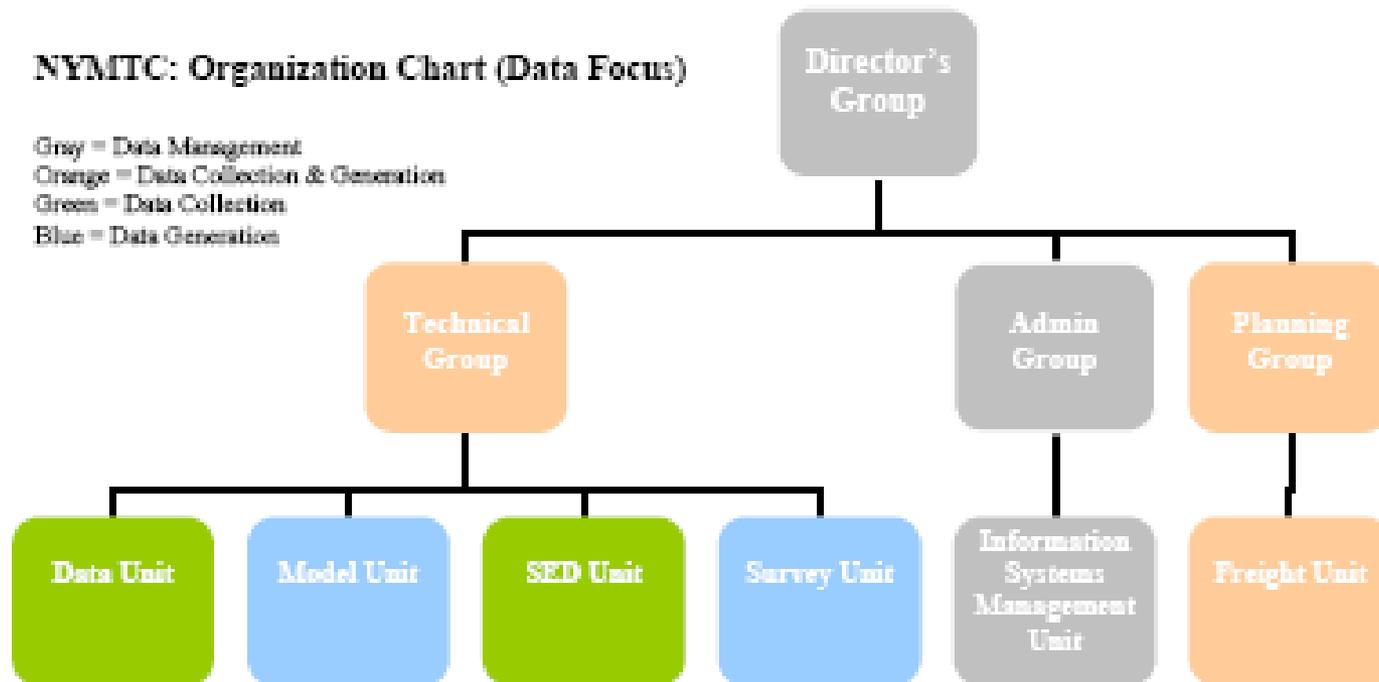# Regional Strategic Data Assessment

Application of Emergent Technologies and Timely Information Sharing for the New York Metropolitan Transportation Council.

Richard Barone – NYMTC September 11th Memorial Program - Brownbag Presentation: 9/21/07
Advisors; Kuo-Ann Chiao & Munnesh Patel

Organizational Overview -

The 3 Primary Data Handling Departments: Technical, Administrative, & Planning

NYMTC: Organization Chart (Data Focus)

Gray = Data Management
Orange = Data Collection & Generation
Green = Data Collection
Blue = Data Generation

Critical Analysis -

Current Data Practices:

❑ Lack of consistent formats – hardcopy/digital

❑ Various different "File Types"

