District of Columbia
Geographic Information System
Steering Committee
October 11, 2011

Matt Crossett
GIS Manager (Interim)
District of Columbia
Office of the Chief Technology Officer
matthew.crossett@dc.gov
202-442.7100

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DC GIS

Agenda

- GISSC Business
- GIS News
- Presentation and Adoption of Business Plan – Rich Grady (AppGeo)
- Data Report – Mario Field
- Training Report – Eva Stern
- Presentation on ArcGIS.com – Anthony Puzzo (ESRI)

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Introductions & Quorum

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Minutes from last meeting

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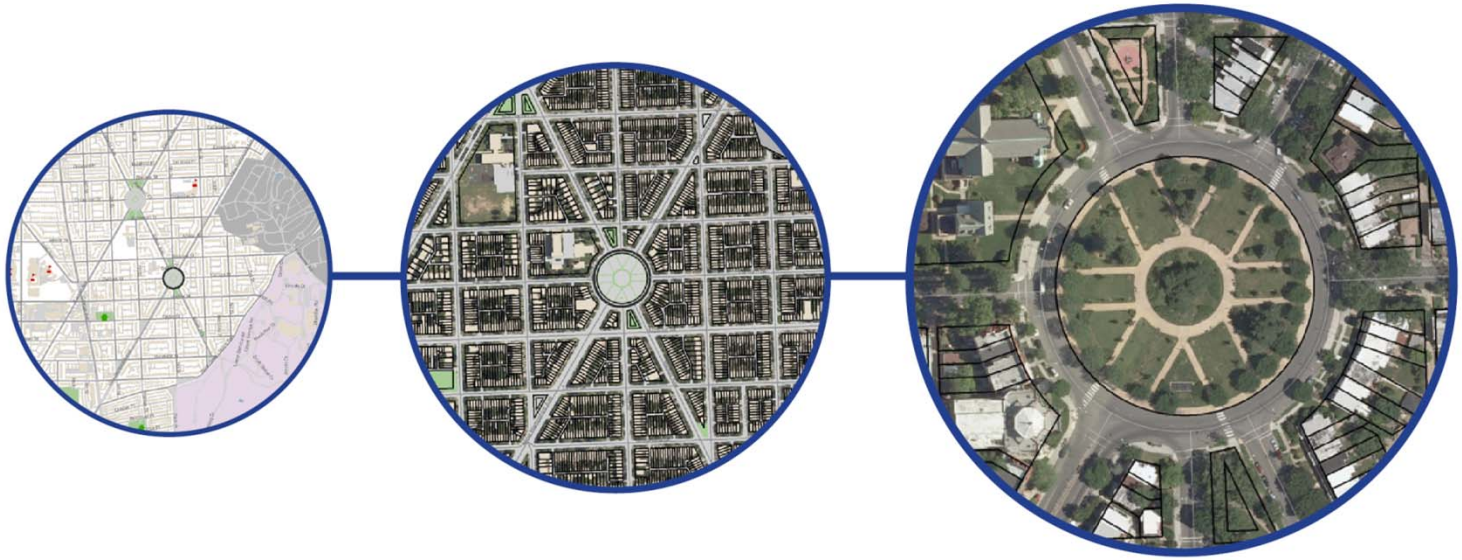
News and Notes

- Leadership change @ OCTO GIS-position open until filled
- Launch of 311 App
- Completion of Arc2Earth Project
- Close out of Downtown BID SY Project
- Increased Cluster 5 memory by 50%
- Fall 2011Broadband deliverable completed
- Shutdown of Legacy 9.2 Citrix
- MAR Sample Client and Service changes for Re-Districting
- Published Finalized Business Plan, grant closed out; its ready for adoption!
- ESRI ELA Amendment #3

DC GIS Business Plan 2011: Overview

11 October 2011

Cover image from DC Atlas: Grant Circle, Washington, DC, at three scales -- 1:10,000; 1:4800; and 1:1200.



Business Plan Outline

- *Executive Summary*
- OCTO GIS Program Teams & DC GIS Goals
- Program Justification
- Key Technology Trends
- Applying Portfolio Management
- DC GIS Platforms by Program Area and Organizational Component
- Implementation
- *Appendices*

Executive Summary

- Flows from DC GIS Strategic Plan (2009)
- Focuses on two of the strategic goals, to provide:
  - Mapping Data, Geospatial Applications, Web Services
  - Customer Service
- Applies Portfolio Management
  - Defines Platforms
  - Describes Investment Strategies

Executive Summary (cont'd)

