

APPENDIX A

Survey Questionnaire and Tabulated Results

Question 1: What types and how frequently does your agency construct/rehabilitate concrete pavements?

Table A1

1 TYPES OF CONCRETE PAVEMENTS CONSTRUCTED OR REHABILITATED BY AGENCIES

Type of Concrete Pavement	Respondent Agencies					
	Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
Jointed Plain Concrete Pavements (JPCP)	ME, MT, RI, VT	AK, IN, MA, NH, TN, TX		CT, DC, FL, MS, MO, NM, NE, OH, OR, VA, WV, KY	AR, CA, CO, DE, IL, KS, LA, NC, NJ, NV, OK, SC, SD, UT, WY	AZ, GA, Illinois Tollway, IA, MN, ND, WA, WI
Continuously Reinforced Concrete Pavements (CRCP)	AK, KS, ME, MA, MO, MN, NH, NJ, NE, NV, OH, RI, UT, VT, WV, WY, WA, WI, KY	AZ, CT, CO, DC, FL, MT, NM, OK, TX	DE, SD	AR, CA, GA, IN, Illinois Tollway, IA, LA, MS, NC, ND, OR, TN, VA	IL, SC	
Precast Pavements	AZ, AK, AR, CO, DE, IL, LA, ME, MA, MT, NC, ND, NH, NE, NV, OH, OK, RI, SC, SD, TX, UT, VA, VT, WY, WA, KY	CT, DC, FL, IA, KS, MO, MN, NM, TN, WV, WI	GA, IN	CA	Illinois Tollway	NJ
Bonded Portland Cement Concrete (PCC) Overlays	AK, AR, CT, CA, CO, Illinois Tollway, ME, MA, NC, NH, NM, NE, NV, OH, RI, UT, VT, WV, WY, WA	AZ, IN, IL, IA, LA, MT, NJ, SC, TN, TX, VA, WI	FL, MO, MN, OK, OR	DE, KS, SD, KY	GA, ND	DC
Unbonded Portland Cement Concrete (PCC) Overlays	AK, CT, DE, FL, ME, MA, MT, ND, NH, NJ, NM, NV, OR, RI, VT, WY, KY	AZ, DC, IN, Illinois Tollway, KS, LA, TN, TX, WV, WI	IL, OK	CA, CO, MO, MN, NE, OH, SC, SD, UT, VA, WA	AR, GA, IA, NC	
Thin/ Ultra-thin Bonded Concrete Overlays/ Whitetopping	AK, CA, DC, FL, Illinois Tollway, ME, NC, ND, NH, NJ, NM, NE, NV, VT, WA	AZ, AR, CT, KS, LA, MA, MN, MT, OH, OK, OR, RI, SC, TN, TX, WV, WY, WI	CO, IN, IL, MS, MO, VA, KY	DE, GA, IA, SD, UT		
Composite Pavements	AK, NH, UT, WA	CO, ME, MN, NV, OK, RI, TX	AR, FL, GA, NM, VA, WI	CA, MS, MT, OR, SD, TN, VT, KY	AZ, IN, KS, LA, MA, NC,	CT, DE, DC, IL, Illinois Tollway, IA,

Table A1

1 TYPES OF CONCRETE PAVEMENTS CONSTRUCTED OR REHABILITATED BY AGENCIES

Type of Concrete Pavement	Respondent Agencies					
	Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
(asphalt over concrete)					ND, NE, OH, SC	MO, NJ, WV, WY

Additional Responses to Question 1: What types and how frequently does your agency construct/rehabilitate concrete pavements?

Respondent	Response Comments
Illinois Tollway	Composite Pavements (concrete over concrete) will occasionally be considered in rural environments.
Ohio	ODOT very rarely builds new composite pavements but routinely maintains and rehabilitates them.
Florida	Assumption is that you wanted frequencies relative to all roadway construction (asphalt and concrete) as opposed to frequency relative to what percentage of concrete pavements are JPCP, CRCP, etc.
North Dakota DOT	We marked Bonded PCC overlays as "frequently". We interpret this as a PCC over asphalt pavement overlay, typically greater than 6" depth. We interpreted the thin bonded PCC overlay (over asphalt pavement), whitetopping, to be less than 6" depth, which we do not build and thus marked as "Never".
Missouri	JRCP was not a choice here, but we frequently repair these as they are our oldest existing concrete pavement type.
Nebraska	NDOR has not yet allowed full PCCP reconstruction under-traffic on a 2-lane, 2-way road. Construction under traffic for full PCCP reconstruction of multi-lane roadways is done without traffic adjacent to the lane(s) under construction, unless a concrete protection barrier is used.
Wisconsin	Our main concrete pavement type is JPCP w/dowels. We have not constructed a CRCP since the late 1980s. We have done some extensive repair/rehab work with precast pavements, but only a few projects. We seldom place bonded, unbonded, or whitetopping. We have only built a few true composite pavements. We have many concrete pavements that have asphalt overlays, but only after many years of service as a concrete pavement.

Respondent	Response Comments
Mississippi	MDOT constructed CRCP during the 1960's - 1980s but that is not current practice. Currently, on rare occasions MDOT will construct a JPCP. MDOT has experimented with whitetopping at a few intersections. MDOT does not construct new composite pavements; however, MDOT has composite pavements due to HMA overlays placed over existing rigid pavements to extend useful life of the pavement.
Alaska	In the past 20 years the AK DOT Southcoast Region has done 2 minor urban street projects with Jointed PCC.
North Carolina DOT	All of our new construction is now either JPCP or unbonded jointed concrete overlays. We do rehabilitation on existing CRCP. We have considered precast pavements as a rehab, and we may do that in the future. We have done bonded overlays in the past, but the performance has ranged from disappointing to bad, so I do not anticipate doing this in the future. We have not done whitetopping, but may in the future.
New Jersey	During rehabilitation, we are replacing existing JRCP (concrete with top temperature reinforcement) with JPCP or Precast slabs. New Jersey has approximately 52% composite pavement. We are using HMA to repair concrete under HMA (composite pavement).

Question 2: What types and how frequently does your agency perform concrete pavement rehabilitation/restoration?

