

Part 1000 Design Exceptions

Section 1001 Introduction

The information in this section describes the design exception process for planning studies and project development. In addition, this section details the design elements and features that require design exceptions as well as the information needed to justify approvals of design exceptions. The design standards are generally described in Part 100 and further defined for particular highway classifications and environments throughout the HDM.

Section 1002 Definitions

ADA Curb Ramp Design Exception (Form 734-5112) –

An engineering report documenting the request for an exception from a standard of practice for curb ramp design that requires State Roadway Engineer approval or Federal Highway Administration documentation. ADA Curb Ramp Design Exception form requires a professional engineering seal from both the Engineer of Record (EOR) and the State Roadway Engineer.

Certified Local Public Agency –

A local agency that has achieved or maintains certification per the processes in Section B of the ODOT Local Agency Guidelines for Certified Local Public Agencies.

<https://www.oregon.gov/odot/LocalGov/Pages/LAG-Manual.aspx>

General Design Exception (Form 734-5336) –

An engineering report documenting the request for an exception from a standard of practice for roadway design that requires State Roadway Engineer approval or Federal Highway Administration documentation. The roadway General Design Exception Request Form requires a professional engineering seal from both the Engineer of Record (EOR) and the State Roadway Engineer.

Technical Concurrence Memo –

A written communication, which may be via email, between the Engineer of Record and technical subject matter experts documenting consultation regarding a specific design element incorporated in a design that is retained within the project records. Concurrence may be from the State Traffic Engineer, State Roadway Engineer, or technical resource subject matter expert that has been delegated authority.

Section 1003 General

It is the designer's responsibility to design from the best practices perspective to incorporate design elements that optimize the operation and safety of the system but stay within constrained funding limits. This is the intent of Practical Design, getting the most out of limited funds for the benefit of the entire system not just the project. In the context of the project, if the proposed impacts from the design are deemed too great, then, with proper justification, a design exception can be entertained. The S.C.O.P.E. elements as outlined in Part 100 provide context for conflicting parameters to coexist.

It is important to keep project and corridor context in mind. While any one solution may be appropriate in a rural setting, this does not automatically mean that the solution is to be used statewide in complex urban contexts. A right of way impact in one context may mean a purchase of property and in a different context a design exception is used to avoid any right of way impacts. Consultation with the Technical Services Roadway Engineering Section staff will assist the design engineer in evaluating the specific context of the project and when a design exception is required. Consultant designers should also consult with Region Roadway staff prior to discussion or in coordination with Technical Services.

Design exceptions typically originate during the project development process through Project Teams, or in some instances, during the planning process. Design exceptions should originate as early as practical in the project development process. The intent of design exceptions is to determine and justify that good engineering decisions are made involving design standards in constrained areas. Design exceptions in high-density urban areas can be more common due to the constraints in an urban setting, such as right of way impacts and construction costs.

Although most design exceptions are requested when the design does not meet minimum standards, a design exception may also be requested when applying new design concepts or tools that are not governed within existing standards. For experimental treatments, the design exception process will document decisions and be a formal method for seeking FHWA approval when required. The design exception is also used as documentation when ODOT is evaluating the efficacy of roadway treatments.

1003.1 Approval Authority

The Chief Engineer has delegated authority for determination of design standards on State and Federal-Aid projects.

The State Roadway Engineer, through delegations from the Chief Engineer, has authority to approve exceptions to design standards for ODOT projects.

Federal Highway Administration (FHWA) may review and approve design exceptions on projects that involve the National Highway System (NHS). FHWA limits review to design

exceptions for the 10 controlling criteria shown in Table 1000-2. If the design exception does not include any of the 10 criteria, FHWA does not need to approve the exception. See Section 1003.5 for approval processes on local agency projects.

1003.2 Planning Design Exceptions

Design exceptions formally obtained in writing during the Planning, Environmental or Survey phases need not be requested again unless significant changes have been made to the design. A review of the approved design exception needs to be made prior to the Design Acceptance Package (DAP) to ensure that the exception is still valid for the project. A list of the design standards that must be considered in the exception process, depending on the type of project, can be found in Figure 1000-3.

1003.3 Planning Projects

Planning studies may require design exceptions to standards. Transportation System Plans, Refinement Plans, Facility Plans, Transportation Growth Management studies, Access Management Plans, or Corridor Plans should not be adopted with nonstandard highway features unless the State Roadway Engineer has approved a design exception or has indicated in writing that a design exception would likely be approved. Typically, corridor studies are not developed with a level of detail that involves an exception for design standards. Transportation Growth Management (TGM) funded projects and refinement plans may have enough detail and information that would support design exception requests. As with normal project development projects, the appropriate background information and justification must be obtained or be available to initiate the design exception process.

For a project that may be constructed within five years, the planner or project leader in charge of the planning project should contact the Region Roadway Manager to assist in putting together the design exception request. The design exception request should be processed in the same manner as a project development design exception, which is listed in Section 1004.

For projects that may be constructed within five to ten years, the design exceptions should be identified, and the State Roadway Engineer should give a written indication that a design exception is warranted and would probably be approved.

For projects anticipated beyond 10 years to construction, consultation with the Technical Services Roadway Engineering Section staff about non-standard items should be made, but no formal action is required on these types of projects. Non-standard design items should not be shown on plans or maps when the project is more than ten years to construction. A change of context can occur such that proposed justification would no longer be valid at the time of construction.

1003.4 Project Development

Exceptions to design standards should be first discussed at project scoping, project team meetings, or during reconnaissance studies. When enough data is available, agreement on standards, and from which standards to request exceptions, should be reached at these meetings. Requests for design exception require justification. Some considerations which may cause a request for an exception to the design standards are listed below:

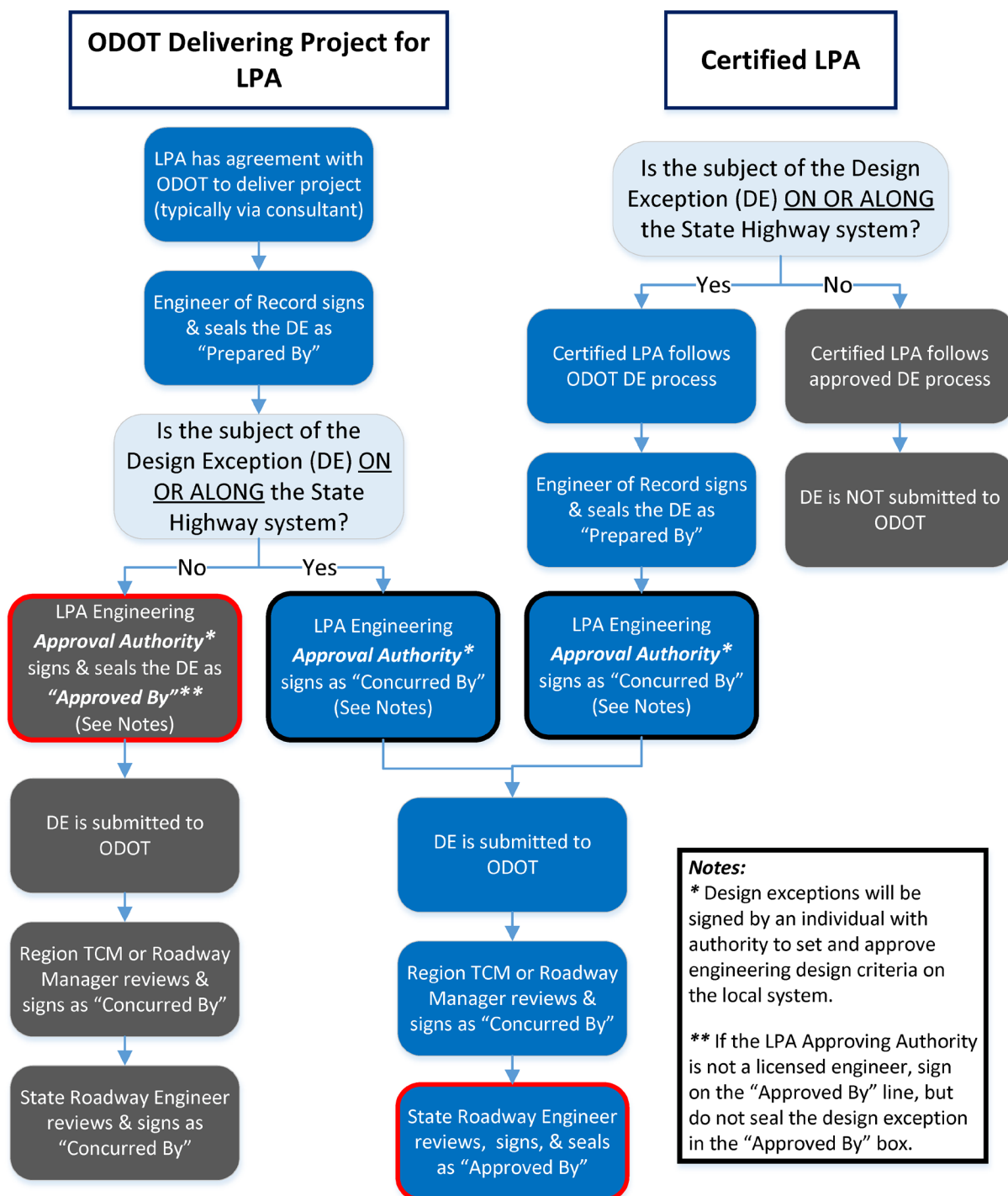
- Excessive construction cost or cost/benefit
- Compatibility with adjacent sections
- No plans for improvement of adjacent sections in the foreseeable future
- Proposed improvements or changes in standards for the highway corridor
- Preservation of historic property or scenic value
- Additional right of way requirements
- Environmental impacts
- Low crash history and/or crash potential
- Low traffic volumes