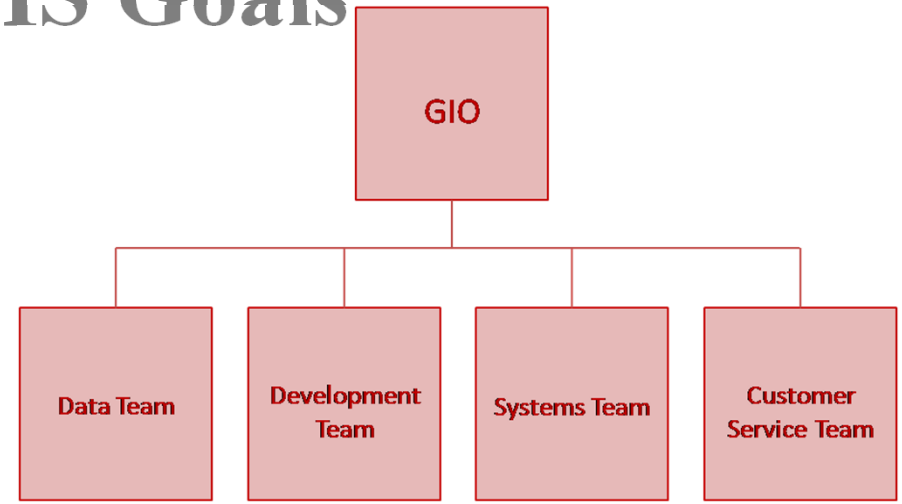
- Need new data for **3D buildings**, street-level imagery, and utilities
- Need support for **routing applications**
- Need to continue to build and promote **Web services**
- Fewer desktop applications, and **more mobile applications**
- Need to schedule **GISSC ExecCom Budget Meeting**

Executive Summary: Budget Allocation

Program Element	2010 Actual	2011 Actual	2012 Planned
Data	$1.9 m	$1.8 m	$1.9 m
Devel. & Systems	$1.5 m	$3.1 m	$1.4 m
Total	**$3.4 m**	**$4.9 m**	**$3.3 m**

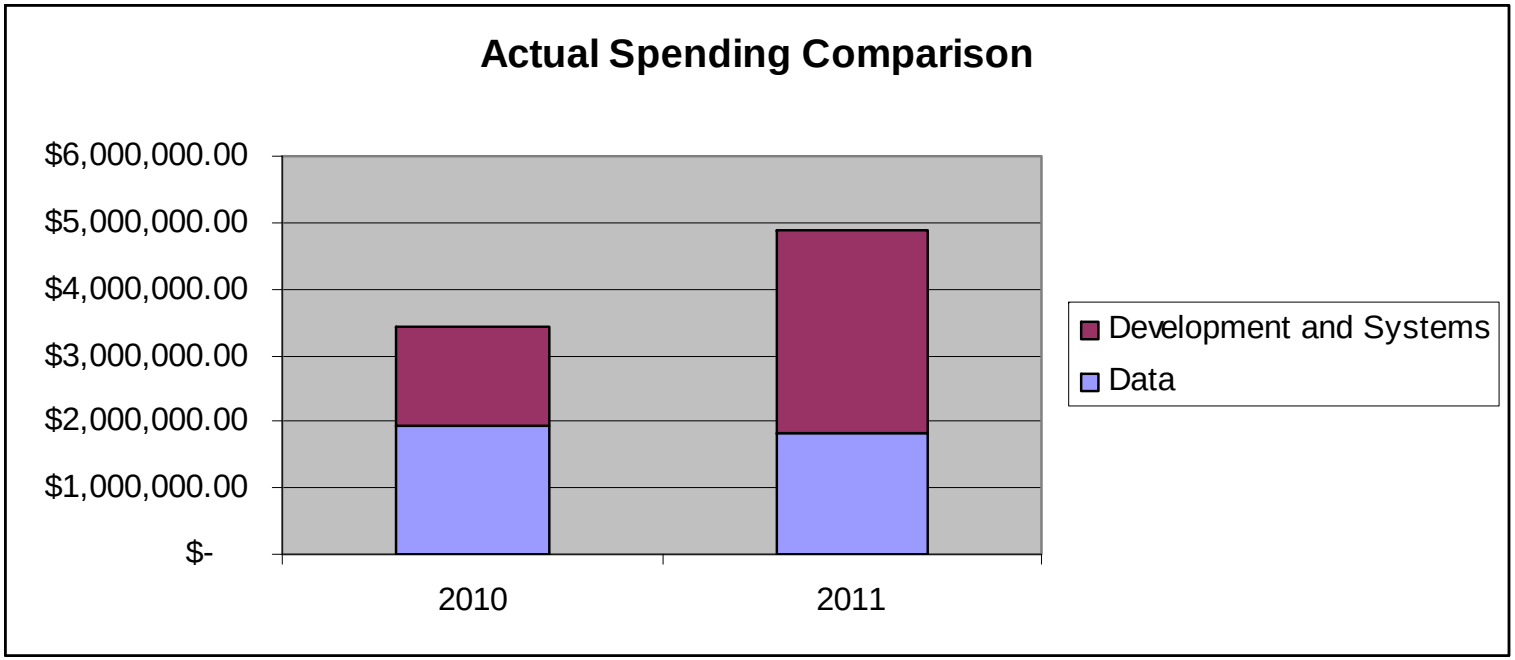
OCTO GIS Program Teams & DC GIS Goals

- Program Teams
  - Mapping Data
  - Development
  - Systems
  - Customer Service