TABLE A2
TYPES OF CONCRETE PAVEMENT REHABILITATION/RESTORATION TECHNIQUES USED BY AGENCIES

Type of concrete pavement rehabilitation/restoration technique	Respondent Agencies					
	Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
Slab stabilization	ME, NH, VT	DC, FL, IL, MA, MN, ND, NM, SC, VA, WV, WI	CT, CA, DE, IN, NE, OH, RI, TN, TX	AR, GA, Illinois Tollway, IA, LA, MO, MT, NC, NV, OK, SD, UT, WY, WA, KY	AZ, CO, KS, MS, NJ	
Partial-depth repairs	CA, FL, ME, NH, VT	AR, Illinois Tollway, SC, WI	IL, MA	CT, IN, LA, MT, NM, NE, OH, OR, RI, TN, WY, KY	AZ, DE, KS, MO, NC, NV, OK, SD, TX, UT, VA, WV, WA	CO, DC, GA, IA, MN, ND, NJ
Full-depth repairs (including precast repairs)	ME, NH, VT		AZ, MA, NM, OR, TN	AR, CA, MS, MT, RI, KY	CT, IN, IL, KS, LA, NC, NE, NV, OK, SC, SD, TX, UT, VA, WV, WY, WA, WI	CO, DE, DC, FL, GA, Illinois Tollway, IA, MO, MN, ND, NJ, OH
Load transfer restoration or dowel bar retrofitting	CT, FL, ME, MA, NH, SC, VT	AZ, AR, NC, NJ, RI, TX	CA, IL, NM, TN, VA	DC, GA, IN, Illinois Tollway, IA, KS, LA, MT, NE, OH, OK, OR, SD, UT, WV, WY, WA, WI, KY	CO, DE, MO, MN, NV	ND
Diamond grinding and grooving	ME, NH, VT	DC, MA	NM, RI	AZ, AR, CA, GA, IN, IL, IA, LA, MS, MT, NE, OK, OR, SC, TX, VA, WY, WI, KY	CT, CO, DE, Illinois Tollway, KS, MO, NC, NJ, NV, OH, SD, TN, UT, WV, WA	FL, MN, ND
Crack stitching	AR, CT, CA, DC, FL, GA, ME, MA, MT, NC, NH, VA, VT, WA	AZ, DE, IL, LA, MN, NJ, OR, SC, WI	CO, IN, Illinois Tollway, ND, NM, NV, RI, TN, TX, WV, KY	IA, KS, NE, OK, SD, UT, WY	MO, OH	
Longitudinal edge drains	AZ, CO, DE, ME, MA, ND, NH, VT, WA	CA, DC, MN, MT, NM, SC, TN, TX	CT, KS, LA, MO, NC, NV, OH, OK, OR, RI, WI	AR, GA, IN, IL, Illinois Tollway, NJ, NE, UT, WV, WY, KY	SD, VA, WA	FL, IA
Lane replacement	AZ, FL, Illinois Tollway, ME, MA, MT, ND, NH, NV, UT, VT	CT, MO, SC, TN, TX, VA, WV, WY, WI	CO, IL, KS, NC, NM, RI	CA, DC, IN, LA, NJ, NE, OH, OK, OR, SD, WA, KY	AR, GA	DE, IA, MN

Additional Responses to Question 2: What types and how frequently does your agency perform concrete pavement rehabilitation/restoration?

Respondent	Response Comments
Florida	Assumption is that you wanted frequencies relative to concrete pavement rehab work only. in other words, even if on a percentage basis concrete rehab work is a small part of the work program, if the majority of the time we do Joint Sealing and Resealing, I answered Very Frequently.
Illinois	Joint sealing is mostly limited to longitudinal joints. IDOT uses narrow unsealed transverse joints.
Arkansas	Slab stabilization for maintenance operations
Wisconsin	WisDOT does not seal joints in concrete pavement. Joints are sometimes sealed in urban projects - using hot-pour asphalt. This is the decision of the municipality. "Never" might be the better answer for slab stabilization. We have not done any partial-depth repair projects in several years. Full-depth repairs are our main rehabilitation for concrete pavements. We did several DBR projects about 15-20 years ago, but have few pavements left that could use this treatment. Diamond grinding is done only if extensive joint repair is performed, or on older non-doweled pavements. We really don't do crack sealing and resealing, except when a particular crack would require such treatment. Crack stitching has been done, but it's been several years and is not common. Edge drains are used less often these days. Maintenance of these systems is an issue, and we did not see a marked difference in performance on a network basis. They are used, still, in certain areas to handle certain issues. Lane replacement is not typically done, but a stretch of a lane replacement might be, on a rehab project. It is not a stand-alone practice.
Wyoming	Slab replacements (full-depth) Frequently crack and seat/overlay Frequently

Question 3: What practice(s) specific to maintenance of traffic (MOT) planning and implementation does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A3
 MAINTENANCE OF TRAFFIC (MOT) PLANNING AND IMPLEMENTATION
 PRACTICES USED BY AGENCIES

Maintenance of Traffic (MOT) Planning and Implementation Practices	Respondent Agencies
Traffic Incident Management (TIM) Responder Training	AZ, FL, GA, IN, Illinois Tollway, NC, NJ, NE, OH, OR, VA
Adaptive Signal Control Technology (ASCT)	NV, OR, TX, UT, WY
Smarter Work Zones	AR, FL, IL, Illinois Tollway, IA, LA, MO, NC, NV, OH, OK, WY, KY
Road Diets (Roadway Reconfiguration)	DE, DC, GA, IL, LA, MA, MO, MN, NV, RI
Data driven safety analysis (DDSA) tools and techniques	FL, Illinois Tollway, IA, LA, NC, NV, UT
Automated Road Condition Reporting Techniques	AZ, AR, CA, Illinois Tollway, LA, MN, NC, NV, WY, WA, KY
Transportation Operations Data Warehousing	IN, Illinois Tollway, LA, NV, UT
Temporary Pavement Construction	AZ, AR, CT, CA, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, NC, ND, NM, NE, NV, OH, OK, SC, SD, TX, UT, VA, WY, WA, WI, KY
Staged (rolling) detour	CA, DC, FL, GA, IN, IA, LA, MO, NJ, NE, NV, OK, SD, VA, KY
Specific number of days/mile construction limit on contract	AZ, AR, CT, CA, CO, DC, GA, IL, Illinois Tollway, KS, LA, MN, ND, NM, NE, NV, OK, SD, TN, VA, WY, WA, KY
Allowing the subcontractor to work within the same work zone as the other contractors on either side of the roadway when work equipment does not encroach on the traveled way of either lane	CO, DC, FL, GA, IN, IL, Illinois Tollway, IA, MA, MO, NJ, NE, NV, OH, OK, SD, UT, VA, WY, WA, KY
Allowing work by equipment on the shoulders across the road from a lane closure to proceed at the same time as the lane closure operation	DC, IN, NJ, NE, NV, OH, RI, UT, KY
Multiple work zones for each construction activity	CT, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MT, NC, ND, NJ, NV, OK, RI, SD, UT, VA, WY, WA, KY
Adding an advisory sign at each end of the project to warn drivers of traffic delays	AZ, AR, CT, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, KS, LA, MO, MN, NC, NJ, NM, NE, NV, OH, OK, OR, SC, SD, TN, UT, VA, WY, WA, WI, KY

