

Nebraska Department of Roads - PCC Repair Process (February 2017) Survey

DOT	Name and contact info for respondent	Does your agency utilize centralized design?	Are exact PCC repair requirements (location, size, etc.) detailed in project plans?	How are PCC repair requirements identified (dedicated team, field personnel, etc.)	How would you rate the quality and consistency of PCC repair work across your state?	Additional comments to help understand process?
South Dakota	Darin Hodges - SDDOT darin.hodges@state.sd.us	SDDOT typically uses Region Design for PCCP repair plans. We have Central Design and 4 local Region Design squads.	Typically Yes	The location and size are determined by either local field staff or region personnel.	Typically we have good PCCP repair plans	NA
Colorado	Eric Prieve CDOT Eric.Prieve@state.co.us	Design is done in each region	Depends on region and designer	Pavement management data, maintenance crews communicating needs to local engineer/designer	Needs work, but we have a task force working on design guides and standards this winter for our Pavement Design Manual.	Decentralized engineering seems to work well. Local engineers have a stake in their pavements and keeping open communication between maintenance crews and local residences keeps the pavements in best conditions. Local control allows faster project delivery or having CDOT crews perform the repair.
California	Mehdi Parvini, mehdi.parvini@dot.ca.gov, (916) 227-5848	No. Design work is done by each of the 12 Districts throughout the State responsible for maintaining the State highways within their districts.	For major rehabilitation projects that replace/reconstruct/add a lane, the detail information is in the project plans, however, for minor rehabilitation and maintenance projects that replace/repair individual slabs, only estimated quantities are included in the project plans without exact locations of the repairs.	In the past, requests from districts were reviewed by HQ Project Reviewers to identify and program the projects, however, we are moving toward automating this procedure using our newly developed Pavement Management System. A team of pavement raters out of Headquarters would rate the condition of the pavement and provide an annual Pavement Condition Survey. Now Caltrans utilizes an Automatic Pavement Condition Survey done by a consultant on an annual basis.	Although not perfect, we have been happy with our previous process, but again, we are moving to a new system and need to wait for the its performance.	
Illinois Tollway	Steve Gillen, sgillen@getipass.com (630-399-7192 cell)	No. All rehab and reconstruction design is outsourced to engineering consultants. All design work complies with Tollway and IDOT standards and policies established. Tollway engineering establishes the scope for each design project and oversees / approves all documentation.	Only approximate locations for repair are identified with nominal bid quantities estimated. The actual locations for all repair types as specified in the plans are marked by the construction manager or resident engineer during construction and actual quantities then determined. Change orders account for the quantity modifications.	Our pavement management consultant surveys the roadways annually for condition ratings to be determined by a well qualified staff. This database is used by internal staff in collaboration with the Maintenance department to determine when patching, rehab or overlay projects are warranted on the system. Each roadway is given a 50 year projection for when preservation, maintenance, rehabilitation or reconstruction is likely to be needed. The database is updated annually. A similar program is in development for bridge decks.	Tollway system where high performance rapid repairs are critical on the expressways we maintain, good quality has been consistently achieved.	Repair guideline documents have been established by the Tollway to make sure that each designer and construction manager are consistent in identifying distress locations that need repair.
New York	Tom Kane, thomas.kane@dot.ny.gov	No. Design work for PCCP repair is done by each Region. In Regions with limited PCCP experience, Main Office Materials assists in the design/selection/construction process	This depends on the type of repairs being performed. Estimates are given. An evaluation and mark-out item is also included in the contract to provide a more detailed survey of needed work after the contract is awarded.	Typical Regional Materials personnel with assistance from Main Office Materials	CPR work has comparable quality and consistency as that of other work performed in the state. CPR work is most successful and most economical when adequate closure time is allowed for the work.	
Iowa	Kevin D. Merryman Kevin.Merryman@iowadot.us	Most PCC repair projects are designed in our District offices	Yes within our design tabulations we provide station locations for patches along with dimensions. Since this is done well before construction, patch locations and sizes often change by the time the project begins. Since quantities typically increase, we include an additional 15% in our plan quantities to account for this.	This varies from one District to another, but tabulations are typically put together by construction technicians on or their residences or by staff engineers from our District offices.	Generally very good. There are occasions when repairs can be done with partial depth patches but full depth are tabbed. We also use partial depth HMA patches quite often when PCC partials should be used.	
