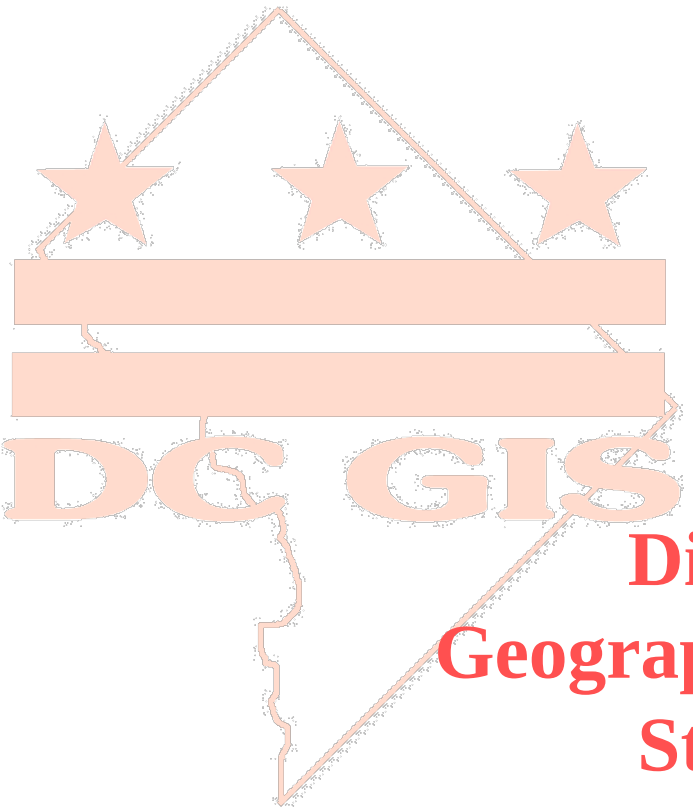

District of Columbia Geographic Information System Steering Committee May 14, 2010

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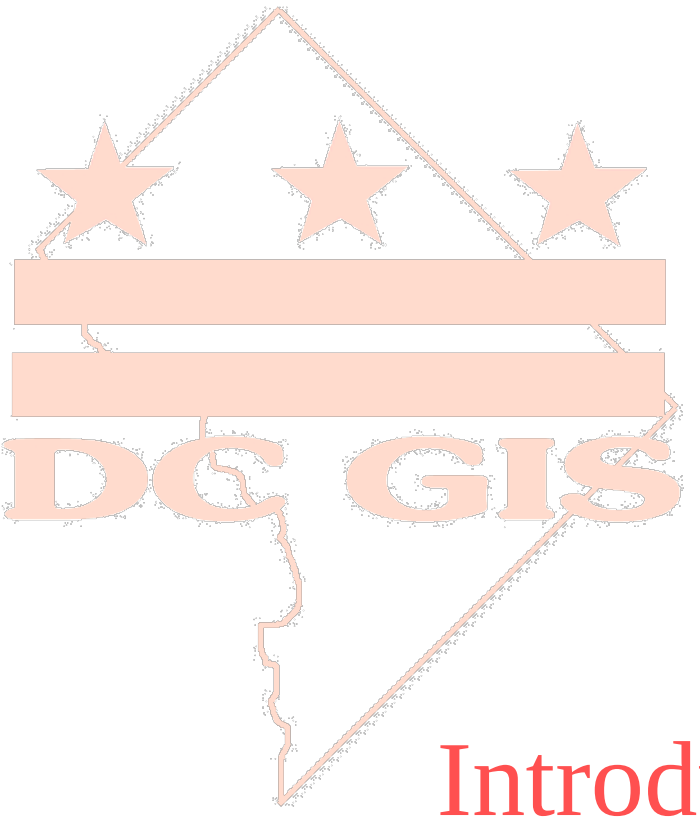
202-727-9307



Introductions & Quorum

Minutes from last meeting

News and Notes

ESRI Enterprise License

- Base year plus 2 option years
- Almost all products, all you can eat,
- Network license pool
- Includes support, user conference, etc.
- Price we have a handshake deal
- Terms and Conditions we have a handshake deal
- Handshakes don’t matter, No contract yet.

Survey and Mapping IDIQ

- 40 proposals, very competitive teams
- $950,000 per firm per year capacity
- 2 months behind, but close to award
- 3 subject areas, 6 firms selected 2 firms in each subject area:
  - Photogrammetric Survey and LIDAR
  - Terrestrial Survey
  - Quality Control and GIS Technical Services

Citrix Upgrade

- Badly needed and badly overdue
- Will include
  - ArcGIS 9.3.1 soon ArcGIS X
  - Google Sketch-up
  - Use of local drives and printers
  - Use of DC.gov accounts
- Will require
  - Registration process with ITServus so each account can be added to the DC GIS domain.
- We need volunteers to try it
  - See Alex Salvatierra at this meeting

Blackberry GPS

- Data collection
- Workforce Tracking
- Create 311 Requests
- Vary small maps

Pictometry Self-Hosted

- New API
- No accounts

DC GIS Summer Youth Program

- 10 high school and college age students
- 5 professional grade GPS receivers
- 10 weeks
- DC GIS Staff Provide Supervision
- WE NEED PROJECTS!
  - POINT DATA COLLECTION
  - SIMPLE GIS TASKS

Training Class Schedule FY10

- May
  - ~~Overview 05/04~~
  - ~~Google (Earth) DC 05/12~~
  - ArcGIS 05/18 to 05/20
- June
  - Overview 06/02
  - Google (Earth) DC 06/09
  - ArcGIS 06/15 to 06/17
- July
  - Overview 07/07
  - Google (Earth) DC 07/14
  - ArcGIS 07/20 to 07/22
- August
  - Overview 08/03
  - Google (Earth) DC 08/11
  - ArcGIS 08/17 to 08/19
- September
  - Overview 09/01
  - Google (Earth) DC 09/08
  - ArcGIS 09/14 to 09/16

New OCTO Web Site

Alex Salvatierra

http://OCTO.dc.gov

Data Report
Mario Field

Updated Datasets

- Aerial Photography – USDA NAIP (1 meter)
- Business Improvement District
- Curb Line
- Fire Battalion Area
- Grocery Store
- Impervious Surface 2008
- Library
- Liquor License
- Notary Public
- Retail Site
- Single Member District – new contact info
- Signalized Intersection
- Small Area Plans
- Street Light
- Street Tree
- Topography – 10 foot contour
- Topography – 20 foot contour
- University Point and Area

