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

Texas Department of Transportation

Design Division

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Interstate Access Justification Report
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TxDOT Standard Operating Procedures (SOP)

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.

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 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 1.48.

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, August 2009, and most recently in May 2017.

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 review and action. 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 will 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, the need and purpose is 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 an IAJR process are shown in **Attachment C**.

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.

The acceptance of engineering, operation, and safety feasibility by FHWA is the first step but does not represent final approval. Final approval of the IAJR is subject to successful completion of the NEPA process.

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.

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:

Need for Access Modification

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 need and purpose 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.

Access Alternatives

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 need and purpose of the project. The selected build alternative should result in safety and operating conditions equal to or better than 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%.

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.

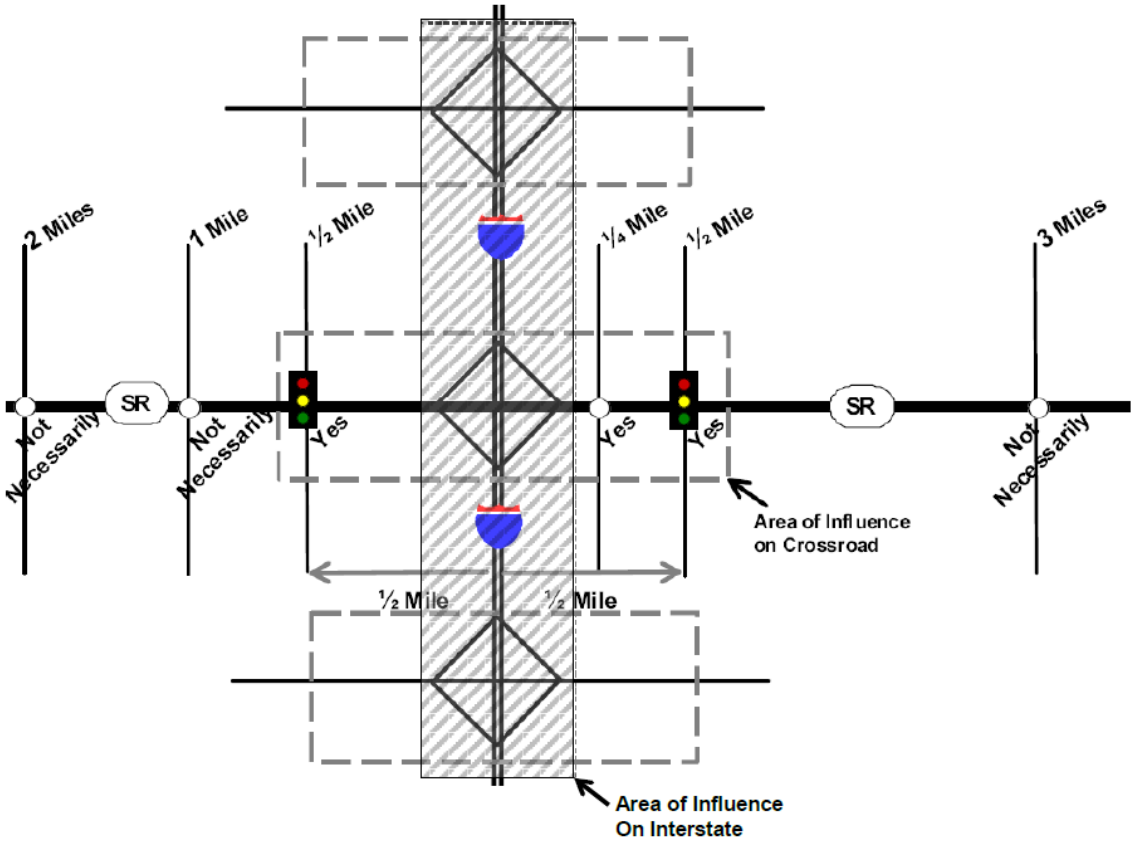
Area of Influence along the mainlanes

In urban areas, the area of influence for IAJRs should include at least the first adjacent interchange on either side of the proposed access change. In rural areas, where interchanges are far apart and the proposed access is isolated, extension to adjacent interchanges may not be necessary. Discussion and documentation indicating why the existing ramp (s) do not affect the proposed access changes should be included in the report.

Area of Influence along a cross road

The area of influence along the crossroad shall extend at a minimum, up to one half-mile in either direction of the proposed access change. If there are signalized intersections along the crossroad, the area of influence should be extended beyond the half-mile to include at least one signalized intersection in either direction. Crossroads of the adjacent downstream and upstream interchanges is normally not required, unless circumstances dictate otherwise.

A figure showing the project study 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, then discussions and documentation indicating that the traffic volumes do not change significantly, or the new value would not change the outcome should be included in the report.
- 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

The 30th highest hourly volume (design hour volume) is required as a minimum. 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.

Data Collection

Data to be collected includes roadway geometrics, traffic control, traffic volume, travel time, crash data, and information on transit, pedestrians and bicycles. 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 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.

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.

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.

- HCM/HCS+Synchro – In addition to HCS for freeway facilities (mainline, ramp junctions 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 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 need and purpose. 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)

Option A is the preferred methodology. If, however the HSM predictive method cannot be used, option B can be allowed as per the M&A coordination meeting.

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.

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

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 schematics 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 FHWA for approval.

