

EPA133a Assignment 4 Rubric

Criteria	Description	Weight
Report	<ul style="list-style-type: none"> • Clear definitions of Criticality and Vulnerability that are grounded in literature. Explanations are provided when needed. • Each element included in the operationalisation of the metrics (such as categories of bridges, number of lanes, location etc.) is well-argued for and/or originates from literature. • Assumptions made in including or excluding some elements (due to complexity or unavailability of data) are described. • Probabilities used, if any, are well-argued for and referenced where possible. • Explanation of the methods and results are logical and understandable; clear link (reference) to the code submitted • Good visuals with the comparison of results; use, e.g., boxplots, histograms to visualise results (avoid using long tables); for the figures included, non-trivial observations/insights from the visualisation are included. (This also means not every figure created is included.) Use flow charts to visualise processes if needed • Interesting relationships between different key performance indicators are reflected upon • A brief reflection describing the limitations, possible improvement, extension, etc., of the solution • Well-structured and concise report with conceptual and logical soundness • Clear link to literature • A final section of "Acknowledgement" that clarifies the use of AI, and the role/contribution of each team member in this assignment 	4
Option 1: Data Analysis (2.a)	<ul style="list-style-type: none"> • Assumptions made in using and combining data from the different sources (RMMS, bridges and roads dataset provided earlier) are clearly explained. • Choice of visualization method is aimed for use in policy support. • Information about vulnerability and criticality of different roads and bridges in the network can be interpreted clearly. • Top-10 critical and vulnerable roads and bridges are identified separately. • The resulting rank order, implications for policy recommendations and limitations are critically discussed. Choice of metrics and implications on the rank order are discussed. 	4
Option 2: Simulation Experiments (2.b)	<ul style="list-style-type: none"> • Model runs without errors • Experimental design for analysing criticality and vulnerability in the model is grounded in literature where applicable. • Explorative and iterative process of experimentation is described. • Assumptions made in using traffic flow data from RMMS datasets as input into the model are well argued for. • Measures taken to introduce delays, probability of link breakdowns etc. are explained and well-argued for. • The resulting rank order of critical and vulnerable bridges are critically examined considering the methods used and assumptions made. • Use different seeds for the replications in a scenario • Code (changes made by you) is well-structured and documented 	4
Submission	<ul style="list-style-type: none"> • Submit in accordance with the submission guidelines • Include a README file describing the necessary information to use your program 	2
Total		10