Interstate Access Justification Report
Engineering, Operation and Safety Analysis
TxDOT Standard Operating Procedures

Texas Department of Transportation

Design Division

March 4, 2020

Amended April 2025

This SOP incorporates in full, and supersedes, the October 19, 2018, memo regarding TxDOT's Policy in Response to the May 2017 changes to FHWA's Policy on Access to the Interstate System. This SOP is amended to incorporate FHWA review comments related to Programmatic Agreement (PA) and 23 CFR Part 624.

Introduction

Purpose

The purpose of this SOP is to provide the policy guidance for development and review of **Interstate Access Justification Reports** (IAJRs). This SOP incorporates the federal policy requirements for IAJRs for the Texas Department of Transportation (TxDOT). This guide should be used by Districts, the Design Division (DES) and the Federal Highway Administration Texas Division (FHWA) in the preparation and review of TxDOT IAJRs.

Compliance with this SOP does not ensure acceptance. The acceptance of each IAJR will be based on need/justification and TxDOT and FHWA policy requirements. Each project will be reviewed on a case-by-case basis. Early coordination between District, DES, and FHWA is strongly recommended.

Background

According to Title 23, United States Code, Highway Section 111 (23 U.S.C. 111), the State will not add or remove any point of access to, or exit from an Interstate Highway System without the prior approval of the Secretary of the United States Department of Transportation (Secretary). The Secretary has delegated the authority to FHWA pursuant to Title 49, Code of Federal Regulations, and Section 1. 85(a)(1).

A policy statement including guidance for justifying and documenting the need for additional access was published in the Federal Register on October 22, 1990, titled 'Access to the Interstate System' and was later modified in February 1998 and August 2009. The current policy was issued by FHWA in May 2017.

Subsequently, effective December 09, 2024, FHWA amended title 23 of the CFR by adding Part 624 (Final Rule). This Final Rule codifies and clarifies existing policies and practices regarding state DOTs requests for, and FHWA approval of changes in access to the Interstate System. Use of the new rule is required for all IAJRs dated after December 09, 2025.

TxDOT Policy

In concurrence with FHWA, TxDOT's policy is to add the documentation of the six points addressing the consideration of social, economic, and environmental impacts and planning considerations (required for NEPA documentation purposes) to the documentation of the May 22, 2017 FHWA two-point policy. This TxDOT policy is applicable to all IAJRs under development that have not been accepted or approved by FHWA. **Attachment A** provides the supporting documentation for this policy.

Requirement:

The TxDOT Project Development Process Manual (PDPM) states which access changes will require an IAJR and outlines various requirements and will reference this SOP. **Attachment B-1** identifies access changes requiring FHWA approval. Attachment B-1 also lists access change request types to be processed and determined by TxDOT under the Programmatic Agreement. These review and action requirements are applicable to traditional delivery projects (Design-Bid-Build) as well as special delivery projects (Design-Build, etc.). **Attachment B-2** lists examples of projects which may not require FHWA review and approval. However, coordination may be required with DES and FHWA to verify documentation requirements.

Process

In general, there are three primary stages for a typical IAJR development:

- Project Initiation
- Transportation/Technical Analysis
- Review & Approval

During the first stage, project's goals and objectives are developed, methodology and assumptions are coordinated/documented, and data collection is started.

During the second stage, transportation analysis, including existing condition analysis, traffic forecasting, and traffic operation and safety analysis are performed. Concurrently, other considerations and requirements are evaluated, including the development and identification of alternatives and their analysis, consideration of improvements that do not require an access change, Transportation System Management (TSM) considerations, details of the proposed improvement (including any design exceptions), consistency with local / regional plans, association with long range-system or network plan, commitments and coordination with stakeholders, and environmental status.

During the third stage, the results of all analyses are documented in a formal report to DES for compliance review, and ultimately submitted to FHWA for review and approval. The major steps involved in a typical IAJR process are shown in **Attachment C-1**.

Attachment C-2 includes TxDOT IAJR Expedited Review Process for Safety, Operation, and Engineering (SO&E) Acceptability Determination per Programmatic Agreement (PA).

FHWA approval is contingent on the quality and adequacy of the process and documentation. As per TxDOT's agreement with FHWA, all IAJRs shall be submitted to DES for review before submittal to FHWA. In special circumstances, concurrent review by DES and FHWA may be allowed subject to a formal request by the District Transportation Planning and Development Director to the Design Division Director. FHWA however, may not agree if advance coordination has not been adequate.

If S,O&E acceptability determination is made after completion/approval of NEPA process, IAJR approval will be considered final. However, if S,O&E acceptability determination is done before completion/approval of NEPA, it will be considered conditional subject to the completion of NEPA.

Methodology

The objective of methodology coordination is to develop the technical approach to be followed in developing the IAJR and determining engineering, operation, and safety feasibility. A methodology and assumptions (M&A) coordination meeting with DES and FHWA is required for all projects with potential for change in Interstate access. For normal IAJR review process (projects to be approved by FHWA Headquarters and/or FHWA Texas Division), Design Division will coordinate with FHWA to schedule M&A coordination meeting. FHWA will be requested to provide input and feedback. For projects identified as part of Programmatic Agreement, TxDOT districts will coordinate with Design Division and schedule M&A coordination meeting. District will also invite FHWA Area Engineer. Attachments C-1 and C-2 provide M&A Coordination processes for normal IAJR review and Expedited Review (PA) respectively.

Districts should obtain M&A concurrence from Design Division for all projects before starting analysis and development of draft IAJR. **Attachment D** will be used as a typical agenda for the M&A coordination meeting. The meeting notes should be documented and included in the IAJR.

The following should be used as guide for engineering, operation and safety analysis sections of IAJR development:

<u>Need for Access Modification</u>

The need should identify existing transportation problems, issues and concerns, and proposed improvements that would address such problems. The need should be regional and be supported by available existing data and preliminary analysis to justify the project. Existing data including traffic volumes, crash data, and local/regional transportation plans should be used, as appropriate, to support the need for the project. Utilization of available data is recommended when developing the goals and objectives for the project. TxDOT's Statewide Traffic Analysis and Reporting System (STARS) is a good resource for traffic data and TxDOT's Crash Records Information System (CRIS) for crash data. The need for access improvement should be established based on the existing conditions and the conditions anticipated to occur during the design year under the No-build conditions.

<u>Access Alternatives</u>

An alternative analysis needs to be performed during the project development. All reasonable build alternatives, including TSM, should be considered, documenting the reasons/justification for eliminating those not to be further considered, as well as the selection of the preferred build alternative. At a minimum, the following alternatives will be considered:

- No-build alternative
- Improvements to alternate interchanges
- Transportation System Management (TSM)
- Alternatives providing a change in access

An alternative analysis memo will be prepared and included in the report. The operational and safety analysis, however, will be based only on the recommended build alternative. The selected build alternative must meet the goals and objectives of the project. The selected build alternative should not result in significant adverse impacts on the safety and operation of Interstate facility compared to the no-build alternative.

A sensitivity analysis may be required to evaluate how the operational performance of selected build alternative would be impacted by uncertainties in traffic demand forecasts, by varying traffic demand by 5-15% as agreed upon during M&A coordination.

Area of Influence

The area of influence is defined as the area that is anticipated to experience significant changes in traffic operating conditions as the result of the proposed access change. Factors such as area type, interchange spacing, cross-street signal locations, the extent of congestion, the presence of system interchanges, planned transportation systems, and anticipated traffic impacts should be considered when identifying the area of influence.

