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# GIS STEERING COMMITTEE

9/28/2016

Hosted by the DC Office of Zoning

[DCGISSteering.Committee@dc.gov](mailto:DCGISSteering.Committee@dc.gov)





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## AGENDA (THEME: ZONING)

- Welcome, News & Updates - Barney Krucoff, Chief Data Officer, Office of the Chief Technology Officer
  - News and Products
    - Team re-org, opendata.dc.gov, data postings
  - Draft Data Policy for Commenting
  - New DC Data Team user group
  - Business Intelligence Platform Consolidation
- Introducing Changes to Zoning Regulations 1958 versus 2016 - Nyambi Nyambi, Chief Information Officer, Office of Zoning
- Details that Changed and the Data Behind ZR16 - Matthew Holden, Zoning Data Coordinator, Office of Zoning
  - Run down of Updated and New Zoning Layers
  - Redesigned Zoning Map and New Conversion Visualization Tools
- Round-table Discussions and Idea Sharing



## OCTO Data Team

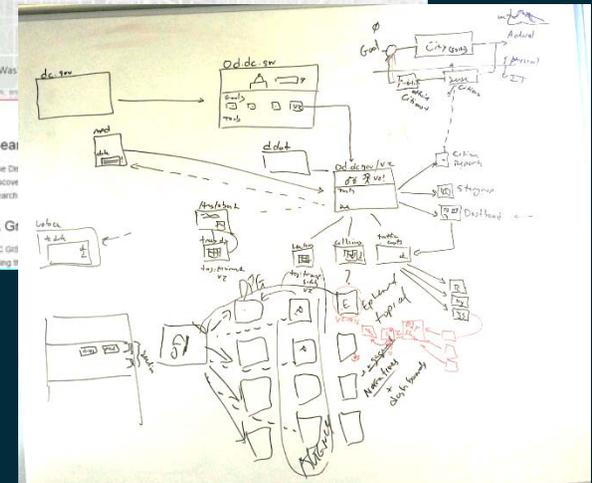
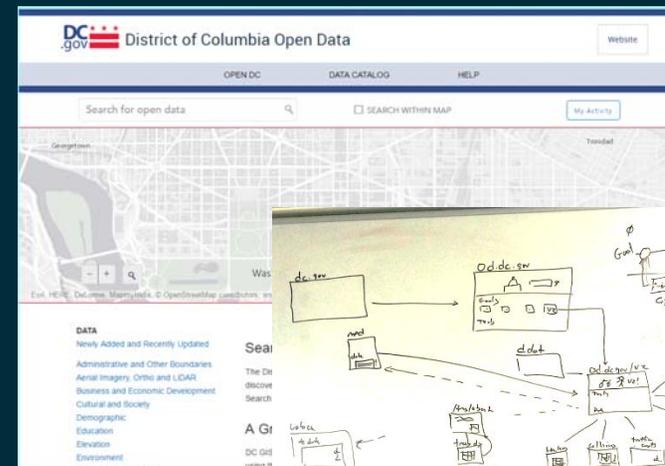
<b>Mission</b>	Improve the quality and lower the cost of District Columbia government services, through collective investment, stewardship, and sharing of data; and reach beyond District government by making data freely and publicly available to the fullest extent possible in consideration of privacy and security.			
<b>Unit</b>	<b>Data Curation</b>	<b>Data APIs &amp; Application Development</b>	<b>Data Visualization &amp; Analysis (Customer Service)</b>	<b>Enterprise Mapping Data</b>
<b>Role</b>	Collect, review, document, store, and archive datasets. Design and administer database of record. Manage data flows from agency systems including automated extract, transform, and load functions and leverage OCTO's Service Oriented Architecture. Manage the data.dc.gov and data.in.dc.gov catalogs.	Develop and maintain APIs that allow the District to manage data and systems as distinct assets. Develop reusable user interfaces for maps and dashboards. Take the overall lead on system architecture and operations.	Serve as the primary contact point for agency customers including project and data intake. Manage most external communications with agencies and the public. Lead the GIS steering committee and create a similar interagency user group for BI and urban modeling.	Builds and maintains core dataset. These datasets often serve as the foundation on which other high quality dataset are built.
<b>Primary liaison to</b>	<ul style="list-style-type: none"> <li>• IT-to-IT data transfers and flows</li> <li>• OCTO Enterprise SOA team</li> <li>• OCTO Enterprise DBAs</li> </ul>	<ul style="list-style-type: none"> <li>• Civic hackers</li> <li>• DC Gov developers</li> <li>• External developers</li> <li>• OCTO developers</li> <li>• OCTO Enterprise SOA team</li> <li>• OCTO Enterprise systems</li> <li>• OCTO CAB</li> <li>• OCTO TRB</li> </ul>	<ul style="list-style-type: none"> <li>• All agencies not covered by the Foundational Data Development Team.</li> <li>• OCA performance management</li> <li>• Agency data analysts (GIS &amp; BI)</li> <li>• MWCOG GIS Committee</li> <li>• GIS Steering Committee</li> <li>• BI Steering Committee</li> </ul>	<ul style="list-style-type: none"> <li>• OTR Real Property Tax Administration</li> <li>• DCRA (Office of the Surveyor, Permitting)</li> <li>• DDOT</li> <li>• FGDC</li> <li>• NSGIC</li> <li>• OUC (911 and 311)</li> </ul>
<b>Primary projects &amp; responsibilities</b>	<ul style="list-style-type: none"> <li>• Archiving plan</li> <li>• CARS ETLs</li> <li>• CDW / GIS database merger</li> <li>• Data catalog content               <ul style="list-style-type: none"> <li>• Internet</li> <li>• Intranet</li> </ul> </li> <li>• Data intake processes</li> <li>• Data crunch (clean-up)</li> <li>• Data inventory database               <ul style="list-style-type: none"> <li>• Dataset-ID</li> </ul> </li> <li>• Data service publication</li> <li>• MAR 2.0 database</li> <li>• Legacy data catalog phase-out</li> <li>• Metadata</li> </ul>	<ul style="list-style-type: none"> <li>• AGOL template</li> <li>• API identification, development</li> <li>• Custom dashboards and maps               <ul style="list-style-type: none"> <li>• CrimeMap III</li> </ul> </li> <li>• Data Catalog IV</li> <li>• Data Inventory Tool</li> <li>• Future Reference Architecture               <ul style="list-style-type: none"> <li>• API gateway</li> <li>• Big data/BI/reporting database</li> <li>• Enterprise SOA utilization</li> <li>• Search improvement</li> </ul> </li> <li>• Esri Locator(s)</li> <li>• Esri Road &amp; Highways</li> <li>• Failover plan</li> <li>• GitHub internal</li> <li>• GitHub public code share</li> <li>• LIDAR as a service</li> <li>• MAR web service 2.0</li> <li>• Systems Operations</li> </ul>	<ul style="list-style-type: none"> <li>• Agency participation with               <ul style="list-style-type: none"> <li>• Data collection</li> <li>• Metadata collection</li> <li>• Inventory/classification</li> </ul> </li> <li>• AGOL administration</li> <li>• BI administration</li> <li>• BI consolidation plan</li> <li>• Data utilization dashboard</li> <li>• COTS development               <ul style="list-style-type: none"> <li>• Dashboards</li> <li>• Maps</li> <li>• Reports</li> </ul> </li> <li>• Emergency Support Function</li> <li>• Enterprise data inventory</li> <li>• FIOAXpress administration</li> <li>• MOUs               <ul style="list-style-type: none"> <li>• CSFA</li> <li>• DCPS</li> <li>• DOH</li> </ul> </li> <li>• Situational awareness applications</li> <li>• Website rebuild               <ul style="list-style-type: none"> <li>• Dashboard gallery</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 911 CAD map</li> <li>• 911 Next Gen</li> <li>• Aerial photography</li> <li>• Cartographic base maps</li> <li>• Citywide domain tables</li> <li>• District Facilities</li> <li>• LIDAR</li> <li>• Master Address Repository</li> <li>• MOUs               <ul style="list-style-type: none"> <li>• CARS</li> <li>• OUC</li> </ul> </li> <li>• Planimetric Map</li> <li>• Vector Property Map</li> </ul>



