



**District of Columbia
Geographic Information System
Steering Committee
September 21, 2010**

*Barney Krucoff
GIS Director
District of Columbia
Office of the Chief Technology Officer
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202-727-9307*



Introductions & Quorum



Minutes from last meeting



News Items



- 2011 GIS Budget
- Business Plan
- DC GIS Office Move
 - 1100 15th Street NW, 9th floor
 - Washington DC, 20005
 - (Elevator requires key)
- 3D Web Sites using Google Earth Plugin
- New Citrix issues
- Residential Units
- Twitter, Yammer and Facebook?



DC's map services are available for use in ArcGIS.com



- What is ArcGIS.com
 - Light-weight JavaScript application to create mash-ups/maps, find and use data or maps, applications and tools
 - Share maps and tools
 - Connects to specific GIS servers
 - Its FREE (you need to create an account)
- Data & Apps & Maps
 - Posted by categories (Basemap, Demographic, Education etc)
 - Both Web Mercator and MD State Plane map services posted
- DC GIS has a group called *Washington DC Group*
 - Groups are communities for sharing geographic information
- Data can all also be used in ArcGIS Online Explorer
- [Demo](#)



ESRI Enterprise License Agreement



Unlimited Products



Desktop Software

ArcInfo
ArcEditor
ArcView

Extensions

ArcGIS Spatial Analyst
ArcGIS 3D Analyst
ArcGIS Network Analyst
ArcGIS Publisher
Schematics for ArcGIS
ArcGIS Maplex
ArcScan
Job Tracking JTX
(Workflow manager)

Server Software

ArcGIS Server (Basic,
Standard, Advanced)
ArcIMS

ArcGIS Server Extensions

Spatial
3D
Network
Geostatistical
Schematic
GeoPortal
Image Extension

Mobile Software

ArcGIS Mobile
ArcGIS Engine

Runtime

- Spatial
- 3D
- Network
- Geodatabase update

Other Software

ESRI Production
Mapping (PLTS)



Limited Quantity Products



Desktop Software

- Data Interoperability 10

ArcGIS Server

- Data Interoperability 7

Other Software

- ArcLogistics Concurrent Use Licenses (Software only) 3
- ArcLogistics Navigator (10-Pack bundles- Software only) 5
- ESRI Developer Network (EDN) Annual Subscriptions 10

Data

- Community Tapestry Segmentation (all Tables) 5 Users
- Upgrade to ArcPad 7.1 65 installs
- Business Analyst Online 5 user



ESRI Services



- Technical Advisor (Chris Schielein)
- 300 credits over two years (what we can buy)
 - Technical Consulting Services Support consisting of review of technology strategy, systems design
 - Annual Premium Support Limited 15 credits = 5 Incidents
 - Annual Premium Support Limited 22 credits = 10 Incidents
 - Annual Premium Support Unlimited 75 credits = Unlimited Incidents
 - Instructor-led Training for one person at an Esri Facility or Virtual Classroom 1 credit = 1 day
 - Licensee site Instructor-led Training (up to 12 people) 9 credits = 1 day
 - Including Mobile Lab 1 credit = 1 day
 - Virtual Campus Dollars 1 credit = 480 Virtual Campus dollars



Software Management Plan (this agreement ends 9/30/2012)



Enjoy this



Avoid this



Software Distribution Plan



- Network license pool (already exists)
 - Web site for tracking licenses
- Large scalable centralized ArcGIS Server Environment
 - Shared map services
 - Shared web data / analytical services
- Support
 - Some agency staff will have rights to contact ESRI directly (two per agency).
 - Others
 - ITServus help desk (Tier 1)
 - DC GIS Customer Service Team (Tier 2)
 - DC GIS Development Team or ESRI (Tier 3+)



Survey, Mapping and GIS
Indefinite Delivery Indefinite Quantity
(IDIQ) Contacts



Survey and Mapping IDIQ



- Lots of help from the Department of Real Estate Services
- 40 proposals, very competitive teams
- \$950,000 per firm per year capacity
- Base year plus 4 option years
- Lump sum or labor hour task orders are possible
- 3 subject areas, 2 firms in selected in each subject area:
 - Photogrammetric Survey and LIDAR
 - Terrestrial Survey
 - Quality Control and GIS Technical Services
- 4 minutes for each firm

Introducing the
Applied Geographics, Inc. (AppGeo) Team

Represented by Rich Grady, AppGeo President

for the

Government of the District of Columbia

**Surveying and Mapping/GIS Technical
Services IDIQ**

AppGeo Overview

Prime Contractor on the District of Columbia IDIQ

- **Provided high quality GIS and IT consulting services since 1991** to over 600 clients from federal, state, and local government
- **Lifecycle GIS implementation:** planning, system architecture; spatial data development and database design; custom applications and tools; Web programming and hosting; cartography; spatial analysis; technical support and training

IDIQ Relevant Qualifications:

- **GIS Strategic and Business Planning** in DC, US Virgin Islands and 17 states
- Large Scale **Base Map Development** - Planning, Project Management and QC for over 35 Counties and Municipalities
- ARRA funded **Broadband Mapping** for 7 states