- CAMA
- Street Centerlines
- Owner and Sale Pt
- Vector Property Map
- Zoning

Next Update

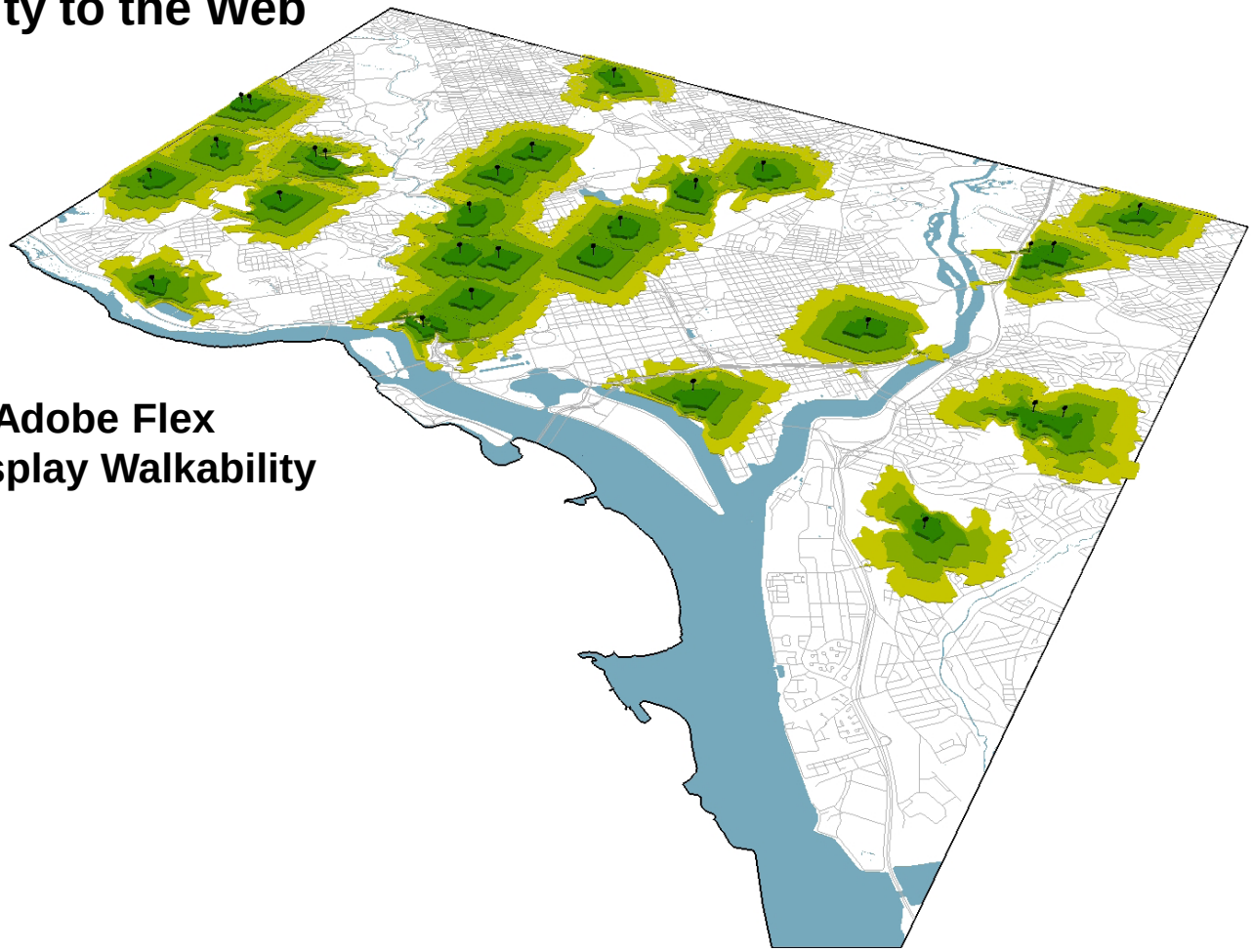
- **Abandoned Vehicle Inspection Area**
- **Camera**
- **DC Agency**
- **Fire Station**
- **Federal Building (GSA)**
- **Nursing Home**
- **Recreation Facility**
- **Recreation Park**
- **Retail Site**
- **Street Tree**
- **Zoning**

