# ABSTRACT SUBMISSION FORM

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| Paper details | Theme: Tomorrow | | | |
| **Paper title**  **(limited to 6 words)** | Geographic Economic Accessibility for Freight Transport | | | |
| **Overview of presentation** (300-word maximum)  Freight transportation has always been essential for trade and prosperity. The geographic economic accessibility to trade has expanded with modern use of fossil fuels. Geographic economic accessibility (GEA) is a measure of the t-km dispersion for production and supply chains using the existing transport networks, intermodal connections and available energy. The non-renewable nature of transport fuel, carbon emissions from fossil fuels, and price volatility mean that the outlook for trade will involve pressures for change. The question is, what are the most economically efficient infrastructure investments, operational changes and technology developments to achieve high geographic economic accessiblity to trade while adapting to the 80% reduction in fossil fuel which is expected over the lifetime of networks and vehicles?  We propose a scheme to explore freight activity and energy consumption under different infrastructure and network configurations, as well as under different assumptions about travel patterns and logistic dispersion. Such a scheme can be used for the identification of transportation infrastructure that has the potential to enhance a smooth transition of the freight transportation system towards a more resilient configuration that allows for the consolidation of freight flows and for the deployment of more energy efficient modes of transportation. Furthermore, we propose the adoption of essentiality metrics over the transportation demand, in order to identify what sectors are prone to failure given their capacity to adapt to lower energy consumption regimes.  In this paper, we focus on the first part of the GEA trade analysis scheme, where travel demand is estimated upon the execution of a Random Utility Based Multiregional Input Output Model. Specifically, we experiment with alternative definitions for the sector specific dispersion coefficients to assess the impact of land use and accessibility to markets. | | | | |