

Carpe Geo & The Case for GIS Strategic Planning

Bill
~~William F.~~ Johnson
Carpe Geo Evangelist



February 25, 2019

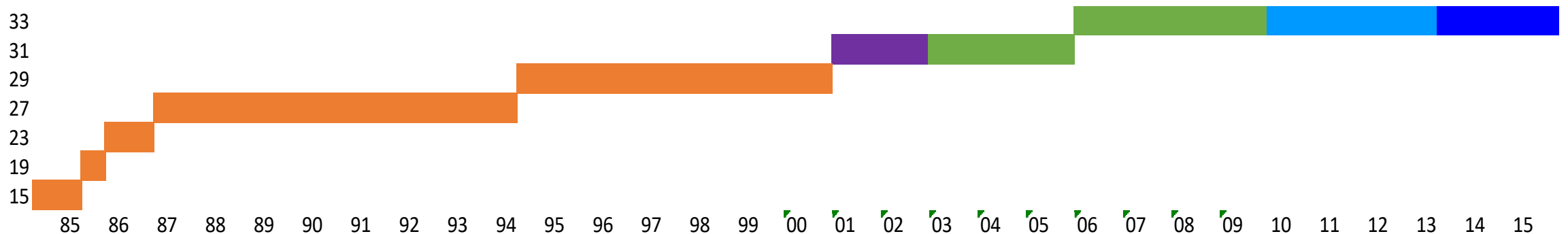
GISMO meeting

My first “real” job; DOT



31 year GIS career in State of NY

- Initially at the **Dept of Transportation (DOT)**
- Then the **Office For Technology (OFT)**
- Then **Cyber Security and Critical Infrastructure Coordination (CSCIC)**
- Then **Homeland Security & Emergency Svcs (DHSES)**
- Finally **Information Technology Services (ITS)**



Carpe Diem

Geo
Carpe ~~Diem~~

NYS 2100 COMMISSION

Recommendations to Improve the Strength and Resilience of the Empire State's Infrastructure



New York State State Agencies Search all of NY.gov

Governor Andrew M. Cuomo

Performance • Integrity • Pride

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NYS 2100 Commission

NYS 2100 COMMISSION

The NYS 2100 Commission is tasked with finding ways to improve the resilience and strength of the state's infrastructure in the face of natural disasters and other emergencies. The Commission will be co-chaired by Judith Rodin, President of the Rockefeller Foundation, and Felix G. Rohatyn, former Chairman of the Municipal Assistance Corporation. In addition to President Rodin's leadership and expertise, the Rockefeller Foundation will provide both staff expertise and other assistance in developing the Commission's report and recommendations. The Commission's preliminary recommendations are due January 3, 2013.

Resources

- Emergency Preparedness Home
- NYS Ready Commission
- NYS Respond Commission

Judicial Screening | FOIL | Internships | Privacy Policy | Disclaimer | Accessibility | Site Map | Contact

Contact Webmaster

<http://www.governor.ny.gov/assets/documents/NYS2100.pdf>

or just Google “NYS 2100”



The New York Shoreline

What do four centuries
in the historic record show?

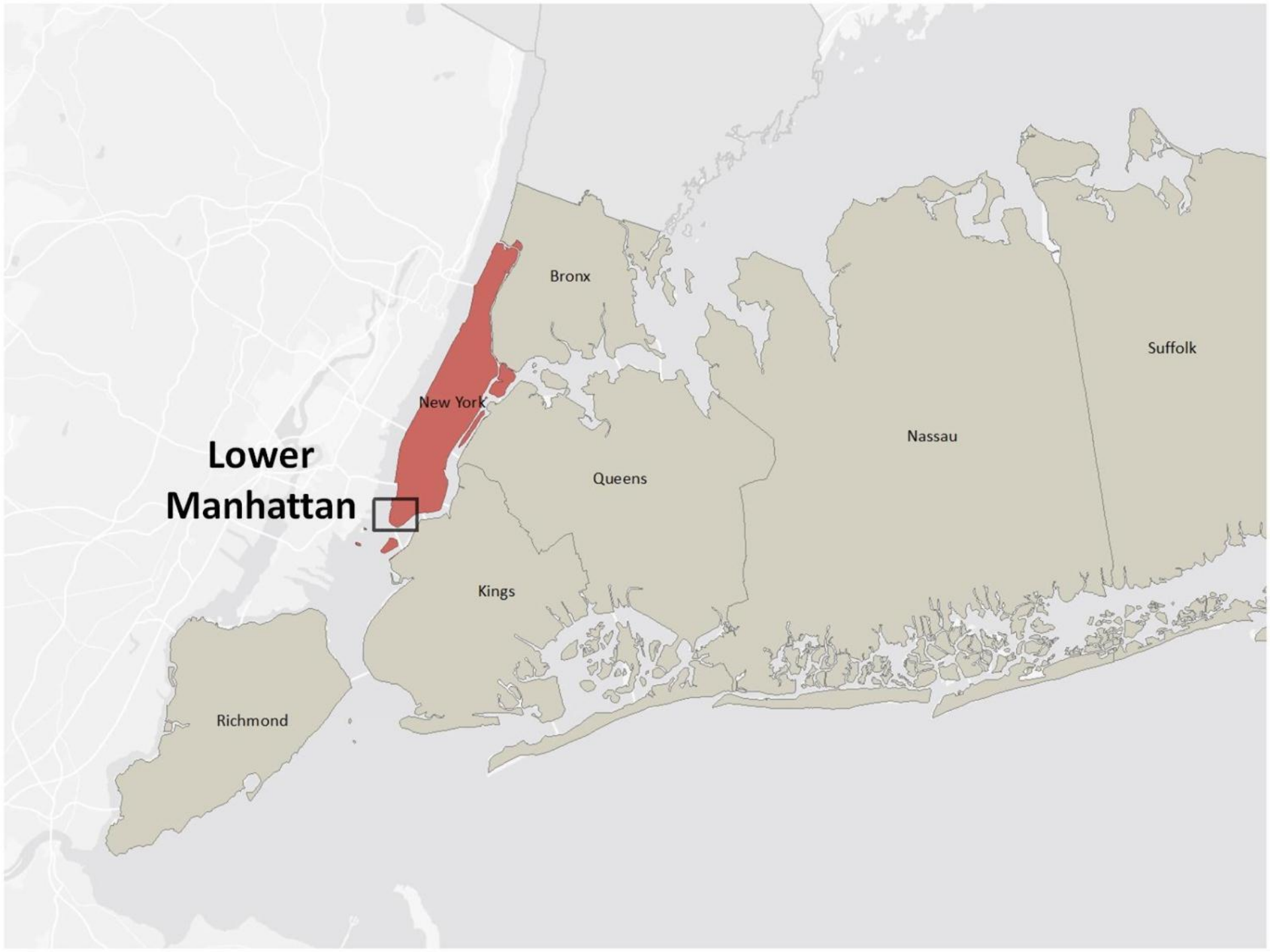
Bill

~~William F. Johnson~~

NYS Division of Homeland Security and Emergency Services

NYS Office for Information Technology Services

December 18, 2012



**Lower
Manhattan**

New York

Bronx

Queens

Kings

Richmond

Nassau

Suffolk



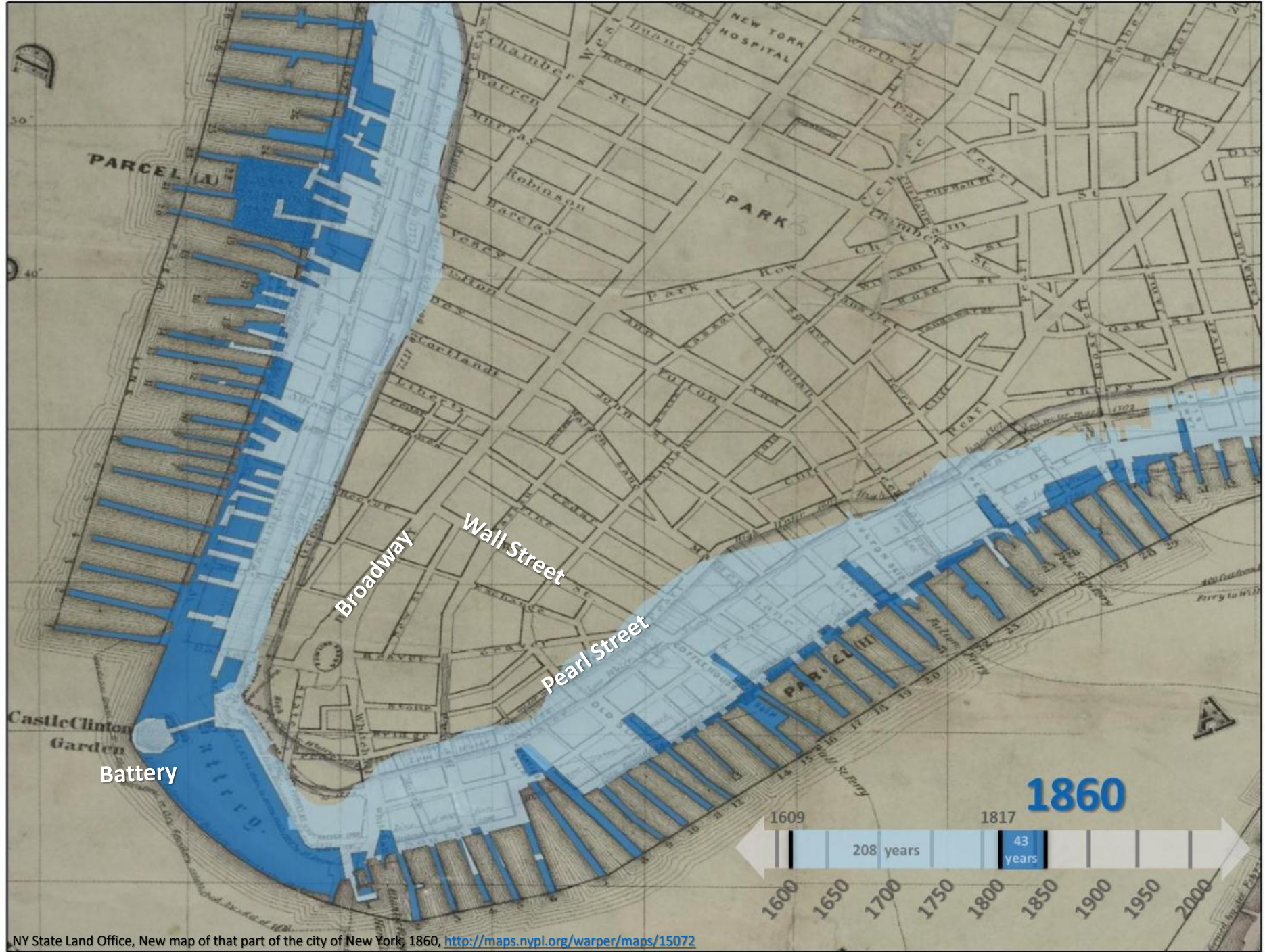
Map visualization from the Mannahatta Project:
<http://welikia.org/> and <http://www.oasisnyc.net/>



