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550.01 Overview

It is in the national and state interest to preserve and enhance the Interstate and non-Interstate freeway system in Washington providing an appropriate level of service in terms of safety and mobility performance for the movement of people and goods. Full control of access along the freeway mainline and ramps, along with control of access on the local roadway network within the interchange functional area, is critical to providing such service. Therefore, decisions to approve new or revised interchange access points on Washington's freeways depend on consistent application of procedures, analysis, and supporting documentation.

In May 2017, the Federal Highway Administration (FHWA) significantly revised its access policy. In the memorandum transmitting the new policy to the FHWA Division Administrators, FHWA states:

“The FHWA has identified several areas where the current Policy may be streamlined to eliminate duplication with other project reviews. The new Policy will now focus on the technical feasibility of any proposed change in access in support of FHWA's determination of safety, operational, and engineering acceptability. Consideration of the social, economic, and environmental impacts and planning considerations will be addressed through the National Environmental Policy Act (NEPA) review of the project. This change will eliminate the potential for duplicative analysis of those issues in the State DOT's Interstate Access report and the NEPA documentation. The change will allow State DOTs to submit only a single technical report describing the types and results of technical analyses conducted to show that the change in access will not have significant negative impact on the safety and operations of the Interstate System.”

The federal policy change points to a clear link between the NEPA and access revision processes. The NEPA process will account for the social, economic, and environmental impacts and a technical report herein called the Access Revision Report (ARR) will account for the safety and operational impacts.

550.02 Freeway Access Policy

Federal law requires FHWA approval of all access revisions to the Interstate system. Both FHWA and WSDOT policy require the formal submission of a request to either add, revise, or abandon access to freeways. FHWA and WSDOT freeway access policies also require proposed access changes be consistent with the vision, goals, and long-range transportation plans of a metropolitan area, region, and state.

Interstate freeways: New or revised access to Interstate freeways requires collaboration with and approval from FHWA. WSDOT and local partners need to include FHWA from the beginning of the planning process throughout the development of the proposal. WSDOT is the only entity recognized by FHWA Washington Division that is allowed to submit requests for Interstate access revisions for review and approval.

Non-Interstate freeways: New or revised access to non-Interstate freeways requires engagement with and approval from WSDOT.

For consistency in analysis and reporting, the policy to revise freeway access is the same for both Interstate and non-Interstate freeways. The only major difference is in the approving authorities, described above. [Exhibit 550-4](#) helps clarify what is considered an access revision and presents approval authorities for both Interstate and non-Interstate access revisions.

The contents of this chapter provides the requirements and expectations to fulfill this policy.

Note: For breaks in freeway limited access that do not involve new, revised, or abandoned traffic interchanges, follow procedures given in [Chapter 530](#) Limited Access Control. Examples include locked gates, pedestrian structures, and access to fire hydrants within the full control limited access. Contact the HQ Design Office, [Access and Hearings Section](#) for support.

550.03 Access Revision Process

The access revision process begins when an entity considers the potential of revising access to a freeway (Interstate or non-Interstate). There are two distinct steps in the access revision process: a non-access feasibility study and an Access Revision Report. Both steps focus on safety performance and operations for all modes. The feasibility study is the beginning of the process and the conclusion of the feasibility study defines the purpose and verifies the need for a potential access revision. If the feasibility study concludes that an access revision is not necessary, the process is finished. If the feasibility study concludes that an access revision is necessary, then an Access Revision Report is written and the conclusion of the ARR determines the preferred access revision alternative. These two steps are detailed in the subsequent sections of this chapter. [Exhibit 550-1](#) presents a flow chart detailing the Non-Access Feasibility Study process; [Exhibit 550-2](#) provides the ARR process.

For the process to be successful, there needs to be a clear link to the planning and environmental processes. The planning linkage should be addressed at the beginning of the process to make sure the access revision decision aligns with local, regional, and state planning efforts. This planning linkage is discussed in more detail in [Section 550.05\(2\)\(a\)](#). The environmental linkage exists throughout the process as the Federal policy promotes a more direct link between this access revision process and the environmental process. This chapter includes callouts to the environmental process at key points to highlight this linkage and to help align the processes and reduce duplication between the two processes.

The access revision and practical design processes correlate through the use of the [Context and Modal Accommodation Report](#) (CMAR) and the [Basis of Design](#) (BOD). The CMAR can help determine modal priority and accommodation on non-freeway segments, such as the crossroad proposed for the freeway access connection. The CMAR may be completed during the feasibility study. The BOD can help document baseline and contextual needs and set the direction for a future project. Sections 1 through 3 of the BOD (Project Need, Context, and Design Controls) may be completed at the end of the Non-Access Feasibility Study. Sections 4 and 5 (Alternatives

Analysis and Design Element Selection) of the BOD should be completed in conjunction with the ARR. The BOD completed with the ARR may be considered the scoping BOD.

Use the Design Support website to download the CMAR, the CMAR learners Guide, the Basis of Design and Alternatives Comparison Table. <http://www.wsdot.wa.gov/Design/Support.htm>

550.03(1) Scalability

The access revision process varies greatly due to the complexities of the transportation system and context environment planned for the horizon year (see [Chapter 1103](#)). Not all access revision cases require a full-scale ARR. [Exhibit 550-4](#) reflects the access revision documentation levels for select project types. For variation from [Exhibit 550-4](#) or clarification on scalability, discuss with the Assistant State Design Engineer (ASDE). Document the scalability in the method and assumptions documents.

550.03(2) Environmental Documentation Linkage

Implement Planning and Environmental Linkage (PEL) principles during the access revision process to minimize rework in the environmental review/NEPA stage of the project. Using the PEL approach is most valuable where an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required. [Chapter 200](#) of the Environmental Manual details this beneficial link between planning and environmental processes.

