3-1-1: Customer Response Management

- Integration of all complaints and service requests: dozens of stovepipe applications
- Identify spatial patterns
- Identify relationships between complaint and service types
- Identify inefficiencies and redesign services

DSNY Dump Out Complaints
Common Locations Between 1/1/03 - 3/31/03 and 4/1/03 - 6/30/03

DSNY Dump out complaints

Count of complaints

City of New York

Department of Information Technology & Telecommunications

Infrastructure Planning, Design, Construction and Maintenance

- Map capital infrastructure and assets
- Map current construction
- Map planning construction
- Integrate Mayoral, non-mayoral, authorities, City, State, Utilities, Private efforts
- Avoid conflicts
- Identify opportunities for collaboration and savings
- Inform public

Public Safety

- Even more detailed Compstat and operations support
- New FDNY/EMS/NYPD 9-1-1 with "perfect" dispatch locations
- E-9-1-1 to locate origen of call by cell phones
- Across agency tracking of key individuals: NYPD, Probation, Corrections, Parole
- Across agency exchange of information: NYPD, State Police, FBI, etc.
- Use 3-1-1 data to build predictive models (Hunter/CARSI)
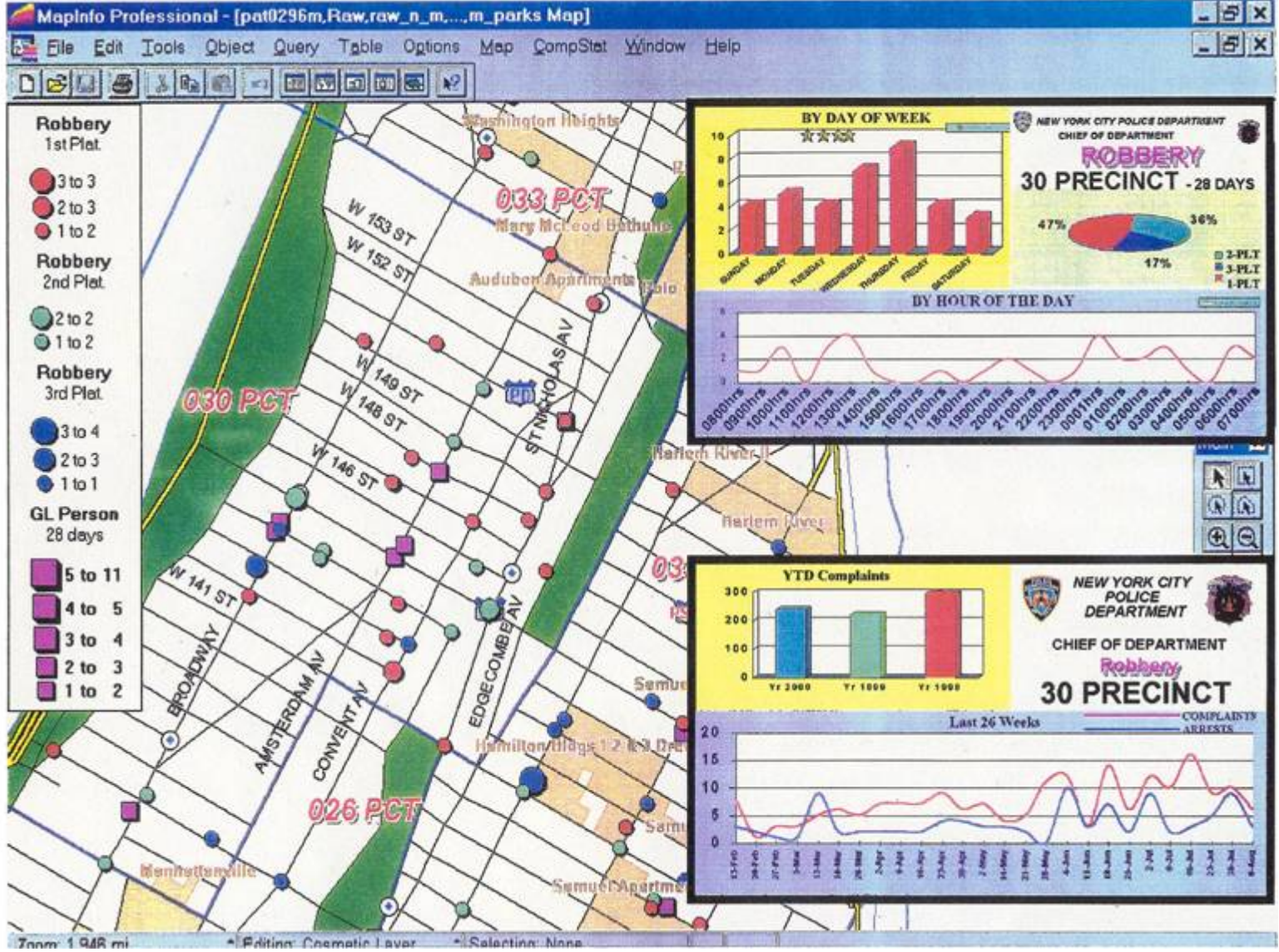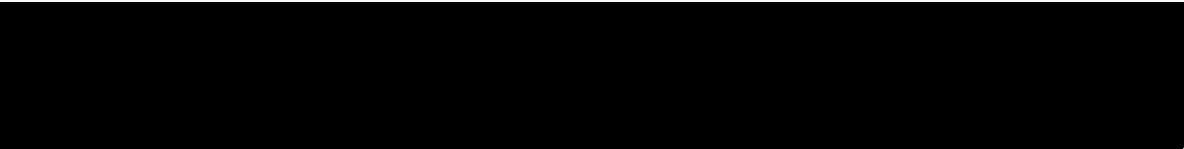
Revenue