Simply making a request for a design exception is not assurance that the request will be granted. Therefore, early submittal of the request is paramount to a smooth design process. Unless an exception from the requirements of Project Delivery Operational Notice PD-02 has been acquired, design exceptions shall be submitted and approved prior to or at the Design Acceptance Package (DAP) milestone.

1003.5 Local Agency Projects

For all projects on State Highways or NHS roads, any design element that does not meet HDM or AASHTO standards, respectively, must be justified and documented by means of a design exception. Generally, ODOT is the agency with authority to approve design exceptions, but FHWA may also needs to review and approve design exceptions for some projects. However, the local public agencies (LPA) may process and approve design exceptions according to Figure 1000-1.

Figure 1000-1: Local Public Agency (LPA) Project General Design Exception Approval Process



1003.5.1 Non-Certified LPA Projects Delivered by ODOT

When a non-certified LPA has an agreement with ODOT for delivery of a project, contract plans and design exceptions are processed through the ODOT Regional Local Agency Liaison who then reviews with the Region Tech Center to ensure consistent design quality. For non-certified LPA projects being delivered by ODOT, submit design exception requests on ODOT's design exception request form (form number 734-5336).

Figure 1000-1 and the following provide the design exception review process for non-certified LPA projects being delivered by ODOT:

- If the subject of the design exception is on or along the State Highway:
 - Use the ODOT design exception request form
 - Engineer of record seals and signs as "Prepared By"
 - LPA engineering approval authority signs as "Concurred By". The LPA engineering approval authority is the individual with authority to set and approve design criteria on the local system.
 - Design exception is submitted to ODOT for approval
 - Region Technical Center Manager or Region Roadway Manager reviews and signs the design exception as "Concurred By"
 - State Roadway Engineer reviews, seals, and signs the design exception as "Approved By". The State Roadway Engineer's signature should be the last signature applied to the form.
- If the subject of the design exception is NOT on or along the State Highway:
 - Use the ODOT design exception request form
 - Engineer of record seals and signs as "Prepared By"
 - LPA engineering approval authority seals and signs as "Approved By". The LPA engineering approval authority is the individual with authority to set and approve design criteria on the local system. If the LPA engineering approval authority is not a licensed engineer, the box designated for the approver's seal will be left blank.
 - Design exception is submitted to ODOT for concurrence
 - Region Technical Center Manager or Region Roadway Manager reviews and signs the design exception as "Concurred By"
 - State Roadway Engineer reviews and signs the design exception as "Concurred By". The State Roadway Engineer's signature should be the last signature applied to the form.

For curb ramps on or along the state highway, ADA curb ramp design exceptions are approved with ODOT's processes and forms described in Section 1006. Designers involved in local agency contracts should contact the project manager or contract administrator named as the agency point of contact in the contract.

1003.5.2 Certified LPA Projects

Certified local agencies approve design exceptions on federally funded projects, except those on bridges and state highways. The Local Agency Certification Program uses an established compliance review process to ensure certified local agencies follow their established design exception approval procedures.

Figure 1000-1 and the following provide the design exception review process for Certified LPA projects:

- If the subject of the design exception is on or along the State Highway:
 - Certified LPA follows the ODOT design exception process and uses the ODOT design exception request form (form number 734-5336)
 - Engineer of record seals and signs as "Prepared By"
 - LPA engineering approval authority signs as "Concurred By". The LPA engineering approval authority is the individual with authority to set and approve design criteria on the local system.
 - Design exception is submitted to ODOT for approval
 - Region Technical Center Manager or Region Roadway Manager reviews and signs the design exception as "Concurred By"
 - State Roadway Engineer reviews, seals, and signs the design exception as "Approved By". The State Roadway Engineer's signature should be the last signature applied to the form.
- If the subject of the design exception is NOT on or along the State Highway, the Certified LPA follows their design exception process that was approved during the certification process and does NOT submit the design exception to ODOT for approval.

For curb ramps on or along the state highway, ADA curb ramp design exceptions are approved with ODOT's processes and forms described in Section 1006. Designers involved in local agency contracts should contact the project manager or contract administrator named as the agency point of contact in the contract.

1003.5.3 Non-Federally Funded Projects on NHS Local Agency Jurisdiction Roads

For non-federally funded projects on local agency jurisdiction NHS roads, certified and non-certified local agencies may process and approve design exceptions, and ODOT ensures design quality by means of an audit process. The contract plans and design exceptions for all non-federally funded projects on local agency jurisdiction NHS roads are provided to the ODOT Technical Services Roadway Engineering Unit either on a project-by-project or annual basis. In addition, a list of all projects is to be submitted on an annual basis. Some of these projects are then selected for review. ODOT works with FHWA and local governments to correct any issues as needed. See MAP 21 NHS Roles and Responsibilities, Appendix Q, for information on roles and responsibilities and lane width requirements.

Section 1004 Design Exception Request Process

In order to obtain timely State Roadway Engineer and FHWA approvals, design exception requests should be recommended by the Region Roadway Manager and Area Manager (or equivalent) and forwarded to the State Roadway Engineer as soon as the need is identified. Unless an exception from the requirements of Project Delivery Operational Notice PD-02 has been acquired, design exceptions shall be submitted and approved prior to or at the Design Acceptance Package (DAP) milestone. For design exceptions critical to the project design, approval should be obtained as early as possible. Requests for design exceptions must be accompanied by justification, documentation and should include mitigation in the design. Processing of exceptions to design standards will be undertaken as soon as agreement is reached in the Region. Figure 1000-3 shows the General Design Exception request form (form number 734-5336).

Local Public Agency (LPA) project design exceptions follow a slightly different process (see Figure 1000-1).

Requests for exceptions to design standards with justification and mitigation shall be submitted to the State Roadway Engineer and approved prior to or at the DAP milestone and prior to final incorporation of design features into project plans and/or other documents. Allow a minimum of 2 weeks for proposed general design exceptions to be reviewed and approved by the State Roadway Engineer. However, review may take longer than 2 weeks if revisions are needed to address review comments. Submitting a draft design exception for review before submitting a final proposed design exception can help shorten the time needed for review and approval of the final design exception (see 1004.1).

1004.1 Draft Design Exception Reviews

The Engineering and Technical Services Branch (ETSB) Roadway Engineering Section staff review design exceptions and provide the State Roadway Engineer with a formal recommendation for approval or rejection. Early informal consultation with Roadway Engineering staff is encouraged through submission and review of draft design exceptions. When submitting final design exceptions, please include the names of Roadway Engineering Section staff that were involved in preliminary discussions or draft reviews. This will assist in having the same reviewer throughout the process.

For general design exceptions, the ODOT General Design Exception Request form (form number 734-5366) may be used to create a draft document to review.

A best practice for ADA curb ramp design exceptions is to develop a draft design exception as a Word document. Technical Services Roadway Engineering Unit provides a Word template on the [ADA Curb Ramp Design Exception webpage](#). Draft reviews should not be done in the automated ADA Curb Ramp Design Exception form for a variety of reasons, including potential to corrupt the file, lack of track changes, and limited text editing functionality. Only after the design exception request is ready for final submission should the information be moved to the automated ADA Curb Ramp Design Exception form.

Place the draft in the ProjectWise folder for the project and notify the Technical Services Roadway Engineering Section staff by email to the ODOT Design Exception inbox at ODOTDesignExceptions@odot.oregon.gov. The draft document should contain the information for the request and be named using ODOT's ProjectWise naming conventions. By submitting drafts to the ODOT Design Exception inbox, the Design Exception Administrator can record receipt of the draft design exception in the Design Exception tracking documents. The ETSB Roadway Engineering Section tracks the status of active design exceptions to ensure all are either approved or closed prior to PS&E. If the draft design exception is no longer needed for the project due to design changes, please notify the Design Exception Administrator via email to ODOTDesignExceptions@odot.oregon.gov to avoid project delays.

