DQMP Survey Results

Q1. Which of the DQMP five Elements has been the most challenging to accomplish?
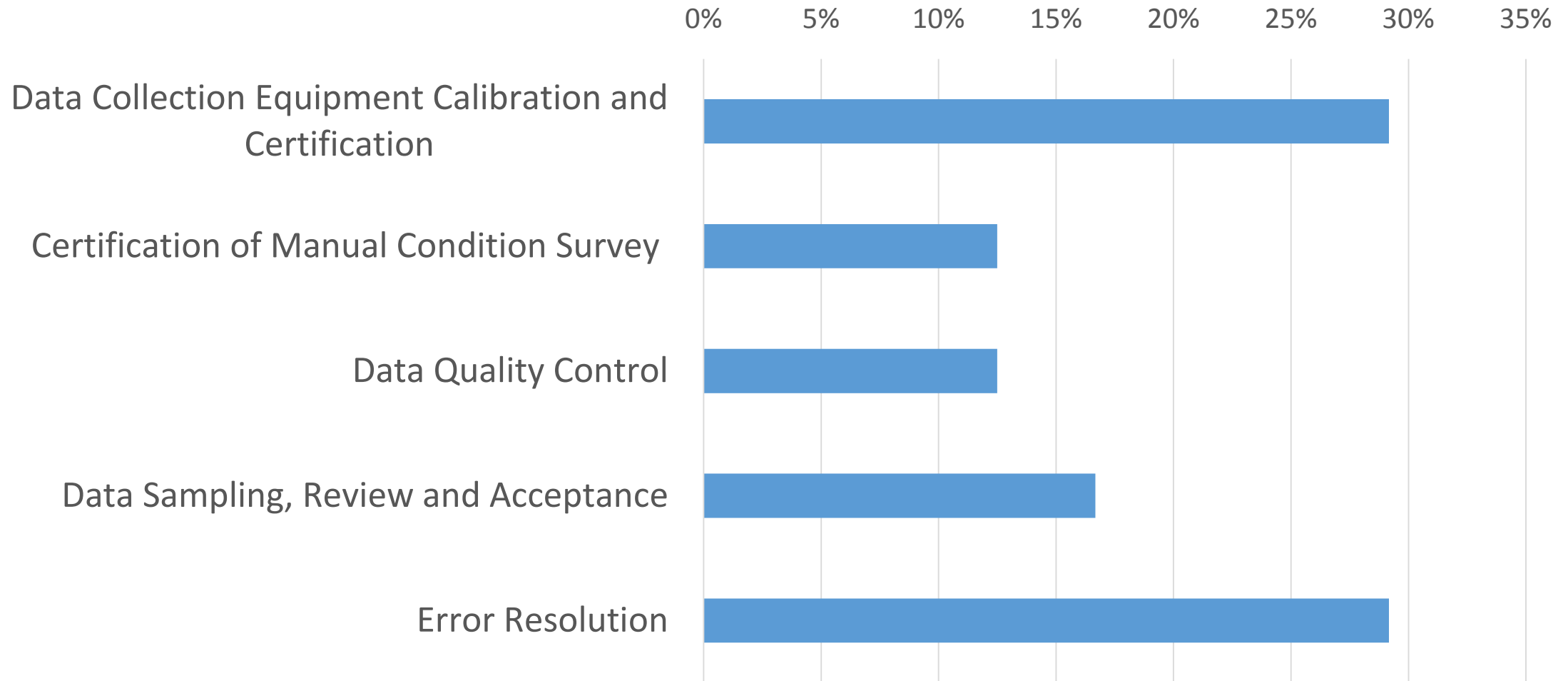
Explain Why

- We're having a hard time securing validation sites for our reference values (ground truth). A regional site for all of New England would be a better option for SHA.

- No good rutting and cracking calibration and certification process.

- QA is time and resource consuming.

- Time elapsed since original testing. It takes about 8 weeks to get through all procedures. Sometimes late testing puts us past re-collection phase.

- Our equipment has periodic failures which our technical staff does not 100% know how to fix themselves. This delays the process.

- We are unique in that we are transition to new collection equipment while the new DQMP is being required. We don't have all the equipment and software in place just yet to adequately complete the DQMP.