2010 Photography

District of Columbia | Office of Planning

http://planning.dc.gov

Taking Walkability to the Web

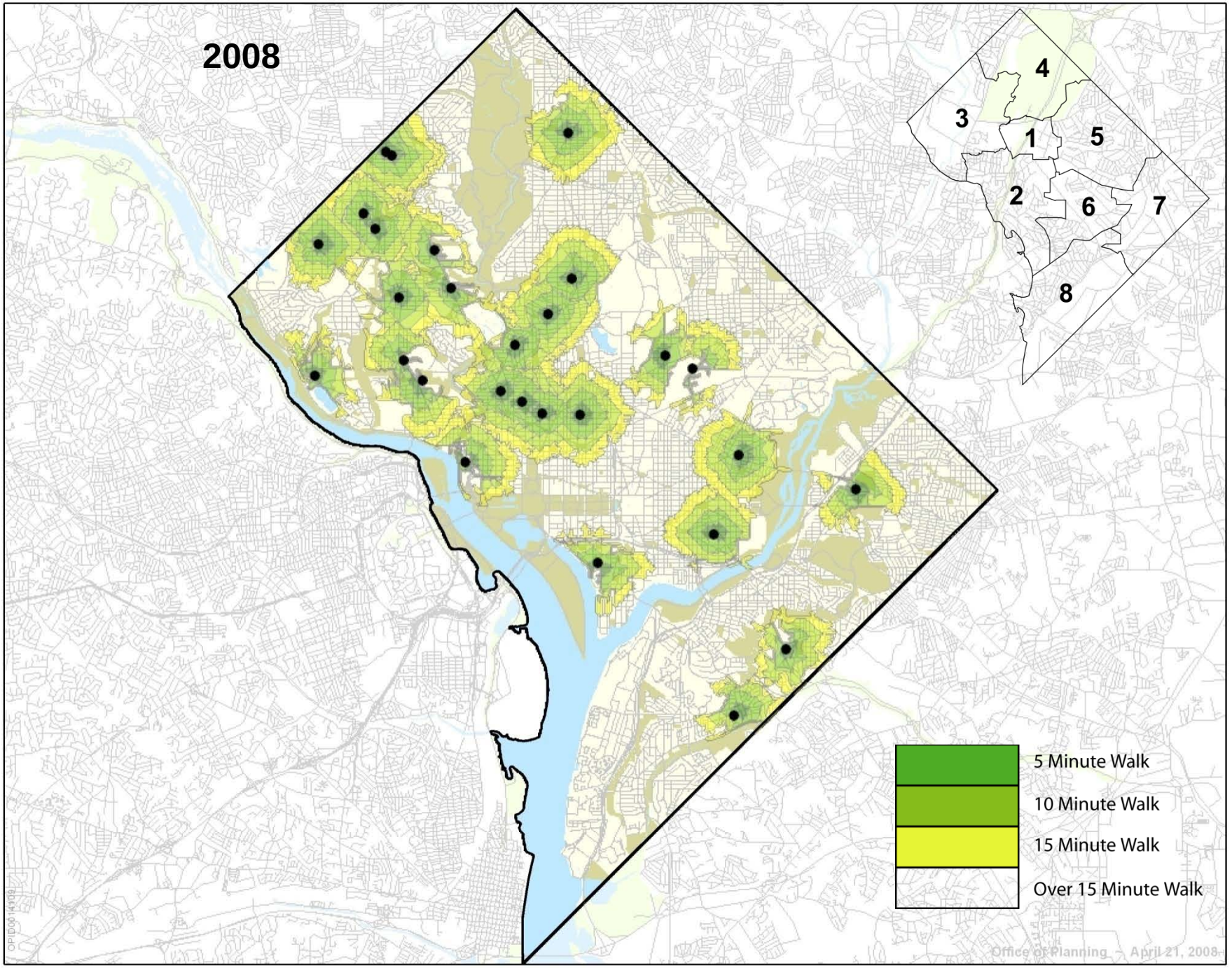


Using ArcGIS and Adobe Flex To Analyze and Display Walkability Analyses

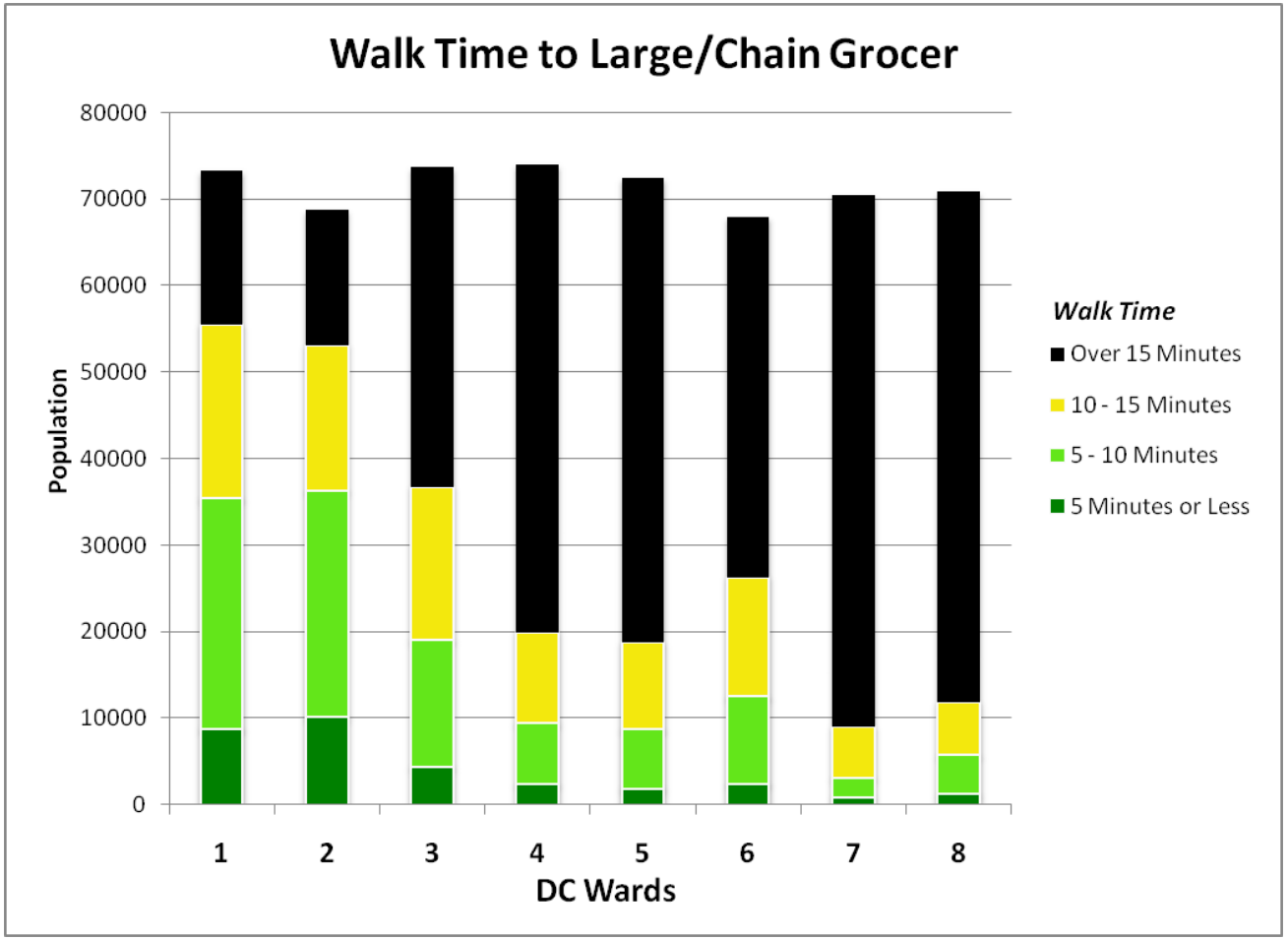
James K. Graham
GIS Specialist

- How we got here
- Where we are now
- Where we want to be next

- 2008 APA (Grocery Store Walkable Accessibility)
  - Identified shortcomings of existing 'walkability' metrics
  - Demonstrated results of network-based walkability analysis
  - Showed spatio-historic patterns of access in DC.


2008
4
3
1
5
2
6
7
8
5 Minute Walk
10 Minute Walk
15 Minute Walk
Over 15 Minute Walk
Office of Planning – April 21, 2008

2008


Walk Time to Large/Chain Grocer
80000
70000
60000
50000
40000
30000
20000
10000
0
Population
1
2
3
4
5
6
7
8
DC Wards
Walk Time
Over 15 Minutes
10 - 15 Minutes
5 - 10 Minutes
5 Minutes or Less

- Drawing Board:
  - Need more data
  - Expand theme (Active Living / Healthy Lifestyle)
  - Tool to allow for constituent interaction (Active Living Index)
- Inspirations:
  - Walk Score (of course)
  - Walkshed (new raster-based approach)

- 2009 Prototype: "DC Walkscape"
  - Built using…
    - ArcGIS Desktop
    - Adobe Flex (now called Flash Builder)
    - ArcGIS Server
  - Functions…
    - Enter address / click map
    - Get a point
    - Draw 15-minute walk time polygon
    - Show 'Healthy' locations inside polygon

http://walk.dc.gov

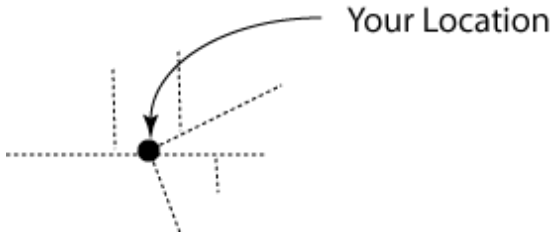
- 2009 Prototype: "DC Walkscape"
  - Great, *but*…
    - Limited functionality
    - No custom geoprocessing tasks
    - Only 1 dataset (healthy locations)
    - Only 1 mode (walking)

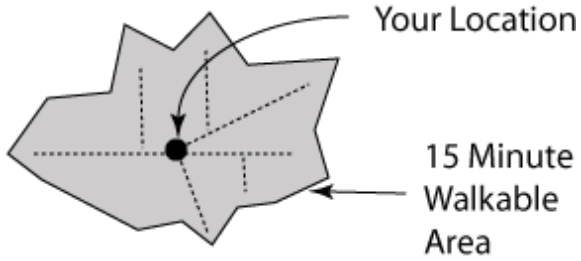
- 2010 DC Walkscape… 2nd Edition
  - Goals for improvement
    - Richer user experience (more data, user control)
    - User-driven analyses (location + theme)
    - Modular
  - Go Beyond Google and WalkScore
    - Create rich, highly **local** data layers to query
    - Expose high-level GIS functionality

- 2010 DC Walkscape… 2nd Edition
  - Improvements:
    - Multimodal transportation network
    - 6 geoprocessing (GP) tasks
    - All data produced by DC Office of Planning
    - Dynamic Flex Web map
    - User-oriented

Startup Map and Search

-- Uses MAR to Find Location
-- Uses OP's GIS Trans Network to draw 15 min. walk time





USING OUR NEW MULTIMODAL NETWORK

-- Currently have 4 modes
-- More on the way!

Walk

+

Rail

Bus

Circulator

THEMATIC ANALYSIS

-- Currently have three themes
-- Uses network analysis to estimate walk time for <u>each</u> location
-- Compares your <u>closest</u> location against DC Average walk time.

CHANGING THEME TO 'FITNESS'

-- **Reuse existing walk polygon**
-- **Examine Recreation, Community Centers and Fitness Clubs**
-- **Also examine Park Areas, estimating acreage.**

CHANGING THEME TO 'HEALTHCARE'

-- **Reuses existing walk polygon**
-- **Examine public health availability (low / no cost)**
-- **Also analyze health insurance availability (user-defined).**

- 2010 DC Walkscape… next steps:
  - Even *more data!*
  - Incorporate additional modes
    - Bike
  - Allow user to set walk time
  - Better printing + 'send this map' capabilities.
  - Create "Planner Edition"
    - More advanced tools
    - Edit add location functionality
    - Export results (as GIS or table)
  - Crowd-sourcing data collection?

Conclusion

Questions?

James K. Graham

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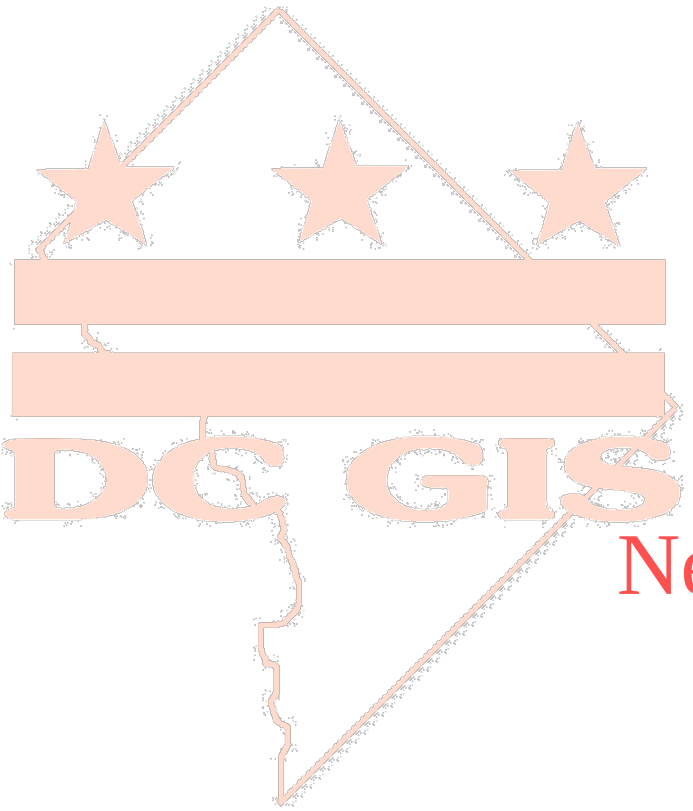


New Map and Data Services

Matt Crossett

DC GIS Publishes Data Categories as Map Services

What is a Map Service?