1004.2 Design Exception Procedures

The following steps define the design exception procedure for ODOT projects:

- Step 1 Project teams determine justification for design exception(s) at scoping, design phases, or planning process.
- Step 2 For general design exceptions, request a design exception control number using the online form at <https://www.oregon.gov/odot/Engineering/Pages/DENumber.aspx> (if not already requested during the review of the draft design exception).

- Step 3 Roadway designer prepares design exception with supporting justification, with review from Region Roadway Manager. The data should include the information shown in Table 1000-1 and described in Section 1005.1. If the Designer is the Engineer of Record, the Designer digitally signs and seals the design exception request and digitally signs the “Prepared By” line, otherwise the Engineer of Record digitally seals and signs the exception request. (See Technical Directive [TSB21-01\(D\)](#) for ODOT digital seal and digital signature requirements.) Consultation with the Technical Services Roadway Engineering Section staff is encouraged during the preparation of the request and prior to signing by the Engineer of Record. If the design exception is related to a bridge structure or rail, consult with the ODOT Bridge Section during preparation of the request and prior to signing by the Engineer of Record.
- Step 4 The program manager is the ODOT Area Manager, District Manager, State Bridge Engineer (for exceptions relating to a bridge structure or bridge rail), or Urban Mobility Office (UMO) Manager. The program manager reviews request and consults with Engineer of Record to assure that the request accurately describes the conditions that warrant a design exception. The Program Manager then digitally signs the design exception request on the “Concurred by” line and forwards to the ODOT Region Technical Center Manager or the Region Roadway Manager.
- Step 5 The ODOT Region Technical Center Manager or the Region Roadway Manager reviews the request and consults with the engineer of record and other applicable groups in Region, such as Traffic or Safety. The Region Technical Center Manager or the Region Roadway Manager digitally signs the design exception if they concur with the request.
- NOTE: Design exceptions formally obtained in writing during the Planning, Environmental or Survey phases need not be requested again. A list of the design standards that must be considered in the exception process, depending on the type of project, can be found in Figure 1000-3.
- Step 6 The design exception, or ProjectWise link to the design exception, is submitted by email to the ODOT Design Exception inbox at ODOTDesignExceptions@odot.oregon.gov. The design exception will then be forwarded to the State Roadway Engineer in the Technical Service Roadway Engineering Section. Depending on the design exception, the State Roadway Engineer may submit the request letter to FHWA for review and approval. The Design Exception is assigned to a member of the Design Exception Review team for review and a formal recommendation is prepared by the member. This team meets regularly to review exceptions and discuss the merits of all Design Exceptions. Informal reviews are completed as required based upon the complexity of the project.

- Step 7 The State Roadway Engineer reviews the design exception request and recommendation from the Design Exception Review team. The State Roadway Engineer digitally signs and seals the request if sufficiently justified.
- Step 8 The State Roadway Engineer receives FHWA approval (if necessary) for design exceptions and forwards copy to the signers of the Design Exception. The Engineering and Technical Services Branch stores electronic copies of all design exceptions approved by the State Roadway Engineer.
- Step 9 Where agreement between the Region Technical Center Manager and the State Roadway Engineer cannot be reached, the State Roadway Engineer forwards the request to the Chief Engineer. The Chief Engineer makes the final decision on approval or denial of the design exception request.

1004.3 Clear Zone Approval Authority

1004.3.1 4R Standard or New Construction

For 4R projects, when an unmitigated hazard will remain within the project clear zone distance required, as prescribed in Part 400 in Table 400-2: Clear Zone Distance and Table 400-3: Horizontal Curve Adjustment, a design exception will be processed. The clear zone design exception will follow the same procedure as all other design exceptions with approval being granted by the State Roadway Engineer and when appropriate, FHWA. This will be shown on the General Design Exception Request form (form number 734-5336) where “Clear Zone” is specifically listed next to the check box.

1004.3.2 3R Standard

For 3R projects, clear zone design exceptions are the responsibility of the Region Technical Center. Specifically, approval is granted by the Region Roadway Manager using the standard General Design Exception Request form (form number 734-5336). Contact the Region Roadway Manager for region-specific design exception request procedures. When an unmitigated hazard will remain within the project clear zone distance required, as prescribed in Part 400 in Table 400-2: Clear Zone Distance and Table 400-3: Horizontal Curve Adjustment, a design exception will be processed. The State Roadway Engineer and FHWA will not be formally involved with clear zone design on 3R projects. Clear zone must be evaluated and improved as appropriate. The Region Roadway Manager will keep all 3R clear zone design exceptions on file that they approve. The process for these specific regional exceptions closely follows the standard method, with only the approval and filing being modified.

1004.4 ADA Exceptions

There are two conditions that will be considered for design exceptions on ADA features; technical infeasibility, and undue financial and administrative burdens. Both of these types of exceptions should occur infrequently.

1004.4.1 Technical Infeasibility

Technical infeasibility is when the physical constraints do not allow for a solution, or there are conflicting interests, such as federal regulations or state laws, that do not allow for a solution. Accessible requirements are to be incorporated to the maximum extent feasible, if a standard cannot be achieved. While it might be technically infeasible to meet full ADA standards, a design exception does not give relief to addressing ADA concerns where some improvements can still be made. When a feature is technically infeasible, the design exception is processed with no changes to the process outlined in this part of the HDM.

Structural infeasibility might occur on existing bridges when modified or altered with a construction project. Structural infeasibility is extremely rare on new construction of a structure or bridge as ADA requirements can be planned for in advance during the design. Documentation of any unique characteristics of terrain limitations impacting ADA requirements are processed on the general design exception form. Accessibility is required to the maximum extent feasible, requiring coordination and creativity with other technical disciplines.

Sometimes the designer is unable to place the geometric requirements for the feature without adverse impacts to historic properties or archeological artifacts. “Historic properties” are defined as those properties that are listed or eligible for listing in the National Register of Historic Places or properties designated as historic under State or local law.¹

Early coordination and consultation with SHPO is necessary to ensure the needs of the disability community and historic preservation are met. Solutions often require creativity, a deviation from standard engineering practice, and consideration of evolving best practices from technical disciplines to achieve ADA requirements to the maximum extent feasible. The goal of consultation with State Historic Preservation Offices (SHPO) is to identify historic properties potentially affected by construction improvements, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties as stipulated in 36 CFR Part 800 – Protection of Historic Properties. 36 CFR, 800.5 (1) states

¹ 28 CFR Part 35, 35.104 Definitions

“An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.” Examples of adverse effects are also described in 36 CFR, 800.5 (2)(v) which states “Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features” would be considered an adverse effect.

1004.4.2 Undue Financial and Administrative Burden

Undue financial and administrative burden is when the cost of proceeding with the ADA solution will put such a burden on the agency that it cannot meet its obligation to perform its duties. This is when the ADA solution will take most of the agency's total financial resource, beyond just the funding for the project. This type of a design exception is extremely rare and should be discussed with the Roadway Engineering Unit staff when consideration is given to its use.

An undue financial and administrative burden exception to ADA will follow the process outlined in this chapter and in addition must be agreed to in writing by the head of the public entity or their designee. For ODOT, the designee is the Delivery and Operations Division Administrator. The memorandum for the head of the public entity's signature will include the design exception that gives justification for the decision that the ADA feature is an undue burden financially for that public entity. Use the following memorandum for ODOT projects, and use the same test as appropriate for local agency projects.

Figure 1000-2: Declaration of Financial and Administrative Burden for ADA Non-Compliance



Oregon

Tina Kotek, Governor

**Department of Transportation
Roadway Engineering Services
4040 Fairview Industrial Dr, MS #5
Salem, Oregon 97302-1142
Phone: (503) 986-3568**

To:

Delivery & Operations Division Administrator

From:

State Roadway Engineer

Project Key Number:

Section Name:

Highway Name:

County Name:

**Declaration of Financial and Administrative Burden
For ADA Non-compliance**

In accordance with the Code of Federal Regulation 28 CFR §35.150 it is determined that the agency can not include the specific ADA feature(s) with this project because of the financial and administrative burden that inclusion would cause to this public entity.

The specific ADA feature(s) not included in the project: <insert the specific feature that will not be constructed here.>

The documentation for the justification of this declaration is included in the design exception for this project and attached to this memorandum.

I concur with this declaration.