The new FHWA policy states clearly that the environmental documentation and access revision processes be linked and aligned to reduce duplication of effort. Throughout this access revision analysis process, key points correlate with the environmental process. For best results, make sure the environmental staff is fully engaged and involved in the process. Region Environmental staff will help determine the best NEPA / SEPA compliance strategy. The team, including FHWA, determines the type of environmental document required during the feasibility phase of access review. Since FHWA approval of Interstate access revisions entails a federal action, National Environmental Policy Act (NEPA) requirements apply to Interstate access reviews. If NEPA does not apply to a freeway access revision, environmental documentation through the State Environmental Policy Act (SEPA) does apply. In either case, the team, comprised of experts and agents from WSDOT and FHWA, is authorized to determine the type of environmental documentation required.

Best Practice: Engage WSDOT Environmental experts to determine NEPA / SEPA strategy.

If the team determines the project can be documented as a Categorical Exclusion/ Exemption (CE), involvement from environmental staff at key decision points will help ensure the project is appropriately scoped and environmental considerations are integrated into the ARR as appropriate. For a CE, information from the Non-Access Feasibility Study can be useful, but is typically much more detailed than the information required for the CE checklist.

550.04 Support Teams

550.04(1) Executive Support Team

Establish an executive support team before beginning the feasibility study. The executive support team is active throughout the access revision process. Their primary duty is to interpret policy and set direction for their representatives involved in the technical support team. The representatives will be signees on the deliverables that are required throughout this chapter. The executive support team meets to monitor the progress of the deliverables and prepares records of meeting minutes and decisions.

Due to the scalability of the process, the executive support team can vary with each access revision case but will typically have a core of the following individuals:

- FHWA Safety and Geometric Design Engineer
- Region Representatives (Assistant Regional Administrator, Traffic Engineer, Local Programs Engineer, Environmental Manager, and/or Planning Manager)
- Assistant State Design Engineer
- HQ Traffic
- Local agency representatives (city, county, port, transit and/or tribal government)

550.04(2) Technical Support Team

The technical support team conducts a majority of the detailed analyses required throughout the access revision process. This team meets regularly to ensure deliverables and project details are coordinated across disciplines. A subgroup of the technical team may also conduct separate meetings to coordinate specific details. The technical team delivers results and conclusions of their work back to the executive support team for review and approval. The technical group records and tracks meeting minutes and action items.

Due to the scalability of the process, the technical support team can vary with each access revision case. Work with the executive support team to make sure the right personnel are on the team. The team members may include representation from the following groups:

- Planning organization (Metropolitan Planning Organization (MPO) and/or Regional Transportation Planning Organization (RTPO))
- FHWA (Area Engineer, Environmental Program Manager, and/or ITS Engineer)
- WSDOT Region (planning, design, environmental, maintenance, and/or traffic)
- WSDOT HQ [Multimodal Development & Delivery](#)
- Local agency specialist (planning, developer services, public works, and/or engineering)
- Project proponents specialists (developer and/or consultant)
- Multimodal specialist (transit, bike, and/or pedestrian)
- Other identified stakeholders/partners

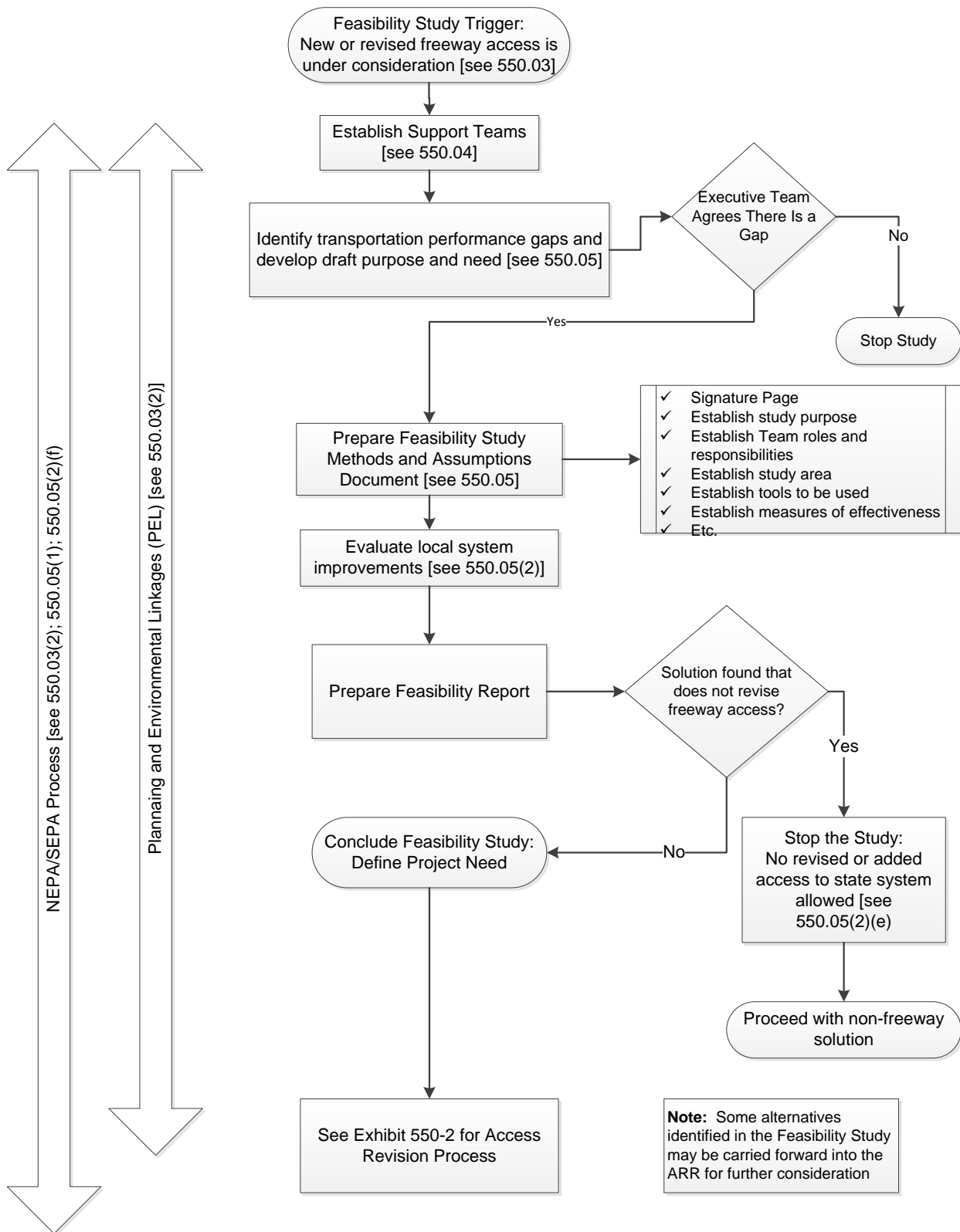
550.05 Non-Access Feasibility Study Process

