

MEMORANDUM

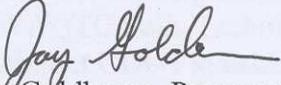
DEPARTMENT OF TRANSPORTATION

Materials and Geotechnical Branch
4201 East Arkansas Avenue
Denver, Colorado 80222



DATE: March 21, 2003

TO: Tim Harris, Director of Staff Services

FROM:  Jay Goldbaum, Pavement Management and Design Program Manager

SUBJECT: Policy Memo - 016
Pavement Type Selection Committee

Issue: To assist in the pavement type selection process, a committee should be formed when the initial Life Cycle Cost Analysis (LCCA) results indicate the pavement types are within 10%.

Action: The Materials Advisory Committee (MAC) is requesting ratification by the Chief Engineer to include the process in the Pavement Design Manual for a Pavement Type Selection Committee.

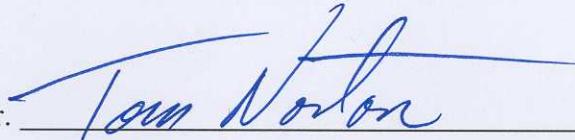
Background: The current direction is for CDOT to perform a LCCA when comparing pavement alternatives. Due to the number of input variables, it has been determined that the pavements are statistically the same when the LCCA are within 10%. We surveyed other AASHTO states and found 16 of the 33 respondents had an oversight committee when selecting the pavement type. The objective is to enhance our current comparative capabilities. From discussions with industry and MAC members, the attached guidelines were developed.



Committee Guidelines

Recommendations: The voting MAC members unanimously agreed on a Pavement Type Selection Committee when the initial LCCA results for a corridor indicate the pavement types are within 10%.

I concur. _____



Tom Norton,
Chief Engineer

date

cc: RTDs
RMEs
T. Aschenbrener
J. Wallace (FHWA)

February 27, 2003

Pavement Type Selection Committee

Purpose: The purpose of the Committee will be to:

- ensure the decision for the pavement type is in alignment with the unique goals of the corridor,
- provide industry with the opportunity for review the life cycle cost analysis (LCCA) document,
- ensure statewide consistency of decision making,
- formalize the decision process of the Region's pavement type selection,
- create accountability of the decision of pavement type at the level of Chief Engineer, and
- improve credibility of the decision by following a documented process and clearly communicating the reasons for the decision.

Scope: Reconstruction or new construction of corridor projects with large quantities of pavement where the initial life cycle cost analysis (LCCA) results indicates the pavement types are within 10%.

Membership:

Region Transportation Director
Region Program Engineer (1 or 2)
Region Maintenance Superintendent
Region Materials Engineer
Resident Engineer
Headquarter Materials and Geotechnical Branch Manager
Headquarter Project Development Engineer
Headquarter Pavement Design Engineer
Federal Highway Administration Pavements Engineer

Roles of Membership:

- The Region Materials Engineer, Resident Engineer, and Headquarters Pavement Design Engineer will be responsible for the technical details including pavement design, costs, ESALs, construction timing and sequencing, and the LCCA.
- The Program Engineer and Transportation Director will be responsible for identifying the project goals and the corresponding importance of the elements within the LCCA to match the project goals.
- The Branch Managers will ensure the statewide uniformity of the process and prepare the documentation of the recommendation that will be forwarded to the Chief Engineer.
- Staff will write the recommendation letter for the chairperson of the committee to the Chief Engineer.
- The Chief Engineer will make the final decision on the pavement type.

Process:

The Pavement Type Selection Committee will:

- 1) Conduct a critical and independent review of the LCCA.
- 2) Allow industry a period of 2 weeks to review the committee supported LCCA and provide written comments regarding the input assumptions.
- 3) Review written comments from industry to ensure that they are adequately addressed.
- 4) Adjust the LCCA as appropriate. Proceed to the next step if the revised LCCA indicates the pavement alternatives are within 10%.
- 5) Create a list of elements that correlate to the corridor project goals. The following possible elements along with a brief description are shown in the table. The committee may add other unique project specific elements.

Element	Description
Total LCCA	Overall cost of the alternative.
Initial cost	Availability of current funds to construct the corridor project.
User cost during construction	Adverse affects to the traveling public during the construction phase.
User cost during maintenance	Future traffic volume may adversely affect the traveling public.
Future rehabilitation efforts	Feasibility of maintenance funds required for future work.
Conservation of materials	Recycling the existing materials into the corridor project.
Constructability	Required construction techniques.
Intersections	Design issues to ensure structural adequacy.
Warranty	Benefit of the experimental feature.
Evaluation of new technology	Advances in technologies may benefit CDOT or the public if they are incorporated.
Traffic Control	If multiple phases are anticipated or the closure of one lane verses a detour.

- 6) Apply a rating scale, indicating high or low importance for each element to match the project goals.
- 7) Determine the alternative the element favors.
- 8) Sum the elements of highest importance for each alternative to establish if there is a clear advantage. If the alternatives have an equal amount of highly important goals, run this step again for least important.
- 9) Make a recommendation for pavement type to the Chief Engineer.

Unless mitigating circumstances arise, the Chief Engineer's decision will establish the pavement type for all construction phases in the corridor.

The process should be completed prior to the field inspection review of the first construction project in the corridor.