VIRGINIA DEPARTMENT OF TRANSPORTATION

LOCATION AND DESIGN DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: Access Points to Limited Access Highways (Interchange Access Report Guidance)	NUMBER: IIM-LD-200.11
SPECIFIC SUBJECT: Development of Justification for Additional or Revised Access Points; Creation of Interchange Access Reports (IAR) and Operational and Safety Analysis Reports (OSAR)	DATE: June 28, 2021
	SUPERSEDES: IIM-LD-200.10

APPROVAL: Susan H. Keen, P.E. State Location and Design Engineer Approved July 7, 2021	APPROVAL: Angel N. Deem Environmental Division Director Approved June 28, 2021

CURRENT REVISION

This revision further specifies the roles, responsibilities and approvals the District Environmental Manager (DEM) and /or designee by incorporating comments through an Environmental Division review.

EFFECTIVE DATE

These instructions are effective upon receipt for all **new** Access Requests which include Interchange Access Reports [formerly Interchange Modification Requests (IMR) and Interchange Justification Requests (IJR)] and Operational and Safety Analysis Reports (OSAR) for Interstate and Non-Interstate Limited Access facilities. For others that are already under development, please contact the appropriate Assistant State Location and Design Engineer for guidance.

PURPOSE OF POLICY

- Note that IIM-LD-200.10, issued September 8, 2020, was revised to comply with FHWA's Policy on Access to the Interstate System released May 22, 2017, to highlight

- This IIM reaffirms the federal requirements and sets forth state requirements and processes to be utilized by all applicants in the development of an Interchange Access Request for any proposed **new or modified** access on both interstate and non-interstate limited access facilities.
- This policy adheres to the current VDOT/FHWA Stewardship and Oversight Agreement, which defines oversight responsibilities with regard to Interstate, NHS Non-Interstate, and Non-NHS Access Approvals. This information is available at: https://www.fhwa.dot.gov/federalaid/stewardship/agreements/va.pdf
- It is essential to require full compliance with these requirements and processes listed herein to allow for Departmental consideration of any interchange proposal. However, such compliance alone does not ensure approval by VDOT or the Federal Highway Administration (FHWA). Each proposed request will be reviewed independently and a decision given based upon current VDOT and FHWA policies.
- For consistency and streamlining the review process, all grade separated interchange access requests, including conversion of existing intersections, follow similar reporting format regardless of the funding source or facility type.
- The development and subsequent approval of the Framework Document (Form LD-459) will determine the level of analysis required prior to the initiation of the Access Report.

BACKGROUND

- All agreements between the Federal Highway Administration (FHWA) and VDOT for the construction of projects on the Interstate System contain a clause providing that the State will not add any points of access to, or exit from, the project in addition to those approved by FHWA in the plans for the project, without the prior approval of the FHWA Administrator.
- Due to the numerous requests by States for additional access to the Interstate System, the FHWA has clarified its policy and emphasized the need for justification in areas such as safety, traffic operations and coordination with land use. On October 22, 1990, FHWA issued a proposed policy statement in the "Federal Register". An additional policy statement was issued in the Federal Register on February 11, 1998, again on August

18, 2009, and the latest on May 22, 2017. This information is available at: https://www.fhwa.dot.gov/programadmin/fraccess.cfm

- The August 31, 2010 FHWA Memorandum, "Interstate System Access Information Guide" was issued to provide guidance on preparing access modifications for FHWA approval. This guide does not currently match the most recent FHWA Policy statement issued on May 22, 2017. However, the information contained in the above memorandum's ***Part Two: Technical Analysis for Changes in Interstate System Access*** can be referenced to assist development of applicable policy points of Access Reports.

ABBREVIATIONS

U.S.C. - U.S. Code
C.F.R. - Code of Federal Regulations
H.C.M. - Highway Capacity Manual
TOSAM – Traffic Operations and Safety Analysis Manual
IAR - Interchange Access Report
OSAR – Operational and Safety Analysis Report
VDOT – Virginia Department of Transportation
FHWA – Federal Highway Administration

SOURCES OF INFORMATION

- Authority: 23 U.S.C. 111; 49 CFR 1.48(b) (10)
- Federal Highway Administration Policy on Access to the Interstate System May 22, 2017.http://www.fhwa.dot.gov/programadmin/fraccess.cfm

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FHWA POLICY ON ACCESS TO THE INTERSTATE SYSTEM

Quoted from Federal Highway Administration, Policy on Access to the Interstate System, May 22, 2017:

- "It is in the national interest to preserve and enhance the Interstate System to meet the needs of the 21st Century by assuring that it provides the highest level of service in terms of safety and mobility. Full control of access along the Interstate mainline and ramps, along with control of access on the crossroad at interchanges, is critical to providing such service. Therefore, FHWA's decision to approve new or revised access points to the Interstate System must be supported by substantiated information justifying and documenting that decision."