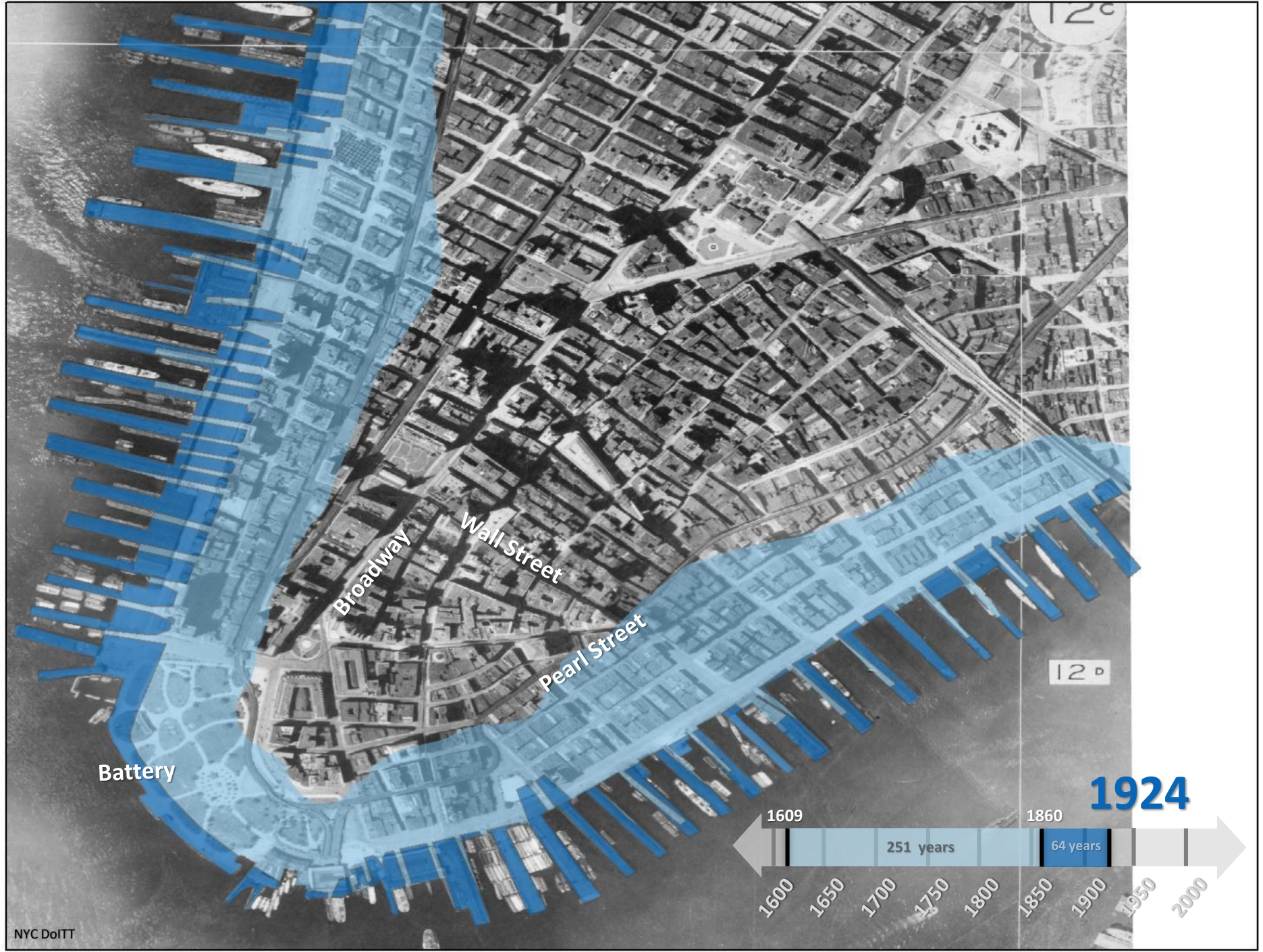
Map visualization from the Mannahatta Project: <http://welikia.org/> and <http://www.oasisnyc.net/>;
Cortelyou, *Castello plan*, 1660, New York Public Library, <http://maps.nypl.org/warper/maps/13913>

