

## **Job Functions for the District Pavement Engineer**

- I. Produce cost effective project level designs for new, rehabilitated, and reconstructed pavements based on life-cycle cost analysis (LCCA) and prevailing constraints.
  - a. Perform detailed investigations, data collection, and analysis including:
    - 1) pavement distress
    - 2) structural integrity
    - 3) roughness
    - 4) geotechnical
    - 5) subgrade classification
    - 6) traffic load analysis
    - 7) vehicle configuration analysis
    - 8) availability and suitability of local materials
    - 9) availability and suitability of recycled materials
    - 10) determining required/available funding
    - 11) identify alternative designs
    - 12) define selection criteria/objectives
    - 13) perform life-cycle costs on alternatives
    - 14) select most cost effective alternative which meets criteria/objectives.
  - b. Review/produce typical section and detailed pavement design report.
- II. Recommend pavement preservation policies to maximize condition of the system within district budget constraints.
  - a. produce annual report on existing condition of highway system within the district
  - b. produce one year and ten year budget projection/needs for pavement preservation projects
  - c. perform analyses on effect of changes in funding, vehicle/axle loads, axle configurations, suspension types, tire pressures, environmental conditions, legislative mandates, and preservation policies on the highway system, etc.
  - d. assist and provide direct input into the development of the District Project Development Plan (PDP).
  - e. evaluate effect of current and proposed rehabilitation and maintenance practices, new materials and materials testing specifications, and new construction processes, etc.
- III. Identify pavement related research needs.
  - a. identify pavement problem areas needing research
  - b. submit annual research problem statements.
  - c. participate in research problem statement ranking process
  - d. support statewide pavement related research projects by serving as Project Director or Technical Advisory Panel member when requested
  - e. review research project statements and reports and assist in implementation of products
  - f. participate in semi-annual RMC meetings.
- IV. Participate in Technology Transfer and Training Activities
  - a. participate in annual Transportation Conference and Construction Conference Pavement sessions.
  - b. assist in departmental training in pavements.