District of Columbia Geographic Information System Steering Committee May 29, 2009

Barney Krucoff
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Office of the Chief Technology Officer
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202-727-9307

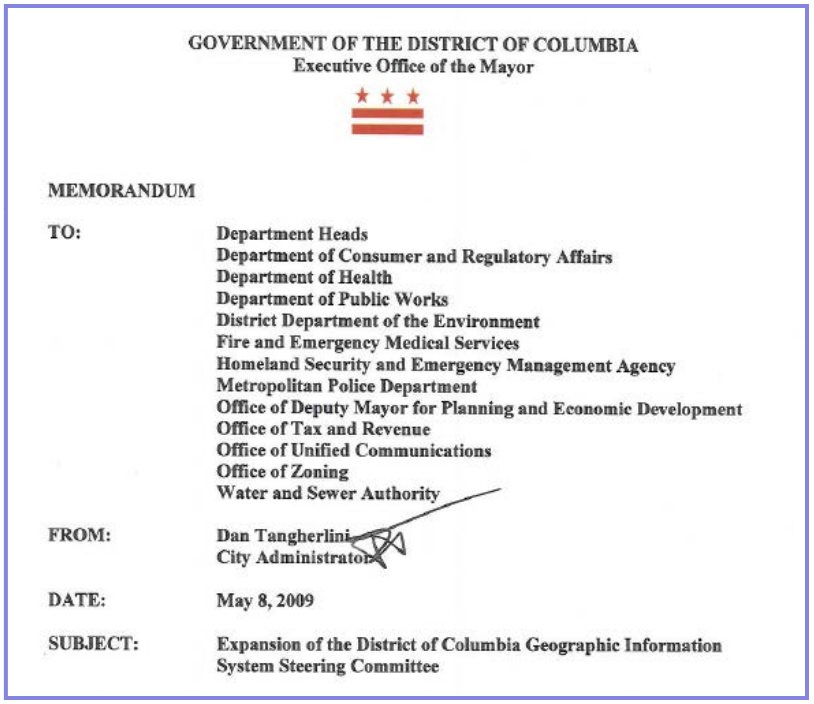
Agenda

- **Introductions**
- **City Administrator Expands Membership of GISSC**– Barney Krucoff
- **DC GIS News** – Barney Krucoff
- **Implementing the Strategic Plan** – Rich Grady, Applied Geographics
- **City Wide Data Warehouse Update –** Chris Marshal
- **Data Report –** Mario Field
- **Tree Canopy / Land Cover –** Jim Amerault DDOT and Jarlath O'Neil-Dunne University of Vermont

DC GIS NEWS

Steering Committee Expanded

- **Department of Consumer and Regulatory Affairs**
- **Department of Health**
- **Department of Public Works**
- **District Department of Environment**
- **Emergency Management**
- **Fire and Emergency Medical Services**
- **Homeland Security and Agency**
- **Metropolitan Police Department**
- **Deputy Mayor Planning & Econ Dev**
- **Office of Tax and Revenue**
- **Office of Unified Communications**
- **Office of Zoning**
- **Water and Sewer Authority**



GOVERNMENT OF THE DISTRICT OF COLUMBIA
Executive Office of the Mayor

MEMORANDUM

TO: Department Heads
Department of Consumer and Regulatory Affairs
Department of Health
Department of Public Works
District Department of the Environment
Fire and Emergency Medical Services
Homeland Security and Emergency Management Agency
Metropolitan Police Department
Office of Deputy Mayor for Planning and Economic Development
Office of Tax and Revenue
Office of Unified Communications
Office of Zoning
Water and Sewer Authority

FROM: Dan Tangherlini
City Administrator

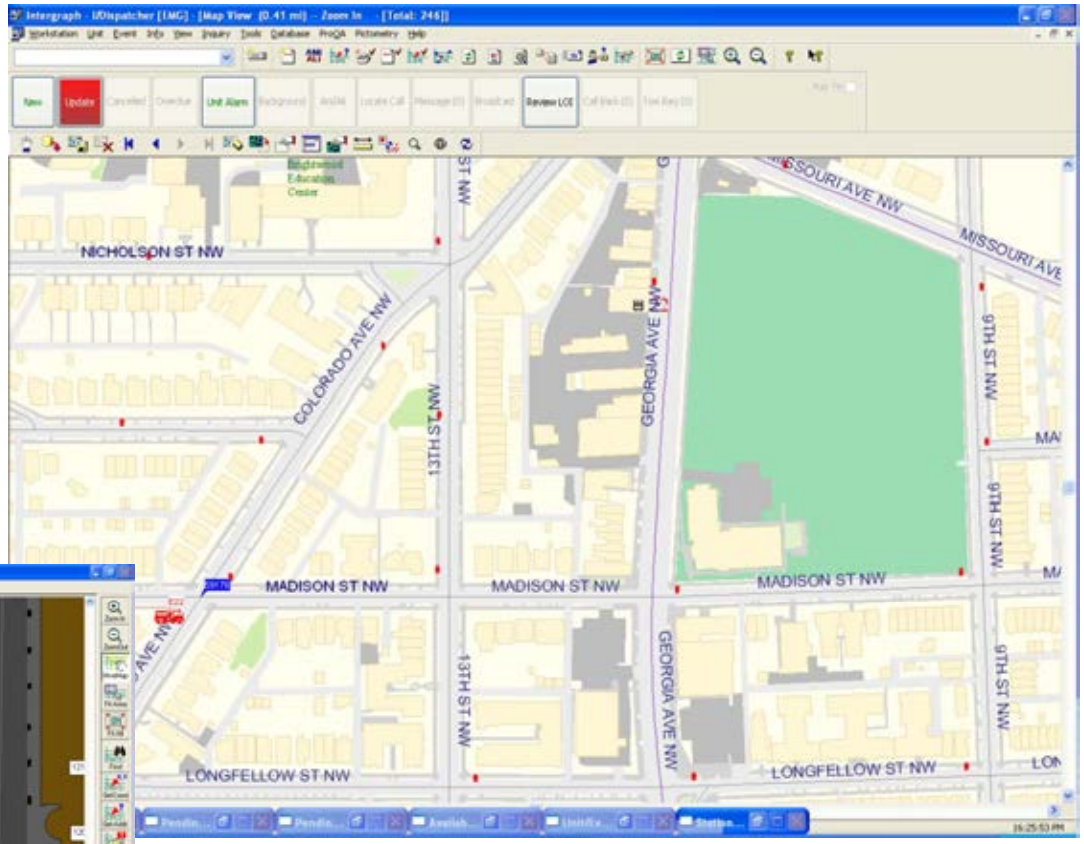
DATE: May 8, 2009

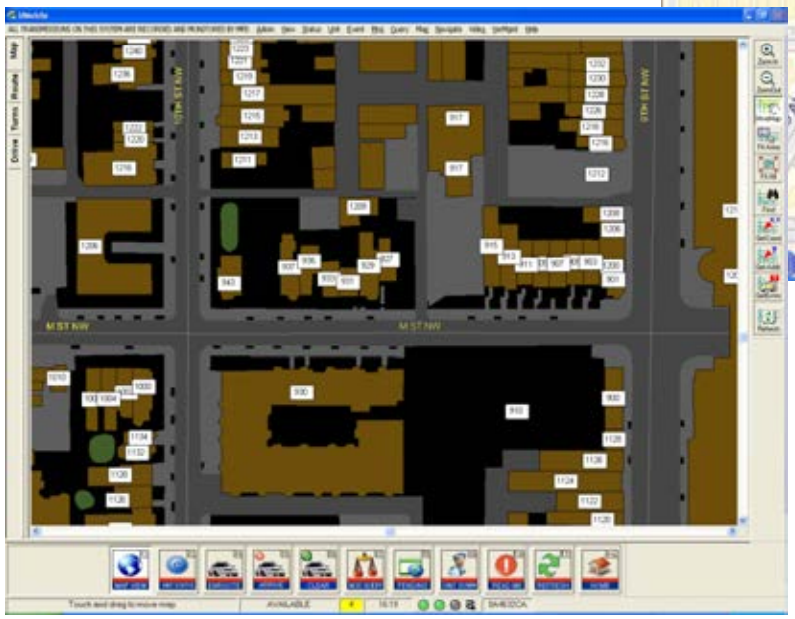
SUBJECT: Expansion of the District of Columbia Geographic Information System Steering Committee

* Plus USGS as a non-voting federal partner.

DC GIS News

- The DC GIS Base Map is now part of the Computed Aided Dispatch (CAD aka 911) system

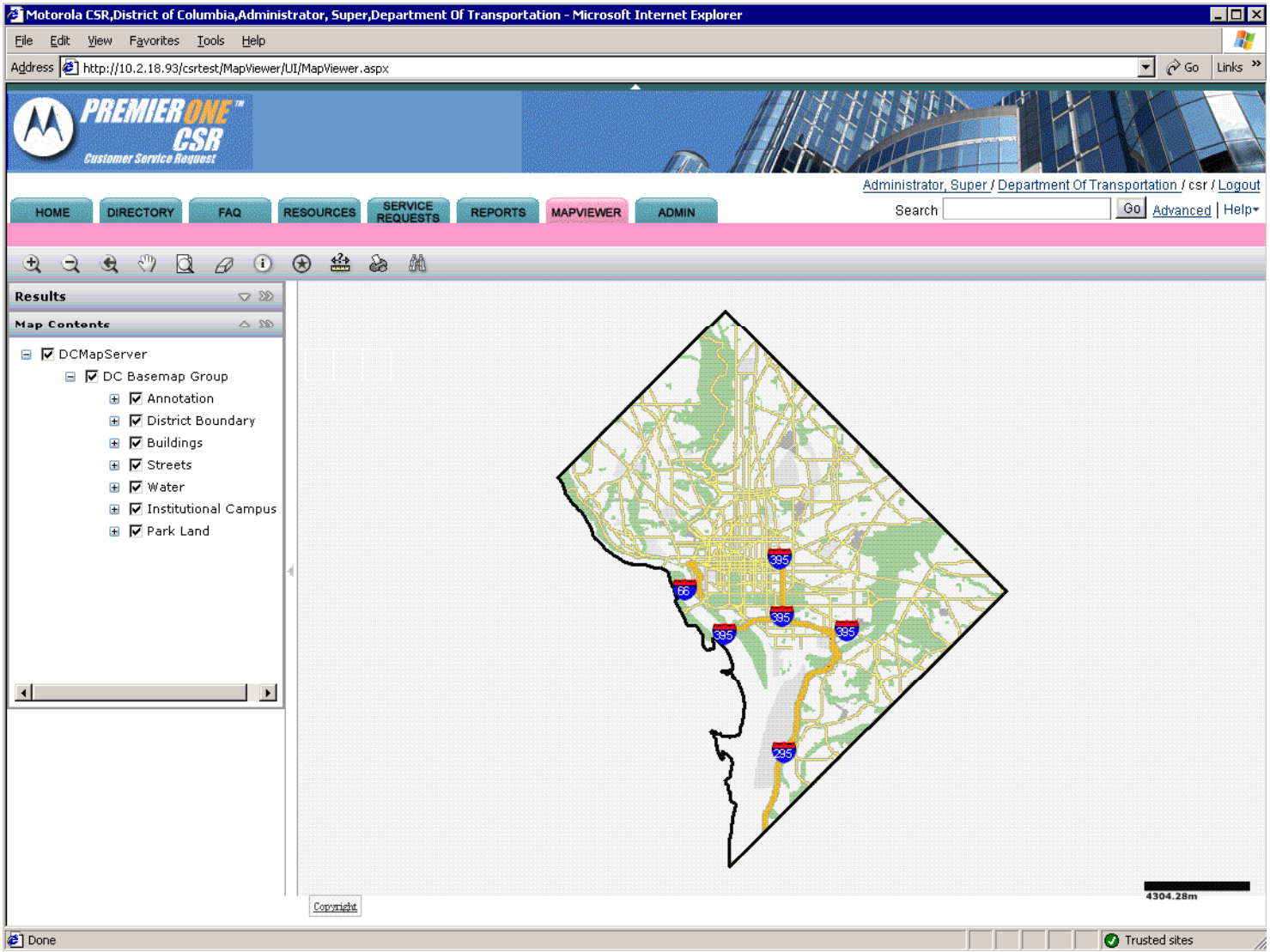




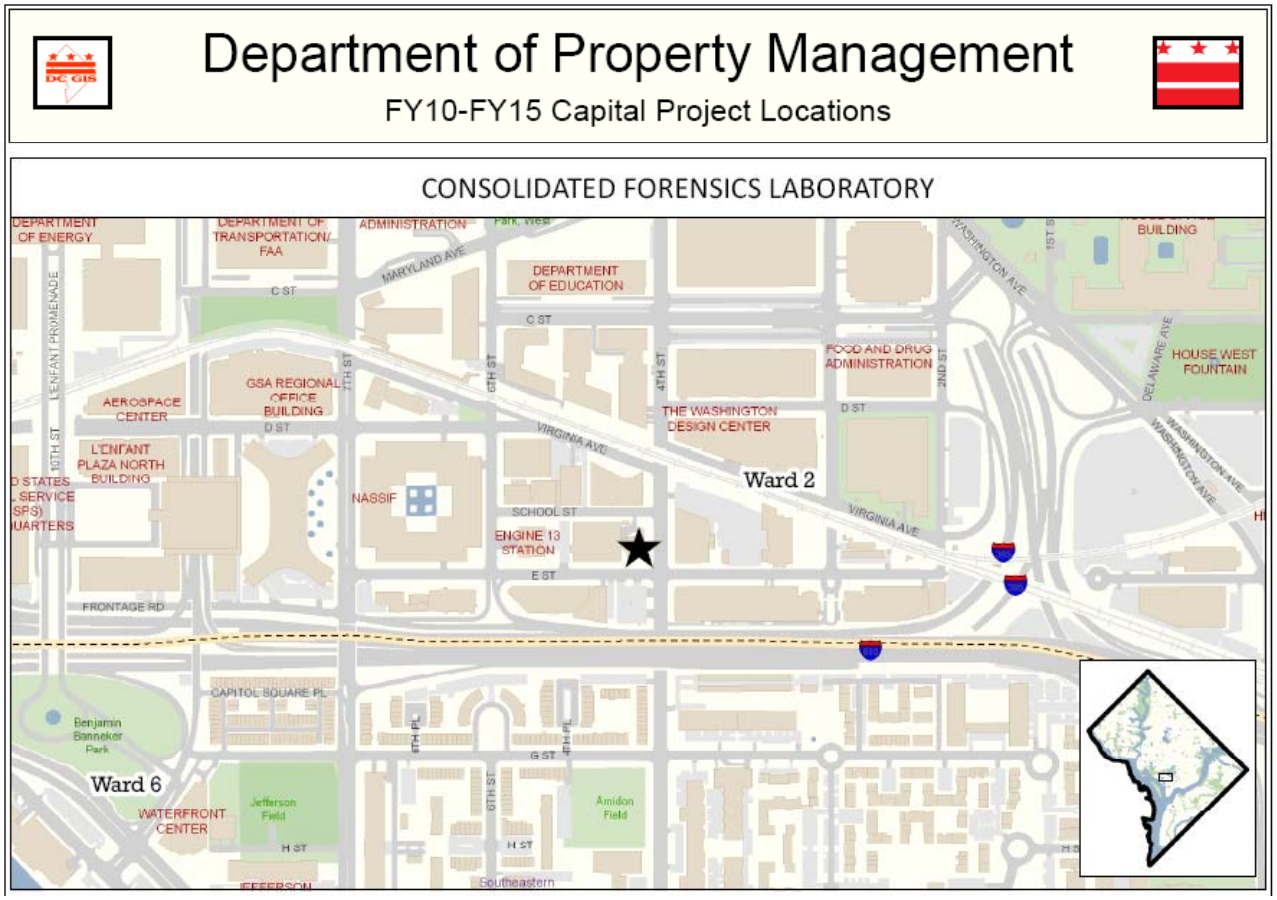
- Also in the I-mobile client in MPD and FEMS vehicles

DC GIS News

- The new 311 Service Request System



Maps & GISSC in Capital Plan

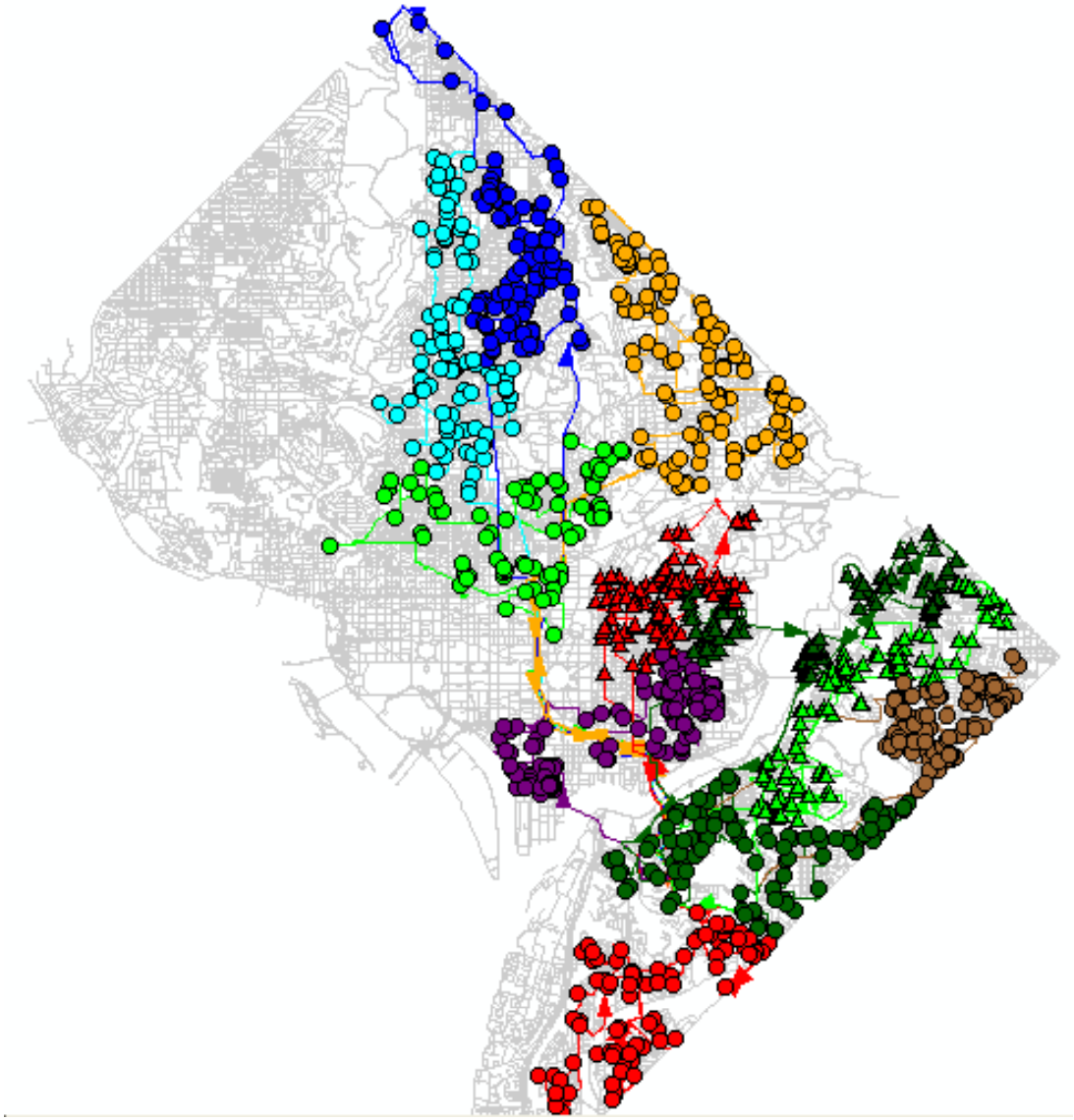


- Also new language with GISSC Role in capital plan. check pages 205 & 213

"This capital fund (N1604c) is paired with master lease fund project ZA143C. Both invest in shared applications and mapping data for District agencies that work with geographic data. OCTO coordinates and facilitates cross-agency investments through the **District of Columbia Geographic Information System (DC GIS) Steering Committee**."