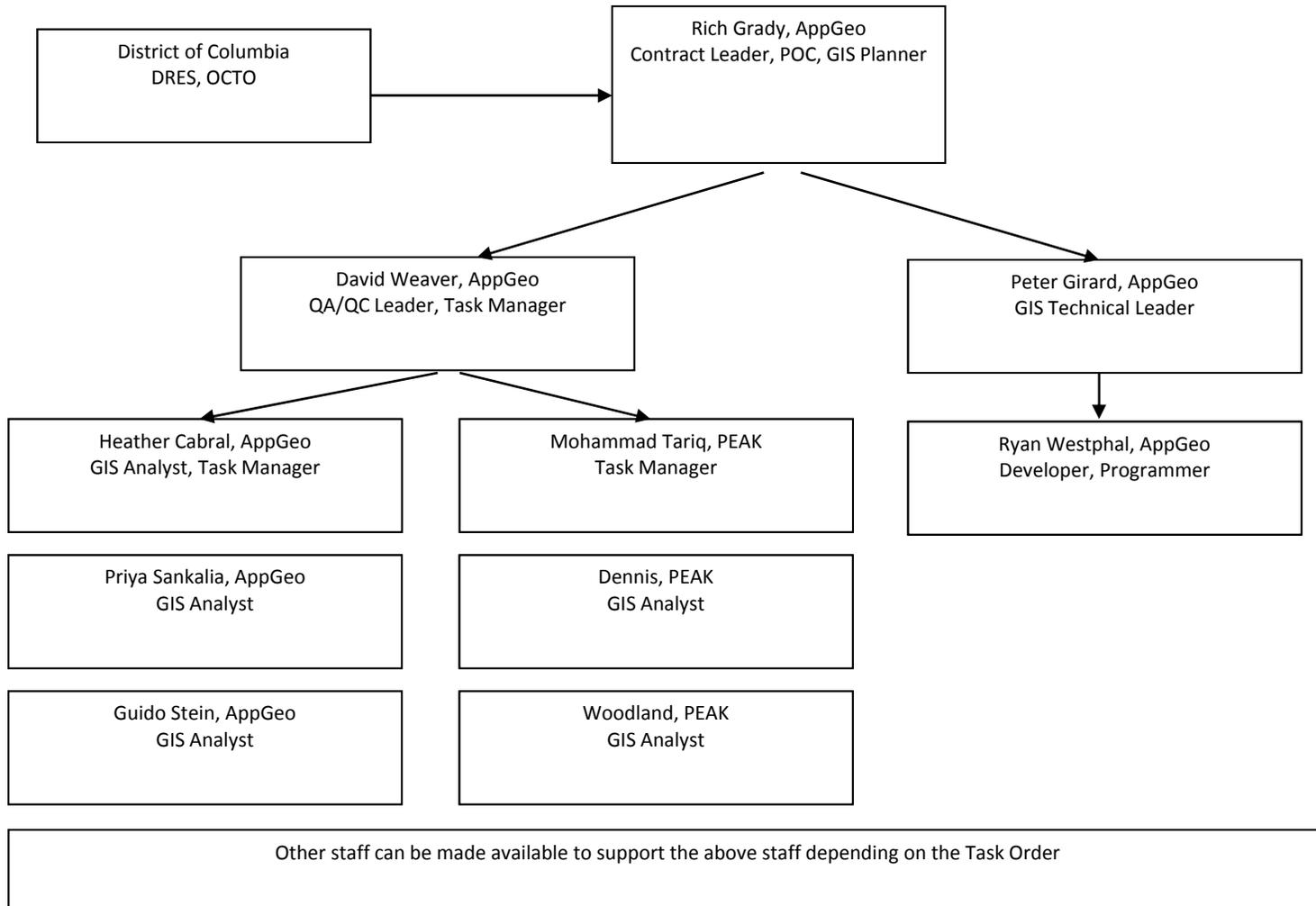
Peak Technologies

IDIQ Subcontractor to AppGeo

Represented by Mohammad Tariq, Peak Technologies President

- Maryland Based
- MBE certified by Washington DC DOT
- Certified 8(a) by US SBA
- Office in Washington DC
- **Expertise in:**
 - GIS System Design
 - Database Design
 - Field Data Collection
 - GIS Data Quality Control

AppGeo Team Organization



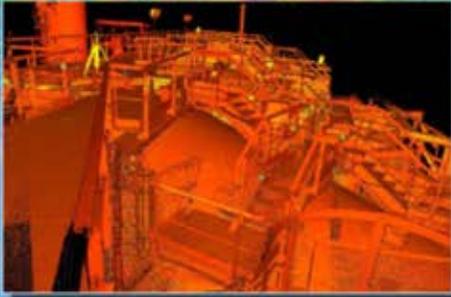


DC GIS Steering Committee

September 21, 2010



Fugro EarthData - Geospatial Services



- Terrestrial Surveys
- Aerial Mapping
- Satellite Remote Sensing
- GIS Services



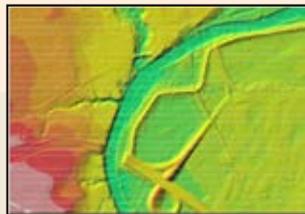
GEOSPATIAL SERVICES





Digital mapping services from Fugro companies

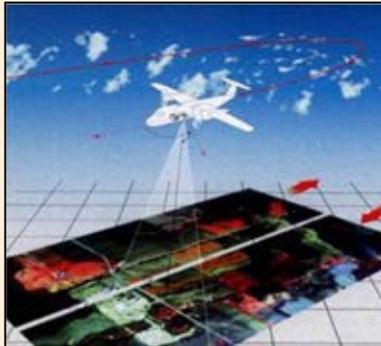
- Orthophotography
- Lidar
- Obliques
- Planimetrics & contours
- 3D buildings
- Data storefront
- Hydro/Bathy surveying
- LU/LC mapping
- Roadway mapping \ pavement analysis
- Geotechnical surveying
- GIS decision support tools



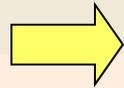


End to End Geospatial Solutions

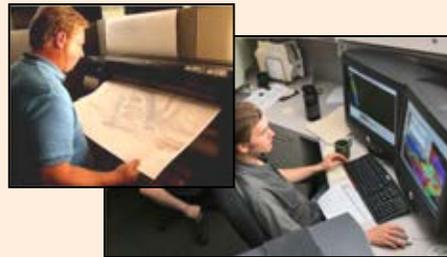
ACQUISITION



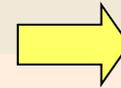
Advanced aerial data collection technologies using diverse sensor suite



PROCESSING



Sophisticated processing systems delivering high accuracy, quality, and fast turnaround



PRODUCT & APPLICATION DEVELOPMENT



Turnkey functionality to meet a multitude of needs

ISO 9001:2000 CERTIFIED SYSTEMS



Thank you.



What Makes A Winning Team?

"I depend on Photo Science's knowledgeable staff and I can count on their work being thorough and on time. Photo Science's staff is responsive to our needs, and I would not hesitate to recommend them to anyone."

- Chris Heinz
USACE Louisville District

"KCI Technologies performed the [project] in an effective manner meeting or exceeding my expectations of performance throughout the project. The KCI staff was continually responsive and open to suggestions from the County. Based on KCI technologies' performance throughout the project, I recommend KCI for consideration as one of your dedicated firms."

- Marshall L. Stevenson III
Frederick County Government



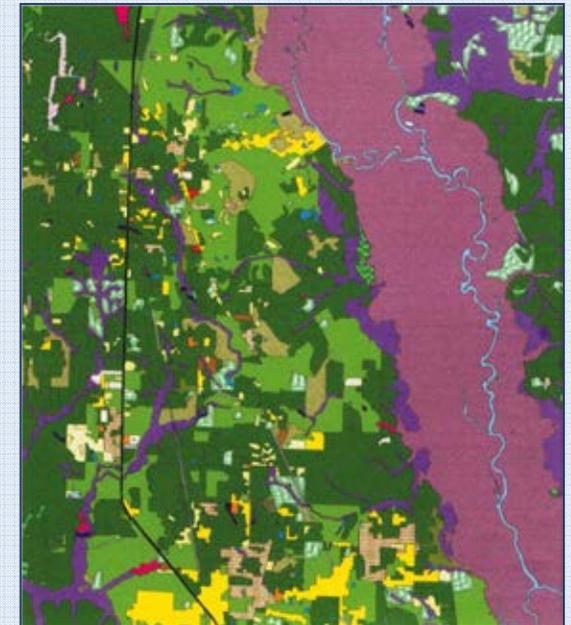
Full Service Geospatial Services

- Application Development
- Mobile Mapping
- Surveys
- Remote Sensing
- Consulting / Planning
- Orthophotography
- LiDAR
- Quality Control
- Mapping
- BIM / 3D
- Planimetric / Topographic Updates
- Topographical Generation