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# GIS DEV - OPENDATA.DC.GOV REDESIGN

- Current Pilot partners: Esri-OCTO-DDOT
- For humans by humans
  - Citizen engagement
  - Good metadata
  - Narrative elements
  - Embedded visualizations
  - Multiple search and landing pages
- More links! (always good)
  - To and from DC.gov
  - Across pages
  - To samples and tools and other code on github
- Bonus plan: ~~legacy.data.dc.gov~~

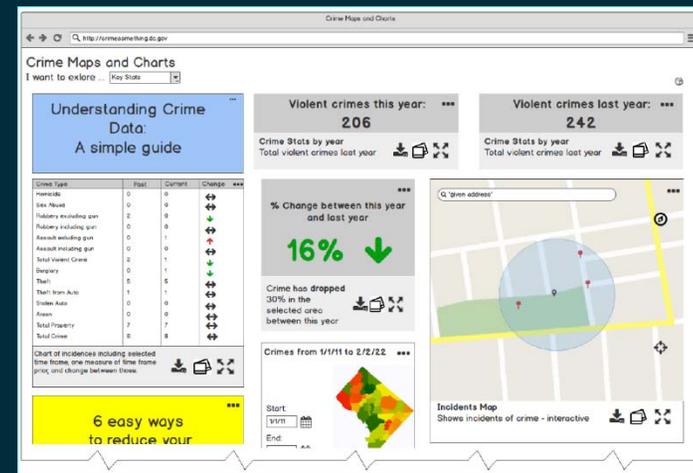




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# GIS DEVELOPERS - CRIME “MAP” UPDATE

- Designing by prototype
  - Wireframes at first (balsamiq)
  - Then “high fidelity” (bootstrap and google material design)
- Joint roundtable-style feedback sessions with MPD involving a cross-section of current crime map users and their proxies
- Unable to complete this fiscal year





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# DATA POSTINGS

- Bicycle Lane
- Bus Line
- Camera Enforcement Sites
- Certified Business Enterprise
- Clean Team Area
- Crash
- DMPED Real Estate Portfolio
- DMPED Industrial Revenue Bond
- DMPED Affordable Housing
- Downtown Designated Street
- Downtown Designated Subarea
- Federal Zone (DRAFT)
- Great Street
- Hospital
- Hospital Grounds
- Impervious Surface - 2015
- Liquor License
- Metro Entrances
- New Columbia Boundary (DRAFT)
- Notary Public
- Railroad
- Recreation Facilities
- Technology Zone
- Triangle and Medians
- Water Surge
- Zoning