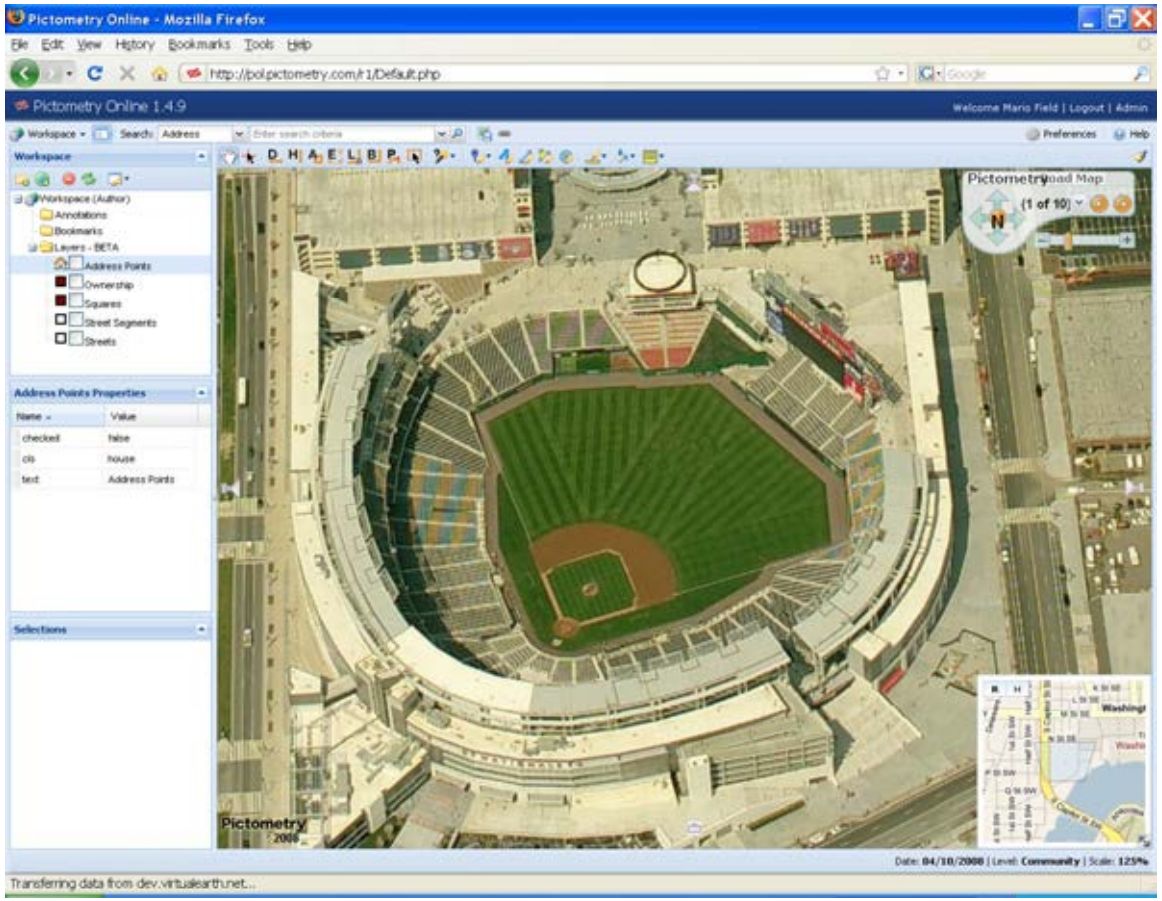
Routing for Meals on Wheals

- Office of Aging and its contractors now use GIS routing for meals on wheals
- Thanks DPW!



Pictometry & NAIP Update

- Pictometry spring flight successful leaf-off
- New library this summer
- Pictometry online still work in progress
- National Agriculture Imagery Program (NAIP) flying both MD and VA. DC-wide leaf-on forth band in planning stage.



Summer Youth

- DC GIS Hosting 10 Summer Youth
- Working closely with DDOT on GPS Data Collection
  - Awnings
  - Benches
  - Bicycle Racks
  - Bollards
  - Call Boxes
  - Electrical Control Boxes
  - Litter Cans
  - Mailboxes
  - Media Boxes
  - Parking Meters
  - Parking Garages
  - Planters
  - Sidewalk Cafes
  - Stairs Into Buildings
  - Street Furniture
  - Taxi Cab Stands
  - Vaults
  - Ventilation Grates
  - Wheelchair Ramps
  - Segway Rental locations
  - Tour Bus Stops
- Field Trips
  - National Maritime Heritage Foundation
  - Library of Congress
  - National Geographic
  - GeoEye
  - Office of Planning
  - WDEP
  - Coastlines

GIS for Economic Development

DC GIS Tools & "Hands on DC"

- Supporting:
  - Deputy Mayor for Planning and Economic Development **(DMPED)**
  - Washington, DC Economic Partnership **(WDCEP)**
  - Executive Office of Mayor **(EOM)**

- Place: Global Retail Real Estate Conference, Las Vegas
  - ~30,000 Attendees (developers, retail brokerage, restaurants, more!)
  - District Delegation: Mayor Fenty; Neil Albert (CA); DMPED Project Managers; Council Members Gray, K. Brown, M. Brown, Alexander, Bowser, Evans, and Thomas; and **OCTO GIS!**

- DC GIS Tools
  - Custom Identification Tools
  - Georeference Site Plans
  - All DC GIS Central has to offer!

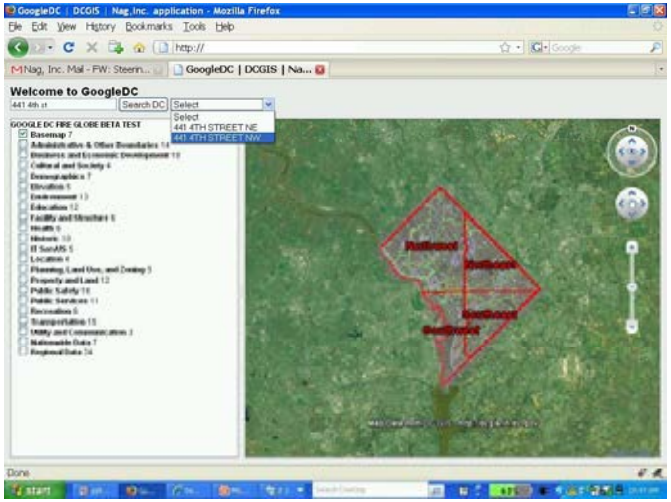
- "Hands on DC"
  - Microsoft Surface Application
  - DC GIS Basemap, Retail Site Imagery, Narratives, Sq. Footage
  - All Touch Enabled – Use Your Hands!

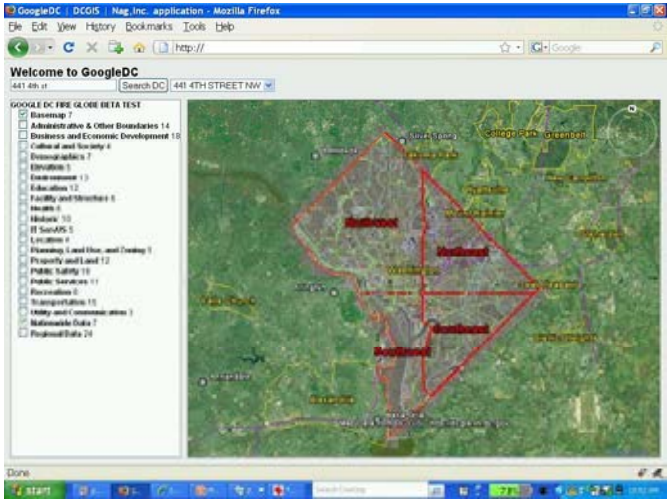
GIS for Economic Development

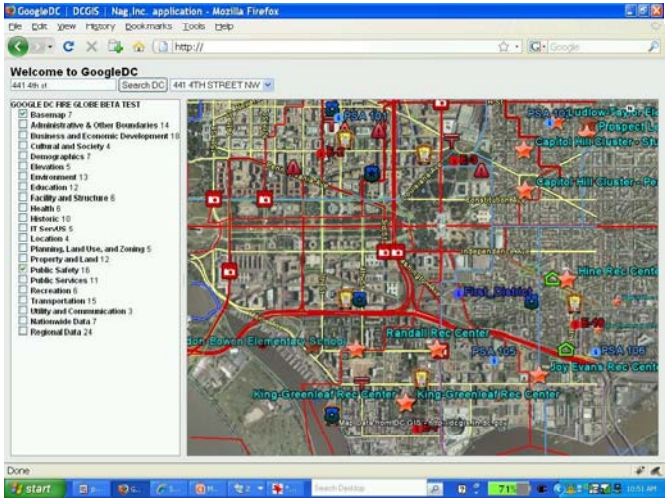
“Hands on DC”

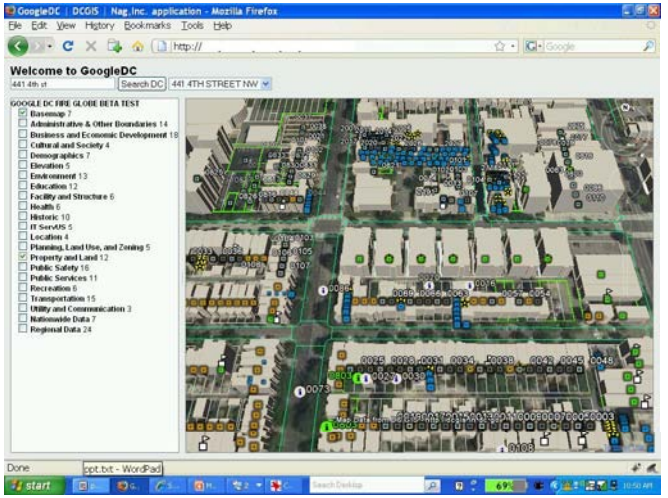
Google (Earth) DC Plugin available soon!

- **Seamless tie-up with existing Google DC Fusion Data.**
- **Drill down capability for 300+ layers**
- **MAR Integration**
- **Custom secure applications on the web developed for FIRE & Public Safety**



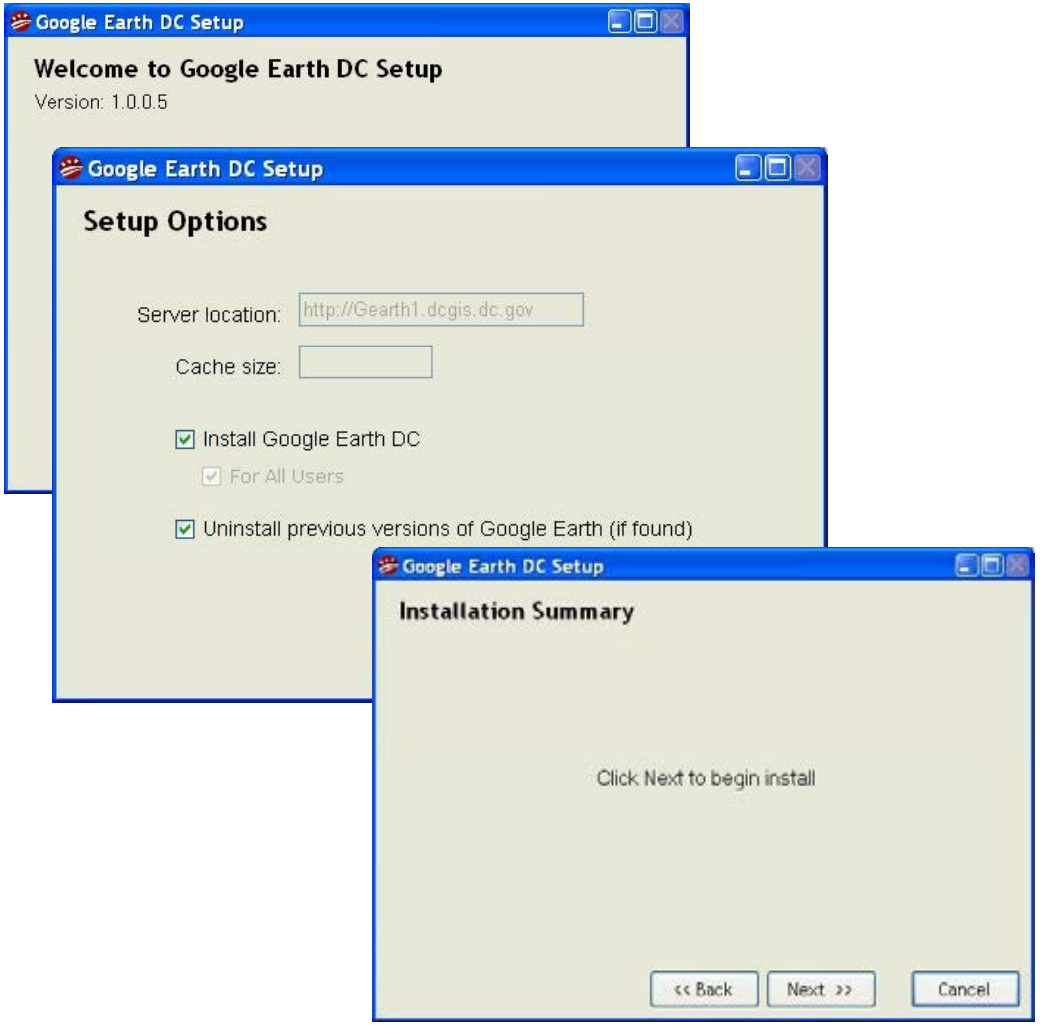






GoogleDC 5.0 deployment Package

- **Upgraded Google Earth Enterprise to beta 5.0 and GoogleDC customization Package**
- **Automatically Un-Installs previous versions, before installing the new version.**
- **Both Google Earth Enterprise and customization script is rolled into one package for quick and easy deployment.**



Applications in development

- WDCEP Retail Site Locator in Google Map
  http://googledc.dcgis.dc.gov/retail
- CSOSA Sex Offender Web Site in Google Map
  http://10.2.11.29/sor
- DC Capital Projects Map
  http://10.2.11.29/agencyapps/capital.aspx
- DPW Trash/Recycle Pickup Date lookup
  http://10.2.11.29/trashrecyclepickup/

Master Address Repository
Residential Units

Total Unit(s): 12	
Unit	Unit SSL
101	1096 2017
102	1096 2018
103	1096 2019
104	1096 2020
201	1096 2021
202	1096 2022
203	1096 2023
204	1096 2024
301	1096 2025
302	1096 2026
303	1096 2027
304	1096 2028

Condominium – 1 18TH STREET SE

http://dcgis.dc.gov/mar

Master Address Repository
Residential Units

What is a Residential Unit?

An individual housing occupancy which has a secondary designation. These can be apartments or condominiums Most of these units have an interior entrance to the location.

Examples of designations include:

- 1 18th Street NE 101
- 1439 SPRING ROAD NW 302
- 4338 HALLEY TERRACE SE 1A
- 100 CHESAPEAKE STREET SE 5

Residential Units

- 185,632 records in the Residential Units
- There are an estimated 194,000 – 202,000 in DC
- Thus the Residential is estimate to be between 91.9% - 95.6% complete

- Includes fields:
  - Unit Num
  - Unit Type
  - Unit ID
  - Address ID
  - Condo SSL
  - Condo Square
  - Condo Suffix
  - Condo Lot
  - Condo Book
  - Condo Page
  - Metadata ID

MAR Update

- Major improvement in Quality of SSL Data in MAR
  - Automatic weekly update of SSL AID Cross Reference Table
  - Reviewed recommended and assigned addresses

- Updated Documentation
  - MAR Presentation
  - MAR Frequently Asked Questions (FAQ)
  - Address Anomalies

- MAR Blog: http://dcaddresscoordinates.blogspot.com

ESRI Geocoding Tool

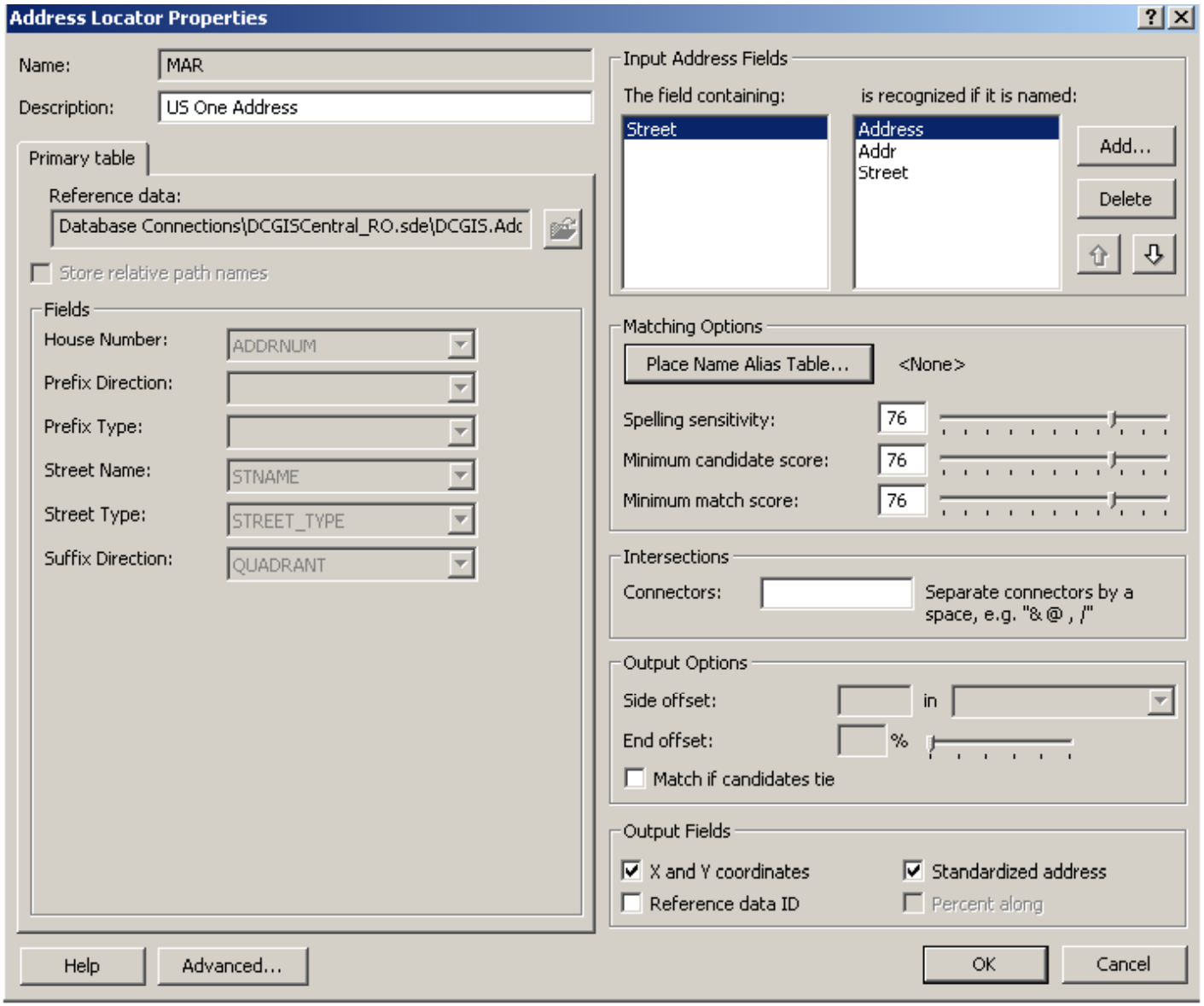
- Available in DCGIS Central SDE

- Alternative to MAR Batch Geocoder which is slow in dealing with large amount of records.

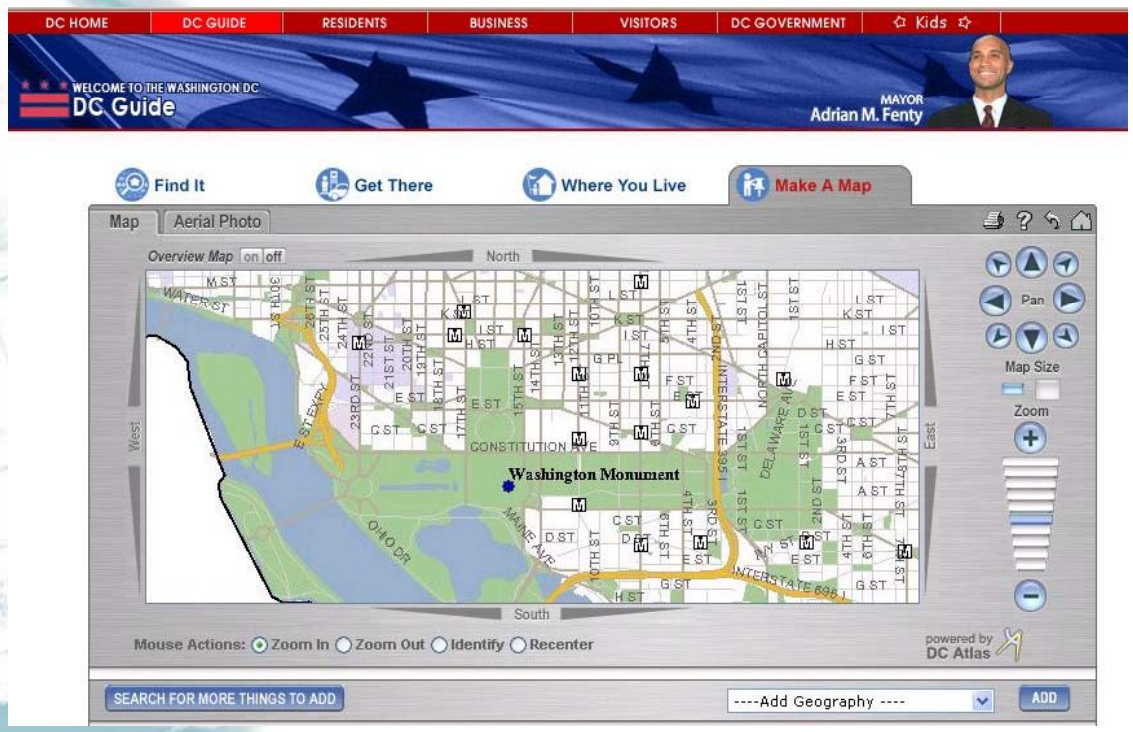
- Bucket approach.
    1. MAR Geocoding
    2. Street Centerline Geocoding
    3. Regional

- Most of the settings are preset

MAR Geocoding Tool Settings



DC GIS Strategic and Business Planning:
NEXT STEPS



Presented to DC GIS Steering Committee

May 29, 2009

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DC GIS

How we got here…

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Strategic Planning Process: Who has participated?