_____ Date: _____

Delivery & Operations Division Administrator

Oregon Department of Transportation

1004.4.3 CQCR ADA Improvement Projects

The public can use the ODOT Office of Civil Rights Concern, Question, Comment or Request (CQCR) Form to provide feedback or make requests for ODOT to address accessibility issues on the state transportation system. CQCRs are incremental improvement projects on the transportation system to address a specific concern or barrier for an individual along a specific route traveled. The purpose of the CQCR process is to respond to an individual's need to an existing ADA barrier to the transportation system or service provided by ODOT.

Documentation related to the design and construction of the solution for the customer is retained in the Office of Civil Rights database. ADA design exceptions are not produced for construction features in these specific cases when the standard cannot be achieved, however, some roadway geometrics may still require review and approval on the General Design Exception Request Form (form number 734-5336). For example, a driveway adjacent to the CQCR work may require a design exception. Consult the technical resource for the item that may not be achieving other engineering discipline standards.

Section 1005 General Design Exception Requests

1005.1 Informational Needs

Prior to submitting a request for a design exception, a sufficient amount of information gathering and design work is required to justify the design exception. The purpose of design exceptions is to determine that a professional engineering decision has been justified and documented involving engineering standards and practices in constrained locations.

The information required to justify an exception includes the following items:

- Roadside Inventory
- Local Plan Coordination
- Traffic and Crash Analysis
- Impacts and Right of Way
- Cost
- Incremental Improvements
- Proposed Mitigation
- Conflicts with other Federal, State, or Local Laws

1005.1.1 Roadside Inventory

A roadside inventory is typically completed as part of project information gathering. The roadside inventory provides valuable information on existing roadside features and can be used to help justify design exceptions. Identification of roadside appurtenances, both man-made and natural, that are not crash worthy is important to the overall safety of the facility. While the item may not be removed with the current project, the man-made items are placed into the database and scheduled for upgrade. Roadside Inventory information is outlined in Part 400.

1005.1.2 Local Plan Coordination

Due to the constrained environment of urban areas, design exceptions are frequently required on downtown urban projects. In these urban environments, there may be transportation system plan elements or goals that relate to the roadway design. The design exception justification process should take into consideration local planning efforts. For example, local plans for projects such as Transportation System Plans (TSP) may provide a context for the future highway corridor that can be used in looking at non-standard roadway elements. The local plan vision should be in alignment with the vision of the statewide transportation system. As projects are developed, these assumptions must be reevaluated in light of the current context of the developed highway and can be used in the design exception process if appropriate.

1005.1.3 Traffic and Crash Analysis

A traffic analysis is required. The level of information and analysis will need to be sufficient to assure that the proposed design exception will not significantly affect safety. Generally, the traffic analysis required for the specific project type will be sufficient to evaluate the merits of proposed design exceptions. However, in some situations, additional analysis and detail may be required, such as:

- Long term (20 year) volume/capacity and operational analysis
- Vehicle classifications
- Peak hour and daily turning movements
- Detailed operational analysis (i.e., intersection, interchange, weaving, etc.)
- Other analyses as deemed necessary for the particular action

Proper designs on all projects should always consider the crash potential and history, and its relationship to the improvements proposed. Generally, the crash analysis required for the specific project type is sufficient to evaluate the potential ramifications of a particular design exception. However, in some situations, more detailed analysis is required. This could include a

more detailed review of crash history over a longer timeframe, greater research into cause and effect, and even discussing existing safety deficiencies with local emergency provider agencies such as state police, local police, county sheriff and local fire officials. The proposed design exception needs to be evaluated to document the potential impacts to the safety of the highway users. Various predictive models are available to assist the designer in analyzing multiple combinations of cross sectional elements. Making an incremental increase in safety predictions can be included in the justification for a design exception.

Crash data should include:

- Number, type, and severity of crashes
- Crash rate and comparison to the average rate for that type of facility
- The Safety Priority Index System (SPIS) sites and their ranking

1005.1.4 Impacts and Right of Way

The design should be completed to a sufficient degree to determine with reasonable certainty what the potential impacts are if the proposed exception is not approved. These impacts could include residential displacement, commercial displacement, and environmental impacts to wetlands, streams, historic properties, 4f and 6f resources, threatened and endangered habitat, etc. Other impacts could require additional right of way. Community goals and livability impacts should also be determined where applicable as well as impacts from planning and policy documents such as the Oregon Highway Plan.

Generally, to determine these levels of impacts, the design should be developed to concept level plans. This generally is sufficient to determine approximate right of way footprints for the specific project.

1005.1.5 Costs

The design should be completed to sufficient detail to estimate project costs with and without the proposed design exception(s) being approved. The cost information can also be used to calculate approximate cost/benefit ratios related to the proposed design exception. Cost is not the only justification for approving design exceptions. Other items include compatibility with other sections, environmental impacts, additional right of way and other items listed in Section 1003. Costs to improve the deficiency while not meeting full design standards should be considered and evaluated, if appropriate.

1005.1.6 Incremental Improvements

While not meeting full standards, the design engineer can use a lower cost solution as an incremental step to address legitimate safety concerns. Multiple alternatives should be assessed using various techniques including the use of prediction models. Lower cost treatments such as rumble strips or signs have a proven record of offering a reduced level of crashes when implemented at strategic locations. Incremental improvements are to be recited in the design exception request as either justification or mitigation as an improvement based outcome for inclusion in the project.

1005.1.7 Proposed Mitigation

The project team should evaluate potential mitigation measures that could be implemented as part of the project that could offset the potential safety reductions of the proposed design exception. Mitigation actions can range from very small and inexpensive to large scale options. Each design team will need to evaluate if cost effective mitigation strategies are to be included as part of the design exception request. Each project team should use the creative abilities of the team members to strategize the range of potential mitigation measures. Identifying standard practice mitigation items (replaced striping, replacing signs, etc.) in the design exception under the category of proposed mitigation needs to be separated from the enhanced mitigation items that are included in the project (upgraded striping, new signs, new rumble strips, etc.).

1005.2 General Design Exception Request Form

The General Design Exception Request Form (form number 734-5336) is used to document and justify the design exception. See Table 1000-1 for a list of data needed for exception justification.

Table 1000-1: Data Needs for Exception Justification

Design Exception Data for Justification
<ol style="list-style-type: none"> 1. Summary of the proposed exception 2. Project description and/or purpose/need statement from the project charter 3. Impact on other standards 4. Cost to build to standard 5. Crash history and potential (specifically as it applies to the requested exception) 6. Reasons (low cost/benefit, relocations, environmental impacts, etc.) for not attaining standard 7. Compatibility with adjacent sections (route continuity) 8. Probable time before reconstruction of the section due to traffic increases or changed conditions 9. Mitigation measures to be used. These can include low cost measures such as lane departure detectable warning devices (rumble strips or profiled pavement markings) or additional signs. Mitigation needs to be appropriate to the site conditions and installed correctly to be effective in reducing crashes. 10. Plans, Cross Sections, Alignment Sheets, Plan Details and other supporting documents.

NOTE: Any data omitted from the submittal package can cause a delay in the processing the request.

See Figure 1000-3 through Figure 1000-5 for the General Design Exception Request Form (form number 734-5336). Select fields within the form have been numbered, with additional information provided below the figures.

Figure 1000-3: General Design Exception Request Form (Form No. 734-5336) Page 1 of 3

