

## e-Construction<sup>a</sup>

a = State profile reporting use of e-Construction ONLY under EDC-4

[http://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_4/epartnering.cfm](http://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/epartnering.cfm)

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

Innovation Implementation Stage Definitions	Prompt Questions
<p><b>Not Implementing:</b> The State is not using e-Construction anywhere in the state and is not interested in the innovation.</p>	<p>Is the State not implementing because:</p> <ul style="list-style-type: none"> <li>• e-Construction is <b>not applicable</b> to the state highway program (i.e., cost and time prohibitive to implement, state does not have the resources to implement the innovation, negligible benefits will be realized, the program does not warrant the technology, or it is not looking to improve their systems during the EDC-4 timeframe).</li> <li>• State has already evaluated the innovation and decided it was not appropriate for its use.</li> </ul>
<p><b>Development Stage:</b> The State is interested in pursuing e-Construction for improved project communication, quality, safety, increased productivity and efficiency, and is seeking additional information on how to implement it.</p> <p>The State is collecting guidance and best practices, building support with partners and stakeholders, taking training, attending Peer-to-Peer workshops, and/or developing processes necessary for implementation of e-Construction.</p>	<ul style="list-style-type: none"> <li>• Has the State performed any of the following activities for the goal of incorporating e-Construction into its project delivery processes? <ul style="list-style-type: none"> <li>○ Collected guidance and best practices</li> <li>○ Hosted training</li> <li>○ Participated in peer-to-peer exchanges</li> <li>○ Participated in regional or national workshops</li> <li>○ Performed a systems assessment</li> <li>○ Requested technical assistance</li> </ul> </li> <li>• What informational resources has the State sought out and received to substantiate this stage?</li> <li>• What training and technology sharing activities (i.e., workshops, webinars, web-based training, peer exchanges, etc.) has the state participated in?</li> <li>• What e-tools is the State planning to use?</li> <li>• What software/hardware is the State planning to use?</li> <li>• Has the State sought out national leaders and lead states for assistance in implementing the technology?</li> <li>• Has the State developed a work plan to implement e-Construction for project planning, design and/or construction?</li> <li>• Has the State sought out internal leadership support to implement the technology?</li> </ul>
<p><b>Demonstration Stage:</b> The State is testing/piloting e-Construction technologies and practices for project planning, design and/or construction of highway facilities.</p>	<ul style="list-style-type: none"> <li>• The State has established an implementation champion and team.</li> <li>• The State is or has piloted e-Construction technologies and practices to quantify process improvements, time and costs savings, and return on investment? <ul style="list-style-type: none"> <li>○ What was the purpose and need for the project?</li> <li>○ What phases of project delivery (pre-construction and/or construction) are e-Construction technologies and practices being tested/piloted in?</li> <li>○ What type projects is e-Construction being tested/piloted on? (i.e., pre-construction, roadway, bridge, DBB, DB, CM/GC, major project &gt;\$500M, P3, local project, etc.)</li> <li>○ What are the names and locations of the projects?</li> <li>○ Do the projects include State or local agency roadway facilities?</li> </ul> </li> <li>• What software, hardware and equipment have been purchased for implementing e-Construction technology?</li> <li>• Has the State tested/piloted the use of e-Construction data to create accurate as-built records, or for roadway inventory and asset management purposes?</li> <li>• What will be the use cases for the technology? What e-tools did the State use?</li> <li>• How receptive was the construction contractor to the use of the e-Construction?</li> <li>• Is the State considering use of the technology at the statewide level?</li> </ul>

<p><b>Assessment Stage:</b> The State is beyond testing/piloting e-Construction technologies and practices for project planning, design and/or construction of highway facilities.</p> <p>The State is assessing performance and the processes for carrying out e-Construction and/or making adjustments to prepare for full statewide deployment.</p>	<ul style="list-style-type: none"> <li>• Has the State created an implementation plan to incorporate e-Construction into its project delivery process?</li> <li>• Is the State routinely incorporating e-Construction technologies and practices into the project delivery process to move toward paperless construction contract administration?</li> <li>• What is the size and type of projects that used e-Construction?</li> <li>• What benefits did the State realize in the use of e-Construction technologies and practices?</li> <li>• How will the State move from testing/piloting to statewide deployment? What adjustments are being made for statewide implementation?</li> <li>• Has the State qualified and quantified piloted e-Construction technology, improvements to processes, stakeholder coordination, collaboration, transparency, and communication, time and costs savings, and return on investment?</li> <li>• What works well with the e-Construction process in use? What adjustments are being made?</li> <li>• How will the State move toward fully implementing paperless construction contract administration?</li> <li>• Is the State willing to share their results with other states?</li> </ul>
<p><b>Institutionalized:</b> The e-Construction technologies and practices for project planning, design and/or construction have been adopted by the State's transportation community as standard practice and are used on all projects or within the program where appropriate.</p>	<ul style="list-style-type: none"> <li>• The State has fully implemented paperless construction contract administration. How much did it cost the State to fully implement e-Construction?</li> <li>• What are the main benefits and successes the State has encountered from using e-Construction?</li> <li>• Has the State fully implemented the use of e-Construction data to create an accurate 'single source of truth' (ex: archiving paperless projects for record retention and future projects, use of e-Construction data to create accurate as-built records, and for roadway inventory and asset management purposes)?</li> <li>• Has the State incorporated e-Construction into its statewide project delivery process and into applicable policies and procedures?</li> <li>• Has the State integrated e-Construction into all highway investment decisions?</li> <li>• Is there guidance or a policy on implementing e-Construction?</li> <li>• Has the State integrated requirements for e-Construction into agency quality improvement processes?</li> <li>• Has the State integrated e-Construction practices into agency culture?</li> <li>• Is the State willing to share its e-Construction technologies, practices, processes and results with other states?</li> </ul>

**Progress Report Questions (e-Construction Only):**

Reporting Period:	<b>Progress Report #2: July – December 2017</b>
1) If there has been NO CHANGE on this innovation during this reporting period and the previous Progress Report is still accurate, select "No Change from Progress Report" and you do not need to complete Questions 2-7.	(Choice) <input type="checkbox"/> No Change from Progress Report <input checked="" type="checkbox"/> Changes indicated in Progress Report Below
2) Division Contact for additional information:	
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 checked="" type="checkbox"/> Development Stage <input 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.)	Three pilot projects have been selected to test electronic construction managing. The first step of this process is to have electronically stamped and seal plans. The software that is being utilized for the electronic stamp is Bluebeam Revu. At this time, the free trial version of Bluebeam software is being utilized until the mobile devices have been purchased for the pilot projects. The plans with electronic stamp have been submitted to PS&E electronically and have gone out to bid.  The Department is currently obtaining quotes for DOiT approved mobile devices and will be tested for a 30 day trial period prior to purchasing all 12 mobile devices to select the one that best meets the Department's needs. The goal is to have the mobile devices in use before the pilot projects begin construction.
5) Describe any additional assistance needed by your state.	None at this point.
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.	Due to network security, tablets cannot have the option of LTE network connectivity. In addition, Windows is the only OS approved by our IT Department, which limits the costs of tablets and tablet selection.
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