- DC Agencies
- Independent DC Agencies
- Federal Agencies
- Academic Institutions
- Private Sector
- Nonprofits
- Others Groups
- Citizens

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National Context: Part of a Bigger Picture

- National Spatial Data Infrastructure (NSDI)
- Federal Geographic Data Committee (FGDC) & National States Geographic Information Council (NSGIC) **"Fifty States Initiative"**
  - Cooperative Assistance Program (CAP) Grant Support
  - GIS Strategic Planning and Business Planning Guidance
  - Lessons Learned From Other CAP Grant Recipients
- National Geospatial Advisory Council (NGAC)

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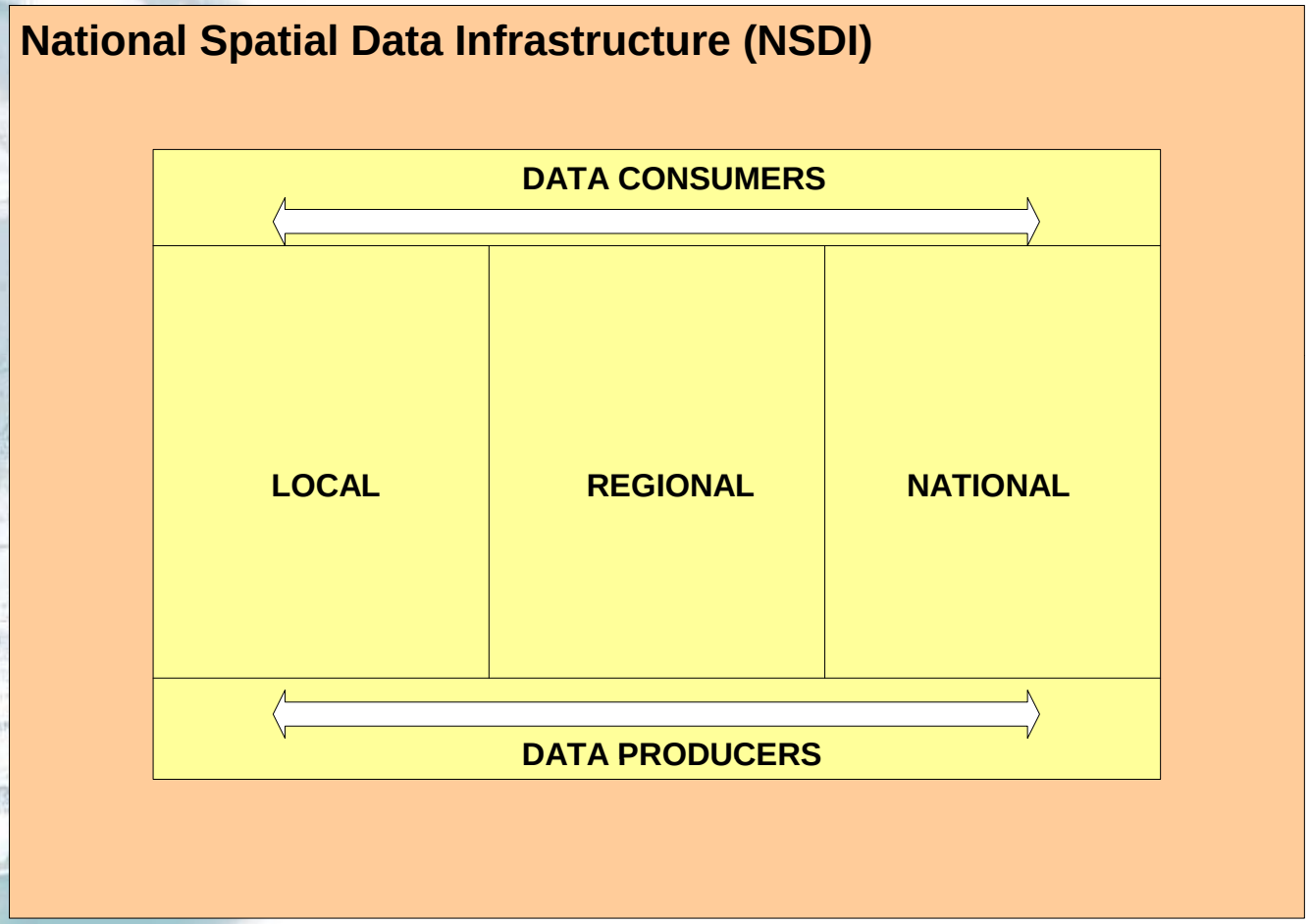
NSDI Goal: Data Sharing



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Strategic Planning Process: Overview

- ***Stakeholder workshops:*** December 2007 and March 2008 (over 40 people attended each one)
- ***GISSC meeting presentations and feedback:*** September 2007, June 2008, October 2008, and November 2008
- ***Strategic Plan Working Group (SPWG) sessions:*** January 2008 and June 2008
  - Barney Krucoff (OCTO)
  - Roger Barlow (USGS)
  - Charlie Richman (Office of Planning)
  - Dave Koehler (DPW)
  - Erik Johnson (FEMS)

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Strategic Planning Process: Overview (cont'd)

- ***Departmental and stakeholder interviews, and teleconferences:*** January 208 – July 2008
- ***On-line survey questionnaire:*** Conducted in May 2008 (15 comprehensive responses to over 50 questions)
- ***Ad hoc meetings and telecommunications:*** Throughout the project performance period (September 2007 – July 2008)
- ***Document review and topical research*** *(e.g. data profiling and analysis of the DC GIS Data Catalog):* Throughout project (September 2007-July 2008)
- ***Iteration on draft documents*** -- first, second, and final drafts (with interim drafts on parts of the plan documents)

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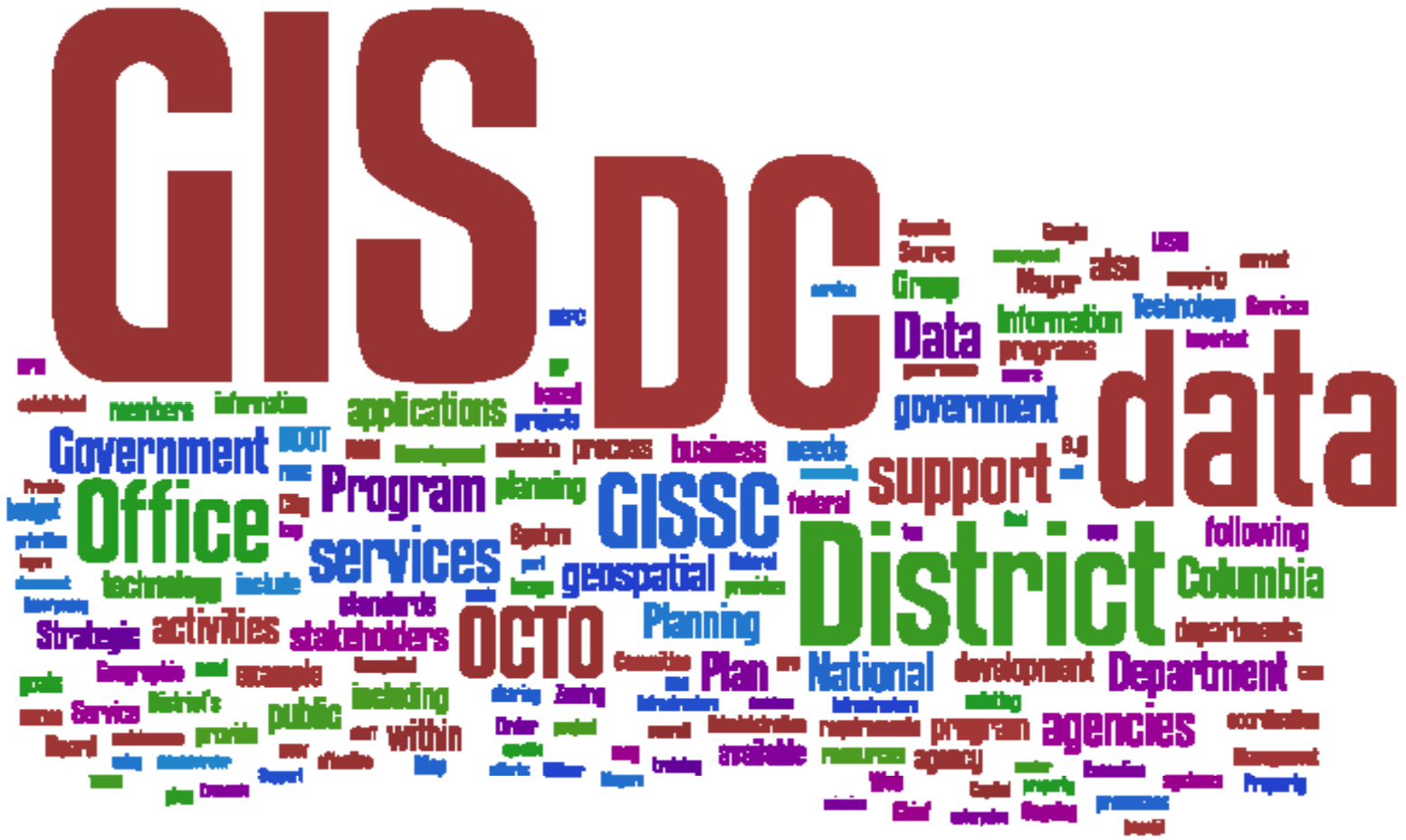
GIS
DC
data
Data
Information
programs
government
support
GISSC
District
Office
Government
Program
services
geospatial
OCTO
Planning
Plan
National
development
Department
agencies
program
Columbia
following
departments
activities
stakeholders
Strategic
technology
include
applications
members
information
process
business
needs
planning
federal
standards
public
including
within
available
agency
Group
Mayor
also
Technology
Services
Source
Service
example
Board
Property

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DC GIS

Strategic Planning Results: Refined Mission Statement

The Mission of DC Geographic Information System (DC GIS) is to **improve the quality and lower the cost of services provided by the DC Government**, through the District's collective investment and effective application of geospatial data and systems. Furthermore, DC GIS will reach beyond the DC Government by continuing to **make DC GIS data freely and publicly available to the fullest extent possible** in consideration of privacy and security.

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DC GIS

Strategic Planning Results: Goals

The planning process resulted in six long-term (5- year) goals:

1. 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
2. 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
3. Provide outstanding customer service and training that enable DC GIS users and stakeholders to leverage the full power of GIS technology
4. Sustain and improve GIS coordination and partnerships in the District of Columbia, the region, and the nation
5. Be innovative and adapt to the changing market for geospatial technology
6. Apply GIS in ways that increase revenue and reduce costs for the District

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Important Accomplishments

- Consensus adoption of the DC GIS Strategic Plan by the GISSC, November 6, 2008
- Recommendation to expand the GISSC under Mayor's Order 2002-27, and other recommendations of the Strategic Plan, approved and made actionable by the City Administrator, Dan Tangherlini, on May 8, 2009,
- Going forward, the GISSC will:
  - Continue to be chaired by OCTO
  - Continue to include senior representatives of the original permanent members (Office of the Chief Technology Officer, District Department of Transportation, Office of Planning, and the Office of the City Administrator) ***plus:***

See Table on Next Slide

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Important Milestones (cont'd)

Table of GISSC Expanded Voting Membership*:

Department of Consumer and Regulatory Affairs	**Office of Tax and Revenue**
District Department of the Environment	**Office of Unified Communications**
Fire and Emergency Medical Services	**Office of Zoning**
Homeland Security and Emergency Management Agency	**Water and Sewer Authority**
Metropolitan Police Department	**Department of Health**
Office of Deputy Mayor for Planning and Econ. Development	**Department of Public Works**

* Plus USGS as a non-voting federal partner.

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GISSC Actions from City Administrator

The expanded permanent members of the GISSC shall:

- Review and endorse the DC GIS Strategic Plan and Federated Data Model
- Develop **Bylaws** for the governance of GISSC, such as rules for establishing a quorum, conducting votes, and the formation of governance and subcommittees
- Produce and adopt an updated DC GIS **Business Plan** by September 30, 2009
- Schedule an official "GISSC Annual Budget Meeting" for September of each year, to review:
  - Past year's spending
  - DC GIS Business Plan for spending in the coming year(s) with recommendations to the OCTO CTO and City Administrator
- Continue to hold meetings at least quarterly open to all agencies and the public

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GISSC Actions: DC GIS Business Plan

- We got a head start in 2008 with DC GIS Staff
- Preliminary planning focused Data, Applications, and Services (i.e. Goals #2 and #3 from Strategic Plan)
  - 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
  - Provide outstanding customer service and training that enable DC GIS users and stakeholders to leverage the full power of GIS technology
- Participatory: Need a Business Plan Subcommittee!

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GISSC Actions: DC GIS Business Plan (cont'd)

- Applying "Portfolio Management"
- Projects have different life-cycles and investment strategies:
  - Invest (build or enhance)
  - Maintain (provide basic support)
  - Sunset (migrate toward retirement)
  - Divest (shut-off spending and "kill it")

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GISSC Actions: DC GIS Business Plan Next Steps

- Form Business Plan Subcommittee (BPS)
- Share draft document with BPS
- Schedule teleconferences and/or web meetings with in next few weeks to get feedback and input (June-July iterations)
- Refine draft and derive presentation to make at next GISSC meeting in July
- Provide Final Draft Business Plan document for GISSC Budget Meeting in September
- Finalize Business Plan based on Budget Meeting

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Four-Month Schedule

GISSC Action Items	June		July		August		September	
	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half
Establish Business Plan Subcommittee (BPS)								
Establish Bylaws Subcommittee (BLS)								
Distribute preliminary draft of Business Plan to BPS								
Present revised draft of Business Plan to OCTO DC GIS								
Present revised draft of Business Plan to full GISSC								
BLS to meet and develop proposed Bylaws								
Present proposed Bylaws to OCTO DC GIS								
Present proposed Bylaws to full GISSC								
Finalize Business Plan based on GISSC feedback								
Present to OCTO DC GIS								
Finalize Bylaws based on GISSC feedback								
Present to OCTO DC GIS								
Annual Budget Meeting								
Vote on Bylaws								
Vote on Business Plan investment priorities								
Finalize Bylaws as needed								
Finalize Business Plan as needed								

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GISSC Actions: Bylaws

- Form a “Bylaws Subcommittee” to (e.g.):
  - Establish protocols for conducting meetings
  - Determine when voting is needed
  - Determine voting rules
    - One agency one vote?
    - Simple majority wins?
    - Quorum for a vote to be valid?
    - Breaking deadlocks?
- Report back to the full GISSC in July (need to put in place by September to vote on Business Plan)

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GISSC Actions: Bylaws Subcommittee

- Who should be on it?
  - Original members of GISSC?
  - Original members plus others?
  - What others?

    OR
  - One rep from each of the traditional “clusters?”
    - Human Services
    - Planning and Economic Development
    - Public Safety
    - Transportation and Operations
- Discussion…(and then, volunteers!)

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Discussion

Thank you!

