Reshaping Transport Planning through Dynamic Illustration, Solid Evidence and Careful Conversations

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Abstract

We describe the practical application of automated data streams and spatially-oriented multimedia technologies in the context of transportation planning support. Implementation is described in Chicago, Vancouver, and New York City.

The Chicago example illustrates an adaptation of concepts applied to capital facility analysis. We also illustrate how automated fare media are used to collect data that enables an understanding of geographic and temporal shifts in passenger demand. This approach was expanded in Vancouver. For instance, automated passenger boarding and alighting information for bus routes was extrapolated for three-dimensional visualization purposes. The result was the application of a tool that enabled dynamic conversations with policymakers regarding public transit ridership patterns. Finally, a recent application of similar tools is illustrated for the major railroad lines that serve New York City. Of note is an example that supports an analysis of schedule adherence and construction impacts. The result being reshaped railroad timetables that are more reliable.

Lessons common to all three application areas include the evolving skillsets and staffing requirements for such implementation, the increasing reliance on commonly available tools for visualization purposes and the innovation necessary for the application of planning support systems in specialized environments. The resulting application of these tools has effectively supported the distribution of scarce financial resources across large metropolitan areas to better serve millions of annual passengers, effectively shaping urban form and leading to the continued development of smarter cities.

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