❑ Data is not defined, little
   or no Metadata

❑ Collection procedures are not
   standardized

❑ Silos of Data, no central repository

Multiple Silos of Data   3

Critical Analysis -

File Types and Formats

Report/Survey Name or File Name	Type	Format
Household Travel Survey Data	OTHER	Digital
Report: Travel Patterns in the New York Metropolitan Area, File: Long Island Ferry	WORD	Digital
Report: Travel Patterns in the New York Metropolitan Area; File: Suburb Buses Ridership - Suffolk County Buses	Excel	Hardcopy
Report Name: 2005 Truck Toll Volumes, File Name: Comparison of Quarterly PANY&NJ Truck Toll Volume by Facility	Excel	Digital
Report Name: 2005 Truck Toll Volumes, File Name: Comparison of Quarterly MTA B&T Truck Toll Volume by Facility	Excel	Digital
Section A - Bus Transit by Sector	Excel	Digital
Section B - Subway by Sector	Excel	Digital
Section C - Suburban and Intercity Rail by Sector	Excel	Digital
Section E - Vehicles by facility	Excel	Digital
Section F - Ferry & Tramway Passengers by Facility	Excel	Digital
Section G - Bicycle Volumes by Sector	Excel	Hardcopy
NYC Transit Fleet size	PDF	Hardcopy
Metro North Vehicle miles traveled	PDF	Hardcopy
LIRR annual Passengers	PDF	Hardcopy
JKF annual passengers	PDF	Hardcopy
Housing Permits	PDF	Hardcopy
Passenger Car Registrations	OTHER	Hardcopy
Population	OTHER	Hardcopy
Table 1 Total Number of Motor Vehicle Crashes	Excel	Hardcopy
Table 46 - Transit Accidents	PDF	Hardcopy

✓ Word
✓ Excel
✓ D-Base
✓ SPSS
✓ CSV
✓ Shapefiles
✓ TransCAD (Networks)

Survey of data collected by NYMTC staff – Spring 2007

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Critical Analysis -

Collection and Storage

Lacking standard collection procedures and primary contact distribution

Little consistency on how the data is collected

Overlap/duplication between and within groups

Fragmented and unmanaged data storage
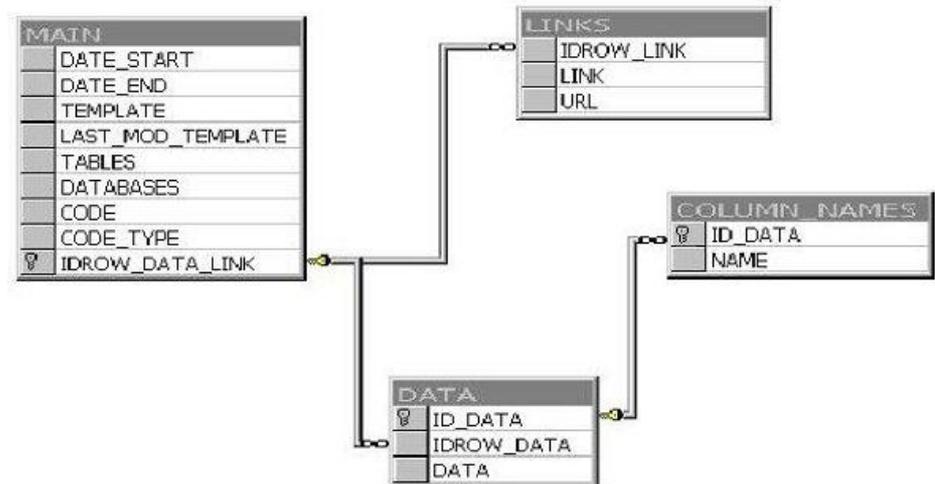
Regional Strategic Data Assessment

Five Point Strategy - Articulated

1 - Compatibility

2 - Definition

3 - Collection

4 - Organization

5 - Accessibility

Five Point Strategy -

Compatibility: *Standardize Data Format – NYMTC should acquire data in digital formats with linking fields*

Five Point Strategy -

Definition: *Require Metadata – All data should include titles, keywords, and field/attribute descriptions*