Rich Grady

Applied Geographics, Inc.
Empowering People with Spatial Solutions

rgrady@appgeo.com

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DC GIS

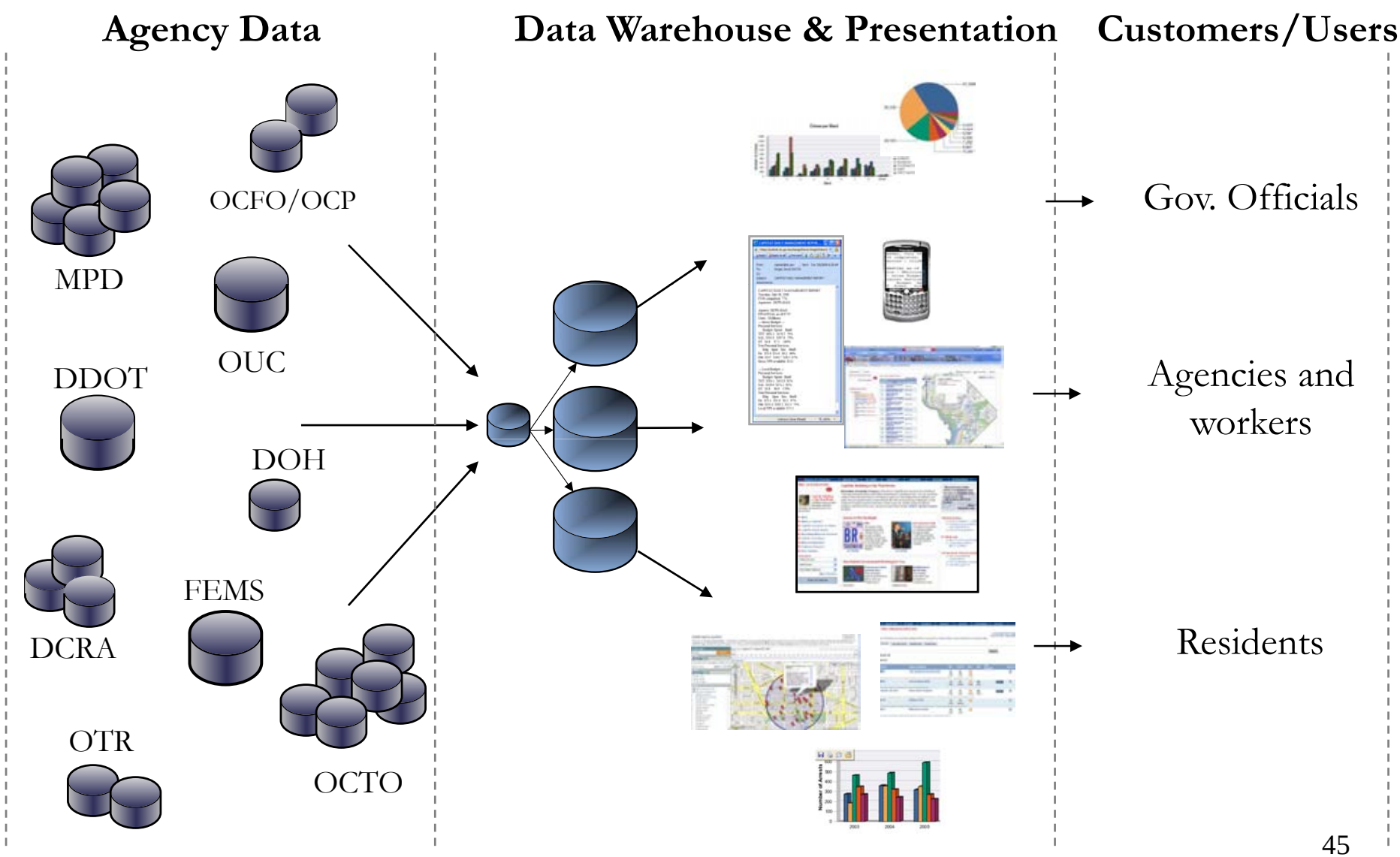
DC Public Data Catalog

Providing Government Transparency and Accountability
By Publishing District Data

DC GIS Steering Committee Meeting

May 29, 2009

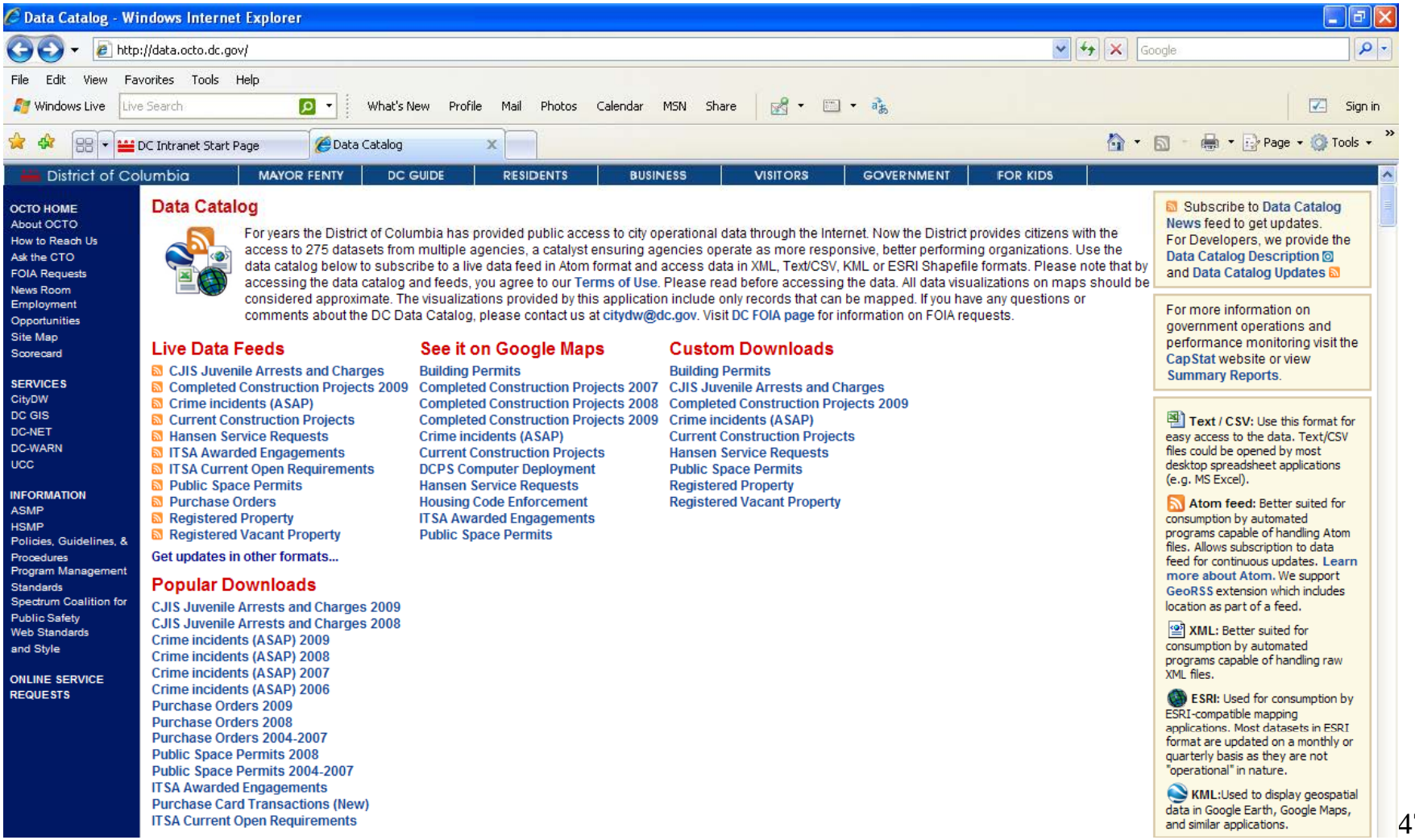
CityDW Overview



DC Public Data Catalog

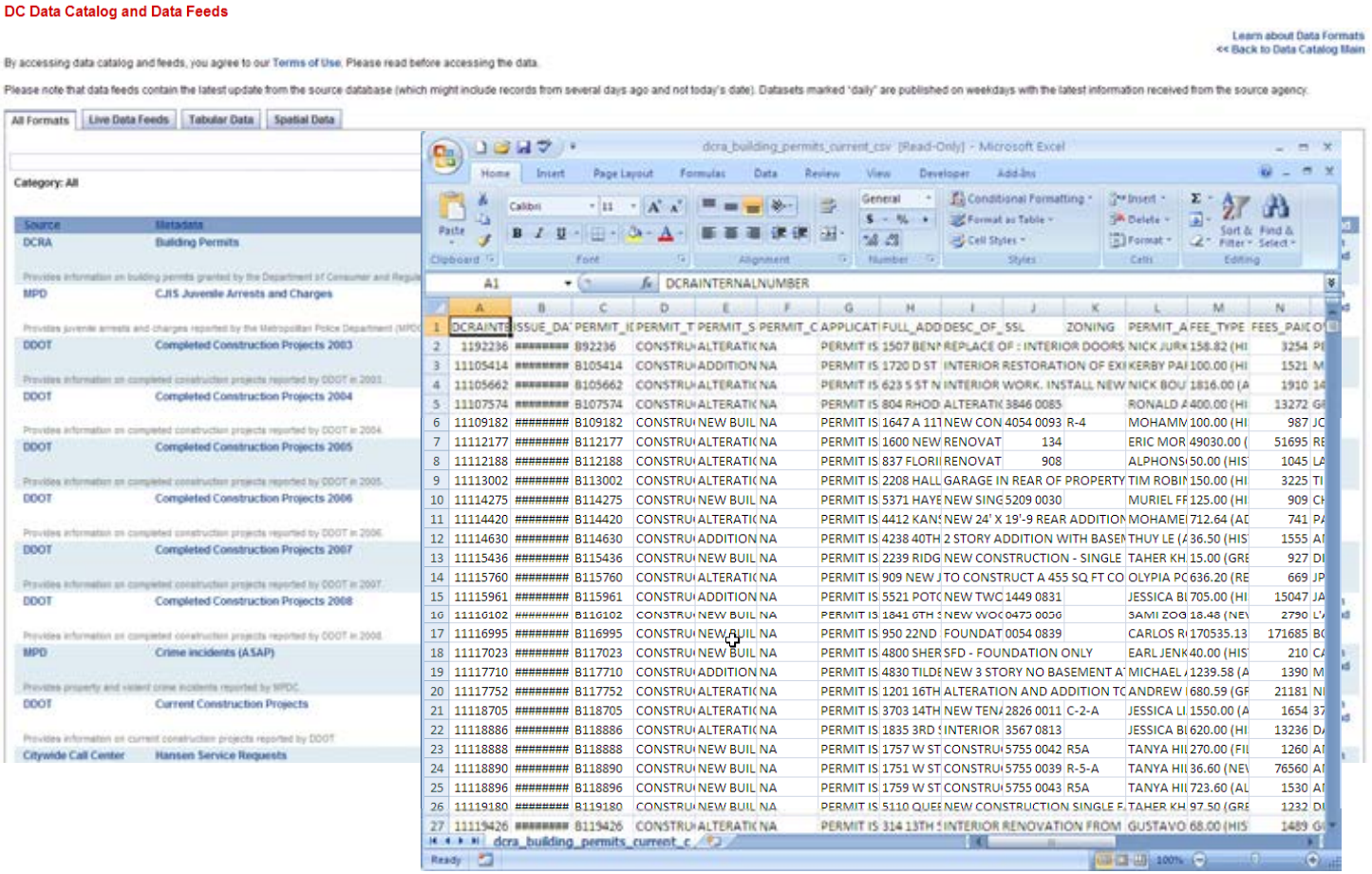
- Public Display of Over 270 Data Sets
- Search Capability of District Data and Agency Information
- One Click Access to Data on Google Maps
- Easy Data Downloads into Excel Spreadsheets
- Data Feeds that Provide Various Update Frequencies—
  - Some in Near Real Time
- Open Access to Data—No Registration Requirements

Data Catalog & Data Feeds



Data Catalog & Data Feeds

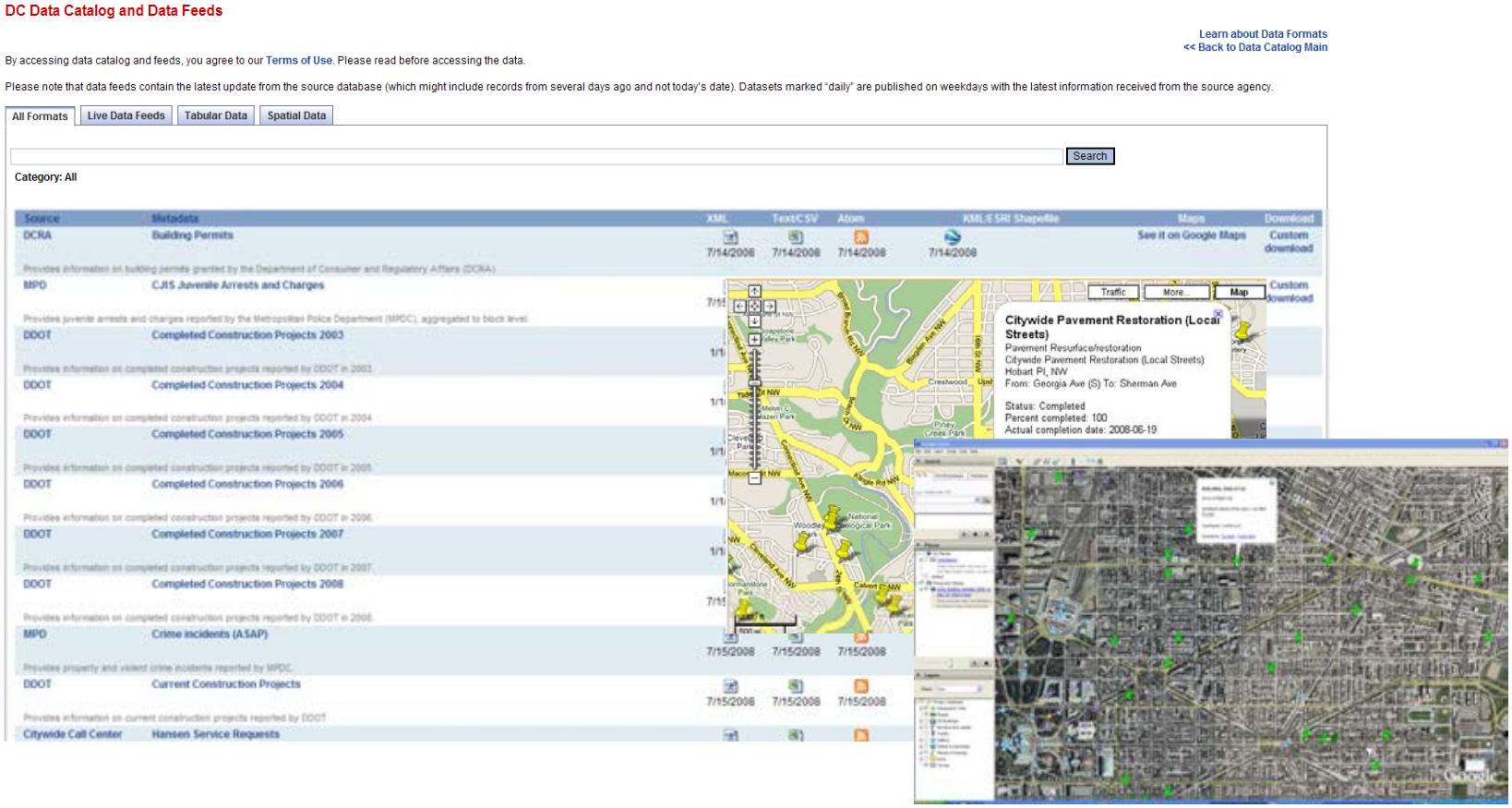
Users can download up-to-date data into a spreadsheet.



Available from the DC Data Catalog and Data Feeds http://data.octo.dc.gov/

Data Catalog & Data Feeds

Users can map your data with a single click.



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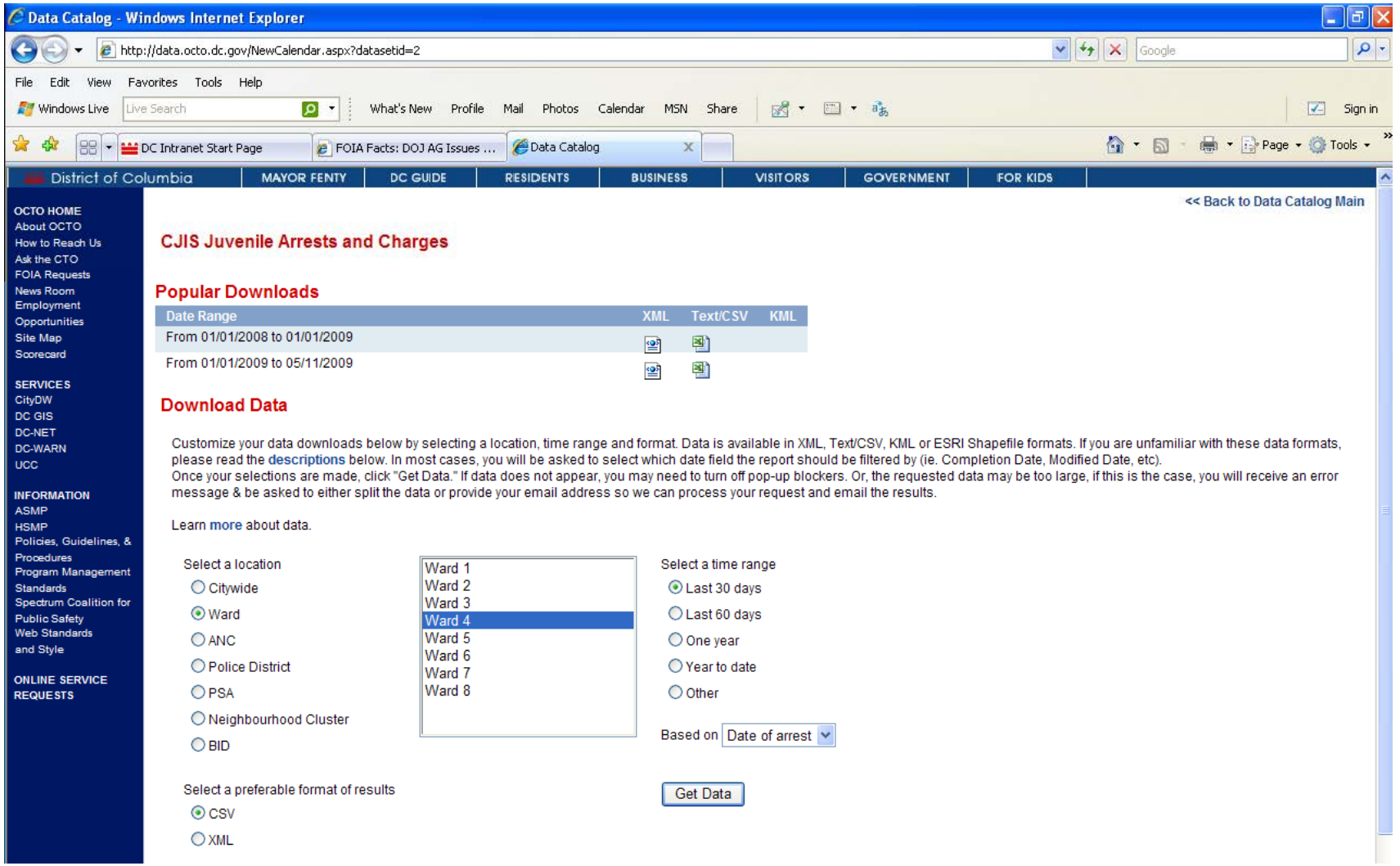
Data Catalog Custom Downloads



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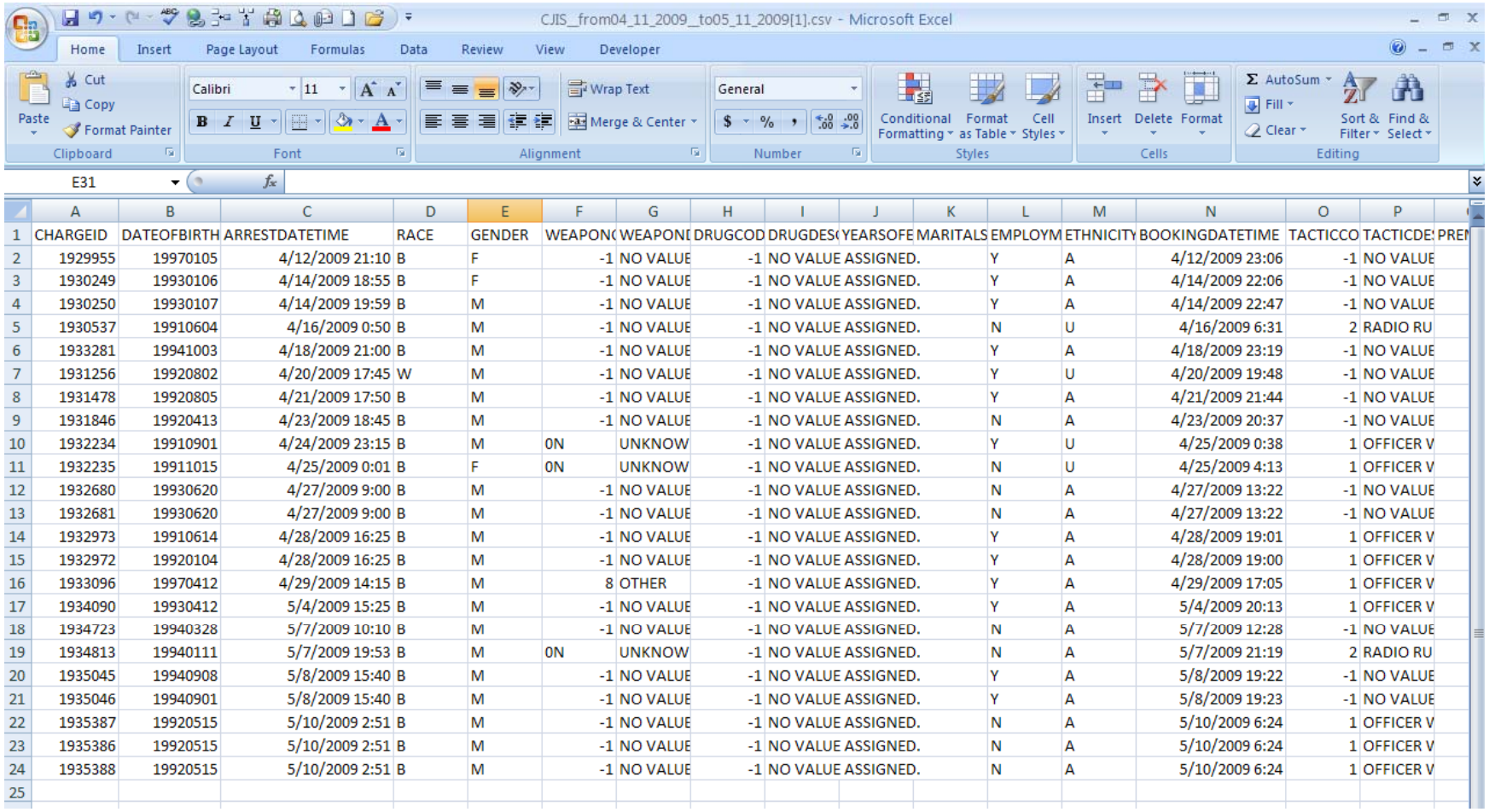

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	CHARGEID	DATEOFBIRTH	ARRESTDATETIME	RACE	GENDER	WEAPON(	WEAPONI	DRUGCOD	DRUGDES(	YEARSOFE	MARITALS	EMPLOYM	ETHNICITY	BOOKINGDATETIME	TACTICCO	TACTICDE:
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3	1930249	19930106	4/14/2009 18:55	B	F	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	4/14/2009 22:06	-1	NO VALUE
4	1930250	19930107	4/14/2009 19:59	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	4/14/2009 22:47	-1	NO VALUE
5	1930537	19910604	4/16/2009 0:50	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	U	4/16/2009 6:31	2	RADIO RU
6	1933281	19941003	4/18/2009 21:00	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	4/18/2009 23:19	-1	NO VALUE
7	1931256	19920802	4/20/2009 17:45	W	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	U	4/20/2009 19:48	-1	NO VALUE
8	1931478	19920805	4/21/2009 17:50	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	4/21/2009 21:44	-1	NO VALUE
9	1931846	19920413	4/23/2009 18:45	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	A	4/23/2009 20:37	-1	NO VALUE
10	1932234	19910901	4/24/2009 23:15	B	M	0N	UNKNOW	-1	NO VALUE ASSIGNED.			Y	U	4/25/2009 0:38	1	OFFICER V
11	1932235	19911015	4/25/2009 0:01	B	F	0N	UNKNOW	-1	NO VALUE ASSIGNED.			N	U	4/25/2009 4:13	1	OFFICER V
12	1932680	19930620	4/27/2009 9:00	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	A	4/27/2009 13:22	-1	NO VALUE
13	1932681	19930620	4/27/2009 9:00	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	A	4/27/2009 13:22	-1	NO VALUE
14	1932973	19910614	4/28/2009 16:25	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	4/28/2009 19:01	1	OFFICER V
15	1932972	19920104	4/28/2009 16:25	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	4/28/2009 19:00	1	OFFICER V
16	1933096	19970412	4/29/2009 14:15	B	M	8	OTHER	-1	NO VALUE ASSIGNED.			Y	A	4/29/2009 17:05	1	OFFICER V
17	1934090	19930412	5/4/2009 15:25	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	5/4/2009 20:13	1	OFFICER V
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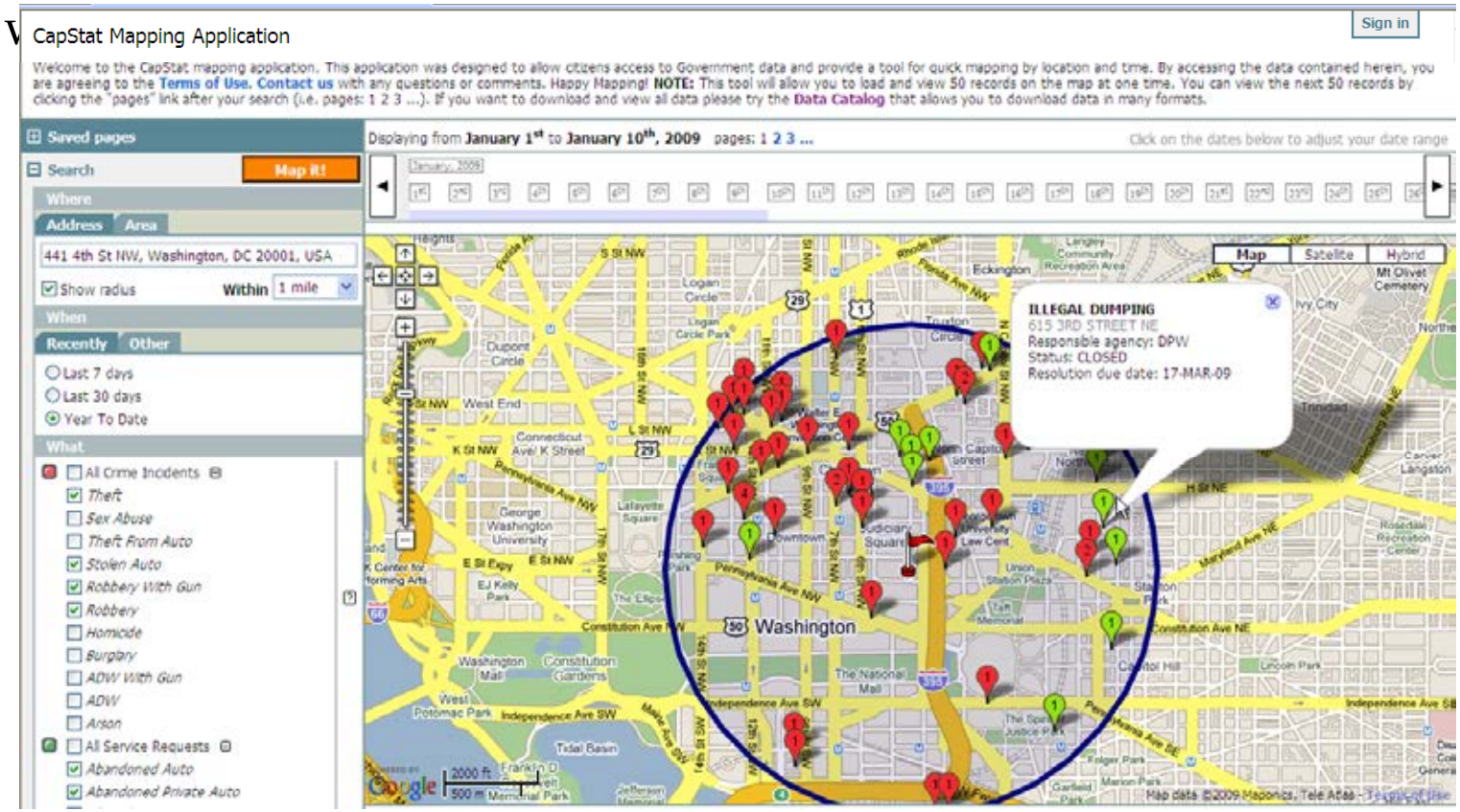
19	1934813	19940111	5/7/2009 19:53	B	M	0N	UNKNOW	-1	NO VALUE ASSIGNED.			N	A	5/7/2009 21:19	2	RADIO RU
20	1935045	19940908	5/8/2009 15:40	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	5/8/2009 19:22	-1	NO VALUE
21	1935046	19940901	5/8/2009 15:40	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			Y	A	5/8/2009 19:23	-1	NO VALUE
22	1935387	19920515	5/10/2009 2:51	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	A	5/10/2009 6:24	1	OFFICER V
23	1935386	19920515	5/10/2009 2:51	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	A	5/10/2009 6:24	1	OFFICER V
24	1935388	19920515	5/10/2009 2:51	B	M	-1	NO VALUE	-1	NO VALUE ASSIGNED.			N	A	5/10/2009 6:24	1	OFFICER V
25																

Custom BI Applications

The CapStat Mapping Application

- Search by location/address, person
- Point mapping, Google Map based
- Research an area: **crimes, service requests or inspections…**, when and



Data Catalog via DC GIS

Ambulatory surgical centers as defined by DOH.