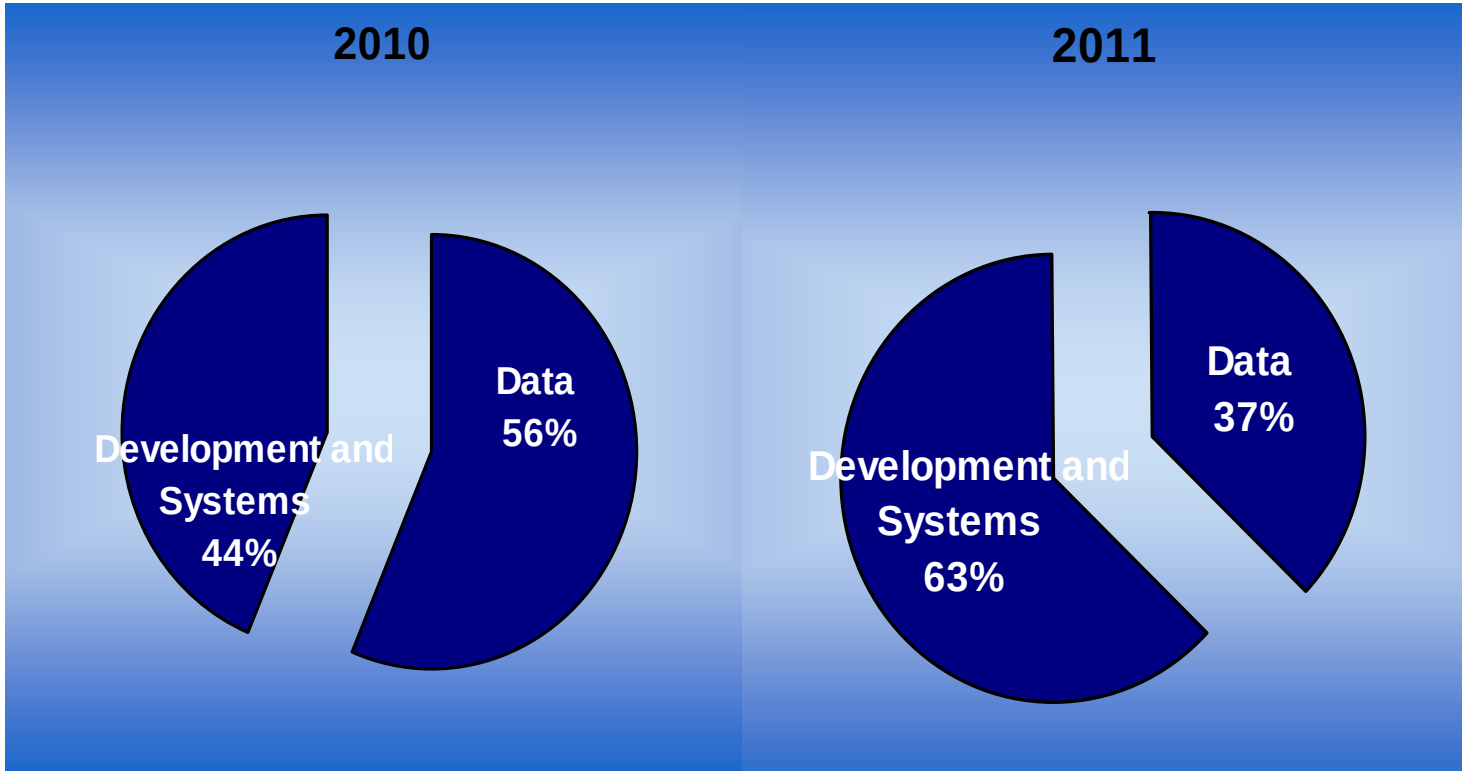


- Program Goals and Success Factors
  - Develop and operate enterprise mapping data, geospatial applications, and Web services
  - Provide outstanding customer service and training

Spending Comparison by Program Grouping



Spending Comparison by Program Groupings



Program Justification: Benefits

- **Add value** to District government operations (e.g. time and money savings by minimizing duplication of effort)
- **Promote quality** of life and economic progress in the District (e.g. with better decisions based on accessible and timely data)
- **Build trust** and understanding (e.g. by bringing transparency to how resources are distributed and utilized in the District, geographically)

