

A major city in Tennessee is studying the feasibility of eliminating a railroad grade crossing by building an overpass. Traffic engineers have estimated that 10,000 vehicles per day are delayed an average of 2 minutes each due to trains at the crossing. Trucks comprise 40% of the vehicles and the cost of their delay is estimated to be \$30/hr. The cost of delay for the rest of the vehicles is estimated to be \$20/hr. The overpass will cost \$15 million to build, have a useful life of 40 years, and a salvage value of \$2 million. Maintenance costs for the overpass are estimated to be \$10,000 more per year than for the grade crossing. If the city's cost of capital is 4% per year, should the city build the overpass?