

# City of Philadelphia 3D LiDAR Data Collection



## THE CHALLENGE

The City of Philadelphia's (the City) challenge was to understand their building infrastructure with respect to several areas including: pedestrian concourses with platforms, corridors, stair locations, and ramps; ingress and egress points; emergency access and air vent facilities; connections between levels; partial interiors of at least 3 buildings that connect to the defined pilot area; and in-building floor maps.

To effectively analyze and manage this critical public safety infrastructure, the City needed access to accurate and comprehensive spatial data information, to include varied datasets.

## THE SOLUTION

With their city agency experience, PenBay provided the City with a geographic information system (GIS) solution that employs a spatial data collection technology to collect a host of information in one pass. The result is a standards-compliant geodatabase useful to multiple city agencies as an extension of their existing GIS.

**Center City in Philadelphia is a confluence of transportation, shopping, business and government agency activity, with several multi-level spaces within a few blocks. To effectively serve this area with its current geographic information system, they needed a complete view of the infrastructure of buildings, railways and surrounding areas inside and out for their Facilities Management, Public Safety, Space Planning and Real Property Departments.**



A PANORAMIC VIEW  
OF INTERIOR SPACE  
AT CENTER CITY IN  
PHILADELPHIA



# CITY OF PHILADELPHIA 3D LIDAR DATA COLLECTION

The deliverables from this pilot project include:

- **A 3D LiDAR point cloud that will be dimensionally accurate in real-world coordinates.** This deliverable will be used as a beginning dimensional framework for the derivation of multiple data sets from architecture, engineering and construction planning to facilities asset inventories, emergency action planning and real property space plans;
- **A 3D video data set for the entire captured area.** This deliverable is of particular interest to the public safety community for planning and preparedness workflows. This deliverable also provides assistance to

facilities managers in condition assessment and asset inventory.

- **A set of in-building floor maps of the captured area.** This deliverable is of interest to real property and space planners, as well as public safety. This provides the City a unique view of their indoor space with reference to the surrounding landscape.

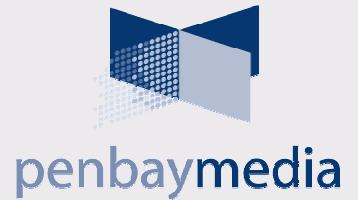
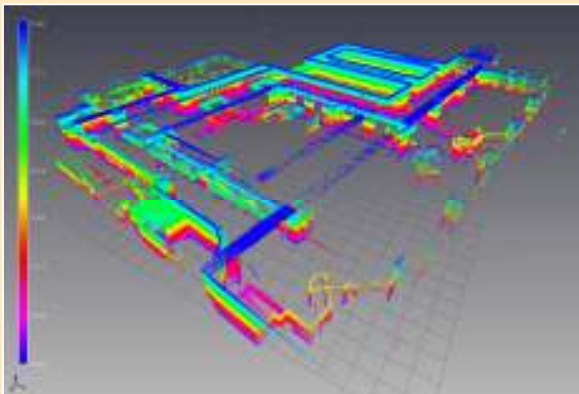
In providing the City with this BISDM-compliant data, PenBay has allowed them to extend their existing GIS data for a holistic, 3D GIS view of the City's busiest area to effectively address facility management, public safety, and real property issues.

“ Philadelphia is excited to be at the forefront of this tremendous advance in 3D in-building and sub-surface spatial data collection. Combined with other City initiatives, such as video surveillance and advanced enterprise GIS, we believe this will play a pivotal role in achieving the vision of making Philadelphia the safest large city in the nation. ”

James L. Querry, Jr.,  
Director of Enterprise GIS  
City Of Philadelphia



THE DATA PROVIDED TO THE CITY OF PHILADELPHIA, ALLOWED THEM TO EXTEND THEIR EXISTING GIS DATA FOR A COMPLETE UNDERSTANDING OF ONE OF THE CITY'S BUSIEST AREAS



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