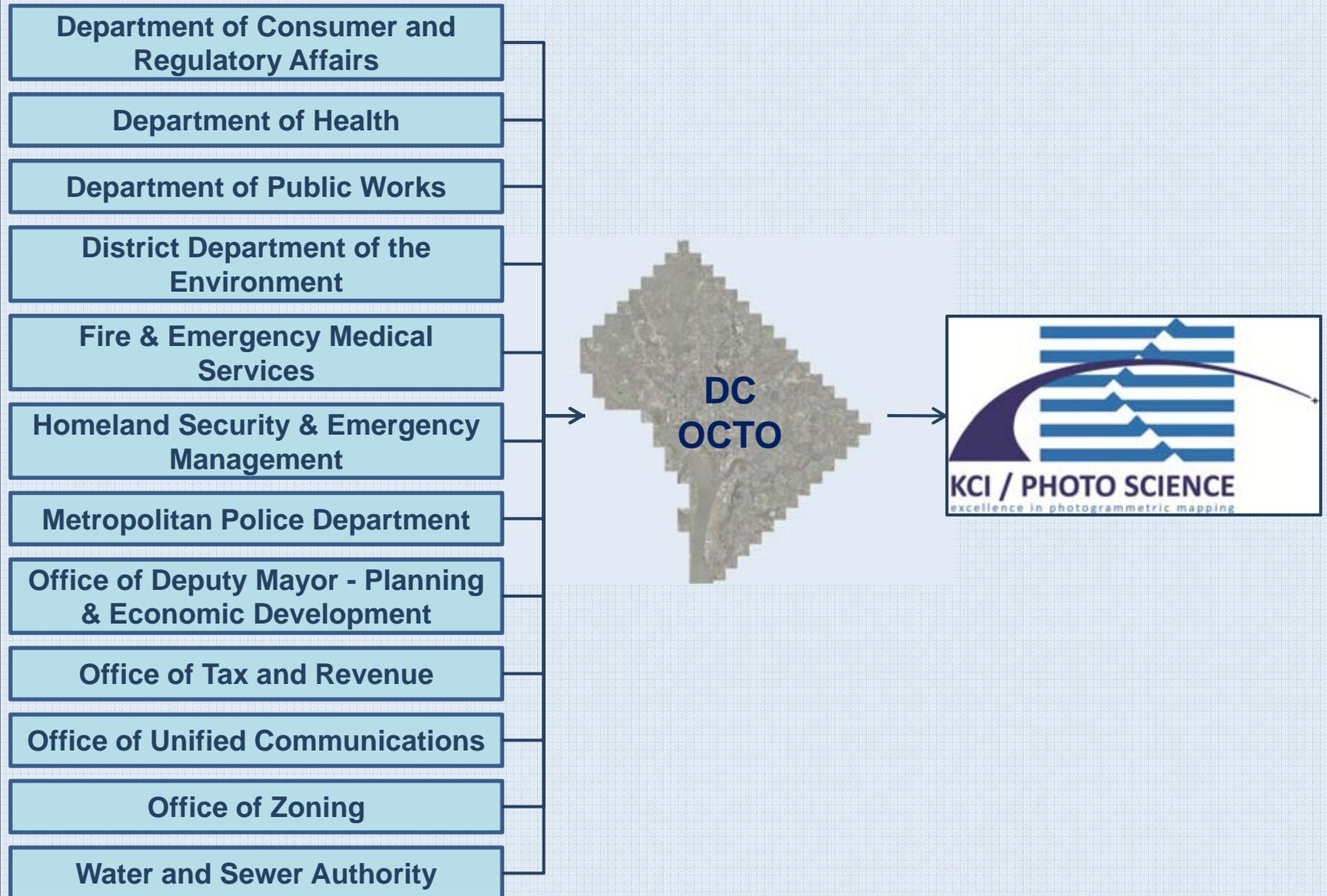


Full Service Geospatial Services

- Data Conversion
- Database Design
- Imagery
- Requirements Analysis
- Needs Assessment
- Tax Parcel Mapping
- GIS Data Translation
- Land Use Mapping / Analysis
- E911 Studies
- Secured Facility / Clearances
- Close Proximity to Washington



KCI / PhotoScience Meeting the District's Geospatial Needs



New Light Technologies

Company & Service Offerings Overview

**A LOCAL HIGH QUALITY
ALTERNATIVE FOR GIS OFFERINGS IN THE DISTRICT**

Company Overview:

Founded in 2001, New Light Technologies Inc. (NLT) provides IT and GIS focused consulting and staff augmentation services to a wide variety of commercial and government organizations.

NLT has particular expertise in the development of **Geospatial Information Systems (GIS)** including unique expert level experience with ESRI and enterprise-level geospatial technologies including ArcSDE, Oracle Spatial, ArcGIS Server, Google Maps, web services, Java and Microsoft .NET.

NLT has led and supported the development of cutting edge implementations that have given NLT a reputation as a solid partner for government and industry.

Company Certifications:

NLT is an **ESRI Business Partner and Reseller**.

NLT is a federally certified **8(a)** minority owned small business.



Small Business Certifications:

Federal :	8(a)
Maryland :	MBE
Washington DC :	LSDBE

Federal Codes:

EIN:	522341343
DUNS No:	058060083
CAGE Code:	35UN8

Services Overview:

New Light Technologies provides both **traditional project consulting services** as well as **staff augmentation and support** to a wide variety of commercial and government organizations in management and technical areas of IT and GIS.

Service Offerings:

General IT Services

- Helpdesk Support
- Configuration Management
- Financial Systems
- Project Management
- System Architecture Design
- Database and Web Design & Hosting
- Software Development & Implementation
- Customized Training

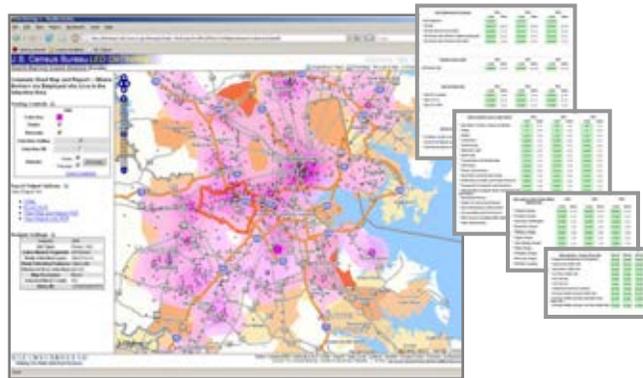
GIS Services

- Planning/ Needs Assessments
- GIS Implementation Services
- Geodatabase Design/Hosting/Migration
- Geospatial Web Service Development
 - ArcGIS Server
 - ArcWeb Services
 - ESRI MapIT & SharePoint Integration
 - Google Maps
 - MapServer
- Software Sales
- Data Development & Visualization



U.S. Census Bureau **Geospatial Web Development**

Project Management, Systems Design & Development Services to the U.S. Census Bureau's Center for Economic Studies and Dataweb Applications branch.



Federal Communications Commission **Mapping National Broadband Service**

Application design/development and data production services for building 1st national broadband mapping and analysis system.



Federal Emergency Management Agency **Deployable Enterprise GIS Suites**

Mobile Geospatial Server & Laptop Configuration services to FEMA's Incident Management Assistance Teams (IMAT).



U.S. Army Environmental Command **GIS Services**

Provide GIS and QA/QC Services to the Operational Range Inventory Sustainment (ORIS) system Aberdeen Proving Grounds in Aberdeen, MD.



- **Highly Qualified Technical Staff**

NLT has in depth technical capabilities in key areas of geospatial information systems consulting.

- **Competitive Rates and a Past Performance**

NLT is consistently able to offer competitive rates to our customers and partners in DC and Federal Government with existing and a long history of successful projects and staff placements.

- **Flexible Contracting Arrangements**

NLT is highly experienced with traditional T&M consulting as well as staff augmentation arrangements.

- **Certifications**

a DC CBE (LSDBE) Firm, and a federally registered 8(a) and SDB business.

- **Strong Industry Relationships**

2006 ESRI New BP of the Year;

Industry Business Partners: ESRI, ERDAS, INFORMATION BUILDERS, LIZARDTECH, ARC2EARTH



Discussion Project Ideas...