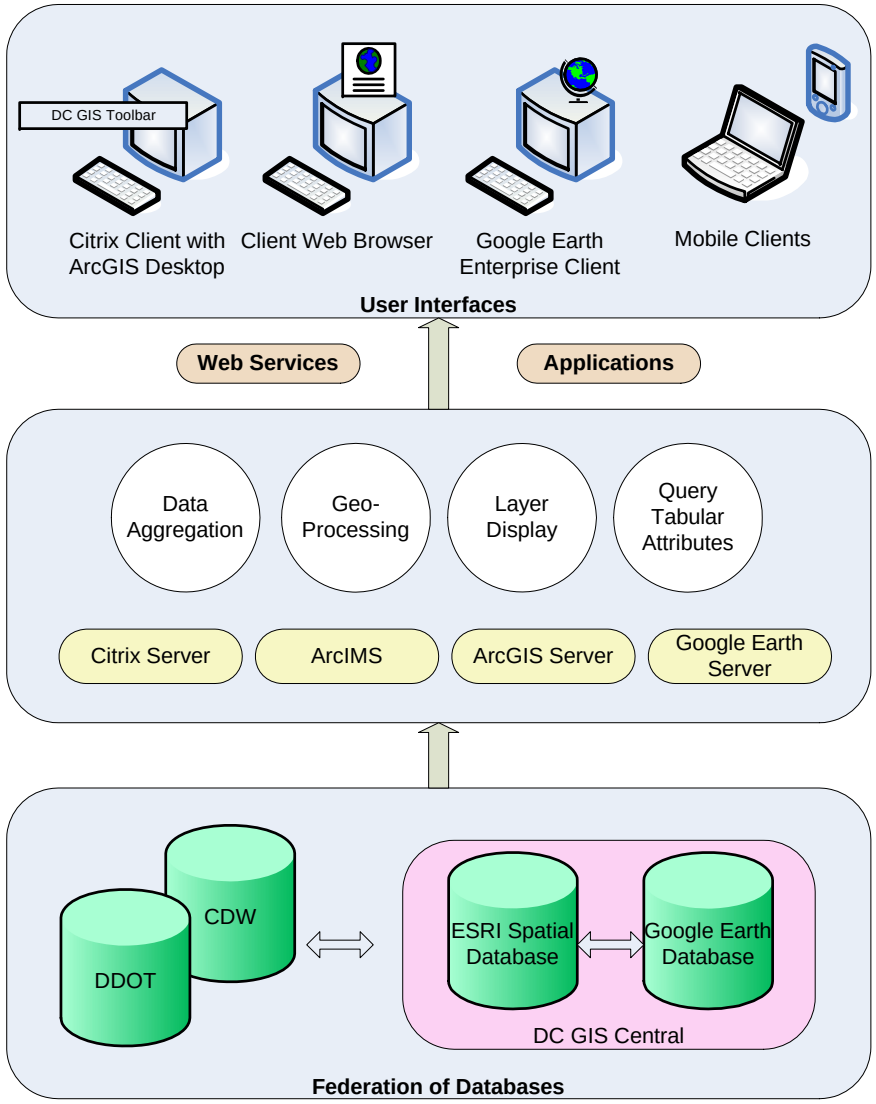
Program Justification: Shared Value

- Rational utility maximization (**users who want it can have it** – demand is satisfied)
- **No perverse outcomes** (unintended consequences of charging for public data such as demand rationing or double-charging)
- Lower marginal costs (**no added costs** of administration for delivery and billing)
- Innovation is fueled (**no restrictions on use**)
- **Transparency and integrity** in government are encouraged (facilitated access to open records)

Key Technology Trends

- The Google Phenomenon
  - Google Maps
  - Google Earth
- The Continuing Importance of Esri Products
  - Enterprise License Agreement (ELA)
  - ArcGIS Family of Products
- Open Source GIS Alternatives Come of Age
  - GeoServer
  - PostGIS

DC GIS Architecture



Applying Portfolio Management

- **Platform Definition:** A platform is a base technology (or technologies) on which other technologies, services, or processes are built. In addition, it may be construed as a whole "economic unit" in terms of aggregating budget costs to support it.

Applying Portfolio Management

Platform Characteristics:

- The cost of one platform may increase overtime while another one decreases
- One platform may cost more than another
- Platforms can be analyzed in isolation or as part of a portfolio
- Future alternatives will arise and be different than today's alternatives
- The expected utility and business value of platforms will differ
- Any one application can depend on multiple platforms

Applying Portfolio Management: Current Platforms

1. Google Map
2. RouteSmart
3. Google Earth/KML and KMZ
4. Oracle RDBMS
5. Citrix
6. VM Ware (OCTO Environment)
7. Pictometry Online and EFS
8. DC Guide DB
9. ESRI ArcGIS Desktop
10. DC Guide WS
11. ESRI ArcIMS
12. DC Guide Link
13. ESRI ArcGIS Server (and Extensions)
14. Master Address Repository (MAR)
15. ESRI ArcPAD

