ACPA’s engineering staff delivers consultation, specification interpretation, education, and other technical services to ACPA members, State and Federal Agencies and Chapter/State Partners. These services translate to millions of dollars annually in industry savings or profit/revenue potential. The summary provided below is a snapshot of some of the work performed during CY2023 Q2, compiled to convey a clearer understanding of the value provided by ACPA’s technical services staff. Additional work of the staff in areas of market development or advocacy has been omitted for relative brevity.

**Airport Market**
ACPA assistance to contractors and airports resulted in potential member cost savings/opportunities of more than $2.0M in Q2!

**Highway/SLR Market**
ACPA support provided the potential for significant contractor savings beyond the value of ACPA advocacy efforts.

**Direct Agency Assistance**
- Effected changes to FAA standard specs.
- Planned education on various concrete airfield challenges.
- Assisted agencies in:
  - Developing competitive PCC design options for an ADAB project—**with a potential concrete paving value of ~$8M**.
  - Developing concrete overlay options.
  - Developing PCCP smoothness specification.
  - Assisting in technical review of research proposals for curl and warp.

**Direct Chapter/Affiliate Support**
ACPA staff provides extensive technical assistance and training/education sessions to Chapter/State partners.
Successfully advocating (on behalf of a non-member, billed for staff time and expenses and currently considering membership) for reduced rework of minor distresses on runway panels.

Providing a technical analysis of local fly ash and securing its approval for use.

Educating a project engineer on dowel bar epoxy coatings.

Negotiating a reduction in responsibility for repair of cracked panels.

Assisting member in addressing panel repairs with texture issues.

ACPA’s efforts during Q2 resulted in potential member cost savings/opportunities of more than $2.0M. Issues resolved since Q1 included addressing scaling on a deice ramp and modifying construction plans for an interior floor. ACPA continues to assist a contractor member in litigation/mediation defense efforts for a grooving project. New support offered in Q2 included:

- Successfully advocating (on behalf of a non-member, billed for staff time and expenses and currently considering membership) for reduced rework of minor distresses on runway panels.
- Providing a technical analysis of local fly ash and securing its approval for use.
- Educating a project engineer on dowel bar epoxy coatings.
- Negotiating a reduction in responsibility for repair of cracked panels.
- Assisting member in addressing panel repairs with texture issues.
In Q2, ACPA continued to support a member contractor to ensure success on the first concrete highway paving project in years in a historically asphalt state (including help developing an optimized mixture). Staff also continued working with at least two member contractors in different states to overcome smoothness issues that develop when working with specifications that require too much cement. New support efforts included assisting member contractors with:

- Overly stringent agency smoothness requirements.
- Designing a transition between JPCP and CRCP pavement for intersection project.
- Driving agency spec improvements by providing mix design specs and best practices.
- Developing structurally equivalent design sections for an industrial pavement facility using RCC and various foundation treatments.
At the request of the FAA, ACPA reviewed and recommended changes for the current FAA Advisory Circular 150/5370-10H. Member comments have been invited and ACPA staff will collaborate with FAA on the update over the next year.

FAA Headquarters (update from 2023Q1)
At the request of the FAA, ACPA reviewed and recommended changes for the current FAA Advisory Circular 150/5370-10H. Member comments have been invited and ACPA staff will collaborate with FAA on the update over the next year.

Southern Region Tri-Services Airfield (update from 2023Q1)
ACPA is planning a major workshop for Tri-Services staff to address ASR problems, lack of understanding of limestone cements, and changes in DOD specifications in advance of $1B rebuild program. This will turn into a huge benefit for ACPA ready-mix suppliers.

Southern Highway Agency
Assisted agency in developing more competitive designs for PCC options (partly by reducing overlay thickness) for ADAB Interstate overlay and widening project in a state that has historically done little concrete paving. Potential concrete paving value is ~ $8M!

