

Kittelson 3D Visualization

Our visualizations are built from engineering data, that includes CAD plans, MicroStation models, OpenStreetMap, LiDAR, and other data sources to create accurate, to-scale 3D models. We apply textures, materials, lighting, environmental conditions, and 3D assets such as vehicles, pedestrians, trees, and signs, to give the audience a clear idea of how a new concept will look and feel in the real world. We offer different levels of detail and different visualization products to suit any budget, style, and need.

This brochure will help communicate some of our visualization experience to help start a dialogue for what we can offer for your needs. To view more content, please visit our visualization site: <https://project.kittelson.com/3D/>

Note: All cost ranges are from specific projects and can differ due to specific needs. These cost ranges are for estimates only. Please contact us directly at 3dviz@kittelson.com to provide a more accurate cost estimate for your project.

Level of Detail

We offer three Levels of Detail (**LOD**) in our visualizations. Details can range from highly accurate to very simple. Level of detail can apply to 3D model assets, textures, or lighting. This ability to offer different details can help lower costs if budget is an issue.

To view three different details, move your mouse over the three LOD buttons to switch between them.

Photo Simulation

Photo sims (photo simulation) is the process of building a 3D model and overlaying the concept design to the same perspective of a photograph. The 3D model/scene contains realistic textures, lighting, and other environmental conditions to match photo. Drone images capture the best perspective to highlight designs, but first person perspective also provide another useful perspective.



Photo sims illustrating striping changes require little effort and may not require 3D modeling.

Cost Range for Similar Project: \$1,000 - \$1,500



Intersection improvements can vary and do require 3D modeling for the camera matching process. Here we can illustrate how the different travel modes interact within the space.

Cost Range for Similar Project: \$3,000 - \$5,000



Large modeling efforts like this require significant time to model, and usually support other needs such as fly-thru animations and/or video productions.

Cost Range for Similar Project: \$15,000 - \$20,000

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3D Renderings

3D renderings are images created entirely from a 3D scene. Renderings are great for visualizing environments when a proposed site does not exist or the surrounding area will change significantly. Details can be added to the 3D model as the design is refined. Different rendering "styles" can be applied to any project. A photo-realistic style is often the most appropriate for representing more concrete, final designs. Artistic, graphic, or comic book styles can be applied for a more conceptual feel. Renderings can support board size presentations to web-optimized images without reducing image quality.

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The style for this visualization was to draw the viewers eye to key elements in the project concepts.

Cost Range for Similar Project: \$3,000 - \$5,000



This redevelopment project was to demonstrate the land use mix, roadway, transit, and pedestrian facility improvements. Scale of project and level of detail can effect cost range.

Cost Range for Similar Project: \$15,000 - \$20,000



This proposed crossing project was processed using our watercolor filter to create the conceptual feel. The level of effort for this style is minimal.

Cost Range for Similar Project: \$10,000 - \$15,000

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3D Animations

3D animations bring a scene to life, helping audiences envision the potential improvements that to their community. With 3D animation, viewers can fly above or drive-thru a project area. 3D animations show the movements and interactions of vehicles, bicyclists, and pedestrians and how they may interact with each other. Animations can also be used to compare different traffic scenarios or design alternatives. In addition, narration, text call-outs, and motion graphics can be help tell and highlight key aspects of the story.



This animation demonstrates how an intersection treatment can influence vehicle speed.

Cost Range for Similar Project: \$5,000 - \$10,000



This video utilized motion graphics, animation, and narration to demonstrate roundabout operation and expected travel patterns during the AM, Midday, PM, and evening school events.

Cost Range for Similar Project: \$10,000 - \$15,000



This video demonstrates the collective corridor projects that make up the different transit, intersection, and pedestrian improvements planned for construction.

Cost Range for Similar Project: \$35,000 - \$45,000

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Interactive Visualization

With interactive visualizations, users are able to virtually walk (or fly) through a 3D scene. Using a mouse, keyboard, or their mobile device, users can navigate the 3D environment under their own control, viewing the design from the perspective of their choosing, and examining details that are most important to them. Complete with environmental effects as well as car, bicycle and pedestrian animation, users get to experience a proposed roadway design firsthand.

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The above project demonstrates two bridge scenarios to connect bicyclists and pedestrians at two ends of the City. The viewer can compare scenarios and navigate freely within the scene.

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Viaduct and Span



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Forensic Visualization

Forensic visualization is the accurate modeling of a chain of events that lead to a crash or other unfortunate circumstance. Accurate modeling includes applying physics, vehicle dynamics, friction factors, textures, lighting, and other environmental conditions to recreate first-person and/or other perspectives. Forensic visualization is commonly used to validate or dispute arguments in litigation but can also be used to validate design safety.



The above project reconstruction demonstrates vehicle speed, timing, perception, line-of-sight, and events that lead up to an intersection crash.

Cost Range for Similar Project: \$5,000 - \$8,000



The above project demonstrates the chain of events leading up to crash and reaction scenarios to demonstrate potential avoidance.

Cost Range for Similar Project: \$10,000 - \$15,000



This crash simulation uses physics based vehicle dynamics to demonstrate the effects of speed and slippery conditions.

Cost Range for Similar Project: \$15,000 - \$45,000