OREGON DEPARTMENT OF TRANSPORTATION GENERAL DESIGN EXCEPTION REQUEST									
<i>For Roadway Section Office use only</i>									
Control No: _____									
Section Name: _____		Route No.: _____		Highway Name: _____		Highway No.: 1		County Name: _____	
Region: _____		Key No.: 2		EA No.: 3		Begin MP: _____		RDWY ID: 4 1 <input type="checkbox"/> 2 <input type="checkbox"/>	
End MP: _____		Mileage Overlap Code: 6		Mileage Type: 5		0 <input type="checkbox"/> 2 <input type="checkbox"/>		0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>	
PROJECT DATA									
Bid Date: _____		Functional Classification: 7		Current ADT (Year): _____		Design ADT (Year): _____		% Trucks: _____	
Vertical Clearance Route: 8		<input type="checkbox"/> Yes <input type="checkbox"/> No		Posted Speed: _____		Funding: _____		Design Speed: 9	
Current Estimate: _____		Target Speed: _____		Additional Cost to Meet Standard: _____		Path Design Speed (if applicable): _____		Design Category: 3R <input type="checkbox"/> 1R <input type="checkbox"/> 4R <input type="checkbox"/> SF <input type="checkbox"/>	
Is design feature within a historic district or adjacent to an eligible resource?		Yes <input type="checkbox"/> No <input type="checkbox"/>		Limits of district or location of eligible resource: _____		MP: _____ to _____		Top 10% SPIS Site: 10 <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	
Context: <input type="checkbox"/> Rural <input type="checkbox"/> Urban; (List Context) _____		Urban Design Concurrence Document (UDC): Yes <input type="checkbox"/> No <input type="checkbox"/> (If "Yes", attach to form)							
Design Exceptions									
<input type="checkbox"/> ADA Standards 11		<input type="checkbox"/> Grade ²		<input type="checkbox"/> Sidewalk or Walkway Width					
<input type="checkbox"/> Bike Lane/Shared Use Path Width 12		<input type="checkbox"/> Horizontal Alignment ²		<input type="checkbox"/> Spiral Length					
<input type="checkbox"/> Bridge Rail 11		<input type="checkbox"/> Interchange Spacing		<input type="checkbox"/> Stopping Sight Distance ²					
<input type="checkbox"/> Bridge Width		<input type="checkbox"/> Median Width		<input type="checkbox"/> Structural Capacity ¹					
<input type="checkbox"/> Clear Zone (Region DE for 3R)		<input type="checkbox"/> Parking Width		<input type="checkbox"/> Superelevation ²					
<input type="checkbox"/> Design Life and V/C Ratio		<input type="checkbox"/> Pavement Cross Slope ²		<input type="checkbox"/> Superelevation Runoff					
<input type="checkbox"/> Design Speed ¹ 11		<input type="checkbox"/> Pavement Design Life		<input type="checkbox"/> Vertical Alignment					
<input type="checkbox"/> Diagonal Parking		<input type="checkbox"/> Pilot Design Treatment		<input type="checkbox"/> Vertical Clearance ²					
<input type="checkbox"/> Lane Width ²		<input type="checkbox"/> Shoulder Width/Shy Distance ²							
<input type="checkbox"/> (Other) _____									

¹ FHWA Controlling Criteria for all NHS Facilities.

² FHWA Controlling Criteria for "High-Speed" NHS Roadways. ("High-Speed" NHS roadways, defined as Interstate highways, other freeways, and roadways with a design speed greater than or equal to 50 mph.)

- 1 State Highway Number:** The ODOT, 3-digit number given to each state highway for identification purposes. Generally, this is not the same as the route number. If the project is off the State Highway System, use "Local" for the highway number.
- 2 Key Number:** The ODOT unique 5-digit number given to each project. For projects that have not been assigned a key number (such as development projects), mark this field as "N/A".
- 3 EA Number and Sub-Job:** The ODOT internal account number for the project including the sub-job number. For projects that have not been assigned an EA number, (such as development projects), mark this field as "N/A".
- 4 Roadway ID:** In ODOT's FACS-STIP tool, the roadway identifier code determines the alignment when there is a separated highway alignment such as a freeway. Code 1 is for the primary alignment that increases with the mile point. Code 2 is for the alignment with the decreasing mile points. Note: state highway 001 (I-5) is opposite to this rule.
- 5 Mileage Type:** In ODOT's GIS, the mileage type code is for when there are unique mile points along a highway. The Z code indicates an overlap in the mile points. During realignment that lengthens the highway, an overlap in the mile points will result. The Z code indicates the repeated mile points.
- 6 Mileage Overlap Code:** In ODOT's GIS, the mileage overlap code is used when the "Z" code is used to indicate each unique occurrence of duplicate mile points. A code of 1 is use for the first occurrence, a code of 2 for the second occurrence, etc.
- 7 Functional Classification:** The functional classification for State Highways can be found in ODOT's Highway Design Manual (HDM) in Appendix A.
- 8 Vertical Clearance Route:** These specific routes designated for high loads are listed in ODOT's Highway Design Manual (HDM) in Appendix C.
- 9 Design Speed:** The design speed is a critical design component that defines multiple design standards. It is not necessarily the same as posted speed. Part 200 of the HDM and AASHTO's "A Policy on Geometric Design of Highways and Streets" in the chapter titled Design Controls and Criteria, discuss the design speed at great length. The selection of design speed is made by the Regional Roadway Manager with consultation given by Technical Services Roadway Engineering Unit.
- 10 SPIS Site:** The Safety Priority Indexing System (SPIS) rates specific location of crashes. Safety funding may be available to correct locations that are in the top 10%. This information is available from the ODOT Traffic Management Section.
- 11 Design Speed, ADA Standards, and Bridge Rail:** These are items that are the most difficult to justify. These will only be considered in extreme situations with mitigation measures included.

Design Speed effects many other design standards that can have unintended reductions in inappropriate locations.

Project scope needs to include construction improvements to meet the ADA requirements, and project-specific decisions must be documented for these sensitive designs. Physical inability to comply with prescribed design standards requires a design exception. Fiscal constraints for not complying with standards require an additional letter signed by the agency head or designee and is extremely rare. Exceptions are generally limited to technical infeasibility and conflicts with historic preservation. Design must demonstrate accessibility is obtained to the maximum extent feasible.

The Bridge Rail exception refers to the NCHRP Report 350 crash test level requirement or the AASHTO MASH test level requirements. Variations from the Bridge Standard Drawings are considered Deviations granted by the State Bridge Engineer.

- 12 Bike Lane/Shared Use Path Width or Sidewalk Width:** When a project contains new construction, reconstruction, or relocation, the statutory requirement to provide bike facilities and walking facilities is required. If the statutory requirements are triggered, and the project does not provide the facilities at all, this type of design exception is held to a higher standard. As support for the design exception, a letter is required to ensure that the exemption allowed opportunities for public review and input by interested parties. The letter may come from an organization that represents bicycle and pedestrian needs for the local agency or from the Oregon Bicycle and Pedestrian Advisory Committee (OBPAC).

The letter is not required for design exceptions when a Bike Lane/Shared Use Path or Sidewalk does not meet standard widths.

Figure 1000-4: General Design Exception Request Form (Form No. 734-5336) Page 2 of 3

<p style="text-align: center;">OREGON DEPARTMENT OF TRANSPORTATION GENERAL DESIGN EXCEPTION REQUEST</p> <p>Description of Exception: 13 <i>(Identify each exception, and concisely describe the difference between the standard and the design element requiring an exception. If multiple exceptions are included on a single form, number each exception and maintain order throughout the form.)</i></p> <p>Description of Project: <i>(From Project Charter)</i></p> <p>Location of Design Feature: <i>(If multiple exceptions are listed, use bullets, numbering, or a table.)</i></p> <p>Crash History & Potential: 14 <i>(Include analysis of data from previous 5 years and/or other relevant crash data & information. Specifically provide crash history that relates to requested exception and provide a discussion of how the exception may affect crash potential.)</i></p> <p>Reasons for Not Attaining Standard: <i>(Explain in detail why the design standard cannot be met. List the constraints, such as cost/ benefit, crash history, environmental, etc. Include alternatives explored & benefits of not attaining standards, if applicable.)</i></p> <p>Effect on Other Standards: 15 <i>(Identify other standards or best practices affected by not meeting (or meeting) the standard.)</i></p> <p>Compatibility with Adjacent Sections: <i>(Describe how the design feature compares to the same, or similar, features in the vicinity of the project.)</i></p> <p>Probable Time before Reconstruction of Section:</p> <p>Mitigation for Exception Included in Design: 16 <i>(Identify mitigations to the effects of not meeting the standard. What considerations were made? If meeting full standard is not possible or practical within project scope, can an incremental improvement be achieved?)</i></p> <p>Supporting Documentation: 17 <i>(Attached electronic documents to form. Include the appropriate Plan Section, Cross Section, Alignments Sheets, Plan Details, UDC Document, photos, etc.):</i></p>
--

- 13 Description of Exception:** When multiple exceptions are being requested, related exceptions or the same type of exception in multiple locations may be grouped on a single form. Examples of related exceptions may be horizontal alignment, vertical alignment, and superelevation, which share closely related issues. In general, Limit the number of exceptions to 3 types per form. When design exceptions are not related, the use of multiple forms helps to segregate the issues.

For LPA projects, do not group items that are on or along the State Highway with items that are not.

When multiple exceptions are contained in one form, number the exceptions in this section and keep consistent numbering throughout the remaining sections in the document. Provide a clear description of each exception, including the proposed design, the standard requiring an exception, and existing conditions if applicable.
- 14 Crash History & Potential:** Evaluation of the Safety Priority Index System (SPIS) for specific locations within the project limits that are in the top 10% of the index. SPIS sites include funding from the Safety Investment Program. This information is available from the Traffic Engineering Services Unit. Compare crash rates to average crash rates for similar highways in this section. Discuss the potential for increase or decrease in crash rates. Include the number, types, and severity of crashes and the relationship to the design exception.
- 15 Effect on Other Standards:** Does compliance with a requirement conflict with federal state, or local laws? Regulatory conflicts may include preserving threatened or endangered species, the environment, archeological or cultural or natural features, historic preservation. Are there trade-offs with other engineering standards, best practices or other conflicting interests which are impacted due to achieving a requirement? Describe any feature that would be affected because of compliance with the requirement. Are other design exceptions or deviations requested and approved that relate to the request from other technical disciplines or roadway?
- 16 Mitigation:** Include the items that are included in the project to mitigate the specific effects of the proposed design exception. There are suggested items to use in the HDM in Part 200.
- 17 Supporting Documentation:** The Design Exception submittal must include appropriate plan section, cross section, alignment sheet and plan details. Digital pictures may also be included.