Mid-Atlantic Highway Agency
Met with agency staff to develop concrete overlay options for 5-mile project and provided follow-up resources.

Southwest Highway Agency
Assisted agency with development of new PCCP construction smoothness specification (now in intra-agency review for comment).

Midwest Highway Agency
Assisted agency in technical review of research proposals concerning concrete pavement curling and warping.
Direct Chapter/Affiliate Support

ACPA staff provides extensive technical assistance and training/education sessions to Chapter/State partners.

New Technical Service Efforts for Q2

- Assisted local chapter staff and member contractor with investigation of extensive highway cracking. Agency wanted removal and replacement at a cost of at least $1M, but ACPA staff determined the cause to be underlying support conditions and construction sequence dictated by agency.

- Assisted ACPA chapter in reviewing highway agency’s proposed policy for new composite pavements.

- Shared jointing exercises, sustainability resources with ACPA Chapters for their use in local workshops.

- Performed pavement design for industrial pavement facility to assist local Chapter with promotion efforts.

- Located and provided roundabout grinding photos for local chapter’s use in promoting PCC roundabout maintenance with highway agency.

- Assisted local chapter exec in fielding agency and member questions regarding dowel lubrication testing and requirements.

- Assisted local chapter staff with questions regarding PCC smoothness and friction requirements and measurement.

- Assisted local chapter staff with assessing impacts of state agency implementation of NTPEP cement audit program. Meetings with chapter and agency staff seem to have resulted in a more considered implementation plan and schedule.

- Assisted Midwest chapter staff with investigation of mid-depth horizontal cracking on Interstate rehab project. Also provided recommendations for equipment to locate similar distress on panels not yet showing distress.
Other Industry/Member Support

ACPA staff routinely engage in activities that provide general but significant support and service to the concrete paving industry.

Support in Q2 included:

- Guest lecture on pavement smoothness at Texas A&M University.
- Participation in NCHRP Project review panels for topics related to concrete pavement research.
- Participation in Road Profile User's Group (RPUG) meeting and Equipment Demo.
- Preparation of a dowel bar retrofit (DBR) specification for consideration by the TSP2 Concrete Task Force. When finalized, the spec will be submitted to AASHTO to be balloted for inclusion as an AASHTO specification.
- Working with NCPP to provide equipment demonstration at upcoming annual meeting.
Workshops and Meetings Held During Current Reporting Period:

- Five-State Workshop on Concrete Pavement for General Aviation Airports - ACPA facilitated workshop with the Airport Concrete Pavement Technology Program and FAA to provide training on using concrete for general aviation airports.

- CPTech Webinar on Airfield Construction Specifications – Presented jointly by ACPA Chief Engineer and FAA Senior Headquarters Pavement Engineer.

- ASCE T&DI Airfield and Highway Pavement Conference - Presentation on Achieving Sustainability with Concrete Pavements.

- ACPA Mid-Year Meeting – Made numerous presentations and ran all task force meetings.

- Arkansas Workshop on Pavement ME Design Presentation.

- Arkansas Roundabouts Workshop Presentation.

- Spring NCC Meeting – Presentation on Sustainability White Paper and conducted TSP2 Concrete Task Force meeting.

- Caltrans Meeting – Presentation on Concrete Sustainability.

- SWCPA Carbon Reduction Meeting – Made presentation on pavement surface characteristics.

- Missouri Concrete Conference – Presentation on Concrete Sustainability.

- Cook County (IL) Meeting with Dept of Transportation and Highways Executives – ACPA and industry staff worked to re-introduce county staff to concrete pavement design, rehab and construction.

- ACPA Chapter/State Mid-Year Meeting.

- PCA and NRMCA Low-Carbon Concrete Meetings (DC).

- FHWA PCCP and Materials Tech Feedback Group Meeting (MN).

- Int’l Symposium on Concrete Pavements (Poland) – Presentations on Sustainability, PCCP Design, Dowel Bar Evolution and New Specifications.