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Five Point Strategy -

Collection: *Create a Uniform Process for Data Collection*

Formalize Relationships for Data Collection & Dedicated Analyst

Five Point Strategy -

Organization: *Install an Enterprise Level Data Repository/Warehouse*
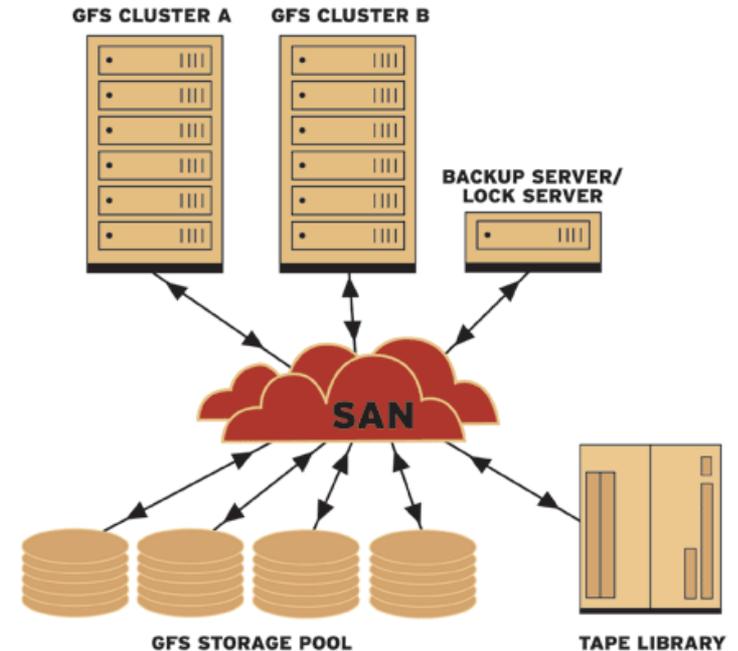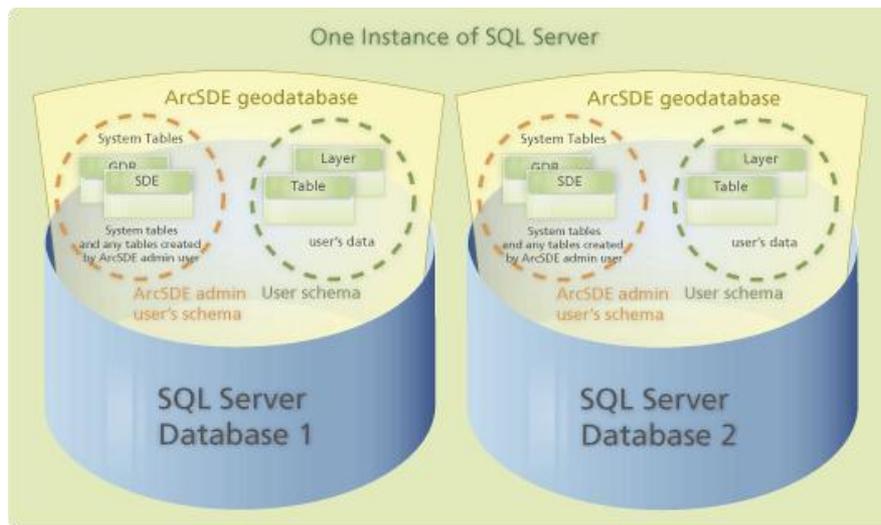
Implement an Enterprise Level Data Warehouse & Storage Schema

Five Point Strategy -

Accessibility: *Develop GIS and Additional Web Applications to Allow for Maximum Access to Data.*

Table Builder Web-based Applications

GIS Applications

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Implemented Technologies & Future Steps -

