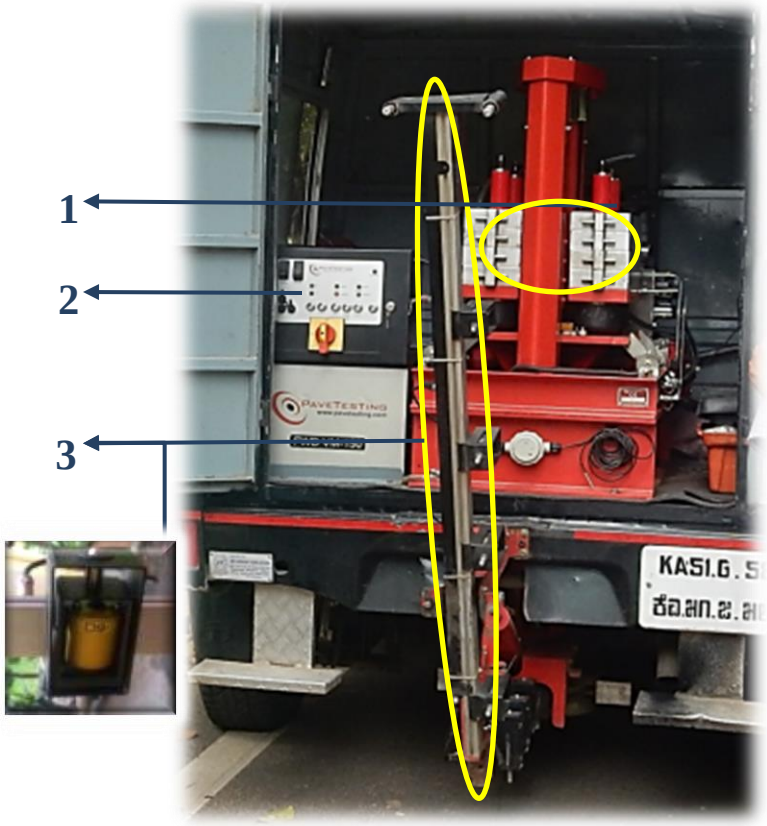
PRAMC – Equipment's

Falling Weight Deflectometer (FWD)

- for determining **strength of the pavement**
- **Remaining life** of the pavement based on **IRC 115:2014.**
- Determining the **overlay required** to achieve the design requirement based on evaluated traffic conditions



1. Weight Pack (300 Kgs)
2. Control Box
3. Geophone(2,000-micron) & Sensor Bar
4. Load Plate
5. Load Cell
6. On Ground and Surface Temperature Recording Sensors

PRAMC – Equipment's

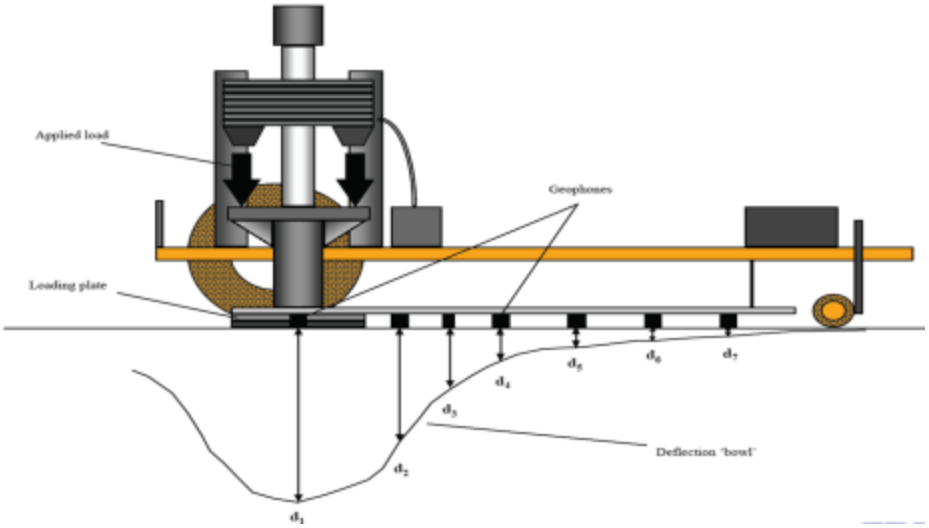
Falling Weight Deflectometer (FWD)

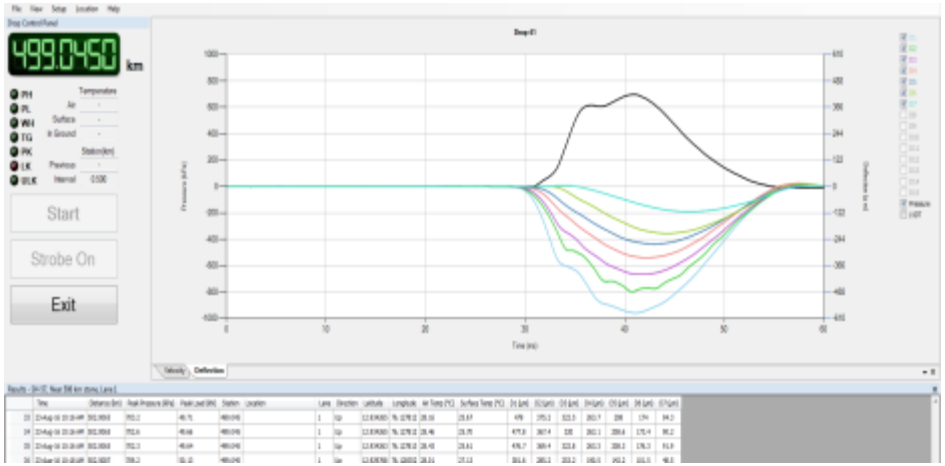
- The FWD applies dynamic loads to a pavement surface, simulating the magnitude and duration of a single heavy moving wheel load.
- The FWD loading system delivers a transient impulse load to the pavement surface, simulating the magnitude and duration of a single heavy moving wheel load
- The pavement response (vertical deformation or deflection) at various distances from the loading plate are measured by a series (usually seven) of geophone sensors.

PRAMC – Equipment's

Falling Weight Deflectometer (FWD)

- Data collected by Falling weight Deflectometer (FWD) is analysed using Deflection Analysis of Pavement Structures (DAPS) back calculation software.
- FWD Bowls of the Data Collected can be viewed in DAPS.
- The Final Back Calculation results obtained from DAPS are is MS-Excel Template.





PRAMC – Equipment's

Ground Penetrating Radar (GPR)

- Used for determining Pavement Layer thickness
- Pavement Composition

1. Horn Antennas 1 Ghz , Depth Range of 0.00 – 0.90 Meter
2. Horn Antenna 2 Ghz , Depth Range of 0.00 - 0.40 Meter
3. Dual Frequency Antenna (900/400 Mhz) Depth Range of 0.00 – 4.00 Meter
4. Digital Antenna Driver(DAD) Controller - Control unit for GPR System
5. Distance Measuring Instrument (DMI)

PRAMC – Equipment's

Ground Penetrating Radar (GPR)

- G.P.R. (Ground Penetrating Radar) transmits **electromagnetic energy with radio frequency** to investigate the structure of subsoil or manmade constructions, without modifying physical properties.
- The returning signals provide information about **depth of changing ground characteristics.** Basic radar output presents this as patterns of signals at depth against the distance travelled through the ground by the energy