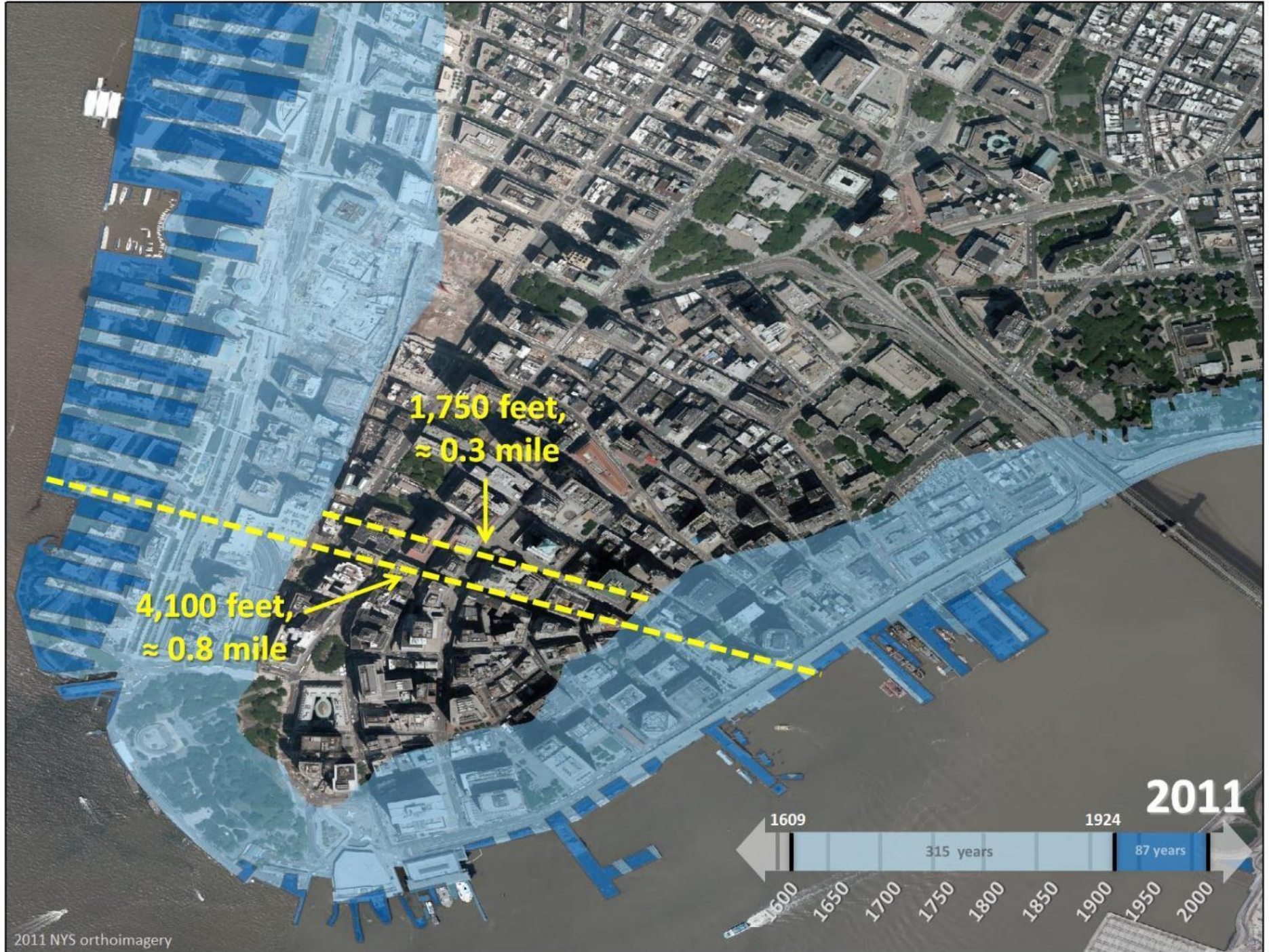


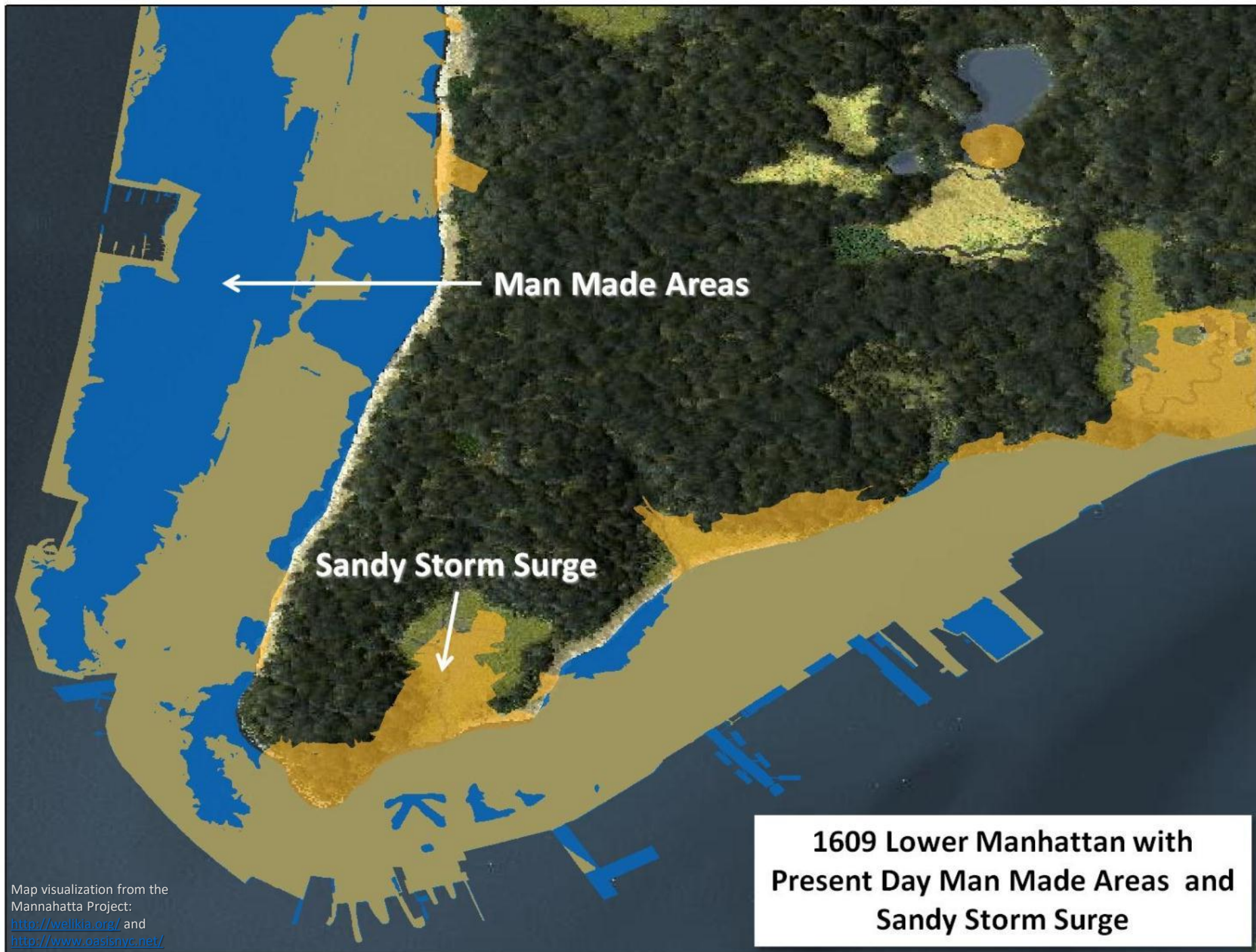




NY State Land Office, New map of that part of the city of New York, 1860, <http://maps.nypl.org/warper/maps/15072>







