Professor Sean Ahearn's testimony, Director, Center for Advanced Research of Spatial Information (CARSI). Geography Department, Hunter College – CUNY

Since the early 90's I have been working with the City of New York to build its Geographic Information Infrastructure (GIS). In a collaboration with the Department of Environmental Protection my Center for Advanced Research of Spatial Information (CARSI) managed and conducted quality assurance for the first photogrammetric base-map (i.e. NYCMap) in 1996, to which, all of the City's geographic layers are referenced. In addition to this new geographic base-map, we created the first high resolution Digital Elevation Model (i.e. 3 meters) for the City that was used to calculate flood levels for different storm surges by the City and FEMA. We continued to manage NYCMap until 2006 in collaboration with DOITT. The 911 crisis helped crystalize the importance of Geographic Information for emergency response. Under the leadership of Alan Leidner, DOITT Assistant Commissioner, and Head of City-wide GIS, a 24/7 Mapping and Data Analysis Center was set up at Pier 92. The preparatory work done prior to 911 to establish GIS for the City, and the Mapping and Data Analysis Center set up during the crisis, helped the City get back to normal many days even weeks sooner than without this preparation and leadership, saving the City hundreds of millions of dollars. In addition to its work on NYCMap, CARSI has played a key role in the response to 911, to the West Nile Virus crisis and in the creation of a digital GIS sewer database for the City. CARSI has trained over 60 Masters and Ph.D. students that work locally, regionally and nationally. In 2010, CARSI managed and did quality assurance for the first high density LiDAR data acquisition for the City of New York. These data supported the creation of the City's first Solar Map (https://nysolarmap.com). A byproduct of this work was the first Digital Surface Model (DSM) of the City at a resolution of 1 foot. ***This product can be used to very precisely calculate which parts of the City would be flooded given different storm surge levels.*** Despite these data being delivered to the City by my Lab in the fall of 2010, this work was never done. ***Nor was the relationships between flooding levels and critical infrastructure every analyzed.*** This oversight resulted in the CONED station blowing up, darkening lower Manhattan for days, and the loss of electricity at the NYU's Hospital, to name but a few of the avoidable disasters that occurred during Hurricane Sandy. In total billions of dollars needed to be spent, that could have been avoided, had the above analysis been done. Since then, I have notice a lack of coordination and expertise among Departments in NYC Government in the geospatial domain with remotely sensed data being commissioned without any understanding of how to insure its quality. What happened? Between 1999 and 2004 there was a Head of City-wide GIS, Alan Leidner, at the Assistant Commissioner level. After 2004 there was no one in the City with the same level of authority to coordinate Geo-spatial activities of strategic planning, data acquisition and standardization. It is time to make the position of City Chief Geospatial Information Officer (CGIO) in City Government a requisite part of the City's management structure. It is also necessary to develop a strategic plan for GIS and set up a steering committee to develop it and provide oversight for all GIS activities in the City.