- DC Boundary
- Test squares best fit
 - Move?
 - Topological model for property and boundaries
- Tool that time stamps edits
- Business Plan



DATA REPORT

Mario Field



Updated Datasets



- Abandoned Vehicle Inspection Area
- Bicycle Lane
- Business (INFOusa)
- Circulator Lines and Stops
- CAMA
- Charter Schools
- Flood Plain
- Green Site
- Library
- Liquor License
- Office of Aging – Lead Agency Boundary
- Office of Aging 0 Lead Agency Location
- Notary Public
- Polling Place
- Public School
- Rehabilitative Services Agency One Stop Site
- Retail Site
- Recreation Facilities and Parks (DPR)
- Single Member District – minor boundary update
- Suspended Street
- Street Tree
- Trail
- Wireless Hot Spot
- Zip Car



Next Update



- **Circulator Stops**
- **CAMA**
- **Owner Point**
- **Liquor License**
- **Notary Public**
- **No Truck Route**
- **Recreation Facility**
- **Recreation Park**
- **Zoning**



DDOT Intersection Inventory



- **Traffic Pole**
 - **Traffic Sign**
 - **Traffic Signal**
 - **Traffic Cabinet**
 - **Traffic Detector**
 - **Traffic Camera**
 - **Pavement Marking**
 - **Push Button**
- GPS points are used to represent the pavement markings. A point is placed based on the marking's detail. Stop bars and crosswalks are given GPS point at their approximate centers. Skip lines and lane dividers are positioned where the line ends before entering the intersection.



Municipal Separate Storm
Sewer System (MS4)
Sewershed

Young Tsuei
GIS Analyst



MS4 Sewershed



Definition: A sewershed is defined as a hydrologic region in which all runoff flows are conveyed by the sewer system to a single point (outfall). Sewersheds were delineated based on that area.

- New polygon layer to be published in FY2011 (Depicts the drainage area of each MS4 outfall)
- 527 total sewersheds delineated
 - 169 need to be field verified



Usefulness



- Data is used for
 - Strategic placement of green infrastructure
 - TMDL Implementation
 - Impervious calculations
 - Water Quality Monitoring
 - Locating outfall location when spill occurs
 - Determining CSO/MS4 area
 - Illicit discharge detection and elimination (IDDE) activities
 - Any other use that requires knowing where the water or spill will go or what drains to a particular outfall.



Example of a sewershed and associated outfall



UDC campus is located in Sewershed 849

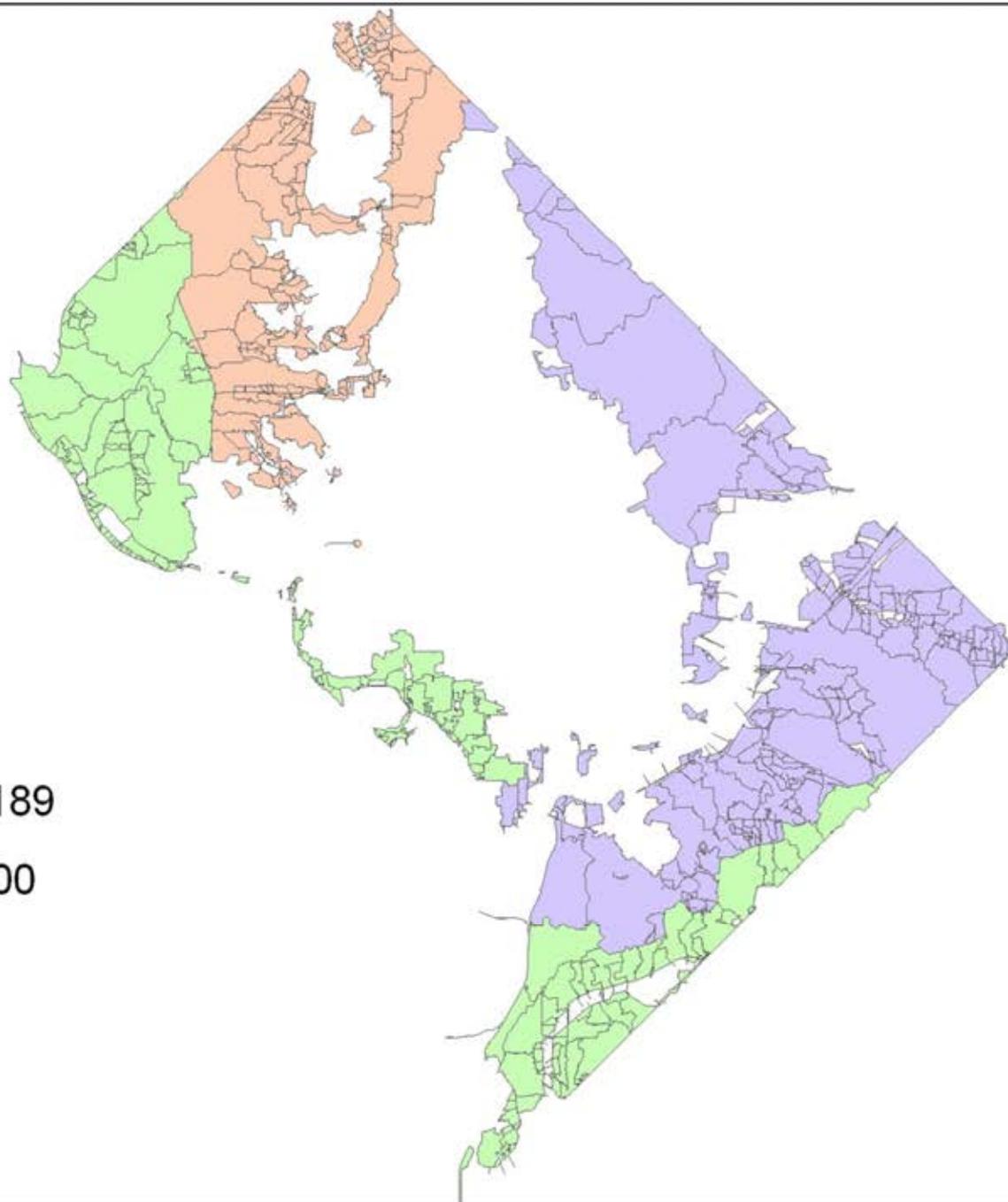


Runoff from sewershed 849 discharges at an outfall located in a tributary of Rock Creek that runs parallel to Albermarle Street.