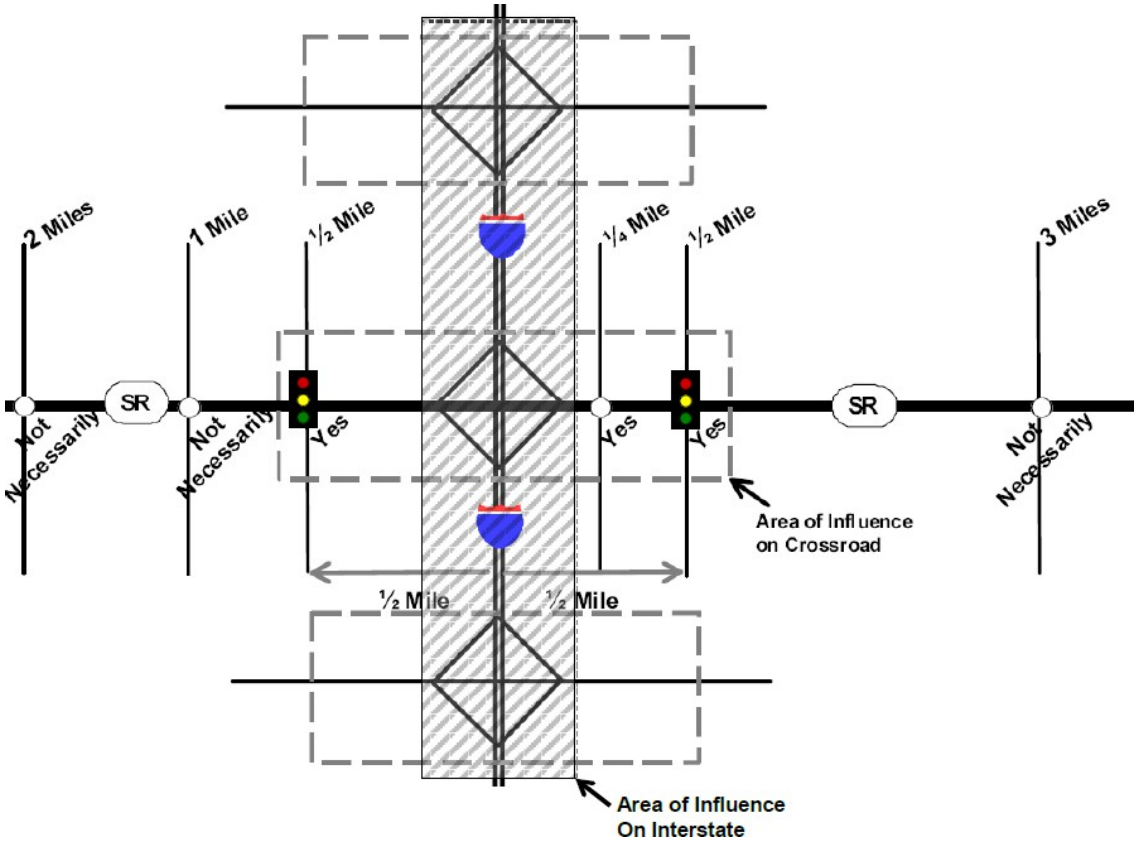
Area of Influence along the Interstate System

The area of influence along the Interstate System and interchanging freeway if applicable, to the adjacent existing or proposed interchange on either side of proposed change in access, extending further as needed to ensure the limits of the analysis are appropriate to fully understand the impact of the proposed change in access on the Interstate System.

Area of Influence along crossroad

The area of influence along each crossroad to the first major intersection on either side of the proposed change in access, extending further as needed to demonstrate the safety and operational impacts that the proposed change in access and other transportation improvements may have on local road network. Crossroads of the adjacent downstream and upstream interchanges is normally not required, unless circumstances dictate otherwise.

A figure showing the project stud area of influence will be included in the report; the figure below provides an example of a sample area of influence.



Sample Area of Influence

(Source: FHWA Interstate System Access Information Guide)

Analysis Years

Existing, opening and design year will be required for each project. Interim years for phased development (if applicable) should be considered as analysis years. Existing year analysis will only include existing conditions. Design year and opening year will include both no-build and build conditions.

- Existing year should be close to the start of original traffic analysis and preferably be within 1 to 3 years from IAJR approval. However, if the existing condition analysis is more than 3 years old, the traffic data should be reviewed to determine if the data has not been changed significantly or the new value would not change the outcome. If the data is more than 5 years old, new data should be collected. However, this will also be dependent on the tools used for the analysis and should be discussed and agreed upon during M&A. .
- Opening Year - The opening year is the first year in which the proposed improvements are expected to be open to traffic. If the project is proposed to be implemented in phases, the opening year is the year the first phase of the project will be opened to traffic.
- Design Year – Design year should be a minimum of 20 years from the approval of final plans. Traditionally, the design year is selected 20 years from the anticipated opening year.
- Interim Year - An interim year is the opening year of different phases of the project subsequent to the first phase. Interim years may also be required if the proposed improvements show failure prior to the design year.

Analysis Periods

For rural and suburban settings, the 30th highest hourly volume is typically used as design hour volume since traffic variation is stable around 30th hour. However, for urban settings, design hour may be adjusted based on local traffic conditions. Depending upon the existing operational conditions, AM and PM peak hours/periods may be required. Existing 24-hr volume should be evaluated to compare the design hour volume (K factor) and selection of peak hours/periods. For under-saturated conditions, 15-minute analysis period is used consistent with Highway Capacity Manual (HCM) methodology. For locations and conditions in which a facility is at or exceeding capacity today, or in the future, a multi-hour time period is warranted. Existing 24-hour traffic volume profiles shall be evaluated to determine the periods where peak demand spreads over multiple hours. The HCM multi-period analysis can be used to analyze congested conditions to account for the effects of queuing in freeways."

Data Collection

Data to be collected includes roadway geometrics, traffic control, traffic volume, travel time, crash data, and information on transit, pedestrians and bicycles as agreed upon during M&A coordination. A data collection summary will be included in the report.

Traffic Count

A minimum of 48-hour vehicle classification counts will be conducted on Tuesdays, Wednesdays and/or Thursdays along the corridor. Weekend traffic volumes may be collected if required. If microsimulation is used for operational analysis, additional count (one week or more traffic count as agreed upon during M&A meeting) will be collected at specified locations for calibration purposes. Traffic count data plan will depend on the selected analysis tool and as agreed upon during M&A.

Traffic Forecasting

The process of developing traffic forecasts and projections is complex and requires understanding of land use, demographics, project location, and project significance, etc. The TxDOT Transportation Planning and Programming (TPP) Division is responsible for the guidance and approval of traffic forecasts. The TPP webpages provides detailed guidelines on developing traffic forecasts.

There are generally three (3) approaches to develop traffic forecasts:

- Pivot/Trend line/Growth Method: A growth rate is developed/ provided using the historical traffic data for 20 years and projected for the next 20 years (pivot year). A conservative growth rate is applied after 20 years, which is equal to or less than the 20-year growth rate. Growth Factors will need to be developed to convert existing year traffic to opening year traffic, and opening year traffic to design year traffic. An interim year calculation might be needed if the project is planned in phases.
- MPO's Travel Demand Model: Use the MPO's travel demand model to estimate traffic on the project for existing, opening, and design year. This process will require a thorough investigation of travel demand model outputs in the project area against existing travel patterns, traffic counts, and any land use improvements available.

- Hybrid Approach: This approach uses a combination of the first and second methods i.e. start with developing traffic projection using the MPO's travel demand model and adjust the final forecasts with Growth Factors developed using historical/trend line analysis.

Current Infrastructure and activities and future transportation plan should be evaluated to determine if there is a multimodal demand and needs to be accommodated.

Traffic forecasts should be approved by TxDOT. TPP provides the following three options to obtaining approved travel forecasts:

- Option A: TPP-Traffic Analysis (T) Development: TPP-T develops the traffic forecast data, signs and seals the data, and provides the data to the TxDOT Districts and project consultants.
- Option B: District and TPP-T Joint Development: Districts and project consultants are responsible for developing the traffic forecasts. TPP reviews and approves the methodology prior to development, reviews/approve traffic forecasts and signs and seals the data.
- Option C: District Development - Districts and project consultants are responsible for developing traffic forecasts. District is also responsible for developing methodology, developing, reviewing, approving, signing and sealing the traffic forecasts.

Refer to latest TxDOT TPP Corridor Analysis SOP for current and additional guidance.

A traffic forecast memo will be prepared and included in the report. The memo should identify the option used; document the steps taken to develop future traffic volume such as data collection, growth rate calculation, design hour and directional distribution factors, data extracted from MPO model, TDM calibration, review of demographics, future development and traffic forecasts. The memo should also include traffic volume line diagram for each scenario.

Traffic Operational Analysis

The scope of traffic analysis will be based on area type, existing traffic conditions and analysis tools. The use of tools and analysis approach should match the complexity of the project. The selection of analysis tools depends upon various factors; including project area, facility, travel modes, operating conditions, performance measures, and cost effectiveness. The FHWA's Traffic Analysis Toolbox provides further guidance for the selection of analysis tools.

Analysis Tools –TxDOT currently supports the use of the following tools for traffic operational analysis:

- HCS – Highway Capacity Software (HCS), based on the latest HCM, is the primary tool for analysis of locations that are isolated, not congested, or do not require interaction between different users. However, HCS can also be used for over saturated conditions.

- HCM/HCS+Synchro – In addition to HCS for freeway facilities (mainline, ramp junctions, ramp terminals, and weaving sections), Synchro (a macroscopic platform) can be used for signalized intersections along the cross roads. Sim Traffic, a microscopic platform of Synchro, is only acceptable for arterial analysis and is best suited for a signalized corridor.
- CORSIM/VISSIM – These are commonly used microsimulation tools for analyzing areas that are oversaturated, and include system level impacts. Microsimulation is not recommended for every project. The following situations where microsimulation modeling would be warranted:

    - Urban freeways within a business district of metro area
    - Over-saturated conditions requiring multi-hour time period
    - Complex weaving along a freeway
    - System interchange
    - Non-traditional interchange/intersections (DDI, CFI etc)

A calibration memo and cluster analysis memo will be prepared and included in the report. The memo should include the documentation of existing condition model development and the calibration process. The calibration memo should follow the guidelines recommended in "FHWA Traffic Analysis Toolbox Volume III." The calibration memo should document information such as the visual audits (showing screen capture of bottlenecks/queues from the existing model), field observation or traffic condition (from Google map), and the results of statistical analysis.

