Subject: TPF-5(504) Revised and updated survey questionaries

Version control

Version	Description	Date	Prepared by
1.0	Virtual peer exchange survey questionaries	09/27/2022	QES, FHWA, MnDOT
2.0	Updated and revised questionaries	08/30/2023	Eyoab Zegeye

TPF-5(504) - Continuous Bituminous Pavement Stripping Assessment Through Non-destructive Testing , a recently established pool fund study, is dedicated to advancing and advocating the utilization of innovative non-destructive testing technologies for the assessment and scoping of pavement roadways. Its primary objective is to refine testing protocols and analysis tools for the automated detection of hidden (subsurface) moisture-related asphalt mixture stripping in full bituminous and composite pavements. The detailed workplan can be accessed here https://www.pooledfund.org/Details/Study/733.

In line with these goals, we have designed a survey to gather crucial information and insights. Your input will greatly contribute to shaping the direction of the pool fund study. We kindly request a few moments of your time to complete the survey and provide any supplementary information that could enhance this study's outcomes. Thank you for your valuable contribution.

Questionaries

1. State your affiliation:
   a) FHWA,
   b) state DOT
   c) local road authority (i.e., city, county, municipalities),
   d) consulting firm
   e) manufacturer
   f) University and/or research institutions
   g) Other

2. State your role or position title _____
3. Do pavement roadways in your state exhibit moisture-related pavement issues, such as asphalt mixture stripping and layer debonding? If affirmative, kindly indicate the extent of moisture-related pavement issues on your State's roads:
   a) None
   b) Rare

c) Limited to certain roads
d) Widespread e
e) Other (please specify): _____

4. How does your State or organization define or understand asphalt mixture stripping conditions? Is a distinction made between asphalt mixture stripping and other concerns like delamination and raveling? Please elaborate in a few words._____

5. In which road types are asphalt mixture stripping conditions most observed? Please select all that apply:
   a) Newly-constructed pavements
   b) Pavements in mid-service life
   c) Pavements approaching the end of service life
   d) Full-depth bituminous pavements
   e) New asphalt concrete (AC) overlays on old AC roads
   f) AC overlays on concrete
   g) High traffic volume roads (i.e., highways, freeways),
   h) Low-volume roads,
   i) Roads containing a significant amount of recycled road materials
   j) Cold in-place recycling (CIR) projects,
   k) Others (Please specify)_____

6. What primary factors contribute to asphalt mixture stripping conditions observed in your State? Kindly select all that are relevant and provide additional factors if applicable:
   a) Aging
   b) Weather-related conditions (rain, freeze-cold cycles, humidity, etc.) Other (please specify):
   c) Aggregate type
   d) Binder type
   e) Use or absence of anti-stripping
   f) Design malpractice or oversight
   g) Workmanship or quality control issue
   h) Lack of proper drainage
   i) Traffic loading
   j) Other (please specify) _____

7. Which non-destructive testing (NDT) technologies does your State DOT or agency use to scope and assess pavement conditions in conjunction with or separate from traditional coring and geo-probing? Please choose all relevant options.
   a) 2D Ground Penetrating Radar 2D-GPR
   b) 3D Ground Penetrating Radar 3D-GPR
   c) Falling Weight Deflectometer (FWD)
   d) Ride profilometers
   e) Friction skid tester

    f)   Traffic Speed Deflectometer Device (TSDD)
    g)   Rolling Weight Deflectometer (RWD)
    h)   Ultrasonic Surface waves / Impact Echo (SASW/IE)
    i)   Other elaborate (_____)

8. Does your State or organization own and operate any of these NDT technologies
    a)   2D Ground Penetrating Radar 2D-GPR
    b)   3D Ground Penetrating Radar 3D-GPR
    c)   Falling Weight Deflectometer (FWD)
    d)   Ride profilometers
    e)   Friction skid tester
    f)   Traffic Speed Deflectometer Device (TSDD)
    g)   Rolling Weight Deflectometer (RWD)
    h)   Ultrasonic Surface waves / Impact Echo (SASW/IE)
    i)   Other elaborate (_____)

9. Based on your opinion or experience, what significant challenges impede the utilization of NDT technologies for scoping and evaluating pavement projects? Please check that apply
    a)   Data collection issues
    b)   Data processing issues
    c)   Availability of equipment
    d)   Staffing or training issues
    e)   Cost (purchase, maintaining, licensing, or outsourcing)
    f)   Other (Please specify)

10. Have you utilized NDT technologies to identify asphalt mixture stripping or other moisture-related damages in pavement roadways? If so, please provide a concise overview of your experience.

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