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Q2. Is your agency certifying data collection equipment for ride quality (IRI) using AASHTO R-56 other than an inertial profiler, such as a 2D or 3D transverse laser system?
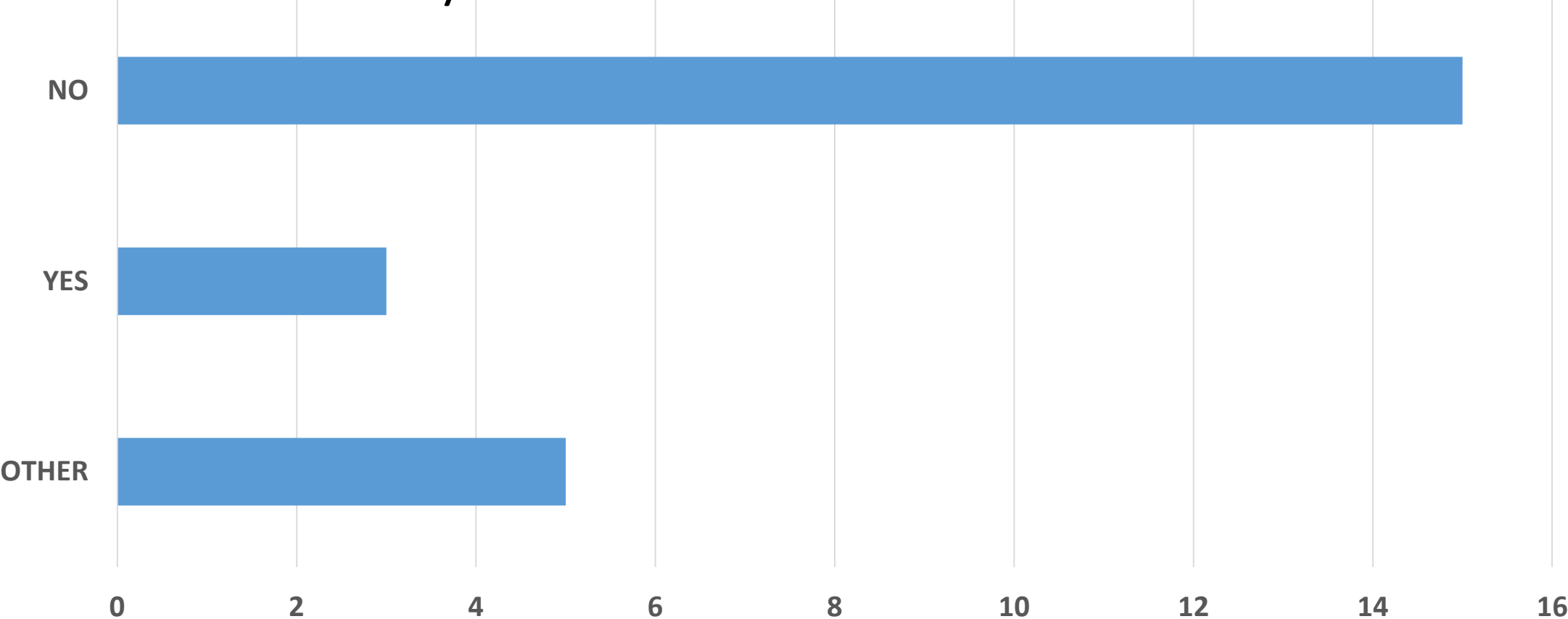
- Yes we're using R56-14 and last year purchased a SSI CS 8800 Walking Profilers for certification.

- Vendor conducts checks. Agency uses the results from its own equipment to compare and determine the acceptability of results from vendor equipments.

- Yes or no. We certify our profilers with 3D transverse laser system to our State DOT standard. Our profilers meet the AASHTO R56 standards. But not all certified profilers can meet AASHTO R56 standard.

- No, currently State DOT has been assisting with certifying our equipment and contractor equipment.

- Yes, we have a 3D system, but we're have a separate system for IRI.

- We currently use RSP for IRI. However, there are talks of more advance 3D systems that will meet the AASHTO IRI requirements. We will probably move to that system; if/when we acquire newer equipment.

