



The Business Case —— for 3D ——

A Guide for Government

If you think you know 3D, think again.

The concept of 3D is not new. It was just often thought of as a nice to have, not a need to have. Take virtual reality, drones, or next-generation planning practices, such as form-based codes, they are all moving to 3D. The time is now for planners to realize that 3D is not a pipedream anymore. It is the future of planning.





The Time is Now

3D technology is here. It's simple and it's not something you should read about and think, "*I should do that one day.*" You should already be started.

The following business cases will provide validation for leveraging 3D in your organization today.

The Business Case for 3D

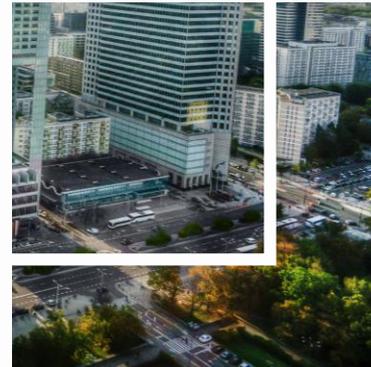
1 - Accurate Design, Analysis, and Review

Today's 3D will empower the way you plan and design.



2 - Cost and Time Savings

Rapid planning and alternative scenarios made easy.



3 - Ability to Meet Evolving Expectations

Make and justify decisions that support resilient and sustainable development.

4 - Effective Communication Tool

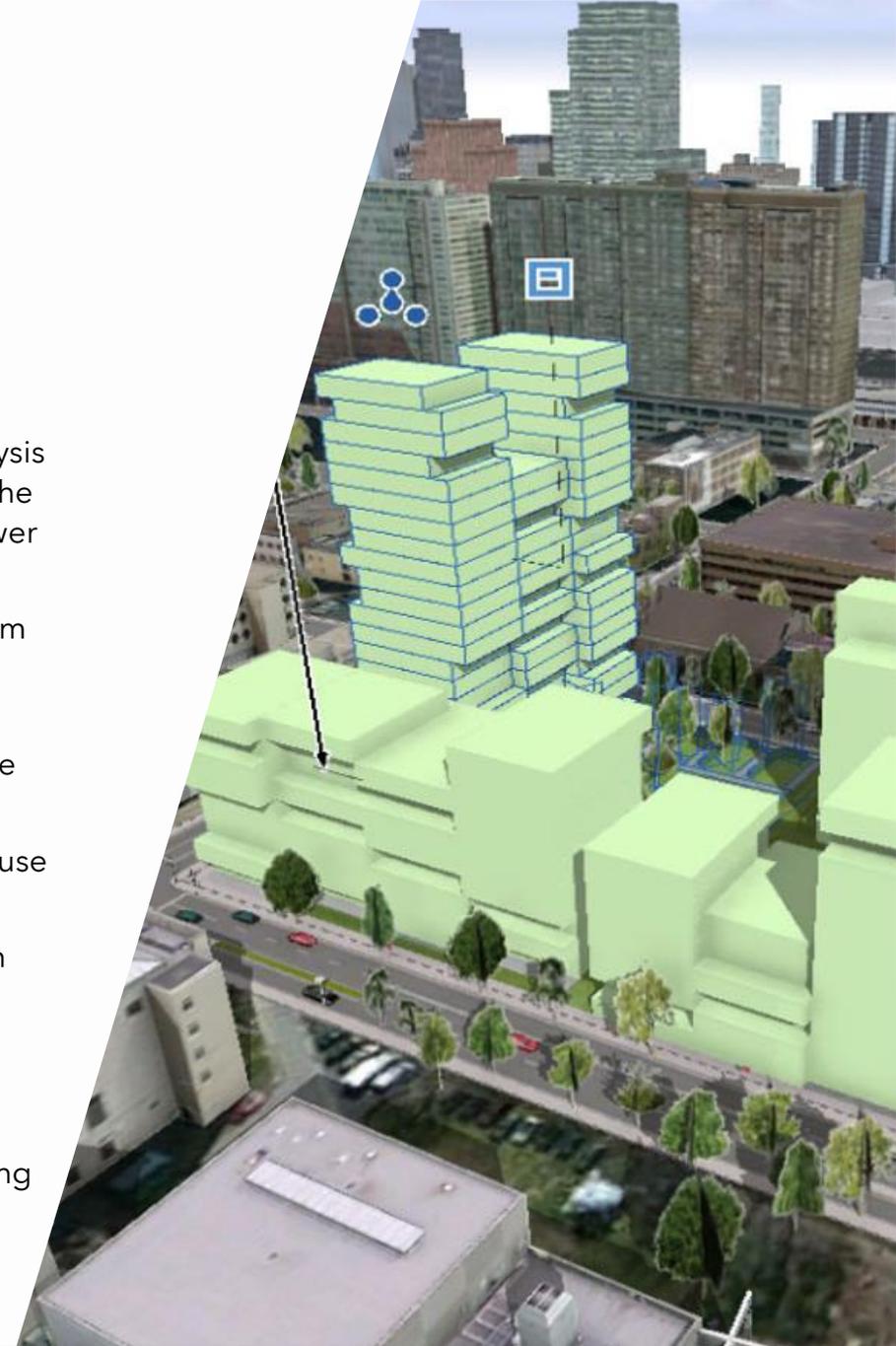
Provide detail and context for your decisions to all stakeholders.