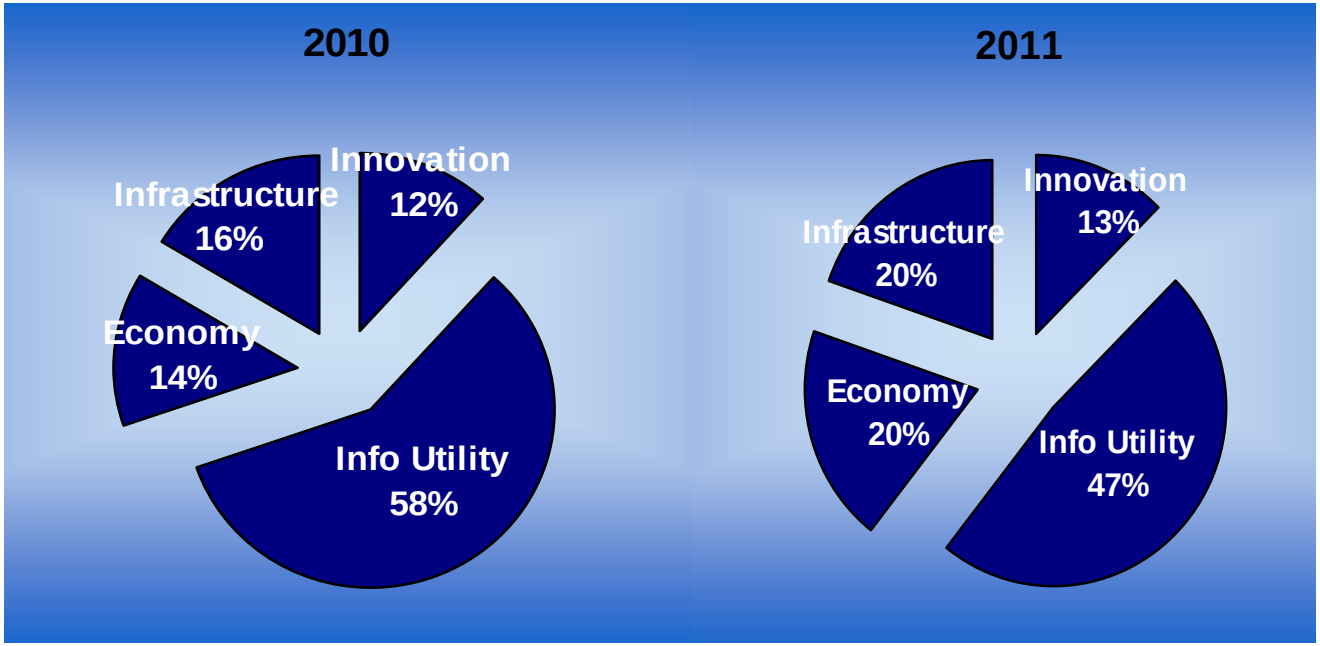
Applying Portfolio Management: New Platforms

1. Open Source Software
    - GeoServer
    - PostGIS
2. ArcGIS On-Line (AGOL)
3. FLEX/Flash

Asset Classes

Asset Class	Strategic Objective
Innovation	Major innovation to achieve progress and modernization; ***leverage the full power of GIS technology***
Information Utility	Provide better information; ***enhance utility***
Economy	***Reduce cost*** of doing business
Infrastructure	Provide shared base capability; ***expand interoperability***