Additional Responses to Question 3: What practice(s) specific to maintenance of traffic (MOT) planning and implementation does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Georgia	GDOT only allows contractors to work on either side of the road on a case by case basis and this is done by adding special provisions to the contract.
Illinois Tollway	High speed interstates are what we deal with, so in most cases work zones are protected with temporary barrier wall.
Maine	N/A, Maine does not use concrete pavements
Florida	Pilot car is permitted, just not often the MOT choice of contractor.
South Carolina	Our concrete construction and rehabilitation (other than composite pavements) is 99.9% on the interstate system. Patching is usually done under nightly lane closures. New construction is most commonly done along with widening and employs many different considerations for MOT.
Nebraska	Allow multiple work zones for the various construction activities, but not specifically each activity and it isn't specifically noted on the plans. Single lane closures (on multi-lane systems) with no open holes after dark. Daytime only, single lane closures on 2-lane, 2-way roads and high-volume, multi-lane systems. NDOR would likely allow 24/7 pilot car upon request for certain situations. Allow the closing of cross roads in paving area but require an alternate paved route for the cross road.
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
Utah	We use price + time bidding on almost all contracts -Will provide tables with number of lanes required at each hour of the day, to define acceptable work windows and limit impact -on urban roadways with multiple lanes we allow lane splits
New Jersey	A project completed recently was up to NY line. NJDOT coordinated with the NJ State Thruway Authority for lane closing to minimize the traffic disruptions due to projects in their jurisdiction.

Question 4: What project-related communication(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A4
PROJECT-RELATED COMMUNICATION TECHNIQUES USED BY AGENCIES

Project-Related Communication Techniques	Respondent Agencies
Preconstruction conferences among agency, contractor, local community representatives, law enforcement, etc.	AZ, AR, CT, CA, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, MT, NC, ND, NJ, NM, NE, NV, OH, OK, OR, RI, SC, SD, TN, TX, UT, VA, WV, WY, WA, WI, KY
Periodic construction team meetings	AZ, AR, CT, CA, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, NC, ND, NJ, NM, NE, NV, OH, OK, OR, RI, SC, SD, TN, VA, WY, WA, WI, KY
Pre-paving team meetings	AZ, CT, CA, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, MT, NC, NJ, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, WV, WY, WA, WI, KY
Commitment tracking systems (CTSs)	GA, UT
Setting up community task forces	CA, DE, GA, Illinois Tollway, IA
Scheduling a public meeting after the preconstruction conference and before work begins in the field to allow the public to interact with the agency concerned	AZ, CT, CA, CO, DE, DC, FL, GA, IN, IA, KS, MO, NJ, NE, OK, OR, WY, KY
Meetings within the highway agency design and construction staff during design and prior to construction to better understand the design assumptions and limitations	AZ, AR, CT, CA, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, NC, ND, NJ, NV, OH, OK, OR, RI, SC, SD, TN, TX, VA, WV, WY, WA, WI
Project coordination meetings on other projects in the vicinity	AZ, CT, CA, CO, DC, FL, GA, IN, IL, Illinois Tollway, IA, LA, NC, NJ, NE, NV, OH, OK, OR, UT, VA, WY, WA, WI
Project coordination meetings on right of way and utilities	AZ, AR, CT, CA, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MN, NC, ND, NM, NV, OH, OK, OR, RI, SC, TN, UT, WY, WA, WI
Project coordination meetings with media/schools/businesses/emergency services	AZ, AR, CT, CA, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MO, MN, NC, NM, NV, OH, OK, OR, SC, SD, WY, WA, WI, KY
Project coordination meetings with other transportation infrastructure (e.g., railroad)	AZ, AR, CT, CA, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MO, MN, NC, NJ, OH, OK, OR, SC, SD, TN, WY, WI

Additional Responses to Question 4: What project-related communication(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Georgia	We do our Public Meetings prior to the Preconstruction Conference, actually in the design phase to get the public by in before proceeding with the project.
Illinois Tollway	Website and construction information signs.
Maine	N/A, Maine does not use concrete pavements
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
New Jersey	A project completed recently was up to NY line. NJDOT coordinated with the NJ State Thruway Authority.

Question 5: What public outreach practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A5
PUBLIC OUTREACH PRACTICES USED BY AGENCIES

Public Outreach Practices	Respondent Agencies
Brochures and mailers	AZ, CA, DE, FL, Illinois Tollway, KS, NC, NV, OR, RI, UT, VA, WA, WI
Press releases/media alerts	AZ, AR, CT, CA, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, MT, NC, ND, NM, NE, NV, OH, OK, OR, RI, SC, SD, TN, UT, VA, WV, WY, WA, WI, KY
Newsletters/paid advertisements	AZ, CT, CA, DE, DC, FL, GA, IN, LA, MT, NV, OR, SD, UT, WY
Public information center	
Telephone hotline	AZ, CA, CO, DE, DC, FL, KS, MO, MT, NC, NM, NE, OR, RI, UT, VA, WV, WY, WA
Project website	AZ, AR, CA, CO, DE, DC, FL, IN, IL, Illinois Tollway, IA, MN, NC, ND, NJ, NM, NE, OH, OR, RI, SC, SD, TN, TX, UT, VA, WY, WA, WI, KY
Planed lane closure website	AZ, AR, FL, IN, IL, Illinois Tollway, IA, KS, MN, NE, NV, OR, SC, UT, VA, WA, WI
Rideshare promotions	CA, GA, NC, OR
Visual content for website and meetings	AZ, AR, DE, DC, IN, Illinois Tollway, IA, LA, NE, OR, SD, TN, UT, VA, WY, WA
Public service announcements (PSAs)	AZ, CA, DE, DC, FL, IL, KS, LA, NC, NE, NV, OK, OR, SD, VA, WY, KY
Press kits and business survival kits (containing tips/tactics for success during work zone construction, business survival videos, and general project information)	AZ, DE, GA, IL, NE, NV, WI
Traveler information system	AZ, AR, CA, FL, GA, IL, IA, LA, MO, NC, NJ, NE, NV, OH, OR, RI, SC, SD, VA, WA, WI
Toll-free telephone number/hotline	AZ, AR, CA, DE, GA, IN, IA, KS, MO, MN, NC, ND, NV, OK, VA, WY, WA
Social media (i.e., facebook, twitter, linkedin etc.)	AZ, AR, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, NC, ND, NE, NV, OH, OK, OR, RI, SC, SD, TN, UT, VA, WV, WY, WA, WI, KY