Figure 1000-5: General Design Exception Request Form (Form No. 734-5336) Page 3 of 3

OREGON DEPARTMENT OF TRANSPORTATION GENERAL DESIGN EXCEPTION REQUEST																							
<p><u>Signatures</u></p> <p>Prepared By: _____ Date: _____</p> <p style="margin-left: 40px;">(Engineer of Record)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 30%; padding: 2px;">Print Name:</td> <td style="width: 30%;"></td> <td style="width: 10%; padding: 2px;">Phone:</td> <td style="width: 30%;"></td> </tr> <tr> <td style="padding: 2px;">Company Name:</td> <td colspan="3"></td> </tr> <tr> <td style="padding: 2px;">Company Address:</td> <td colspan="3"></td> </tr> <tr> <td style="padding: 2px;">City:</td> <td style="padding: 2px;">ST:</td> <td style="padding: 2px;">Zip:</td> <td></td> </tr> <tr> <td style="padding: 2px;">Email Address:</td> <td colspan="3"></td> </tr> </table>				Print Name:		Phone:		Company Name:				Company Address:				City:	ST:	Zip:		Email Address:			
Print Name:		Phone:																					
Company Name:																							
Company Address:																							
City:	ST:	Zip:																					
Email Address:																							
<p>Concurred By: _____ Date: _____</p> <p style="margin-left: 40px; font-size: small;"> ODOT Program Manager: Area Manager, District Manager, State Bridge Engineer (when related to bridge structure or rail), Private Public Partnerships, Local Government (State Roadway Engineer for LPA projects off State Highway) 18 </p> <p>_____ Print Name </p>																							
<p>Concurred By: _____ Date: _____</p> <p style="margin-left: 40px; font-size: small;"> ODOT Region Tech Center Manager or Region Roadway Manager </p> <p>_____ Print Name </p>																							
<p>Approved By: _____ Date: _____</p> <p style="margin-left: 40px; font-size: small;"> State Roadway Engineer (LPA Approval Authority for LPA projects off State Highway) 19 </p> <p>_____ (Print Name) </p>																							
<p>PREPARED BY:</p> <div style="border: 1px solid black; width: 200px; height: 150px; margin: 0 auto;"></div> <p style="text-align: center;">Engineer of Record Professional Engineer Seal</p>		<p>APPROVED BY:</p> <div style="border: 1px solid black; width: 200px; height: 150px; margin: 0 auto;"></div> <p style="text-align: center;">State Roadway Engineer Professional Engineer Seal (LPA Approval Authority for LPA Projects off State Highway) 19</p>																					

- 18 Concurred By:** When a non-certified LPA has an agreement with ODOT for delivery of a project, and the subject of the design exception is not on or along the State Highway, the State Roadway Engineer signs on the "Concurred By" line instead of the "Approved By" line. In these cases, the LPA engineering approving authority approves the design exception. See Figure 1000-1.
- 19 Approved By:** When a non-certified LPA has an agreement with ODOT for delivery of a project, and the subject of the design exception is not on or along the State Highway, the State Roadway Engineer signs on the "Concurred By" line instead of the "Approved By" line. In these cases, the LPA engineering approving authority approves the design exception. See Figure 1000-1.

Note: On all projects, exceptions are required when the geometric design elements in Table 1000-2 do not meet or exceed the minimums given in the ODOT Highway Design Manual for the type of project.

Table 1000-2: Design Exception List

Design Elements / Features	FHWA Controlling Criteria		Requires ODOT Approval ² for All Projects
	May Require FHWA approval for all NHS Facilities	May Require FHWA Approval "High-Speed" NHS Roadways ¹	
Design Speed	√	√	√
Structural Capacity	√	√	√
Lane Width		√	√
Shoulder Width/Shy Distance		√	√
Horizontal Alignment		√	√
Grade		√	√
Stopping Sight Distance		√	√
Pavement Cross Slope		√	√
Superelevation		√	√
Vertical Clearance		√	√
Clear Zone ³			√
ADA Standards			√
Bike Lane/Shared Use Path Width			√
Bridge Rail			√
Bridge Width			√
Design Life and V/C Ratio			√
Diagonal Parking			√
Interchange Spacing			√
Median Width			√
Parking Width			√
Pavement Design Life			√
Pilot Design Treatment			√
Sidewalk or Walkway Width			√
Spiral Length (curves 1 degree or sharper)			√
Superelevation Runoff (match spiral length)			√
Vertical Alignment			√
Other ⁴			√

- ¹ "High-Speed" NHS roadway defined as Interstate highways, other freeways, and roadways with a design speed greater than or equal to 50 mph.
- ² For non-certified Local Public Agency projects, ODOT concurs with design exceptions for items not on or along the State Highway. The local agency approval authority approves the design exception.
- ³ Design exceptions are required for 4R projects. For 3R projects clear zone design will be the responsibility of the Region Technical Center. Contact the Region Roadway Manager for exact procedures to be followed. FHWA approval of clear zone design on 3R projects is not required.
- ⁴ Items that are in the Highway Design Manual that require approval of the State Roadway Engineer but not specifically listed above. These include existing guard rail upgrade, livestock under passes, barrier placement, acceleration lanes from at-grade intersections, right turn lanes, and interchange design.

Section 1006 ADA Curb Ramp Design Exception Requests (Form 734-5112)

The design exception process is intended to ensure that sound engineering decisions are made when design options are limited. Exceptions to design standards should be discussed early in the design process when project limits are first determined. All design exception requests must show justification. Refer to Section 1003 and Section 1004. Applying for an exception does not guarantee approval. The design exception webpage outlines the basic steps and has the latest forms posted for download.

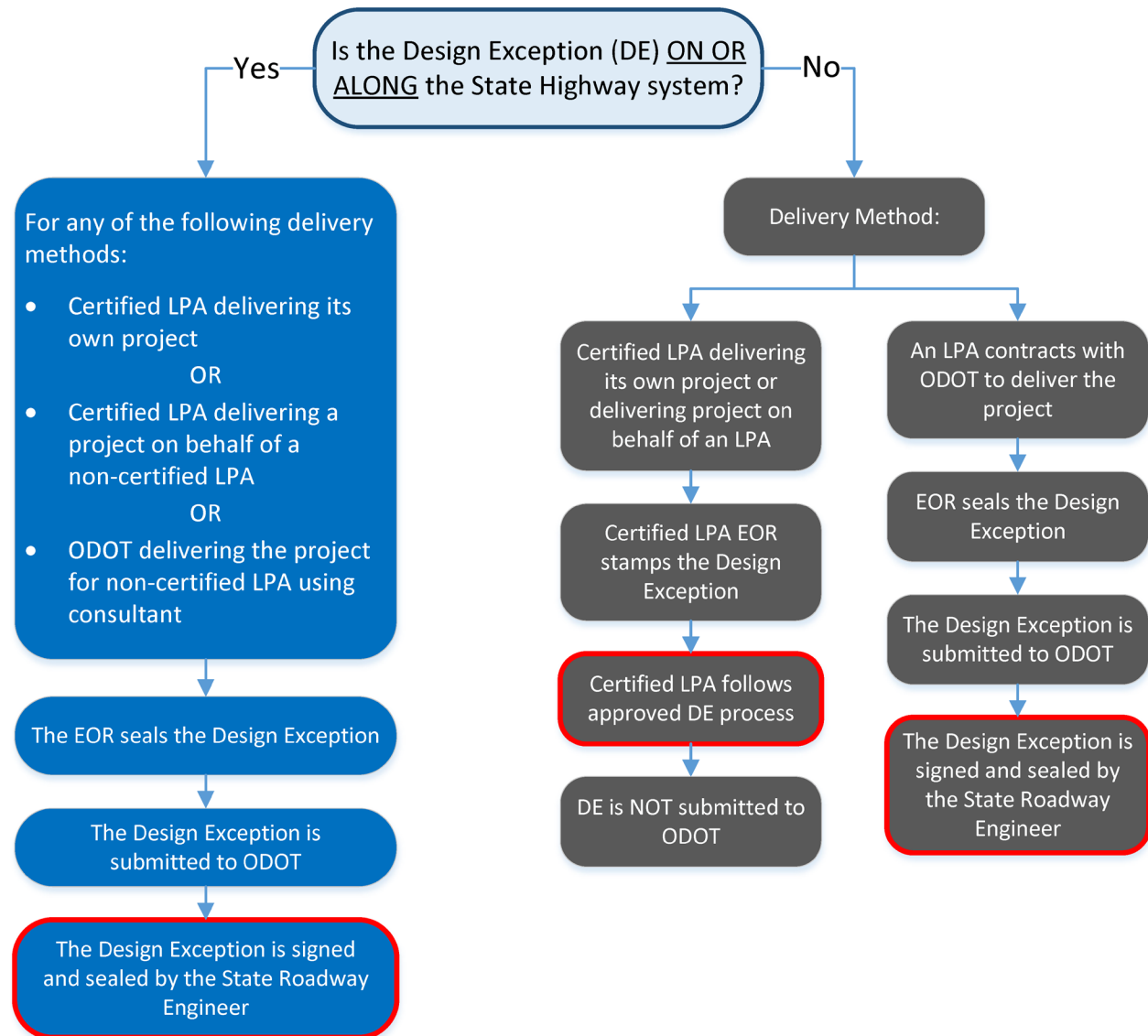
Although the current ODOT General Design Exception Request Form lists ADA Standards as one of design elements that requires a design exception for not meeting current guidance, that form does not have the detail that is needed in the justification of design exceptions for non-compliant curb ramps. The ADA Curb Ramp Design Exception Request and additional curb ramp guidance documents will allow the Department to document, justify, and identify the location of those curb ramps that have been determined not to be able to comply with current ODOT standards.