Policy discussion pivot

Parvum Momentum





Digital Orthoimagery

9-13-01



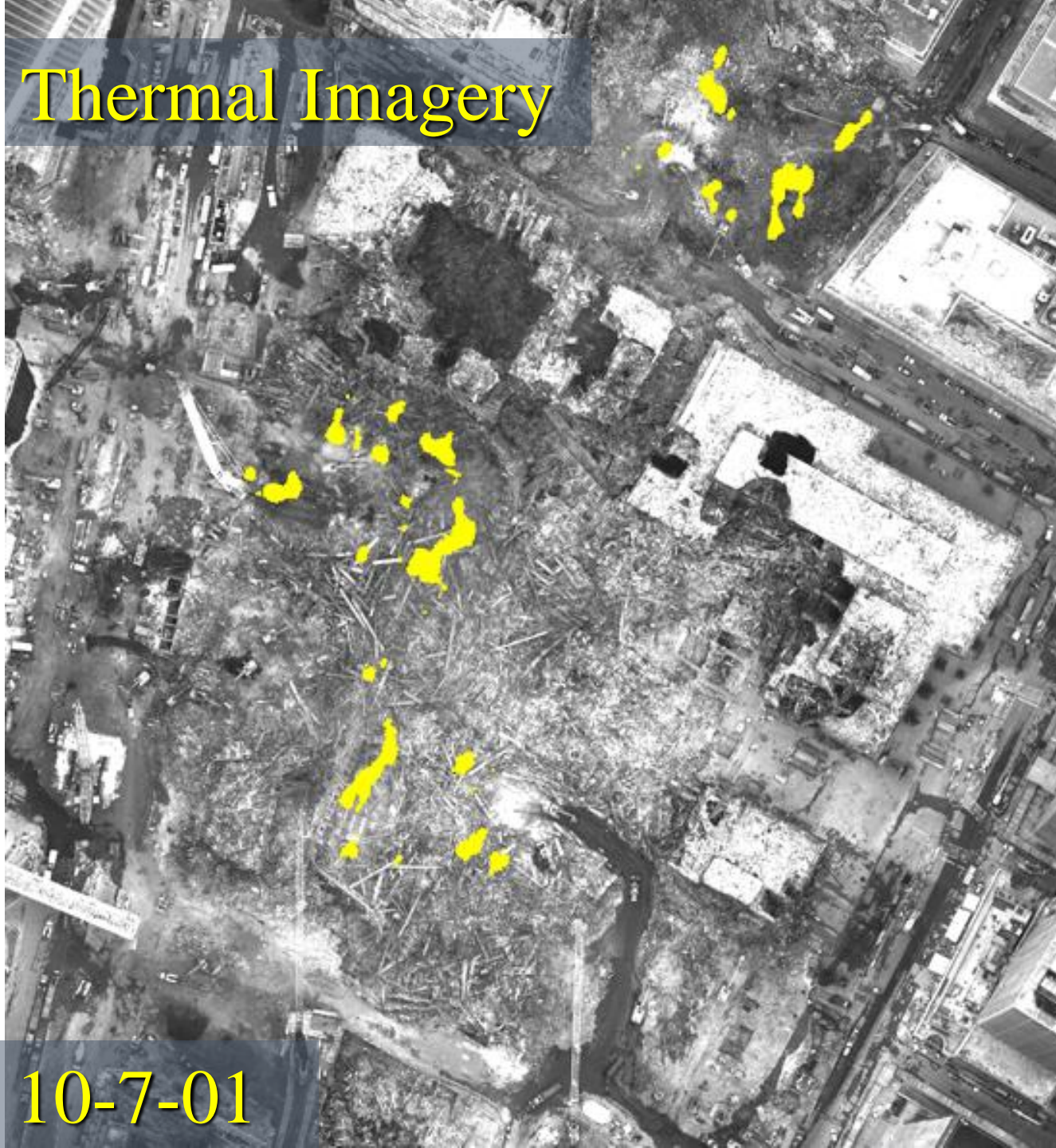
Digital Orthoimagery

9-30-01

LiDAR Data



Thermal Imagery



10-7-01







NYC Emergency Operations Center

27



Emergency Mapping and Data Center

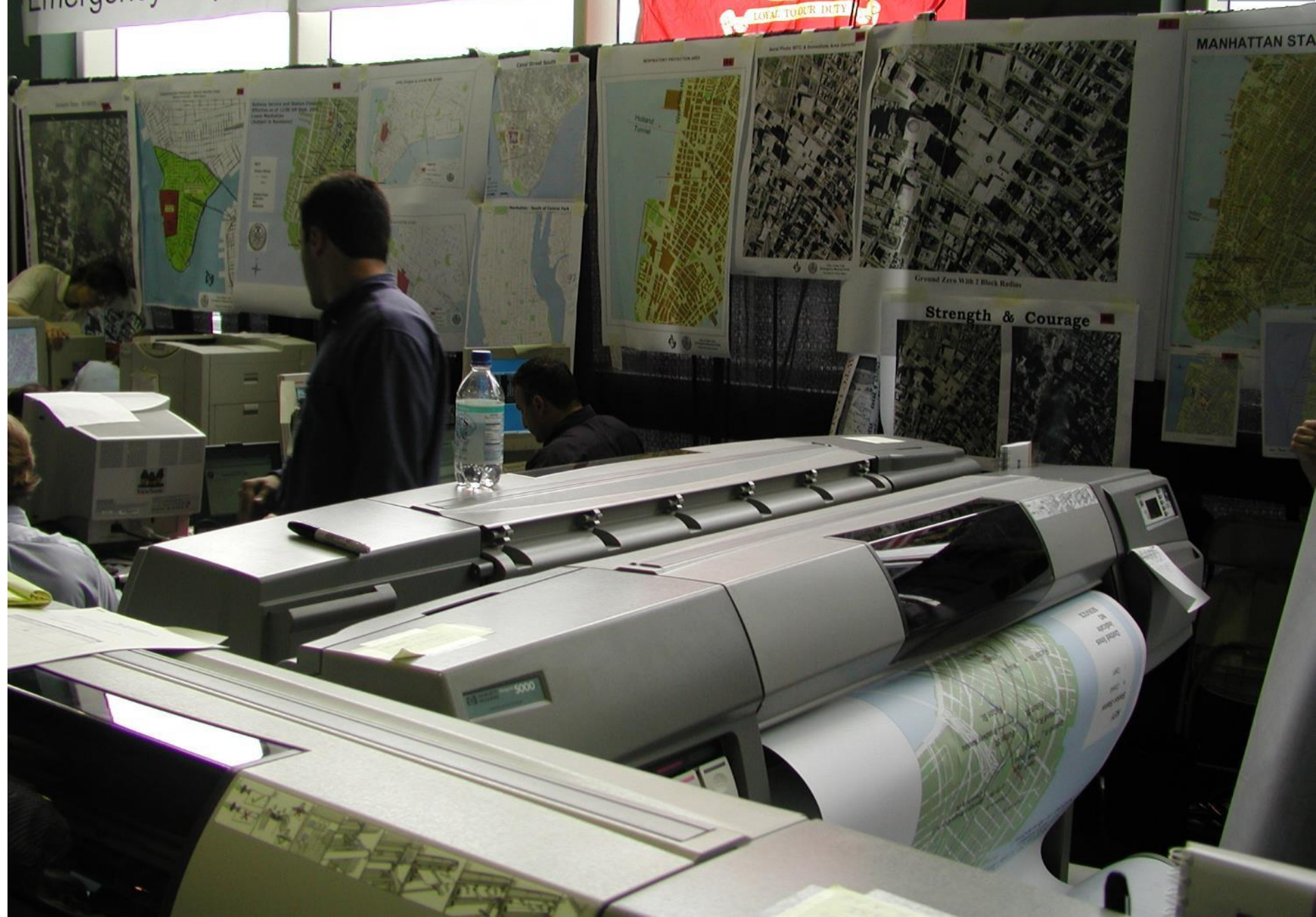


Cells



Emergency Mapping and Data Center

29





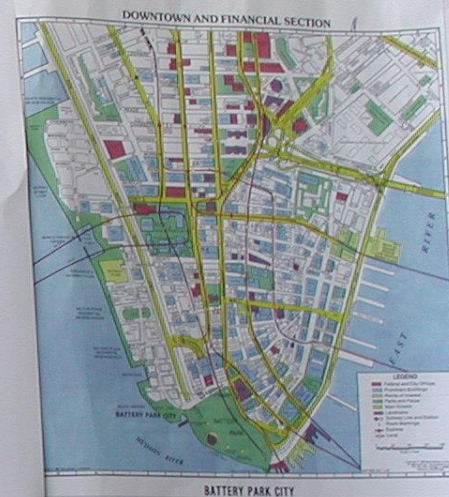
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City of New York
Emergency Mapping Center
Rudolph W. Giuliani, Mayor

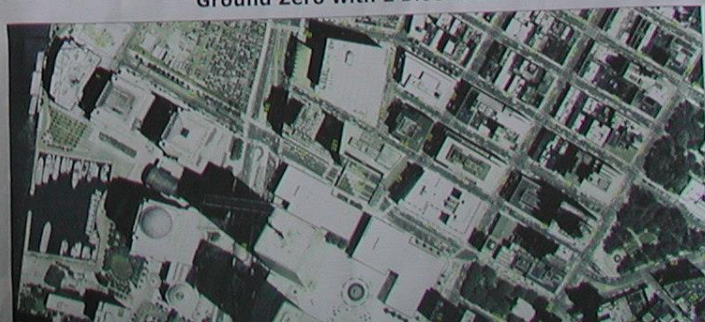


Diagrams
the com-
map is
taken.



Street Centerlines

27



What were the outcomes?

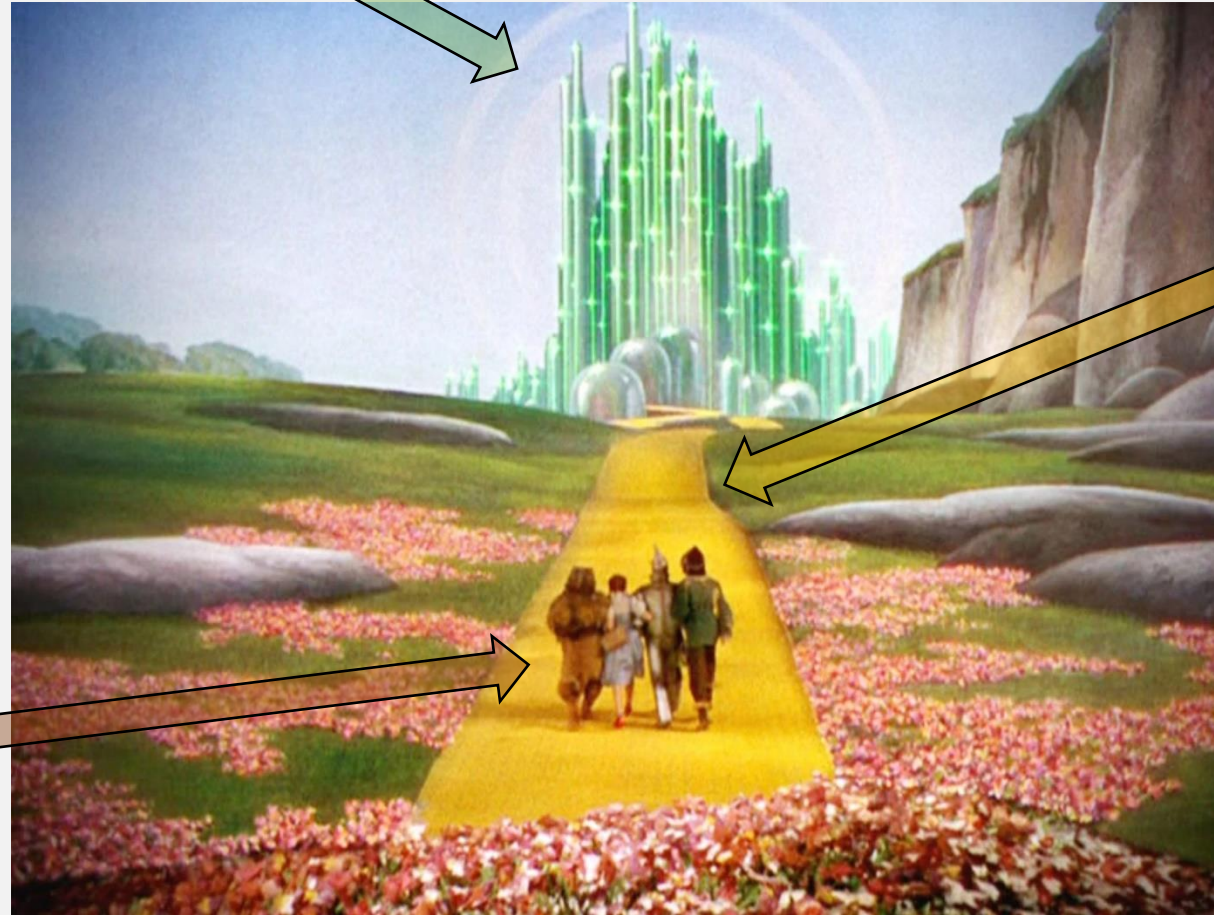
Where are we now?

What if...

