

Alternative Technical Concepts

Frequently Asked Questions

The use of Alternative Technical Concepts (ATCs) during traditional design-bid-build project procurement allows for early contractor involvement that often leads to creative solutions and best value to deliver the most cost-effective transportation solution.



INGENUITY IMAGINATION

INVENTION INNOVATION



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Frequently Asked Questions

- Q. What degree of design completion is necessary for a biddable design?
 - A. Design should be completed so that accurate biddable quantities are established. Both the owner and contractor should mutually agree upon the quantities for bidding. The biddable quantities would be like the baseline design and any variation in quantities would be adjusted by change order.

- Q. To what extent does the contracting agency need to ensure integration with all other design elements (e.g. utility conflicts, differing site conditions, etc.)?
 - A. Once the ATC is accepted, it is administered exactly like a traditional baseline design. Any differing site conditions would be addressed in the same manner. If you require the contractor to assume any potential risk for differing site conditions it would likely stifle any submittals. If there are any known conflicts with utilities it should be addressed in the proposal including costs. If a utility conflict is not discovered until after bidding, it would be addressed in the same manner as the baseline or a typical design would be.

- Q. To what degree is the contracting agency liable for quantity overruns?
 - A. Both the owner and contractor should mutually agree upon the quantities for bidding. The biddable quantities would be administered like the baseline design and any variation in quantities would be adjusted by change order.

- Q. To what degree is the contracting agency responsible if a constructability conflict is identified after award of contract?
 - A. Constructability would generally be the responsibility of the contractor. The contractor could still have the option of constructing the baseline design at the same cost. If the ATC design agreed upon by the owner is impossible or not reasonably constructible a re-design would be necessary.

Industry feedback...



“We pursued ATCs because we believed that our innovative ideas would **save the state money** and **increase our chances at being the successful bidder.**”

“...elected to pursue ATC because we felt we could **derive a solution that would be more economical for us to build** than the baseline design.”

“The “right” ATC Review Team was involved.”

“We liked the interaction with the ATC Design Team and believe the ATC provided for a very competitive price proposal.”

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- Q.** To what degree is the contracting agency responsible for the costs of design/re-design (I believe MoDOT pays for this to encourage ATC use)?
- A.** MoDOT pays for the cost of re-design for developing plans from approval of the conceptual ATC to biddable quantities and for final re-design after award. However, the cost of re-design is accounted for in determining if the ATC proposal is viable from a cost savings stand point. A CATC proposal must produce a net savings after re-design costs are deducted. The net savings amount is specified in the ATC guidelines for the specific project. The net savings amount may vary by project depending on the complexity of a project. If any potential ATC savings is negated by re-design costs and does not meet the estimated net savings, the ATC would not be accepted. If the ATC review team determines that the CATC proposal does not meet the net savings criteria, however the overall concept is acceptable, the contractor may be given approval to proceed with developing the ATC re-design in coordination with the DOT and the same engineer of record at the contractor's expense.
- Q.** To what degree is the contractor responsible for an ATC for a 'partial-scope' ATC (e.g. alternative retaining wall system)?
- A.** In general, accepted ATC's would be administered just like the baseline design or any other standard project.
- Q.** Why would a contractor pursue an ATC rather than simply proposing an alternate design as a Value Engineering proposal?
- A.** The ATC process ensures the contractor that their alternate proposal is approved and the savings can be realized with the bid submittal giving the contractor the competitive bid advantage.
- Q.** Why would a DOT pursue the Design Bid Build ATC process versus using Design Build?
- A.** There are a few reasons:
1. The DOT may want to retain more ownership of the design because they already have plans developed (shelf project).
 2. With the ATC process there is more flexibility in the programming stage because you do not have to allocate all the design and construction dollars up-front like you would for Design Build.
 3. The ATC process can be implemented at any stage of project development anywhere from 12 months to literally 3 weeks prior to the bid opening.
 4. ATCs and DBB may be more enticing for the smaller contractors and potentially help with overall competition. It can still be intimidating, but not as intimidating as DB to the little guys.
 5. Allocation of risk to the owner versus contractor.
- Q.** If an ATC is approved but not used by the Contractor for bidding a project, do they allow that ATC to be submitted as a VECP after bidding?
- A.** An approved ATC that is not submitted with the bid will not be considered a pre-approved value engineering change proposal (VECP). The awarded contractor may submit their approved ATC as a VECP, however, the fact that it was approved as an ATC shall have no bearing on potential approval as a VECP, and it will be reviewed independently in accordance with Sec 104.6 of the Missouri Standard Specifications for Highway Construction.
- Q.** Have they ever had a selected contractor submit a FOIA request for all of the approved ATCs? And if so, has that contractor tried to submit one of those as a VECP?
- A.** No. To make this process effective, MoDOT's policy is to only disclose the ATC if it is the successful low bid. In the event that the awarded contractor utilizes a sunshine request to obtain information about approved ATCs submitted by other bidders, these ideas shall not be considered eligible for submittal as

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a VECP, unless the awarded contractor has an agreement letter from other bidders stating it is permissible. Each State should evaluate their open records law.

- Q.** Have they ever used an ATC approach just for Maintenance of Traffic or other specific parts of a project?

A. Yes, this process is scalable. You can open innovation up to the entire project or a portion of a project. We have used this concept to allow contractors to submit an alternate traffic control plan prior to bid. At a minimum, we provide a base set of traffic control plans and quantities and bid the traffic control as lump sum. Contractors meet with us prior to bid and propose their alternate plan, and we give approval prior to bid.
- Q.** Have you considered life cycle cost with DBB ATCs?