1006.1 Local Agency Projects

This process applies to all work on or along the State Highway System. In addition, all local agencies (certified and non-certified) receiving project funds through ODOT (except fund-exchange state funds) shall use the ODOT ADA Curb Ramp Design Exception Request form and submit curb ramp design exceptions to ODOT for approval through their ODOT Local

Agency Liaison, Transportation Project Manager, or Project Leader as appropriate. Certified agencies must use ODOT's form and process for all curb ramps on or along the State Highway System. For curb ramps that are not on or along the State Highway System, certified agencies must use this form and process until ODOT/FHWA have reviewed and approved the certified agency's written curb ramp design exception and inspection processes.

Figure 1000-6: Local Public Agency Project ADA Design Exception Approval Process



1006.2 Informational Needs

Design exception requests require a sufficient amount of information and design work to justify the exception. ADA design requirements are codified into federal law and the justification to

not provide the standard is limited. Unlike general roadway design exceptions, ADA exceptions are limited to technical infeasibility in most cases as ODOT's overall operating budget is rather large (see Section 1004.4). The ODOT design standard includes a margin for error in construction and reducing that margin (slope or dimensions) can result in a curb ramp system that does not meet the federal regulation requirements.

The purpose of a design exception for curb ramps is to document when standards are technically infeasible based on the scale of the project improvements. Projects are required to be scoped such that standards for curb ramp design can be met to maximum extent feasible (TSB 18-03(B)). The professional engineering decision and analysis, and documentation is reviewed for engineering standards and practices in constrained locations. Design exceptions for curb ramps are rare when the highway is newly constructed or on a new horizontal alignment.

The information required in the request includes the following items:

1. Location of the curb ramp based on ODOT's Linear Reference Method and mile point.
2. Project construction information and funding.
3. A diagram of the intersection with curb ramp corner number information.
4. Description of the curb ramp criteria with the specified values planned for design.
5. Description of the project purpose and need from the project business case, and triggering construction work for the curb ramp.
6. Reason for not attaining the standard for each criterion that cannot be met and a description of alternatives explored.
7. Effects on other standards related to roadway design or relevant laws.
8. Mitigation incorporated in the design to offset the impact of not obtaining the standard.
9. Supporting documents and exhibits to show the design analysis and design details.

NOTE: Any data omitted from the submittal package can cause a delay in processing the request. A draft review and consultation with the Technical Services Roadway Engineering Unit staff is recommended as described in Section 1004.1 prior to submission of the request.

Many of the data fields in the ADA Curb Ramp Design Exception Request form correspond to information that is defined in Section 1004, and will aid the designer when preparing the form.

1006.2.1 Location Information

ODOT has an extensive inventory database of every curb ramp on or along the state highway, with a methodology that is unique to ODOT. Every curb ramp has unique ID associated with it that is permanent throughout the curb ramp life cycle. The location information is based on the

Linear Reference Method and mile point. Individual curb ramp assets are described using corner position and ramp number. Exhibit “A” Curb Ramp Location and Numbering, and Exhibit “B” Curb Ramp Types are located on the web at:

<https://www.oregon.gov/odot/About/pages/assetandinspection.aspx>

The ADA Curb Ramp Design Exception Request form populates the overall ODOT database field and attributes; therefore, the information must be accurate.

Refer to the FACS-STIP user guide, in the Appendix for instructions on how to access the detailed information on a given curb ramp and corner. Consult the Statewide Asset Specialist for any clarification on curb ramp location information and methodology. Refer to the RD900 series of the standard drawings and Exhibit "A" for the linear reference syntax, corner number, and ramp number conventions diagram. The ODOT Inspector Guide for Curb Ramp and Push Buttons is an additional reference document.

State Highway Number: The ODOT, 3-digit number given to each state highway for identification purposes. Generally, this is not the same as the route number. If the project is off the State Highway System, use the street name of the mainline.

Suffix Code: In ODOT's FACS-STIP tool, the suffix code is a two digit highway suffix that differentiates mainline roads from connections and frontage roads with the same highway number. The mainline suffix is the numerical value 00. Connections and frontage roads each have a unique combination of two letters (AA to ZZ).

Roadway ID: In ODOT's GIS, the roadway identifier code determines the alignment when there is a separated highway alignment such as a freeway. Code I (Increasing) is for the primary alignment that increases with the mile point. Code D (Decreasing) is for the alignment with the decreasing milepoints.

Mileage Type: In ODOT's GIS, the mileage type code is when there are unique milepoints along a highway. The O Code indicated regular mileage. The Z code indicates an overlap in the milepoints. During realignment that lengthens the highway, an overlap in the mile points will result. The Z code indicates the repeated milepoints.

Mileage Overlap Code: In ODOT's GIS, the mileage overlap code is used when the "Z" code is used to indicate each unique occurrence of duplicate mile points. A code of 1 is use for the first occurrence, a code of 2 for the second occurrence, etc.

Intersection MP: If a state highway, list the appropriate milepoint of the intersection. If the project is off the State Highway System use the local agency milepoint if available, cross street name, or general location (i.e., midblock crossing between 25th and 26th). A new design exception request form is required for each individual intersection, entrance, midblock crossing, etc. Multiple curb ramp design exceptions for each milepoint location can be included in the Design Exception Request form if identified appropriately

Corner Position(s) and Ramp Position Number(s): In addition to the intersection milepoint, list the appropriate corner and ramp position number (i.e., 1-1, 2-1, 2A- 1, 2A-2, 4-2, etc.) as demonstrated in Exhibit "A" attached. Every curb ramp design exception must have a corner position and ramp position number assigned for documentation purposes. Multiple corner positions and ramp position numbers (one milepost location) should be shown on a single design exception request form.

1006.2.2 Project Information

This section provides information about the project, including when it is planned for construction, what type of funding will be used to construct the project, and if there is an associated crosswalk closure at the intersection. This helps the agency retrieve information about the contract at a later date including what the applicable standards were at the time of construction.

A concise yet descriptive narrative of the proposed project improvements is required to determine the scale of the overall project improvements. For example, is the project new construction (4R), restoration (3R), preservation (1R), or triggered by something else. A lack of information will cause a delay as the reviewer is not as familiar with the details of the project as the designer engineer. Include information if the project is addressing a formal ADA complaint(s) or a CQCR(s).

Key Number: The ODOT unique 5-digit number given to each project.

EA Number and Sub-Job: The ODOT internal account number for the project including the sub-job number.

Description of Project: The scope of work indicates which ADA requirements are triggered by the project. Describe the project's scope of work with special detail to the following features:

1. why is a project occurring, use information from the business case and project charters
2. whether there are multiple standards or scopes of work on the project (e.g., new signal at intersection but paving only several miles outside of that).
3. whether pavement surfacing is included;
4. what surface treatment is used and what is the length or limits of pavement surfacing work;
5. whether sidewalk is constructed and where;
6. whether traffic signals will replace pushbuttons, pedestrian signals or controllers
7. whether bridge work is maintenance focused or rehabilitation of decking or sidewalk, or includes guardrail replacement.