The FHWA will consider and analyze information regarding the technical feasibility of the change in access. The FHWA's determination of safety, operational, and engineering acceptability will be based on a detailed review of this technical report. The proposed report must satisfy and document the following two technical requirements, as described in additional detail in the May 22, 2017 Policy Statement:

1. ***An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility or on the local street network based on both the current and planned future traffic projections.***

2. ***The proposed access connects to a public road only and will provide for all traffic movements. 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.***

- The FHWA Policy on Access to the Interstate System memo from May 22, 2017 states: *"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 NEPA documentation"*. Former Policy Points 1, 2 and 5 through 8 will be addressed in the NEPA documentation and Former Policy Points 3 and 4 (shown above as 1 and 2) will be addressed in the VDOT's Access Request. The change will allow VDOT to submit only a single technical report describing the types and results of technical analysis conducted to show that the change in access will not have significant negative impact on the safety and operations of the Interstate System. In order for the select Policy Points to be addressed, the District Environmental Manager and/or designee should request necessary mapping and analysis as part of the LD-459 and/or be provided with appropriate engineering information to address these topics. If the IAR is being conducted as part of a planning process and no project has been identified, the District Environmental Manager and/or designee will work with the Project Manager to document the answers Policy Points, 1, 2 and 5 through 8. Should a federalized project be identified in the future, these answers will be incorporated into the NEPA documentation.

- The FHWA Policy on Access to the Interstate System memo from May 22, 2017 states "The FHWA May 22, 2017 policy replaces the August 27, 2009 policy '*Access to the Interstate System'*, published at 74 Federal Register 43743. The changes in this policy are made to ensure this policy focuses on safety, operational, and engineering issues. The considerations of social, economic, and environmental impacts discussed in the 2009 policy are removed from this policy. However, the removal from this policy does not eliminate the need to consider those matters. Those issues will be addressed under the National Environmental Policy Act and other statutes and regulations applicable to the approval process"

POLICY STATEMENT

- This policy statement summarizes and clarifies FHWA/VDOT policy and guidance for the justification and documentation needed for requests to add or revise access to the Interstate System, NHS Non-Interstate System, and Non-NHS limited access facilities. Specifically, this policy statement emphasizes the need for clear and convincing justification in support of VDOT's and FHWA's determination of safety, operational, and engineering acceptability.
- The scale and complexity of documentation required for requests to add or revise access to an existing project location (Interstate, NHS Non-Interstate, or Non-NHS) varies with the scope of the proposed revision.
- Each proposed location for access shall be discussed with the Assistant Location and Design Engineer to determine the need for either an Interchange Access Report or an Operational and Safety Analysis Report prior to the development of the Framework Document.
- Each proposed location for access shall be discussed with the District Environmental Manager and/or designee to identify when the class of NEPA action can be determined and when the respective NEPA document can then be completed.

FRAMEWORK DOCUMENT

- The Framework Document will provide the initial anticipated access criteria and will assist in determining the need for an Interchange Access Report or an Operational & Safety Analysis Report.
- The Framework Document LD-459 is developed at the scoping (or pre-scoping) stage, and establishes the criteria and approach (e.g. analysis methods and tools to be used).
- The Framework Document criteria shall be discussed with the appropriate Project Manager or Coordinator, the District Traffic Engineer, District Location and Design Engineer, the Assistant State Location and Design Engineer, District Environmental Manager, and when necessary the appropriate FHWA Area Engineer.
- Each Access Request shall be accompanied by a copy of the Framework Document and the Interchange Access Report or the Operational and Safety Analysis Report.

ENVIRONMENTAL AND LOCATION AND DESIGN DIVISION COORDINATION

- Once project funding is allocated for the preliminary engineering (PE) phase of the project, the project development process is initiated. If the improvement involves a federal action, it is subject to the National Environmental Policy Act (NEPA). As it relates

to transportation improvements, the main purpose of NEPA is to require the environmental impacts of a project to be considered prior to implementation and to foster better decisions based on an analysis of environmental considerations and transportation needs.

  - A Federal Action is any formal activity by any federal agency (e.g. an Approval or issuing a Permit). Note that Federal Actions will occur on any project with federal funding (regardless of whether or not it is federal oversight), and may sometimes occur on projects that do not have federal funding.

- In the case of a project that does not require federal action, the Interchange Access Report or Operational and Safety Analysis Report shall answer the two numbered technical requirements shown above in this IIM, then proceed to gain VDOT internal approvals. Decisions on federal actions are often made later in the project development process, so if the Interchange Access Report or Operational Safety Analysis Report is being developed during the planning phase or if a decision on a federal action could come later in project development, the remaining policy points should be developed and saved in the project file for future use, as prescribed in the following bullets.

