

On The Right Track: A Case for Applying Systems Engineering to Writing Transport Policy

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Abstract. The high-level requirements for many of the complex systems at the centre of modern society emanate from government policy. In Great Britain, national and European policy has a significant influence on transport systems. However, policy documents are often difficult to interpret by those responsible for the delivery of high-level objectives. Systems Engineering focuses on defining the purpose of a system early in the lifecycle, but the principles are often applied too late. This research proposes systems thinking earlier in the development of a system, at the policy-writing phase. The paper presents an analysis of the 2011 European Union White Paper for transport, which contains key high-level requirements for the EU transport system. By demonstrating poor structure, ambiguity and lack of traceability, a case is made for improving the way which such policy documents are written. A number of alternative approaches are proposed for further exploration in future work. The case study focuses on the British rail system, but lessons learned can equally be applied to transport systems worldwide, and other policy-driven domains.