1006.2.3 Intersection Diagrams

Intersection diagrams help the reviewer orient themselves to the intersection configuration with graphics that can be produced by a variety of methods. This might be a clipping from your CAD design plan or aerial image that is clear and legible. The important information is the street names, mile point, corner number and ramp number; labeling the curb ramp(s) you are requesting a deviation from standard.

Sketch or insert graphic file for entire intersection. Indicate which ramps are addressed or not addressed in the project scope. See [Exhibit "A"](#) for corner and ramp numbering convention.

1006.2.4 Description of the Exception

For each location identified in the table, describe the difference between the requirement and the level of accessibility achieved by the design (e.g., what slope is attained?)

1006.2.5 Reasons for Not Attaining Standard

ADA requirements allow deviation from a requirement only when meeting that requirement is technically infeasible or infeasible within the scope of work. Explain in detail why the geometric requirement cannot be achieved for each curb ramp criteria requested. Describe the site specific constraints for each curb ramp where an exception is sought. Physical constraints may include underlying terrain, underground structures adjacent developed facilities, right-of-way availability, drainage, or the presence of notable natural or historic feature. Explain why the constraint precludes achieving the ADA requirement. If achieving a compliant solution is possible, but outside the scope of work, describe why it would not be possible to add this to the scope of work. Explain the decision process to work around the loss in accessibility and describe alternatives explored during design.

1006.2.6 Effects on Other Standards

Describe how the design compliance cannot be achieved because of conflict with federal state, or local laws. Regulatory conflicts may include preserving threatened or endangered species, the environment, archeological or cultural or natural features, or historic preservation. Describe design decisions balancing the trade-offs with other engineering standards, best practices or other conflicting interests which are impacted due to achieving an ADA requirement including other technical disciplines (e.g., hydraulics, typical section, bridge rail safety). Describe any feature that would be affected because of compliance with the ADA requirement.

1006.2.7 Mitigation Incorporated

Curb ramp design is required to be accessible and usable by people with disabilities to the maximum extent feasible or practicable. Since at least one standard is not being met in the request, explain what site-specific mitigations are employed to ensure that people with disabilities can access and use the curb ramp. Clearly link the mitigation to the design criteria that is substandard and how accessibility is improved at the location with the given design to the maximum extent feasible. For example, a hand railing might be used to offset steep terrain and slopes on the walkway.

1006.2.8 Supporting Documents

Include the appropriate Plan Section, Cross Section, Alignment Sheets & Plan Details. Include a detail sheet showing elevations and slopes for each curb ramp where an exception is sought. See template in ODOT Standard Detail DET1720 & DET1721. Indicate the signal pole, pedestrian pole and pushbutton location if applicable. Include curb line alignment profile if design exception pertains to the gutter flow slope. Include proposed curb ramp details, general construction plans, existing condition site photos, alternative designs considered, and crosswalk closure approvals or determination letters.

When the Crosswalk Closure box is checked for the intersection, include the crosswalk closure approval letter with the submittal in the supporting documents. When a crosswalk is officially closed, an engineering study has been conducted and an approval letter is signed by the State Traffic Engineer. The crosswalk closure approval letter has a unique filing code that resides in the Traffic Section and serves as the decision document in lieu of an ADA Curb Ramp Design Exception Request Form for a single ramp construction.

1006.3 Design Exception Checklist

The ODOT ADA Curb Ramp Design Checklist (form 734-5184) is a design aid for determining when design exceptions are required for the curb ramp design. The design exception checklist will aid you in design of the curb ramp system to ensure you do not miss a key requirement for ODOT standards. Download ODOT's ADA Curb Ramp Design Checklist during your project scoping or design at:

<https://www.oregon.gov/odot/Forms/Pages/default.aspx>

Discussion on each of the design criteria is included in Part 800, Part 900 and the Signal Design Manual. Retain the checklist in the project documentation folder once completed utilizing the most current version. Exhibit "A"- Curb Ramp Location and Numbering guidance; and the

Exhibit “B” - Curb Ramp Types are available to assist designers when submitting a request and linked within the checklist for reference.

1006.4 ADA Curb Ramp Design Exception Form and User Guide Procedure

The ADA Curb Ramp Design Exception Form is a smart pdf file that has automated features used in processing the exception request and transferring information into ODOT’s asset database and inventory for curb ramps. Review the [ADA Curb Ramp Design Exception Request Form 734-5112 User Guide](#) to complete the request. Adobe Reader is a free software and is used when filling out and submitting the form. Use of software other than Adobe Reader may result in corruption of the ADA Curb Ramp Design Exception Request Form. The user guide provides step-by-step instructions for all user roles, for filling in, signing, submitting, reviewing and processing ODOT form 734-5112; the ADA Curb Ramp Design Exception Request form.

The fillable ADA Curb Ramp Design Exception Request form and the ADA Curb Ramp Design Exception Request Form 734-5112 User Guide are located on the web at:

<https://www.oregon.gov/odot/Engineering/Pages/Design-Exceptions.aspx>

Save a finalized copy to your files with the naming convention for the document. Signatures are obtained by forwarding the document via an automated email generated by the "Submit" button on the form. Carbon copy appropriate members of your region or design team so they can track the progress of the submission. Similar to the roadway general design exception form, the basics steps for ADA curb ramp design exception request approvals are outlined below:

- Step 1 Project teams determine justification for design exception(s) at scoping, design phases, or planning process.
- Step 2 Roadway designer prepares design exception with supporting justification with review from Region Roadway Manager. The engineer of record digitally seals and signs the exception request. Consultation with Technical Services Roadway Engineering Section staff is encouraged during the preparation of the request and prior to signing by the Engineer of Record (see Section 1003).
- Step 3 The program manager is the ODOT Area Manager, District Manager, or Urban Mobility Office (UMO) Manager. The program manager reviews request and consults with Engineer of Record to assure that the request accurately describes the conditions that warrant a design exception. The program manager then digitally signs the design exception request on the “Concurred by” line and forwards to the ODOT Region Technical Center Manager or the Region Roadway Manager.
- Step 4 The ODOT Region Technical Center Manager or the Region Roadway Manager reviews the request and consults with the engineer of record and other applicable

- groups in region, such as Traffic or Safety. The Region Technical Center Manager or the Region Roadway Manager digitally signs the design exception if they concur with the request.
- Step 5 The design exception is submitted by email to the ODOT Design Exception Inbox at ODOTDesignExceptions@odot.oregon.gov. The design exception is assigned to a member of the design exception review team for review and a formal recommendation is prepared by the member. This team meets weekly to review exceptions and discuss the merits of all ADA design exceptions. Informal reviews are completed as required based upon the complexity of the project.
- Step 6 The State Roadway Engineer reviews the design exception request and recommendation from the design exception review team.
- Step 7 The State Roadway Engineer digitally seals and signs the request if sufficiently justified.
- Step 8 Where agreement between the Region Technical Center Manager and the State Roadway Engineer cannot be reached, the State Roadway Engineer forwards the request to the Chief Engineer. The Chief Engineer makes the final decision on approval or denial of the design exception request.

1006.5 ADA Curb Ramp Design Exception Database

Each design exception is assigned a control number that is used for permanent storage and filing. The control number is assigned once the design exception request has been formalized with signatures for the ADA curb ramp design exception request and received by the Design Exception Administer for the roadway unit. The ADA Curb Ramp Design Exception Request Form auto populates information into the asset database and inventory systems and therefore paper submissions are not permitted. Approved requests can be searched on the database which is publicly available at <https://ecmnet.odot.state.or.us/DesignExceptions/Search>.

1006.5.1 FACS-STIP Layer

The ADA Curb Ramp Design Exception Request Form auto populates information into the asset database and inventory systems, and information is available on the curb ramp layer. Refer to the FACS-STIP User Guide.

Section 1007 Digital Seal Requirements

General and ADA Design Exception Request Forms require digital professional engineering seals and signature from the professional of record and the State Roadway Engineer. Digital seals and signatures must meet the ODOT requirements and the requirements of the Oregon State Board of Examiners for Engineering and Land Surveyors. Digital seal and signature requirements are provided in Part 100 of the HDM and in ODOT Engineering and Technical Services Branch Directive [TSB21-01\(D\)](#).

Section 1008 References

1008.1 Code of Federal Regulations - 28 CFR Part 35

For all states in the US, ADA features constructed after 1992 are required to be readily accessible by individuals with disabilities if the construction commenced after January 26, 1992. The burden of proving technical infeasibility lies with the state or local government that constructs the ADA feature. Conditions for exceptions to the regulation requirements for ADA stipulated in the code of federal regulation as it pertains to Title II entities. Title II entities include all local and state government agencies.