

APPENDIX B. GDOT ICE Stage 2 – Alternative Selection

Elements required for Stage 2 (for each of the short listed Stage 1 alternatives):

- Prepare capital cost estimate and summarize lifecycle maintenance and operation costs
 - Preparation of high-level conceptual design/sketch not required, but may assist with cost estimate and determination of impacts
 - Summarize and compare any right-of-way impacts and extent/significance of land acquisition
 - Include the essential elements or treatments for pedestrians and bicyclists
 - Critical/turning movement analysis of design vehicle and check vehicle(s) (i.e. oversize permit load scenarios)
- Perform operational analysis to determine intersection delay and V/C ratio and therefore operational performance
- Perform safety analysis to determine expected reduction in number of crashes, with an emphasis on the difference in severe crashes (i.e. those resulting in fatalities or injuries)
- Identify significant environmental impacts (wetlands, parks, historic, etc.)
- Identify level of support from different stakeholders, including GDOT, local government and local citizens

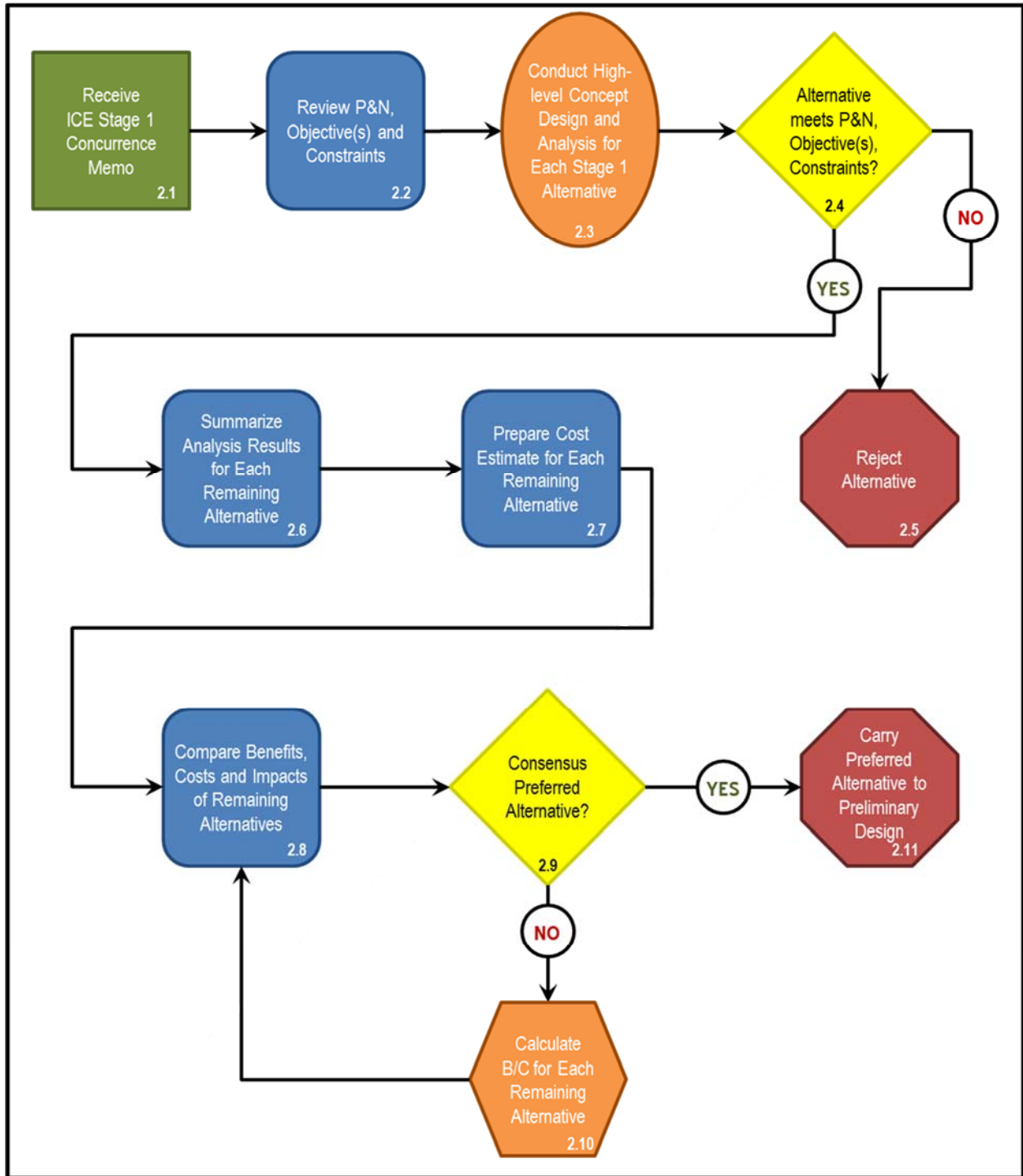

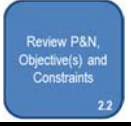






Exhibit 1-B. ICE Stage 2 Flow Chart

Procedural steps required to complete ICE Stage 2 (refer to Exhibit1-B. ICE Stage 2 Flow Chart):