OTR via DC GIS	Appropriations	05/07/2009	05/07/2009

U.S Appropriations are lands set aside at the time of the original founding and platting of the city for use by the U.S. Federal Government.

AOC via DC GIS	Architect of the Capitol Areas		

Architect of the Capitol (AOC) areas

OTR via DC GIS	Assessment Neighborhoods		

Assessment Neighborhoods

OTR via DC GIS	Assessment Subneighborhoods		

Assessment subneighborhoods

OCTO via DC GIS	Baker Plan		

Plan of the city of Washington : now building for the metropolis of America, and established as the permanent residenc

DCISB via DC GIS	Bank Locations	04/18/2	

Banks in DC

DDOT via DC GIS	Bicycle Lane		

Bicycle lanes in dc

DC GIS	Bike Routes - Signed		

Bike routes with signs in DC.

DDOT via DC GIS	Bridges and Tunnels		

Bridges and Tunnels

DC GIS	Bridges with Attributes - point		
DC GIS	Bridges with Attributes - polygon		
DCRA via DC GIS	Building Restrictions		

Building restriction lines.

OCTO via DC GIS	Building spot elevations		

Rooftop Spot Elevations

OCTO via DC GIS	Buildings		

Building footprints with firewalls.

OCTO via DC GIS	Buildings - 3D (ESRI Format ONLY)		

Internet 100%

A Shared Commitment to Government Transparency

CityDW and DC GIS:

- Share the common goal of providing District data to promote open government and provide information to residents, businesses, and visitors to the District of Columbia.

- Both work to provide centralized repositories for District data.

- Share data.

The Need for More Data

Sharing Information

How You Can Help

- ✓ Provide Awareness
- ✓ Provide Data

Contact Us

CityDW@dc.gov

http://citydw.octo.dc.gov/
http://data.octo.dc.gov/
http://reports.citydw.octo.dc.gov/
http://capstat.oca.dc.gov/mapping/

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Christopher Marshall
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Data Report

Mario Field, Dr. Data

Data Updates

- ABRA Liquor License
- Business Point (INFO USA)
- Capital Project 2010
- DC Connector Bus
- Embassy
- Land Cover 2006
- Main Street
- Retail Site (WDCEP)
- Sex Offender
- Snow Emergency Route
- Street Tree
- Traffic Volume (2006 and 2007)

Final Planimetric Data Delivered

- **Building**
- **Bridge and Tunnel**
- **Geodetic Control Point**
- **Obscured Area**
- **Railroad**
- **Road**
- **Sidewalk**
- **Street Centerline**
- **Wooded Area**

- **Tentative load date: June 12, 2009**

Use Constraint Clarification

- Acknowledgment of the DC Geographic Information Systems Program (DC GIS). The District of Columbia Government makes no claims as to the completeness, accuracy or content of any data contained hereon, and makes no representation of any kind, including, but not limited to, the warranty of the accuracy or fitness for a particular use, nor are any such warranties to be implied or inferred with respect to the information or data furnished herein.

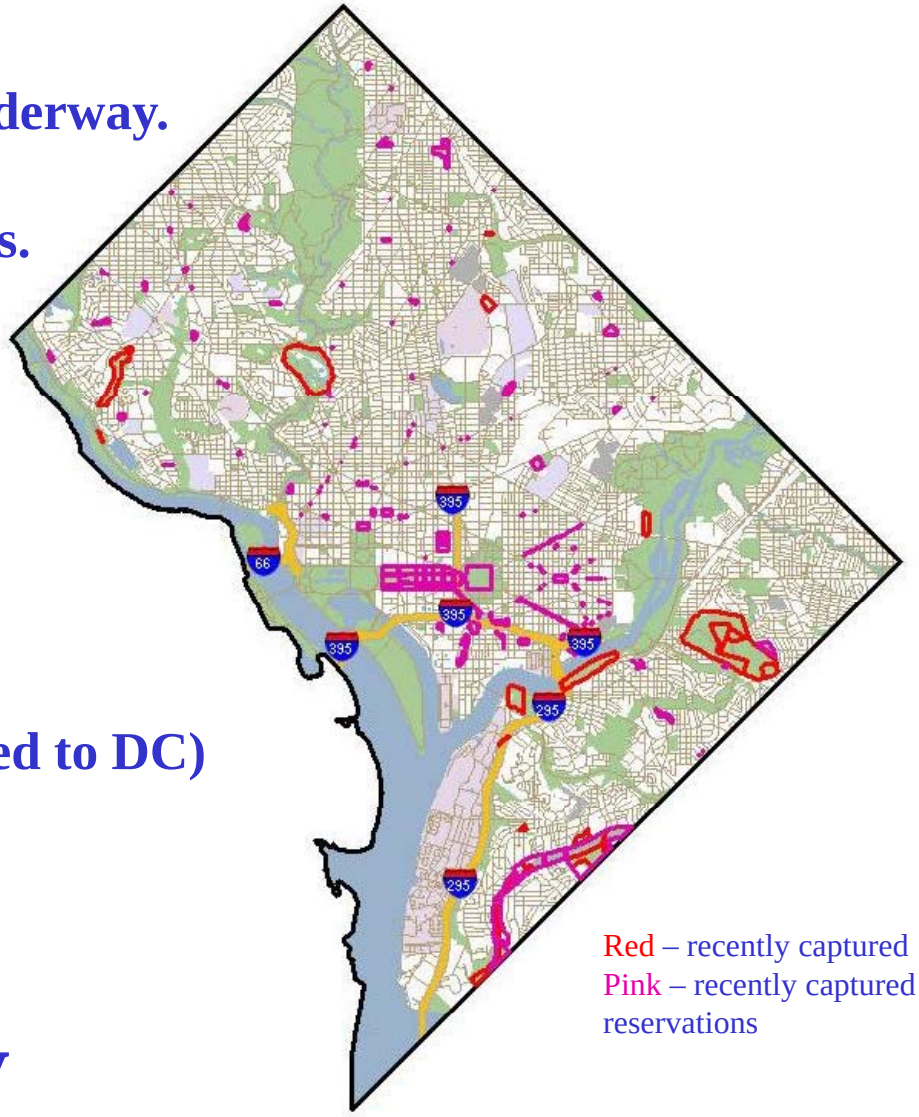
VPM – Public Lands Update

Project to map public lands is underway.

Mapped 20% ~ 1150 Reservations.
Mapped 85% ~ 1300 parcels

Recent Public Lands include:

- **National Zoo**
- **Fort Dupont Park**
- **Triangle Park (many transferred to DC)**
- **Battery Kemble Park**
- **Oxon Run Parkway**



Red – recently captured parcels
Pink – recently captured reservations

vpm.dc.gov

Upcoming Data

- **Contours**
- **DTM**
- **Federal Location**
- **Hotel**
- **Gas Station**
- **Green Roof**
- **HIV Clinic**
- **Rehabs**
- **School Attendance Boundary**

Assessing Urban Tree Canopy in the Nation's Capital

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Spatial Analysis Laboratory
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joneildu@uvm.edu

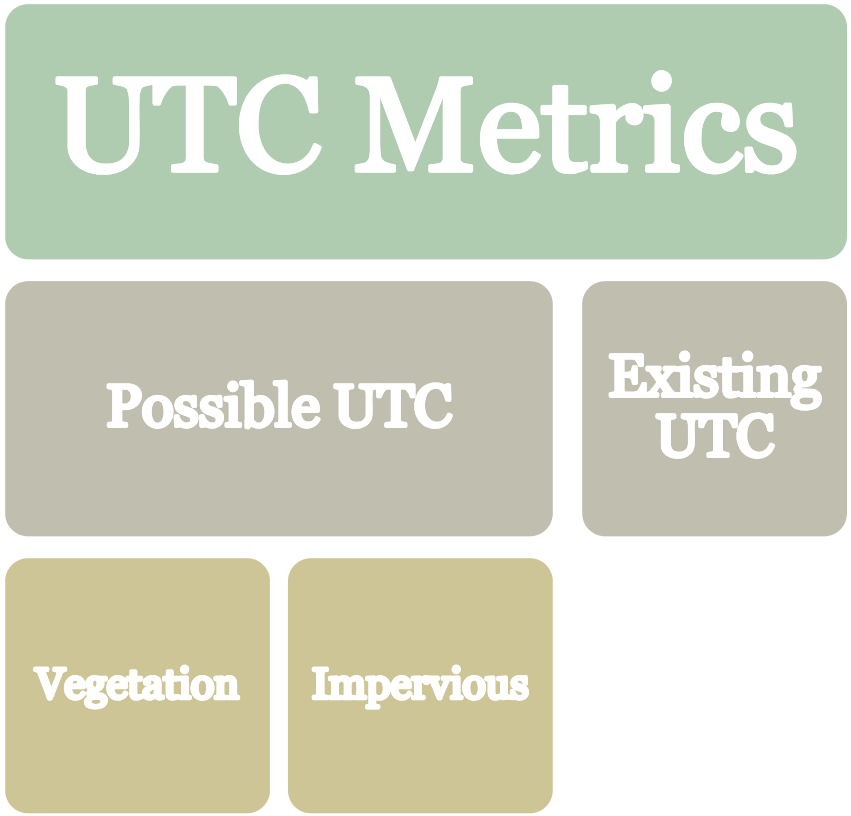
Funding for this study was provided by the U.S. Forest Service

UTC Assessment

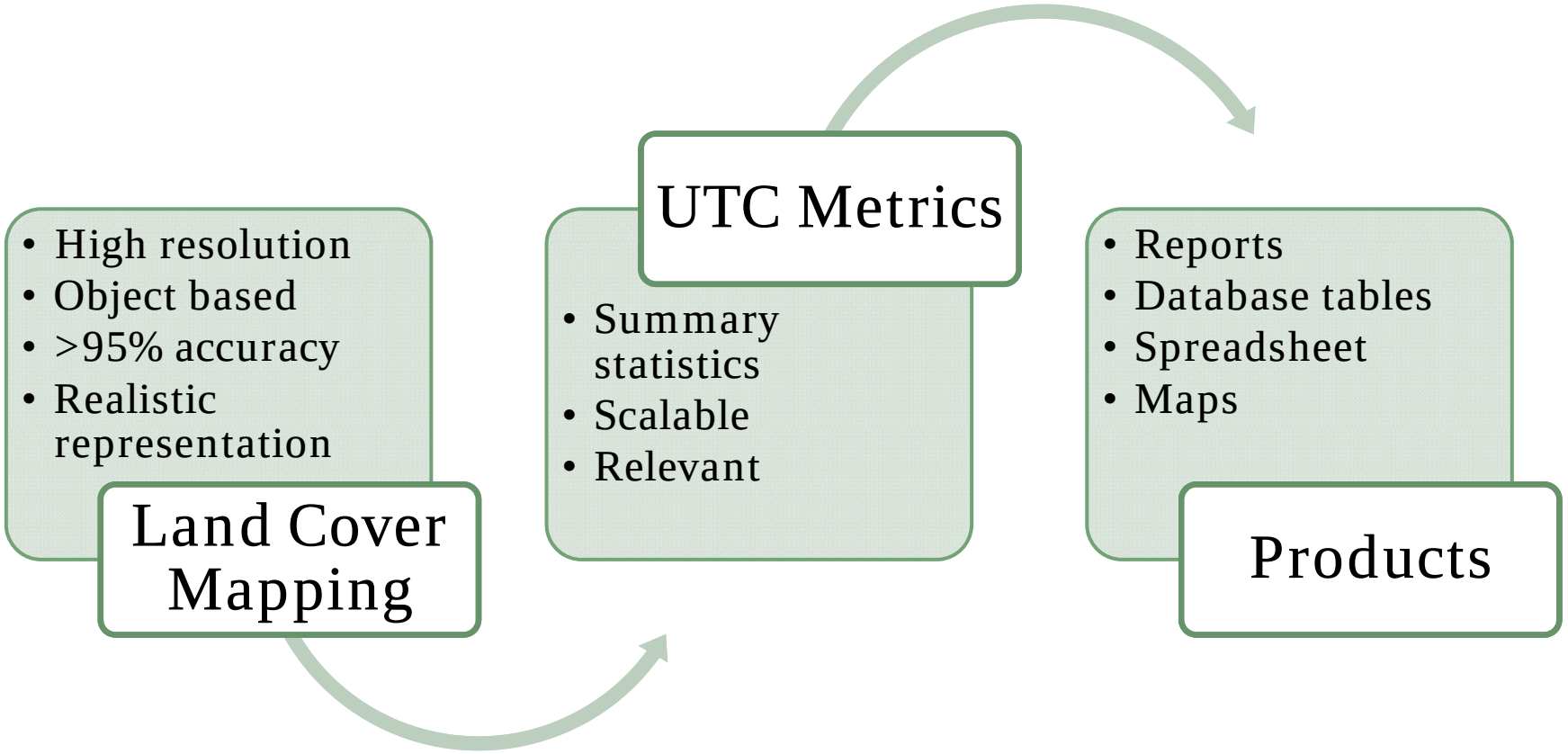
Questions

- How much tree canopy do we have?
- How much tree canopy could we have?
- Who "owns" the tree canopy?
- How is the tree canopy distributed?

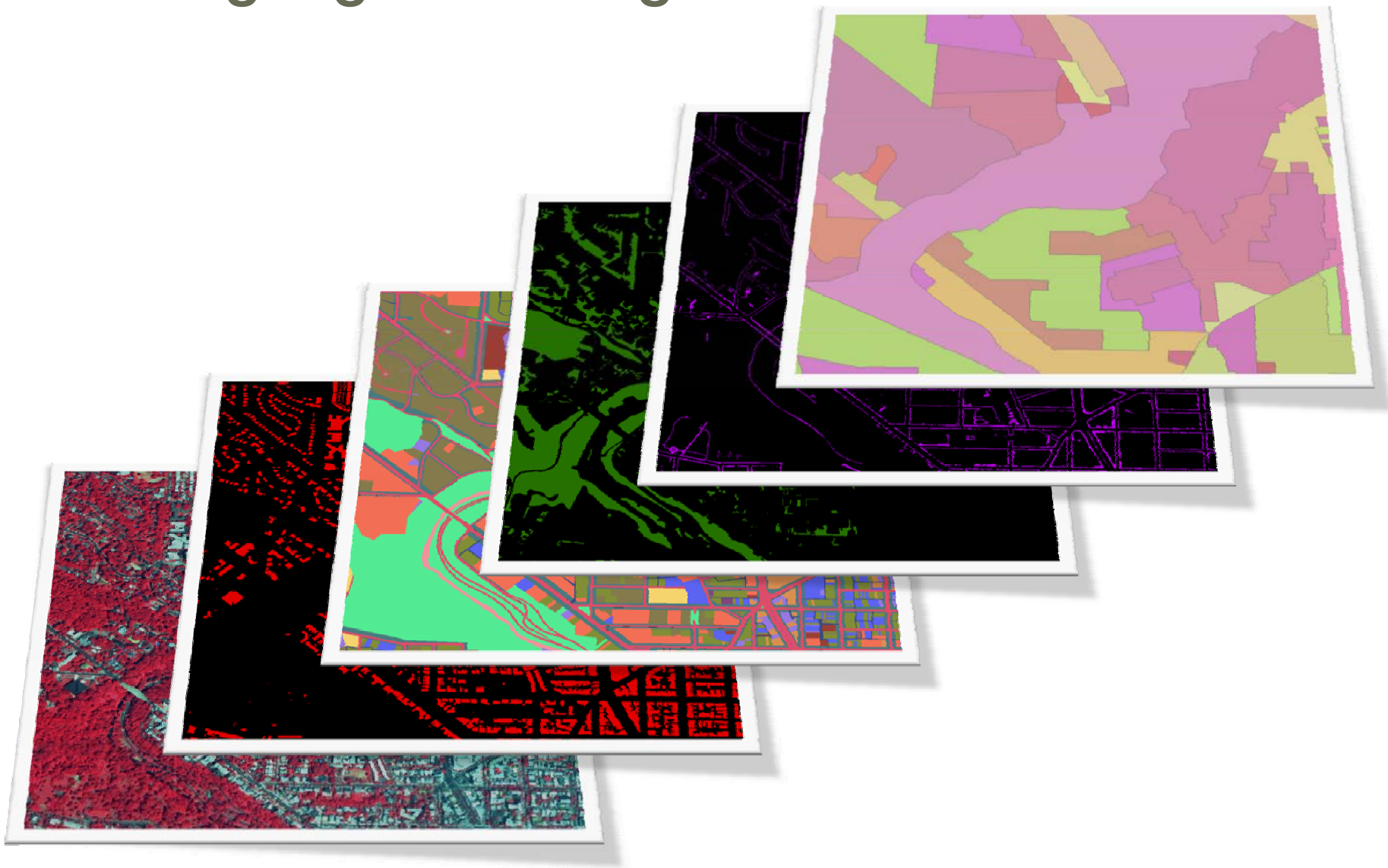
Answers



Approach

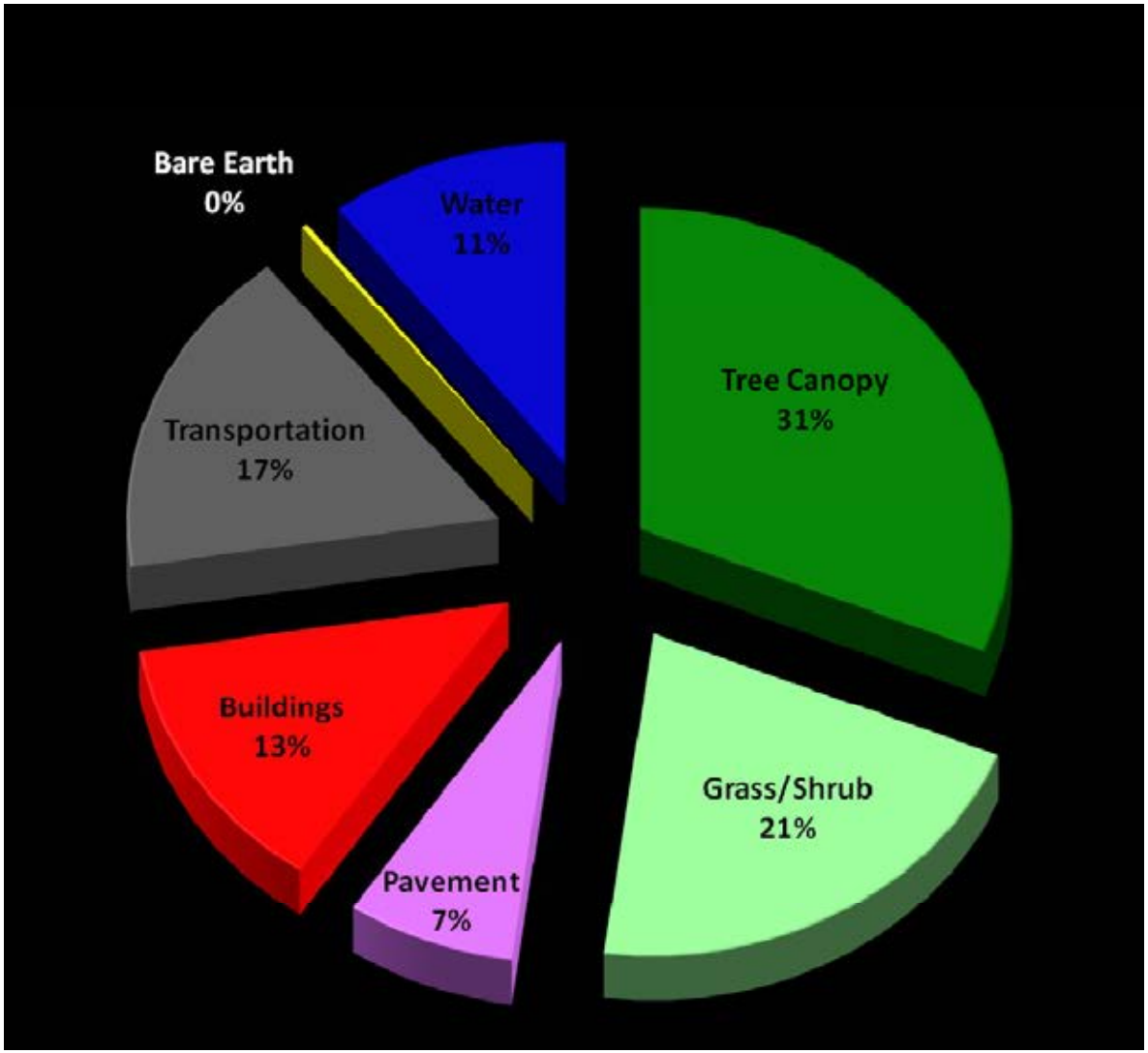

• High resolution
• Object based
• >95% accuracy
• Realistic representation
Land Cover Mapping
UTC Metrics
• Summary statistics
• Scalable
• Relevant
• Reports
• Database tables
• Spreadsheet
• Maps
Products