Additional Responses to Question 5: What public outreach practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Illinois Tollway	Emails are sent to I-Pass patrons who may be impacted by a construction project.
Maine	N/A, Maine does not use concrete pavements
Nebraska	Portable and Permanent Variable Message Boards to notify of upcoming work.
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
Massachusetts	All MassDOT Construction workzones, lane closures and construction is available via WEB.
Utah	Use an email list do sent regular updates
New Jersey	Preconstruction notices were issued to local officials and other transportation agencies

Question 6: What motorist information practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE 2A6
MOTORIST INFORMATION PRACTICES USED BY AGENCIES

Motorist Information Practices	Respondent Agencies
Traffic radio stations	AZ, AR, CA, CO, DC, GA, IN, IL, IA, LA, MN, OR, SC, TN, TX, VA, WA
Changeable message signs (CMS)	AZ, AR, CT, CA, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MO, MN, MT, NC, ND, NJ, NM, NE, NV, OH, OK, OR, RI, SC, SD, TX, UT, VA, WV, WY, WA, WI, KY
Variable speed limit signs	CT, CA, CO, DC, FL, GA, IN, IL, IA, KS, MO, MN, NC, NJ, NV, OH, SC, TN, UT, VA, WV, WY, WA
511 traveler information systems	AZ, AR, CT, CA, CO, FL, GA, IN, Illinois Tollway, IA, KS, MN, MT, NC, ND, NJ, NE, NV, OK, OR, SD, VA, WV, WY, WA, WI
Transportation management centers (TMCs)	AZ, CA, DE, FL, GA, IN, IA, MO, MN, NC, NV, OH, OR, RI, SC, TN, VA, WY, WA
Highway advisory radio (HAR) system	AR, FL, IA, LA, MN, MT, NV, OH, OK, RI, VA, WA, KY
Highway information network/website	AZ, AR, FL, GA, IN, IL, IA, KS, LA, MA, MO, MN, NC, NV, OR, VA, WV, WY, WA, KY
Freight travel information systems	NV, OR, WA
Temporary motorist information signs	AZ, CT, DC, FL, IN, IL, Illinois Tollway, IA, LA, MA, MN, NC, ND, NJ, NV, OK, OR, RI, TN, VA, WV, WY, WA, WI, KY
Social media (i.e., facebook, twitter, linkedin etc.)	AZ, AR, CA, CO, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MO, MT, NC, NE, NV, OH, OK, OR, RI, SC, SD, TN, UT, VA, WY, WA, WI, KY

Additional Responses to Question 6: What motorist information practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Maine	N/A, Maine does not use concrete pavements
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
Florida	Waze

Question 7: What project management technique(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A7
PROJECT MANAGEMENT TECHNIQUES USED BY AGENCIES

Project Management Techniques	Respondent Agencies
General engineering consultants to help with project delivery	AZ, AR, CA, CO, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, NC, ND, NJ, NM, NE, NV, OH, OK, OR, RI, SC, TN, UT, VA, WI, KY
In-house project management training programs	AZ, CT, CA, DC, FL, GA, IN, Illinois Tollway, IA, MO, MN, NC, ND, NJ, NM, NE, NV, OH, OK, OR, RI, SC, SD, VA, WV, WY, WI, KY
Project management suite of tools/web services	AZ, CA, FL, IL, MN, ND, NM, NE, UT, VA
Project management manual/best practices documentation	CA, GA, IN, IL, Illinois Tollway, IA, KS, MN, NJ, NE, NV, OH, OR, SD, TN, VA, WY, WA, WI, KY
Risk Management Tools/Systems	CA, GA, IN, IA, NJ, NV, TX, UT, VA
GIS and Data Management Tools	CA, DC, FL, IN, IL, Illinois Tollway, LA, MO, NM, UT, VA, WV, WY
e-Construction	AR, DE, FL, GA, IN, IL, Illinois Tollway, IA, MA, MO, NC, ND, NE, NV, OH, WV, WA, WI

Additional Responses to Question 7: What project management technique(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Illinois Tollway	The e-Builder program is used in place of the e-Construction program.
Maine	N/A, Maine does not use concrete pavements
Nebraska	Just starting e-Construction practices.
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.

Question 8: What project delivery method(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A8
PROJECT DELIVERY METHODS USED BY AGENCIES

Project Delivery Methods	Respondent Agencies
Design-Bid-Build (DBB)	AZ, AR, CT, CO, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, MA, MO, MN, MT, NC, ND, NM, NE, NV, OH, OR, RI, SC, TN, UT, VA, WV, WA, WI, KY
Construction Manager at Risk (CMAR)	AZ, NV
Construction Manager/General Contractor (CM/GC)	MN, NJ, SD, TN, UT, VA, WY
Design-Build (DB)	AZ, CA, FL, GA, IN, LA, MO, MN, NC, NM, NE, NV, OH, RI, SC, TN, TX, UT, VA, WV, WA
Design-Build (DB) variations such as Design-Build-Maintain, Design-Build Warranty, etc.	CA, FL, GA, IN, LA, OH, TX
Public-Private-Partnership (PPP)	AZ, CA, FL, GA, VA
Indefinite Delivery/Indefinite Quantity (ID/IQ)	DC, IN, MN

Additional Responses to Question 8: What project delivery method(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Ohio	ODOT has performed many of the delivery methods listed as pilots but answers are reflecting normal practice. ODOT also typically would choose the delivery method first and the pavement type would not be a factor in that decision.
Maine	N/A, Maine does not use concrete pavements
Delaware	We use some of the tools listed above, but not for concrete rehabilitation
Nebraska	Just starting DB
Minnesota	MnDOT has a 30-day warranty on concrete pavement repairs.
Oklahoma	ODOT - designs and lets to contract, and contractor constructs
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
Utah	most big projects are DB or CM/GC
New Jersey	NJDOT award projects to an eligible lower bidder.