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# NEXT DATA POSTINGS

- Campaign Finance
- Crash
- Embassy
- Gas Station
- Green Building
- Hotel
- Incarceration Data
- Library
- Notary Public
- Recreation Inventory





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## 5YR ORTHO/PLANIMETRIC/LIDAR CONTRACT VEHICLE

- Ortho and Planimetric Updates Years 1, 3 and 5
- LiDAR Acquisition and Processing Years 2 and 4
- RFP Released Fall 2016
- Award December 2016/January 2017





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## NEW IMAGERY

# OBLIQUE DATA REFRESH 2016 LATE FALL

- 2003\*
- 2005\*
- 2007\*
- 2009\*
- 2011\*
- 2014 (Fall)
- 2015 (Spring)
- Procured Pictometry Connect in 2016 (Explorer, Mobile and Desktop)

• Looking South



• Looking East



• Looking North



• Looking West



\*Licensed Data





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## NEW IMAGERY NEARMAP

- Citywide update flown on July 21, 2016 (Thursday)
- Gain access by visiting <http://octo.in.dc.gov/node/165505>
- Available as imagery service (Desktop), Map Viewer and in ArcGIS Online marketplace

✓ Thu Jul 21 2016

Tue Mar 22 2016

Tue Oct 06 2015

Sat Apr 11 2015

Sat Oct 25 2014





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## GIS - SYSTEMS REPORT

- GIS Map Services will be converted to use easy connections; SDE services will be stopped
- GIS Staging Server is upgraded to 10.4.1 version.
- Public facing Road & Highway staging server had been configured





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## GIS - SYSTEMS REPORT

- Revised ArcGIS server Failover and Disaster Recovery plan
- Reviewed BI tools





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## TRAINING REPORT

- DCHR classes will be available in PeopleSoft after 10/1
- NEW: Web courses from ESRI will be available, at no cost, to any agency personnel (FTE) interested in building on their existing GIS skills (prerequisites may be required).
- ESRI Advanced training options will be available again mid-October.
- Make sure that you are signed up for the [OCTO email list](#) (internal version) to receive updates and instructions on applying for training classes.





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## TRAINING REPORT

- GIS training surveys will go out (via email) to agency CIOs and staff at the beginning of October 2016. Please respond so we can continue to build the GIS training program with your needs in mind.
- Survey will take approximately 10 minutes to complete
- Information will be used internally to develop new offerings and improve on existing opportunities.





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# Data

Barney Krucoff, CDO

@opendatadc





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## DATA POLICY

- Draft is online at <http://drafts.dc.gov>
  1. Intent
  2. Scope
  3. Definitions
  4. Personnel and Roles
  5. Dataset Inventory, Classification, and Prioritization
  6. Minimum Data Protection Requirements
  7. Data Catalogs
  8. Intra-District Data Sharing Agreements for Datasets Classified Level 2 and Below
  9. Nexus Between FOIA and Open Data
  10. Open Data Legal Policy