Idaho	Clint Hoops Clint.Hoops@itd.idaho.gov	No.	We have done projects that were well detailed and others where only quantities were provided. An added noted here, we did one project that was well detailed and repairs were prioritized (high, medium, low). The contract was fixed price, variable quantity. In that case the detailing paid off as the Contractor could combine areas to capture efficiencies and we repaired almost 30% more area than anticipated.	Project scope is determined in consultation with District Maintenance, Materials, Construction/Design and Management.	Fairly good. The Districts with concrete pavements are reasonably close in determining the extent of repairs required and timing.	The Idaho Transportation Department has 6 districts, each controlling their own flow of work, including scoping of projects. The main restriction is they must show projects selected match or exceed the projects recommended by our asset management program for maintaining sufficiency rating.
Michigan	John Staton	Only for Bridge Design is still centrally housed. Our road design units were deployed approximately 20 years ago to the 7 MDOT region offices. Our region design units are staffed for baseline levels of anticipated program workload, with excessive design workload contracted out to private design consultants. Consultant design includes both road and bridge design.	No. After field scoping, CPR projects are usually set up as log jobs (no plans) with estimated quantities included. The repairs are then laid out in the field by field staff...either MDOT or consultant.	The region scoping engineer sets up a van tour, which includes select region development and delivery staff, as well as central office (Capital Preventive Maintenance Engineer or technical specialist), who visit the projects and make recommendations relative to the CRP treatments.	Middle of the road. It is always a challenge convincing the region development engineer of the correct fix when money is tight. Quite often the underlying causes of distress are dismissed in favor of putting the money toward short term surface treatments in efforts to stretch the limited dollars	Contracting out technical services, such as scoping and forensic investigations in the short term comes with a definite long term consequence. The DOT must look at what they view as core competencies in terms of technical proficiency. This is because the private sector is quite fluid in terms of staff movement. The good consultants are often very expensive, while the run of the mill consultants have a very high turnover and do not place their emphasis toward the technical details associated with pavement preservation. They prefer to have things cook booked...which is very predictable. Hence, it is very short sighted to think that the private sector can step in and fill the gaps. The typical "plan factory" has no interest in trouble shooting or forensic evaluation. The consultants who are fortunate enough to hire retired DOT staff are the ones who tend to rise to the surface. As time goes on, you will find that budget and staff cuts have a consequence of shaving away all redundancy, and it is difficult to maintain depth of technical proficiency. Succession planning is something that should not be overlooked. After 20 years of consulting out the majority of our program on top of two major early out retirements, I would say that our proficiency is diminished to the point where it is difficult to dedicate the necessary time toward innovation and outward thinking. Ultimately, the department is left to put their technical faith toward the opinions of a small fraternity of leftovers...the small group of old school experts who are nearing retirement.
Alabama	Drew Waldrop, P.E. waldropa@dot.state.al.us	No, our 10 Area Materials Offices are responsible for pavement design/repair, with input/review from the Central Office.	It depends on the size of the project. If a project has large quantities of PCC repairs, exact location and repair/replace requirements are given in the plan set. For projects with just a few spots needing repair, estimated quantities are given in the plans, and a note is included to repair/replace "at the discretion of the engineer".	PCC repair requirements are identified by the project scope team. Exact quantities & specific types of repair are finalized by the Area Materials Engineer & their staff.	? Overall, I would say good. We have had some projects with construction issues (improper curing, improper protection during cold weather, etc) and some with design issues (problems with undersealing that led to newly cracked slabs). But these are the exceptions rather than the norm.	Less than 5% of our entire network is PCC pavement. Just to keep this in perspective. Limited repair jobs are typically performed by our State Maintenance crews.