- In the case of a project that does require federal action, the following six Environmental Policy Points shall be addressed in the NEPA documentation as shown in more detail in FHWA's Interstate System Access Informational Guide and summarized below:

  - Former Policy Point 1: Need for the Access Point Revision
    - Need cannot be met via local roadway network
  - Former Policy Point 2: Reasonable Alternatives
    - Need cannot be met through Transportation Systems Management
  - Former Policy Point 5: Land Use and Transportation Plans
    - Proposed project is in agreement with local & regional Land Use Plans
  - Former Policy Point 6: Future Interchanges
    - If there is potential for multiple new interchanges, a Corridor Study has been completed
  - Former Policy Point 7: Coordination
    - If project was prompted by development or a change in land use, coordination has been demonstrated
  - Former Policy Point 8: Environmental Processes
    - The alternative detailed in the Interchange Access Report or Operational and Safety Analysis Report matches the Preferred Alternative in the NEPA document.

  * Note that the FHWA's decision to approve a request is dependent on the proposal satisfying and documenting these six Environmental Policy Points; FHWA relies on the information developed for NEPA reviews to account for the social, economic, and environmental impacts of the change in access.

- Per agreement with FHWA, VDOT requires the use of the standardized NEPA Concurrence Form. The form should be obtained from and coordinated with FHWA by the District Environmental Manager and/or designee. VDOT Environmental has set review processes and timelines under which it and FHWA advance NEPA Concurrence Forms.

- Per the instructions in the IMPLEMENTATION PROCESS ON INTERCHANGE ACCESS REPORTS section shown in this IIM, the Location and Design Project Manager should proactively seek out and contact the CO NEPA Programs Manager (CONPM). This should occur on every Statewide project that could involve an Interstate Access Report (IAR) or Operational and Safety Report (OSAR). In this effort, the CONPM can ensure that the internal workings within the Environmental Division/District Environmental Section occur per the IIM.
- The District Environmental Manager and/or designee should be involved/present at all IAR pre-scoping or scoping meetings when the Framework Document is being developed, as well as other project development meetings where the IAR could be a topic of discussion. This early coordination establishes the necessary coordination to ensure that the IAR and NEPA document identify the same preferred alternative.
- The District Environmental Manager and/or designee should be copied on any L&D Forms and Access Requests that relate to the IAR.

TRAFFIC OPERATIONS AND SAFETY ANALYSIS MANUAL

- The direction and guidance provided in the Traffic Engineering Divisions Traffic Operational and Safety Analysis Manual (TOSAM) shall be used by VDOT personnel, localities, and consultants producing Access Requests.

APPLICATION

- Guidelines from the May 22, 2017, FHWA Memo:
  - Generally, any change to the interchange type or configuration will be considered an interchange modification, even though the number of actual points of access may not change. For example, replacing one of the direct ramps of a diamond interchange with a loop, or changing a cloverleaf interchange into a fully directional interchange would be considered revised access for the purpose of applying this policy.
  - VDOT mandates that both of the technical requirements shown in the previous section “FHWA Policy on Access to the Interstate” be fulfilled in the Interstate and Non-Interstate Access Reports.
  - Ramps providing access to rest areas, information centers, and weigh stations within the Interstate controlled access are not considered access points for the purpose of applying this policy. These facilities must be accessible to vehicles only to and from the Interstate System. Access to or from these facilities and local roads and adjoining property is prohibited. The only allowed exception is for access to adjacent publicly owned conservation and recreation areas, if access to these areas is only available through the rest area, as allowed under 23 CFR 752.5(d).

INTERCHANGE ACCESS REPORT

Interchange Access Report (IAR) – A comprehensive operational and safety analysis report prepared in accordance with the VDOT TOSAM and following both VDOT and FHWA guidelines for any proposed new interchange, or for any proposed modification to the type or configuration of an existing interchange as demonstrated in the list of examples below:

- Interchange Access Reports which require review and action, include, but are not limited to the following:
  - New interchanges on Interstate or Non-Interstate limited access facilities.
    - For non-limited access facilities or creation of an interchange to replace an intersection, please discuss with Assistant State Location and Design Engineer to determine the need for new limited access through the new interchange.
  - New partial interchange or new ramps to/from a continuous frontage road, resulting in a partial interchange
  - Major modification of interchange configurations, e.g., adding new ramps, abandoning/removing ramps, completing basic movements
  - Modification of existing Interstate-to-crossroad interchange configuration
  - Completion of basic movements at an existing partial interchange
  - Abandonment of ramps or interchanges
  - Extending an existing entrance ramp to become an auxiliary lane ending at the next adjacent downstream interchange. The downstream interchange may require an Interchange Access Report. Coordinate with appropriate Assistant State Location and Design Engineer.

OPERATIONAL AND SAFETY ANALYSIS REPORT

Operational and Safety Analysis Report (OSAR) - A traffic impact and/or safety analysis for minor access modifications to ramps, ramp termini, or traffic control that do not modify the geometrics or layout of the access point but require an operational and safety analysis to ensure continued safe operations of the interchange.