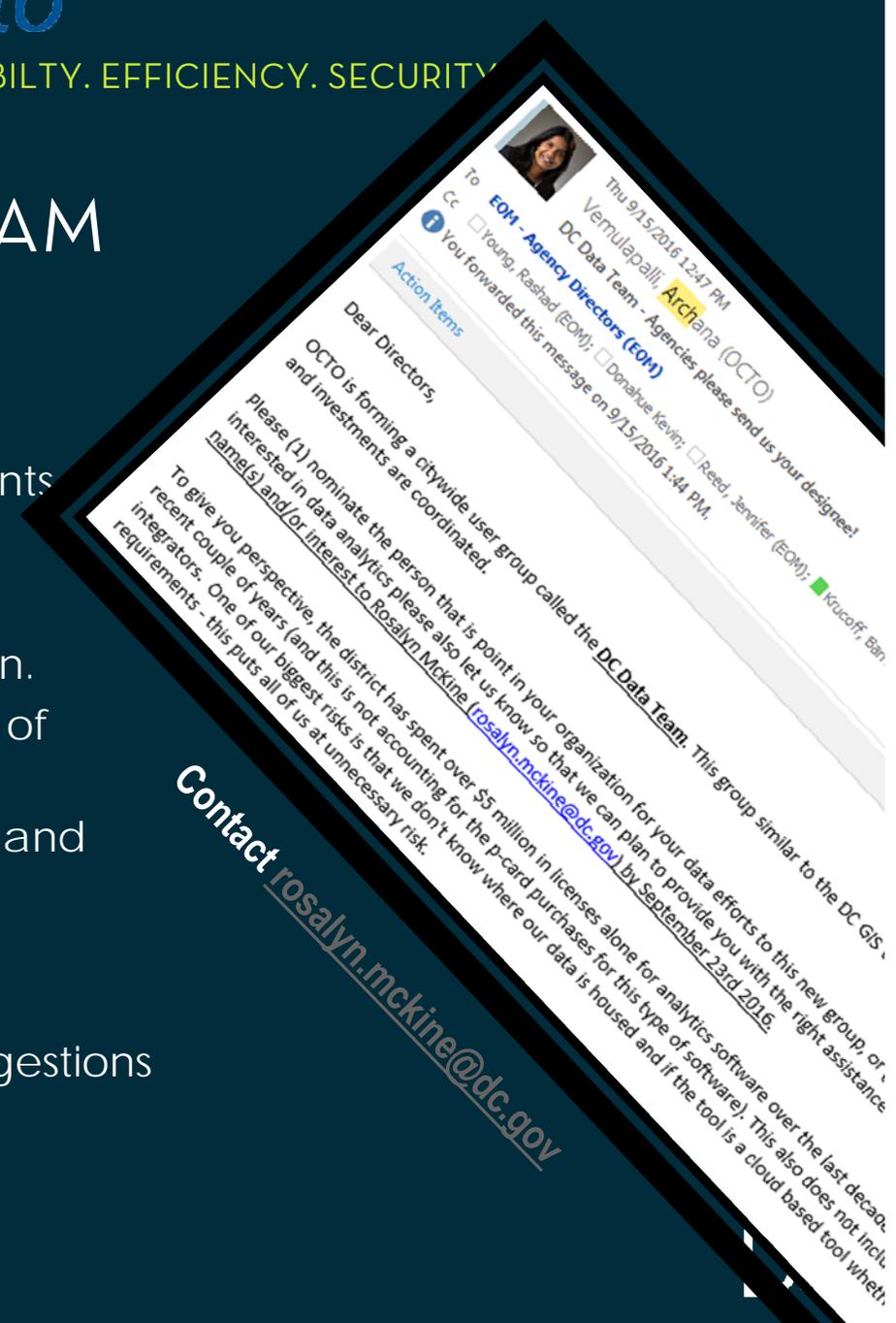


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## DC DATA TEAM

### Duties

- Have a say in citywide investments
- Ensure the right BI tools meet the requirements of your agency needs
- Inventory and classify datasets
- Prioritize datasets for sharing and publication.
- Coordinate the publication and redactions of datasets
- Assist in the development, implementation, and sharing of data standards and related best practices
- Ensure the accuracy of the metadata
- Receive and respond to questions and suggestions from the public about data





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## BUSINESS INTELLIGENCE VISION (IT IS NOT ORIGINAL)

### What DC GIS Has

- DC GIS Steering Committee
- Standard practices for interagency data documentation, discovery and services
- A standard technology stack\*
  - Efficient purchasing
  - Standardized support training
  - Peer-to-peer support
  - Centralized server side management
- Centralized funding model that allows new uses to onboard quickly with no transaction costs

### What DC BI Has

- No interagency user committee
- No dominant common data store (although CDW is closest)
- Multiple technology investments with little IT centralization
  - Some OCTO support
  - No citywide training or organized peer- to-peer interaction
- Central funding now coming online, but historically fractured and split into numerous transactions



\* On GIS side, we are arguably over-dependent on one vendor





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# PRODUCT SELECTION CRITERIA

- Consideration of what software DC users already know and use. Use is more important than ownership, but both matter. Market share momentum is as important as historic buys.
- The ability to centrally administer an enterprise system that allows agency users to get their work done via a self-service first model.
- The capacity and licensing to add new users, no matter the agency, with almost no marginal cost per user.
- The cost of upgrading hardware and software to raise existing systems to meet OCTO enterprise standards.
- Projected software maintenance and labor costs.
- Performance and capability of the platform.
- Feasibility of transitioning users from other platforms.

We did not look for the best product. To be frugal, we looked for the best fit among products DC already owned.



Gartner, Magic Quadrant for BI, February 2016





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## WHAT DC ALREADY OWNS AND USES

- Total spending and breadth of spending

BI Platform	# Agencies	Agencies	Amount	OCTO Alone
Business Objects	8	DMV, OCFO, DBH, DOC, DCRA, CFSA, DFS, DDS	\$1,236,069	\$698,185
Qlik (Qlikview and Qlik Sense)	3	OSSE, DBH, DDOT, (DMV*)	\$678,392	\$447,122
Tableau	17	DHS, OSSE, EOM-OCA, DOH, DCPS, DOES, DCRA, CFSA, DYRS, MPD, OCFO, DDOT, DCPL, DHCD, OCME, OCP, DCTC	\$448,614	\$468,138
Microstrategy	0	-	-	\$1,030,055
Grand Total			\$2,363,077	\$2,643,500