- A Map Service or Web Map Service (WMS) is a protocol for serving georeferenced map images over the Internet that are generated by a map server using data from a GIS database.

What has DC GIS Published?

- Over 300+ layer via “our” 19 Categories (Ex. Administrative & Other Boundaries, Education, Location, Recreation) Plus many “one-offs” for custom applications including 2008/2007 Orthos

What does this mean for me?

- Desktop Users outside DC Gov.
- Desktop Users within DC Gov.
- Web Developers outside DC Gov.
- Web Developers with DC Gov.
- OCTO GIS

DC GIS Publishes Data Categories as Map Services

Pro's

- Developers can now access our data directly as map services (Map Service, WMS and KML)
- You can control labels on/off in map service
- You can use the Identify/Find tools to query ArcGIS Server map service layers.
- Ability to cache (increased performance) certain static map services – ex. Background imagery
- Can customize which layers are "on" from category map service and save a local layer file and into MXD.
- Real-time access to our latest data, this should decrease the number of data dvd's we create for external customers.

Con's

- The label symbology/scale dependencies are fixed (only minor customization allowed).
- Each layer is not a individual map service - they are served up as "our" categories.

DC GIS Publishes Data Categories as Map Services

Connecting to DC GIS Map Services

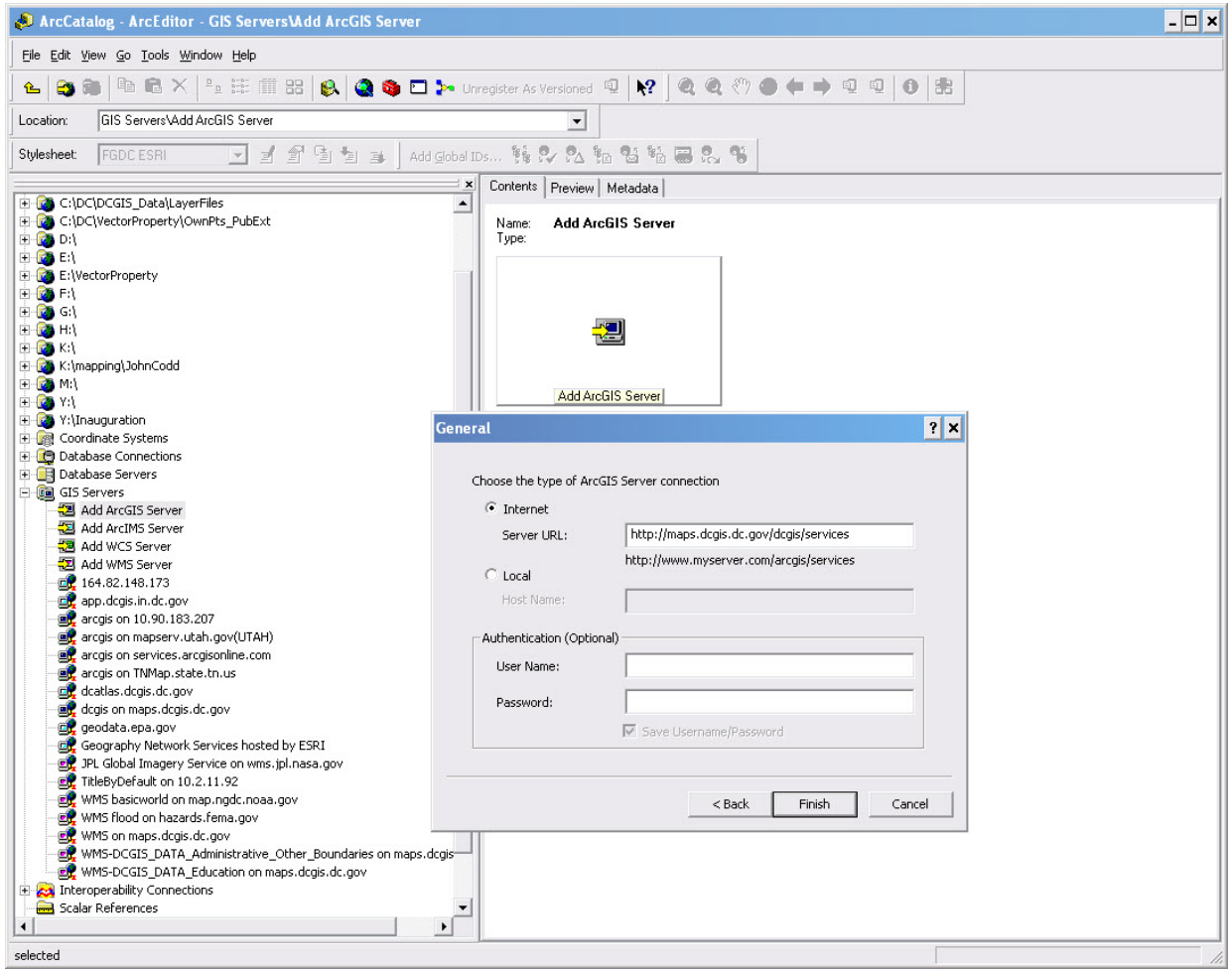
- **To use DC GIS Map Services in ArcGIS Desktop, connect via ArcCatalog:**
  Add ArcGIS Server URL: http://maps.dcgis.dc.gov/dcgis/services
  Folder: \DCGIS_DATA

- **From Browser:** http://maps.dcgis.dc.gov/DCGIS/rest/services/DCGIS_DATA

- **Add WMS Server URL:**
  http://maps.dcgis.dc.gov/DCGIS/services/DCGIS_DATA/Administrative_Other_Boundaries/MapServer/WMSServer
- **Information available here:**
  http://octo.dc.gov/DC/OCTO/Agency+Support/Development,+Training+and+Support/Develop+Websites+Using+GIS+Web+Services
- **http://maps.dcgis.dc.gov/propertywebservice/**
  Source - VPM Layers, Condo Relate table and MAR

DC GIS Publishes Data Categories as Map Services

http://maps.dcgis.dc.gov/dcgis/services



Demo

New Property Web Data Services

How you can find it (inputs)

- Find by Address
- Find by X,Y
- Find by Parcel Lot
- Find by Square Suffix
- Find by Square Suffix Lot
- Find by Parcel Lot By Parcel
- Find by Reservation
- Find by Suffix By Square

What you can find (outputs)