Generally, Level of Service (LOS) is used to evaluate operational conditions of alternatives. In heavily congested areas, LOS may not produce meaningful information and would not be a useful Measures of Effectiveness (MOE). Other MOEs may include speed, travel time, and queue length. MOEs shall be determined for each analysis period for the existing (no-build) and proposed (build) conditions for each study area segment. Any segment or intersection adjacent to proposed access change, which is found to have unacceptable MOEs, must be identified. Potential mitigating measures must be described to at least a concept level. It will be necessary to determine if failure at that location could have a negative impact on interstate operations. In addition, it may also be necessary to determine whether the failure is the result of normal traffic growth or the result of proposed access change. The operational analysis section of the report should document the needed improvements within the study area.

Safety Analysis

The Scope and methodology for safety analysis will be based on project type, location and complexity, crash history, and goals and objectives. TxDOT generally uses one of the following options:

- Option A-Historical Crash Analysis and Highway Safety Manual (HSM) Predictive Method
- Option B-Historical Crash Analysis and evaluation of Crash Modification Factor (CMF)

The selection of analysis tools and methodology should match the scope and complexity of project. Safety should be evaluated for all road users including vulnerable road users. If Option A and B cannot be applied to get the full extent of safety evaluation, then other available methods and tools should be considered including Road Safety Audits, FHWA SSI Framework, NCHRP 948 "design flags", FHWA Interchange Safety Comparison Tool, and Human Factors Guide as agreed upon during M&A.

Historical crash analysis

The historical crash analysis will be conducted for the latest three to five years for existing conditions. The results of the historical crash analysis are used to identify or confirm safety problems within the project study area. The analysis should include:

- Crash frequency by facility type for each year
- Crash rates (to be compared with statewide average for similar facilities)
- Crash Severity by facility type for each year
- Primary contributing factors
- Manner of collision for each year by time of day
- Crash diagrams such as heat maps, bar charts or other maps graphically showing the high crash locations along the study area roadways or at the interchanges.

The analysis of historical crash data should determine if certain areas within the project limits are experiencing more crashes or higher severity then is typical for similar facilities, and how these conditions will be improved as part of the project build condition.

Predictive Crash Analysis

Predictive, or quantitative safety analysis, involves using HSM based methods that use safety performance functions (SPFs) and CMFs to estimate anticipated change in crashes from existing condition to the proposed design. The predictive analysis will be done for no-build and build conditions for design year. Currently TxDOT supports the use of following analysis tools:

- For Urban Interchanges - Enhanced Interchange Safety Analysis Tools (ISATe)/IHSDM
- For Urban Corridors – Interactive Highway Safety Design Model (IHSDM)
- For Suburban/Rural area – Highway Safety Software (HSS)/IHSDM
- TxDOT Predictive Model Spreadsheet Tools

Crash Modification Factors (CMFs)

There are two types of CMFs (HSM Part C and Countermeasures CMFs). Countermeasure CMFs are used to estimate the impact of countermeasures on safety. The CMFs should be selected based on the following:

- Study area context matches the context of CMF
- Quality of the study that developed CMF

The Crash Modification Factor Clearinghouse (www.cmfclearinghouse.org) offers a repository of CMFs.

Crash Data

This involves review of three to five full calendar years (January 1st to December 31st) of historic crash data with respect to crash characteristics such as severity, types, frequency, rates, patterns, clusters, and their relationship with crash contributing factors. The period can be reduced to two years, if there is a significant change in traffic and roadway conditions.

Traffic Volume

The Average Annual Daily Traffic (AADT) can be obtained from the Statewide Planning Map (located on the TPP webpages). The design year daily traffic should match with the AADT shown on schematics.

Safety Analysis Study Area

A study area is the area impacted by the proposed project. The traffic analysis study area is a good starting point, but the safety analysis study area depends on the safety impacts of the proposed project and may be different. At a minimum, the safety analysis study area along the interstate should include the adjacent interchanges on either side of the proposed access change. Along the crossroad, it should extend at least one-half mile from the ramp terminal and include the first major intersection. These requirements are shown on sample area of influence on page 5 of this SOP.

Design Consideration

The proposed design should:

- Meet or exceed current design standards
- Not include partial interchange
- Only include access to public road

The current design standards are as documented in TxDOT Roadway Design Manual and AASHTO design guidelines. A design schematic including signing layout in accordance with Texas Manual of Uniform Traffic Control Devices (TMUTCD) will be included in the appendix A of the IAJR. A copy of Design Summary Report (DSR) summarizing the design criteria will also be included in the appendix A. If a design exception is required, it will be noted in the IAJR. A design exception request will be submitted separately to Design Division for approval. If a partial interchange is proposed, IAJR shall include the additional requirements.

IAJR Report

The report should be organized as shown in **Attachment E**.

IAJR Re-evaluation

The following are three primary conditions which will require re-evaluation of previously approved IAJRs:

1. Change in approved IAJR design concepts
    - Due to environmental impact
    - Due to final design adjustment
    - Due to design-build proposal

2. Significant changes in following conditions
    - Traffic
    - Land use
    - Environment

3. Time lapse before construction
    - If the project does not progress to construction phase within 5 years of approval

However, there may be other reasons not listed here that may trigger re-eval. Early coordination with DES and FHWA is required to determine the scope of the re-evaluation. The scope of the changes and the factors justifying the change will determine the level of analysis required. The scope of re-evaluation should consider the changes in the project that would affect the safety operations, or design criteria that were used in the prior approval. For changes due to design-build proposal, the proposed design will perform equal to or better than approved IAJR design.

Quality Control and Quality Assurance

Quality is a critical part of the technical analysis and IAJR report. Tight schedules shall never affect the quality of analysis and report. A detailed quality review involves checking, incorporating, and verifying content prior to submittal. The District is responsible for initial review and quality control (QC). DES will perform quality assurance (QA). A draft tech memo for traffic analysis methodology, alternative analysis report, traffic forecasting, and model calibration should be provided for DES review before the analysis is completed. **Attachment F** provides a sample QC checklist.

To ensure adequate time is incorporated into the project schedule, in addition to the District's review and addressing of any DES / FHWA comments, the following should be considered:

- TxDOT DES
    - QA Review: allow 4 weeks
- FHWA
    - allow 30 days for all IAJRs not covered under PA
    - allow 60 days for system interchange and new ramps (that creates partial interchange)

Note: These review times do not include revisions to address comments. Additional review times will be provided to DES and FHWA for subsequent reviews. Interim reviews may also be conducted for large and complex projects to ensure performance and progress meets expectations.

For access change requests that fall under PA, TxDOT will allow FHWA Texas Division 10 business days for objections.

Additional guidance and clarification are provided in **Attachment G** IAJR SOP Frequently Asked Questions (FAQ).

Attachments

A – Supporting Documentation for TxDOT's Policy for Interstate Access Justification Reports
B-1 – Interstate Access Changes Requiring FHWA Review and Action (Federal Delegation of Authority for Access Approval)
B-2 – Examples of Projects That May Not Requiring FHWA Review and Approval
C-1 – TxDOT IAJR Process Flowchart
C-2 - TxDOT Expedited Review Process Flowchart
D – Proposed IAJR Methodology & Assumptions Coordination Meeting Agenda
E – IAJR Report Outline
F – IAJR Quality Control Checklist
G – IAJR SOP Frequently Asked Question (FAQ)

References

- FHWA Interstate System Access Information Guide, 2010
- FHWA Traffic Analysis Tool Box
  https://ops.fhwa.dot.gov/trafficanalysistools/
- FHWA Scope and Scope of Safety Assessment Methods in Project Development
  https://highways.dot.gov/safety/data-analysis-tools/hsm/scale-and-scope-safety-assessment-methods-project-development
- FHWA Interchange Safety Comparison Tool
  https://highways.dot.gov/research/publications/safety/FHWA-Interchange-Safety-Comparison-Tool
- FHWA Safe System-Based Framework and Analytical Methodology for Assessing Intersections
  https://safety.fhwa.dot.gov/intersection/ssi/fhwasa21008.pdf?_gl=1*1t21eiy*_ga*ODMxMDM4MzIwLjE2Nzc1ODcwMTU.*_ga_VW1SFWJKBB*MTcwMDE1NTI2NC4yODUuMS4xNzAwMTU1MzM4LjAuMC4w
- 23 CFR Part 624
  - https://www.ecfr.gov/current/title-23/chapter-I/subchapter-G/part-624

- NCHRP 948 Guide for Pedestrian and Bicyclist Safety at Alternative and Other Intersections and Interchanges
  https://www.trb.org/Main/Blurbs/181781.aspx
- TxDOT's Statewide Traffic Analysis and Reporting System (STARS)
  http://txdot.ms2soft.com/tcds/tsearch.asp?loc=Txdot&mod
- TxDOT's Crash Records Information System (CRIS)
  https://cris.dot.state.tx.us/public/Query/app/public/welcome
- TXDOT Traffic and Safety Analysis Procedures Manual
  https://onlinemanuals.txdot.gov/TxDOTOnlineManuals/txdotmanuals/tsp/tsp.pdf
- TXDOT Project Development Process Manual

Attachment A

Supporting Documentation for

TxDOT's Policy for Interstate Access Justification Reports (IAJRs)

Texas Department of Transportation

MEMO

October 19, 2018

To: District Engineers

From: William L. Hale, P.E.
Chief Engineer

Subject: TxDOT's Policy in Response to the May 2017 Changes to FHWA's Policy on Access to the Interstate System

On May 22, 2017, FHWA issued a new policy replacing the August 27, 2009 policy regarding "Access to the Interstate System." The previous 2009 policy has typically been referred to as an eight-point policy, with the May 22, 2017 policy referred to as the two-point policy. It is important to note the following from the two-point policy:

> "This policy replaces the policy of August 27, 2009 on "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 consideration 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 (NEPA) and other statutes and regulations applicable to the approval process."