- An Operational and Safety Analysis Report, prepared in accordance with VDOT guidelines for minor access modifications, applies to ramps, ramp termini, or traffic control. With the approval of the appropriate Assistant State Location and Design Engineer, this process can be applied to access modifications on the Interstate

System, NHS Non-Interstate, or Non-NHS facilities (the latter two with appropriate FHWA Approval if necessary). The OSAR is intended to provide adequate justification for the project scope, yet does not require the amount of justification that the full access report does and is intended for projects which are less impactful than those which need the full Access Report – See Assistant State Location & Design Engineer for guidance.

- An Operational and Safety Analysis Report requires that both policy points as shown in the previous "FHWA Policy on Access to the Interstate" section are satisfied, but given the less impactful nature of the project, the OSAR is only required to address the following:
    1. Purpose and Need of the Project
    2. Description and Depiction of Proposed Improvements
    3. Existing Year Operational and Safety Analysis
    4. Opening Year Operational and Safety Analysis
    5. Design Year Operational and Safety Analysis

- Please refer to sections VI, VII, VIII and IX under "Organization of Access Report" and the Framework Document for required information that shall be contained in the OSAR Report.
- The intent of the Operational and Safety Analysis Report is to demonstrate that the proposed project will have no significant adverse impact on operations and safety on the facility. At a minimum, the report shall summarize the traffic volumes, delays, queues, and any other agreed upon Measures of Effectiveness through the Framework Document for each analysis scenario studied.
- If applicable, FHWA approval (or concurrence if no federal funds are involved) is obtained through the use of the Framework Document in advance (see Implementation Process section). Also, if the project affects an Interstate or Interstate Ramp, or if the project is a federal oversight 'Project of Divisional Interest' (PODI), further FHWA involvement may be required on a case-by-case basis; please confirm with the Assistant State Location and Design Engineer whether FHWA involvement is applicable to the project.
- The following list contains some examples of projects that could require an Operational and Safety Analysis which shall be discussed with the Assistant Location and Design Engineer prior to developing the framework document. See FRAMEWORK DOCUMENT section.
    - Changing a single lane exit to a dual lane (or more) exit. However, should VDOT or FHWA have a concern about merge, diverge, or weaving operations with an adjacent interchange, additional information may be necessary.
    - Minor adjustment of an existing ramp terminal at the Interstate connection for safety or operational purposes. As stated above, potential interaction with an adjacent interchange could require additional information.
    - Increasing the capacity of ramp segments, provided the merge to the existing ramp cross section occurs a sufficient distance from the existing entry point with the Interstate such that the operating conditions of the Interstate/freeway are not negatively impacted. Please see Chapter 5 of the FHWA Ramp Management and Control Handbook for additional information.

- Modifications of the ramp termini at the crossroad. This includes accommodating crossroad widening, change ramp lane configurations, installation/modification of traffic control devices, and addition of a turn lane from the crossroad to the ramp or other modification to the ramp/crossroad intersection configuration.
- Extension of a deficient acceleration lane, deceleration lane or recovery lane at the Interstate/freeway connection point. As any of these might involve a speed differential between mixing vehicles, consult with appropriate Assistant State Location and Design Engineer to determine extent of FHWA involvement.
- Bridge modifications/replacement that change the geometrics of the Interstate/freeway or crossroad. Please consult with appropriate Assistant State Location and Design Engineer to determine extent of FHWA involvement.
- Replacement or modification of an interchange "in-kind" to accommodate an Interstate/freeway widening project when widening to the inside, which does not change where the access point of the ramp ties in to the mainline.
- Ramp metering, ramp HOV bypass lanes and potentially other travel demand management strategies intended for use on an existing interchange.

IMPLEMENTATION PROCESS ON IARs & OSARs

- Applicant Responsibilities
  - Prior to proceeding with a detailed analysis report for a potential new or revised access point, the applicant must validate two items:
    - Is the access request supported by the local/municipal government?
    - Is the access request supported by VDOT?
  - With positive endorsement from these two entities, the applicant study report can move forward to assess the purpose and need for the access point and determine economic justification.
  - An applicant may be an office within VDOT (District), a local government, an authority (toll authority, etc.) or a private developer. The applicant is responsible for all preliminary work. This work includes, but is not restricted to, the following: collecting all data, providing the Department with sufficient and appropriate documentation for the need of such a request, and performing all engineering and operational analyses required for the approval authority (VDOT/FHWA) to provide an informed decision on the request.
- The Applicant must specifically:
  - Hold a pre-scoping / scoping meeting prior to initiation of work on any Framework Document, IAR or OSAR.
  - Reach an agreement with VDOT / FHWA on the project scope of work and begin steps to determine the need for an Interchange Access Report or an Operational and Safety Analysis Report.