- Addresses
- Air Rights Lots
- Condos
- Tax Lots
- Parcel Lots
- Record Lots

National Geospatial-Intelligence Agency (NGA) LIDAR

Barney Krucoff
District of Columbia
GIS Manager
Barney.Krucoff@dc.gov

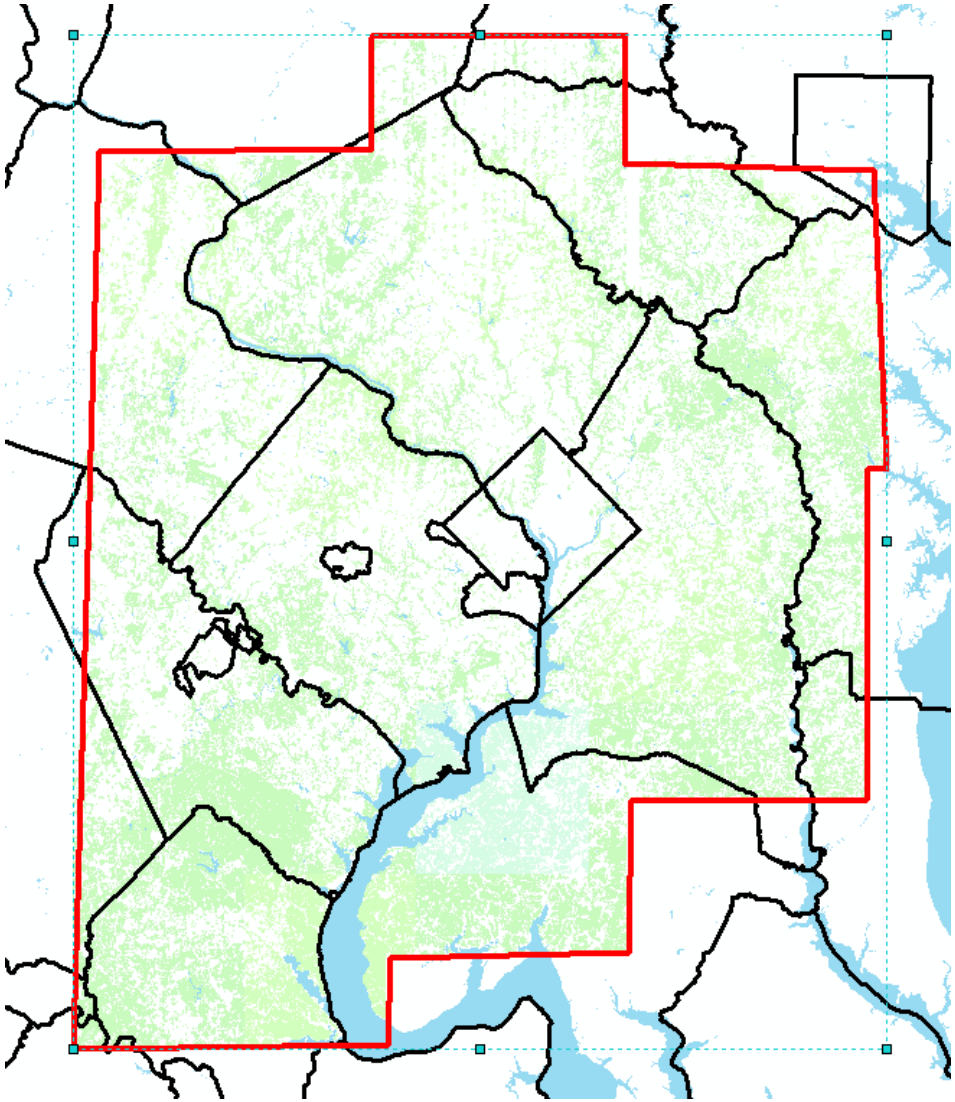
Basic Facts

- Resolution: 1 meter
- Collection method: Airborne
- Coverage: National Capital Region
- Date and derived products
  - Reflective Surface
  - Intensity
  - Last Return
  - Bare Earth Model
  - Extracted Features/Shapefiles (Buildings 2D/3D, Trees, Forests)
- Matches well with DC GIS Topography