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 3 years of approval

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:

- DES QA Review: allow 3 to 4 weeks
- FHWA – Texas Division: allow 30 days
- FHWA Headquarters (if applicable): allow 60 days

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.

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 Not Requiring FHWA Review and Approval
C – TxDOT IAJR Process Flowchart
D – Proposed IAJR Methodology & Assumptions Coordination Meeting Agenda
E – IAJR Report Outline
F – IAJR Quality Control Checklist

References

- FHWA Interstate System Access Information Guide
- TXDOT Project Development Process Manual
- FHWA Traffic Analysis Tool Box
    - (https://ops.fhwa.dot.gov/trafficanalysistools/)
- 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)

Attachment A

Supporting Documentation for

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

On May 22, 2017, FHWA issued a new policy replacing the August 27, 2009 policy regarding "Access to the Interstate System." The previous 2009 FHWA policy has typically been referred to as an eight-point policy, with the May 22, 2017 FHWA 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 adopted 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, 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 FHWA 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 <u>are not</u> the same as the two respective points in the previous 2009 FHWA 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. 109(d) and 23 CFR 655.603(d)).	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			
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-interchange option. The report should also include the mitigation proposed to compensate for the missing movements, including wayfinding*	NA	Include *Note:* 1. *Use to be "for."* 2. *Last three sentences are new.*

Table 2. Summary of May 22, 2017 FHWA Policy Points			
	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]		

Attachment B-1

Interstate Access Changes Requiring FHWA Review and Action

Federal Delegation of Authority for Access Approval*		
Type of Access Change	**FHWA Headquarters**	**FHWA Division Office**
New Freeway-to-Freeway Interchange	X	
Major Modification of Freeway-to-Freeway Interchange	X	
New Partial Interchange	X	
New Ramp(s) to/from Continuous Frtg Rd	X	
New Freeway-to-Crossroad Interchhange Within Traffic Management Area (TMA)		X
New Freeway-to-Crossroad Interchange Outside TMA		X
Major Modification of Existing Freeway-to-Crossroad Interchange		X
Adding New Ramp(s) to an Existing Interchange		X
Removing Ramp(s) from an Existing Interchange		X
Changing the Interchange Configuration		X
Completion of Basic Movements at Partial Interchange		X
Locked Gate Access		X
Abandonment of Ramps or Interchanges		X

*Based on FHWA Access Guide

Attachment B-2

Examples of Projects Not Requiring FHWA Review & Approval

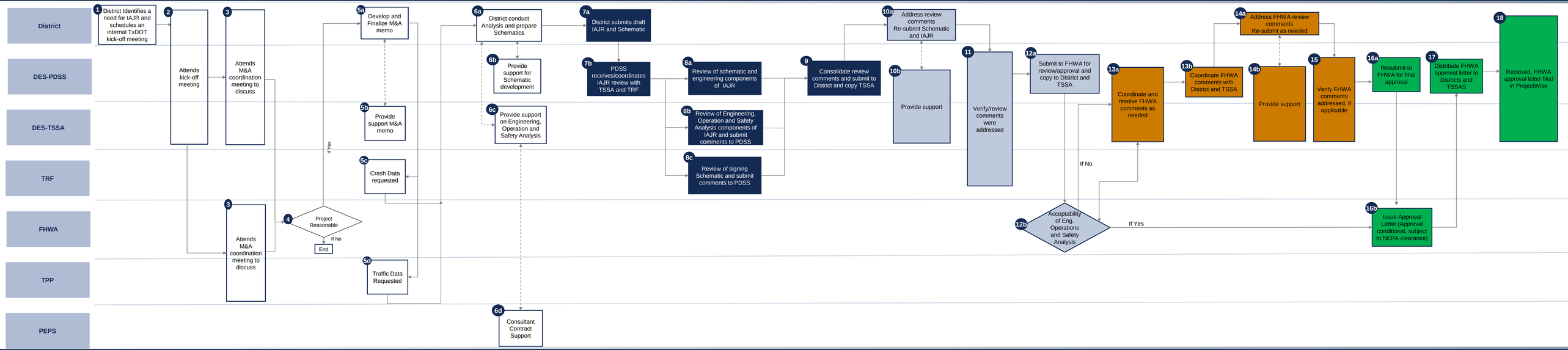
Type of Access Change

- Adding Turn Lane or Through Lane on Cross Road at Ramp Termini
- Widening of Existing Ramp to Add Lane(s)
- Relocate Ramp Termini Along Cross Road
- Relocating Existing Entrance/ Exit Gore Point Along Freeway Mainline
- Adding an Auxiliary Lane Between Two Adjacent Interchange Ramps
- Signal or Channelization Improvements of Ramp Terminal Intersection with Cross Road
- Modification in length of acceleration or deceleration lanes on ramps
- Implementation of ramp metering
- new signing, sriping, and/or resurfacing on on-ramps or off-ramps
- Construction of overpassess or grade seperation structures
- Changes in access between managed lanes and general purpose lanes

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

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 D

Proposed IAJR Methodology and Assumptions Coordination Meeting Agenda

(for determining safety, operation and engineering acceptability)

1. Need and Purpose
    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 Purpose and Need (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	Need and Purpose 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 includes predicted crash frequency or evaluation of CMF		
	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		