

Using Visualization to See Transportation Solutions

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ABSTRACT

Visualization is a powerful new tool to help transportation engineers develop support for design and construction projects that are critical to improving the public infrastructure.

Using visualization technology from the movie and video game industries, transportation engineers can create images of engineering projects that range from relatively simple 2-D photo simulations to complex 3-D animations.

While the excellence of these images is sufficient for photo quality, their value lies in comprehension. URS transportation engineers have worked with their clients to use animations to get preliminary layout approval for complex projects. The projects range from seeing how Bus Rapid Transit (BRT) systems work to showing traffic modeling, and to explaining how High Occupancy Toll (HOT) Lane works. In each case when constituents see visualizations of engineering projects, they have a better understanding of the project.

The value of visualization to transportation engineers goes beyond the public presentations into design and construction. By creating a 3-D model of a project, engineers can easily spot and correct flaws during the design stage. Then during construction, the 3-D model of the project can be used for “machine control” to guide field equipment and dramatically speed up the construction phase.

Note: This research was still in progress at the time of publication; contact the lead author above for more information.

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