Question 9: What project procurement practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A9
PROJECT PROCUREMENT PRACTICES USED BY AGENCIES

Project Procurement Practices	Respondent Agencies
Partnering	AZ, CA, DC, FL, GA, IN, IA, LA, MO, MN, NC, ND, NV, OH, RI, SC, UT, WY, WA
Value Engineering	AZ, AR, CT, CA, DE, FL, GA, IN, IL, Illinois Tollway, IA, LA, MO, MN, MT, NC, ND, NJ, NM, NV, OH, OK, RI, SC, TX, UT, VA, WY, WA
Constructability Reviews	AZ, AR, CT, CA, DE, FL, GA, IN, IA, LA, MA, MO, MN, MT, NC, NJ, NM, NV, OH, OK, RI, SC, TN, UT, VA, WY, WA, KY
Performance Specifications	AZ, AR, DC, FL, GA, IN, Illinois Tollway, IA, KS, LA, MO, ND, NJ, NM, NV, OH, OK, OR, RI, SC, SD, TN, UT, WY, WA, KY
Cost-Plus-Time Bidding (A+B)	AZ, AR, CA, CO, DE, FL, GA, IN, IL, LA, MO, MN, NC, NE, NV, OH, OK, SC, SD, TX, UT, WY, KY
Multi-parameter Bidding (A+B+Quality)	GA, OH
Additive Alternates/Tied Bids	IL, LA, NV, OK, UT, VA
Reverse Auction Bidding	VA
Alternate Design	GA, IL, LA, NC, NV, TN, VA
Alternate Bid	AR, IN, IL, IA, KS, MN, ND, NM, OH, TN, VA, WY
Bid Averaging	
Request for Proposal	AZ, FL, GA, Illinois Tollway, NE, SC, TX, UT, VA, WA
Alternative Technical Concepts (Practical Design)	AZ, AR, FL, LA, MO, NC, SC, UT, WA

Additional Responses to Question 9: What project procurement practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Maine	N/A, Maine does not use concrete pavements
North Dakota	<p>Partnering - The NDDOT has used formal partnering in the past, however it's been at least 10 years since formal partnering was done on a concrete project.</p> <p>Value Engineering - link to the NDDOT Value Engineering Manual http://www.dot.nd.gov/manuals/environmental/ValueEngineeringManual.pdf</p> <p>The NDDOT also has a specification that invites contractors to submit VE proposals during construction. Performance Specifications - the NDDOT has performance specifications for ride quality on new concrete pavements. Alternate Bid - the NDDOT bids concrete and hot bituminous pavement alternates for the wide shoulder on interstate highway concrete reconstruction projects.</p>
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
New Jersey	NJDOT advertise bid package for bidding by qualified contractors and award project to a lowest qualified bidder.

Question 10: What payment method(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE 3A10
PAYMENT METHODS USED BY AGENCIES

Payment Methods	Respondent Agencies
Incentive/Disincentive (I/D) Provisions For Early Completion	AZ, AR, CA, DE, DC, FL, GA, IN, IL, IA, LA, MO, MN, MT, NC, NM, NV, OH, OK, RI, SC, SD, TN, TX, UT, VA, WV, WY, WI, KY
Lump Sum	AZ, CA, FL, GA, NC, SC, UT, VA, WA
Liquidated Savings	CA, FL, VA
Flexible Notice To Proceed Dates	FL, LA, MO, MT, NE, OH, OK, UT
Lane Rentals	AZ, FL, IN, IL, IA, LA, MN, NJ, NE, OK, SD, TX, UT, WV, WY, WI
Active Management Payment Mechanism (AMPM)	NV
No Excuse Incentive	FL, GA, IA, MN, OH
Shared-Risk Contingency Management	
Warranties	CA, DC, FL, IN, Illinois Tollway, MN, NC, OH, SC, VA, WV
Liquidated damages for late completion of new construction or for late opening to traffic after night time rehabilitation	AZ, AR, CT, CA, CO, DE, DC, FL, GA, IN, IL, Illinois Tollway, IA, KS, LA, MA, MO, MN, MT, NC, ND, NJ, NE, NV, OH, OK, OR, SC, SD, TN, UT, VA, WA, WI, KY

Additional Responses to Question 10: What payment method(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Illinois Tollway	Incentive / Disincentive provisions based on final performance
Ohio	The choice to use these methods is typically based on other factors and policies
Maine	N/A, Maine does not use concrete pavements
Nebraska	Conventional progress estimates based on accepted quantities per item at item's bid prices. Just starting to use Lane Rental.
Minnesota	MnDOT has a 30-day warranty. The 30-day warranty starts when all repairs are completed in a single lane, including diamond grinding.
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.

Question 11: What materials/ design practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A11
MATERIALS/DESIGN PRACTICES USED BY AGENCIES

Materials/Design Practices	Respondent Agencies
Recycled concrete aggregates (RCA)	AR, DE, DC, GA, IN, Illinois Tollway, IA, MO, NC, NE, OH, OK, SC, UT, VA, WA, WI
Reclaimed asphalt pavement (RAP)	AZ, AR, CO, DE, DC, GA, IN, Illinois Tollway, IA, NE, NV, OK, RI, TX, UT, WA, WI, KY
Reuse of existing subbase aggregates in new pavement designs	AR, CA, CO, DE, DC, FL, IN, Illinois Tollway, IA, KS, LA, MO, MN, NM, NV, SC, UT, VA, WY, WI
Nonwoven geotextiles as interlayers in concrete pavement systems	AR, CA, DC, GA, IN, Illinois Tollway, IA, MN, NC, NJ, OK, SC, UT, VA, WV, WY, KY
Precast concrete technologies	AZ, CT, CA, DE, DC, GA, IN, IL, Illinois Tollway, LA, MO, NJ, NM, NV, UT, VA, WV, WI
Chemical or mechanical subgrade soil stabilization techniques before subbase placement	AR, DE, DC, IN, IL, Illinois Tollway, IA, KS, LA, MO, NC, NJ, NE, NV, OK, OR, SC, UT, VA, WY, KY
High early strength (HES) concrete for patching	AZ, AR, CT, CA, CO, DE, DC, GA, IN, IL, Illinois Tollway, IA, LA, MA, MO, MN, MT, NC, ND, NJ, NM, NE, NV, OH, OK, OR, RI, SC, SD, TN, UT, VA, WV, WY, WA, WI, KY
Modification of base and sub-base materials	AZ, CA, CO, DE, DC, GA, IN, IL, Illinois Tollway, KS, LA, NM, NE, NV, OH, OK, SC, TN, UT, VA, WY