The May 22, 2017 FHWA policy is intended to eliminate the potential for duplicative analysis of the social, economic, and environmental impacts and planning considerations in both the Interstate Access report and the NEPA Documentation. The assumption being that it was a duplicative process in every state.

Following FHWA's release of the May 22, 2017 change in policy, TxDOT representatives met with FHWA Texas Division staff to discuss TxDOT's current process and to determine an acceptable approach in response to FHWA's change in policy. It was determined that TxDOT's process, is not duplicative and, if TxDOT was to adopt the May 22, 2017 FHWA policy without revising its NEPA Documentation procedures, required elements of the overall process would no longer be adequately addressed. TxDOT does not plan to revise its NEPA Documentation procedures.

As a result, the six points of the previous policy, addressing the consideration of social, economic, and environmental impacts and planning considerations, are to remain as part of the components of TxDOT's IAJR analysis and documentation, in addition to the two updated points in the May 22, 2017 policy, for a total of eight. The IAJR will also be included, by reference, as an attachment to the NEPA documentation.

Please note, TxDOT is not proposing to follow the previous FHWA 2009 policy rather than FHWA's May 22, 2017 policy. As shown in Tables 1 and 2 below, the points in the May 22, 2017 policy addressing safety, operational, and engineering acceptability are not the same as the two respective points in the previous 2009 policy.

Table 1. Comparison of 2009 and May 22, 2017 Policy Points with Respect to TxDOT IAJR Documentation Requirement			
		TxDOT IAJR Documentation Requirements Prior to May 22, 2017	TxDOT IAJR Documentation Requirements As of May 22, 2017
	FHWA 2009 Policy Points		
1	The need being addressed by the request cannot be adequately satisfied by existing interchanges to the Interstate, and/or local roads and streets in the corridor can neither provide the desired access, nor can they be reasonably improved (such as access control along surface streets, improving traffic control, modifying ramp terminals and intersections, adding turn bays or lengthening storage) to satisfactorily accommodate the design-year traffic demands (23 CFR 625.2(a)).	Include	Include
2	The need being addressed by the request cannot be adequately satisfied by reasonable transportation system management (such as ramp metering, mass transit, and HOV facilities), geometric design, and alternative improvements to the Interstate without the proposed change(s) in access (23 CFR 625.2(a)).	Include	Include
3	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 (which includes mainline lanes, existing, new, or modified ramps, ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (23 CFR 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, shall be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access must include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request must also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C.	Include	Replaced by new FHWA policy (See Table 2)

Table 1. Comparison of 2009 and May 22, 2017 Policy Points with Respect to TxDOT IAJR Documentation Requirement			
	109(d) and 23 CFR 655.603(d)).		
4	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 for managed lanes (e.g., transit, HOVs, HOT lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)).	Include	Replaced by new FHWA policy (See Table 2)
5	The proposal considers and is consistent with local and regional land use and transportation plans. Prior to receiving final approval, all requests for new or revised access must be included in an adopted Metropolitan Transportation Plan, in the adopted Statewide or Metropolitan Transportation Improvement Program (STIP or TIP), and the Congestion Management Process within transportation management areas, as appropriate, and as specified in 23 CFR part 450, and the transportation conformity requirements of 40 CFR parts 51 and 93.	Include	Include
6	In corridors where the potential exists for future multiple interchange additions, a comprehensive corridor or network study must accompany all requests for new or revised access with recommendations that address all of the proposed and desired access changes within the context of a longer-range system or network plan (23 U.S.C. 109(d), 23 CFR 625.2(a), 655.603(d), and 771.111).	Include	Include
7	When a new or revised access point is due to a new, expanded, or substantial change in current or planned future development or land use, requests must demonstrate appropriate coordination has occurred between the development and any proposed transportation system improvements (23 CFR 625.2(a) and 655.603(d)). The request must describe the commitments agreed upon to assure adequate collection and dispersion of the traffic resulting from the development with the adjoining local street network and Interstate access point (23 CFR 625.2(a) and 655.603(d)).	Include	Include
8	The proposal can be expected to be included as an alternative in the required environmental evaluation, review and processing. The proposal should include supporting information and current status of the environmental processing (23 CFR 771.111).	Include	Include

Table 2. Summary of May 22, 2017 FHWA Policy Points			
	FHWA May 22, 2017 Policy Points for Determination of Safety, Operation, and Engineering Acceptability		
Replaces Point 3 Above	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 (which includes mainline lanes, existing, new, or modified ramps, and ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis *should*[1], particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (Title 23, Code of Federal Regulations (CFR), paragraphs 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, *should*[2] be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access *should*[3] include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute, and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request *should*[4] also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).	NA	Include *Note:* 1. *Use to be "shall."* 2. *Use to be "shall."* 3. *Use to be "must."* 4. *Use to be "must."*
Replaces Point 4 Above	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*[1] managed lanes (e.g., transit or high occupancy vehicle and high occupancy toll lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)). *In rare instances where all basic movements are not provided by the proposed design, the report should include a full-interchange option with a comparison of the operational and safety analyses to the partial-*	NA	Include *Note:* 1. *Use to be "for."* 2. *Last three sentences are new.*

Table 2. Summary of May 22, 2017 FHWA Policy Points			
	interchange option. The report 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 report should describe whether future provision of a full interchange is precluded by the proposed design.[2]		

TxDOT Policy

Therefore, in concurrence with FHWA, TxDOT's policy is to add the documentation of the six points addressing the consideration of social, economic, and environmental impacts and planning considerations (required for NEPA documentation purposes) to the documentation of the May 22, 2017 FHWA two-point policy. This TxDOT policy is applicable to all IAJRs under development that have not been accepted or approved by FHWA.

TxDOT's Project Development Process Manual will be updated by December 1, 2018, to reflect this TxDOT policy.

For additional questions regarding the IAJR coordination process, please contact Sharlotte Teague, P.E., Design Division, Project Development Support Section Director.

For additional questions regarding policy points 3 and 4 focusing on safety, operational, and engineering issues, districts are encouraged to contact Khalid Jamil, P.E., with the new Design Division Traffic Simulation and Safety Analysis Section, early in the project scoping process to ensure planned analyses align with FHWA's expectations for IAJR approval.

CC: Randy Hopmann, P.E., ADM
Michael Lee, P.E., ADM
Carlos Swonke, ENV
Camille Thomason, P.E., DES
Jessica Butler, P.E., DES
Sue Theiss, ENV
Khalid Jamil, P.E., DES
Sharlotte Teague, P.E., DES
Carl Highsmith, P.E., FHWA

Attachment B-1

Delegation of Authority for Approval of Access Requests on Interstate Highways

Proposed Type of Access	Retained by HQ/ Executive Director	Delegated to Division Administrator	Programmatic Agreement*
New Freeway-to-Freeway Interchange	X		
Major Modification of Freeway-to-Freeway Interchange	X		
New Partial Interchange or New Ramps To/From Continuous Frontage Roads That Create a Partial Interchange	X		
New Freeway-to-Crossroad Interchange		X	X
Major Modification of Existing Freeway-to-Crossroad Interchange		X	X
Completion of Basic Movements At Partial Interchange		X	X
Locked Gate Access		X	
Abandonment of Ramps or Interchanges (unless creating a partial interchange)		X	

*For access change requests fall under the Programmatic Agreement between FHWA Texas Division and TxDOT