The Vision

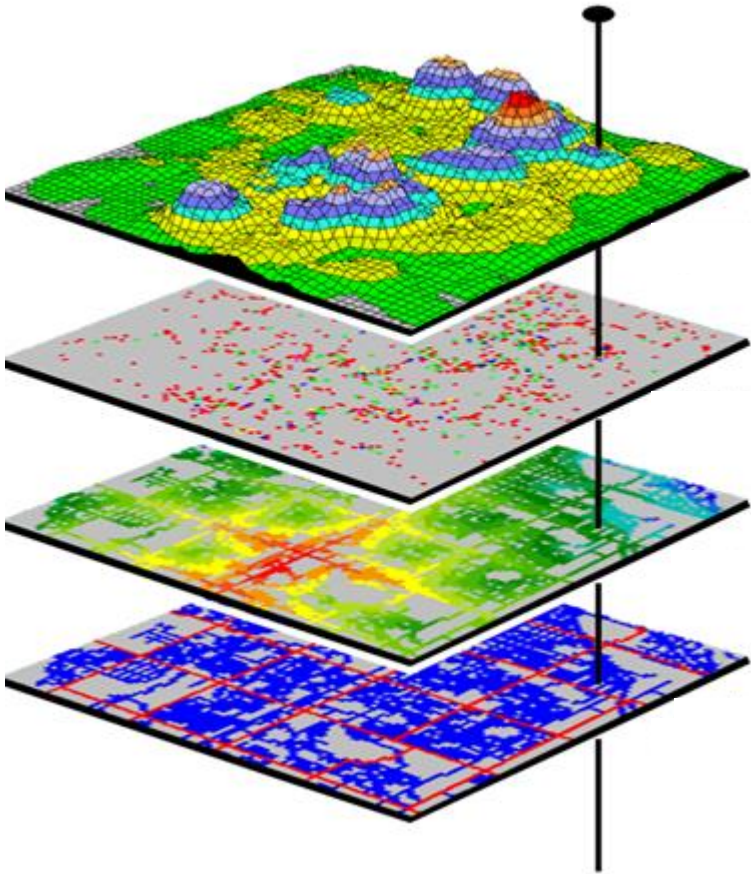
The Strategic Plan

The Stakeholders



Baum, L. F. (1939). The wizard of Oz. Hollywood, Calif.: Metro Goldwyn Mayer.

Let's think of your career in GIS terms

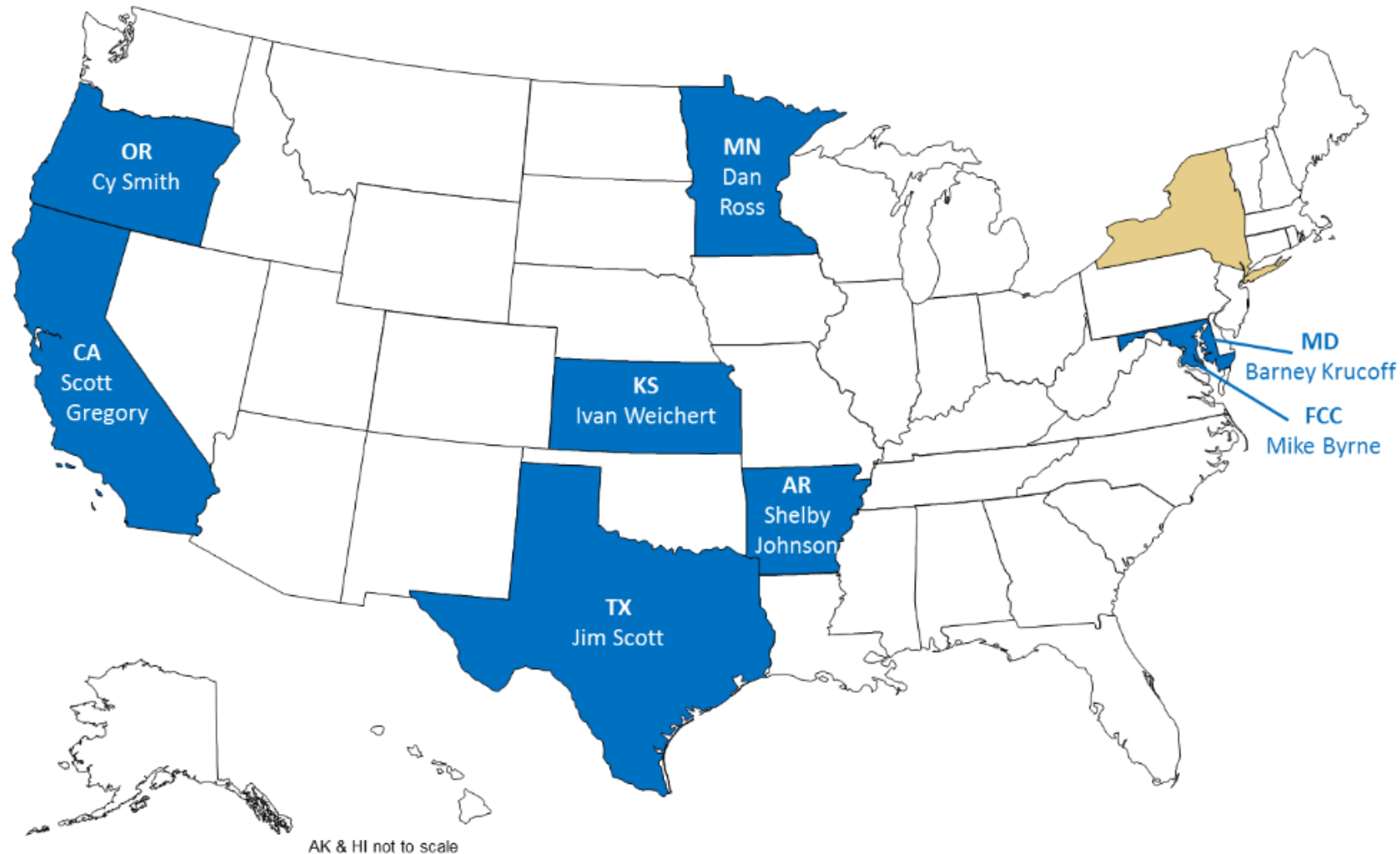


- *Carpe Geo* **Overlays** on top of the base layers:
 - Approach to solving problems
 - Political savvy
 - Ability to engage partners
 - Cat-herding
- **Base Layers:**
 - GIS fundamentals
 - Written and verbal communication
 - Organization
 - Analytics