Additional Responses to Question 11: What materials/design practice(s) does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Ohio	ODOT allows RCA in concrete mixes but it is rarely used. ODOT performs global chemical stabilization on all of our rebuild projects.
Maine	N/A, Maine does not use concrete pavements
North Dakota	NDDOT specifications allow high early strength concrete. However, we have experienced durability issues with high early concrete, so now use it less and less in recent years.
Nebraska	RCA and RAP used as base course material. Very limited use of precast pavement on a research project.
Washington	HMA for Base
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
New Jersey	NJDOT has used Synthetic Resin Compound for partial depth repairs and Polyurethane grout for slab stabilization.

Question 12: What paving equipment and placement techniques does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A12
PAVING EQUIPMENT AND PLACEMENT TECHNIQUES USED BY AGENCIES

Paving Equipment and Placement Techniques	Respondent Agencies
Zero-clearance paver	CA, GA, IN, KS, MO, NC, NE, NV, OK, UT
Stringless paving technology	AZ, AR, CA, DE, FL, GA, IN, IL, Illinois Tollway, IA, KS, MO, MN, NC, NE, NV, OK, OR, SC, TN, UT, VA, WY, WA
3D Modeling technology	AR, DE, FL, GA, IN, IL, IA, MO, MN, NC, NJ, NE, NV, OK, OR, SC, UT, WI
Roller Compacted Concrete (RCC) paving	CA, GA, IL, LA, MO, MT, NC, NV, OH, SC, TN, VA, WV
Early-age saw-cutting techniques	AR, CO, GA, IN, IL, Illinois Tollway, IA, KS, LA, MO, NC, ND, NM, NE, NV, OH, OK, SC, TN, UT, VA, WV, WY, WA
Maturity recording devices/sensors	AZ, AR, CO, FL, IN, IL, Illinois Tollway, IA, KS, MO, MN, NC, ND, NM, NE, NV, OK, UT, VA, WV, WA

Additional Responses to Question 12: What paving equipment and placement techniques does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Ohio	<p>ODOT specs would allow all of these but contractors do not choose to use them. RCC has only been used for temporary pavement. Maturity meters have been used rarely for rapid repair patching but very infrequently.</p>
California	<p>Roller Compacted Concrete Paving is still a very new technique for Caltrans</p>
Maine	<p>N/A, Maine does not use concrete pavements</p>
North Dakota	<p>For the most part, the NDDOT does not construct new concrete pavements under traffic. Generally, most concrete pavement construction is on four lane divided highways and the traffic is placed head-to-head on the other roadway while reconstructing. Rehabilitation projects and some urban concrete construction projects are generally done under traffic.</p>
Nebraska	<p>There has been some consideration in trying RCC by NDOR.</p>
Rhode Island	<p>We do not use any concrete pavements at this time.</p>
New Hampshire	<p>Not applicable as we don't have any concrete pavements that we maintain.</p>
Connecticut	<p>We haven't built new concrete pavements for a very long time. Only rehabs in the last couple of decades.</p>
District of Columbia	<p>Sometimes we use high early strength concrete.</p>
New Jersey	<p>NJDOT has not reconstructed or constructed new pavement recently. We are rehabilitating existing concrete by using Fort Miller's Precast slabs. Occasionally, we did use cast in place concrete to repair small sections. 3D modeling is being conducted for the precast slabs. Repairs are continuous (to rehabilitate continuous failed slabs) and intermittent type.</p>

Question 13: What paving operation practices does your agency use to construct or rehabilitate concrete pavements under traffic?

TABLE A134
PAVING OPERATION PRACTICES USED BY AGENCIES

Paving Operation Practices	Respondent Agencies
Considering time and access requirements to identify the project paving goals	CA, DC, GA, IN, IA, KS, MA, MO, MN, NC, NE, NV, OH, OK, OR, TN, VA, WY, WA, WI
Development of a paving plan by the contractor for agency approval	AZ, DC, GA, IN, IL, Illinois Tollway, IA, KS, LA, MO, NC, NJ, NM, NV, OH, OK, RI, SC, SD, TN, UT, VA, WY
Considering haul road needs based on limitations placed on contractor paving plans	AZ, CA, DE, DC, GA, IN, IL, IA, KS, NC, NE, NV, OH, OK, VA, WY
Evaluating paving plans based on contractor's ability to deliver pavement, shoulders, and markings in a continuous & timely manner	CA, DC, GA, IL, IA, LA, MO, NJ, NE, NV, VA
Considering two lane vs. one lane paving	AR, CA, GA, IL, Illinois Tollway, IA, LA, MO, MN, NE, NV, OH, OK, SC, SD, UT, VA, WY, WA, WI
Allowing for additional haul road designations and local compensation to provide for raw material and concrete delivery throughout the project when the project is constructed by single lane under pilot car and flagger traffic control	IA, NV, OK
Use of the lane paving, shoulder construction, and pavement marking processes on a project before allowing paving of the adjacent lane or moving traffic control forward	CA, DC, GA, IN, IL, IA, LA, NC, NJ, NV, OK, TN, UT, VA

Additional Responses to Question 13: What paving operation practices does your agency use to construct or rehabilitate concrete pavements under traffic?

Respondent	Response Comments
Illinois Tollway	As controlled by standard specifications.
Maine	N/A, Maine does not use concrete pavements
Minnesota	In the contract language, specify which lanes, how many lanes can be closed, and duration of lane closures in the contract. Contractors will then develop a paving/rehab plan to fit contract closure requirements.
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
Utah	Limits are given and the paving plan is developed by the contractor and reviewed by the department
Connecticut	See comments from 12.
Montana	For new construction MDT only uses PCCP for high ADT urban intersections and select mainline urban routes (but very rarely). We have some existing PCCP on our interstate system. Most of it has reached the end of its service life. Much of it has been overlaid with plant mix after crack and seating.