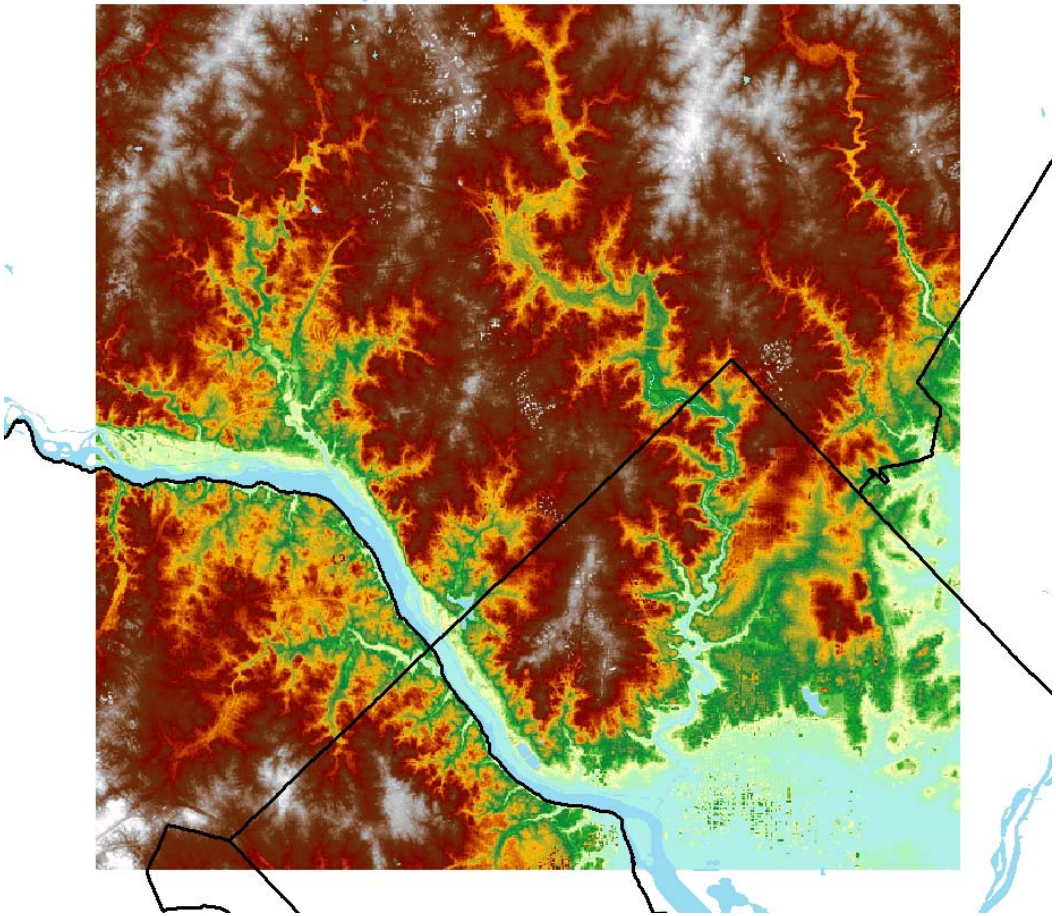
Use Constraints

- 3D buildings are For Official Use Only
- No other constraints provided

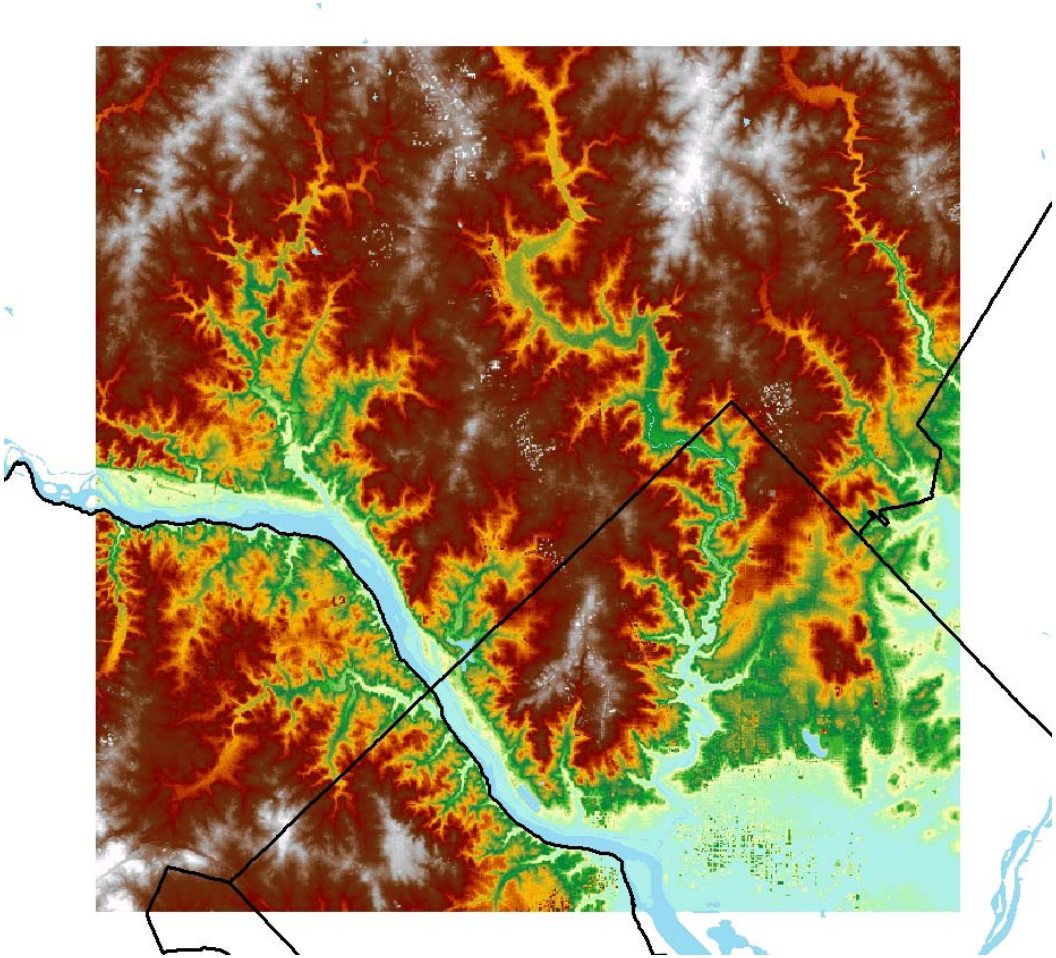
Coverage 24 Tiles



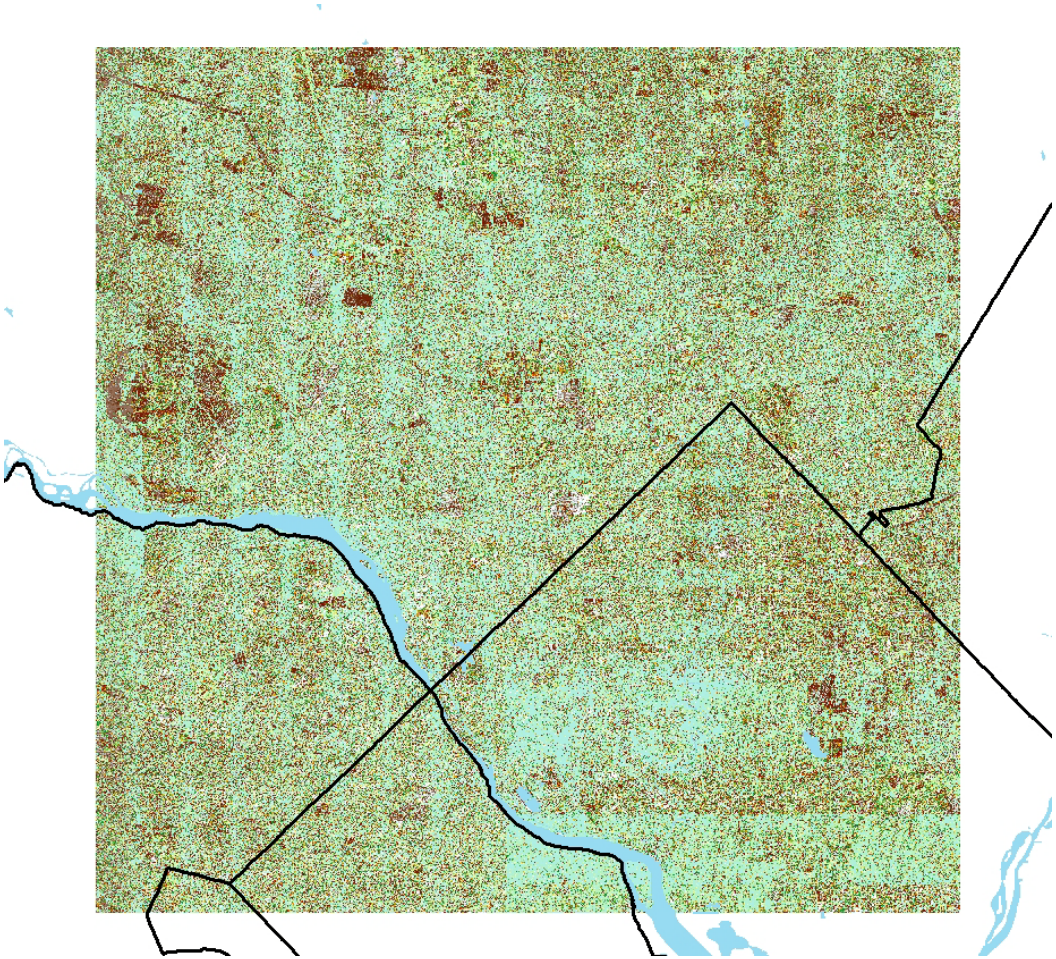
Tile 16 Reflective Surface



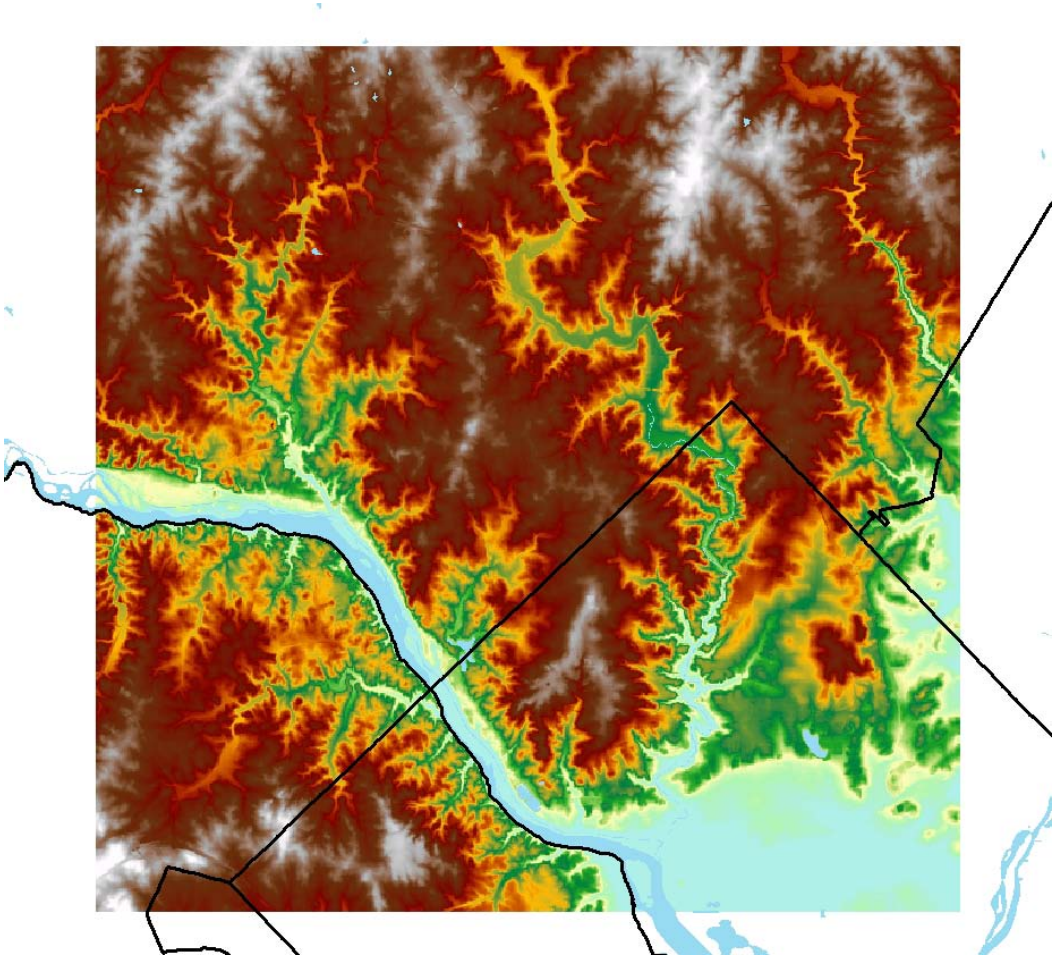
