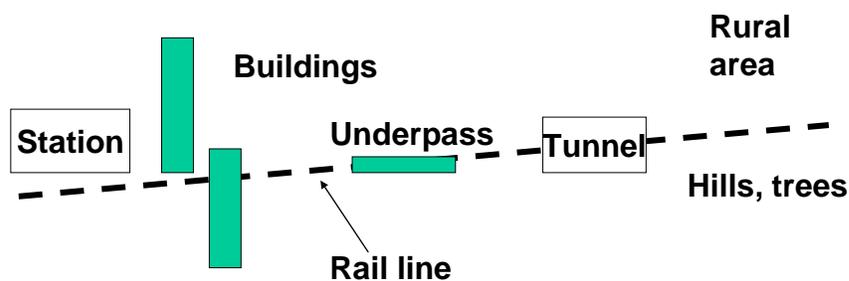


Short answer: one diagram and one page or less. Your answers can just be a list. Be prepared to discuss them in class.

1. Design a system for an intercity rail passenger train to provide Internet access to its passengers and operating crew. Address each challenge; discuss the solution for it briefly:
 - a. Metro areas: frequent physical obstructions, such as underpasses, tall buildings that block radio signals
 - b. Tunnels
 - c. Rural areas: gaps in cellular coverage, trees, hills obstruct line of sight
 - d. Multiple applications: what to do when a user wants to download a 200MB file
 - e. Network changes: train goes through many networks of varying quality at varying speeds
 - f. Reception in passenger cars: metal car bodies affect signal

2. Draw a diagram and summarize your design. Use the example below as a guide, but draw your own. Put the train itself on your diagram at several representative locations, and indicate where communications and supporting equipment is placed on the train, as well as the location and type of communications equipment with which it communicates. You may draw one or several diagrams; you may use UML or informal diagrams.



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