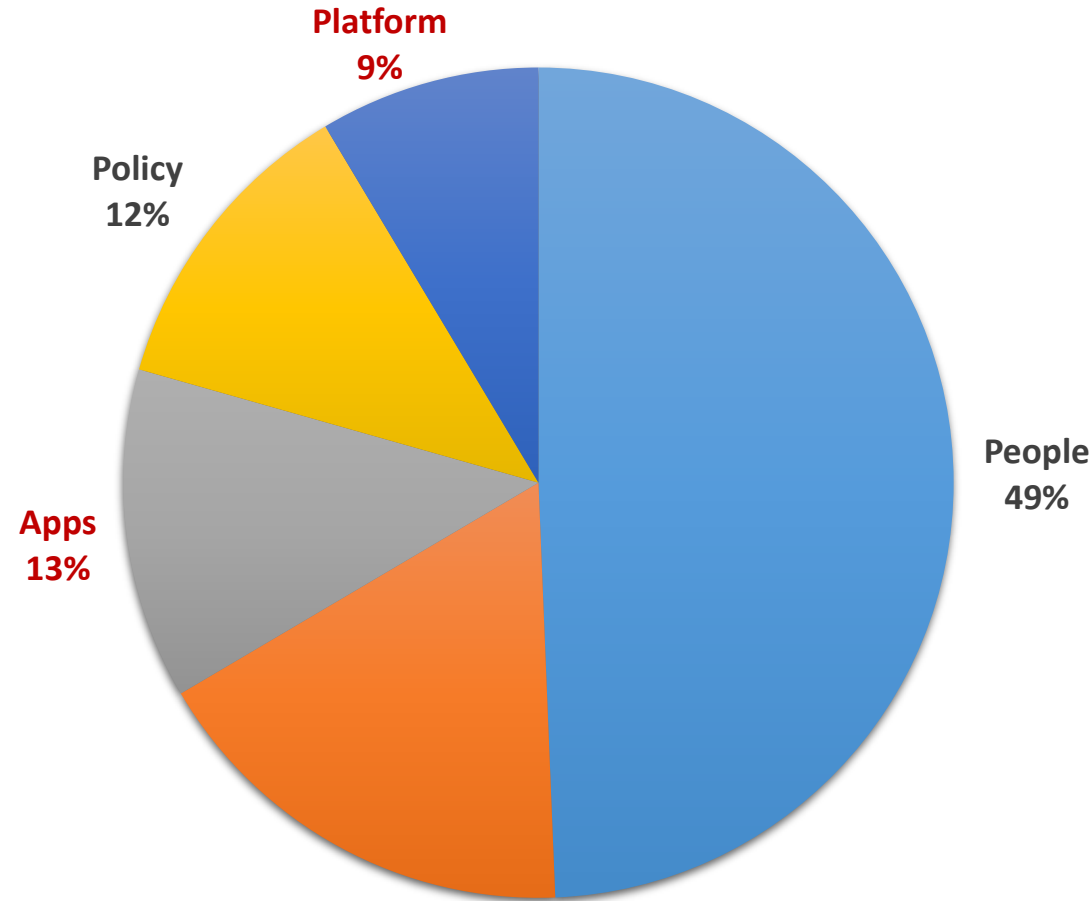
1. GIO Time Allocation Model



GIO Peer Benchmarking, circa 2013



GIO Priorities



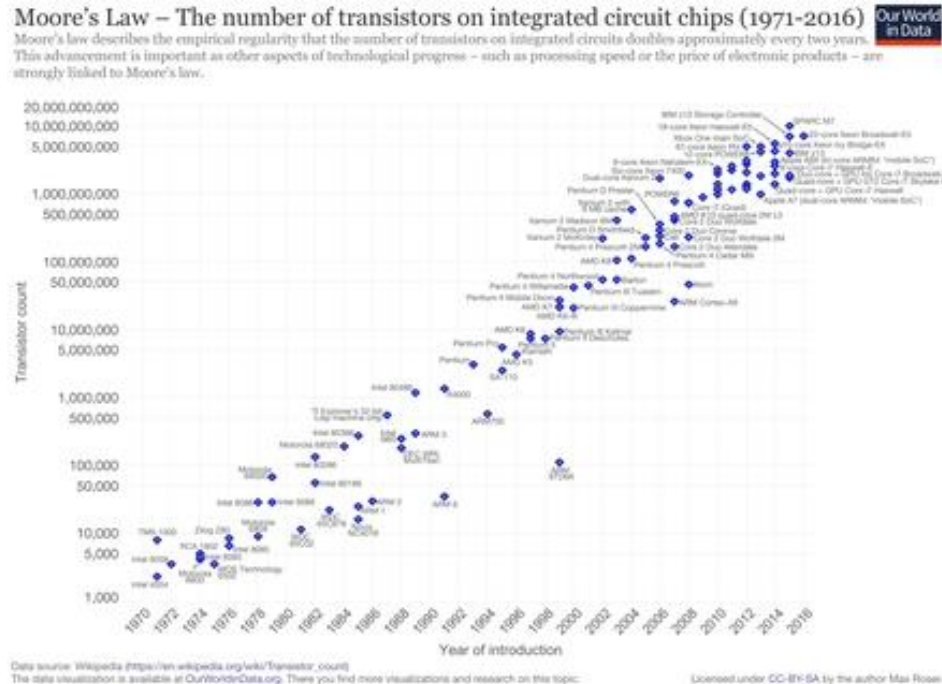
- Emphasis on People skills
 - Communication
 - Consensus-building
 - Gaining “buy-in”
 - Leadership
- Tech
 - All had tech backgrounds, are drawn to tech
 - Cited as a weakness; detracts from strategic priorities
- Policy
 - Range of opinions
 - Not enough attention

2. GIO Career Maturity Model



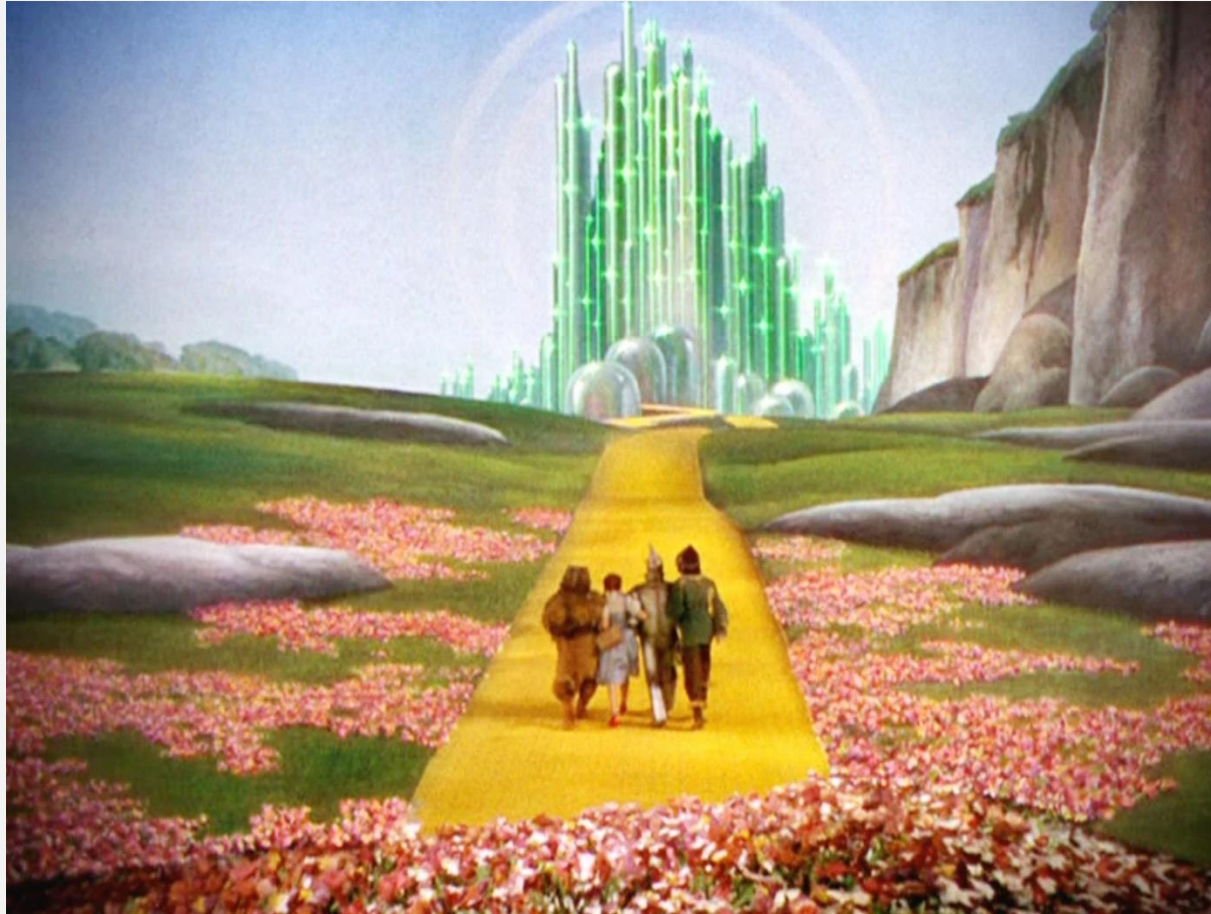
3. GIS Half-Life Model

- A decay function - the time required for any specified property (radioactivity of a specific isotope) to decrease by half.
- *Which elements of enterprise GIS decay most slowly? (i.e. have the most lasting value):*



- Tech (hardware/software)
- Data
- Partnerships
- Policies
- Training & Methods

How about it, NYC?



Baum, L. F. (1939). The wizard of Oz. Hollywood, Calif.: Metro Goldwyn Mayer.

Thank You



Effective Geospatial Strategic Planning

~

NYC GISMO Meeting
February 25, 2019

Kate Hickey
VP Consulting Services



How do you make a strategic plan
meaningful?

“Planning is everything. Plans are nothing.” – Dwight Eisenhower

“In reality, most plans are rendered useless almost as soon as they are put in motion.” – Simon Sinek

A large iceberg floating in a blue ocean under a blue sky with clouds. The tip of the iceberg is above the water, while the much larger, more complex structure is submerged below the surface. This visual metaphor represents the relationship between the visible goals of a strategy and the hidden, more substantial implementation details.

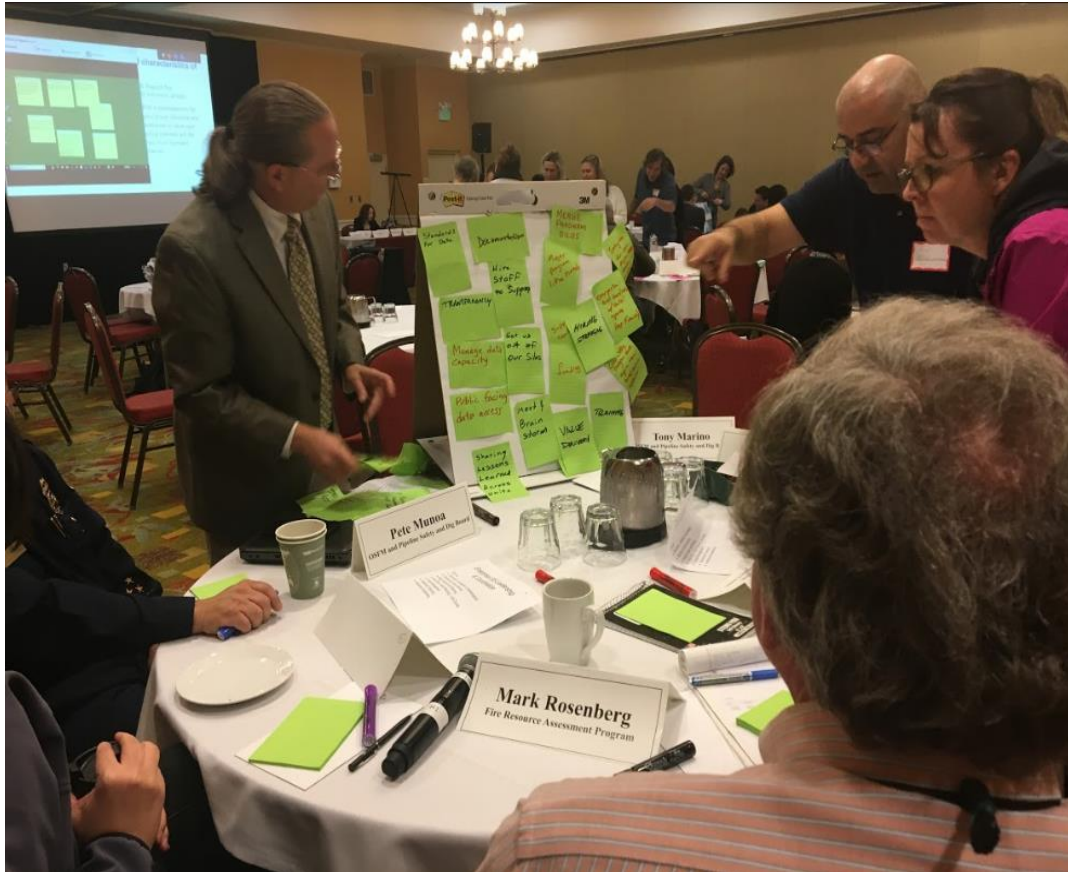
What should the GIS strategy be for the next 5 years?

