needs of all users of the facility.
- o Project cost.

Proposed mitigation measures.
Compatibility with adjacent sections of roadway.
Possibility of a future project bringing this section into compliance with applicable standards.

Design Speed and Design Loading Structural Capacity are fundamental criteria in the design of a project. Exceptions to these criteria should be extremely rare and FHWA expects the documentation to provide the following additional information.

Design Speed exceptions must address:

- o Length of section with reduced design speed compared to overall length of project.
- o Measures used in transitions to adjacent sections with higher or lower design or operating speeds.

Design Loading Structural Capacity exceptions must address:

- o Verification of safe load-carrying capacity (load rating) for all State unrestricted legal loads or routine permit loads, and in the case of bridges on the Interstate, all Federal legal loads.

The FHWA encourages agencies to document all design decisions to demonstrate compliance with accepted engineering principles and the reasons for the decision. Deviations from criteria contained in the standards for projects on the NHS, but which are not considered to be controlling criteria, should be documented by the STA in accordance with State laws, regulations, directives, and safety standards. Deviations from criteria contained in standards adopted by a State for projects not on the NHS should be documented in accordance with State laws, regulations, directives, and safety standards. States can determine their own level of documentation depending on their State laws and risk management practices.

The proposed revisions to the controlling criteria and design documentation requirements will be published in final form after considering comments received regarding the proposed changes.

The FHWA requests comments on the revised guidance memorandum, which is available in the docket (FHWA-2015-0020). The FHWA will respond to comments received on the guidance in a second Federal Register notice, to be published after the close of the comment period. That second notice will include the final guidance memorandum that reflects any changes implemented as a result of comments received.

Authority

23 U.S.C. 109 and 315; 23 CFR 1.32 and 625; 49 CFR 1.85.

Issued on: September 30, 2015.
Gregory G. Nadeau,
Administrator, Federal Highway Administration.

[FR Doc. 2015-25526 Filed 10-6-15; 8:45 am]
BILLING CODE 4910-22-P