Attachment B-2

Examples of Projects May Not Require FHWA Review & Approval

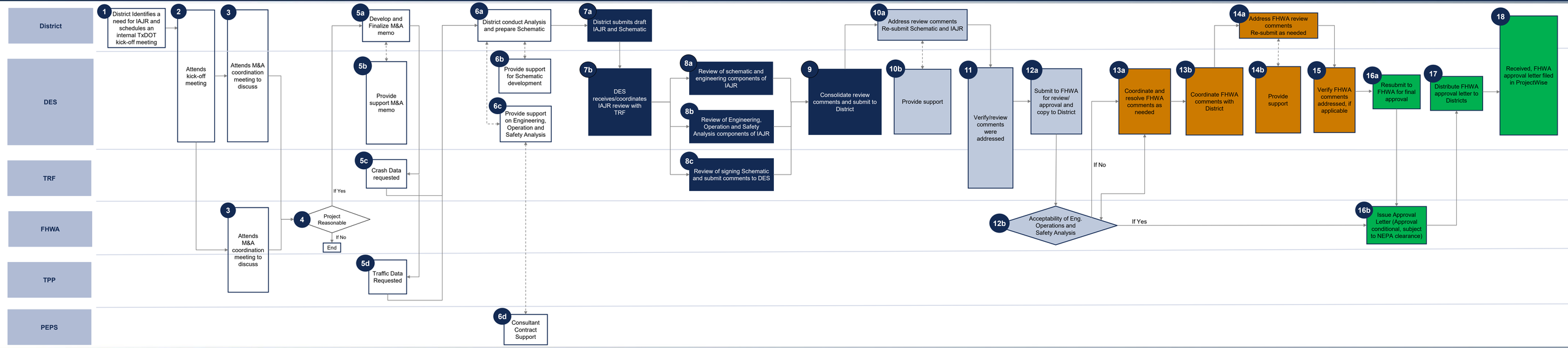
Type of Access Change

- Shift of a ramp's location within the same interchange configuration, which results in ramp spacing that meets FHWA's design criteria. If the interchange is reconfigured in such a way that the travel patterns change with the same number of access points, coordination of the project should be performed with FHWA Division Office to determine the type of review and process to be considered. Changing the location of a ramp could result in changes to the safety and operational performance of the Interstate System.
- Addition of lanes to an on-ramp may not require an Interstate System Access Change Request be submitted; however, based on coordination with FHWA, analysis of the potential consequences of this change on the safety and operational performance of the Interstate may be required.
- Addition of left-turn storage lanes, right-turn storage lanes, and through travel lanes at the terminus of existing ramps.
- Relocation or shifting of the existing on-ramp or off-ramp termini (i.e., moving the ramp end that connects with the local road) along the same roadway.
- Addition of a single auxiliary lane between two adjacent interchange ramps where the single auxiliary lane does not function as a mainline travel lane.
- Modification of the length of acceleration or deceleration lanes involved with any ramp.
- Improvement of traffic signals at ramp termini with local roads should be reviewed to ensure that the changes in the signalization do not result in queue spillback into the mainline lanes of the Interstate and that sufficient storage is provided.
- Implementation of ramp metering or other active control of vehicles entering the Interstate System.
- Construction of new signing, striping, and/or resurfacing of an Interstate on-ramp or off-ramp, where geometric features are not changed.
- Installation of roadside guardrail and concrete barriers (such as for resurfacing and safety projects).
- Construction of overpasses or grade separation structures without ramps along Interstate facilities. The approval of air-rights over Interstate facilities is addressed as part of the location and design concept acceptance with the NEPA process and approval of plans, specifications, and estimate.
- Changes in access between managed lanes and general purpose lanes on the Interstate

NOTE: Projects may not require FHWA review and action, but coordination with Design Division and FHWA may be required based on context of project.

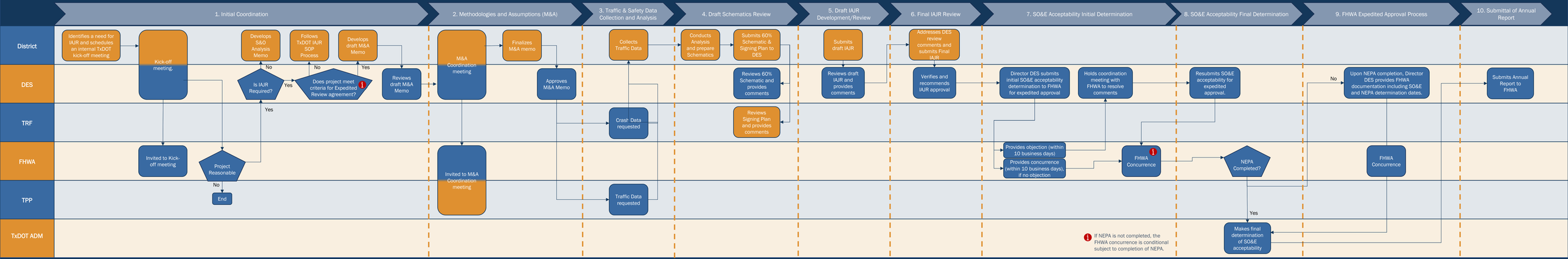
Attachment C-1 TxDOT IAJR Coordination Process

Phases: **Early Coordination** | Draft Submittal to DES | Submittal to FHWA | 2nd Submittal to FHWA | Approval



For additional clarification, see attached instructions

Attachment C-2 TxDOT Interstate Access Justification Report (IAJR) Expedited Review Process
Safety, Operation and Engineering (SO&E) Acceptability Determination (Programmatic Agreement)



1. Initial Coordination
TxDOT District (District) begin coordination with TxDOT Design Division (DES) to determine if IAJR is needed and if the IAJR is part of Expedited Review. FHWA will be invited to the initial coordination meeting.
a) If an IAJR is not needed, level of safety and operation analysis/evaluation will be determined and District will provide safety and operation technical memo.
b) If IAJR is not part of expedited review, District to follow the TxDOT IAJR SOP process
c) If IAJR is determined to meet the criteria for expedited agreement, go to step 2

Expedited Review agreement with FHWA is limited to following interstate access changes:
1) New freeway to crossroad (service) interchanges;
2) Modifications to existing freeway-to-crossroad (service) interchanges; and
3) Completion of basic movements at existing partial interchanges.

2. Methodology & Assumptions (M&A)
(District to develop M&A and provide draft to DES for their review. District to schedule M&A coordination meeting. FHWA will be invited. DES will review the M&A and provide comments/concurrence)

3. Traffic and Safety Data Collection/Analysis
District to start the collecting traffic count, crash data, developing traffic forecast, and conduct safety and operational analysis as agreed upon in approved M&A

4. Draft Schematics Review
District to submit 60% schematics and signing plan to DES for review. DES will review the schematics and will forward the signing plans to TxDOT Traffic Division (TRF) for review. DES will provide written comments

5. Draft IAJR Development/ Review
District to submit draft IAJR to DES for review. DES will review the draft IAJR and provide written comments

6. Final IAJR Review
District will address and resolve all DES written comments and submit the final signed &sealed IAJR

7. Safety, Operation & Engineering (SO&E) Acceptability Initial Determination
Director DES will submit initial determination of SO&E acceptability to FHWA for expedited approval. The documents will include complete IAJR Report as per TxDOT IAJR SOP.
a) FHWA will provide concurrence. If FHWA do not provide any objection within 10 business days, SO&E will be considered to have FHWA concurrence
b) If FHWA objects to proposed access change, a coordination meeting between DES and FHWA will be held to resolve the objection and a revised determination of SO&E acceptability will be submitted to FHWA for their expedited concurrence. If FHWA do not provide any more objection within 5 business days, SO&E will be considered to have FHWA concurrence

8. SO&E Acceptability Final Determination
a) Director DES will provide SO&E initial determination and FHWA concurrence (or proof of exhausting 10-days period) to TxDOT ADM (Director Project Development)
b) Director Project Development will recommend approval to TxDOT Deputy Executive Director Program Delivery.
c) Deputy Executive Director will approve and issue final determination of SOE acceptability.

9. FHWA Expedited Approval Process
a) One-step Process: If NEPA is approved before TxDOT determination of SO&E acceptability, FHWA concurrence or lack of objection within 10 business days is considered final.
b) Two-step Process: If TxDOT determination of SO&E is submitted before NEPA completion, FHWA concurrence or lack of objection within 10 business days is considered conditional. Upon completion of NEPA, Director DES will provide FHWA the documentation including decision dates for SO&E and NEPA determination and verification that the alternatives selected in SO&E and NEPA are essentially the same.