A. ATC must be equal or better which would include LCC.
- Q.** How early do contractors get involved--What process is used to advertise these early plans?

A. A blast email is sent to all potential bidders to inform them of the ATC informational meeting. Contractors get involved (sign up for ATC) when the base design is established. This would include all the general concept and design features of the project. Plans are posted at intervals such as 50%, 75% and 95% complete.
- Q.** Is there a stipend for DBB or do they include their costs in their bid?

A. No Stipends. Any expenditures should be included in their bid.
- Q.** Do you allow ATC's on all projects or only on identified projects?

A. It is only on select projects. Projects that do not offer much flexibility on design are not good candidates.
- Q.** How are quantity overruns handled?

A. Overruns are handled just like any other project.
- Q.** Do you pre-approve or prequalify contractors on other projects?

A. We only pre-approve contractors for highly specialized work.
- Q.** Who reviews your ATC? Project Team or someone else?

A. Project Team
- Q.** Is there any time lost in having MODOT get to biddable quantities?

A. ATC designs generally run concurrent with the base line design. The ATC process may not be a good candidate on a fast paced design project.
- Q.** Do you limit what can be ATC'ed? i.e. things affecting ROW or environmental?

A. We outline all off limit areas at the beginning of the process so contractors would not pursue ideas that are non-starters.
- Q.** Have you had any challenges where you accepted an ATC, and it wasn't what you thought it was once you got the contract underway? How did you handle it? We have had this happen on two low bid DB projects.

A. To date we have not had an ATC where we had buyer's remorse.

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- Q.** What is a typical procurement duration for this process?
- A.** We've found that the sooner the preliminary plans are shared with industry, typically there are better results (generally 9 to 12 months). However, we have implemented on much shorter timeframe, even within the 5 week advertisement.
- Q.** Are the contractors required to identify quantity underruns pre-bid?
- A.** Revised quantities that reflect ATC quantities are bid on.
- Q.** When MoDOT receives bids, are the base bid and ATC bids submitted by paper, electronically, or a combination of the two? If electronically, do all contractors see the pay items and quantities in the ATC's schedule of items, and did your bidding software have to be modified for this?
- A.** All bids are submitted electronically. Only the base bids are submitted through BidX. Contractors with ATCs submit their bids on CDs or through a secure ftp site. Specific bid items for each separate ATC bid is developed in coordination with the contractor and the final bidding file is sent to them prior to bid. No other contractors see any of the bidding documents related to the ATC. We attempted to work with BidX to develop a secure process, however, it was never developed. We continue to emphasize the need with them, but in the interim will continue to use the secure ftp site for bid submittal.
- Q.** How do you deal with different quantities, especially when using electronic bidding? Who determines the quantities for the ATC?
- A.** Specific bid items for each separate ATC bid is developed in coordination with the contractor and the final bidding file is sent to them prior to bid. No other contractors see any of the bidding documents related to the ATC. The contractor and MoDOT work together to establish the biddable quantities.
- Q.** How is the engineer of record determined? Is it similar to a VECP?
- A.** MoDOT encourages maintaining the same engineer of record for the base design and an ATC design.
- Q.** How long is the bidding process?
- A.** MoDOT does not alter the bid schedule when using the ATC process.
- Q.** Without a stipend, who owns the intellectual property?
- A.** The contractor. MoDOT reserves the right to adopt any specific ATC as standard practice for use on other contracts administered by MoDOT, whether the ATC is accepted or rejected. The ATC will not be used on another project by MoDOT until after the award of the ATC project. An approved ATC is made public only if it is the low bid. Approved ATCs submitted by other than the low bidder are not disclosed.
- Q.** Has your contracting industry voiced any concerns on the process being unfair, or have you had any projects contested based on the scope of the ATC?
- A.** No, MoDOT has not had any bids contested. We work closely with industry to build support for the process. We only use the process on limited number of projects and the right project.



- Q.** I've had some general questions on how NEPA is followed with the ATC process if the contractors propose something different than what is the preferred option from the environmental document.
- A.** When using the ATC process on a project, the NEPA document has to first of all recognize that the project allows the opportunity for the ATC process and secondly leave the evaluation broad enough to identify all the environmental impacts for a maximum footprint of various design alternatives rather than narrowing the design to only one solution. Ultimately, if an ATC does require NEPA re-evaluation, then we would offer a conditional approval within the ATC process and follow-up with a re-evaluation after award. MoDOT's environmental staff is involved on the ATC Review Team throughout the project development to continually evaluate the environmental needs. If a contractor proposes a design that is different from the preferred alternative selected in the NEPA document, we can award the contract and complete NEPA afterward **if** the proposed design impacts were analyzed in the original NEPA document (i.e. it was an alternative carried through for analysis but was not the preferred alternative). It would be preferable to complete NEPA before the project is underway, but this would not be required.
- Q.** What performance measures does MoDOT have on the ATC process?
- A.** None directly, however we continue to evaluate the process to ensure it does not adversely affect the bidding process, we can demonstrate cost savings, we're seeing innovation on our projects and we're still delivering the project on time with an equal to or better solution.
- Q.** Can a low-bid ATC contractor submit a value engineering proposal on an approved ATC?
- A.** Yes. We encourage even further innovation as the construction of the project progresses.
- Q.** What is the time investment for this process?
- A.** The ATC process can require a significant time investment from the team members, including FHWA. If multiple ATC's are included, each has to be reviewed at the conceptual stage, the preliminary design stage, and the final design stage; this, after the same time investment had already been made during the MoDOT development of the 'baseline' design. This can be challenging while trying to maintain oversight on many other concurrent projects. It is critical to have a good project management team with great time management skills and committed to the success of the process.