Question 14: As applicable, please indicate below any other relevant practices that your agency encourages/considers/uses during different project phase(s) of a concrete pavement construction/rehabilitation under traffic?

Respondent	Response Comments
Concept Planning	
California	Districts develop a 10 year plan targeting future maintenance and rehabilitation
Massachusetts	Most concrete pavements have been overlaid with asphalt, CPR of joints is only "as-needed".
Utah	look at lane requirements and feasible for constructing with these requirements
Preliminary Engineering	
Ohio	Life cycle cost based pavement selection
California	Done during the writing of the Project Report
Preliminary Design	
California	Done during the writing of the Project Report
Missouri	Edge drop offs during construction are probably the single biggest construction consideration. Designers have to determine if there's adequate room for temporary edge treatments or if temporary barrier will be required.
Utah	Preliminary layout of MOT
Wyoming	VE Studies
New Jersey	This phase was eliminated in recently completed project to accelerate the project which has been completed recently successfully.
Procurement	

Respondent	Response Comments
Ohio	Alternate bidding for pavement selection base on LCCA
California	With a completed project report, the Districts submit the projects candidates for programming
Nebraska	I/D for completion on some projects
Massachusetts	Typical design bid build has been used to date
Utah	Procurement type based on what will provide best value, complicated projects work best under DB or CM/GC to contractor can be involved in MOT
Final Design	
Ohio	Constructability review.
California	Traffic develops staging plans. As part of the bid package.
Construction	
Illinois Tollway	Temporary pavements are common.
Ohio	Value Engineering, Partnering, Contractor designed MOT
California	The Resident Engineer and Contractor may agree to modify the plans to expedite construction
Nebraska	Signalized Construction x-ings, ECOD Systems to manage environmental commitments & BMPs, and socio-econ. impacts
Washington	high early strength concrete
Utah	Joint layout plans and contractor phasing
Performance Assessment	

Respondent	Response Comments
California	Only done by Headquarters if the project is a pilot project
Nebraska	Testing of concrete constituents and the plastic concrete, yield checks for placement, IRI Smoothness testing, random coring for strength and thickness.
Maintenance and Operations	
California	Maintenance may perform routine work that is too small to develop a contract and utilize standard practices or standard plans.
Nebraska	Evaluation of pavement conditions (cracking, faulting and IRI) using van-mounted automatic sensing equipment bi-annually.

Question 15: Please summarize below your agency's experiences with tort liability claims (if any) associated with implementing specific practice(s) for constructing or rehabilitating concrete pavements under traffic.

Respondent	Response Comments
Illinois Tollway	I am not aware of any.
Ohio	Generally I am not aware of any agency experience with tort liability claims related to construction or rehab of concrete pavement. In general ODOT is more likely to change a practice based on these types of claims rather than shy away from innovative practices for fear of a claim. The main exception for not implementing innovation would be a high risk of an unsafe condition.
Arkansas	N/A
Maine	N/A, Maine does not use concrete pavements
Delaware	DelDOT has sovereign Immunity, so we don't face these types of claims
North Dakota	N/A
Kansas	Have not had any tort liability claims based on specific practices.
Oregon	Confidential
Missouri	We haven't had lawsuits specifically involving concrete pavement construction or rehabilitation.
Washington	Nothing different than any other construction
Rhode Island	We have experienced tort liability claims when reconstructing roads and bridges, but as mentioned above we do not employ concrete pavements
Oklahoma	None
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.

Respondent	Response Comments
Massachusetts	None. As an agency, we have limited experience with tort liability claims associated with implementing specific practices for constructing or rehabilitating concrete pavements under traffic.
Utah	No Experiences
Indiana	Usually unrelated to traffic control setups but are crashing within work zones. Sometimes in very tight confines, a CZ Unit will be struck in the traffic control.
Connecticut	We haven't had any.
North Carolina	We have had very few, if any, tort liability claims directly associated with constructing or rehabilitating concrete pavements under traffic.
New Jersey	Any tort claim during construction is the responsibility of the contractor.

Question 16: What is/are the motivation(s) for modifying your agency's standard practices for constructing or rehabilitating concrete pavements under traffic?

Respondent	Response Comments
Maine	N/A, Maine does not use concrete pavements
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
Delaware	DelDOT was once very focused on the financial and quality health of projects. We've experienced a management shift and now we are solely focused on reducing complaints about traffic backups, etc.
Nebraska	Allow white-topping to compete with asphalt overlays--on 2-lane, 2-way roads.
Massachusetts	CPR repairs are more disruptive and time consuming than HMA, delays that are problematic when considering high traffic volumes, night-time work hours with narrow work windows and the extremely limited pool of concrete paving contractors. Previous concrete paving initiatives that advocated thin concrete pavements in efforts to reduce costs proved unsuccessful after premature failure.
District of Columbia	We want to try using alternate bidding to get PCC pavement instead of HMA but contracting office is not used to this and is not helpful.
New Jersey	Based on lessons learned, we are considering revising our precast concrete slab specifications which is a proprietary spec for Fort Miller's Super Slabs to make it a generic spec so that other locally available precast systems can be allowed in the NJDOT projects. We have also initiated a research project to study long term performance of locally available precast system using HVS.

Question 17: What are the reasons your agency does not modify your agency's standard practices for constructing or rehabilitating concrete pavements under traffic?

Respondent	Response Comments
Maine	N/A, Maine does not use concrete pavements
New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.
District of Columbia	Not sure why we don't use PCC more. Never have been given a good explanation. We replace existing PCC roads with PCC, otherwise we use composite pavement or full asphalt.
New Jersey	As mentioned in previous question, we are modifying specification.

Question 18: As applicable, please comment on the practice(s) that your agency would consider in future for constructing and rehabilitating concrete pavements under traffic? Please list the specific practices in comment boxes below.

