INTRODUCTION

HNTB Corporation is an employee-owned infrastructure solutions firm serving public and private owners and contractors in the architecture, construction and engineering fields (ACE).

Celebrating 105 years of service, HNTB understands infrastructure and addresses clients’ most complex technical, financial and operational challenges. HNTB employs more than 4,000 full-time professionals who deliver a full range of infrastructure-related services, including award-winning planning, design, program management and construction management.

In addition to providing great work, HNTB continuously seeks to improve its processes and service to clients. The firm desired to speed up both its accuracy in measurement and its overall efficiency in producing project models when they looked to engage with Nearmap.
CHALLENGES

Projects for architecture, construction and engineering require high-resolution aerial imagery to ensure accuracy and lifelike modeling.

Timeliness is also a factor as the team needs to create in-depth, lifelike renderings in a relatively short amount of time.

“To win business, we have to be faster, more efficient and do it better,” said James Pageau, senior media design leader at HNTB.

SOLUTIONS

With the implementation of Nearmap’s high-resolution imagery that is greater than 3” GSD, which is typically 4x sharper than satellite-based imagery, HNTB was able to implement the following improved workflow for the majority of its projects:

Locate

Using vertical imagery, team members are acquainted with the project site. This is especially useful when the project is out of state, minimizing the need for site visits.

Process

Because the team has access to the same accurate, georeferenced data through MapBrowser, they are all able to view and compare historical to current imagery, see time stamps, and export the imagery with gridded tiles for

“Nearmap’s image quality from tile to tile is so consistent and current, that our team can produce beautiful and accurate models for our clients with a lot less work.”

James Pageau,
Senior Media Design Leader at HNTB
Integrate

By generating a digital surface model from the aerial imagery, HNTB professionals can detect variation in terrain which helps them provide more precise estimates for the client.

Oblique images are imported into programs like 3ds Max, Map3d, Recap, InfraWorks and Civil 3-D to create a 3-D point cloud, which uses thousands of points to depict surfaces in a 3-D space. A point cloud can then be used to create a 3-D mesh, which connects the points with triangles to form a realistic-looking 3-D diagram of the area.

Then, in 3ds Max, team members can align imagery to 3ds Max origin, trace and texture terrain, curbs, sidewalks and buildings and match the lighting and shadows to the exact time of day to create the most realistic rendering possible. When finished, the visualization technician can export it into AutoCAD for other engineering teams.

Present

With lifelike, HD-quality visuals and models, clients are impressed both by accuracy and beauty and can clearly envision the overall project result.

The detailed models also are used to educate surrounding property owners. Project managers can use the models as visual aids to illustrate different project stages, staging areas and equipment so local business owners and residents are informed and can plan accordingly.

BEFORE NEARMAP

Previous imagery solutions required the HNTB team to put in more work to model and retouch animations because the resolution wasn’t a clear as what Nearmap delivers.

Nearmap 3-D aerial imagery provides HNTB with 360 degree panorama views, along with detailed orthographic images and the tools to measure distances and heights, determine slope angles, and document building footprints, which was previously guesswork for the team.

“Nearmap’s image quality from tile to tile is more consistent and current, so our team can produce beautiful and accurate models for our clients with a lot less work”, said James Pageau, senior media design leader at HNTB.

“We’re more efficient in our modeling and there’s less retouch in our animations. It’s changed...”

Austin Reed,
3D Visualization Team lead for HNTB
ABOUT NEARMAP

We capture, manage and deliver the most frequently-updated location content in the world, allowing businesses and governments to explore their environment easily. With Nearmap, organizations unlock opportunities that consistently inform decision making and transform the way they work. Delivered within days of capture, our imagery is much higher resolution than satellite imagery and shows changes over time. Nearmap helps users save time and money, reduce site visits and make better informed decisions with current, clear imagery.

Nearmap is delivered through our web-based MapBrowser or accessed via third party applications.


“A nearmap gives us the ability to get the data we want when we want it, 24/7, in impressive detail.”

Austin Reed, 3D Visualization Team lead for HNTB

AFTER NEARMAP

“Assessing orthographic and panoramic views, the ability to measure slopes and footprints of buildings, to accurately measure building height—that all used to be guesswork for us,” said Austin Reed, 3D Visualization Team lead for HNTB.

“Nearmap gives us the ability to get data we want when we want it, 24/7, and at an impressive detail level,” noted Reed. HNTB uses aerial imagery as the foundation of creating visuals and animations throughout the entire pipeline of proposals and projects. The most important aspect of aerial maps for HNTB is that they are up to date and highly detailed. Nearmap aerial imagery improves the team’s overall process by giving them accurate data that they can integrate directly into engineered drawings.

“Nobody else in the industry is providing imagery that is as uniform and consistent as Nearmap,” said Pageau.

Nearmap has also helped the HNTB team to feel confident when a potential client comes to them with a project, they can look it up instantly due to the Nearmap data.

Timely, Accurate Aerial Imagery Improves Outcomes

As challenges that face the engineering industry will continue to change, HNTB’s commitment to new technology and information to serve clients does not. With the use of the right tools, aerial imagery has elevated design tools and software, empowering engineers to make intelligent and collaborative choices.