Preview

MS4 Sewersheds

Polygons





Training Report

Eva Stern



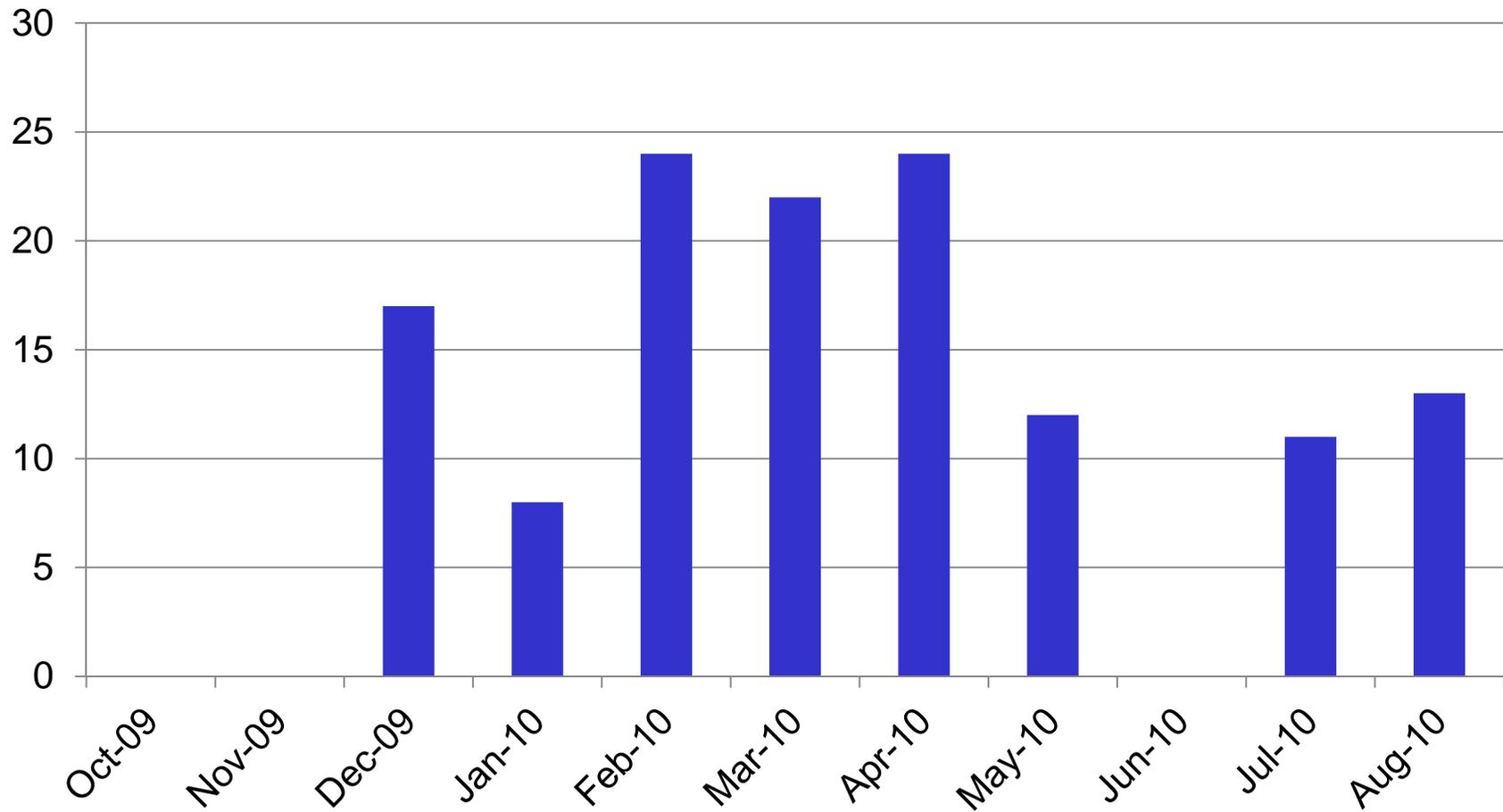
Summary FY10



- 16 Classes taught, 3 Subjects
- 131 Students completed classes
- Requests for additional assistance/advanced work from several agencies

