

一、鋪面評估與維修簡介

Readings: Training Course - Block 1

A 鋪面評估與維修簡介

A.1 剛性路面損壞與維修

資料來源：

1. 李英豪、李英明，“剛性路面損壞與維修：損壞型態與原因、損壞維修，” 道路工程設計與維修實務班講義，台灣省建築師公會建築研修中心，民國八十四年一月十四日。

Introduction:

Pavement Management: Overall Network Level,
Individual Project Level (This Course)

Course Objectives and Description:

* Objectives:

1. Understand pavement deterioration
2. Perform evaluation - collect data
3. Evaluate results - existing pavements
4. Knowledge about rehabilitation /
maintenance techniques
5. Develop alternatives
6. Cost analysis - LCC(Life-Cycle-Cost)
7. Pavement management (network level)

* 3R = Resurfacing, Restoration, Rehabilitation

* 4R = Rehabilitation (Resurfacing, Restoration,
and Recycling) + Reconstruction

* Figure 2 - Flow charts of pavement rehabilitation
process

* Describe typical performance of each pavement
type (key types of deterioration)

Performance of Pavement Design Types:

- * Types: AC, AC/PCC, JPCP, JRCP, CRCP
 - AC - Permanent deformation (rutting), fatigue cracking
 - AC/PCC - Reflective cracking
 - JPCP & JRCP - Cracking, joint deterioration, faulting
 - CRCP - Punchout, Cracking

- * Figure 1-2.3 Difference between flexible and rigid pavements
- * Figure 3-1.1 Generalized multilayer elastic system
- * Figure 2 Typical tensile strain and compressive subgrade stress
- * Figure 1 Critical stress locations in AC pavements (granular base)
- * Figure 3 Critical stress locations in AC pavements (stabilized base)
- * Figure 3-1.6 Standard pavement for sensitivity analysis
- * Figure 4 Typical distress functions of JCP
- * Figure 6 Critical tensile stress in CRCP
- * Figure 7 Illustration of Edge punchout in CRCP
- * Figure 8 Cumulative damage (patching) vs. cumulative ESALs on Illinois I-57 CRCP