

## Methods and Assumptions Document Process for Interchange Justification Report

The Methods and Assumptions Document is developed at the beginning of the study phase of a project to capture assumptions and criteria such as traffic volumes, design year, opening date, travel demand assumptions, baseline conditions, and design year conditions. The document also serves as a historical record of the process, dates, and decisions made by the team.

The following information should be part of an Methods and Assumptions Document. Provide sufficient detail in the document and clarify with graphics, tables, maps, analyses, and supporting documentation.

### 1. Stakeholder Acceptance

The page following the Cover Page is the Signature Acceptance page. It should state at the beginning of the page:

“The undersigned parties, including all members of the team from WSDOT, FHWA and the Local Agencies, concur with the Interchange Justification Report Methods and Assumptions for the <Title of Project> as presented in this document.”

There should be a signature block for each party, formatted similar to below:

WSDOT:	FHWA:
_____ Signature	_____ Signature
_____ Title	_____ Title
_____ Date	_____ Date

The following notes, if agreed by the stakeholders, may go at the bottom of the signature page:

- (1) Participation on the Stakeholders Committee and/or signing of this document does not constitute approval of the <Title of Project> Interchange Justification Report.
- (2) All members of the Stakeholder Committee will accept this document as a guide and reference as the study progresses through the various stages of project development. If there are any agreed upon changes to the assumptions in this document a revision will be created, endorsed and signed by all the stakeholders.

### 2. Introduction and Project Description

The document should begin with a description of the project and include: project leads and proponents, environmental document type, background information, location, funding status, schedule, facilities that will be affected by the project, existing studies, team members, and a list of attachments. Define the complexity of the IJR, i.e. how many of the eight points will be fully addressed. (All eight points

in an IJR will be addressed. However, for some projects certain policy points will be addressed only briefly.)

### **3. Analysis Years/Periods**

Operational analysis included should be for existing conditions, opening year, any interim periods, and design year for design periods including AM and PM peak periods and any other special periods (such as special events) if relevant.

### **4. Project and Study Areas**

The study area limits are normally not identical to the project limits. The study area limit is typically larger than the project limits because traffic impact modeling requires data about land use, population, employment, and traffic volume which represent influential conditions typically beyond the project limits. After detailing the project's location and physical limits with both maps and a written description, clarify the study area boundaries on a map and include a written description of affected interchanges, intersections and streets, cities and counties with State Route impacts, and local agency improvements. Identify specific intersections and interchanges within the study area that will be analyzed and to what level.

### **5. Traffic Operations Analysis**

Describe what software will be used for analysis or modeling of traffic operations, i.e. VISSIM may be used for freeway sections and Synchro used for intersections. The most recently released version of any software should be used.

### **6. Travel Forecast**

Document what regional traffic model or trend line analysis will be used to take into account historical/projected growth rate, describe the methodology and process to be used in developing the forecast and the calibration/validation efforts that will be used (including benchmarks). Also, describe if these models are in the process of being updated at the time of publication of the methods and assumptions document. Document the assumptions that may be required if any of the regional models are in transition.

### **7. Safety Issues**

Detail the collision rate in the project study area, contributing factors to collisions, and which locations have been identified as collision analysis corridors and collision analysis locations. Describe the time frame from which the collision data will be analyzed and deemed relevant to the report. And, identify other safety risks to be explored during the study.

### **8. Selection of Measures of Effectiveness (MOE)**

Document which metrics will be used to demonstrate how the proposal will accomplish it's stated objectives. Some examples of typical MOE's:

- Accessibility of community resources such as hospitals or special generators.

- Travel Time to Interstate (Minutes)
- Schedule Adherence of Transit
- Number of Phase Failures on Major Arterial
- % of demand served
- % of demand served in peak hour
- % of capacity used on signalized ramp terminals
- Maximum Queue Length
- Average Queue Length
- Travel Time on Network (vehicle-hours)
- Persons/vehicles served (vehicle-miles)
- Average speed and density
- Average trip length (vehicle/hours per trip)
- Duration of Congestion (hours at defined density, speed or flow rate)
- Extent (segment miles congested)
- Reliability (buffer index)
- Variability in Travel Time
- LOS as defined by HCM, or other approved guidance
- Safety Analysis Results (Accident Potential/Risk Reduction)

## **9. Deviations/Justifications**

Briefly discuss any potential known deviations, why they may be necessary and the possible justifications that may be applied.

## **10. Appendices**

Include all supporting documentation, maps, and memos associated with the project.