The goal of this first step in the access revision process is to look at the non-access transportation network to determine if improvements can be made that address performance gaps for all modes. **Non-access improvements are solutions that do not impact the gore points to/from the mainline of the freeway.** Examples are changes to the local street network, travel demand management, traffic operations enhancements, crossroads, ramp meters, minor geometric ramp modifications, transit, and minor ramp terminal modifications.

The Non-Access Feasibility Study is a multistep process and begins (see [Exhibit 550-1](#)) with assembling an executive support team. The WSDOT Region assembles the executive support team. The executive support team convenes and the local, regional, tribal, or state entity that is the proponent of the access revision presents the performance gaps that represent the probable baseline needs for an access revision. If the executive support team agrees there is a probable performance gap that needs further study, then the technical support team is formed. The technical support team develops the draft purpose and need and the process of conducting a non-access feasibility study begins and a method and assumptions (M&A) document is prepared.

Performance Gap – The difference between the measured and targeted performance unit for a performance metric. See [1100 Series Chapters](#).

Exhibit 550-1 Non-Access Feasibility Study Process



Linking to the state and local planning representatives is essential. It is possible that a local planning study has been conducted that meets the requirements of the non-access feasibility study. If this is the case, the executive support team can make the determination that the planning study is sufficient and move on to the ARR. It is necessary to also coordinate with the region's environmental representative to help ensure the local planning study is sufficient in developing the purpose and need necessary for the environmental process.

Planning Linkage – The best projects consider and complement local, regional, and state transportation plans for all modes.

550.05(1) Non-Access Feasibility Study Methods and Assumptions Document

The next step in a Non-Access Feasibility Study is to create a methods and assumptions (M&A) document that establishes the methods followed while the study is being conducted and the assumptions made during the study. Cover the following points in the M&A document:

- Team Participants
 - Executive team members, roles, and responsibilities
 - Technical team members, roles, and responsibilities
- Scalability (if applicable, see [Section 550.03\(1\)](#) and [Exhibit 550-4](#))
- Planning Linkage
 - Pertinent planning documents
 - Prior community engagement
- Environmental Linkage
 - Probable environmental documentation: EIS, EA, or CE
 - NEPA/SEPA compliance strategy
- Community Engagement
 - See [Community Engagement Plan](#)
- Alternatives Selection
 - Process for determining non-access reasonable alternatives including alternative development and screening
- Traffic Operational Analysis Scope and Scale
 - Determine the study area for operational analysis. For efficiency and uniformity of data, it may be beneficial to assume a freeway access revision will be necessary when determining the study area. Discuss the study area in detail, reach agreement on its scope and scale, and record in the M&A document. Typical analysis study areas include:
 - Particularly in urbanized areas, at least the first adjacent existing or proposed interchange on either side of where an access revision is being considered and the entire freeway components within this area.
 - The crossroads to at least the first major intersection on either side of where the access revision is being considered. The local street network should be extended as necessary to fully evaluate the impacts of the proposed change in access.

- Incorporate connections to the transit network inside the study area as modifications to the transit service may impact travel demand.
 - Incorporate regional trails/pathways inside the study area as improving multimodal connectivity may impact travel demand.
- Study period: AM/PM Peak, midday, weekends
- Study years: Current, opening, design/horizon
- Methodology: Highway Capacity Manual or other tool
- Multimodal priorities and accommodation
 - Transit operations and considerations: Transit must be given consideration in locations where freeways are at capacity in the peak hours.
 - Bicyclist networks connectivity, needs, considerations.
 - Pedestrian access and network connectivity, needs, considerations.
- Tools: Software versions and default software settings
- Traffic forecasting methodology:
- Measures of effectiveness
- Safety Performance Analysis Scope and Scale (See [Chapter 321](#))
 - Study area
 - Study period
 - Study years: Current, opening, design/horizon
 - Methodology
 - Tools
 - Measures of effectiveness
- Identify and Record Assumptions
 - Base Improvements – Transportation projects that will be built by developers, local agencies, and the state and what year they will be built.
 - Items that are uncertain and may have an impact on the analysis. For example funding, tolling, context changes, modal shift, or travel demand management.
- Change Management
 - How will your study address changes in assumptions, scope, or deliverables?

The above list is not all-encompassing nor is everything in the list covered in every study. The technical support team refines the above list as necessary and submits the outline of the feasibility study to the executive support team for concurrence.

The Non-Access Feasibility Study M&A document contains a signature page for concurrence by the executive support team. A template for the M&A document is here:

<http://www.wsdot.wa.gov/design/accessandhearings>

The Non-Access Feasibility Study may begin upon concurrence of the M&A document.