- Comprehensive and up to date property and business owners database with current USPS addressing
- Real time update of parcel, building and address information along with imagery and feature mapping
- Easy search across dozens of revenue and violations databases for comprehensive view of owners, violators
- Collaboration tools uniting owner/violator research divisions in multiple agencies

Homeland Security

- Public Evacuation and Safety Plans (EMOLS)
- Mapped, digital subways layer showing critical features
- Mapped, digital building exteriors and interiors
- Traffic direction and routing
- Disease surveillance systems
- Ground sensor information
- Rapid downlink of aerial photography and remote sensing

Human Services

- Locate all service centers and service types
- Relate to location of customer
- TRIPS 1-2-3 for public transit routing
- Identify underserved populations
- Analyze patterns of need by neighborhood
- Improve program design
- Track individuals across programs and agencies

Transcom's TRIPS 1-2-3

-
- **From:**
- Where are you starting from? *Help!*
- (Items in Red are required.)
  Address, Intersection or Landmark
  City Zip

- (Enter direction as N, S, E, or W for street directions)

- **To:** Where are you going? *Help!*

  Address, Intersection or Landmark

  City Zip **Day:**

  Other:

- What day is your trip? *Help!*
  Select a day

  Other Options *Help!* Special Needs Itinerary Preference Carrier Preference Carrier to Consider
-

- **Time:** What time is your trip? *Help!* I'm leaving my starting point now I'm leaving my starting point as early as possible I'm leaving my starting point as late as possible
- I'm leaving my starting point at
       : AMPM I must arrive at my destination by
       : AMPM

Fully Enabled Field Personnel

- Wireless devices to access to all needed information
    - Digital image capture
    - Ticket issuance
    - Digital information capture at the source
    - Wireless access to maps and databases
    - Geo-Support and NYCMAP on a Tablet PC
- Routing and automated vehicle and work location with GPS/AVL

Health and Environmental Safety

- Disease surveillance and sensing
- Predictive models to anticipate disease outbreak
- Watershed monitoring and quality testing
- Environmental health analysis combining and analyzing information from DOH, DEP, EPA, H&H, etc.
- Plume dispersal models
- Protect first responders and public by combining hazmat database with combustible databases and others to comprehensively identify risks

My View of IT and GIS Post Retirement

This Is Only The Beginning

Assertion

Of All The Cities On Earth, New York City - because of its superior GIS capabilities - is in the best position to fully leverage its information and technology assets for the betterment of life

GIS Staffing Predictions

- GIS will become fully integrated in IT
- Every City Agency will have GIS
- GIS Directors will be at the Ass't Commissioner Level
- GIS experts will become MIS Directors
- 500% increase in City GIS personnel

National Predictions

- Spatially enabled information will become the foundation for Fed-State-City integration and collaboration

- Fed agencies will be dependent upon detailed City/State spatial data and maps

- National mapping efforts will be forced to include City/State practitioners as equals

Technology Predictions

- All City strategic data will be available via web services over the intranet and intranet and be easily used by all applications

- Data will be available anytime, anywhere and in any combinations required

- Regional, statewide and national data will be similarly available

- Every city worker will be tied electronically into this digital and graphic data web

Societal Prediction

The increased sharing of valuable information between government; the private and non-profit sectors; and communities and individual citizens, will increase social cohesion and collaboration, making New York City an even better place to live and do business

Prediction

Assuming:

- Digital parcel and right-of-way maps
- NYCMAP basemap available
- Mapped infrastructure layers and integrated information
- Re-engineered and web based permitting processes

Construction Time Reduced by 10 percent

Construction Costs Reduced 5 percent

Prediction

Assuming:

- The design of predictive crime models

- Integration of all relevant criminal justice information

- Use of detailed NYCMAP for Compstat

- A modern 911 system based on efficient use of spatial information

Violent Crime Can Be Reduced by 50% With a Murder Rate Under 300

Prediction

Assuming:

- Accurate Parcel and Right-of-Way Map
- Use of improved addressing information and mailing techniques
- Legislative requirements to keep addresses up to date
- Accurate capture of spatial info by field workers

A 35% Increase in Worker Productivity

A 2% Increase in Revenues = $1 Billion

Prediction

Assuming:

- NYCMAP and Geosupport are kept up to date
- Data analysis efforts concerning environmental health and disease incidence and patterns continue to grow
- Predictive models like WNV continue to be success
- Disease tracking techniques continue to be refined

A Measurable Reduction of Disease with An Increase in Life Expectancy

Prediction

Assuming:

- Expansion and refinement of 3-1-1

- Field worker use of mobile computers and GPS

- Use of vehicle and worker routing

- Availability of wireless telecom to field workers

- Re-engineering of agency processes to maximize use of technology

Minimum 25% Increase of Worker Productivity and Corresponding Improvement in Public Services

Prediction

Assuming:

- Health, Human and Education data is integrated across City, State and Federal agencies by personal ID and location
- Predictive behavior models can be built to identify needed interventions
- Prevention services receive adequate funding and staffing

A Substantial Improvement In Social and Physical Health is Possible including higher education levels, higher employment, less homelessness, lower crime