Tile 16 Last Return



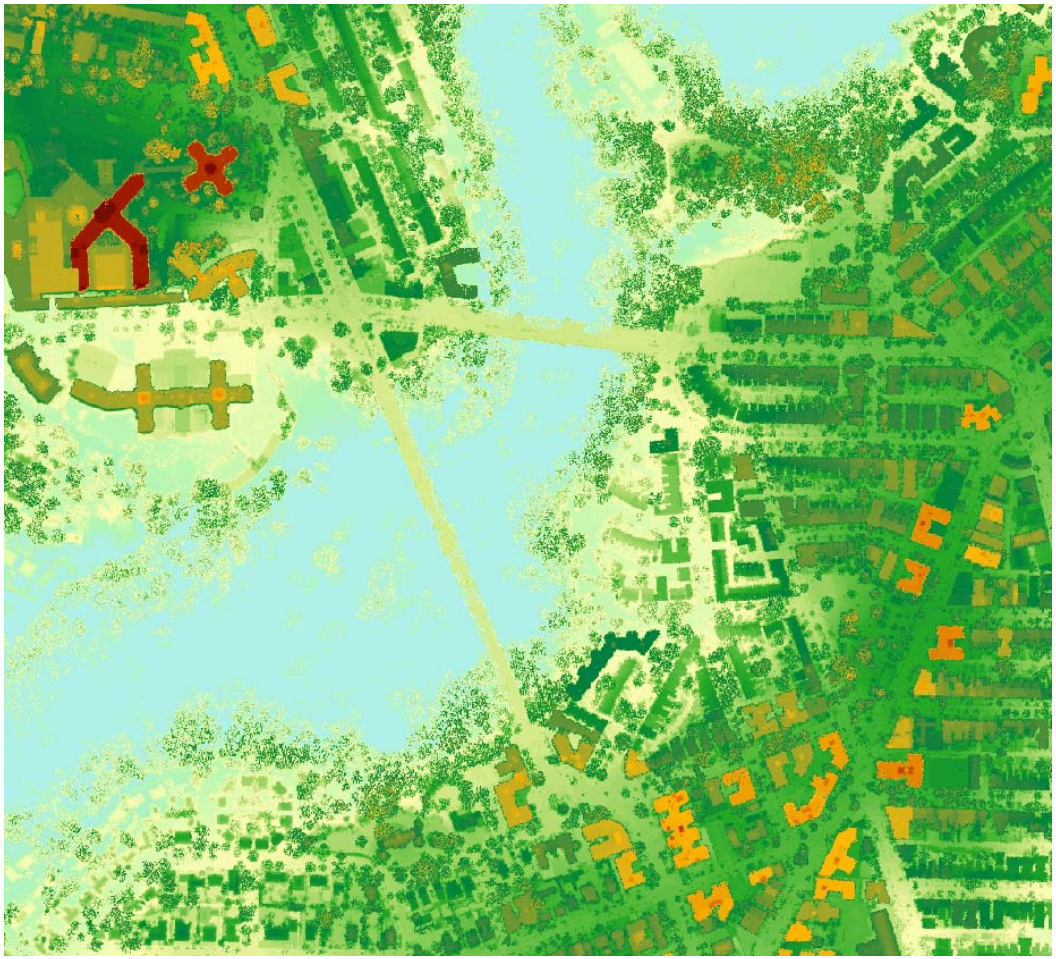
Tile 16 Intensity



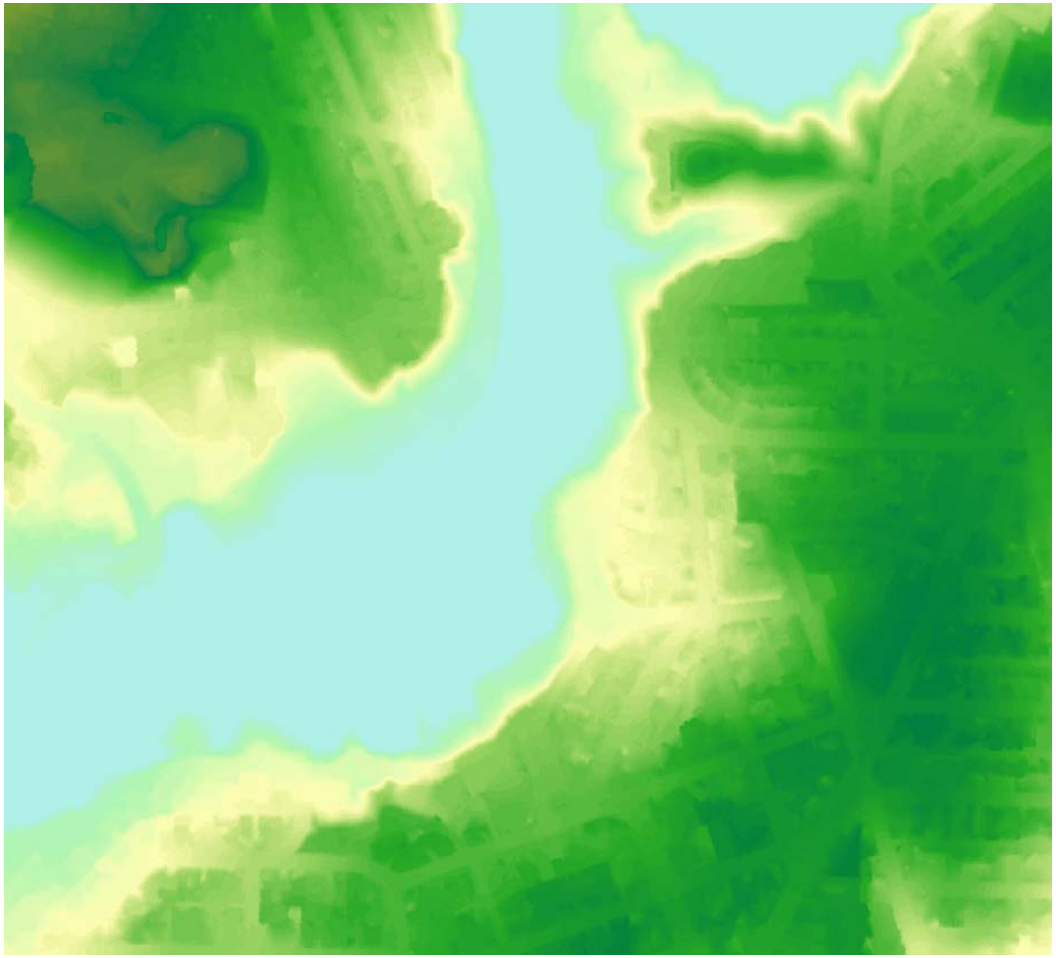
Tile 16 Bare Earth



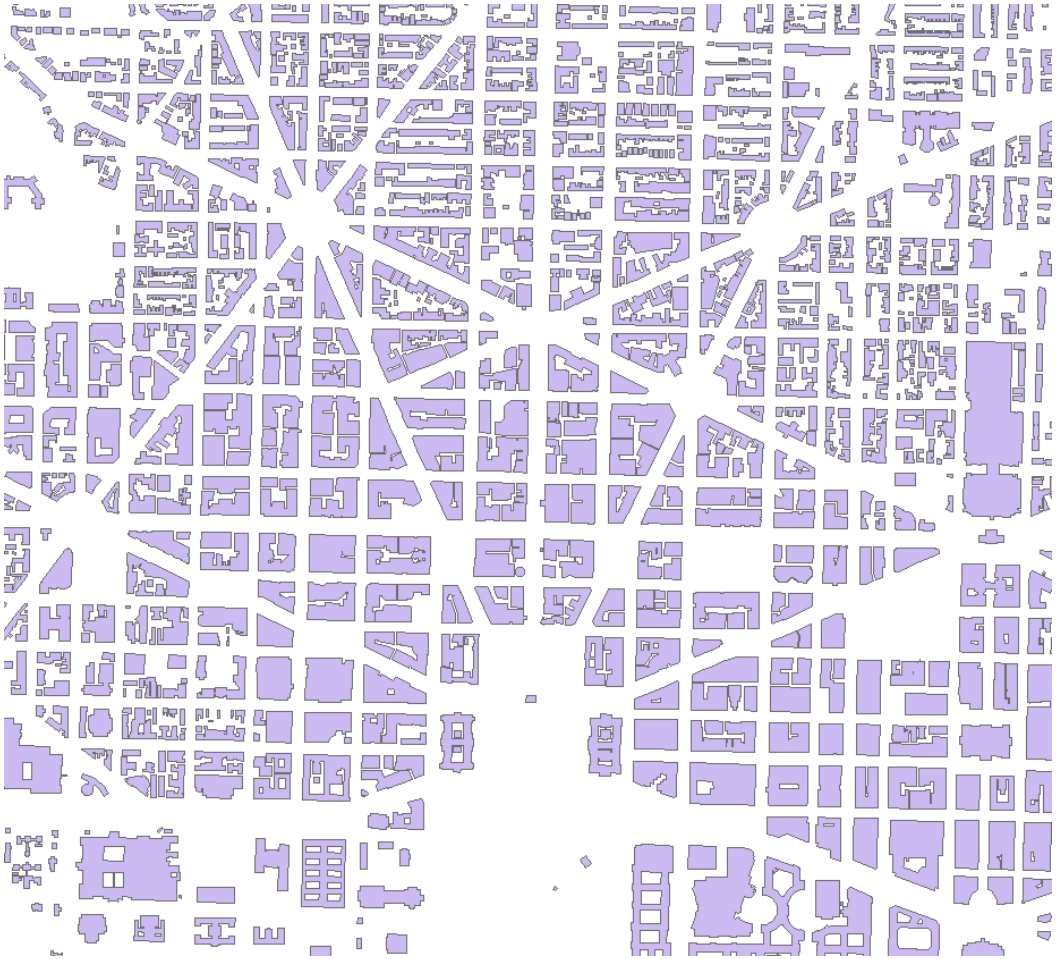
Reflective Surface 1:2400



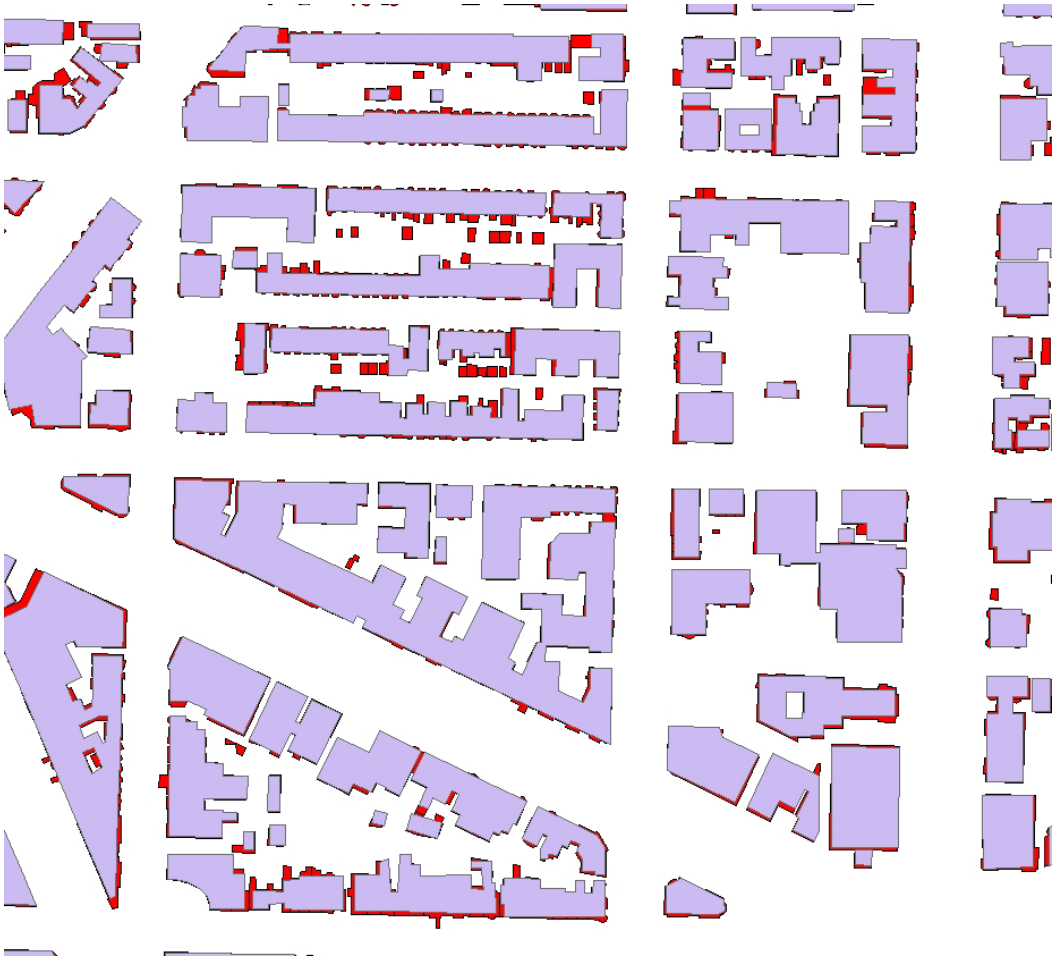
Bare Earth 1:2400