- After the identification of a need for an Interchange Access Report or Operational and Safety Analysis Report, the applicant will consult with the Project Manager or Project Coordinator, District Environmental Manager, Assistant State Location and Design Engineer, and District Traffic Engineer to develop the Framework Document which determines the policy points to be addressed.
  - Influence of environmental requirements (affecting level of NEPA document, permitting, schedule, cost, etc.) will be commensurate with the extent of environmental impacts.
  - Timing of the technical report approval, therefore, must consider environmental influences on that decision.
  - The Framework Document will need to be completed to address (at a minimum) the following, (See FRAMEWORK DOCUMENT section for additional guidance):
    - Project Description and Location
    - Study area as defined in Chapter 2 of the TOSAM
    - Additional access points shall not be looked at as isolated actions. Sufficient study/analysis needs to be performed to evaluate its effect on the whole Interstate, Freeway or Limited Access facility. As a standard, the analysis must extend through at least the first adjacent, existing or proposed interchange on either side; or adequate justification to reduce the limits needs to be provided and concurred with by the Department. If rest areas, welcome centers or weigh stations are located between adjacent interchanges, they shall be incorporated into the analysis
    - Sufficient study/analysis is also necessary for the upstream and downstream intersections along the crossroad. As a standard, in urbanized areas, the analysis must extend through at least the first adjacent existing or proposed major intersection on either side of the interchange or adequate justification to reduce the limits need to be provided and concurred with by the Department.
    - Existing Configuration and Proposed Roadway Geometrics
    - Operational and Safety Measures of Effectiveness (MOEs) as listed in Chapter 4 of the TOSAM. Other MOEs may be discussed with the appropriate District Traffic Engineer and Assistant State Location and Design Engineer. The use of any MOE not listed in Chapter 4 shall be approved by the District Traffic Engineer or his/her designee.
    - Existing or proposed Limited Access as well as any proposed impacts to Limited Access.
    - Proposed traffic analysis tools and approach as shown in the TOSAM. This selection of methodology/software analysis is of utmost importance and needs to be determined and shown in the Framework Document.
- The following Information used in this report may be contained within the NEPA document:
  - Traffic and crash data

- Baseline conditions
- Peak periods for analysis
- Design year
- Opening year
- Travel demand forecasts
- Design year conditions (HOV or tolling if applicable)

Early coordination with the District Environmental Manager and/or designee will determine if it is appropriate to include this information in the NEPA document. Typically this information is included in an Environmental Impact Statement and an Environmental Assessment; however, a Categorical Exclusion may not be the appropriate place for all of this information.

- Develop the preliminary Interchange Access Report or Operational and Safety Analysis Report containing all analyses and documentation agreed upon by VDOT/FHWA as indicated in the approved Framework Document.
- Respond (in a timely fashion as specified by VDOT and/or FHWA) to all comments on corrections, requests for additional information and analysis and document revisions.
- Develop a final Interchange Access Report or Operational and Safety Analysis Report *that includes all VDOT/FHWA approved comments and revisions.*

REQUEST PROCEDURES FOR PROJECTS WITH FHWA INVOLVEMENT

Note that VDOT may choose to send a separate preliminary version of the IAR or OSAR prior to proceeding with the full NEPA documentation, so that FHWA may determine the safety, operational, and engineering acceptability of the alternatives prior to engaging in the environmental impacts analysis. Although such a review is not necessary before FHWA can complete the NEPA process**,** it will help to minimize or prevent repetitive iterations of an IAR (or OSAR) if we try to ensure in advance that we have agreement between the NEPA document and the IAR (or OSAR).

After the Access Report or Operational and Safety analysis has been completed, reviewed and accepted by VDOT, a Request for approval shall be submitted to FHWA.

State DOTs are required to submit requests for proposed changes in interstate access to their FHWA Division Office for review and action under 23 U.S.C. 106 and 111, and 23 CFR 625.2(a). The FHWA Division Office will ensure that all requests for changes in access contain sufficient information, as required in the FHWA Policy on Access to the Interstate System to allow FHWA to independently evaluate and act on the request.

All requests for new or revised access points on completed Interstate highways must closely adhere to the planning and environmental review processes as required in 23 CFR parts 450 and 771.

REQUEST PROCEDURES FOR PROJECTS WITHOUT FHWA INVOLVEMENT

After the Access Report or Operational and Safety Analysis has been completed, reviewed and accepted by the District staff and the Assistant State Location and Design Engineer, a statement of concurrence will be sent to the State Location and Design Engineer.

The State Location and Design Engineer will then petition the Chief Engineer for approval of the Access Report or the Operational and Safety Analysis.

ORGANIZATION OF INTERCHANGE ACCESS REPORT

The Contents of the Interchange Access Report shall follow the format shown below.

I. Executive Summary

   A. Describe the access point revision being submitted and its purpose and need. The purpose and need shall be consistent with the documentation that satisfies NEPA requirements.

   B. Brief summary of the report

II. Introduction

   A. Background

   B. Purpose and Need

   C. Project Location

III. Methodology

   A. Summarize the methodology and all assumptions used to develop the report request, in accordance with the Framework document and TOSAM.

