Massachusetts Institute of Technology
ESD.00 Introduction to Engineering Systems

Spring, 2011

Assignment # 1

Distributed: Lecture 1
Due: Lecture 2

A1   Gaining familiarity with Complex, Sociotechnical Systems

Please read the teaching note entitled *Complex, Sociotechnical Systems (CSS): Some Fundamental Concepts.* The teaching note explains a number of concepts relating to CSSs and uses the transportation system of Boston/Cambridge as an illustrative example.

In this assignment, we ask you to choose a CSS with which you are familiar.

a) Describe your CSS—1/2-page maximum

b) Explain how the concepts in the teaching note can be illustrated by your CSS—1½ pages maximum. For instance, identify your system of interest, parallel systems and sub-systems; think of examples of feedback and time delays in your system behavior and so on. You don't have to do this for every system characteristic discussed in the teaching note

It's still early in the semester, and while ESD.00 will focus on large-scale systems, you don't need to choose one for this assignment. You can if you like, but it's not required. So your CSS could be your family, its residence, and related technologies that might affect how the people in your family interact (like cars, computers). Or it could be MIT itself, a high-rise office tower, a nuclear power plant, the MBTA, or Logan Airport... Possibilities abound! Try reading a newspaper, in whatever mode you chose, to trigger your imagination.

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