

# 3D Models Can Build Smart Projects

- Challenge** Execution of Accountable and Transparent Infrastructure Programs
- Solution** Digital 3D models foster program quality. 3D rehearsals can find and fix project challenges before potential impacts disrupt implementation.
- Benefit** Projects execute faster, construction progress is more transparent; dollars are spent more effectively and sustainable practices are preset.

The public discussion on President Obama’s green infrastructure investments has focused on priorities such as enhancing the electrical grid, extending broadband penetration and creating alternative energy sources. Another dimension of green infrastructure investment is often overlooked: using 3D modeling to help build smarter -and greener - roads, bridges, utilities and public buildings.

## 3D design and construction can enhance execution of infrastructure programs, can improve project speed, accountability and on-budget performance

Virtual design and construction - including 3D modeling, geospatial analysis and Building Information Modeling (BIM) – can enable project managers to experience projects before a shovel breaks the soil. These next-generation visualization tools help minimize waste in the construction process, enhance collaboration among government agencies, permit engineers to test the environmental impact of designs and prevent mistakes that slow projects down. For example:

- 3D models enable “smart” construction; digitally rehearsing construction and assembly. Projects can go together more smoothly helping to reduce on-site mistakes and delays.
- 3D Modeling supports the simple tracking of cost/quantity information, facilitating transparency and accountability on infrastructure investments.
- Civil engineers can more easily see environmental issues and impacts. 3D methods assist in speeding up the analysis of drainage and storm water management systems that minimize flooding, erosion, pollution and sedimentation.
- Structural engineers can use 3D models to support both the simulation of structural loads and the performance of environmental analyses, helping to improve the structural integrity and environmental impacts.
- Buildings under renovation can more easily run energy simulations on 3D models to assist in the selection of the best sustainable options.

The economic recovery legislation provides a path to a “smart” way of investing in infrastructure. Encouraging the use of 3D modeling will help ensure that these investments produce well managed, transparent and sustainable programs.

It’s not just about what we build, but how we build



**Ensure program success with 3D Modeling, Virtual Design and Construction practices, including:**

- *Design-Build Contracts*
- *Integrated Project Delivery (IPD) collaboration methods*
- *Building Information Modeling (BIM) technologies*
- *Energy modeling for buildings and utility infrastructures*

Find out more at <http://usa.autodesk.com/company/building-information-modeling>

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