IV. Existing Conditions

   A. Existing Roadway Network

   B. Interchanges

   C. Alternative Travel Modes

   D. Existing Traffic Data and Operational Performance as shown throughout the TOSAM

      (1) Include peak hour turning movements and daily traffic volumes for all ramps, limited access facilities, and all crossroads in the identified study area. If the

traffic data to be utilized is collected more than 2 years prior to the preliminary Access Report submittal, then an assessment which demonstrates that traffic growth or patterns have not changed since data collection occurred shall be submitted to support the use of such data. VDOT reserves the right to approve or deny such a request. Proposed traffic data when compared with the existing traffic data should support and justify the need for the Access improvements.

(2) Provide a plan view map showing Existing Peak Period Traffic Volumes for ramps, crossroads and interstate through lanes.

(3) Provide a congestion map or spreadsheet showing appropriate Existing Peak Period MOE(s) determined in the Framework Document for ramps, interstate through lanes and crossroads. At intersections, the appropriate MOE(s) shall be reported for the overall intersection, if possible, as well as for each lane group. Some examples of MOE's from TOSAM Chapter 4 include but are not limited to the following:

a. Traffic Operations MOEs
   - 95th Percentile Queue Length (measured in feet – ft)
   - Control Delay (measured in seconds per vehicle – sec/veh)

b. Innovative Intersections MOEs
   - V/C Ratio
   - 95th Percentile Queue Length Predicted Crashes or Predicted Average Crash Frequency (measured in crashes or crashes per year)

c. Safety MOEs
   - Weighted Total Conflict Points
   - Predicted Crashes or Predicted Average Crash Frequency (measured in crashes or crashes per year)

(4) The peak periods for analysis will be determined with the project scoping and may include the weekday AM, PM, and/or weekend peak periods.

E. Existing Safety Data and Identification of Problem Areas as identified in the Framework Document.

(1) Crash locations for the most recent five year period and tabulated data that identifies at a minimum: collision type, time of day, weather, severity, and number of vehicles involved.

(2) Identify any high accident locations and provide possible conclusions on the potential causes.

V. Alternatives Considered (to be fully coordinated with specific Environmental Documentation processes)

A. Alternatives that are considered should be included in the report documentation with evaluation results. At a minimum, the report shall include:

(1) No-Build Option - Analysis which demonstrates that the existing interchanges and/or local roads and streets in the corridor can neither provide the necessary access nor be improved to reasonably provide satisfactory Measures of Effectiveness as determined in the Framework Document to accommodate the peak period Design Year traffic demands while at the same time providing the access intended by the proposal.

(2) Build Options – Analysis which demonstrates that the Build Options provide the necessary access and no significant adverse impacts to the Measures of Effectiveness as determined in the Framework Document to satisfactorily accommodate the Design Year traffic demands. Build options considered in the analysis do not necessarily rise to the level of NEPA alternatives. Early coordination with the District Environmental Manager and/or designee is necessary to ensure that consideration of multiple design options does not unnecessarily elevate the level of NEPA document. If a new signal is proposed as part of the selected alternative, a Signal Warrant Analysis shall be included as part of the application, as described in section 4.0 of IIM-TE-387.

(3) Transportation System Management Options (if necessary, i.e. HOV, ITS, Ramp Metering, Transit) have been assessed and provided for if currently justified, or provisions are included for accommodating such facilities if a future need is identified.

VI. Description and Configuration of the existing and proposed interchange access showing the basic geometry of the proposed interchange. This can be accomplished by an arrow diagram showing the number of lanes for all movements, including ramps and interstate through lanes.

VII. Roadway Geometry

A. The proposed access should be designed to meet or exceed current standards in accordance with the AASHTO Green Book, AASHTO Design Standards Interstate System and the VDOT Road Design Manual. Deviations from the information contained in the references above shall be indicated in the body of the report so they might serve as the basis for possible design exceptions or design waivers as deemed appropriate by VDOT. All design exceptions/ design waivers shall be identified as early as possible and follow the formal submittal process when sending to VDOT and FHWA (if required). Please refer to IIM-LD-227 for specific details for the exception/waiver process.

B. Number of main line and crossroad lanes; including any auxiliary lanes or C-D roads.

VIII. Forecasted Traffic Volumes and Operations

A. Forecasted traffic volumes should be developed using the latest available planning assumptions (information from approved statewide, MPO, and local long range plans). Traffic forecasts should be coordinated within the NEPA document and supporting technical analysis. They should include any adjacent or regionally significant projects in the study area. Guidance on the incorporation of the "latest" planning data/assumptions shall be a joint decision between VDOT and FHWA based on a project specific analysis, and shall be as shown in the Framework Document, as well as any report produced to support the Access Change.

(1) Provide plan view maps showing Opening Year, any identified Interim Year, and the Design Year (ad date plus 22 years) No-Build and Build peak hour and daily traffic volumes for ramps, crossroads and interstate through lanes.