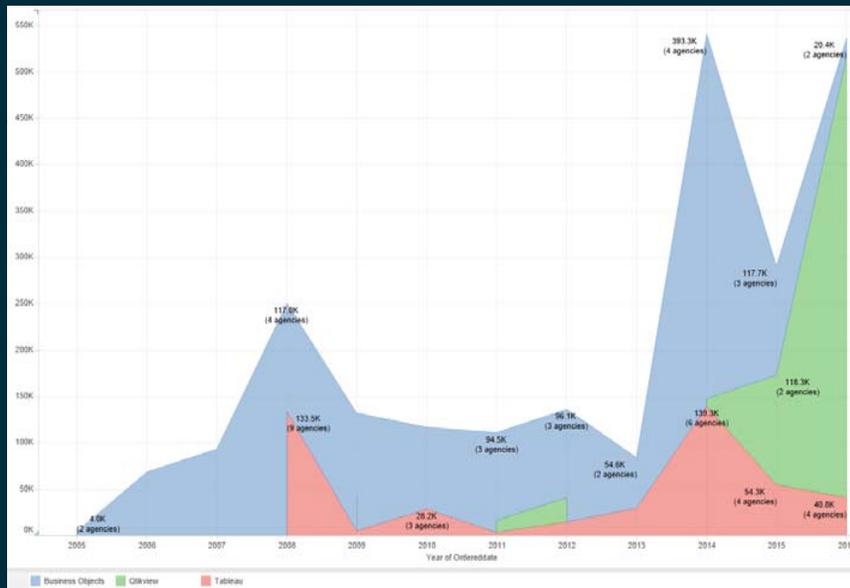


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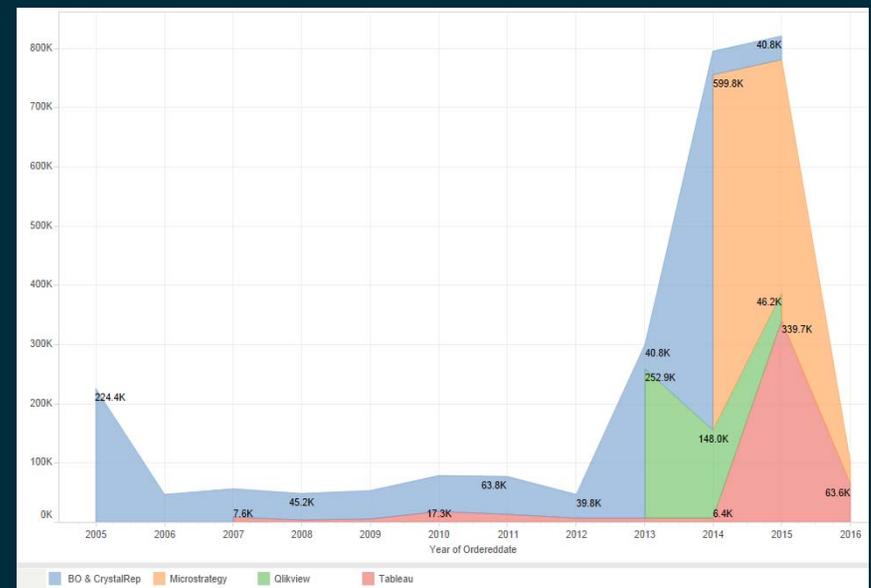
# WHAT DC ALREADY OWNS AND USES