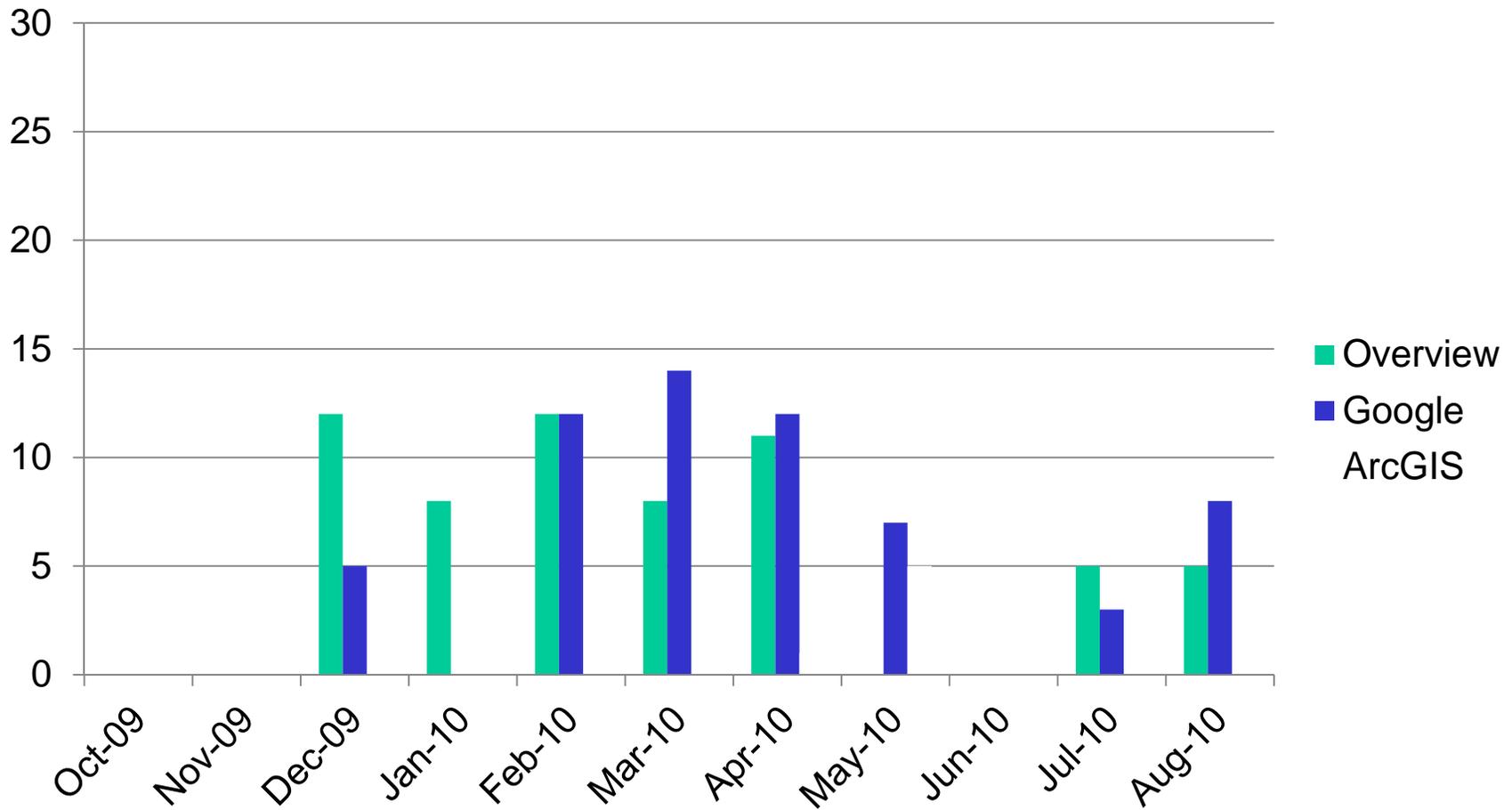


Total Attendance by Month



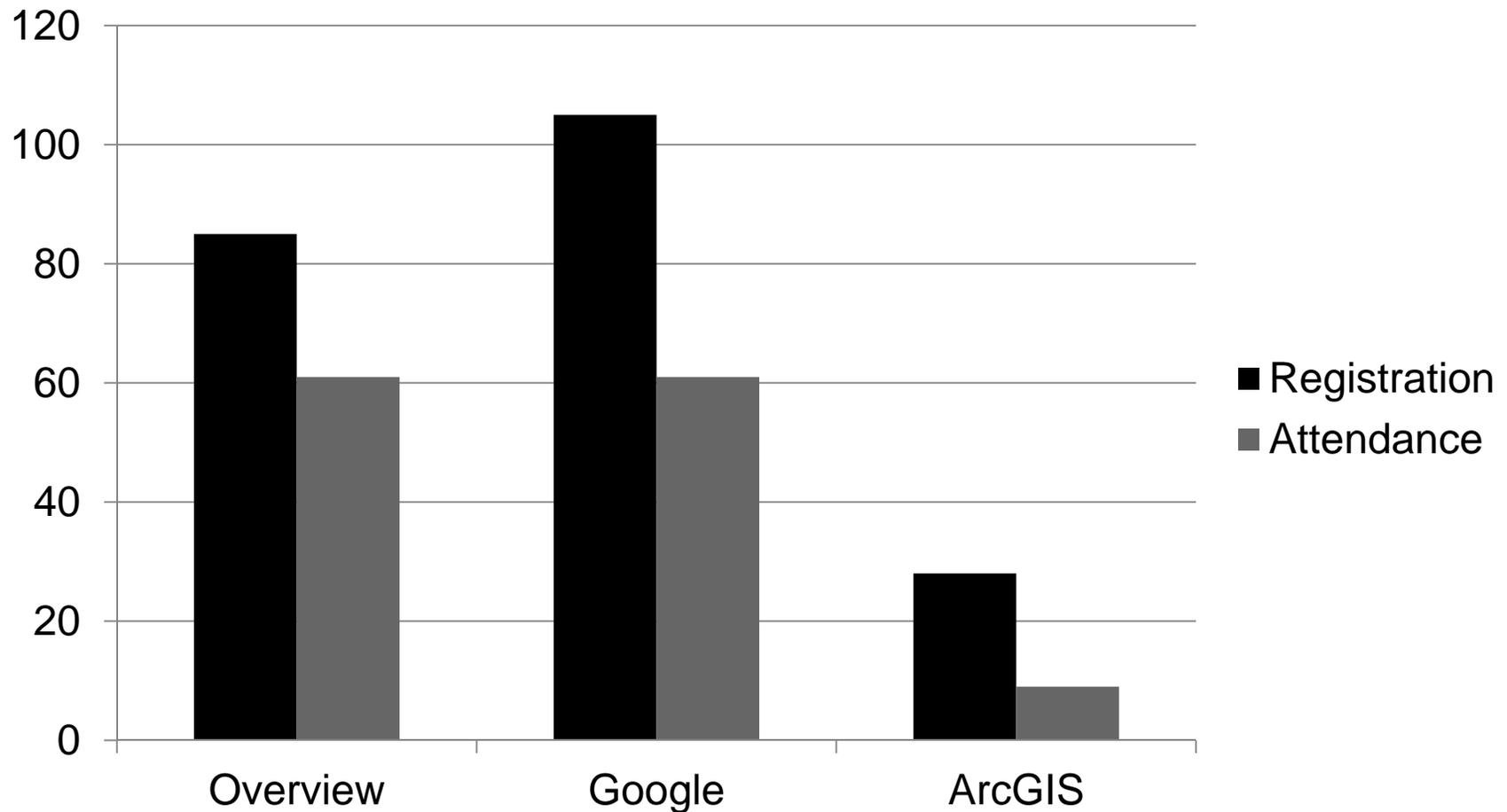


Attendance by Subject





Registration vs. Attendance (by Subject)



FY10



Open311 API (GeoReport V2)

Dmitry Kachev & Barney Krucoff





Crowd



Crowd Sourcing

50% of the data DC received during Winter 2010
big snows could not be used.



Tracking Snow Plow (DDOT)



DDOT Snow AVL Tracking Map - Internet Explorer provided by Dell

http://snowmap.dc.gov/snowavl.asp

District of Columbia MAYOR FENTY DC GUIDE RESIDENTS BUSINESS VISITORS GOVERNMENT FOR KIDS

District Department of Transportation

Step 1: View Live Conditions

- Traffic Cameras
- Open 311 snow removal requests, last 3 days, updated every 30 minutes

Step 2: Review Road Treatment

Select Start Date: 2/14/2010 Select End Date: 2/17/2010

Start Stop Clear Map

Legend

- Plow & Salt
- Plow
- Salt
- Unclassified

Map developed by: DC GIS

POWERED BY Google

Now showing: from 2/14/2010 and Ongoing.. (around 2870 UPTON STREET NW)

Map Satellite Hybrid

10-00051574

Description: Snow/Ice Removal
Status: OVERDUE OPEN
Priority: UNKNOWN
Address: 2944 UPTON STREET NW
Snow Zone: 2
Snow Area: 14
Route Type:
Route ID:
Last Modified Date: 2/16/2010 1:14:36 AM

Rerun New location

Telephone Directory by Topic · Agencies · DC Council · Search · Elected Officials · Feedback · Translations · Accessibility · Privacy & Security · Terms & Conditions

Done Internet | Protected Mode: Off 100%

311 service request and snow plow activity, February 16 2010



San Francisco and D.C. Launch Open311 API

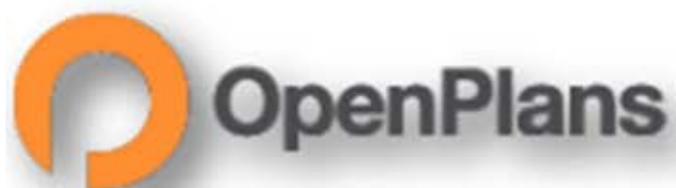


S.F. Mayor Newsom with D.C.
Mayor Fenty in D.C. 311 Call
Center

Open 311 will allow:

- Government and 3rd Party developers to produce applications that write directly to 311 systems.
- Citizens get the interface they want.
- Governments get the structured data they need.

<http://open311.org>



Power of Collaboration





GeoReport version 2 (Open 311 API)

Currently supported by DC & SF

- API methods
 - 4.1 GET Service List
 - 4.2 GET Service Definition
 - 4.3 POST Service Request
 - 4.4 GET request_id from a token
 - 4.5 GET Service Requests
 - 4.6 GET Service Request
 - 4.7 Errors



Get More Information

**She could also be Tweeting
311!**



By [msanto](#)

Open 311 API

A collaborative effort to create an open standard for 311 services

<http://open311.org>

http://wiki.open311.org/GeoReport_v2

Civic Commons

Sharing technology for the public good

<http://civiccommons.com>



Redistricting Subcommittee?

Barney Krucoff and Simon Gottlieb





Two Separate Problems



- Helping Council and BOEE with redistricting
 - if asked
- Making sure IT systems are prepared for boundary changes in Wards, Advisory Neighborhood Commission (ANCs), Single Member Districts (year 2000 problem)
 - inevitable

2010 Census -Redistricting Data

NSGIC

Minneapolis, MN

September 15th, 2010

The Redistricting Data and Supporting Products (cont.)

TIGERLine™ Shapefiles

- Shipped on a State by State basis
- Deliveries begin late November, 2010
- Deliveries finish by January 31st, 2011
- Available by FTP 24 hours after shipping

The Redistricting Data and Supporting Products (cont.)

Map Suite

- Shipped on a State by State basis
- Deliveries begin mid-February, 2011
- Deliveries finish by March 1st, 2011
- Available by FTP on March 15th, 2011

The Redistricting Data and Supporting Products (cont.)