(2) Freeway, Weave, Ramp Junction and Intersection Analysis

B. Provide analysis following VDOT Traffic Operations and Safety Manual (TOSAM) methodologies for freeway segments, weave sections, ramp junctions and any intersections for the following scenarios:

(1) Existing Conditions

(2) Design Year "No-Build" Conditions

(3) Any Interim Year "No-Build" Conditions

(4) Any Interim Year "Build" Conditions

(5) Design Year "Build" Conditions

C. The following information shall be provided with the operations analysis:

(1) A copy of the electronic analysis files.

(2) A description of the method used to calibrate the model.

(3) An explanation of model input values and assumptions, including roadway characteristics and driver/vehicle behavior assumptions, should be provided.

(4) An explanation of the number of runs and random seeds used to develop the final model.

(5) A summary of the model results in graphic or tabular format.

(6) A summary chart showing the Level of Service (LOS) results (if applicable) from the operation analysis and other measures of effectiveness as agreed upon in the Access Report scope and Framework Document.

IX. Safety Analysis

A. The proposal must demonstrate through the use of TOSAM that the new or revised access point does not have an adverse impact on the safety of the public facilities based on an analysis of current and future traffic. Design year build options, expected number of crashes, and crash severity shall be compared to the No-Build Option using the Highway Safety Manual methods where applicable. Related

methods, such as FHWA's Interchange Safety Analysis Tool, may be used until applicable methods are included in the HSM.

B. If impacts are anticipated, mitigation strategies should be included. Highway Safety Manual methodologies will be utilized to assess the geometric and traffic control options for the roadway intersection/segments in the study area. The analysis will contain the following at a minimum:

(1) Documentation on collision histories, rates and types for the freeway section and adjacent affected local surface system, severity and number of vehicles involved for the freeway section, ramps compared to similar elements in an area defined during scoping (For example, compare intersection(s) crash frequency to jurisdiction, district or statewide averages and ranking).

(2) Discussion on proposed geometrics and the expected impact on crash history and development of alternative treatment strategies to mitigate the number and/or consequences of the predicted crashes per year for the No-Build and Build Options.

C. The following information shall be provided with the safety analysis:

(1) A copy of the electronic analysis files.

(2) A description of the method used to calibrate the HSM models and worksheets used.

(3) An explanation of which HSM model values were used based on assumptions and if any were changed and why.

(4) An explanation of the crash adjustment and modification factors used for each design option and mitigating treatment alternatives assessed.

(5) A summary of the HSM model results in graphic and tabular format.

X. Appendix

A. Letter of Commitment from Locality

B. Certified Traffic Data

C. Traffic Software Analysis Results

D. Conceptual Signing Plan

E. Any required design exception(s) and/or waiver(s)

XI. Additional Information:

A. Any other information that might help explain and/or support the proposal, e.g., cost effectiveness analysis, source of funding, schedule, etc.

ORGANIZATION OF OPERATIONAL AND SAFETY ANAYSIS REPORT

- The format of this report shall follow the guidelines set forth in Chapter 9.2.7 “Recommended Report Structure” of the TOSAM.

BASIS FOR APPROVAL – BOTH IAR AND OSAR

- Under normal circumstances, justification of the need for the proposed access break is based upon traffic demand in the design year. However, other important information may be used in combination with, or in lieu of, these criteria and with the concurrence of the Department and/or FHWA.
- Existing VDOT policy, standards, guidelines and procedures, together with the current FHWA and AASHTO policy requirements, shall form the basic criteria for the analysis and documentation that is required for the preparation, review and decision of any interchange request.
- A proposal shall not cause a safety problem that may affect the mainline, connecting arterial road system, proposed interchange or any adjacent interchanges. It is imperative that the design of such a proposal consider the reduction and elimination of conflict areas associated with entrances, exits and weave sections and the overall simplification of driver perception and decision making. This would include (but not be limited to) clear and concise signing, clarification of decision points and uniformity in the overall design and operations.
- Typical Approval Time for Access Reports once submitted to Central Office varies based upon final / approved scope, and NEPA Document.
    - Operational and Safety Analysis Reports for minor modifications to ramps and/or ramp termini typically take from 1 to 3 months.
    - Access Reports for minor modifications to rural interchanges typically take from 3 to 6 months.
    - Access Reports for major modifications to urban interchanges can take from 12 to 18 months.
    - Access Reports involving more than one interchange in densely populated urbanized areas can take 24 months or more.
    - Access Reports for new access points can be completed in 14-30 months based upon the complexity of the project.
        - New interchanges to Interstate facilities and system-to-system interchange modifications may require additional review time by FHWA based on the importance and complexity of these proposals.

- Timelines for potential NEPA documents shall be coordinated with the District Environmental Manager and/or designee.