## Spending overtime (momentum)

### Agency Spending Overtime



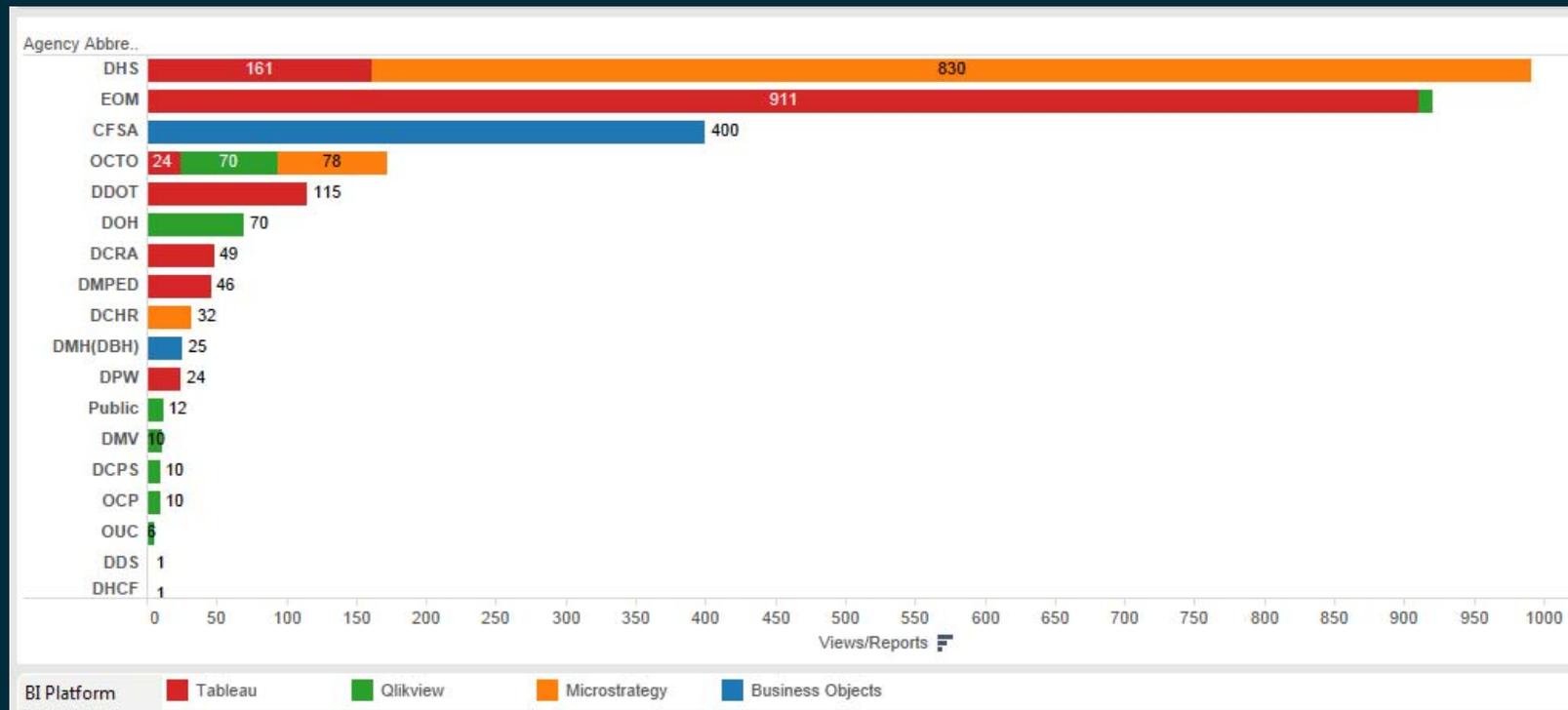
### OCTO Spending Overtime





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# EXISTING REPORTS



*Reports/views developed for/by agencies and hosted on OCTO BI platforms as of August 2016*





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GARTNER CRITICAL CAPABILITIES FOR BI PLATFORMS  
03/10/2016

Critical Capability	Micro-Strategy	Tableau	Business Objects	QlikSense
Self-Service Data Preparation	2.00	2.50	3.00	3.00
Embedded Advanced Analytics	3.00	1.50	2.00	1.50
Interactive Visual Exploration	3.00	4.00	3.50	3.50
Analytic Dashboards	3.50	3.00	3.50	3.50
Ease of Use	3.00	3.50	3.00	3.00
Self-Contained ETL and Data Storage	4.00	3.00	2.00	4.50
Security and User Administration	4.50	4.00	3.00	3.50
BI Platform Administration	4.50	3.50	4.50	3.50
Governance and Metadata Manageme..	3.50	2.00	2.50	2.00
Embed Analytic Content	3.00	3.00	2.50	4.00
Data Source Connectivity	4.00	4.00	2.50	2.50
Collaboration and Social BI	1.50	1.50	1.50	1.50
Publish Analytic Content	3.50	2.00	3.00	2.00
Cloud BI	4.00	2.50	2.00	1.50
Mobile Exploration and Authoring	4.00	3.00	3.00	2.00
<b>Average Rating</b>	3.40	2.87	2.77	2.77





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# BUSINESS OBJECTS RECOMMENDATION

## Pro

- Broad BI solution with lots of historical use in the District
- Heavy reliance by CSFA

## Recommendation

- Continue to pay maintenance \$40,834/year
- Use for traditional reporting tasks, but not for data discovery/dashboards
- Discourage new adoption

## Con

- OCTO investment started in 2005. The District doesn't own SAP Lumira, a product that is compatible with the dominant self-service data discovery leaders
- OCTO stopped active development about 2 years ago and now provides support to CFSA and DBH only
- Unknown cost to upgrade to enterprise solution





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## QLIK RECOMMENDATION

If starting from a clean slate, Qlik Sense's outstanding capabilities, efficient pricing, and low cost of long-term ownership would make Qlik Sense a likely winner. However, DC is not starting from a clean slate. Larger investments have already been made in other platforms. Caution dictates that OCTO try to make the most of the District's existing investments before committing additional money. To that end:

- OCTO will allow agencies with investments in Qlik Sense to operate independently. OCTO will not charge those agencies a BI assessment in 2018 and beyond unless they switch to a supported enterprise platform.
- OCTO will phase out use of Qlik View and repurpose four physical servers to other BI uses.
- OCTO will carefully approach and transition remaining Qlik View users (not many) to a supported BI platform.





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## TABLEAU RECOMMENDATION

- Give the users what they want. Make minimum server-side investment of approximately \$350,000 (capital) to stabilize and scale platform.
- Negotiate a better, more manageable, and scalable model for desktop licensing
- Establish a training program
- Leverage infrastructure as a service cloud deployment to get interactive dashboards to the public. Start small and grow if demand is there.
- Leverage physical servers currently devoted to Qlik View
- Bring in some consulting for configuration assistance
- Be willing to walk if Tableau's terms are unreasonable





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# MICROSTRATEGY RECOMMENDATION

- Establish as preferred platform and aggressively market (not sell) to agencies
- Designate as BI system of choice for sensitive data
- Establish a training program
- Invest approximately \$57,000 in hardware (already budgeted by Felix)
- Restructure some of the named user licenses into development licenses
- Implement the Esri integration
- Prepackage data for users
- Monitor utilization and, if utilization doesn't improve, be prepared to cut back or abandon





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# PRESENTATION BY THE OFFICE OF ZONING

- OZ Team Introductions
- Zoning Regulations of 2016 (ZR16)
  - Overview/Background
  - Zoning Handbook
- New Zoning Map Products
  - DC Zoning Map of 2016
  - Zoning Map Change Viewer
  - Historical Zoning Maps Viewer
- Zoning Data





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## ZR16 - OVERVIEW



- The Zoning Regulations Review (ZRR) was a multi-year effort to update, simplify, and modernize the Zoning Regulations.
- Beginning in 2008, the Zoning Commission and DC Office of Zoning held over 100 trainings, community meetings, Public Hearings, and Public Meetings to address concerns, gather feedback, provide information, deliberate, and finally approve the 2016 regulations.