	<p>Step 2.1. The ICE Stage 2 process begins with reviewing the output from ICE Stage 1, including the Concurrence Memo, the output from the GDOT ICE Spreadsheet Tool and supporting documents such as notes or minutes from the Initial Concept Meeting and other project records.</p>
	<p>Step 2.2. The next step is to review the Purpose and Need (P&N) of the project and confirm the objectives and constraints remain unchanged. The recommendations outlined in the Concurrence Memo and ICE Stage 1 record should be consistent with the P&N, objectives and constraints.</p>
	<p>Step 2.3. For each potential alternative recommended through ICE Stage 1, it is necessary to conduct safety and operational performance analyses in order to complete the ICE Decision Record for ICE Stage 2. Preparation of high-level conceptual designs/sketches is not required, but may assist in cost estimates and determination of impacts. These analyses are a combination of quantitative and qualitative. The quantitative analyses include:</p> <ul style="list-style-type: none"> • A complete safety performance analysis of each alternative using HSM models (SPFs, CMFs, severity distributions, etc.) and other safety models that are GDOT-approved. <ul style="list-style-type: none"> ○ Calculate expected safety performance in terms of reduction in crash frequencies and severities using HSM-based techniques. ○ Include non-motorized user safety assessment to the extent possible. • A complete operational analysis using appropriate capacity and reliability analysis tools as approved by GDOT (incl. HCM/HCS, Synchro, Sidra, Vissim, GDOT Roundabout Analysis Tool etc.); as with Stage 1, focus on basic performance measures. <ul style="list-style-type: none"> ○ Summarize results of fundamental performance measures; may also include advanced measures of effectiveness such as travel times, throughput, reliability, etc. ○ Consider performing non-motorized and transit (if applicable) operational assessments using objective metrics, such as Multimodal Level of Service (MMLOS) or Level of Traffic Stress (LTS). • Summary of stakeholder posture (Political Factors) <ul style="list-style-type: none"> ○ Degree of support by local elected/appointed officials (including emergency first responders when appropriate) ○ Degree of support by affected stakeholders (businesses, landowners, etc.) ○ Compatibility with regional, local or corridor transportation plans • Impacts assessment (land acquisition, utility relocation, environmental mitigation) and cost estimates. <p>The qualitative analyses include:</p> <ul style="list-style-type: none"> • An assessment of the convenience and accessibility of pedestrian and bicycle features for each alternative. • An assessment of construction staging.
	<p>Step 2.4. Once the performance analyses for each alternative are complete (and high-level concept designs when prepared), they must be re-checked against the project P&N, objectives and constraints. If any of the alternatives no longer address the need of the project adequately, they should be dropped from further consideration (Step 2.5 on flow chart).</p>
	<p>Step 2.6. Summarize the performance analyses results for alternatives that remain under consideration following Step 2.4 in order to establish an initial priority order among the remaining alternatives. Also at this step, other project factors should be considered, such as the feedback/input received from project stakeholders.</p>
	<p>Step 2.7. Cost estimates should be prepared for each remaining alternative. The cost estimates should consist of two parts: capital costs for construction (including the value of land acquisition, reimbursable utility and environmental costs, if any) and, if available, unique maintenance and operational costs associated with the alternative.</p>





	<p>Step 2.8. With the information summarized in Step 2.6 and the cost information from Step 2.7, a comparison of the remaining alternatives should be made. The GDOT ICE Spreadsheet Tool provides the format in which to input and summarize this information.</p>
	<p>Step 2.9. If there is a consensus preferred alternative based on the preceding steps, it should be identified in this step, and all other alternatives should be rejected.</p>
	<p>Step 2.10. If there is not yet an obvious preferred alternative following Steps 2.8 and 2.9, a benefit-cost (B/C) analysis may be conducted on the remaining alternatives to help identify the “best value” alternative. Consider calculating incremental benefit/cost ratios to further differentiate between alternatives.</p>
	<p>Step 2.11. Upon determining a preferred alternative, complete the ICE Decision Record, attach appropriate documentation from the analyses, and incorporate the output from Stage 1 and Stage 2 in to the completed Concept Report (or equivalent); carry preferred alternative in to preliminary design.</p>

Table 1-B. ICE Stage 2 Procedural Steps