550.05(2) Non-Access Feasibility Study

Conduct and document the non-access feasibility study following the assumptions and guidance set forth in the M&A document. This determines whether non-access improvements can address the performance gaps agreed upon by the executive support team. The Non-Access Feasibility Study contains the following items:

- Signature Page

- Project Background
- Vicinity Map
 - Study Area
- Planning Linkage (see Chapter 550.05(2)(a))
 - Multimodal Needs
- Traffic Volumes (see Chapter 550.05(2)(b))
- Traffic Operational Analysis (see Chapter 550.05(2)(c))
- Safety Performance Analysis (see Chapter 550.05(2)(d))
- Reasonable Non-Access Alternatives (see Chapter 550.05(2)(e))
- Conclusion (see Chapter 550.05(2)(f))
 - Purpose and Need for Access Revision

Non-Access Feasibility Study is compiled and reviewed first by the technical support team prior to being sent to the executive support team for signature. If the process does not go into the ARR phase, then send a final copy of the Non-Access Feasibility Report to your ASDE for filing. If the process continues into the ARR phase, then attach the Non-Access Feasibility Report to the ARR as an appendix.

550.05(2)(a) Planning Linkage

It is essential to create the linkage to the transportation planning processes and outputs by the WSDOT and other agencies in the non-access feasibility study. Any transportation improvement considered in the access revision process should align with these planning processes. Describe how the improvements are consistent with local land use plans, and local, regional, and state transportation plans including possible future interchanges, bicyclist/pedestrian networks, transit service, and possible development.

While the need for freeway access is motor vehicle based, it is also important to address the needs of all modes that will access and use the local networks and freeway crossroad(s). An important aspect of the planning linkage is to address multimodal connectivity on the crossroad. While interchange crossroads may provide vehicle access to and from the freeway mainline, they also provide critical multimodal connectivity between land uses on either side of the freeway. Consult comprehensive land use and transportation plans for multimodal elements. Document multimodal needs, priority, and accommodation in the Non-Access Feasibility Study.

Consistent and purposeful planning linkages between agency partners helps the process.

A non-access feasibility study may be performed in conjunction with another planning process. When a non-access feasibility study is performed in conjunction with another planning process, then that process must address the requirements for a non-access feasibility study in addition to requirements of other planning processes. Include WSDOT Planning and local agency staff (land use and transportation planning specialties) in the technical support team to determine if this linkage is possible or beneficial.

If another planning process or study appears to meet the requirements of the Non-Access Feasibility Study, have the technical support team review it and determine if it is applicable. If the technical team finds the process or study meets the requirements of the feasibility study, then present it to the executive support team and request an exemption from the feasibility

study process. Clearly document this exemption and receive written approval from the members of the executive support team.

550.05(2)(b) Traffic Volumes

Traffic volumes for the existing, opening, design, and horizon year are determined and reported in the feasibility study. It is important to consider pedestrian, bicyclist, and transit volumes where applicable. The existing year is the year the traffic data is collected. Consult [Chapter 1103](#) for definitions and details of opening, design, and horizon years.

The data for the future years may come from a regional transportation model or linear projections unique to the study. Exponential growth projections are not recommended.

Regional transportation models may also be used for the opening and design year volumes. Transportation models are commonly maintained by a Metropolitan Planning Organization. These models predict traffic volumes by dividing the area into zones, populating these zones with the appropriate type of land use, and predicting travel demand on the road network based upon the trip demand and travel time between destinations. The process to develop these models is extensive; therefore, the models are not continuously updated. Opening/design years that do not correlate with the years of the regional transportation model may be adjusted by a linear growth rate to the opening/design year of the traffic study. The technical support team determines how to best use an available model. Document the model used, how the model was calibrated and validated.

Traffic models used for the ARR process should incorporate transit, bicyclists, and pedestrians. If the model does not have the ability to incorporate these other modes, investigate the viability of modifying link and intra-zone trips with the technical support team to reflect the multimodal trips. Consider how changing access to these other modes may impact travel demand within and through the study area.

If linear projections are used, be careful to not base projection on a valley or peak in historic traffic volumes. Record any assumptions applied to linear projections in the feasibility study.

550.05(2)(c) Operational Analysis

Conduct the operational analysis over the study area, using the tools and methodology in accordance with the M&A document. Conduct the operational analysis on the opening and design year. The technical support team determines if it is necessary to have existing year analysis or if the no-build at opening year is sufficient. For these years:

- Conduct the Existing operational analysis over the study area (if required by the technical support team)
 - No change in the existing roadway network.
 - Use the existing traffic volumes and calibrate to existing conditions to determine if the analysis reflects existing conditions and the model is validated.
- Conduct Base Improvements operational analysis over the study area
 - The existing roadway network with the addition of local or non-access transportation projects and services that are funded for construction/delivery or have a high likelihood of being constructed/delivered, as identified as base network improvements in the M&A document. Incorporate base network improvements into the analysis.

- o The result of this base improvements operational analysis is a list of the locations where the transportation system has potential performance gaps. Compare this list of locations to the performance gaps identified in the beginning of the access revision process. The analysis helps clarify whether or not performance gaps exist. Identify these gaps in the report. These identified gaps will be where the technical support team focuses in the operational analysis done for the reasonable non-access alternatives. This leads to identification of performance targets by mode.
- Conduct the Build operational analysis over the study area
 - o Incorporate the base improvements as the starting point, then evaluate reasonable non-access alternatives as discussed in 550.05(2)(e)
 - o The build operational analysis assess whether the non-access alternatives address the identified performance gaps.