How will you accomplish the goals (phasing, staffing, organizational structure, technology, data, budget, etc.)?

Geospatial Strategic Planning: 5 Key Success Factors

Key Success Factor #1: Engage Your Stakeholders Effectively

To capture varied perspectives and needs, facilitate an open and participatory information gathering process.



Key Success Factor #2: Assess Honestly

Assess the current situation, objectively.



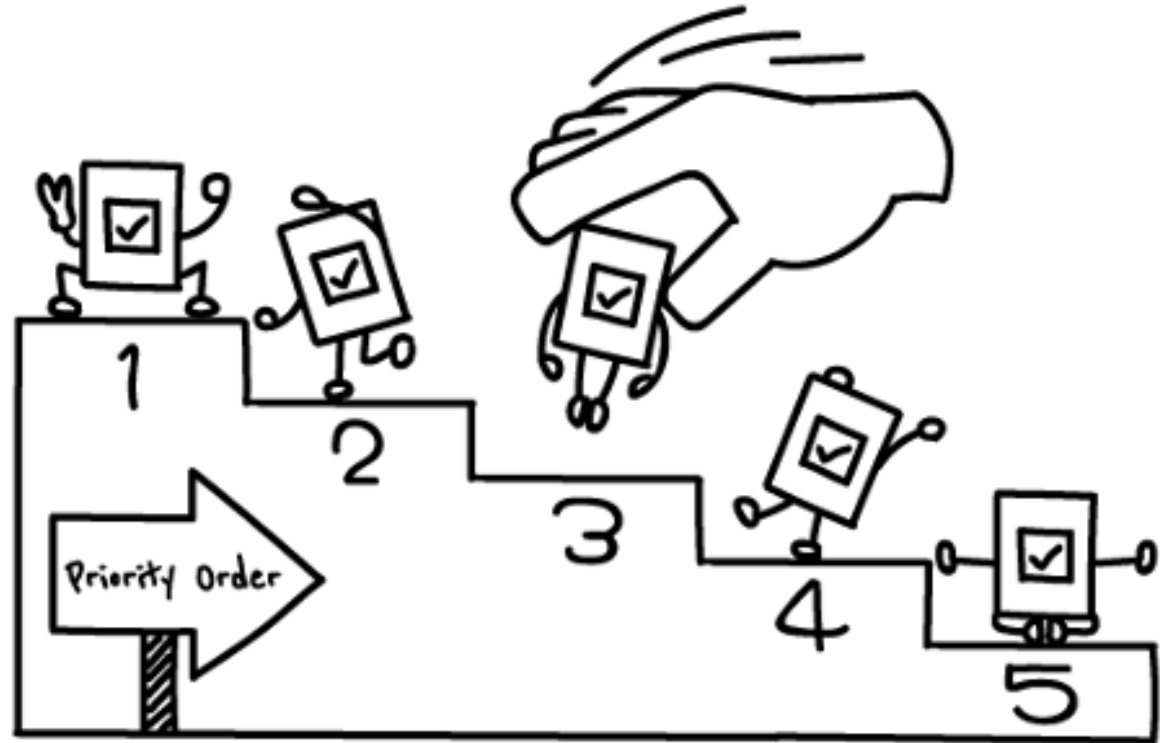
Key Success Factor #3: Articulate a Strong Vision

Establish a Vision that will serve as a guide and keep the plan on track.



Key Success Factor #4: Prioritize

Articulate programmatic goals that will guide decisions, prioritization, investments, divestments, over the coming 5 years.



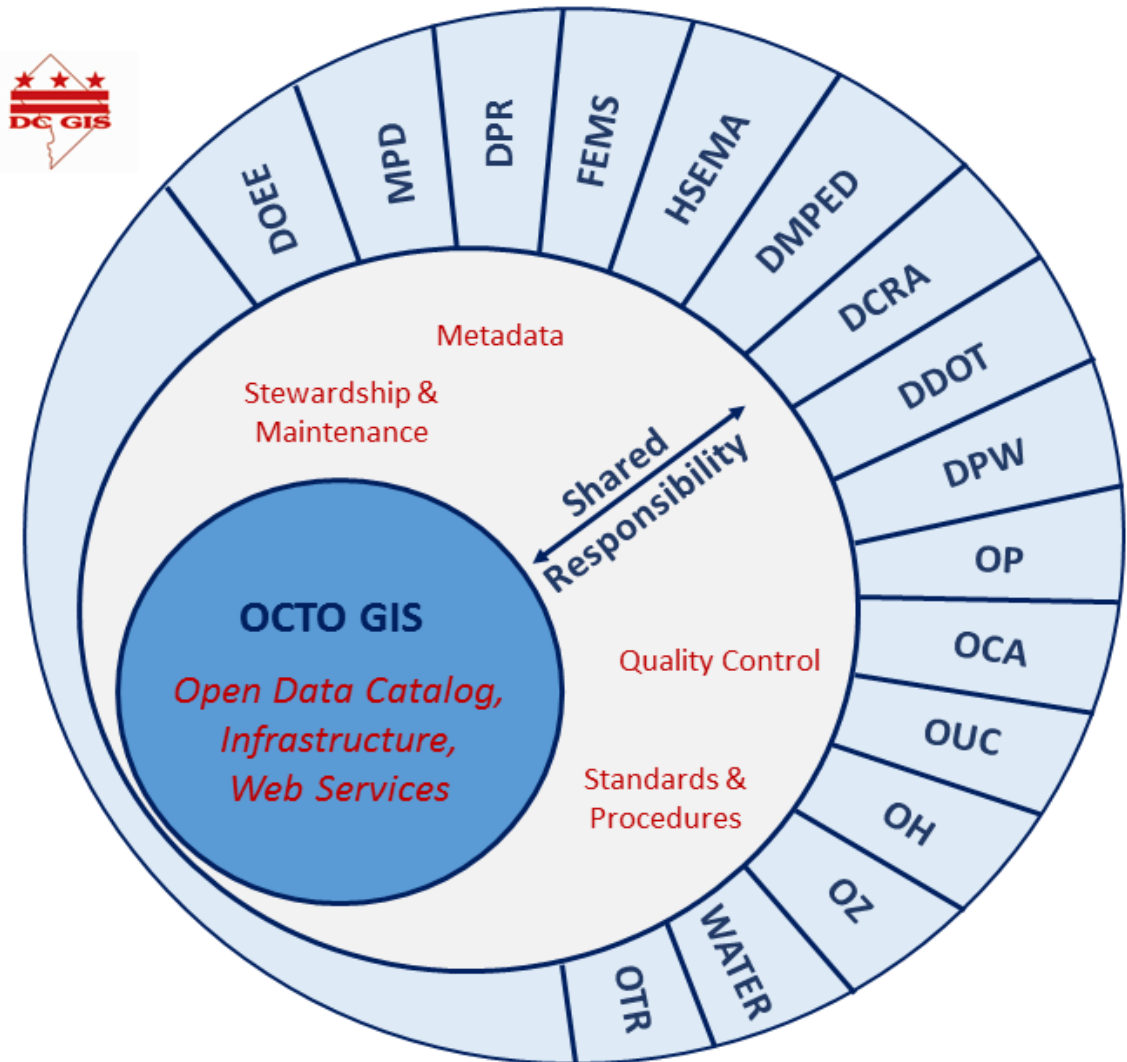
Key Success Factor #5: Measure Your Progress

Status		
Red = Not Started/Not Successful		
Yellow = Partially Complete/Partially Successful		
Green = Complete/Successful		
Programmatic Goals	Success Factors	Success Factor Status
Goal 1: Align with District Priorities: Ensure that state and local needs are met by focusing resources on geospatial data, systems, and program activities that are in alignment with District priorities.	<input type="checkbox"/> Focus on desired outcomes in support of CapStat	
	<input type="checkbox"/> Further the transparency of District Government	Ongoing
	<input type="checkbox"/> Support educational initiatives	Ongoing
Goal 2: Enterprise GIS: Develop and operate enterprise mapping data, geospatial applications, and Web services that enhance the utility, reduce the cost, and expand the interoperability of citywide and agency IT systems.	<input type="checkbox"/> Develop and maintain mapping programs	Ongoing
	<input type="checkbox"/> Deploy high-demand applications	Ongoing
	<input type="checkbox"/> Continue to develop Web Services	Ongoing
	<input type="checkbox"/> Expand and enhance DC GIS available data	Ongoing
	<input type="checkbox"/> Deploy mobile laptop apps for First Responders	
	<input type="checkbox"/> Adopt a standard for feature-level metadata	

Washington D.C.