10. Submittal of Annual Report
TxDOT to submit Annual report to FHWA

Attachment D

Proposed IAJR Methodology and Assumptions Coordination Meeting Agenda

(for determining safety, operation and engineering acceptability)

1. Goals and Objectives
    a. Project description
    b. Project location map
    c. Alternatives
2. Area of Influence
    a. Mainlane
    b. Cross Roads
3. Analysis Years
    a. Existing
    b. Opening
    c. Design
    d. Interim
4. Data Collection
    a. Historic traffic count
        i. Source
    b. Current traffic count
    c. Historic crash data
        i. Source
5. Traffic Forecasting
    a. TP&P
    b. MPO/TDM
    c. Hybrid
6. Traffic Operational Analysis
    a. Existing
        i. Area Type
        ii. Traffic Conditions
    b. Procedures/Tools
        i. HCM/HCS
        ii. HCM/HCS + Synchro
        iii. CORSIM/VISSIM
    c. Measure of Effectiveness
        i. LOS
        ii. Travel Time/Speed
        iii. Calibration

7. Safety Analysis
    a. Historical crash data analysis
        i. Latest 3 to 5 years
    b. Predictive/Expected # of crashes
        i. Analysis Tools
8. Anticipated Design Exceptions
9. Project Schedule
10. Quality Control

Attachment E

IAJR Report Outline

1. Executive Summary
2. Introduction
    a. Background
    b. Purpose
    c. Project Location
3. Consideration and Requirements

    3.1 Goals and Objectives (Policy Points 1 & 2):

        3.1.1 Existing Conditions and Consideration of Improvements That Do Not Require an Access Change.

        3.1.2 Transportation System Management Considerations

        3.1.3 Summary of Build Alternatives

    3.2 Operational and Safety Analysis (Policy Point 3)

        3.2.1 Traffic Operational Analysis
            a. Alternatives
            b. Traffic Volume
            c. Alternative Analysis

        3.2.2 Safety Analysis
            a. Historical Crash Analysis
            b. Crash Modification Estimation
            c. Predictive Crash Analysis

    3.3 Connects to Public Road and Provides for All Traffic Movements (Policy Point 4)

    3.4 Consistency with Local / Regional Plans (Policy Point 5)

    3.5 Long Range-System or Network Plan (Policy Point 6)

    3.6 Commitments and Coordination with Stakeholders (Policy Point 7)

    3.7 Environmental Status (Policy Point 8)

4. Conclusion

    4.1 Recommendations

    4.2 Funding

    4.3 Schedules

Appendix:

- A Schematic / Signing Plan
- B Alternatives Analysis Report
- C Methodology & Assumptions
- D Calibration Report
- E Traffic Count Data
- F Traffic Forecast
- G Traffic Operation Model Output
- H Crash Data / Analysis Output
- I Coordination Documentation

Attachment F
Interstate Access Justification Report (IAJR)
Quality Control Checklist

No	ITEM	Review	
		Checked By	Date
	Methodology Coordination		
1	Methodology & Assumptions Coordination Meeting (M&A) conducted and meeting minutes documented		
2	M&A Memo includes a project description along with a project location map		
3	Goals and Objectives supported by data and justifies the project		
4	Area of influence includes adjacent interchanges & intersections as per M&A		
5	Analysis years per M&A		
6	Project Implementation Phasing		
	Traffic Volume		
7	Existing traffic count data collected		
8	Traffic forecasts are developed per TPP guidelines and approved by TxDOT		
9	Traffic forecast methodology and assumptions memo is included		
10	If Travel demand model (TDM) used for traffic forecasting , TDM is latest/approved model		
11	Traffic forecasts are checked for reasonableness		
	Traffic Analysis		
12	Traffic analysis tools selected per M&A		
13	Latest guidelines/standards have been used		
14	Study area type is Central Business District		
15	Existing and/or expected future traffic conditions is saturated		
16	If microsimulation tool was used, the report includes the calibration memo		
17	Measure of Effectiveness (MOEs) are consistent with analysis tools and project settings		
18	The results of traffic analysis been reviewed for reasonableness		
19	The results of build year analysis show better or equal operational conditions		
20	The traffic analysis software files checked to verify input, and parameters		
	Safety Analysis		
21	The safety analysis study area selected per M&A		
22	The historical crash data and analysis conducted for latest 3 to 5 years		
23	The safety analysis conducted as per methodology agreed upon during M&A		
	Report		
24	Design schematic is included		
25	Signing plan is included		
26	The proposed project is consistent with State/MPO/local plan and documentation included		

27	The status of Environmental process is provided and all CSJs are listed		
28	TxDOT policy requirements have been addressed		
29	The report has been reviewed for grammatical and editorial errors		
30	All coordination meetings have been documented		
31	If design exception is anticipated, additional coordination is conducted		

Attachment G
Interstate Access Justification Report (IAJR)
Standard Operating Procedures (SOP)
Frequently Asked Questions (FAQ)

1. What is an Interstate Access Point?
2. What is an Interstate System Access Change Request?
3. What is an Interstate Access Justification Report (IAJR)?
4. Why is Interstate System Access Management important?
5. Is there a legal authority for Interstate Access Policy?
6. Who approves the IAJR?
7. Can local government submit access requests directly to TxDOT Design Division?
8. What are the requirements for an IAJR for TxDOT projects?
9. FHWA Policy includes two policy points, but the TxDOT policy includes eight policy points.
10. Is this policy applicable to Toll Roads?
11. What changes to the Interstate require FHWA review and action through an IAJR?
12. What changes to the Interstate may not require FHWA review and action through an IAJR?
13. Is this policy applicable for future Interstates?
14. What is the ramp terminal intersection?
15. What is the general development process for an IAJR?
16. Who in each district responsible for access request coordination?
17. Can information developed during the NEPA process be referenced in the IAJR?
18. When is an IAJR re-evaluation required?
19. What if a project is implemented in phases due to funding?
20. Can the 2004 version of FHWA's "Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulations Modeling Software" still be used?
21. The 2019 Traffic Analysis Toolbox (TAT) Volume III recommend 365 days or at least 100 days of data for selection of representative day. However, TxDOT IAJR SOP recommends only one-to-two-week traffic count data.
22. What geometric or traffic conditions necessitate the use of microsimulation for traffic operations analysis?
23. If microsimulation is required for traffic operational analysis as per M&A, how to ensure that the model results provided in draft IAJR are acceptable?
24. Why does the area of influence include the adjacent intersections and interchanges?

25. Should data collection or traffic analysis for the IAJR proceed prior to receiving DES concurrence on the Methodology & Assumptions Technical Memorandum (M&A Tech Memo)?
26. TxDOT IAJR SOP states that the build alternative should results in safety and operational conditions equal or better than the no-build alternative. Is it enough for project justification?
27. TxDOT IAJR SOP provide reference to Crash Recording Information System (CRIS). Can Districts or consultants download the crash data from public query?
28. As per TxDOT IAJR SOP, historical crash data are to be summarized under various categories including heat map, facility types, weather, crash rates, contributing factors, manner of collision etc.. Is this enough?
29. TxDOT IAJR SOP recommend Option A (Predictive Analysis) as the preferred option for safety analysis if applicable. How do we determine if Option A is applicable or not?
30. TxDOT IAJR SOP Option B for Safety Analysis recommend Crash Modification Factors (CMFs). What if multiple CMFs are available and appear to be equally applicable and how to select the most appropriate CMF?
31. TxDOT IAJR SOP lists other tools to be considered if Option A or B is not appropriate. How to determine which tool is appropriate?
32. Who should I contact if I have questions during IAJR process?

1. What is an Interstate Access Point?

   An access point is defined as any break in the control of access to the Interstate System right-of-way, including "locked gate" access and access to through lanes or shoulders, collector-distributor roads, or ramps. Access points provide an entrance to or exit from the Interstate System. For example, a diamond interchange has four access points. Access to the Interstate System is allowed only by interchange at selected public roads. Access to the Interstate System through rest areas from outside the Interstate control of access right of way is prohibited.

2. What is an Interstate System Access Change Request?

   An Interstate System Access Change Request is a formal request made to FHWA by a state to perform a change in access along an Interstate. A change in access occurs whenever an existing access point is revised (i.e. ramp relocated or an interchange is reconfigured) or a new access point to the Interstate is added or removed.

3. What is an Interstate Access Justification Report (IAJR)?

   An IAJR is a comprehensive, formal engineering report that provides the necessary justification and documentation to substantiate a request to change access to the Interstate. The IAJR includes, in general, analysis for both traffic and safety operations that supports the formal request.

4. Why is Interstate System Access Management important?

   The Interstate System is a critical element of the National Highway System which facilitates the efficient and safe movement of people and freight across the nation. Access to the Interstate System promotes economic development and provides connections to other highway systems. Interstate System Access Management is important to ensure that the highest level of service in terms of safety and mobility is maintained by managing the control of access along the Interstate System.

5. Is there a legal authority for Interstate Access Policy?

Yes - According to 23 U.S.C 111(a), proposed new or revised access points to the Interstate system require review and action by the FHWA. FHWA approval constitutes a Federal action and, as such, requires that the transportation planning, conformity, congestion management process and the National Environmental Policy Act (NEPA) procedures be followed, and their requirements satisfied. The FHWA retains final approval authority of the Interstate System access change request once the project receives safety, operational, and engineering acceptability and environmental clearance.