1 Accurate Design, Analysis, and Review

Today's 3D is not just for visual representation. Today's 3D data and technology help planners create realistic context and analysis of the world around us. It allows for greater understanding of the impacts of decisions. With 3D, planning professionals can answer questions like:

- How does a building at maximum height impact visibility from other buildings? Does it cast shadows over a park, plaza or other facility?
- If a building adds another floor, does it go over the allowable Floor Area Ratio (FAR)?
- Does a proposed development meet the community's land-use or economic development needs?
- What is the expected impact of a proposed development on parking needs, water usage, traffic patterns, or job creation?
- Will new cell towers or a billboard ruin the aesthetics of a community's downtown?

With Esri's 3D technology, answering these questions, visualizing "what-if" scenarios and analyzing impact is easy.



2 Cost and Time Savings

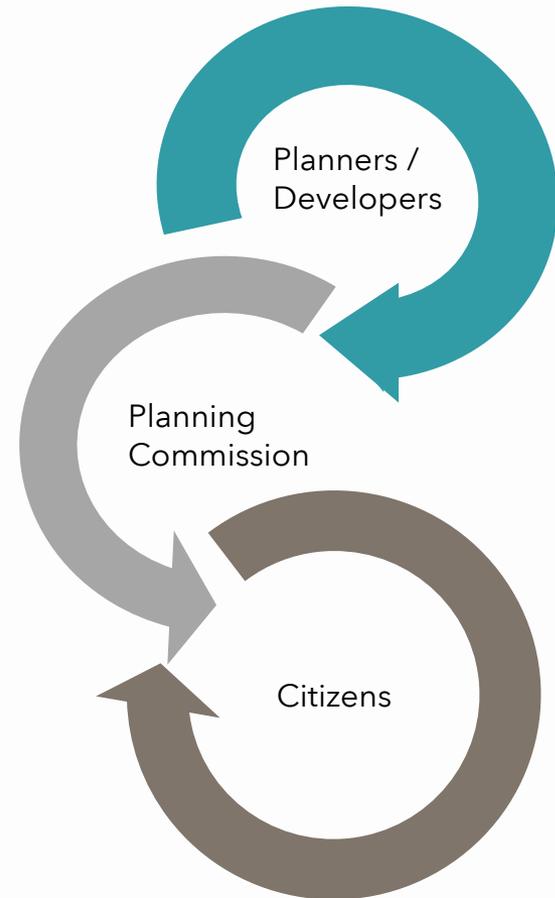
Today, we are seeing the widespread use of LiDAR data, as the cost for this data has dropped dramatically. Now planners can create detailed, accurate surfaces, they can ascertain the actual height and detailed shape of buildings, and they can differentiate trees from curbs and gutters. And they can do all of this at a fraction of the cost and time it previously took.

Simultaneously, 3D technology has become more approachable and accessible to a wider audience than ever before. Planning departments can save time and money by creating and evaluating design alternatives in a few clicks. Esri 3D technology allows planners and developers to rapidly design, edit and assess scenarios.



3 Ability to Meet Evolving Expectations

Expectations have changed. Access to 3D for planners has changed. Citizens, planning commissions and government leaders are now asking more from their government in general, and specifically, planning professionals. With Esri 3D technology there are no longer hardware limitations, nor a need to be expertly trained. 3D models and analysis can be run within a browser on a laptop. And final designs can be shared with all stakeholders and the public on a mobile device without installing GIS software. 3D has moved from a luxury that required a very powerful computer, cost-prohibitive software and training, to something that is expected and made public for all to view.