550.05(2)(d) Safety Analysis

Conduct a safety analysis per Chapter 321.04 and Section 8.1 of the *Safety Analysis Guide*. In this section of the feasibility study, discuss the safety performance of the existing transportation network. For the non-access Feasibility Study, the safety analysis needs to focus on the non-access network; safety analysis of the freeway mainline is not required.

550.05(2)(e) Reasonable Non-Access Alternatives

The Non-Access Feasibility Study must look at reasonable alternatives that can address the performance gaps noted in the operational analysis and/or safety performance analysis. The determination of reasonable alternatives follows the process as noted in Chapter 400.07(1)4 of the WSDOT *Environmental Manual*. Each reasonable alternative must consider the change in safety performance per the *Safety Analysis Guide*.

The goal of the alternatives is to identify non-access improvements and performance targets that address operation gaps and safety performance characteristics for all modes. Alternatives should first consider non-access, operational and/or demand management improvements. Coordinate these improvements with local and state planning staff. The technical support team initiates alternatives for consideration and presents them to the executive support team for approval. Include alternatives comprised of varying types such as intersection solutions, corridor solutions, land use modifications, transit improvements, mode shift, travel demand management or other systematic network-based Practical Solutions approaches. Use the measures of effectiveness discussed in the methods and assumptions document to compare alternatives.

Performance target – an outcome or desired state intended for a part of the system.

See Chapter 1101.

Provide a list of non-access improvements needed to address the performance gaps. If an improvement will be within the state's jurisdiction, then complete a scoping Basis of Design for this improvement and include as an appendix to the feasibility study. If the non-access improvements can address the performance gaps within the criteria defined in the M&A, then state such in this section and conclude the access revision process.

If the non-access improvements do not completely address the performance gaps, but do show value, then they should be carried forward into the access revision analysis for further inclusion in the project.

550.05(2)(f) Non-Access Conclusion

If the non-access improvements can address the performance gaps within the criteria defined in the M&A, then state such in this section and conclude the access revision process.

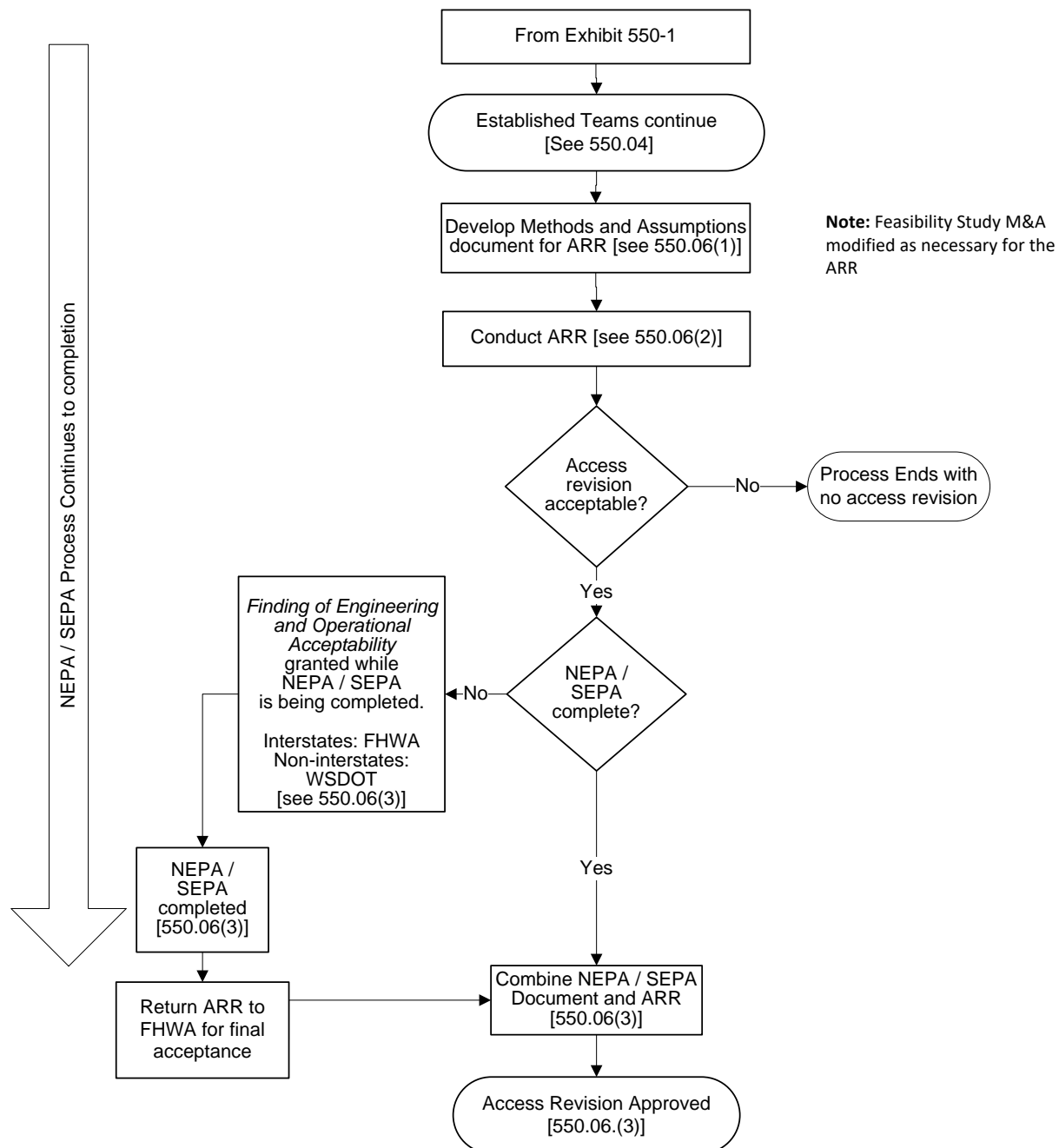
If the feasibility study indicates that addressing performance gaps cannot be reasonably achieved without revising freeway access, then write a purpose and need for access revision in this section of the feasibility study. This purpose and need statement should be written in close coordination with the Environmental Office as this is a key linkage point between the NEPA/SEPA process and the access revision process. The goal of this section is to provide a purpose and need statement that can be used for the Access Revision Report, a Basis of Design for an access revision, and the NEPA/SEPA process.