Practice	Respondent	Comments (as applicable)
Maintenance of traffic	North Carolina	To maintain capacity, reconstruction and most rehabilitation activities for concrete pavements are not just rehabs; they become a widening project by necessity.
	Arizona	The use of high-early concrete strength allows a quick reopen to traffic
	New Jersey	Co-ordinate with other projects and other agencies to minimize disruptions.
	Connecticut	Cross-overs
	Utah	Always looking for innovative ways to maintenance traffic and reduce impacts
	Nebraska	24/7 Flagging, automated traffic signals
	California	More innovative traffic staging
	Illinois Tollway	During any construction operation, the same # of lanes that preceded the project must be maintained during peak hours. The use of counterflow MOT is necessary at times.
Materials	North Carolina	Rehabilitation projects would be aided if quicker curing materials were allowed in order to return traffic to their existing patterns at the end of the work period in lieu of having to keep lanes closed while concrete is curing. Additionally, the use of "precast" materials would also allow the capacity to be restored a lot quicker than traditional "in place" materials.
	Wyoming	Allow recycle
	Connecticut	Higher Performance Concretes
	Utah	Open to materials changes, but not willing to sacrifice quality
	Massachusetts	Local contractor mixtures not
	Tennessee	Recycled materials such as recycled concrete
	Nebraska	Require maturity method be used for opening strength. Require approved mix designs with early strength capabilities.
	Ohio	Hollow dowel bars, durable rapid setting patch materials, precast panels
	California	Reaching higher strength of concrete much faster
Illinois Tollway	The Tollway uses concrete with mix designs based on performance with minimal delay to opening pavement to construction traffic. Specified minimum strengths to opening new or rehabilitated roads to construction traffic have been reduced from 3,200 psi to 2,500 psi with no issues. Strengths may be lowered further to expedite construction more.	

Practice	Respondent	Comments (as applicable)
Design	North Carolina	Concrete rehabilitation projects can involve serious rehabilitation requirements, however; these often don't get scoped and funded appropriately. The MOT plans can often drive the scope of work and therefore affect the overall project budget. Currently, these types of projects receive less scoping attention than bigger budgeted widening projects. More focus and understanding of the scope of work for these projects is essential for success
	Wyoming	Look at different design standards
	New Jersey	We will consider other locally available precast systems.
	Connecticut	Thicker the better
	Massachusetts	Would like to see improvements in concrete pavement design methods - significant disparity in slab thickness between ME and 1993 AASHTO.
	Tennessee	Composite Pavements (concrete on concrete)
	Nebraska	NDOR might consider a contractor-developed final profile that meets maximum yield, and slope tolerances.
	Arkansas	Ways to improve life cycle performance.
	California	More durable structural sections. Consider 100 year design concrete pavement in high traffic urban areas
	Illinois Tollway	All new concrete pavement designs are typically JPCP's or CRC's based on LCCA's for the specific location of construction. Rehabilitation projects are commonly mill and fill projects of composite pavements with patching included as needed.
Construction	Connecticut	Good ride specs
	Indiana	Roller Compacted Concrete
	North Dakota	Stringless paving
	South Carolina	Pre-cast
	Arkansas	SAM Air meter, durability testing, maturity sensors
	California	More concrete overlays
	Illinois Tollway	The Tollway is converting from method specifications for construction to performance related specifications for new concrete pavement construction. Method specifications still apply for rehabilitation.
Equipment	Arkansas	3D modeling, stringless paving, zero clearance paver, realtime smoothness
	Illinois Tollway	Conventional or stringless pavers with or without dowel bar inserters are allowed for concrete paving.
Project Delivery	Nebraska	CMGC and more use of D/B
	California	More design/build projects

Practice	Respondent	Comments (as applicable)
Procurement	District of Columbia	We need more guidance from our contracting office. We want to use alternate bids but have never done before. They are not helpful.
	Indiana	CMAR
	Nebraska	Maybe -- Alternative bids (PCC vs HMA) for overlay projects.
	Arkansas	Design Build
Contract Management	Connecticut	Not Consultants
	Arkansas	Alternate Technical Concepts
Performance	Wyoming	Look at different performance measures
	Connecticut	50 years plus
	Nebraska	Greater use of I/D for completion time
	Illinois Tollway	Performance related construction specifications will be required for all future JPCP and CRCP designed pavements. Performance related specifications are required for most all new pavement, new bridge deck and patching concrete mix designs.
Maintenance and Operations	Connecticut	Programmed on a regular basis. Keep to that schedule
	Nebraska	Full QC/QA plans for PCCP
	Illinois Tollway	Only the most durable fast setting patching materials are considered for maintenance.
Safety	Connecticut	Grind as needed. Check friction on a regular basis
	Illinois Tollway	No split traffic MOT is ever allowed. National standards for work zone protection must always be followed.
	Nebraska	Safety Innovation slush fund
Other	Massachusetts	What are the standard practices other states utilize for slab replacement as a result of subsurface utility repairs.
	Washington	Each one of these items would be evaluated case by case for a perceived benefit to the agency.
	Florida	For all above, the agency is always looking for advancements in technology, materials, deliver, and construction improvements with the least disruption to the public.
None of this information would be useful	New Hampshire	Not applicable as we don't have any concrete pavements that we maintain.

APPENDIX B

Survey Respondents

Agency
Alaska Department of Transportation & Public Facilities
Arizona Department of Transportation
Arkansas Department of Transportation
California Department of Transportation
Colorado Department of Transportation
Connecticut Department of Transportation
Delaware Department of Transportation
District of Columbia
Florida Department of Transportation
Georgia Department of Transportation
Illinois Department of Transportation
Illinois Tollway
Indiana Department of Transportation
Iowa Department of Transportation
Kansas Department of Transportation
Kentucky Transportation Cabinet
Louisiana Department of Transportation and Development
Maine Department of Transportation
Massachusetts Department of Transportation Highway Division
Minnesota Department of Transportation/Materials
Mississippi Department of Transportation
Missouri Department of Transportation
Montana Department of Transportation
Nebraska Department of Transportation
Nevada Department of Transportation
New Hampshire Department of Transportation
New Jersey Department of Transportation
New Mexico Department of Transportation
North Carolina Department of Transportation
North Dakota Department of Transportation
Ohio Department of Transportation
Oklahoma Department of Transportation
Oregon Department of Transportation
Rhode Island Department of Transportation
South Carolina Department of Transportation
South Dakota Department of Transportation
Tennessee Department of Transportation
Texas Department of Transportation
Utah Department of Transportation
Vermont Agency of Transportation
Virginia Department of Transportation
Washington State Department of Transportation
West Virginia Division of Highways
Wisconsin Department of Transportation
Wyoming Department of Transportation