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Q3. Since there currently are no AASHTO standards for data collection equipment for the collection of rutting, faulting or cracking, what activities does your agency undertake to validate automated devices such as 3D systems?

- After we establish our validation sites (establishing these sites has been challenging) for all automated pavement condition data. These sites will establish our reference values and all automated data will be validated against the reference values. For cracking data we'll be utilizing the digital images on a desktop proceed to manual draw the cracks and compare to the automated crack detection results.

- Field sections were established where reference measurements were made and compared to measurements reported by a 3D system. The field sections consisted of three flexible and two rigid pavements.

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- We have validation sections in field. We plan to use "certified" equipment to collect data for comparison. Currently, we are working on rutting part. The faulting and cracking is yet to be done.

- At this point in our development we are relying on the certification process from the vendor and sampling each system for redundancy between systems. As systems are fully implemented we will work to create independent validation methods.

- Constant calibrations to keep data accurate.

- Test site established Manually collected comparison data – US Route Rut Depth (Straight edge with depth gauge) Faulting (Fault Meter) Cracking (Cracks manually mapped) compared to equipment.

- Rutting - we do verification runs consistently. We also use measured blocks and then verify their height with the system imagery. We do not collect faulting. Cracking - We periodically crack map sections of road manually and compare to 3D collected cracking.

- We primarily use visual survey for cracking/faulting. Rutting data is collected via 3D data. We also have 3D data for cracking/faulting.

Q4. Explain the processes that have been put in place within your agency to address error resolution and data acceptance.

- Randomly audit 6% of the network. The sections with discrepancies need to be reviewed and documented.

- Depending on the error - we will rerun the verification/calibration. If we cannot resolve ourselves, we contact our vendor and they usually send someone to address the issue. The same process is for data acceptance; if the algorithm isn't correctly identifying distress or amount we contact the vendor for review of the program.

- QA team checks 5% of submitted data/imagery, non-acceptance of non-conforming data submittals.

- Error resolution is a small issue for us. Our front end data scrubbing and spatial checks limit the number of errors that we have. All of our data has both linear and geospatial data elements allowing us to isolate issues, determine the error and resolve them quickly.

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- Data flagged as unacceptable through this process is reviewed in detail. If the issue can be corrected, the run is fixed and imported. Otherwise, the affected highway section is scheduled for re-shoot. Technicians will recollect any road section flagged as unacceptable within 8 weeks of original test date.

- We query the data, compare with previous survey and video. We do first a pilot data then move to the whole state.

- Automated checks are in place to resolve some issues before uploading data. Manual review is also completed prior to upload. Open communication between Project Manager and vendor. If issues/concerns arise, the vendor works with the project manager to resolve.

- If vehicles are found to be out of calibration or inconsistencies are found in the data; the variance shall be verified, and if needed, the vehicle shall be brought back to the correct calibration. Sample data previously collected by vehicle will be reviewed to determine if recollection is necessary.

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Q5. FHWA is diligently striving to obtain quality data for our reporting to Congress and the public. Do you have any recommendations on how to improve future DQMP initiatives?

- States are in desperate need of permanent regional sites for certification/validation of automated data collection vehicles. There's also a need for manual distress rater certification and data collection personnel certification which can be established on the same regional site. A program similar to the TAMC PASER testing and certification program for data collectors.

- New standards for rutting, faulting and cracking calibration and certification.

- I think that we need to look at some of our index levels for good bad and poor. We also need to continue to develop standards for 3D imaging systems and eventually eliminate 2D rutting, cracking and faulting.

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- Don't require reporting until technology has been fully vetted and standards are in place. FHWA should do this prior to setting requirements. Instead, requirements are set before we are ready for prime time and leave to states, vendors, and consultants to try to catch up. That makes for non-uniform and non-comparable data until standards are set.

- Make sure the FHWA field office provides meaningful feedback. We've submitted our DQMP three times to two different people and have not gotten the first bit of feedback from anyone at FHWA.

- Better method to verify IRI/Profile accuracy Too many variables in current practice Develop a device for equipment certification Establish test sites to certify All data (Similar to FWD Calibration Centers).

- Consistent review methodology from the Division offices. Better guidance on what is expected and potentially examples or best practices.

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