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# ZR16 OVERVIEW (*CONTINUED*)

- January 14, 2016
  - Zoning Commission took final action to approve ZR16
- March 4, 2016
  - Notice of Final Rulemaking and Z.C. Orders No. O8-O6(A-C) published (Text and Map Amendment to Implement the Comprehensive Revisions to the Zoning Regulations)
- September 6, 2016
  - Effective date for the new regulations





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# ZONING HANDBOOK

- The Zoning Handbook is a user friendly guide and companion to the 2016 regulations.
- The Handbook is easily updatable and contains definitions, illustrations, and links to specific Subtitles where applicable.
- Zoning Handbook Link:  
<http://handbook.dcoz.dc.gov>



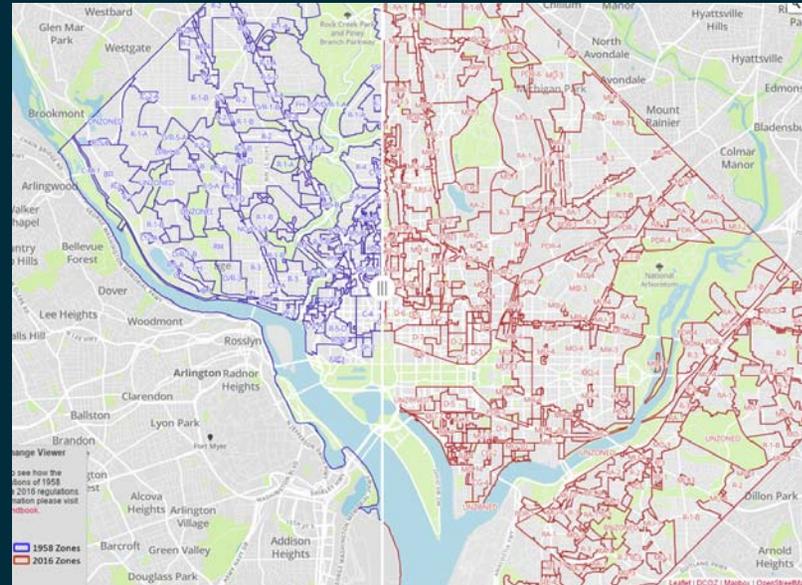




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## ZONE CHANGE VIEWER (1958/2016)

- The Zoning change Viewer is a comparative tool that assist users to better understand the change in Zoning from the most recent version of the 1958 Zoning map to the Zoning map of 2016

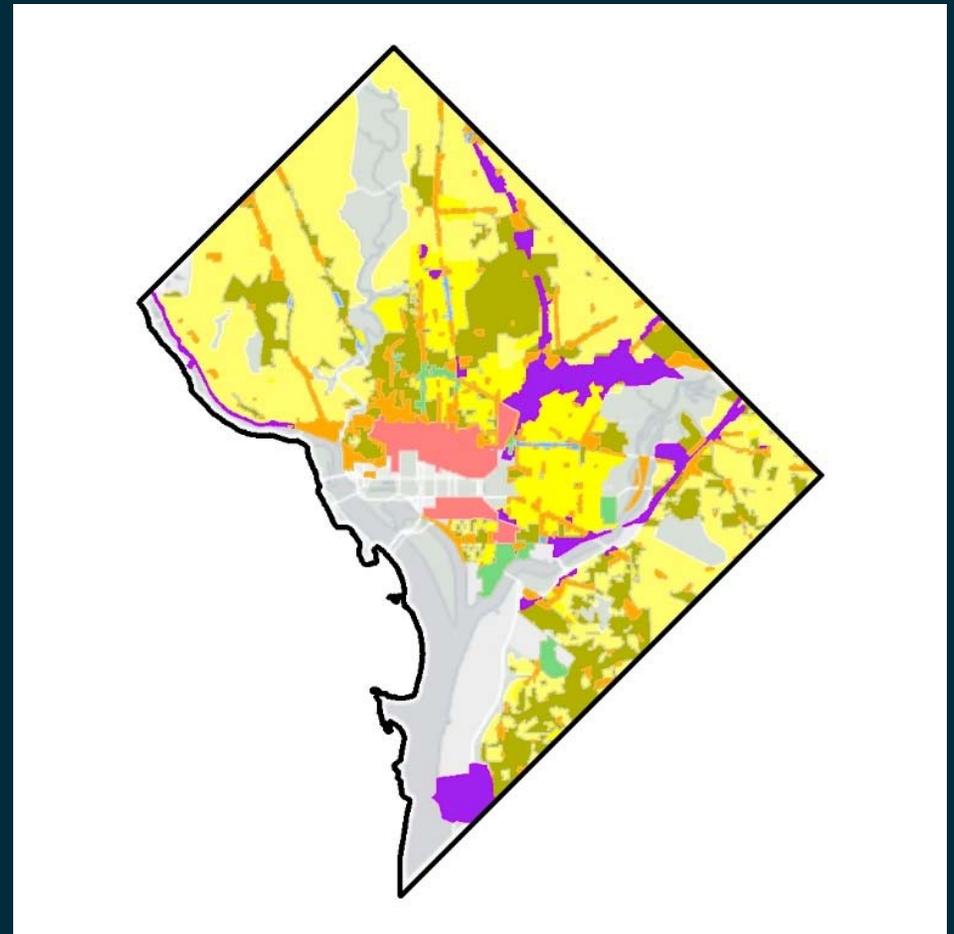




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# ZR16 MAP CHANGES

- While many individual development standards did not change (height, FAR, lot occupancy), almost every zone name was altered, and some boundaries were affected.
- Most significantly, Overlays are now combined with Base Zoning, creating many, many more individual zones than previously existed.
  - Ex: R-3 + Naval Observatory Overlay = R-13





