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Trends in Transportation Sciences and How to Get a Job in the Industry

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Fifty years after the transportation engineering and planning industry began, the skill set of the prototypical professional has shifted radically. At its origins, transportation sciences were purposed to plan and construct a national infrastructure of highway facilities. A typical professional in those days was a civil engineer that narrowed their expertise to roadway design, construction and maintenance. Now, the focus of the profession is much more diverse, encompassing all modes of transport in both rural and urban contexts, and it plays a key role in economic vitality, livability and the environment. This presentation introduces three current trends and discusses their potential influence on the industry and the communities that they serve. First, now that the federal interstate system is largely built, there is great interest in better understanding how the system is really used in metropolitan areas, and how to get better value out of it. This helps professionals to better manage the regional system and its users. Second, the movement towards achieving more sustainable urban planning and design will require better empirical models about why people choose to walk, bike, or drive and how they are influenced by accessibility and land uses. These tools will measure trade-offs in public infrastructure, safety, health and energy consumption. Finally, there is a clear trend for putting transportation data in the public's hands to help them better use and evaluate the systems that are integral to their daily living. Responding to these trends will require new and deeper skills for the transportation professional.