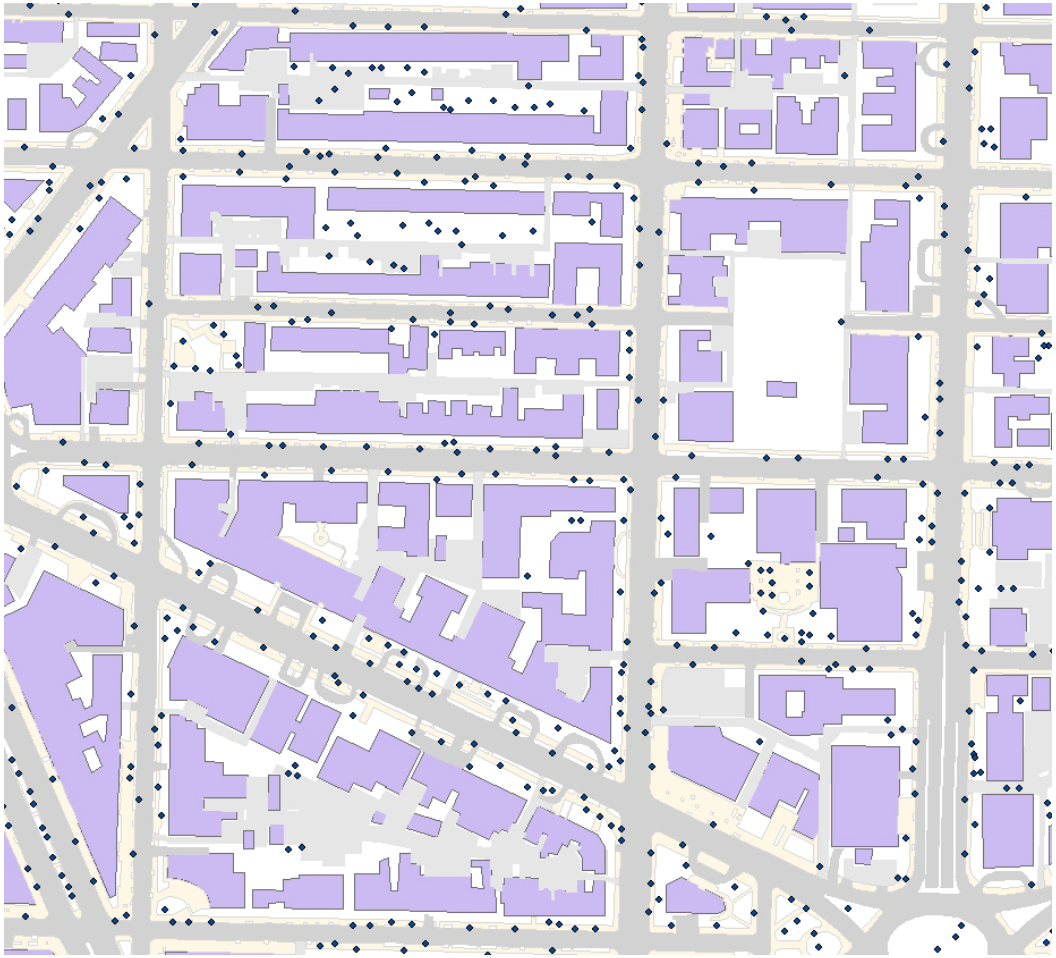
Buildings Downtown 2D



Buildings Comparison 1:2400
(LIDAR derived over DC Stereo derived)



Trees 7 Building over DC Streets 1:2400



How DC might use data

- Impervious surface refinements
- View shed analysis
- Change detection
- Tree canopy
- More…