P.L. 94-171 Redistricting Summary File

- Shipped on a State by State basis
- Deliveries begin early February, 2011
- Deliveries finish by March 31st, 2011
- Available by FTP 24 hours after bipartisan receipt confirmed

Other Data Products

- ACS 5- year estimates
 - Data released down to the tract level through the American Fact Finder in December 2010
 - The Block Group data will be staggered on an FTP release 2-3 months following the ACS 5 year tract level data release on the American Fact Finder

Other Data Products

- Advanced Group Quarters Release
 - Total by Group Quarter Type
 - No race data included
 - At the tabulation block level
 - Released in May 2011 via FTP



DC Redistricting Process



- Council is lead
 - Redistricting committee
- BOEE is technical lead
- Wards go before ANCs and SMD
- Ward advisory committees formed
 - Committees advise council



2010 Planimetric Update

Mario Field and Doug Goldsmith



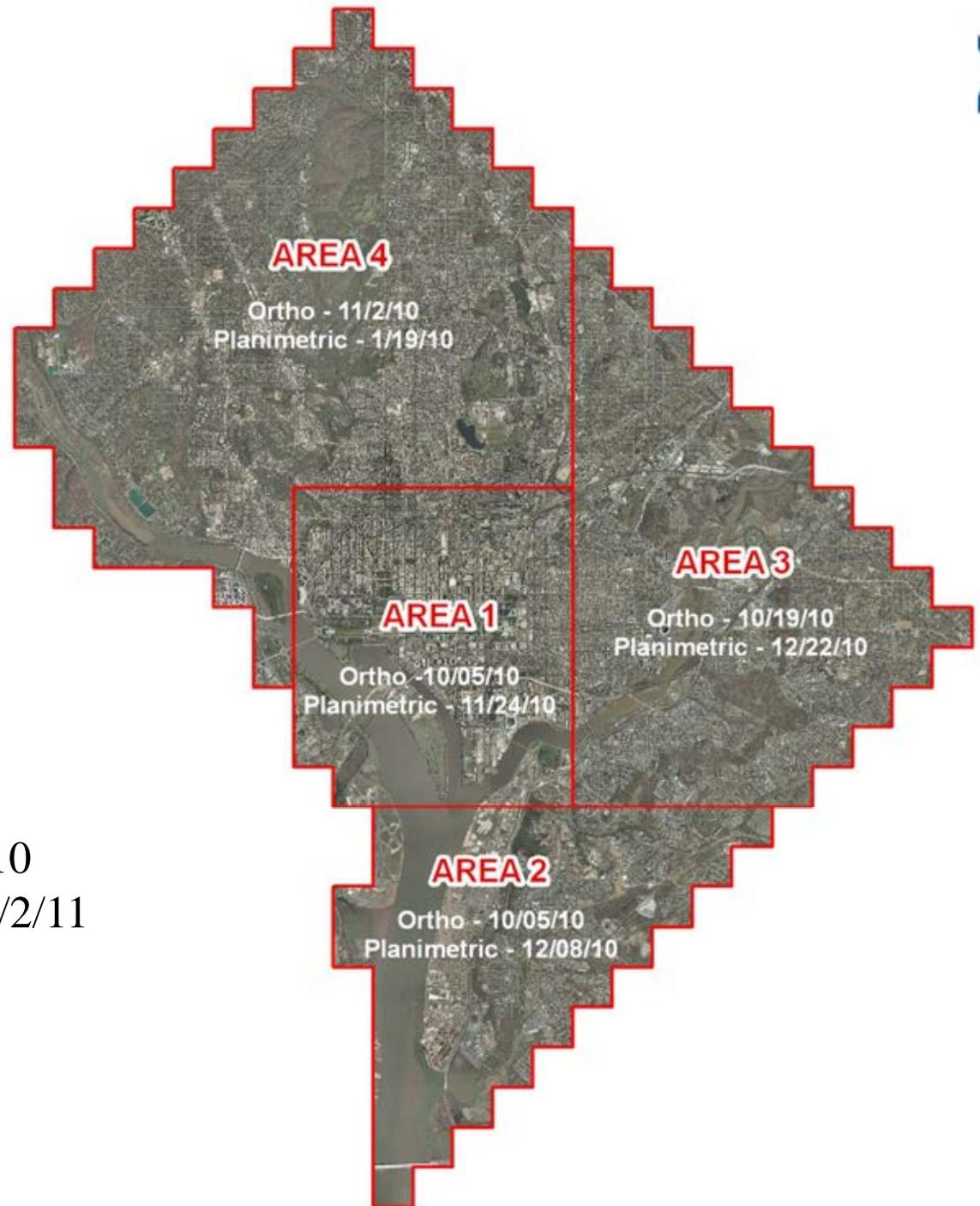
ADDITIONS IN 2010 MAPPING UPDATE

- 117 Additional Control Pts (from 31 to 148)
- East- West Flight Lines
- All flights occurred within 24 hours of each other (04/02-04/03) with the first flight in the air within 24 hours of waiver approval
- All flights took place below an altitude of 5000'
- Predominantly Leaf-off
- Correction of 3 meter planimetric shift from 1999
- Resolved geometry issues from legacy data
- Additional Planimetric Features
 - **Recreation Courts**
 - **Wheelchair Ramp Points**



