

Ultra-High Performance Concrete Connections for Prefabricated Bridge Elements

<http://www.fhwa.dot.gov/everydaycounts/edc-3/connections.cfm>

<p style="text-align: center;">Innovation Implementation Stage Definitions</p>	<p style="text-align: center;">Prompt Questions for Describing the Implementation Stage</p> <p>The following questions are intended to help you determine your current implementation stage. While it is not mandatory to respond to each question, providing some narrative describing your current status will be helpful to the EDC teams.</p>
<p>Not Implementing: The State is not currently using the innovation (UHPC Connections for Prefabricated Bridge Elements) anywhere in the State and is not interested in the innovation at this time.</p>	<p>Is the State not implementing because:</p> <ul style="list-style-type: none"> • State does not have an applicable location to implement UHPC during the EDC-4 cycle but will keep in their toolbox for when there is an appropriate use. • State has already evaluated the innovation and decided it was not for them.
<p>Development Phase: The State is collecting guidance and best practices, building support with partners and stakeholders, taking training, attending workshops, and/or developing a process necessary for implementation of the UHPC. The State is interested in pursuing UHPC or seeking additional information on how to implement it.</p>	<ul style="list-style-type: none"> • Is there need for training for the State and local agencies, consultants, and contractors? • Are there any activities the implementation team can assist with in identifying a project to pilot UHPC?
<p>Demonstration Phase: The State is testing/piloting the UHPC.</p>	<ul style="list-style-type: none"> • What is the name and location of the project(s)? <ul style="list-style-type: none"> ○ Bridge NBI number(s) ○ Primary facility carried and primary facility crossed ○ Planned or final month and year of construction ○ How was UHPC used • Does the agency have, or planning to have, any research projects on UHPC?
<p>Assessment Phase: The State is beyond testing/piloting the UHPC. The State is assessing the performance and the process for carrying out the UHPC and/or making adjustments to prepare for full deployment.</p>	<ul style="list-style-type: none"> • Has the State developed standard plans and specifications for the use of UHPC? • Does the agency have, or planning to have, any research projects on UHPC?
<p>Institutionalized: UHPC connections have been adopted by the State’s transportation community and used regularly on projects or within the program where appropriate.</p>	<ul style="list-style-type: none"> • Has the State shared their experience through publication of case studies or research reports?

Final Report Questions:

1) Reporting Period:	Final Report: December 2018
2) Division Contact for additional information:	Kathy.Crowell@state.nm.us 505-470-5663
3) What is the State's current stage of innovation implementation? Review the Innovation Profile Template and select the appropriate implementation stage for this innovation.	(Choice) <input type="checkbox"/> Not Implementing <input type="checkbox"/> Development Stage <input checked="" type="checkbox"/> Demonstration Stage <input type="checkbox"/> Assessment Stage <input type="checkbox"/> Institutionalized
4) Describe the State's accomplishments for this reporting period (both State DOT and local agency accomplishments). Please provide EDC-4 highlights with good "so what" nuggets. -- What would another state be interested in and/or how could leadership use the information I am providing? -- If the State has advanced to the next implementation stage, consider the prompt questions in the chart and explain the advancements made to support your selection. -- Please include benefits as part of your explanation (i.e. time/cost savings, delay/crash reductions, etc.)	<i>There are 4 UHPC projects in various stages of design development.</i> 6101010 – utilizing UPHC for PBEs. Letting early 2019 4101490 – utilizing UHPC for PBEs. Project is under construction, UHPC expected to pour mid-2019 4101520 – utilizing UHPC for PBEs. Letting March 2019 1101550 – utilizing UHPC overlay. Letting May 2019
5) Describe any additional assistance needed by your state.	<i>We need training for how to perform QA/QC on UHPC concrete – it is not the same as standard concrete. Right now, the industry relies upon Ductal for QA/QC – to make the leap to non-proprietary mix designs, we need training for QA/QC.</i>
6) Describe any implementation obstacles or lessons learned. Also, indicate if and how your state can provide assistance to others in their implementation of this innovation.	Here is feedback that was provided to the ABC-UTC (Atorod Azizinamini in Feb 2019) With regard to non-proprietary mix design development: This discussion should not only be about the material. To be successfully implemented, it is essential that we replace the expertise of LaFarge, not just their material. The vast majority of the states do not have inspectors who can: <ol style="list-style-type: none"> a. know whether or not the equipment on site is reasonably adequate for the job at hand (kind of means and methods, but a good indicator or whether there will be pour-day problems) b. know whether or not the formwork is adequately installed (again, means and methods but a good indicator of pour-day problems) c. oversee mixing to make sure the Contractor is generally mixing correctly (again, means and methods, but we certainly are involved if a standard mix needs to be adjusted on site) d. perform acceptance testing (nor do we really know what that means – right now, if LaFarge

	gives us documentation and tells us it's good, we accept it) e. beyond our inspectors, not all of our labs or even states have equipment with the capability to break UHPC for testing
7) The responses have been coordinated with the necessary transportation agencies and Division Office technical resource.	(Choice) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No