Leveraging Existing Investments



Land Cover Mapping

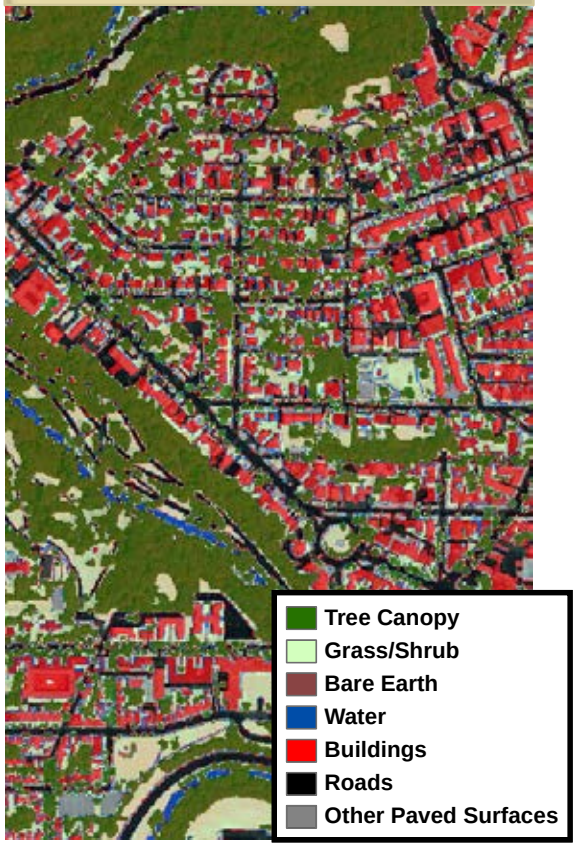
Land Cover Metrics



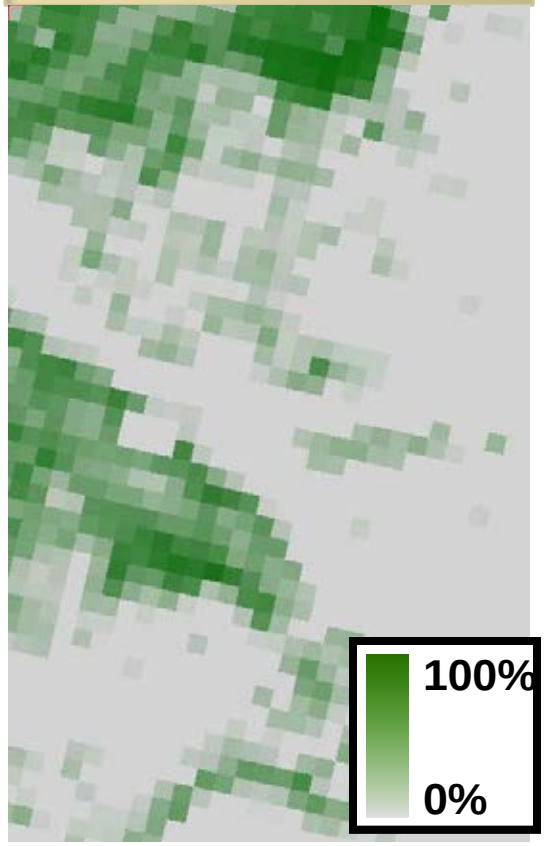
Comparison to National Datasets

Color Infrared Aerial Imagery

High Resolution Land Cover



National Land Cover Dataset



UTC Estimates → 35% → 20

Derived from 2008 imagery
2ft resolution

Derived from 2001 imagery
30m resolution

UTC Types

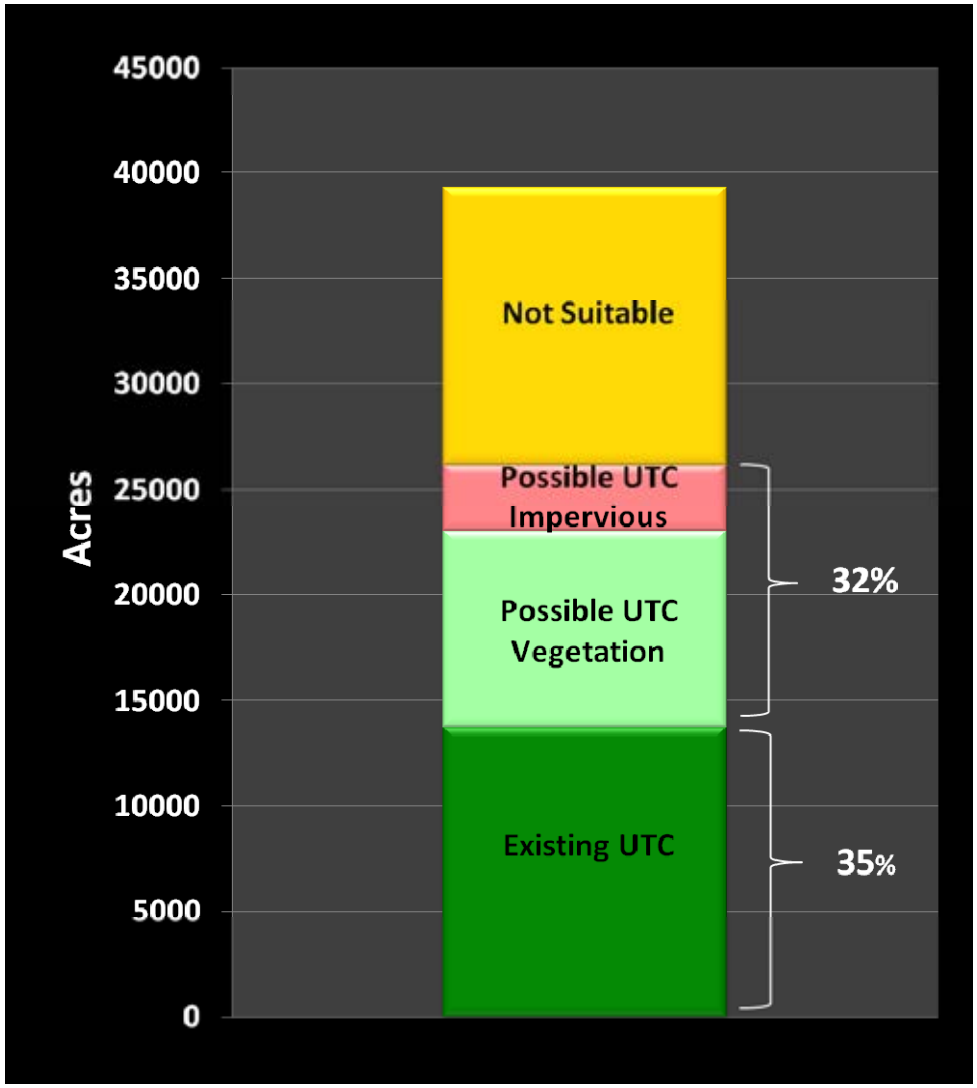
Existing

Vegetation

Possible

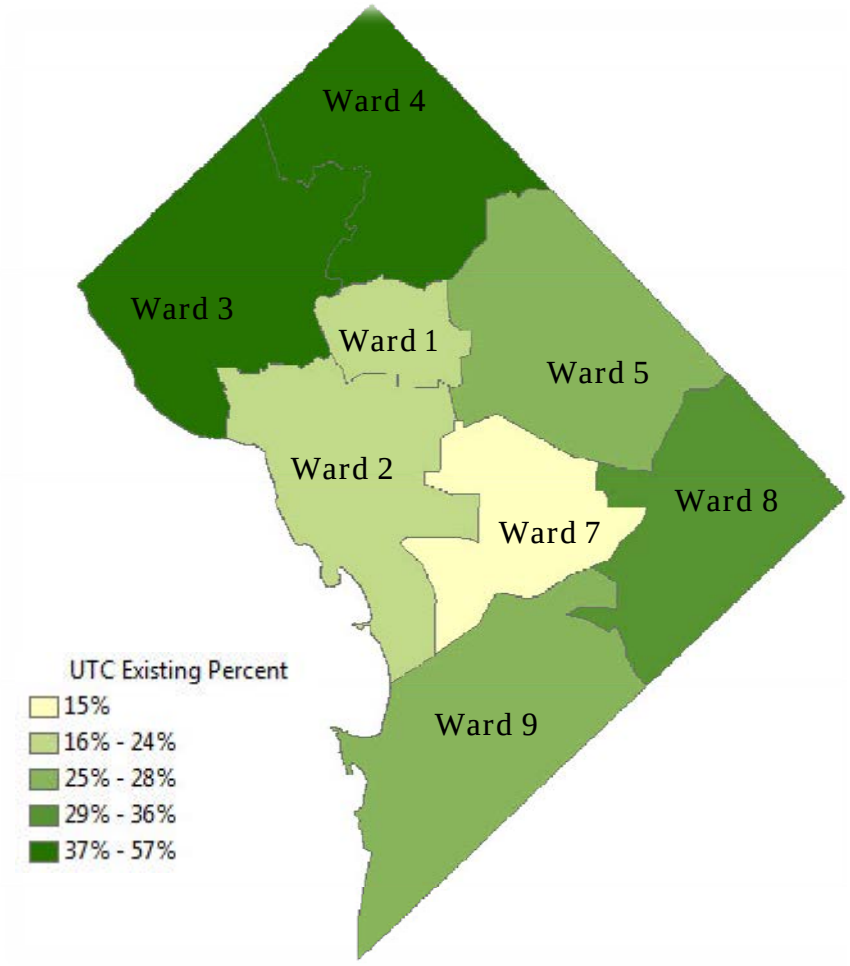
Impervious

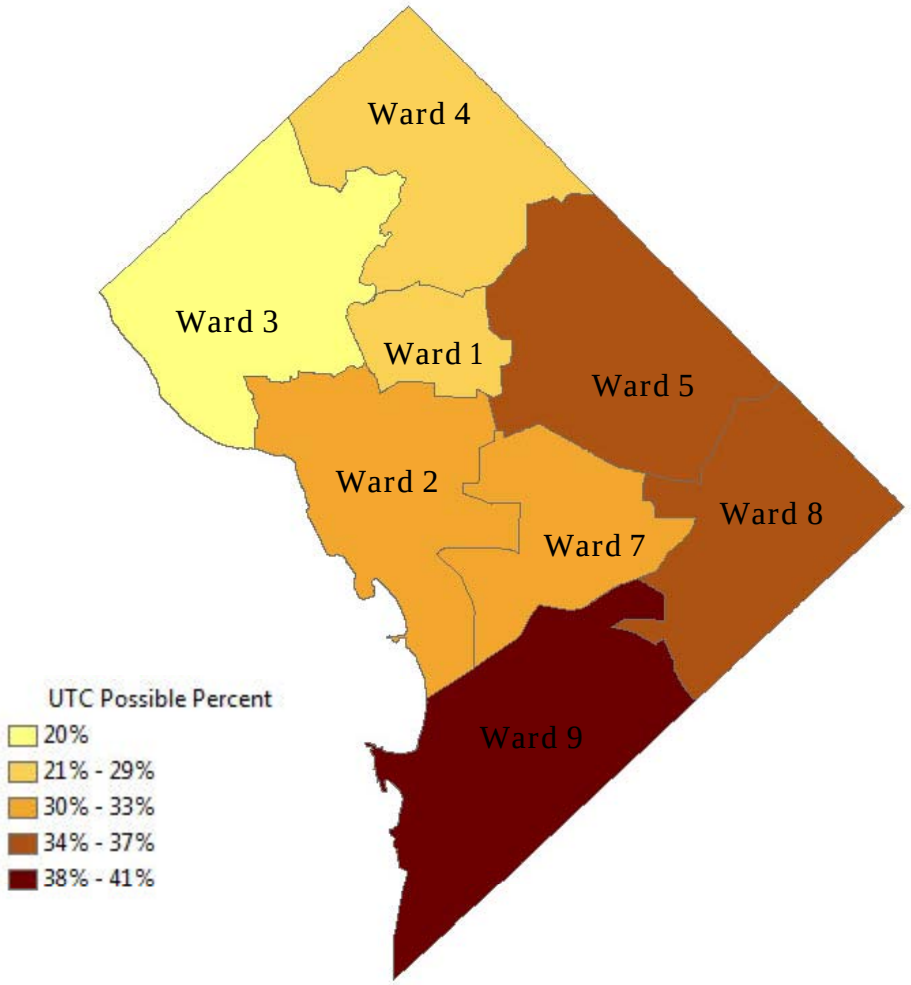
City UTC Metrics



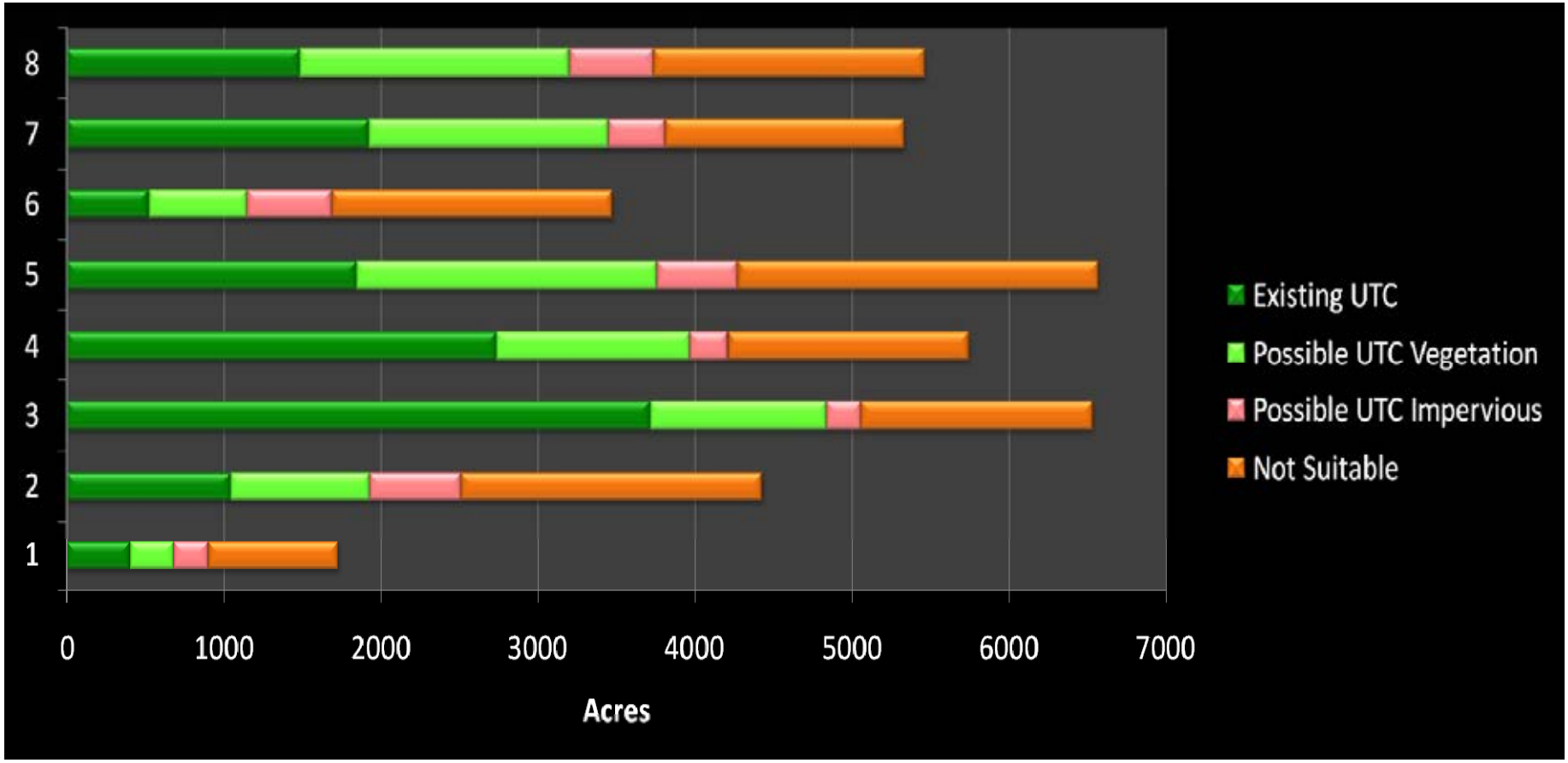
- 39283 acres of land (excludes water)
- 13673 acres of Existing UTC
- 9305 acres of Possible UTC that is grass/shrub
- 3204 acres of Possible UTC that is impervious
- 13102 acres is not suitable for tree canopy (buildings, roads)

