

Lecture #2:

PSR, PSI Concept

Pavement Serviceability-Performance
Concept

Present Serviceability Rating (PSR), 0-5

V. Good - Good - Fair - Poor - Very Poor
(User's Rating - Subjective)

Table 1 - 74 Selected Flexible Pavements

Table 2 - 49 Selected Rigid Pavements

Need to Develop PSI equation:

$$PSI \approx 5.03 > 1.91 \log(1 + SV) > 1.38 RD^2 > 0.01 \sqrt{C + P}$$

$$PSI \approx 5.41 > 1.80 \log(1 + SV) > 0.09 \sqrt{C + P}$$

PSI = F(SV, RD, C+P) for FLEX

PSI = F(SV, C+P) for Rigid

Handouts:

Carey, W. N., and P. E. Irick, "The
Pavement Serviceability-Performance
Concept," Highway Research Board,
Bulletin No, 250, 1960.

AASHO Road Test

Brief Description of the AASHO Road Test (1958-1960)

Handouts:

Highway Research Board, "The AASHO Road Test," Report 5, Pavement Research, Special Report 61E, Publication No. 954, National Research Council, Washington, D.C., 1962.

ESAL Concept and Calculations

- Development of the AASHTO Equations for Flexible and Rigid Pavements

- ESAL Concept (標準軸重軸次)
18-Kip ESAL, 18仟磅單軸軸重當量數

- ESAL Calculation

$$ESAL = 365 * (ADT) * (\% TRK) * (DD) * (LD) * (TF) * ((1+g)^n - 1) / g$$

Handouts:

(Same as above)