4 Effective Communication Tool

Planners should encourage an interactive planning process. With 3D, planning professionals can sit down with a developer, city councilmember, and a neighborhood leader to provide feedback, and create what-if scenarios in real time. With minimal training, planners can build and analyze their design and then share it to all stakeholders in 3D web scenes that require no GIS software or beefy machines to run.

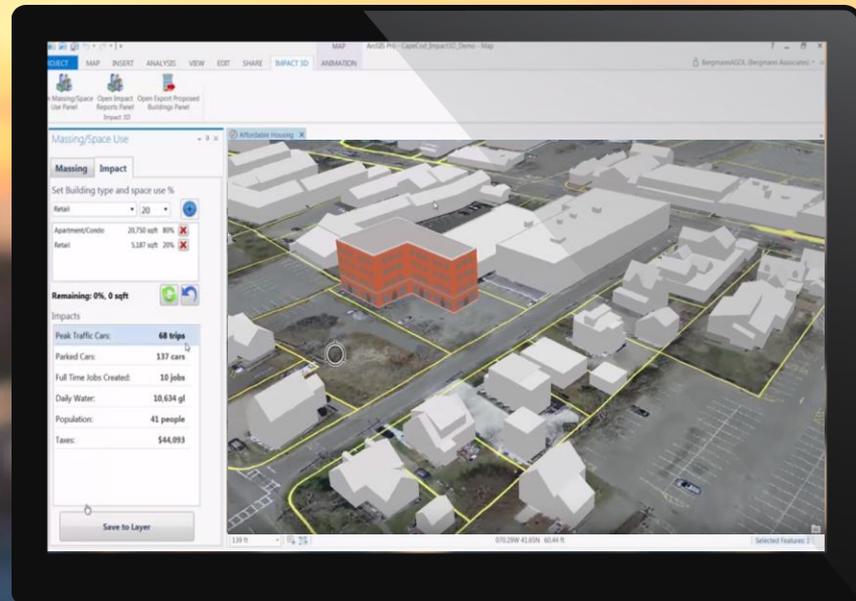
This true partnership between government and citizens means meetings like planning commissions and city council meetings can result in productive discussions. Esri's 3D technology provides planners with not only the tools to implement designs that fit the characteristic of their community, but also provides the tools for transparency and accountability with the public and administration.



Cape Cod Commission

Supported by Esri Partner Bergmann Associates

- The commission used 3D to support the expansion of Mashpee Commons, a residential and retail development area to ensure it meet the needs and standards of the community.
- 3D analysis on the significant expansion project allowed the commission and the developers to understand expected population increases, water consumption, traffic, and more.
- By having impact measures on the development process, developers and stakeholders were able to address concerns early on.
- The community was able to understand the scale and impact of the development, as well.



San Francisco Planning

With Space at a Premium, the Planning Dept. Gets Creative

- If San Francisco continues to grow at its current rate, it will approach the limits of existing zoning sometime after midcentury.
- The San Francisco Planning Department wanted to make sure that they didn't respond to this challenge by repeating the historical pattern of sprawling urban and regional development.
- A major goal was to maintain the essential soul, character, and culture of their community.
- Planners used GIS to create a 3D digital visualization of the city's existing land supply and a preliminary estimate of its capacity for new dwelling units and jobs.
- 3D allowed them to take a holistic approach and helped visualize the implications of their policy, planning, and design scenarios for future generations.

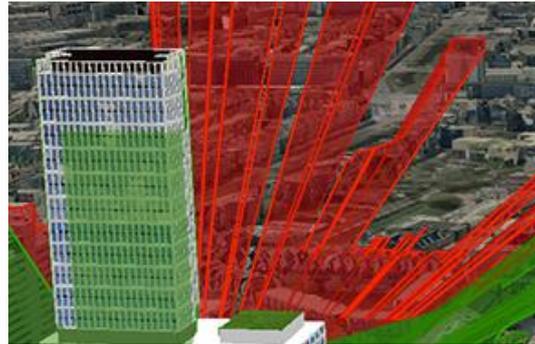


Make Data-Driven Decisions with 3D



Visualize

Create and use 3D real-world visualizations for community improvement, situational awareness, and understanding of the full impact of change.



Analyze

Review policies and plans, against the context of the real world to assess impacts and long-term change.



Communicate

Use interactive 3D to present policy impacts, analytical results, and propose changes to open a dialogue among developers, the Planning Commission, and the public.

The world is moving to 3D planning. Are you?

go.esri.com/start-3D