Wards Analysis

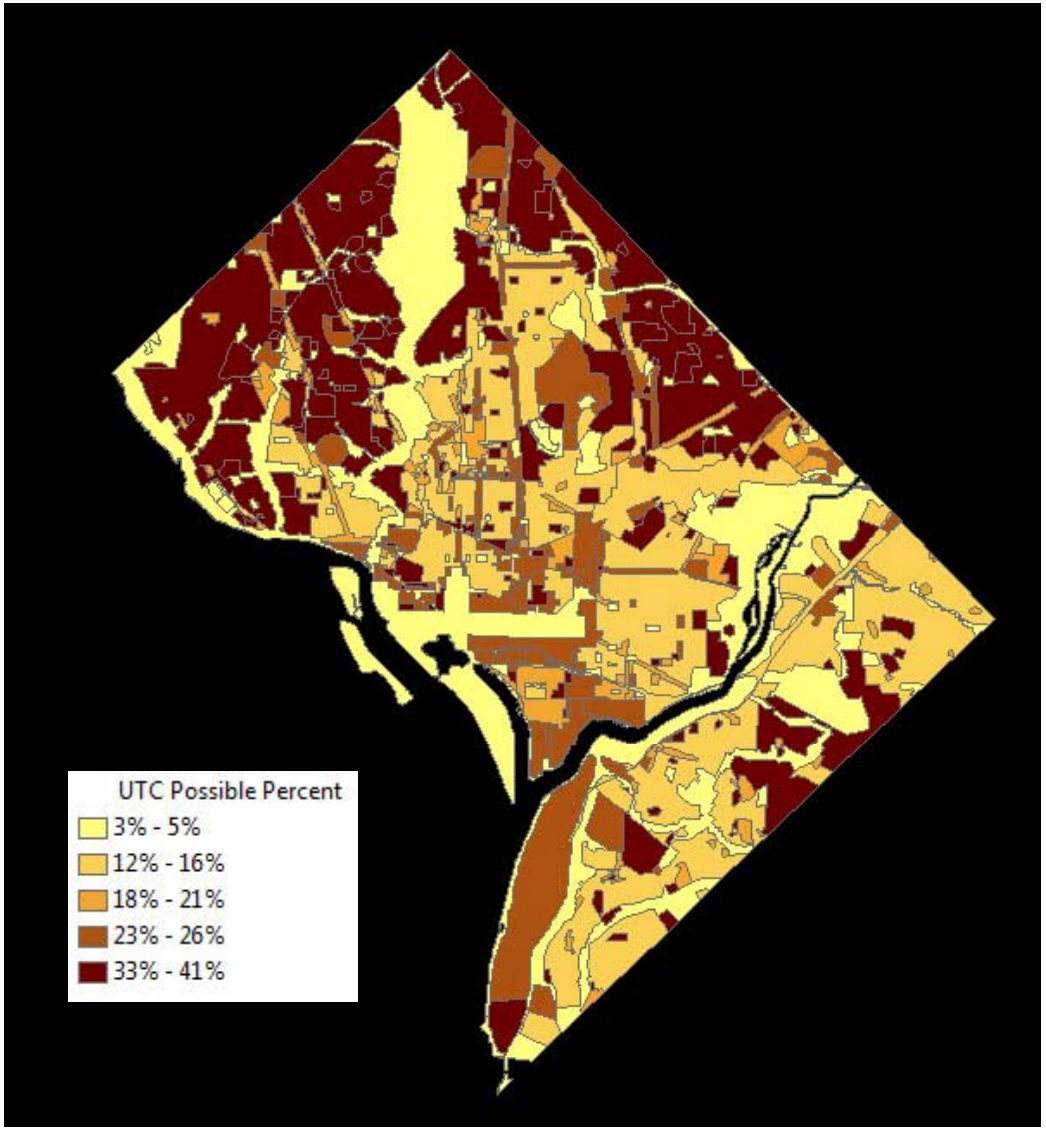




Ward Metrics

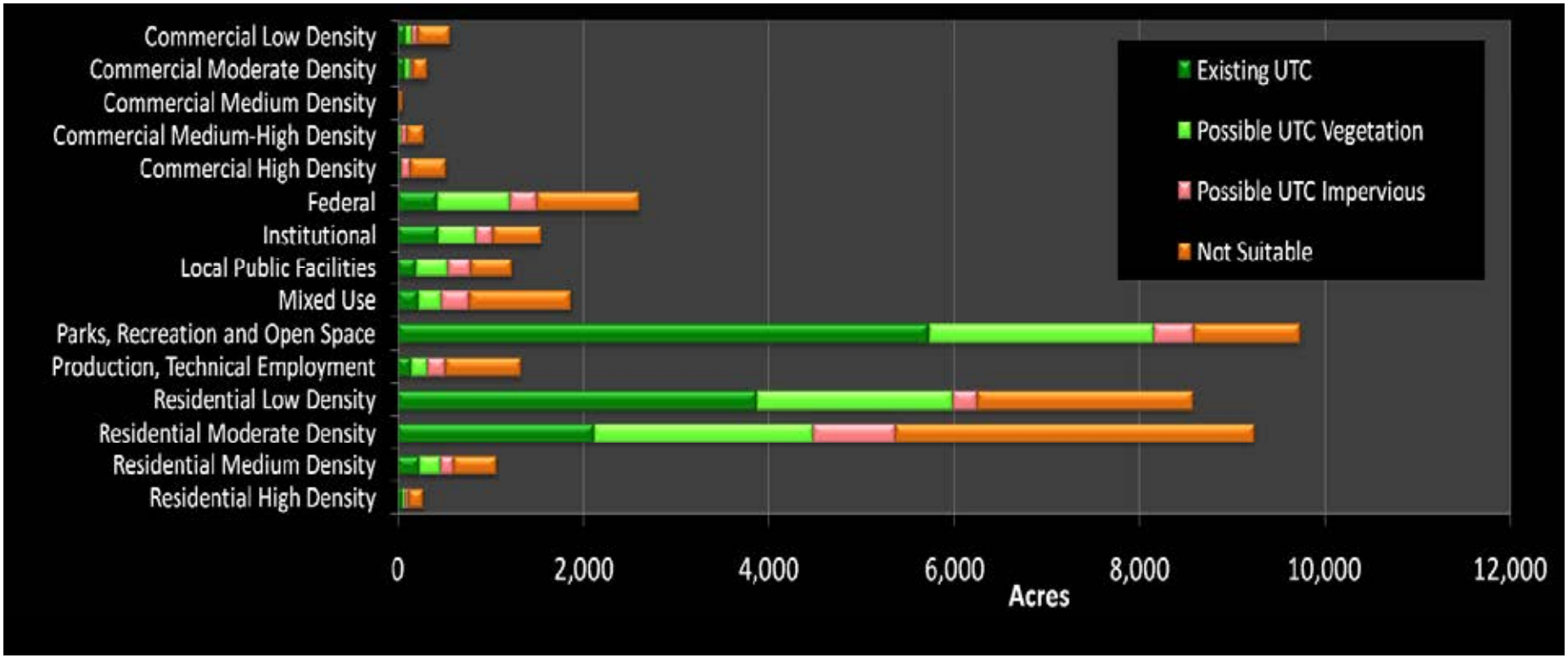


Parcel Land Use Analysis



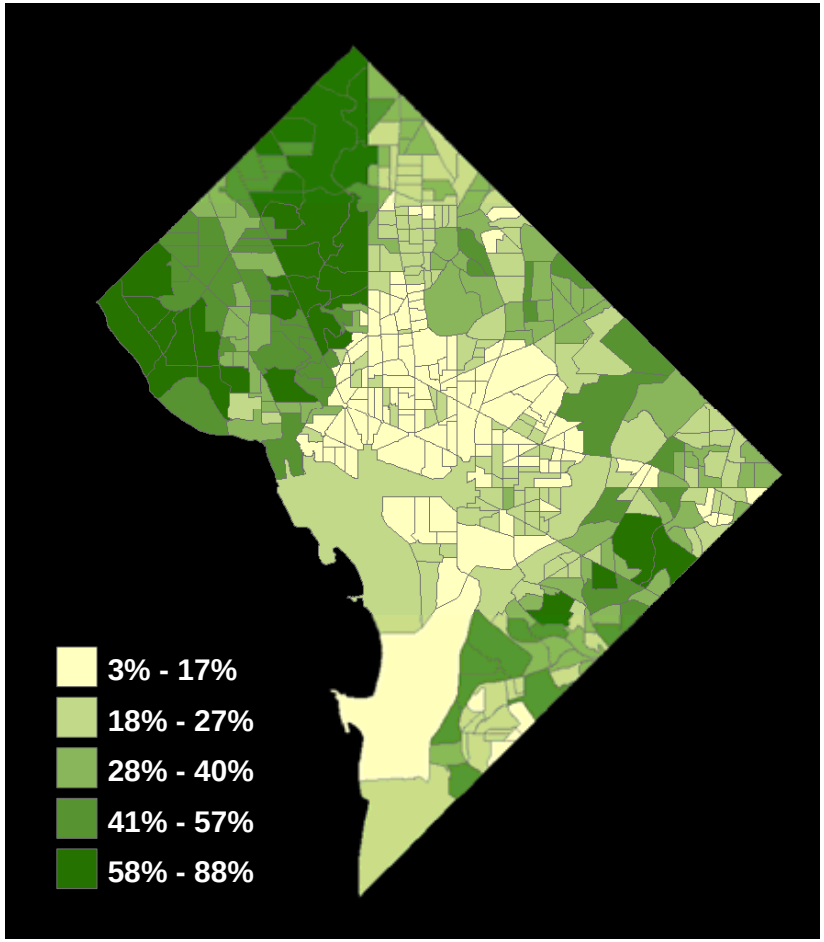
- Commercial High Density
- Commercial Low Density
- Commercial Medium Density
- Commercial Medium-High Density
- Commercial Moderate Density
- Federal
- Institutional
- Local Public Facilites
- Mixed Land Use
- No Data
- Parks, Recreation, and Open Space
- Production and Technical Employment
- Residential High Density
- Residential Low Density
- Residential Medium Density
- Residential Moderate Density
- Water Areas

