CE 490: Final Assignment

1) A spreadsheet template (B-C.XLS in Excel format) has been developed to calculate benefit-cost ratios for alternative highway projects. This template is on the course web site and at directory S:\staff\beimborn\ce490 in the CAE lab. What alternative should be selected . . .

(Do not print the entire spreadsheet for each time, just the B/C results.)

a) with the initial data?

b) with initial data and the value of auto travel time set to $0.75 per hour?

c) with initial data and the length of alternative A is reduced to 9.7 miles and value of auto time = $6.00/hr.?

d) Verify by hand the calculation of the auto user costs for alternative B for part a.

e) Which of the following variables has the most effect on the B/C ratios (A versus Base): interest rate or average speed of auto traffic on alternative A? (Vary each of these +/- 25% from the initial conditions, do not do combinations, also look at graph tabs)

(Note: The template is set for manual recalculation; hit F9 to recalculate.)

2) Assume you are employed in the municipal government of a community affected by a proposed transportation project as described by an Environmental Impact Statement. (You will find a number of EIS's located in the bookcase in the front of room E371. Pick one out -- a recent one.) For the EIS you have chosen, prepare a critique in memo form (no more than 2 pages). Review the statement relative to the following issues (use headings in your memo):

a) Completeness--what doesn't the statement say that it should?

b) Treatment of environmental impacts. How thoroughly are they analyzed; how specific is the information?

c) Other parts of the statement, i.e. project description, long versus short range, irreversible and irretrievable, etc.

d) Conclusions. Are they properly drawn?

e) General appearance, graphics and writing quality.

Due May 12, 2005.