In addition to the purpose and needs statement, summarize the non-access alternatives that are needed and carried this list forward into the ARR.

550.06 Access Revision Report Process

In order to approve or reject a proposed revision to freeway access, specific analyses are to be completed and then documented in a technical report. This report is the Access Revision Report (ARR), previously known as an Interchange Justification Report (IJR). The proponents, with the help of the support team, prepares the ARR. One of the first steps should be the formation of the Executive Support Team. See section 550.04. Next develop a methods and assumptions document as outlined in section 550.05(2). The M&A document will be used to analyze the access revision and assist in developing the Access Revision Report.

Exhibit 550-2 Access Revision Report Process



550.06(1) Access Revision Report Method and Assumptions Document

Begin by reevaluating the Non-Access Feasibility Study M&A to determine if it is applicable to the ARR. Pay attention to the sections on alternatives selection and assumptions. These two sections will likely change between the feasibility and the ARR phases. If there is no change, the Non-Access Feasibility M&A may be adopted by the executive committee. If a modification of the M&A is necessary, the executive committee has the ability to require a full rewrite or to agree to a scaled down effort for the ARR. If a full rewrite is necessary, follow the same outline as presented in Section [550.05\(1\)](#) with the addition of allowing on-system improvements.

550.06(2) Access Revision Report

The Access Revision Report addresses:

1. Reasonable Alternatives; see [550.06\(2\)\(a\)](#)
2. Operational Analysis; see [550.06\(2\)\(b\)](#)
3. Safety Performance Analysis; see [550.06\(2\)\(c\)](#)
4. Conceptual Signing Plan; see [550.06\(2\)\(d\)](#)

The following provides details for completing the Access Revision Report.

550.06(2)(a) ARR Reasonable Alternatives

Consider alternatives in the Non-Access Feasibility Study that are carried forward into the ARR process and any new alternatives that may be developed for on-system alternatives. Then narrow the alternatives down to a few reasonable alternatives that will go through the evaluation process. Determine the reasonable alternatives for the ARR phase near the beginning of the process. This is necessary because the alternatives will set the course for the operational and safety analysis and determine exactly what must be analyzed.

The technical team evaluates each reasonable alternative with respect to operations and safety performance for all modes (see Section [550.06\(2\)\(b\)](#) and [\(c\)](#)). Alternatives are refined based upon the results of the analysis and then presented to the executive support team for acceptance.

Conduct the alternatives selection and analysis process within the ARR with full consideration of the environmental process and environmental documentation that will be required. The ARR must be fully compatible with the corresponding environmental process. Include Region environmental staff in the alternatives selection process.

In the ARR document, include a description of the reasonable alternatives identified for consideration. At this point, you should have a few reasonable alternatives that will be carried forward through the whole ARR process and will have detailed operations and safety analysis conducted (see Section [550.06\(2\)\(b\)](#) and [\(c\)](#)). The results of this analysis will be used to compare the alternatives and ultimately reach a preferred alternative. To document the evaluation criteria and the results of the analysis, use the Alternatives Comparison Table (ACT) or a similar tool.

Public Road Connection

The ARR must show that the proposed access will connect to a public road network.

Less than “full interchanges” may be considered on a case-by-case basis for applications requiring special access, such as managed lanes (e.g., transit or high occupancy vehicle and high occupancy toll lanes) or park and ride lots.

In other cases where all basic movements are not provided by the proposed design, the ARR typically includes a full interchange option with a comparison of the operational and safety performance analyses to the partial-interchange option. The ARR should also include the mitigation proposed to compensate for the missing movements, including wayfinding signage, impacts on local intersections, mitigation of driver expectation leading to wrong-way movements on ramps, etc. The ARR should demonstrate that the future provision of a full interchange is not precluded by the proposal or describe how that future decision will be accommodated.

The crossroad must address the needs of all modes that are supported by the land use and demographics of the area. While the needs and priority of multimodal users are identified in the feasibility study, the ARR helps ensure multimodal needs are incorporated in the design.

Design Standards and Criteria

FHWA policy requires that AASHTO Interstate standards (A Policy on Design Standards – Interstate System, AASHTO, latest edition) are used. This Design Manual provides criteria to meet FHWA and WSDOT policy on geometric standards. To achieve design standards requirements, apply the criteria in these key Design Manual Chapters:

- **Chapters 1100 – 1106** for an overview of practical design procedures, development of need statements, procedures for selecting appropriate multimodal design controls and design element dimensions. Assume the crossroad design will have implications and effects on all travel modes legally allowed. Provide obvious traffic control for all modes.
- **Chapters in the 1200 series** provide geometrics including plan and profile elements and freeway and other roadway type cross section criteria. **Chapter 1232** provides geometric cross section dimensions for Interstate and non-Interstate freeways. Other chapters in this series provide cross section criteria for roadway types which could apply to multimodal crossroads and local street or roadway contexts.
- **Chapters in the 1300 series** provide design criteria for Interchange spacing and design, and procedures for evaluating intersection control types. **Chapters 1300** - Intersection Control Type and **1360** - Interchanges
- **For special interchanges for HOV or Transit**, see chapters in the **1400** series.
- **Chapters in the 1500 series** provide design guidance for pedestrian and bicyclist facilities.
- **See other chapters** as applicable for various aspects of design and approvals.