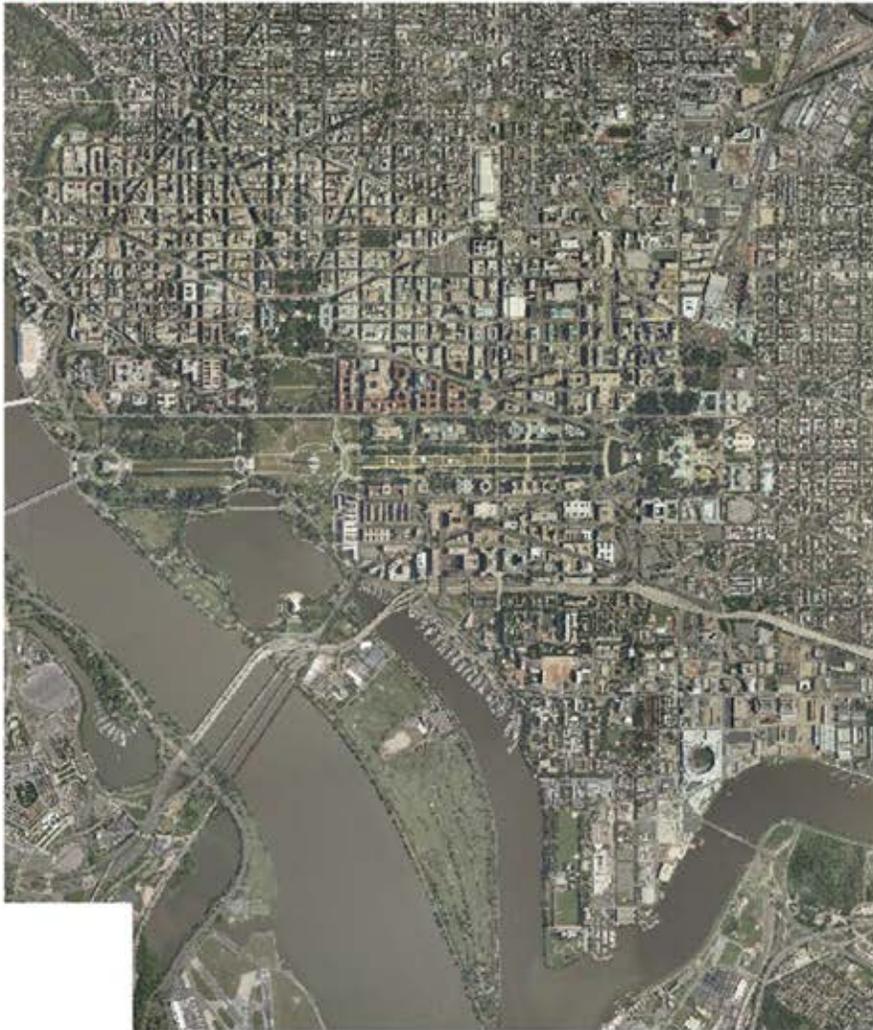
DISTRICT WIDE DELIVERABLES

Ortho Completion – 11/23/10
Planimetric Completion – 3/2/11





COLOR OF IMAGERY



2008 Orthos



2010 Orthos



2010 ACTUAL FLIGHT PATH





PLANIMETRIC CHANGE IN PILOT AREA FROM 2008 TO 2010

Dark Colors = Added or Updated
Features
Light Colors = Existing Features

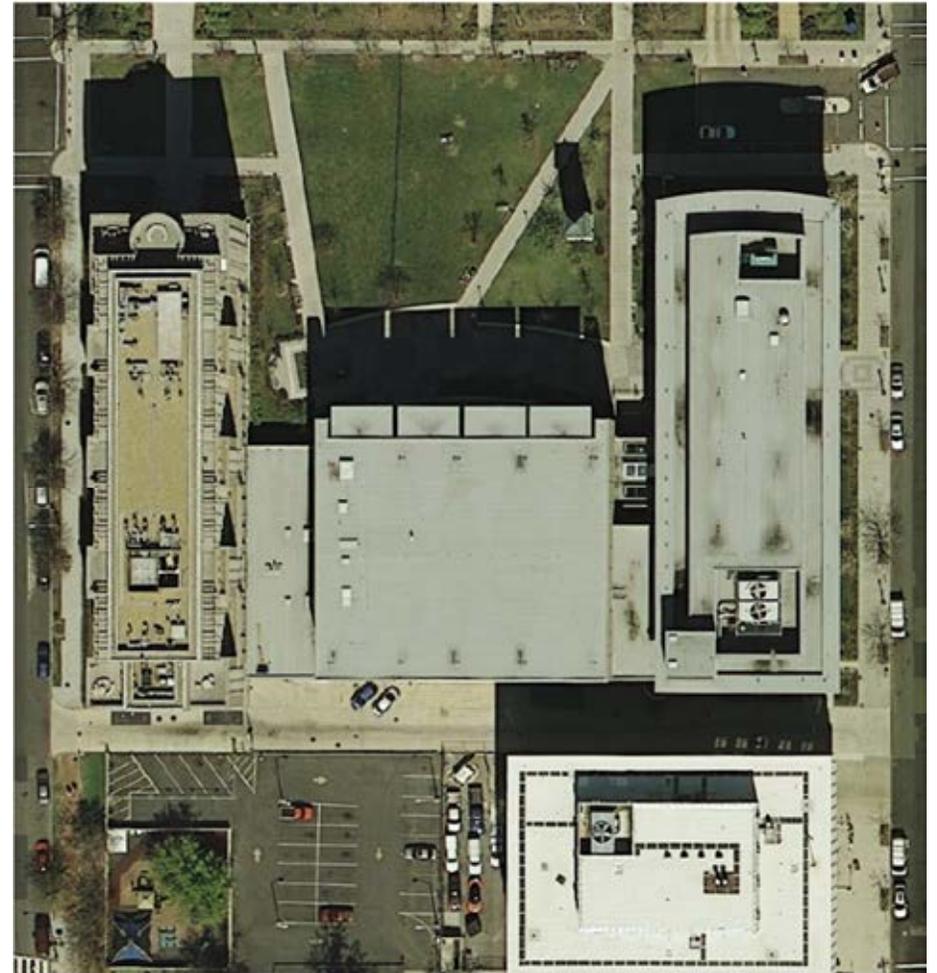




BUILDING LEAN IN IMAGERY



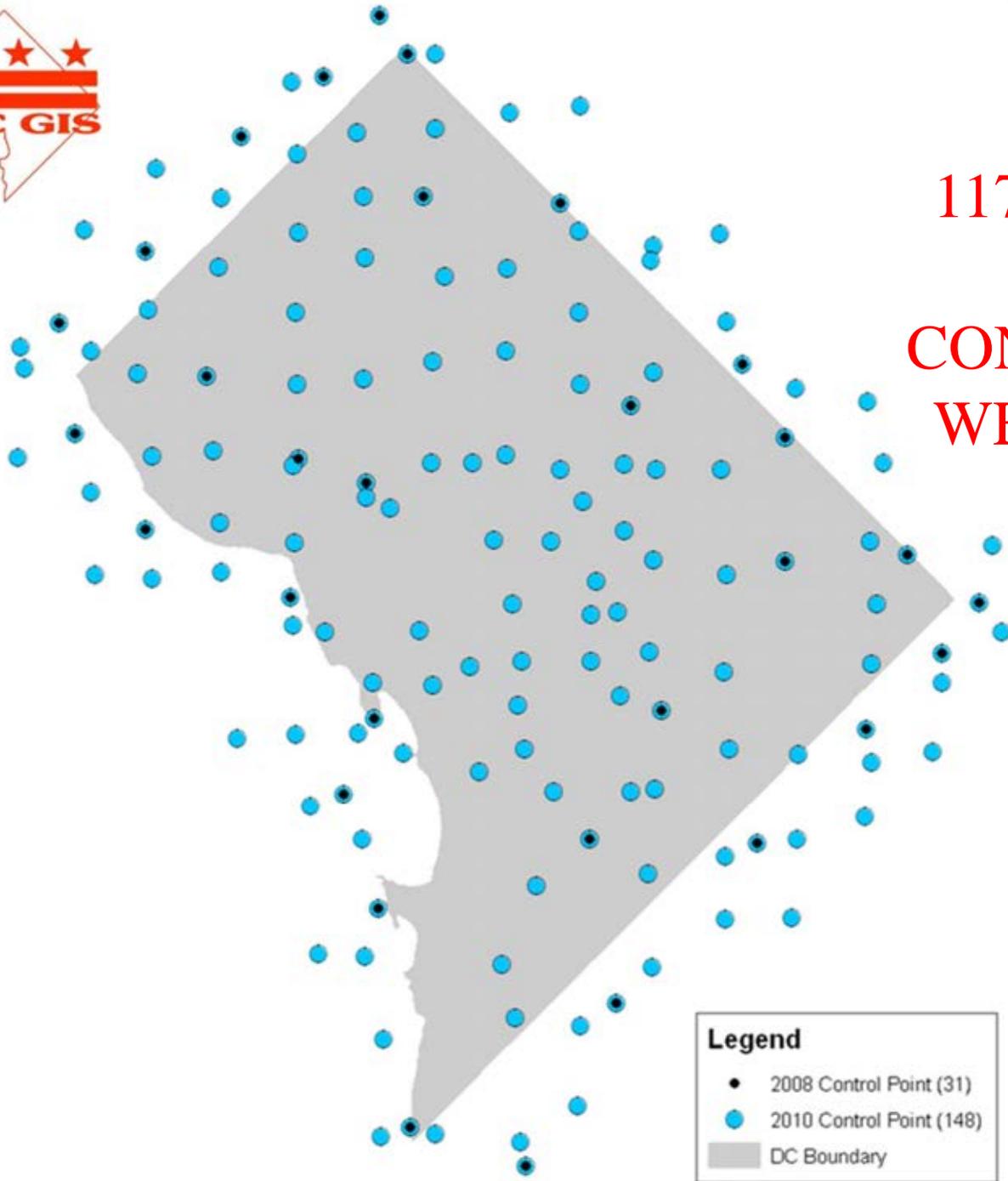
2008 Orthos



2010 Orthos



117 ADDITIONAL
GEODETIC
CONTROL POINTS
WERE ADDED IN
2010





LOCALIZED
SHIFT OF
PLANIMETRIC
DATA THAT
HAS EXISTED
SINCE 1999
CAPTURE