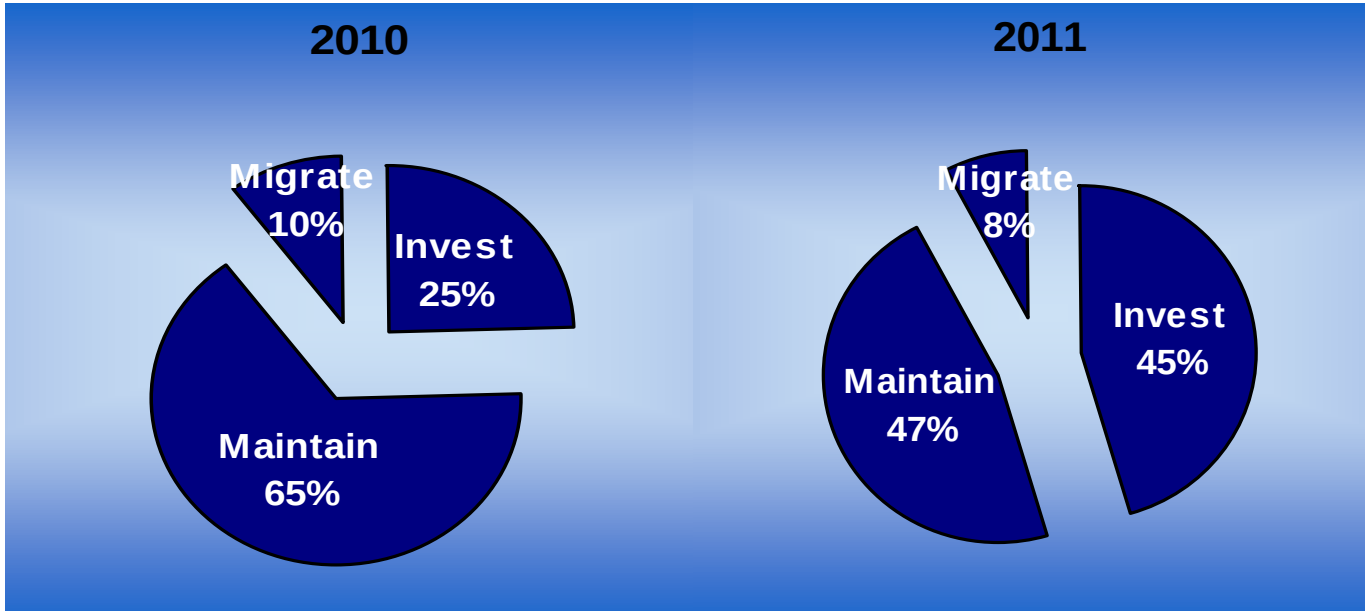
Spending by Asset Class



Investment Strategies
For DC GIS Portfolio

- ***Invest*** (build or enhance; develop new capabilities)
- ***Maintain*** (provide basic support; hold steady and keep the status quo; version upgrades only; no active development of new capabilities)
- ***Migrate*** (move or 'reinvent' onto a new or different platform)
- ***Sunset*** (migrate toward retirement; set expectations for shutting-off spending at some point)
- ***Divest*** (shut-off spending and "kill;" discontinue all spending and support)

Spending by Investment Category



Implementation: Data

1. Maintain the current set of widely used data layers
2. Budget for **recurring investment** in data acquisition to update planimetric layers
3. Assess the **update frequency** required for other essential layers, since this is a cost-driver
4. Develop and refine **data to support routing** applications
5. Complete the **cadastral fabric** needed for the District (i.e. property maps) and resolve ‘fitting’ issues
6. Research the creation of **photo-realistic building textures** are a future needs

Implementation: Data (cont'd)

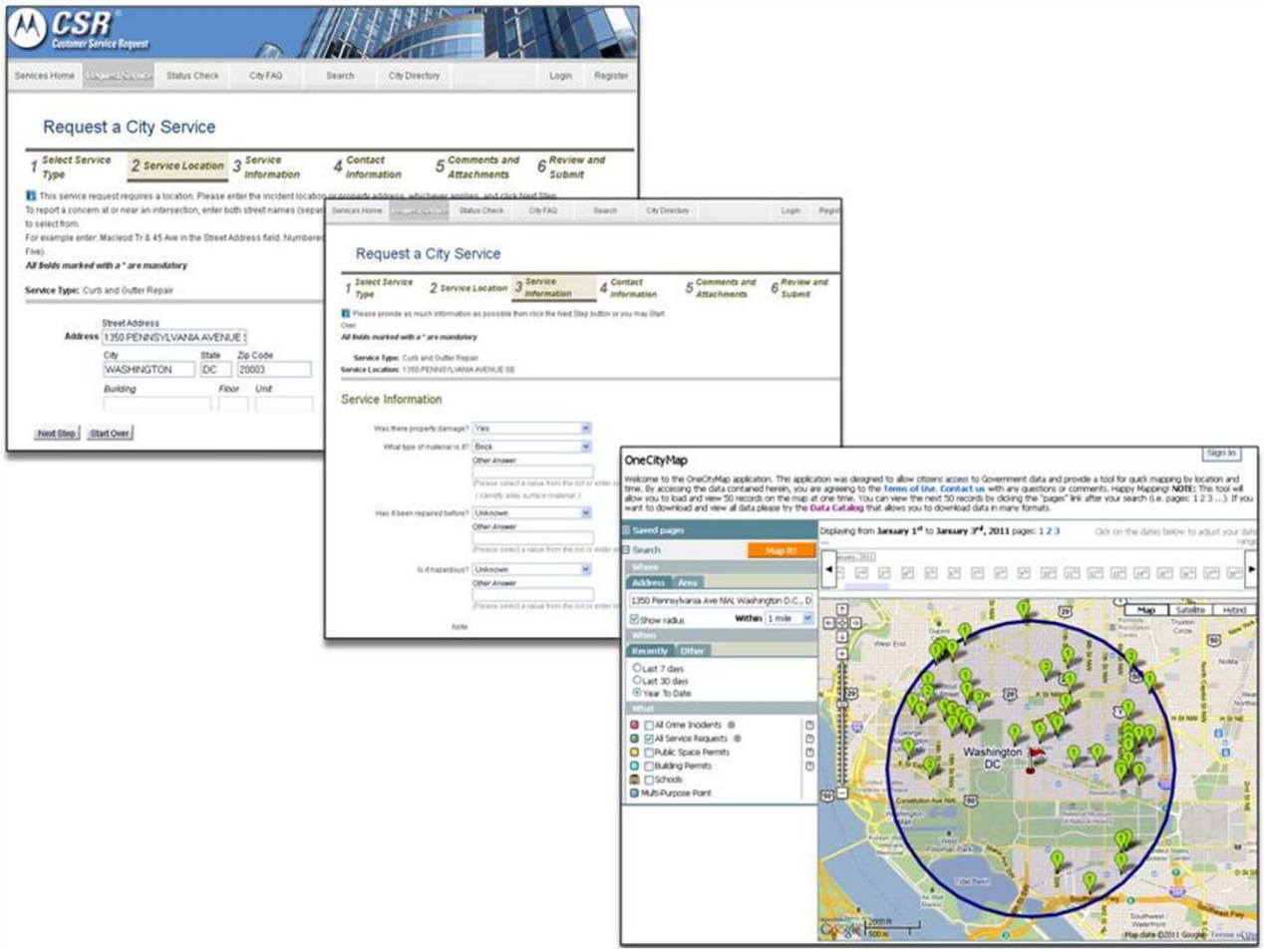
7. Monitor and investigate **public data** for usefulness and relevance to the District
8. Support **Utility and ROW data collection** and data management efforts
9. In addition to the popular **Raster Basemap Service** with annotation, create one without annotation, too
10. Reconcile **support for the 911 basemap** for Computer-Aided Dispatch
11. Acquire **3D buildings**
12. Refine data services; investigate the **Open Data Protocol** for leveraging federated data with secure Web