550.06(2)(b) ARR Operational Analysis

The operational analysis for the ARR builds upon the operational analysis from the feasibility study. If demonstrated in the feasibility study that local solutions will not completely satisfy the Purpose and Need, the scope of the ARR operational analysis includes reasonable alternatives that consider revisions in freeway access as well as non-access improvements that are carried forward from the Non-Access Feasibility Study. This analysis must conclude that the proposed change in access does not have a significant adverse impact on the safety and operation of the

freeway facility or on the local street network for all modes, based on both current and planned future traffic projections. The freeway facility includes the main line lanes, collector-distributor lanes, existing, new, or modified ramps, and ramp intersections with crossroad.

The following are typical requirements for the analysis. The technical support team makes the ultimate decisions on transportation operational and safety performance analysis requirements. However, FHWA policy suggests the following expectations.

- The analysis includes, particularly in urbanized areas, a minimum of the first adjacent existing or proposed interchange on either side of the proposed change in access.
- The crossroads and the local street network, to a minimum of the first major intersection on either side of the proposed change in access, should be included in this analysis to the extent necessary to fully evaluate the safety performance and operational impacts that the proposed change in access and other transportation improvements may have on the local street network.
- The requested proposed change in access should include a description and assessment of the impacts and ability of the proposed changes to collect, distribute, and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network.

Intersection Control Evaluation

The Access Revision Report also includes fulfilling the requirements of the Intersection Control Evaluation (ICE) to verify the chosen intersection(s) control at the interchange are adequate for all modes. An ICE will not be required if the ARR documents the criteria required for an ICE. See [Chapter 1300](#) for ICE instruction.

550.06(2)(c) ARR Safety Analysis

Conduct a safety performance analysis per [Chapter 321](#) and Section 8.1 of the [Safety Analysis Guide](#). For the ARR, discuss the safety performance of the reasonable alternatives. Use the results of the safety performance analysis to compare alternatives.

550.06(2)(d) ARR Signing Plan

Include a conceptual plan of the type and location of the signs proposed for the preferred alternative to support the Access Revision Report. The conceptual plan is typically limited to guide signage, but regulatory or warning signs may be required if the interchange configuration is unusual.

550.06(3) Access Revision Report Review and Approval

[Exhibit 550-3](#) provides a template for approvals and concurrence signatures.

Draft ARR review: The draft ARR is first reviewed by the executive and technical support teams. After their review, the Region submits an electronic copy (in PDF format), including appendices, to the ASDE along with a cover memo requesting review. The ASDE responds in writing either with needed revisions or to request the final draft.

Final ARR Submittal: For final submittal, send the final ARR in PDF format to the ASDE. Contact the ASDE for the necessary number of hard copies. The Region submits a memo to the

appropriate ASDE, requesting final approval of the ARR. After ASDE concurrence, the ASDE submits Interstate ARRs to FHWA for approval.

ARR Approvals can be a two-step process:

- If environmental documentation is not complete, teams can request a finding of engineering and operational acceptability. FHWA grants this for Interstate access revisions and WSDOT grants for non-interstate.
- If the environmental documentation is complete, teams request final ARR approval.

Interstate Approval Notes:

- Interstate Access Revision Reports are most often reviewed and approved by the Washington FHWA Division Office. A 30-day review period must be allowed for the FHWA Division Office. Occasionally they are sent to FHWA Headquarters Office in Washington, DC (see [Exhibit 550-4](#)). If this is the case, additional review time is necessary.

FHWA provides final approval of the Interstate ARR when the appropriate final environmental document is complete: CE, FONSI, or ROD. The intent of the federal policy is to create a clear link between the ARR and NEPA processes. The ARR may be used as the transportation discipline report for an EIS/EA or included as an attachment to a CE. Coordinate with the Region Environmental Staff to integrate the ARR with the environmental documentation.

WSDOT provides final approval of the non-Interstate ARR when the appropriate final environmental document is complete.

550.06(4) Updating the Access Revision Report

The period between the approval of the Access Revision Report, completion of the environmental documentation, and the construction contract commonly spans several years. If the period exceeds three years, the approved ARR must be reviewed to identify changes that may have occurred during this period. If there have been little or no changes, an extension of the period may be granted. In this case, write a summary assessment for approval by the Region Traffic Engineer, ASDE, and FHWA.

If no work has begun within three years of completion of the environmental documentation, a re-evaluation of the CE/EA/EIS may be required (see [Environmental Manual 400.06\(1\)](#)). Contact the Region Environmental Office to determine if the environmental documentation must be re-evaluated.

550.07 Documentation

This chapter discusses in detail the requirements for the following documents:

- Non-Access Feasibility Study Method and Assumptions
- Non-Access Feasibility Study
- Access Revision Report Method and Assumptions
- Access Revision Report

For levels of approval for each of these documents, refer to [Exhibit 550-4](#) and [Chapter 300](#).

The final Access Revision Report is archived by the [HQ Access and Hearings Section](#).

550.08 References

550.08(1) Federal/State Laws and Codes

[23 Code of Federal Regulations \(CFR\) Part 450](#) (implementing 23 United States Code [USC] Section 135)

[40 CFR Parts 51](#) and [93](#) (regarding federal conformity with state and federal air quality implementation plans)

[23 USC Sections 111](#) (requires the U.S. Secretary of Transportation to approve access revisions to the Interstate System), [134](#) (metropolitan transportation planning), and [135](#) (statewide transportation planning)

FHWA Interstate Access Policy, update May 22, 2017.
<https://www.fhwa.dot.gov/programadmin/fraccess.cfm>

550.08(2) Design Criteria and Supporting Information

Design Manual, [Chapter 320](#), Traffic Analysis

Design Manual, [Chapter 321](#), Sustainable Safety

Environmental Manual, [Chapter 200](#), Planning

Environmental Manual, [Chapter 400](#), NEPA/SEPA

WSDOT, NEPA/SEPA Guidance:
<http://www.wsdot.wa.gov/Environment/Compliance/default.htm>

Safety Analysis Guide, WSDOT; See Sustainable Highway Safety Tools here:
<http://www.wsdot.wa.gov/Design/Support.htm>

WSDOT Design support <http://www.wsdot.wa.gov/Design/Support.htm>
Use the Design Support website to download the Context and Modal Accommodation report, Basis of Design, and Alternatives Comparison Table.