Current Tools

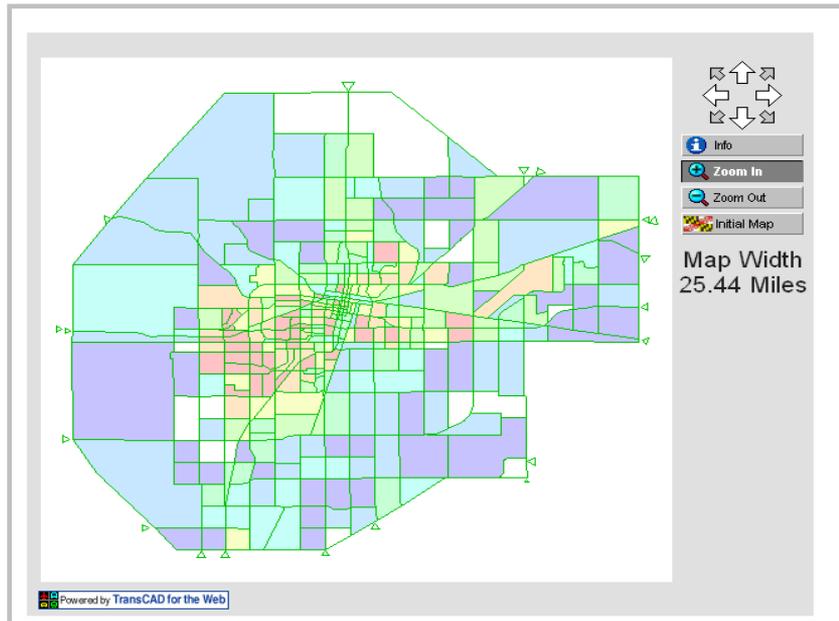

Project Information Management System (PIMS)

Unified Planning Work Program (UPWP) Online
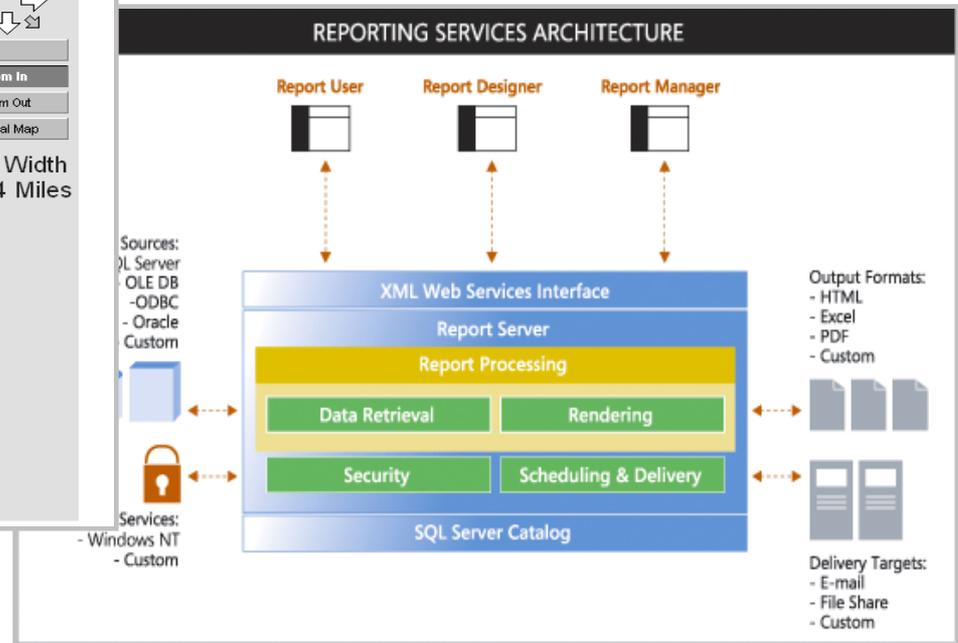
Implemented Technologies & Future Steps -

Planned Tools

Best Practice Model & Caliper – TransCAD for the Web

Transportation Information Gateway & Website Redesign (CMS)

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Five Point Strategy - Review

Organizational Benefits

- Greater public access to NYMTC's data offerings.

- Reduction in information request loads on Analysts, freeing up time to focus on improving data offerings.

- Greatly improved internal efficiencies through centralized data repository and management.

- Reduced misinterpretation of fields in data-sets.

- Improved data redundancy and disaster recovery ability.

Concluding Thoughts -

Recommendations

- Implementation of Five Part Data Management Strategy

- Integrate existing web-based applications and data sources

- Create a robust disaster recovery plan around new data management practices

- Expedite data sharing/collaboration initiatives that are in the development pipeline: TIG & NYMTC Website Redesign (CMS)

THANK YOU

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QUESTIONS/COMMENTS