DC GIS Basemap Comparison to Google Maps

Implementation: Geospatial Applications

- Approximately forty (40) existing applications
  - **Need to retire ArcIMS applications** and migrate to AGS, Open Source, or Google (approximately 50% of existing applications)
  - Applications that are not scheduled for migration and/or re-factoring will be left running on ArcIMS for the time-being, with minimal support
  - Mostly **maintaining the remaining applications on Google and AGS**
- Approximately ten (10) new applications planned *(platforms TBD)*
  - E.g., **new routing applications and/or integration to routing are needed** to support mobile computing, green buildings, tracking and dispatching

DC 311 Online City Service Requests



Implementation: Web Services

- Approximately **thirty five (35) existing Web services** (70% AGS-based), which are now integral to numerous business processes and workflow solutions developed both internal and external to DC government
- Of these, **seven (7) are based on DC Guide (ArcIMS-based), and need to be migrated** to a newer platform or retired
- Approximately three (3) new Web services planned
  - E.g., new Web **services for routing and utility data are needed** to support new applications
- Generally, improve the **reliability and performance** of Web services

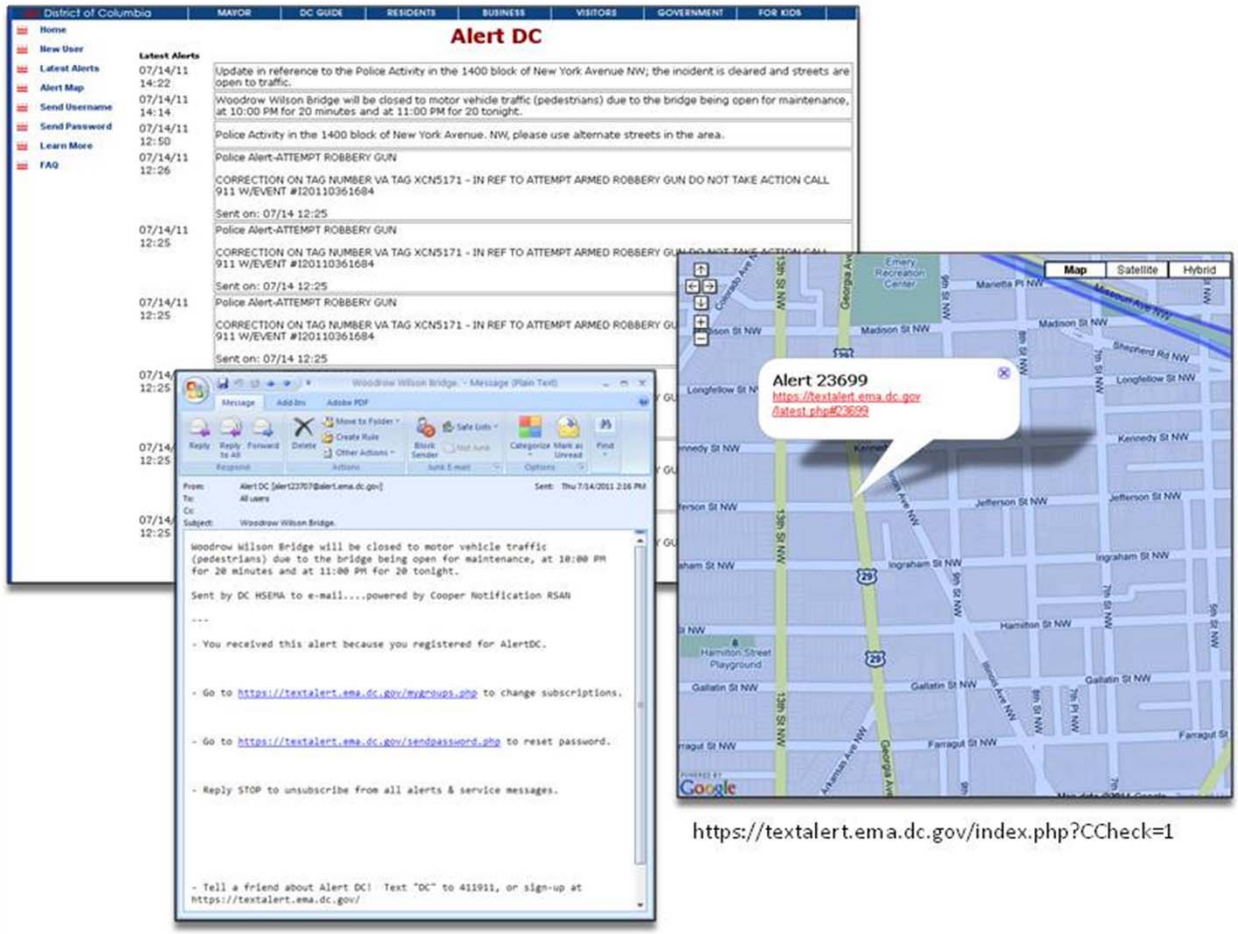
Examples of Web Applications using DC GIS Web Services

