

**IBT/ABC-UTC July 2024 Quarterly Research Seminar- A Comprehensive Decision Support Tool for Accelerated Bridge Construction Considering Safety, Social Equity, and Environmental Justice**

#	Questions	Responses
---	-----------	-----------

**General**

1	Why would quantifying safety be important to bridge owners?	One of the significant advantages of ABC is the reduced time of construction in the work zone for bridge replacements or rehabilitation, and the resultant increased safety for vehicles passing through those work zones for fewer days and construction crews doing tasks in the work zone for fewer days. Quantifying the improvement in safety is important for bridge owners when considering the limited funding available relative to the large number of bridge replacements that are needed. Being able to quantify safety is also important to contractors when evaluating risk. Although ABC may sometimes involve higher upfront costs compared to traditional methods, these costs may be balanced by the substantial safety benefits it provides.
2	If a bridge owner wanted to quantify improved safety, social equity, and environmental justice, how would you suggest they get started?	For a specific bridge project of interest, a bridge owner would start by putting together a multi-discipline team to ensure that all aspects of the project are adequately evaluated. If using the FIU-ABC tool, the team will need to collect the required input data. One important benefit of this tool is that the required input data are all available nationwide and accessible free of charge from national databases.
3	Can the tool be used for only one or two of the three enhancements, rather than considering all three together?	Yes, the tool is designed to be adjustable and flexible, allowing users to modify the weights of different criteria. If the user is interested in incorporating only one of the enhancements (e.g., only safety and not social equity and environmental justice), they can simply use a zero or N/A weight for the criteria that are not of concern. This flexibility enables users to focus on specific areas of interest or concern and also evaluate the effect of considering a special factor (criterion) on the final ABC score from the tool.
5	Did CTDOT work with you on this enhancement?	Yes, CTDOT had a representative on the advisory panel for this project which reviewed the project report and provided feedbacks and comments.
6	Does someone wanting to use the tool need to get Connecticut DOT or FIU approval to use it, and is there any cost associated with its use?	No, the tool is available free of charge on the IBT/ABC-UTC website and can be used as needed without FIU or CTDOT approval. An FIU contact name has been given for questions related to its use.
7	What if the tool shows ABC is better but the project does not have enough money to pay for the higher ABC construction cost of 8 percent?	Note that this is a decision support tool designed to aid decision makers (e.g., FHWA or state DOTs) in making informed decisions regarding the use of ABC in bridge projects. The tool provides recommendation to the user (decision maker) but it does not make the final decision. The tool shows that how the additional construction cost (in this example, 8%) can be balanced with other benefits such as increased safety. The decision maker is then the one who makes the final decision of ABC or No ABC based on all the considerations and limitations.
8	If you had a grade separation instead of a waterway, what would be the implication on the overall score?	According to the CTDOT decision matrix, if a project does not require significant water management compared to projects directly interacting with a waterway, applying a weight of 0 or N/A helps streamline the evaluation process by focusing only on categories that are pertinent to the specific project, ensuring that factors like water handling limitations are only considered when they are relevant.