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## Deflectograph

Deflectograph measures the transient deflection of the road surface under the action of a rolling wheel at standard loading conditions to assess the structural condition of pavements.

Deflectograph data is used together with a well established design procedure to estimate structural residual lives and where necessary to design overlay thicknesses to extend the structural life.

The Deflectograph is an automated deflection measuring system based on the Deflection Beam principle and has a daily survey capacity of 15 to 20 kilometres, with an operating speed of 2.5 km/hr.

Deflection measurements are taken in both wheelpaths using two deflection beams, mounted on a common reference frame resting on the road surface. The deflection beams and reference frame are stationary during the deflection measurement cycle and remain stationary until the maximum deflection has been recorded.

The reference frame is then pulled forward at twice the vehicle speed by a clutch and winch system to the initial position for the next measurement cycle. With the reference frame again at rest, the measurement cycle is repeated. This method of operation gives measurements of deflection in both wheelpaths at about 4 metre intervals. To travel between measurement sites, the Deflectograph measuring frame can now be picked up hydraulically, to ease the burden on operator and driver.





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The deflection data recorded in both wheeltracks is stored on USB flash drives. The operator controls the survey and adds location reference markers to the data during the survey and also records pavement temperatures at regular intervals. The Deflectograph is calibrated before each days testing and processing is undertaken using a suite of computer programs.