A Little History of Geo in the District

- Long history of GIS services for citizens, government, businesses
- Federation of departments, each collecting/maintaining data for unique mission requirements
- Each responsible for particular content as “authoritative” steward
- GIS Group coordinates base data maintenance, distribution of data, licensing, technical/project support



A thriving, continuously evolving program

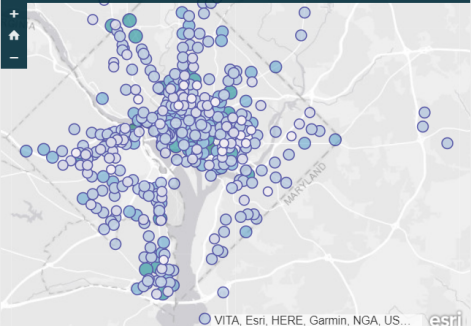
DC.gov

Sign In

Connect Web Services

The District of Columbia's Open Data program shares a variety of online services for you to integrate into applications and desktop tools. Use these to save time and avoid the uncertainty of having current data.

Bike Availability



Map Services

You don't need specialized GIS software to consume DC's map services. They are easily accessed within web browsers or custom applications. The data layers you see individually in Open Data DC, are also published as a REST endpoint. We do our best to organize them into categories.

For example, the Capital Bike Share REST endpoint appears in the Transportation category. It is one among several. The Bike Availability map seen here is overlaying the layer onto ArcGIS.com.


View all Transportation

DC.gov

Sign In

Published Apps and Data Uncovered

Jump into these government apps and dig up the data behind them.




Residential, Personal Property

DC Real Property

Identify ownership, personal property, assessments and parcels.

Data View




Green Infrastructure, Rain Garden

Green Infrastructure

See how DC gov, residents and businesses reduce storm runoff.

Data View




Southwest Waterfront

Flood Risk

Identify potential property and lands within FEMA flood risk-zones.

Data View



John A. Wilson Building, DC

District Gov Property

Research properties owned, operated, and or managed by DC.

Data View

DC.gov

Sign In

Addressing in DC

Finding and verifying addresses, place names, blocks and intersections.

The District of Columbia government uses the Master Address Repository (MAR) to implement intelligent search functionality for finding and verifying addresses, place names, blocks and intersections. It provides complete standardization of addressing components so that agency applications and systems maintain clean integration. Most often the MAR is solely known for its address points. But did you know it is also a web data service, a standalone app, a toolbar and website? Did you know uses of the MAR go beyond DC government and are

Mayor Muriel Bowser

What are you looking for today?

Menu

DC.gov octo.dc.gov

Office of the Chief Technology Officer

SHARE

DC GIS Steering Committee

The GISSC fosters communication and cooperation amongst the DC GIS stakeholder community including District agencies, federal agencies, non-profit, and private sector GIS users in the District of Columbia. It serves as the primary decision-making body to establish and implement DC GIS policies and standards. The Committee takes into account needs and resources while seeking multilateral input, participation and support in defining and approving GIS projects, setting priorities and working through timelines. [Email OCTO GIS](#) to receive information and click below to sign up for future meetings.

What's their secret weapon?

Portfolio Management

- First geospatial example in the nation
- IT portfolio management applied as a method for classifying investment
- Both current and future



CAL FIRE

Case Study #1 – CAL FIRE



CAL FIRE Budget (2018-2019).....\$2.3 billion

Personnel (numbers approximate)

Permanent.....6,100
Seasonal.....2,600
Inmates, Wards, Conservation Corps Members.....3,500
Volunteers In Prevention (VIPs).....600

Facilities

Region Operations Centers.....3
Emergency Command Centers.....21
CAL FIRE Units.....21
CAL FIRE Fire Stations.....234
Local Government Fire Stations (operated via contract).....568
Conservation Camps (including fire centers).....42
Air Attack Bases.....12
Helitack Bases10
State Fire Marshal Offices4

Demonstration State Forests.....8 forests/71,000 acres
Seed Bank/Nursery.....1
Lookouts16

CAL FIRE Equipment

Fire Engines343
Bulldozers58
Mobile Communications Centers.....6
Mobile Kitchen Units.....11

Airtankers.....23
Airtactical Planes17
Helicopters12

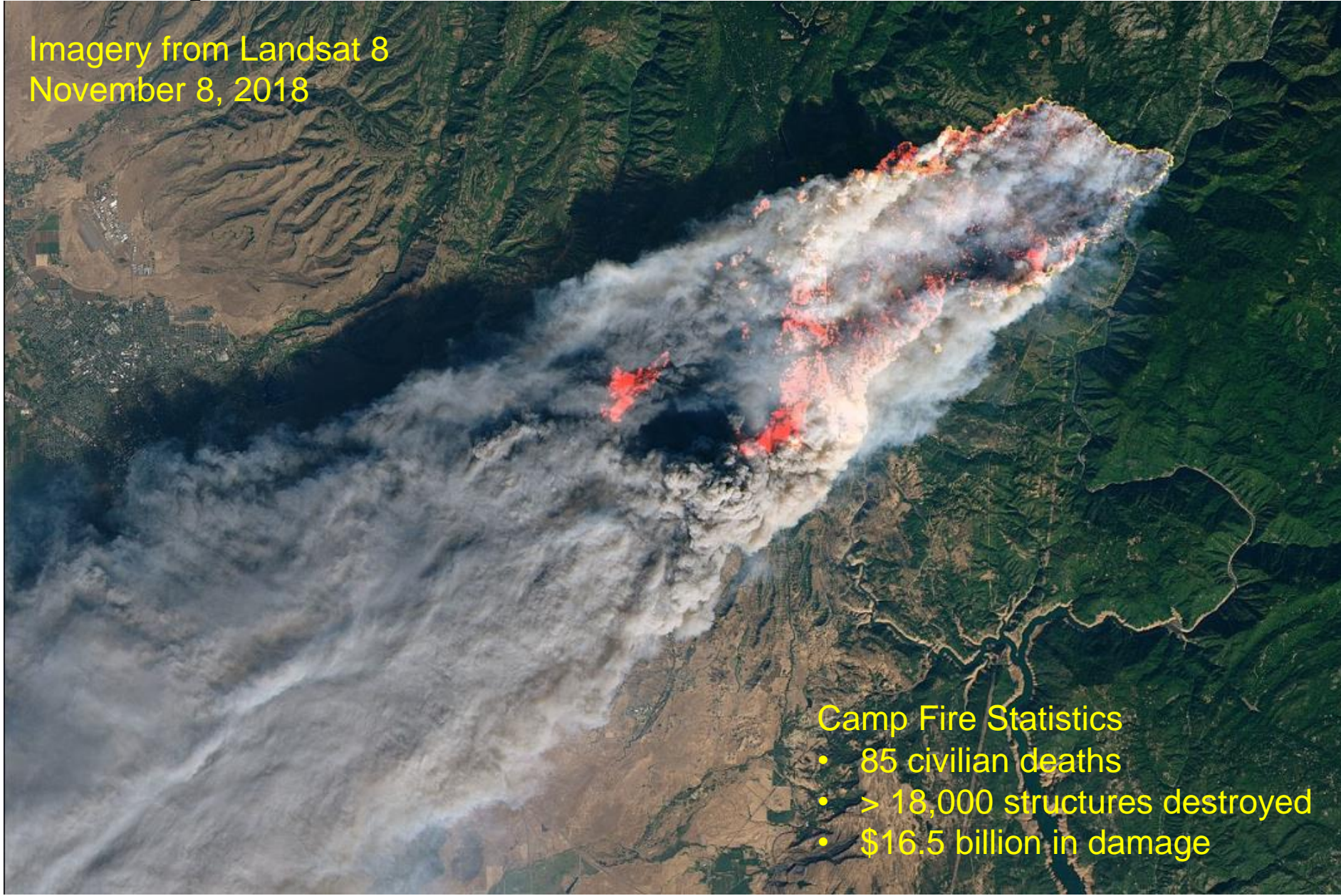
Firefighting Hand Crews196
Fuels Reduction Crews6

Fire and Emergency Responses (5-year average 2013-2017)

Wildland Fires (including SRA & LRA).....over 5,750
Wildland Acres Burned (including SRA & LRA).....over 265,000
All Emergency Incidents (including wildland, structure and vehicle fires, medical aids, hazardous material spills, etc.).. over 460,000

Case Study #1 – CAL FIRE

Imagery from Landsat 8
November 8, 2018



Camp Fire Statistics

- 85 civilian deaths
- > 18,000 structures destroyed
- \$16.5 billion in damage

Case Study #1 – CAL FIRE

- Cal Fire has BIG problems!
 - GIS grew organically in a “can do” environment
 - Lack of coordination is really, really risky in their business
 - Rapid change is happening! Potential for “data saturation”
- We’re writing an enterprise strategic plan to get them on track
 - It can be a BIG, complicated, messy, challenging process
 - They know their business but we bring structure, experience, perspective
- It will have an enormous impact on their planning and operations



What's next for NYC?

YOU HAVE REACHED THE SUMMIT

- ✓ Aligned
- ✓ Accessible
- ✓ Aware
- ✓ Supported
- ✓ Assessed (Continuously)



Thank You