APPROVAL PROCESS

FHWA / VDOT APPROVAL

- FHWA approval is required on all Interstate projects.
- VDOT will coordinate with the applicant, participate in scoping meetings, provide review and comments on all interchange access submittals, provide technical and policy guidance and provide all coordination with FHWA. Upon finding all information within the access submittal satisfactory, VDOT will consider approving the document and forwarding to FHWA for their review and possible concurrence or approval. ***However, an Access Change is never fully approved until its NEPA document is signed.*** The VDOT approval process will adhere to the most up to date version of the VDOT/FHWA Stewardship and Oversight Agreement. The approval process will generally abide by the following steps:
  - Applicant will submit information concurrently to the appropriate District Location and Design Engineer and Assistant State Location and Design Engineer for review by the appropriate disciplines.
  - The District Location and Design Engineer is responsible for coordination of the final product and review by all functional disciplines, including the District Environmental Manager.
  - All traffic operations and crash analysis will be completed in accordance with TOSAM, then reviewed by the responsible District Traffic Engineer who will either recommend for approval to the District Location & Design Engineer or deny the analysis and request a revision to the report. The revised analysis should then be resubmitted and the approval process restarted.
  - District Location and Design Engineer will either recommend approval or deny the submittal based on concurrence from the District Traffic Engineer. Should there be no concurrence between the District Traffic Engineer, District Location and Design Engineer and/or Assistant State L&D Engineer, a discussion to remedy the areas of non-concurrence shall take place and a revision to the report should be sought. The revised report will then be reviewed again to ensure agreement between the District and Central Office.
  - **All requests that are denied will be provided back to the requestor for further revision or denied outright**.
  - Upon receiving recommendation for approval from the District Location and Design Engineer, the State Location and Design Engineer will then either recommend approval to the VDOT Deputy Chief Engineer or deny approval and return to applicant for possible resubmission.

- Upon approval by the Deputy Chief Engineer, VDOT will forward the Report to FHWA for their review and request a finding of engineering and operational acceptability.
- FHWA will provide the ***Conditional Approval*** letter to the State Location and Design Engineer, who will then forward the letter to the Districts. Please note that the Access Change is not complete until NEPA final signature and approval.
- Please note that the Access Change is not complete until NEPA (if required) final signature and approval. Therefore, the District Environmental Manager shall be included in discussions related to approval.

VDOT ONLY APPROVAL

- For those projects that only require VDOT approval, (i.e. projects not on the Interstate system, and projects on other systems which are not federal oversight "PODI's"), the approval process will generally abide by the following steps:

  - Applicant will submit information concurrently to the appropriate District Location and Design Engineer and Assistant State Location and Design Engineer for review by the appropriate disciplines.
  - The District Location and Design Engineer is responsible for coordination of the final product and review by all functional disciplines.
  - All traffic operations and crash analysis will be completed in accordance with TOSAM, then reviewed by the responsible District Traffic Engineer who will either recommend for approval to the District Location & Design Engineer or deny the analysis and request a revision to the report. The revised analysis should then be resubmitted and the approval process restarted.
  - District Location and Design Engineer will either recommend approval or deny the submittal based on concurrence from the District Traffic Engineer. Should there be no concurrence between the District Traffic Engineer, District Location and Design Engineer and/or Assistant State L&D Engineer, a discussion to remedy the areas of non-concurrence shall take place and a revision to the report should be sought. The revised report will then be reviewed again to ensure agreement between the District and Central Office.
  - **All requests that are denied will be provided back to the requestor for further revision or denied outright**.
  - Upon receiving recommendation for approval from the District Location and Design Engineer, the State Location and Design Engineer will then either recommend approval to the VDOT Deputy Chief Engineer or deny approval and return to applicant for possible resubmission.
  - Upon approval by the Deputy Chief Engineer, the State Location and Design Engineer will forward the approval letter to the District.
  - Please note that the Access Change is not complete until NEPA (if required) final signature and approval. Therefore, the District Environmental Manager shall be included in discussions related to approval.

REEVALUATION REQUIREMENTS

- An affirmative determination by FHWA of safety, operational, and engineering acceptability for proposals for new or revised access points to the Interstate System should be reevaluated whenever a significant change in conditions occurs (e.g., land use, traffic volumes, roadway configuration or design, environmental commitments). Proposals may be reevaluated if the project has not progressed to construction within 3 years of receiving an affirmative determination of engineering and operational acceptability (23 CFR 625.2(a); see also 23 CFR 771.129). If the project is not constructed within this time period, then FHWA may evaluate whether an updated access report based on current and projected future conditions is needed to receive either an affirmative determination of safety, operational, and engineering acceptability, or final approval if all other requirements have been satisfied (23 U.S.C. 111, 23 CFR 625.2(a), and 23 CFR 771.129).
- If the recommendation for the approval of the re-evaluation is submitted, then the State Location and Design Engineer has authority to approve.
- The District Environmental Manager and/or designee shall be consulted as part of this consideration to determine the appropriate NEPA course of action.