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# 1958 VS. 2016

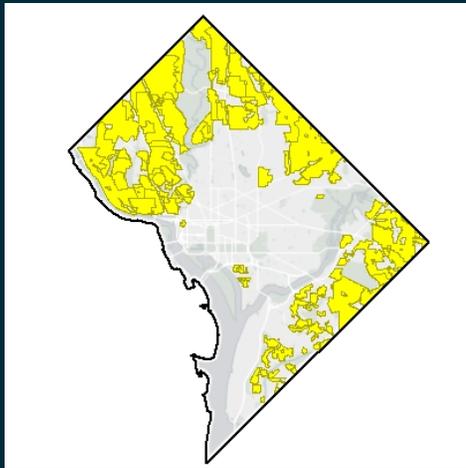
1958 Zoning Map	2016 Zoning Map
Residential Zones	Residential Zones
Commercial Zones	Residential Flat Zones
Mixed-Use Zones	Residential Apartment Zones
Special Purpose Zones	Mixed-Use Zones
Waterfront Zones	Neighborhood Mixed Use Zones
Industrial Zones	Production, Distribution and Repair Zones
Various Overlay Districts	Special Purpose Zones
TDR Zones	Downtown Zones
	Downtown Subareas
	Downtown Designated Streets
	Credit Trade Areas





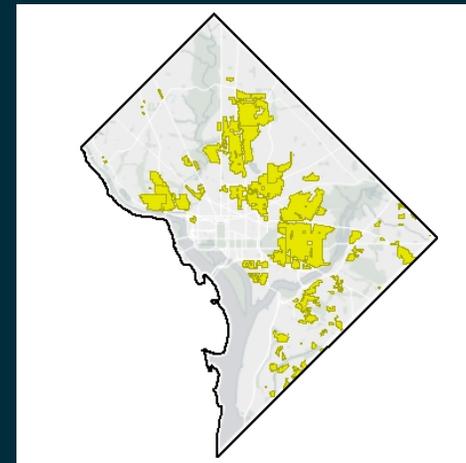
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## HIGHLIGHTED CHANGES



- Accessory Dwelling Units allowed in Residential Zones by right (R-19 and R-20 require Special Exception)

- Easier Approval for Corner Stores in Row House Zones
- Parking
  - No Downtown Required Parking Minimum
  - 50% Reduction in parking requirement for properties within ½ mile of Metro station and ¼ of Priority Bus Corridor

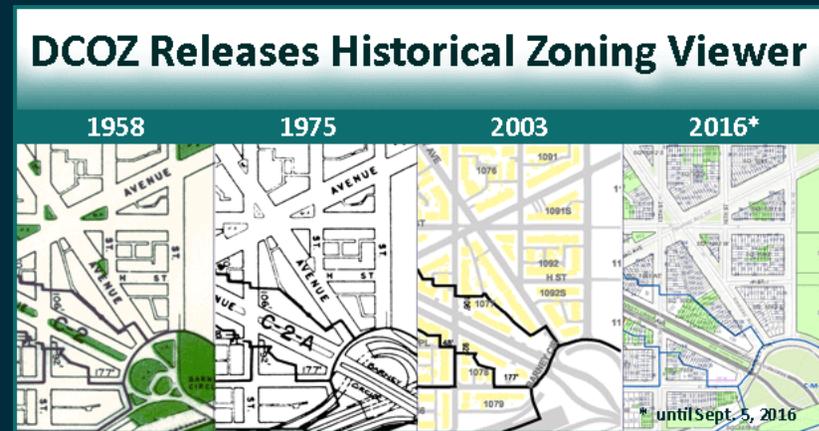




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# HISTORICAL ZONING MAPS VIEWER

- The Historical Zoning Viewer contains versions of published Zoning Maps from 1958 to September 2016.
- The application also displays Zoning Cases relevant to the specific edition of the map.





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## ZR16 - DATA

- Webservices -
  - <http://maps2.dcgis.dc.gov/dcgis/rest/services/DCOZ>
- DCGIS SDE Zoning Feature Dataset
- OpenData.dc.gov
  - Available Now: 2016 Zoning Boundaries, Designated Streets, Downtown Subareas
  - Forthcoming: Zoning Cases, Credit Trade Areas, Zoning Query Layer





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## OTHER ZONING MAP PRODUCTS

- Summary Zoning Maps (PDFs, updated quarterly)
- 2016 Zone Boundaries Overview

Maps Homepage – <http://maps.dcoz.dc.gov/>





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THANK YOU FOR  
JOINING US 😊

Feedback

[DCGISSteering.Committee@dc.gov](mailto:DCGISSteering.Committee@dc.gov)

Next GISSC tentatively scheduled for  
January 2017

