

# Brainstorming Session for Phase I Study

(Refined by Phase/Category/Priority)

May 21 & 22 - College Station, TX  
FWD Pooled-Fund Kickoff Meeting

- A. Calibration Hardware & Software improvements \*
- C. Process Improvements \*
- D. Guidelines
- E. Funding
- F. Certification
- G. Data Formats \*
- H. Training
- I. Marketing and Communications (manufacturers, participants, and operators)
- J. Studies

Idea/Item	Category	Priority	LOE	Phase
1. Improve and upgrade LTPP Hardware and Software.	A	1	1	I
2. Continue compatibility with all types of FWD's, HWD's.	A	1	1	I
3. Ensure that software upgrades are recommended and/or made.	A	1	3	I
4. Ability to monitor beam movement real time.	A	1	2	I
5. Investigate the effects of flush load cells versus the surface mount calibration procedure (current procedure).	A	1	3	I
6. Ability to monitor the stabilization of the sensors between drops.	A	1	2	I
7. NIST calibrations for the Micrometer.	A	2	3	I
8. Checking the calibration on the A/D cards and signal conditioners.	A	2	3	I
9. Detect release of the mass for triggering.	A	3	3	I
10. Ability to correct the effects of any beam movement on the peak deflections.	A, C	1	1	I
11. Calibration of the sensors simultaneously.	A, C	1	2	I
12. Improve the efficiency of the calibration process (speed).	C	1	1	I
13. Combine or streamline existing reference and relative calibration procedures.	C	1	1	I
14. Documenting pre-calibration maintenance.	C	1	2	I
15. Refinement and Implementation of a portable calibration system/process. (Nazarian - UTEP)	C	1	2	I

Idea/Item	Category	Priority	LOE	Phase
16. Long term funding for the calibration centers.	E	1	3	I
17. Development of a funding platform for the continued operation and improvement of the calibration procedures/operation.	E	1	3	I
18. Cooperative agreements regarding Regional Calibration Centers.	E	1	3	I
19. Explore pooled fund purchase of any recommended new equipment.	E	1	3	I
20. Explore Legislative options that would allow states to accept pooled fund dollars for SHA operations.	E	1	2	I
21. Technical Support Funding for ongoing center operation.	E	1	3	I
22. Number and strategic location of the centers.	E	2	3	I
23. Feasibility Study of building new center(s).	E	3	3	I
24. Standard data formats for calibration and sensor time history.	G	1	3	I
25. Standardizing the FWD calibration database report format and establish a database.	G	1	3	I
26. GPS included in the universal data format (PDDX).	G	3	3	I
27. Solicitation of ideas and suggestions from FWD users and Center Operators (FWD Users Group).	I	1	2	I
28. Provide communication mechanisms with the manufacturers to maintain compatibility of their equipment with the existing and proposed protocols.	I	1	3	I
29. Solicit and market additional participation from national and international sector (especially Canada).	I	1	2	I
30. Marketing video (VCD) of the calibration centers and their importance.	I	2	2	I
31. Share this pooled fund project status/progress with interested parties.	I	2	3	I
32. Developing a comparative worth statement for FWD calibrations.	I	2	3	I
33. Manufacturer specific Video (VCD) on all FWD types.	H	2	2	II
34. Develop a guide of preventative maintenance tasks and troubleshooting.	D	1	2	II
35. Guidelines for onsite sensor replacement/verification in the field.	D	1	3	II

Idea/Item	Category	Priority	LOE	Phase
36. Updating the user guidelines and use an informational appendix for center users.	D	2	3	II
37. Center Safety Ergonomics	D	3	3	II
38. Standardized calibration for temperature sensors and DMI (distance measurement instruments).	D	3	3	II
39. Certification of Calibration operators.	F	1	3	II
40. Certification of the “Center” itself.	F	1	3	II
41. Guidelines for the Certification of FWD operators.	F	2	2	II
42. Training of center operators.	H	1	3	II
43. Training FWD operators.	H	1	2	II
44. Explore use of DL/CBT for just in time training for center and FWD operators.	H	2	3	II
45. Document significant differences/issues between FWD models/manufacturers.	J	1	2	II
46. Calibration center round robins.	J	1	2	II
47. Impact of non calibrated FWD on backcalculation results.	J	2	3	II
48. Identify potential sources of error that may have an impact of the quality of data that you are collecting.	J	2	3	II
49. Investigate the interest of the SHA’s in the dynamic analysis (full time history) for the calibration procedure.	J	3	3	II
50. Multipurpose calibration centers (Skid, profiler, etc.)	J	3	2	II