Land Use UTC Metrics

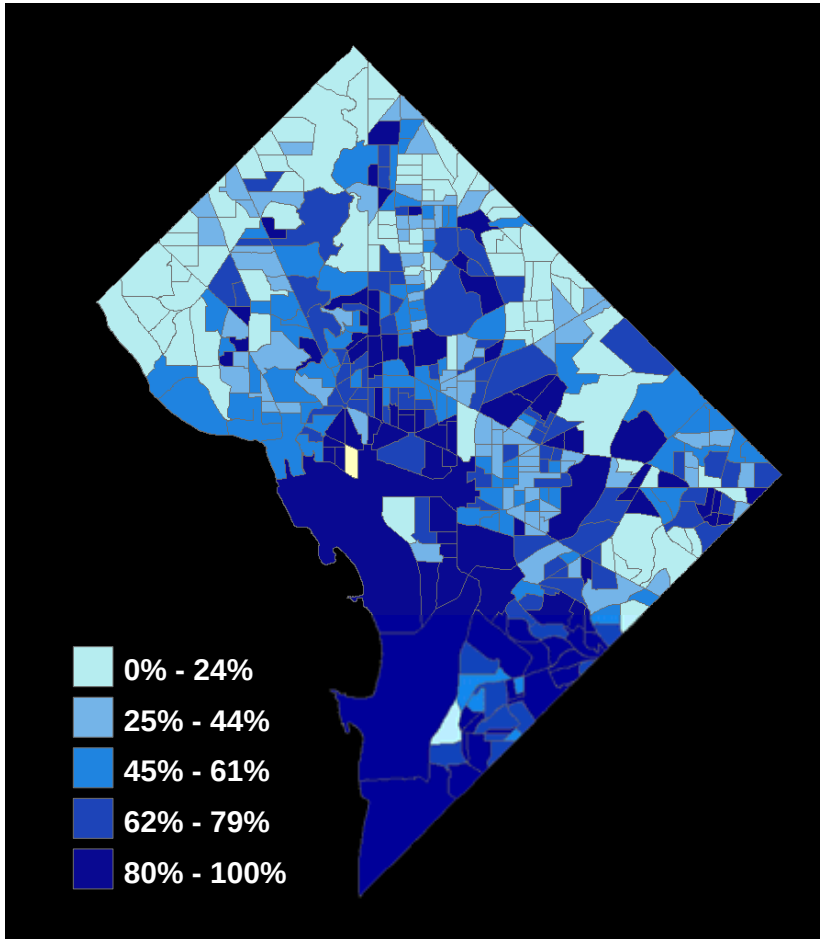


Census

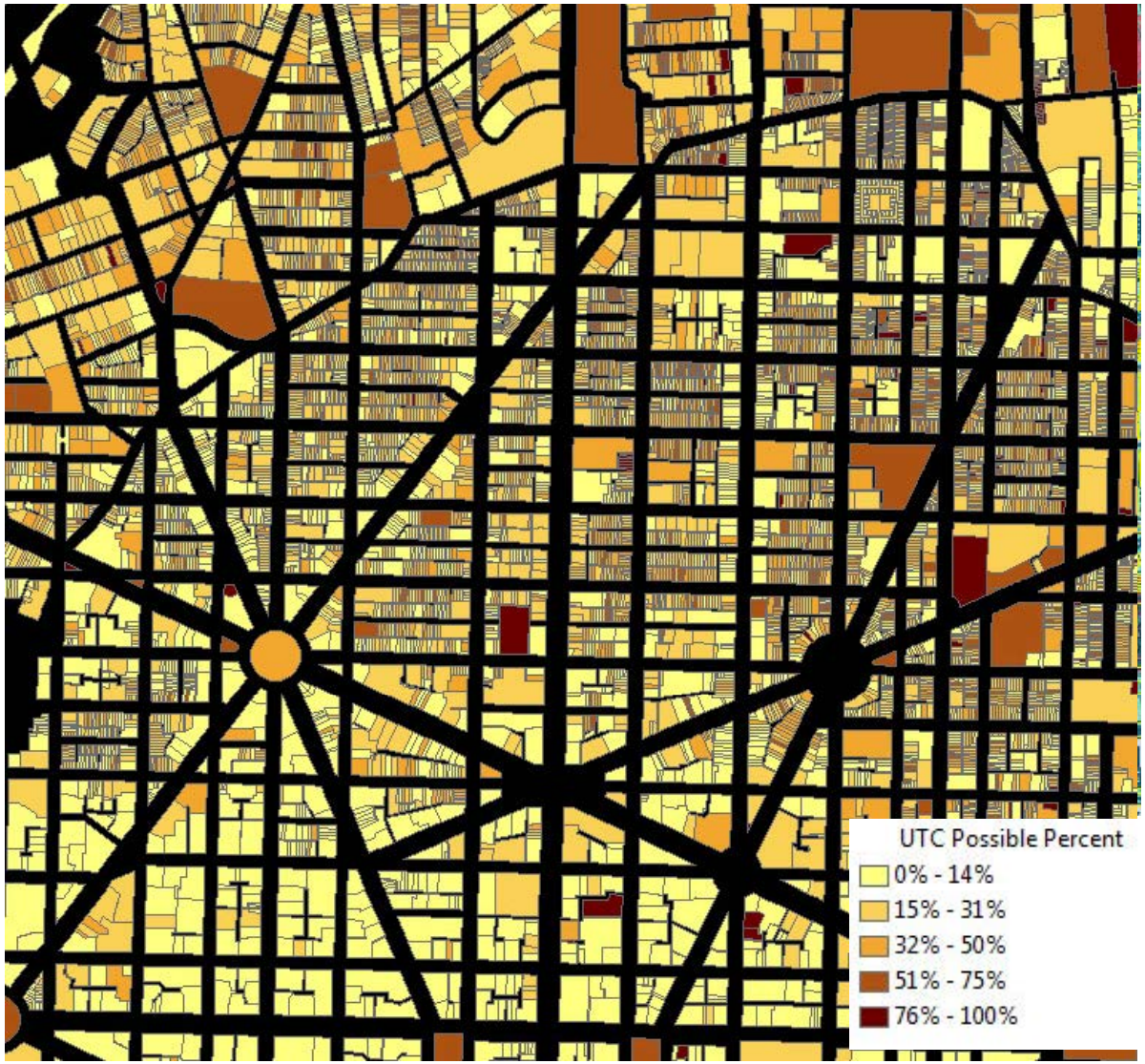
Percent Existing UTC



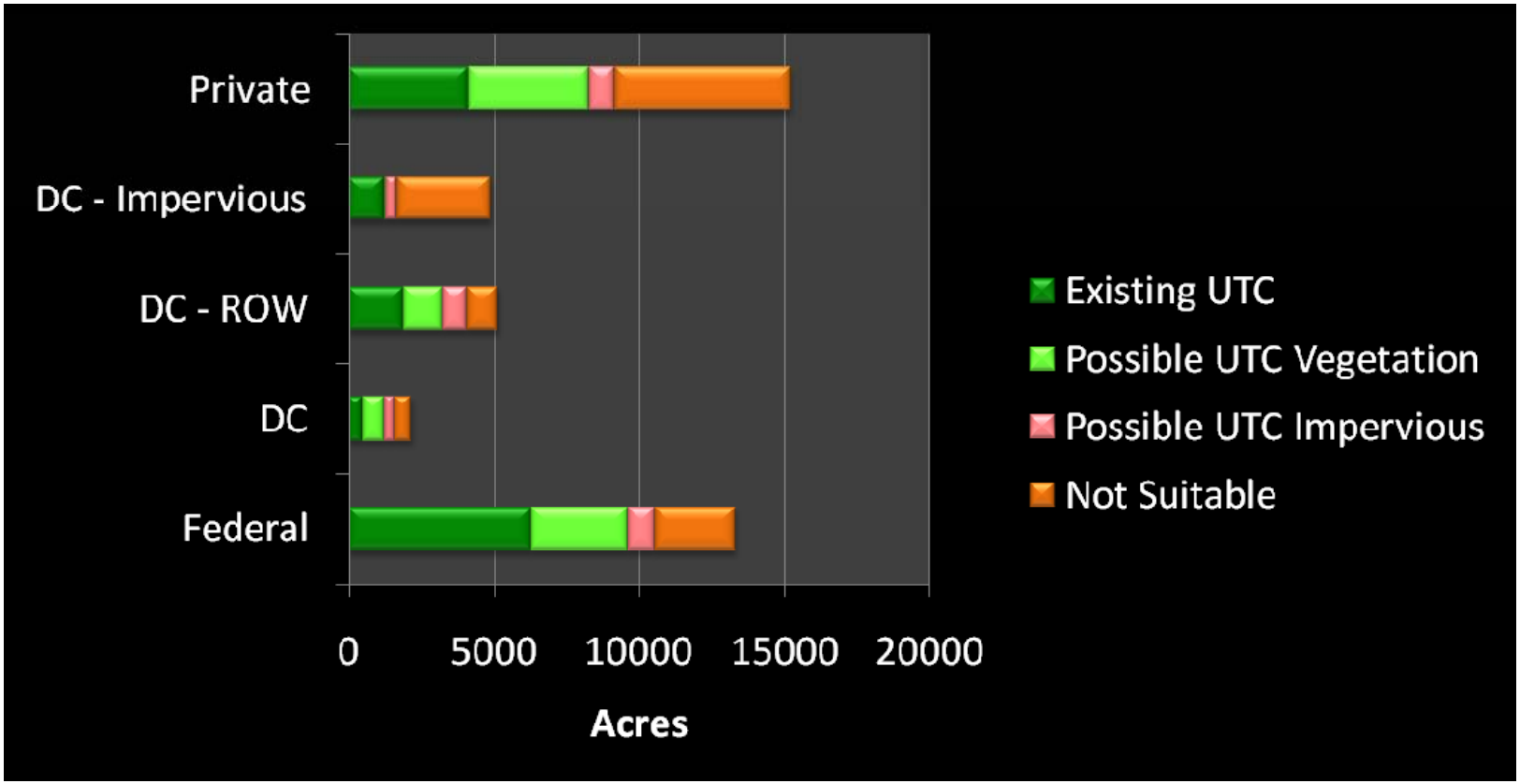
Percent Renter Occupied



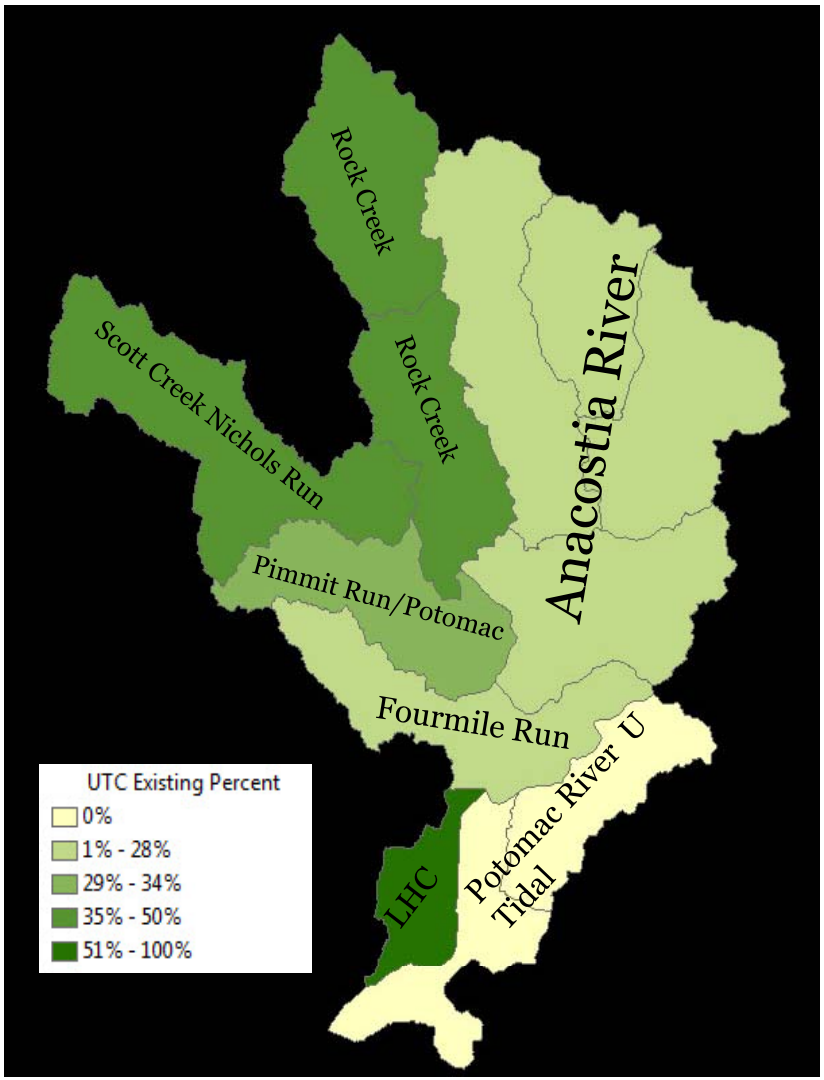
Parcel Analysis

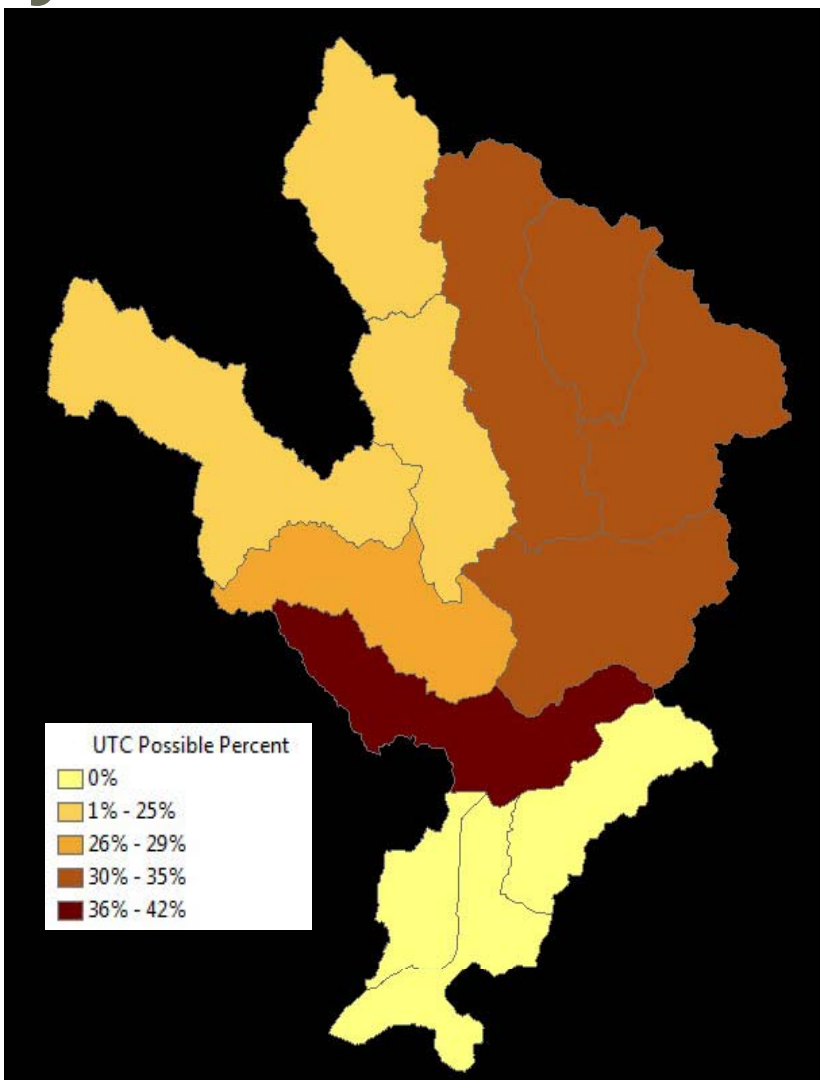


Ownership Metrics

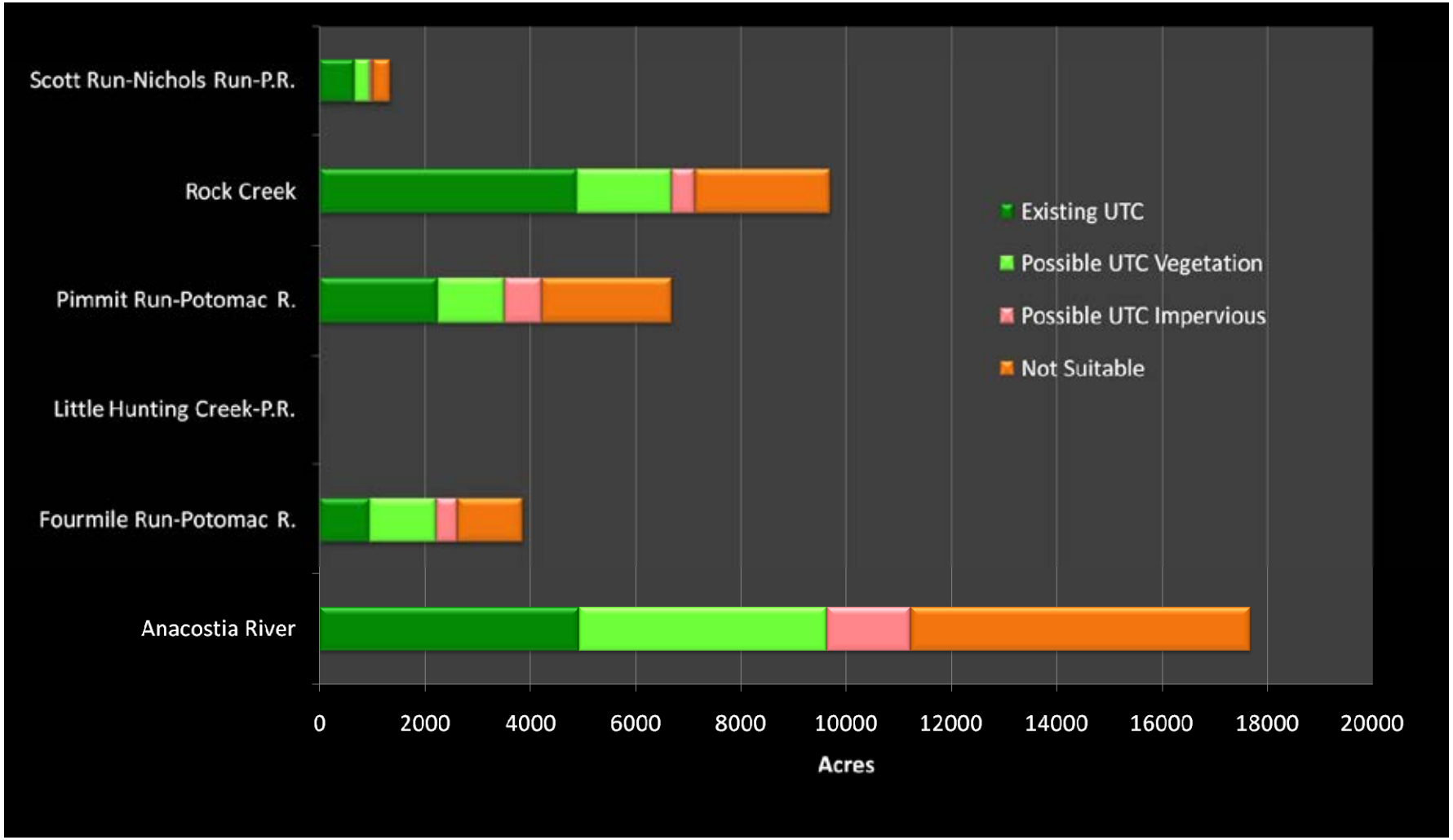


Subwatershed Analysis

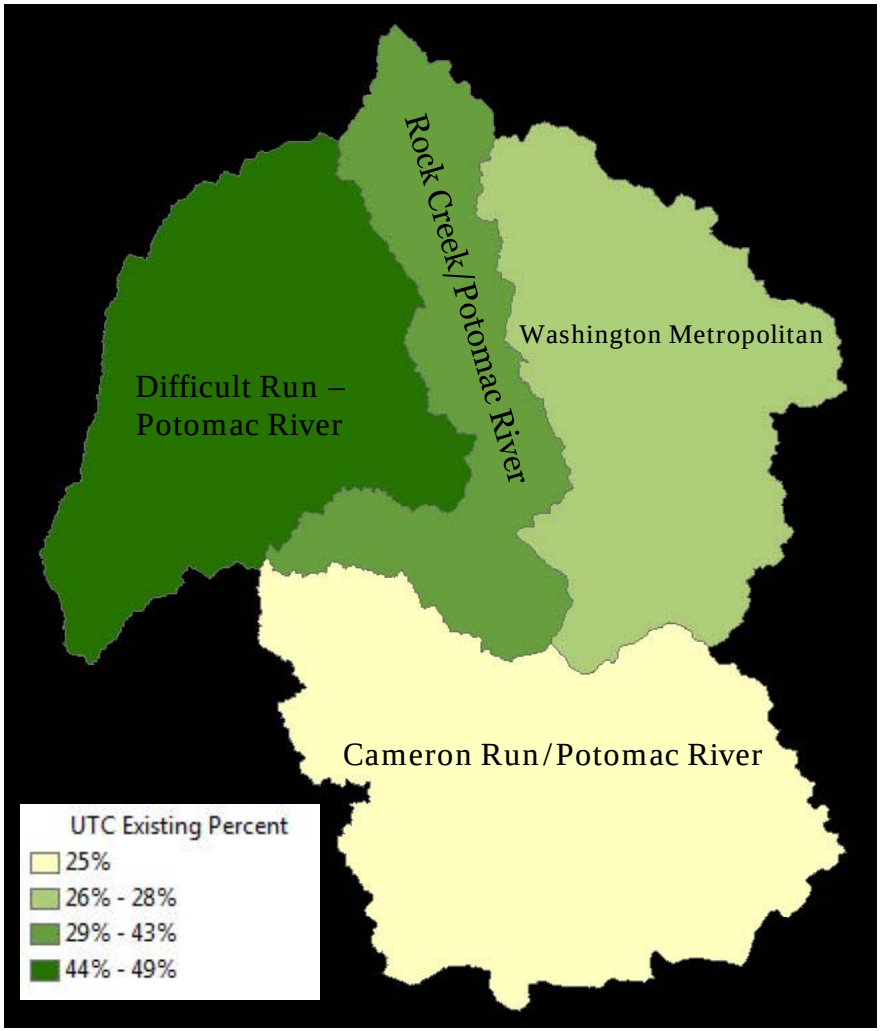


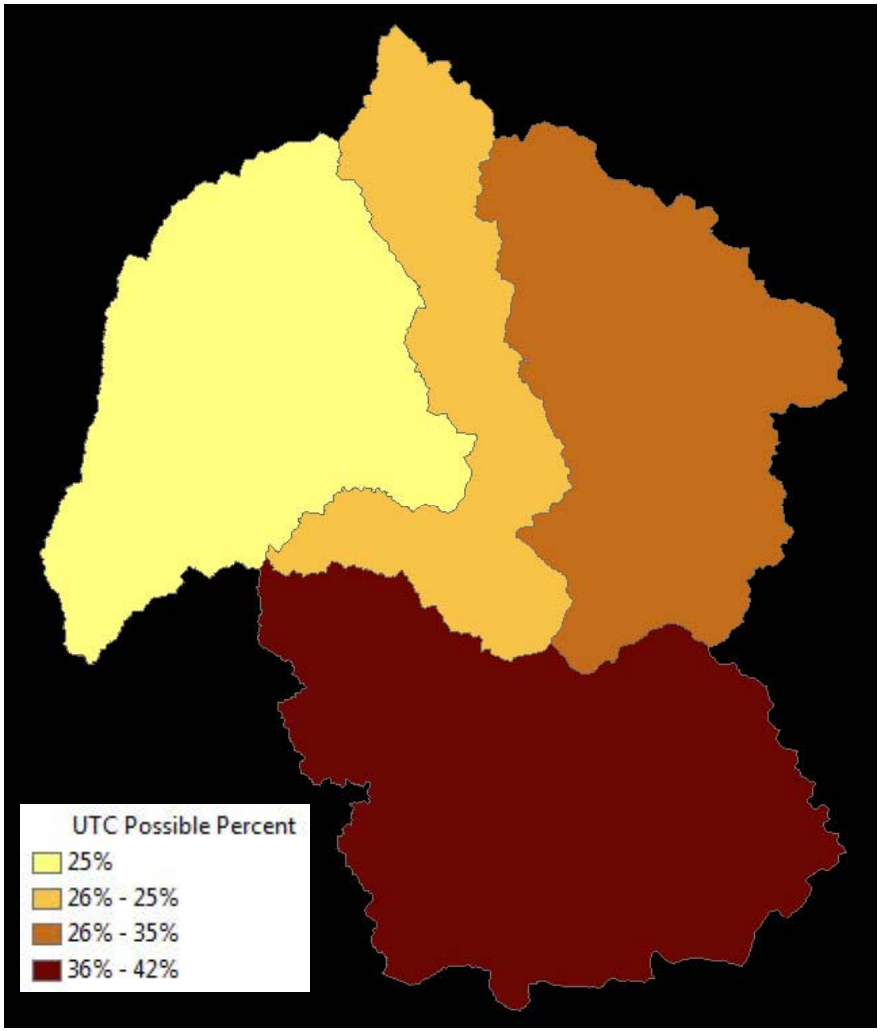


Subwatershed UTC Metrics

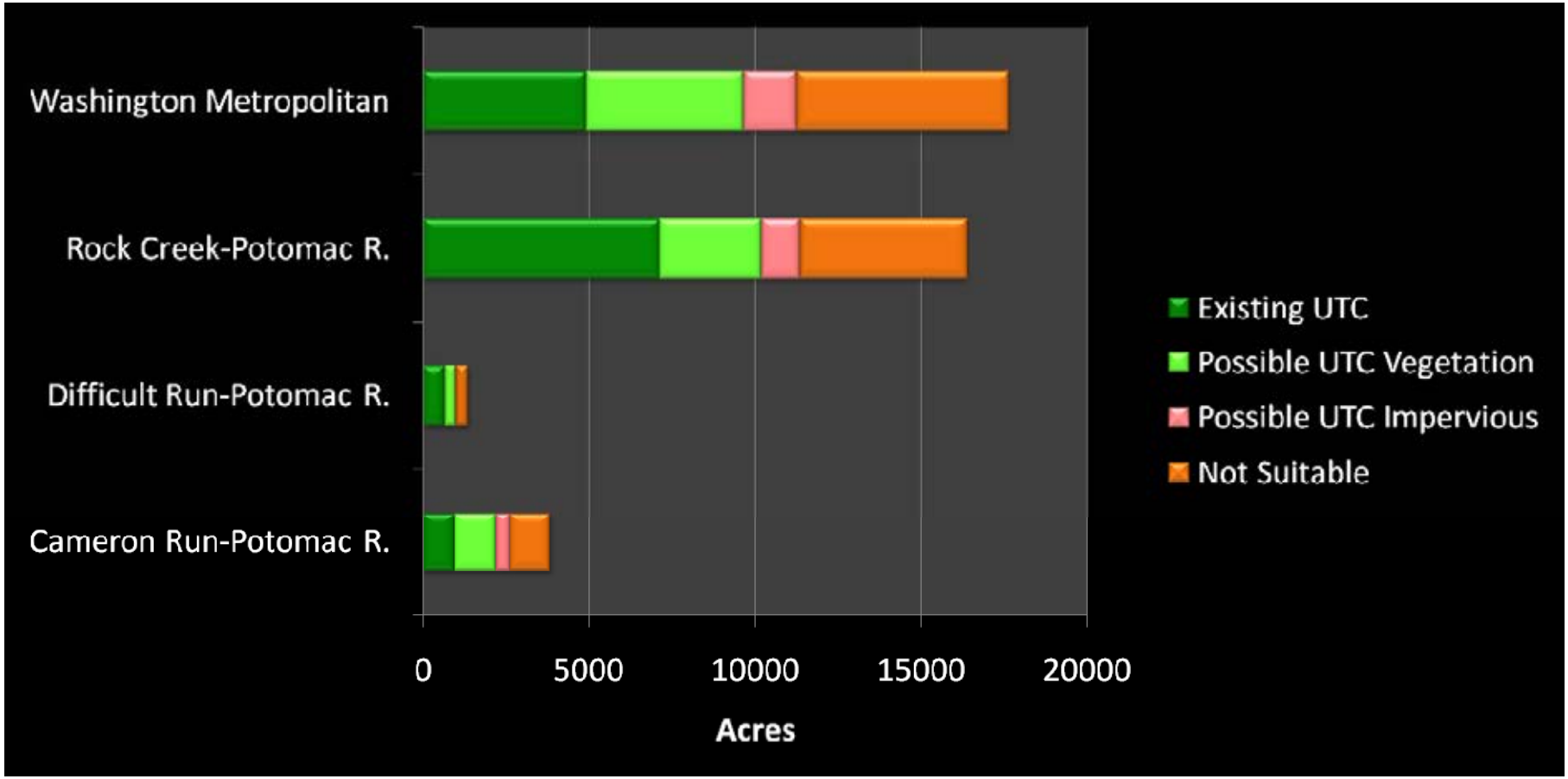


Watershed Analysis



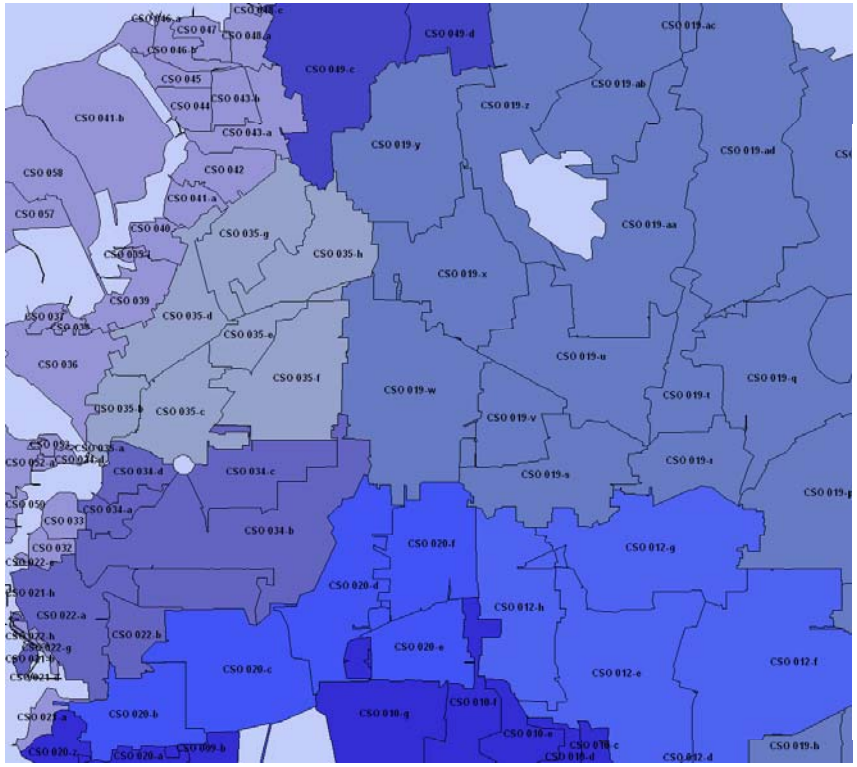


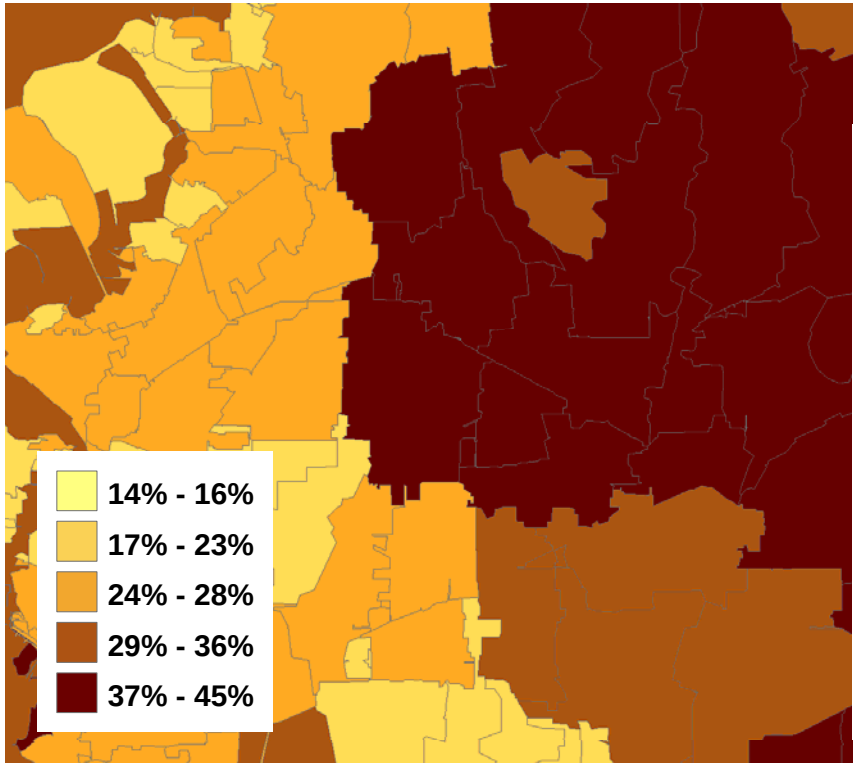
Watershed UTC Metrics



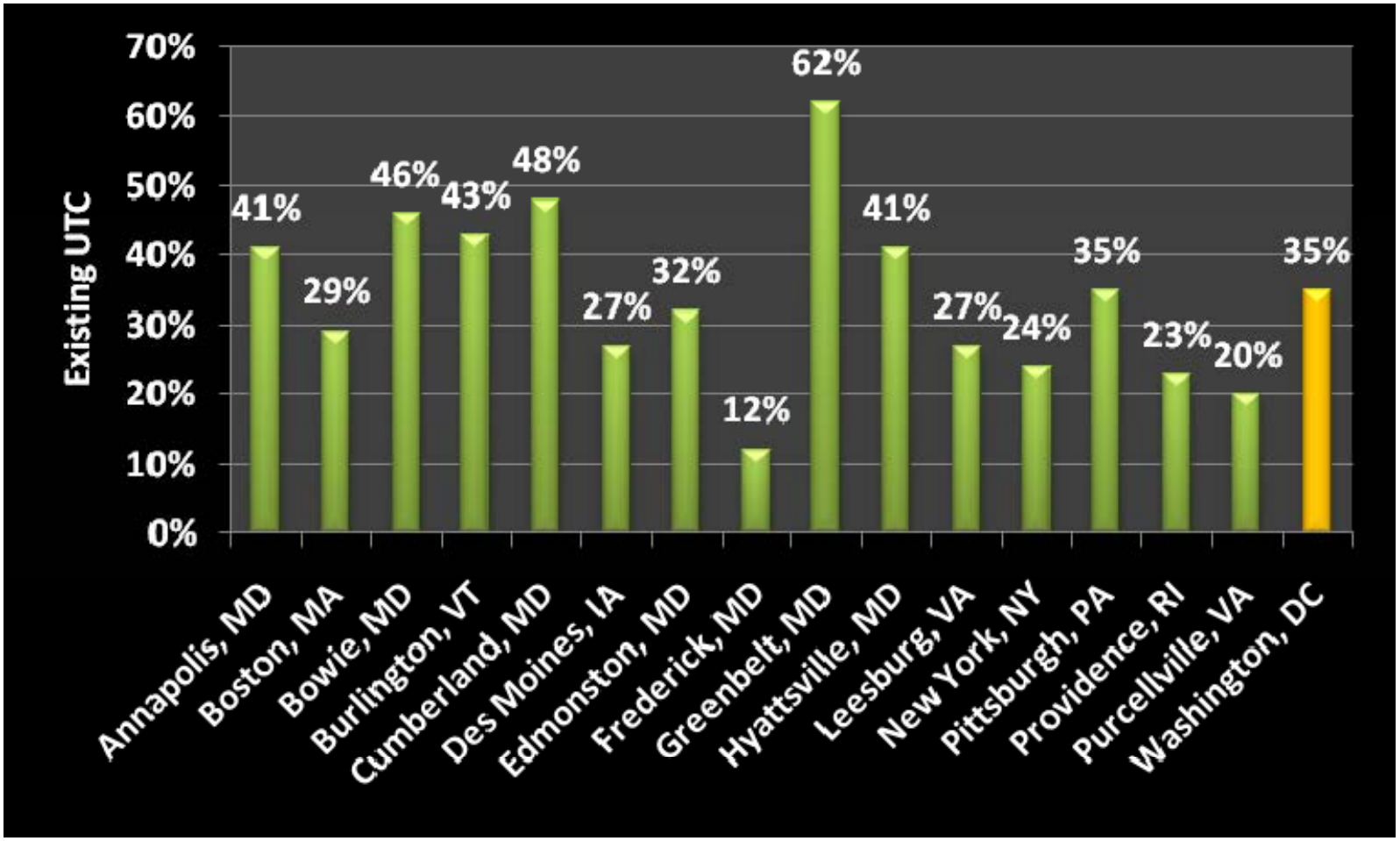
Storm Sewer System

Name	Possible UTC





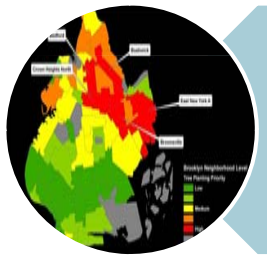
Comparison to Other Cities



Next Steps

LiDAR

Site Selection



Prioritization

Assessing Urban Tree Canopy in the Nation's Capital

Jarlath O'Neil-Dunne
University of Vermont
Spatial Analysis Laboratory
802.656.3323
joneildu@uvm.edu

Funding for this study was provided by the U.S. Forest Service