- **Citywide Applications:** 311 Service Requests; Citywide Data Warehouse; DC.gov
- **Public Safety:** 911 Computer-Aided Dispatch (CAD); I-Mobile Client (Inside FEMS and MPD Vehicles); Fusion CenterMPD; Data Warehouse
- **Economic Development:** Accela Permitting; Historic Preservation; Office of Planning Tools; Office of Zoning Tools
- **Education:** Attendance; Boundaries; Student Transportation
- **Environment:** Impervious Surface Billing; Watershed Protection
- **Government Operations:** Sanitation Facilities Management; City Works; 311 Online City Service Requests
- **Human Services:** Common Client Intake; Meals on Wheels
- **Revenue Generation:** Computer-Aided Mass Appraisal (CAMA); SDS Analysts Service; I2TS
- **Transportation:** Transportation; Online Permitting System (TOPS)

Implementation: Customer Service

- Explore getting onto the educational program for the Capital City Fellows
- Consider on-line training for specific GIS topics, including “Address-Matching” and “Cartography,” as an alternative to classroom training for certain topics
- Implement formal follow-up surveys to get a sense of how people are using (or not using) what they were taught in DC GIS classes; need a better questionnaire
- Continue to develop awareness of resources outside of OCTO and work towards a comprehensive ‘clearinghouse’ of services (i.e. a service offering catalog)
- If new applications such as routing are developed, coordinate agency-specific coursework
- Continue to strengthen and refine methods of notifying data subscribers of changes – notifications could be two-way
- Consider a “DC GIS Web Services and Basemap Camp”

DC GIS Customer Service Notification Service



https://textalert.ema.dc.gov/index.php?CCheck=1

Appendices

- Table of DC GIS Data Layers
- List of Source Documents
- Acknowledgements
- Document History

Summary

- **Develop and operate enterprise mapping data, geospatial applications, and Web services that comprise DC GIS**
  - Achieve progress and modernization by leveraging the full power of GIS
  - Provide better information
  - Reduce cost of business
  - Provide shared base capability and expand interoperabilty
- **Provide outstanding customer service and training**
  - Education
  - General Technical Counseling
  - Technical Services
  - Outreach

Thank You!

Any Questions?

Data Report
Mario Field

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DC GIS

Updated Datasets

- Assessment Neighborhood
- Assessment Subneighborhood
- Boundary Stone
- Broadband Adoption Residential
- Bus Stop
- Circulator Line and Stop
- Charter School
- District Boundary (Boundary Stone)
- Elementary School Attendance Zone
- Green Site
- Fire Station
- High School Attendance Zone
- IT Servus Area
- Leaf Boundary
- Library
- Metro Entrance
- Middle School Attendance Zone
- Notary Public
- Office of Aging - Lead Agency Location
- Other Bus Line and Stop
- Police Station
- Polling Place
- Primary Care Site
- Public School
- RSA One Stop
- Red Light Camera
- Retail Priority Area
- Sidewalk Café
- Speed Camera
- Street Light
- Street Tree
- Tap It Water Site
- Ward - 2012

Fall Update

- **Aerial Photography – 2011**
- **Broadband Data**
- **Bus Route**
- **Capital Bike Share**
- **CAMA images**
- **Police Service Area**
- **Pictometry POL**

Training Report
Eva Stern

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DC GIS

Training Report

- Summary of training for FY 2011
- What's coming in FY 2012
  - WDA GIS classes
  - Advanced Training

FY 2011

- Overview class – 10 classes; 87 students
- Google (Earth) DC – 9 classes; 85 students
- ArcGIS – 2 classes; 21 students
- Advanced Training – 16 classes completed

209 Students

FY 2012

- WDA Classes scheduled through September 2012
- ArcGIS class will be condensed to 2 days
- Credits for Advanced Training will be available
  - Preference will be given to employees who have not previously participated
  - Details will be announced via GovDelivery