6. Who approves the IAJR?

The FHWA approves all IAJRs. As per TxDOT's agreement with FHWA, through the TxDOT IAJR SOP, all IAJRs are first submitted to TxDOT Design Division (DES) for compliance and quality assurance review and then submitted by DES to FHWA for review and comment. Once the FHWA comments have been substantially addressed, DES will transmit to FHWA for FHWA formal approval.

As per Programmatic Agreement (PA), FHWA allowed TxDOT to make determination for Safety, Operation and Engineering (SO&E) acceptability for certain type of access changes. Attachment B-1 lists access change request types to be processed and determined by TxDOT under the PA. Attachment C-2 includes TxDOT IAJR Expedited Review Process for SO&E acceptability determination per PA. For access change requests that fall under PA, TxDOT will allow FHWA Texas Division 10 business days for objections to final approval.

7. Can local government submit access requests directly to TxDOT Design Division?

Local government can initiate access request including coordination and review with TxDOT Division. However, all such requests should involve district director of TPD or their representatives. The formal IAJR should be submitted by TxDOT district.

8. What are the requirements for an IAJR for TxDOT projects?

The development of the IAJR and requirements for analyses will be in accordance with the TxDOT IAJR SOP policy (distributed 4/21/2020), which also includes the two policy points required by FHWA as contained in the memorandum "Changes to FHWA's Policy on Access to the Interstate System" from FHWA dated May 22, 2017.

9. FHWA Policy includes two policy points, but the TxDOT policy includes eight policy points.

Prior to May 2017 Policy, FHWA had eight policy points. The May 2017 FHWA Policy includes only two policy points which include:

- Effects of revised access on safety and operation and
- Access, connections and design

The May 2017 FHWA policy is intended to eliminate the potential for duplicative analysis of the social, economic, and environmental impacts and planning considerations in both the IAJR and the NEPA Documentation. It was assumed that state DOTs already consider these requirements in their NEPA process. However, TxDOT determined that these considerations are not fully addressed during ENV process and is not duplicative. So, in consultation with FHWA, TXDOT issued policy memo to incorporate the two updated points from FHWA May 2017 Policy and retained the other six points of the previous 2009 FHWA policy for a total of eight.

10. Is this policy applicable to Toll Roads?

No, this policy is not applicable to toll roads incorporated into the Interstate System, except for segments where Federal funds have been expended or these funds will be used for roadway improvements, or where the toll road section has been added to the Interstate System under the

provisions of 23 U.S.C. 103(c)(4)(A). The term "segment" is defined as the project limits described in the Federal-aid project agreement.

11. What changes to the Interstate require FHWA review and action through an IAJR?

Generally, any new or revised access to the Interstate System will require FHWA's review and action, including the following:

- New freeway-to-freeway interchange.
- New service interchanges providing access between a non-freeway local roadway network (arterial, collector, or local road) and the Interstate.
- Modification of freeway-to-freeway interchange configuration, for example, adding new or abandoning/removing ramps, completing basic movements, and reconstruction of structures.
- New partial interchanges or new ramps to/from continuous frontage roads that create a partial interchange.
- Modification of existing interchange configuration, such as adding a loop to a diamond interchange.
- Completion of basic movements at partial interchange, for example, completing a partial diamond interchange by adding a ramp.
- Locked gate access, for example, access via locked gates for emergency response.
- Access to special-use lanes, such high occupancy vehicle (HOV), high-occupancy toll (HOT) or truck only lanes (from the street network) within the Interstate System should be treated similar to any other access.
- Relocation of a terminal of a ramp to a different local road.
- Abandonment of ramps or interchanges.
- Changes in operation of managed-lane access to general-purpose access to the Interstate.
- Relocation of a ramp gore along an Interstate mainlane. (Under some circumstances, if a ramp is shifted within the same interchange configuration, which results in ramp spacing that meets FHWA's design criteria, and/or if the interchange is reconfigured in such a way that the travel patterns change with the same number of access points, coordination would be performed with FHWA to determine if an approval through IAJR is required or some other process / coordination).

12. What changes to the Interstate may not require FHWA review and action through an IAJR?

a) These projects may not require FHWA review and action but require coordination (to determine what, if any, technical analysis is needed) with DES and FHWA:

- Shift of a ramp's location within the same interchange configuration, which results in ramp spacing that meets FHWA's design criteria. If the interchange is reconfigured in such a way that the travel patterns change with the same number of access points, coordination should be performed with FHWA to determine the type of review and process to be considered.
- Addition of lanes to an on-ramp.
- Addition of a single auxiliary lane between two adjacent interchange ramps where the single auxiliary lane does not function as a mainline travel lane.
- Modification of the length of acceleration or deceleration lanes involved with any ramp.
- Implementation of ramp metering or other active control of vehicles entering the Interstate System.
- Construction of overpasses or grade separation structures without ramps along Interstate facilities.
- Changes in access between managed lanes and general-purpose lanes on the Interstate.
- Relocation or shifting of the existing on-ramp or off-ramp termini (i.e., moving the ramp end that connects with the local road) along the frontage or collector-distributor Road.

b) These projects do not require FHWA review and action through an IAJR although coordination with FHWA may be necessary

- Construction of new signing, striping, and/or resurfacing of an Interstate on-ramp or off-ramp, where geometric features are not changed.
- Installation of roadside guardrail and concrete barriers (such as for resurfacing and safety projects)
- Addition of left-turn storage lanes, right-turn storage lanes, and through travel lanes at the terminus of existing ramps.
- Improvement of traffic signals at ramp termini with local roads should be reviewed to ensure that the changes in the signalization do not result in queue spillback into the mainline lanes of the Interstate and that sufficient storage is provided.

13. Is this policy applicable for future Interstates?

Yes, but only after interstate route designation has occurred. Once the route has been constructed to Interstate Standards, TxDOT will coordinate for FHWA interstate designation approval, prior to applying to AASHTO for an interstate route designation. Once the designation of the route to the Interstate System has been formalized by agreement, any future proposed new or significant changes in access beyond those covered in the agreement, regardless of funding, must be approved by FHWA.

14. What is the ramp terminal intersection?

At a conventional interchange (without frontage road), exit ramps provide a direct connection between the Interstate main lanes and the cross street. However, in Texas, traffic exiting from the main lanes first connect to the frontage road and then travel towards an intersection with a cross street. The intersection of the frontage road and the cross street is typically called the ramp-terminal intersection.

15. What is the general development process for an IAJR?

In general, there are three primary stages for a typical IAJR development:

- First stage: Initiation
- Second stage: Technical Analysis and Documentation
- Third Stage: Reviews & Approval

During the first stage, measurable goals are developed (SMART: Specific, Measurable, Achievable, Relevant, and Time-Bound), methodology and assumptions (M&A) are coordinated/documented with written concurrence obtained from DES, and data collection is started.

During the second stage, technical analyses, including existing condition analysis, traffic forecasting, and traffic operation and safety analyses are performed. Concurrently, other considerations and requirements are evaluated, including but not limited to, the development and identification of alternatives and their analysis, consideration of improvements that do not require an access change, multimodal considerations, Transportation System Management (TSM) considerations, details of the proposed improvement (including any design exceptions), consistency with local / regional plans, association with long range-system or network plan, commitments and coordination with stakeholders, and environmental status. The results of all analyses are documented in a formal report (IAJR).

During the third stage, the IAJR is submitted to DES for compliance and quality assurance review, and ultimately submitted to FHWA for review, comment, and approval as per TxDOT IAJR SOP.

16. Which position is responsible for coordinating of access requests and implementation of SOP? Who in each district is responsible for access request coordination?

Safety and Operation Program Supervisor in Design Division is responsible for coordinating, review,

and process of all Interstate Access requests. The Program Supervisor verify that access requests meet SOP and other requirements and then provide recommendations for approval.

Districts are encouraged to appoint a senior transportation engineer to act as district IAJR coordinator for review and processing of IAJRs for their respective district. Otherwise, District's Director TPD will be the primary contact for all Interstate access modification requests.

17. Can information developed during the NEPA process be referenced in the IAJR?

The IAJR is required to be a standalone document. Relevant information from other project documents (Feasibility Study or Preliminary Engineering Report) can be used but needs to be incorporated in the appropriate section of the IAJR. Excerpts may be included as appendices. The document needs to be clearly written for someone who is not familiar with the project, the area, or the State.

18. When is an IAJR re-evaluation required?

Following are the frequent causes requiring an IAJR re-evaluation :

a) Changes in approved IAJR design concepts
   - Due to environmental impact or commitments
   - Due to final design adjustment
   - Due to design-build proposal

b) Significant changes in following conditions:
   - Traffic volumes or traffic conditions
   - Land use
   - Environment

c) Time lapse before construction
   - If the project does not progress to construction within 5 years after FHWA approval

If a. or b. occur individually or together, a re-evaluation should be completed. However, if only c. occurs, FHWA will determine whether a re-evaluation is required based on length of time passed after approval of the IAJR. If the length of time exceeds three years, then TxDOT would need to show that there are no significant changes in current and future conditions. This would be coordinated with FHWA through DES and would require FHWA concurrence or direction regarding the need for IAJR re-evaluation. However, there may be other reasons not listed here that may trigger IAJR re-evaluation.