WSDOT Planning: find resources including Corridor Sketch Initiative, Corridor Planning Studies, links to the Highway System Plan, and other supporting information.
<http://www.wsdot.wa.gov/planning/default.htm>

WSDOT Transportation Corridor Planning Studies
<https://www.wsdot.wa.gov/publications/manuals/fulltext/M3033/PSGC.pdf>

WSDOT HQ Access and Hearings (including Freeway Access Revisions Resource Document)
www.wsdot.wa.gov/design/accessandhearings

FHWA Traffic Analysis Toolbox (tools used in support of traffic operations analyses)
www.ops.fhwa.dot.gov/trafficanalysistools/index.htm

FHWA Environmental Review Toolkit
<https://www.environment.fhwa.dot.gov/default.aspx>

Highway Capacity Manual, (HCM) 2010, Transportation Research Council

Highway Safety Manual (HSM), AASHTO, 2010

[Local Agency Guidelines](#) (LAG), M 36-63, WSDOT

[NEPA Categorical Exclusions A Guidebook for Local Agencies](#), WSDOT

Exhibit 550-3 Access Revision Report: Stamped Cover Sheet Example

Access Revision Report "Title"

"MP to MP"

This **Access Revision Report** has been prepared under my direct supervision, in accordance with Chapter 18.43 RCW and appropriate Washington State Department of Transportation manuals.

ARR Engineer of Record

By: _____ P.E.

Date: _____

Traffic Analysis Engineer

By: _____ P.E.

Date: _____

**WSDOT Approval –
Assistant State Design Engineer**

By: _____ P.E.

Date: _____

**FHWA Approval –
FHWA Safety and Design Engineer**

By: _____

Date: _____

**Concurrence –
Region Traffic Engineer**

By: _____ P.E.

Date: _____

Exhibit 550-4 Access Revision Documentation and Review/Approval Levels

Project Type	Support Team	Required Documentation		Interstate		Non-Interstate
		NAFS*	ARR*	Concurrence	Approval	HQ
New freeway-to-freeway interchange	Yes	✓	✓	FHWA and HQ	FHWA DC	Approval
Revision to freeway-to-freeway interchange in a Transportation Management Area ^{[1][2]}	Yes	✓	✓	FHWA and HQ	FHWA DC	Approval
New partial interchange	Yes	✓	✓	FHWA and HQ	FHWA DC	Approval
New freeway-to-crossroad interchange	Yes	✓	✓	HQ	FHWA	Approval
Revision to freeway-to-freeway interchange not in a Transportation Management Area ^[2]	Yes	✓	✓	HQ	FHWA	Approval
Revision to freeway-to-crossroad interchange, including but not limited to: ^[2] 1. Adding entrance or exit ramps that complete basic movements 2. Changing I/C configuration (e.g. diamond to SPUI, DDI, etc.) 3. Adding loop ramp to existing diamond 4. Adding on-ramp lanes that increase mainline entry point(s)	Yes	✓	✓ ^[4]	HQ	FHWA	Approval
Revision to freeway-to-crossroad interchange, including but not limited to: ^[3] 1. Intersection control at ramp terminal(s) 2. Adding lanes to on-ramps/off-ramps without revising the entry/exit points	No	[5]	✓ ^[4]	HQ and FHWA		Approval
New HOV direct access	Yes	✓	✓	HQ	FHWA	Approval
Transit flyer stop on main line	No	[5]	✓ ^[4]	HQ and FHWA		Concurrence
Transit flyer stop on a ramp	No	[5]	✓ ^[4]	HQ and FHWA		Concurrence
Abandonment of a ramp	No	[5]	✓ ^[4]	HQ	FHWA	Concurrence
Locked gate	See Chapter 530					
Access breaks that do not allow any type of access to main line or ramps (i.e. access doors in noise walls, gates to storm water retention/detention facilities from outside limited access, etc.)						
Structure over or under with no ramps (including pedestrian, bike, or trail)						
Construction/emergency access break						

* NAFS = Non-Access Feasibility Study, ARR = Access Revision Report. For notes, see next page.

Exhibit 550-4 (cont.) Access Revision Documentation and Review/Approval Levels**Notes:**

- [1] Washington Transportation Management Areas include Southwest Washington Regional Transportation Council (RTC) (Clark County), Puget Sound Regional Council (PSRC) (King, Kitsap, Pierce, and Snohomish Counties), and Spokane Regional Transportation Council (SRTC) (Spokane County).
- [2] “Revision” includes changes in interchange configuration even if the number of access points does not change. Changing from a cloverleaf to a directional interchange is an example of a “revision.”
- [3] “Revision” includes changes that might adversely affect the level of service of the through lanes. Examples include: doubling lanes for an on-ramp with double entry to the freeway; adding a loop ramp to an existing diamond interchange; and replacing a diamond ramp with a loop ramp. Revisions to the ramp terminal intersections may not require an ARR unless the traffic analysis shows an impact to the main line traffic.
- [4] The scale and scope of the access revision dictate the level of effort needed. Consult the Assistant State Design Engineer (ASDE), Region Traffic, and the FHWA Area Engineer, if applicable, for direction.
- [5] Consult the Region Planning Manager for the status of planning at this location.