

SYST 490

Fall 2010

Homework #3: Critical Reading

Describe each of the elements of a System Engineering Analysis (in the table below) for analysis described in the technical paper *Breaking Through the Bottleneck: Transportation to Make Stewart a Viable New York Airport* (Zabarah, Callahan, Antezano, Lamartin, Henriques and Rahman, 2010).

Notes:

1. Read the paper first, then complete the table.
2. Keep in mind, the paper is not perfect and elements of an SEA may be incomplete or missing. If an element is missing, note that it is missing and describe what you think should have been done.
3. Keep descriptions short. Bullet points or short paragraphs
4. List the source of your description by page number and paragraph no. (e.g. page 1, para 1,2,3 and 4)

Elements of a System Engineering Analysis	Description	Page number and paragraph number.
1. Context	<p>Economic viability of NY is dependent on air transportation. Demand for air transportation continues to grow. Existing airports are operating at capacity. There is no way to increase capacity of existing airports. NYNJPA purchased Stewart Field (60 miles from Manhattan). Airlines are not providing service to NY, cos no way for passengers to get from Manhattan to SWF.</p>	
2. Stakeholders	<p>Consumers: Passengers Service Providers: operators of transportation system Beneficiaries: NY economy, airlines and their supply chain, airports and their supply chain, supply chain for transportation providers Victims: travelers impacted by proposed design, homeowners affected by proposed design, the environment</p>	
3. Problem Statement	<p>Identify best option for mode of transportation from Manhattan to SWF.</p>	
4. Proposed Solutions	<p>2 helicopters airship high-speed ferry</p>	
5. Method Analysis/Simulation	<p>Passenger flow simulation Value hierarchy/Utility Cost analysis</p>	
6. Design of Experiment	<p>Service times and capacities for alternate vehicles</p>	
7. Results	<p>Identified "sweet spot" for design Airship best.</p>	