19. What if a project is implemented in phases due to funding?

The analysis is required for existing, opening and design years. If a project is implemented in phases, analysis of interim year (opening year of different phases) will also be required.

20. Can the 2004 version of FHWA's "Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulations Modeling Software" still be used?

We should be using the latest 2019 FHWA TAT Volume III Guidelines. The 2019 Guidelines is a forward-looking data-driven process based on statistically derived and objective criteria. The 2019 Guidelines require significantly more data than the 2004 Guidelines. If sufficient data is not available or practical to collect, then the use of 2004 Guidelines may be requested as an exception and should be agreed upon with DES and FHWA during M&A coordination (see FAQ 15).

21. The 2019 Traffic Analysis Toolbox (TAT) Volume III recommend 365 days or at least 100 days of data for selection of representative day. However, TxDOT IAJR SOP recommends only one-to-two-week traffic count data.

The data from permanent count station or other available continuous count source can be used to

adjust/expand one week of field count data to 100 days. Using the data elements collected including traffic volumes, mainline travel times at bottleneck locations, weather and crashes, cluster analyses would be performed to identify representative days within 100 days for model development and calibration.

22. What geometric or traffic conditions necessitate the use of microsimulation for traffic operations analysis?

Microsimulation is generally required for projects in metropolitan areas. In these areas, more data is generally available from Transportation Management Centers. The Highway Capacity Manual (HCM) is the primary tool for analysis of locations that are isolated, do not require interaction between different users and where congestion does not exist (typically LOS D or better). The HCM multi-period analysis can be used to analyze congested conditions to account for the effects of queuing in freeways. Alternative analysis tools should be considered if the following limitations to the HCM methodology exist:

- Multiple overlapping bottlenecks
- System-wide oversaturation
- Off-ramp queues that extend onto the freeway facility
- Toll plaza operations
- Complex geometry or special ITS features

23. If microsimulation is required for traffic operational analysis as per M&A, how is the modeling approach and methodology agreed upon?

The following two stages need to be conducted before submitting draft IAJR:
Data Collection and Cluster Analysis – Data for various travel conditions are collected and normalized including peak period traffic demand, travel time, weather (precipitation, temperature etc) and crash related data. Cluster analysis is then conducted to identify and select a representative day. A cluster analysis memo should be submitted for DES and FHWA review prior to conducting the analysis.
Model Validation and Calibration – The existing condition model for peak periods should be developed for the selected representative day. The peak period models are to be calibrated as per methodology provided in 2019 FHWA Toolbox Volume III. Calibration parameters may include lane change distances, headways, driving behaviors and other parameters. The peak period models are then validated based on comparison of model vs observed travel time and bottleneck throughput. All four criteria listed in 2019 FHWA Toolbox should be satisfied. A calibration memo should be submitted for DES and FHWA review prior to conducting the analysis.

24. Why does the area of influence (AOI) include the adjacent intersections and interchanges?

The AOI is defined as the area that is anticipated to experience significant changes in traffic operating conditions as the result of the proposed access change(s). Typically, in urban areas, the AOI would include at least the first adjacent interchange at each end of the Project or the proposed access change which would include all ramps associated with that interchange. In rural areas, the interchanges may be far enough apart from the Project limits that they will not be affected by the proposed access change. Typically, the AOI along crossroads would extend at least up to ½-mile on each side of Interstate, and if there are signalized intersections along the crossroad, the AOI would be extended beyond the ½-mile to include at least one signalized intersection on each side of Interstate.
Adjacent interchanges (at each end of the Project limits or proposed change in access) and intersections (at cross streets and on each side of the interstate along the project limits or proposed change in access) are included in the AOI to ensure that the safety and operational impacts of the proposed change in access are adequately assessed. The AOI may be extended beyond these limits

based on any anticipated impacts of the proposed changes in access.

25. Should data collection or traffic analysis for the IAJR proceed prior to receiving DES concurrence on the Methodology & Assumptions Technical Memorandum (M&A Tech Memo)?

With preliminary feedback from DES and FHWA, the data collection process may be started concurrently with the development of the M&A Tech Memo; however, the traffic analysis should start after DES concurrence on the M&A Tech Memo. Note that the outcome of M&A memo discussions may impact the data collection efforts.

Note, there is some risk should there be no preliminary feedback from DES and FHWA on the data collection prior to it being started, and that the final outcome / concurrence of the M&A Tech Memo could impact preliminary data collection efforts.

26. TxDOT IAJR SOP states that the build alternative should not result in significant adverse impacts on the safety and operational conditions of Interstate facility compared to the no-build alternative. Is it enough for project justification?

The identification of need for access modification and evaluation criteria during M&A is critical for IAJR development. The build alternative and analyses should address the need and provide the answers to the questions or defined problem.

The safety analysis should assess safety performance (number and severity of crashes) under the proposed build and no-build scenarios and show no significant adverse effect of safety performance for all users of the system.

The operational analysis should use appropriate measure of effectiveness (MOEs) including LOS, travel time, speed to evaluate operating conditions and show build alternative with operating conditions equal to or better than the no-build alternative.

The selected build alternative must meet the goals and objectives of the project. The selected build alternative should not result in significant adverse impacts on the safety and operation of Interstate facility compared to the no-build alternative.

27. TxDOT IAJR SOP provide reference to Crash Recording Information System (CRIS). Can Districts or consultants download the crash data from public query?

Yes, crash data from the public query is available for downloading by districts and consultants and can be used for preliminary analysis and justification of the project. However, for detailed safety analysis FHWA and TxDOT require that crash data be obtained using MicroStrategy. Data should be requested preferably from TxDOT Traffic Safety Division. Design Division and several districts have staff authorized to use MicroStrategy who can help to extract the data.

28. As per TxDOT IAJR SOP, historical crash data are to be summarized under various categories including heat map, facility types, weather, crash rates, contributing factors, manner of collision etc.. Is this enough?

The analysis of historical crash data should determine if certain areas within the project limits are experiencing more crashes or higher severity then is typical for similar facilities, and how these conditions will be improved as part of the project build condition. The overall scope of the safety analysis should be scalable to whatever extent is appropriate for guiding project design decisions in effort to: identify and mitigate any existing safety risk features that may be contributing to the number and severity of crashes; implement effective and efficient design choices that reduce future safety risks; and implement designs consistent with known human factors design guidance.

29. TxDOT IAJR SOP recommend Option A (Predictive Analysis) as the preferred option for safety analysis if applicable. How do we determine if Option A is applicable or not?

The purpose of the M&A is to identify the appropriate tool for the project. Yes, there are certain limitations in using the HSM predictive method and other tools/methods available may be more appropriate to evaluate project conditions. Please refer to TSAP for additional guidance. Option A is applicable unless limitations in Part C – Predictive Method of the Highway Safety Manual (HSM) present weakness or flaws and can influence the outcome. Common limitations of HSM Part C-Predictive method include: freeways with maximum number of lanes in urban areas, freeways with frontage roads, continuous managed lanes such as High-Occupancy Vehicle (HOV) lanes, and maximum allowable AADT. TxDOT with the help of Texas A&M Transportation Institute (TTI) conducted research to address HSM Predictive method limitations and developed safety prediction models and analysis tools for Texas conditions. These are simple spreadsheet-based tools that were released in February 2024. There are still some other limitations to HSM like, non-traditional interchange/alternative intersections. These limitations methods should be considered and assessed during M&A coordination to develop appropriate approach acceptable to TxDOT and FHWA. Traffic and Safety Analysis Procedural (TSAP) Manual Chapter 6 provide guidance in determining the safety analysis approach best suited for projects.

30. TxDOT IAJR SOP Option B for Safety Analysis recommend Crash Modification Factors (CMFs). What if multiple CMFs are available and appear to be equally applicable and how to select the most appropriate CMF?

When selecting appropriate CMF, star rating, score details, and age of data or study should be considered. Please refer to TSAP manual for additional guidance for selecting CMFs. A technical memo documenting the selection of CMFs should be submitted for DES review.

31. TxDOT IAJR SOP lists other tools to be considered if Option A or B is not appropriate. How to determine which tool is appropriate?

The selection of analysis tools and methodology should match the scope and complexity of project. Safety should be evaluated for all road users including vulnerable road users. If Option A or B is not appropriate, then the other available tools for the safety analysis including FHWA SSI Framework, Road Safety Audits, NCHRP Design Flags, FHWA Complete Streets design model, FHWA Interchange Safety Comparison Tool, Human Factors Guide, Safe System Approach for speed management should be considered. However, the analysis should be done as agreed upon during M&A.

32. Who should I contact if I have questions during IAJR process?

For questions about IAJRs or the IAJR process please contact:

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