Kansas	Ryan Barrett, PE Ryan.Barrett@ks.gov	Yes - All pavement design for bridge replacement, modernization, expansion (i.e. addition of 1 or more lanes) some 3R, heavy pavement rehabilitation or pavement replacement projects comes from the Pavement Design Section which is housed in our Bureau of Road Design in Topeka. The 6 Districts usually determine the pavement action for IR projects and some 3R depending on need. A team consisting of folks from both headquarters and District tour pavements with repair needs to select candidates for repair. Typically this takes one week for each District.	For major expansion, modernization, heavy pavement rehab or pavement replacement projects, the detail information for repairs would be in the project plans. For 1R, minor rehabilitation, or maintenance projects, District field personnel usually estimate quantities based on visual inspection and include in project plans without exact locations. The plans would normally contain typical sections and quantities with other details specified in the contract.	- KDOT utilizes a pavement management system to track distresses on all pavement on state highways. Pavement condition surveys are completed annually in-house to determine priority for repairs. The folks that manage and collect data for KDOT's pavement management system are housed in the Bureau of Construction and Materials which is out of the Materials Lab in Topeka.	Although not perfect, the quality and consistency of PCC repair work across the state has been acceptable.	

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Washington	Mark Russell RussellM@wsdot.wa.gov	No, pavement design is performed by the six regional materials offices with review and oversight by HQ.	Typically full depth repairs (full panel and half panel) locations are included in the plans. However, the field inspectors lay out the final location. Partial depth repairs are located in the field. Depends. Small repair jobs will put locations and estimate size of repairs on the plans, but only for bidding purposes. Districts often let District wide concrete pavement repair projects that only have estimate quantities on particular roads, and the contractor is "on call" once the District identifies areas needing repair. They keep repairing until the money run out.	The project design staff identify repair locations base on criteria provided by the region material office and the HQ Pavements office. Region and HQ staff assist when necessary.	- The work is consistent throughout the state. Quality is generally good but sometimes suffers due to short work windows (5-7 hours per night).	
Texas	Andy Naranjo 512-506-5858	No. Designs are done by each District pavement engineer	Only for large areas that are to be reconstructed or that have obvious base failure problems and need subgrade improvement work. Patching work is estimated based on FWD testing and visual damage assessment. These estimates are generally inflated slightly to account for changes in conditions from the time the project is evaluated and the time of construction.	Usually the Area Engineer and Area Maintenance Supervisor selects the location needing repairs. Roads with low PMIS scores get targeted first.	I would rate both the quality and consistency as a fair to good.	
Pennsylvania	Neal Fannin, nfannin@pa.gov, (717-480-8364 cell)	No. 11 Districts either design projects in house or contract out to consultants.		The design teams generally walk the project area under design and identify areas that need repair work. They also use FWD data on larger projects to identify faulting and use this data with the field estimates to determine needed repair quantities.	? Good to Fair, We have had some definite issues with the proper installation of dowel bars in concrete pavement repairs.	Our process works relatively well when designers are diligent and do the field work needed. Budget constraints are also an issue when trying to repair slabs on severely deteriorated sections of roadway.
Florida	Rhonda K. Taylor, P.E. Rhonda.Taylor@dot.state.fl.us	Yes -	Yes	Begins with centralized annual pavement condition survey of all SHS pavements. Once project is identified, detailed requirements are handled by individual districts.	Inconsistent quality. No opinion on consistency, other than concrete repair work tends to be ignored by the districts more often than asphalt (in other words, concrete pavements remain "deficient" by our standards longer than deficient asphalt sections.	N/A
Minnesota	Maria Masten, 651-366-5572	We do not, each District (8 Districts) has their own Design Engineer.	We put detailed CPR quantities in our plan sheets. If certain repairs are larger in size - we sometimes detail specific locations.	- A centralized expert who works for me will go out with field/materials/design personnel to scope candidates for projects, help mark quantities, assist in training and inspection. We encourage the same person who does estimating and determining quantities to be the field inspector since CPR is so unique, two people do not always see it the same way.	Excellent - we have been doing CPR since the mid-80's	Let me know if you have more questions, we can talk on the phone. We have our CPR details online (under CPR Memo and Boiler Plates) - http://www.dot.state.mn.us/materials/concretepavementrehabilitation.html I have also attached our current special provisions.