Life-Cycle Cost Analysis (LCCA)
Project Documentation Example

Under the Alternatives section in the project document (PSSR, PSR, PR), include a Life Cycle Cost Analysis section to describe pavement design alternatives analyzed, assumptions made, and reason for selecting the preferred pavement alternative. The following is an example for a widening project.

LCCA in Project Document Example

A Life Cycle Cost Analysis (LCCA) was prepared for this project as there is pavement work in the State Highway System. Three alternatives were analyzed to evaluate long-term investment options.

- Alternative 1 is a 40-Year rigid concrete pavement. The following is the structural section:
    - 1.15' JPCP
    - 0.35' LCB
    - 0.55' Class 2 Aggregate Subbase
- Alternative 2 is a 20-Year rigid concrete pavement. The following is the structural section:
    - 1.0' JPCP
    - 0.35' LCB
    - 0.55' Class 2 Aggregate Subbase
- Alternative 3 is a 20-year flexible Hot Mixed Asphalt (HMA) with Open Grade Rubberized Asphalt Concrete (OGRAC). The following is the structural section:
    - 0.1' RHMA-O
    - 0.75' HMA
    - 1.05' Class 2 Aggregate Base

The pavement alternatives were analyzed with RealCost 2.5CA spreadsheet. Alternative 1 total life cycle cost (agency + users cost) is less than Alternative 2 and 3 in the 55-year analysis period with 4% discount rate. See Attachment X for life-cycle costs. Base on this analysis, it is recommended that Alternative 1, 40-year JPCP, is the recommended pavement design alternative.