NYC Analytics

To: Mayor Bill de Blasio
cc: Robert Holden, Chair, City Council Committee on Technology

Pursuant to Local Law 8 of 2016 ("Open Data Examination and Verification"), the Mayor's Office of Data Analytics (MODA) was tasked to conduct a series of examinations of City agencies' data systems to verify their compliance with the Open Data Law. The law names three City agencies to be examined each year from 2016 to 2018 in order to improve agency compliance with the Open Data Law (Local Law 11 of 2012).

We hereby submit the 2019 Examination and Verification report, required by Local Law 8 of 2016, which summarizes MODA's findings thus far and provides recommendations to improve the disclosure and inclusion of public data sets required to be on the web portal going forward.

Please find enclosed:
- Examination and Verification 2019 Report
- Datasets Discovered through Examination and Verification

The New York City Open Data Team is made up of two departments working in tandem: The Mayor's Office of Data Analytics (MODA) and the Department of Information Technology and Telecommunications (DoITT). MODA oversees the governance of NYC Open Data, and works to promote the use of Open Data both within government and throughout New York City. DoITT manages the more technical aspects of the Open Data platform by working with City agencies to identify and make data available, and by coordinating platform operations and improvements. Each City agency also has an Open Data Coordinator, who serves as the main point of contact for the Open Data team and the public, and works to identify, document, structure, and manage the agency's public datasets.

MODA wishes to thank all stakeholders in the NYC Open Data Program for their continued collaboration to identify, prepare, and publish valuable public datasets.

Respectfully Submitted,

Kelly Jin
NYC Chief Analytics Officer and Chief Open Platform Officer
Director, Mayor's Office of Data Analytics

2019 Open Data Examination and Verification Report

Mayor's Office of Data Analytics (MODA)
Date: December 1, 2019

MODA's Examination and Verification Process

In January 2016, Mayor Bill de Blasio signed Local Law 8 of 2016 (Appendix B) and appointed the Mayor's Office of Data Analytics (MODA) to oversee the examination of select City agencies' data assets to verify their compliance with the Open Data Law. MODA then prepared an Examination and Verification (E&V) plan that was approved by the Commissioner of the Department of Investigation.

The E&V process was designed to improve citywide compliance with the Open Data Law by creating a more systematic way to locate datasets that may have been omitted in agencies' self-reported open data compliance plans. Agency Open Data Coordinators (ODCs), who serve as liaisons to MODA and DoITT and coordinate data publishing in their agencies, were responsible for fulfilling the E&V requirements on behalf of their agencies.

In December 2016, MODA submitted the results of the first E&V for the Department of Sanitation (DSNY), Department of Correction (DOC), and Department of Housing Preservation and Development (HPD). In 2017, MODA submitted examinations of the Department of Buildings (DOB), Fire Department (FDNY), and the Department of Environmental Protection (DEP). In 2018, MODA submitted examinations of the Business Integrity Commission (BIC), the Department of Small Business Services (SBS), and the Department of Transportation (DOT). Recommendations from each year's engagement, as well as the worksheets completed by these agencies, can be found in the "Reports" section of the Open Data website.[1]

Below is a list of the components of the E&V process as of the 2018 E&V cycle:

Dataset Questionnaire: Agency ODCs were required to examine existing instances where data assets are created or exchanged. This included listing technical systems with more than 20 agency users; assets shared with other agencies; and assets used to produce reports, website content, or Mayor's Management Report indicators.

Organizational Chart: Agency ODCs were required to provide MODA with an organizational chart of their agency to help ensure that ODCs worked across the organizational chart in order to better understand their agency's information ecosystem while examining the business functions and personnel that have already contributed data to the Open Data Portal.

Executive Certification Letter: During each E&V cycle, MODA required each agency's Commissioner or their designee, and General Counsel or their designee, to sign a letter that certified the completeness and accuracy of the agency's information required in the dataset questionnaire.

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[1] https://opendata.cityofnewyork.us/open-data-law/

Meetings with ODCs: During the 2018 E&V cycle, MODA provided agencies with a detailed overview of the E&V process at in-person meetings at their agencies, including a January kickoff meeting, and required monthly check-ins where the Open Data team answered questions. After each E&V cycle, MODA met with ODCs to discuss the challenges and opportunities they face in the ODC role to help inform the recommendations in the E&V Reports.

Public Reviews: Users always have the option to nominate datasets for publication on the Open Data Portal at opendata.cityofnewyork.us/engage. Agency ODCs are required to review and respond to these requests for new datasets. A record of each nomination and agency response is available in the "Public Dataset Requests" dataset.[2] For the 2018 E&V process, MODA also invited the public to submit feedback on agencies' draft dataset questionnaires.

Reports and Recommendations: After each E&V cycle, MODA published a report that included (a) the results of the E&V for the agencies assigned for that cycle, and (b) recommendations to improve citywide compliance with Open Data requirements based on the results of the E&V. MODA made 18 recommendations in the three reports, which can be found in Appendix C.

Summary of Findings

The 2016 E&V report covered DSNY, DOC, and HPD. MODA faced challenges during this first E&V with interpreting and operationalizing the term 'dataset', since the same set of data records can be represented in one or multiple tables, at different levels of granularity, and in different formats. MODA made the determination to require agencies to examine the existing instances where data assets are created and exchanged. This E&V process motivated MODA to recommend that agencies make their technical ecosystems more accommodating to Open Data, that the Open Data team work to empower ODCs, and that the E&V plan be improved for future years.

The 2017 E&V report covered DEP, FDNY, and DOB. This process motivated MODA to recommend that the Mayor's Office regularly communicate the Administration's commitment to the Open Data program that the Open Data team should provide more hands-on assistance to ODCs, and that agencies have cross-functional data governance teams with Open Data on the agenda.

The 2018 E&V report covered DOT, SBS, and BIC. After leading this process, MODA recommended that the Open Data team develop guidance and provide oversight on publishing multi-agency data products, that the Open Data team help agencies reduce the time it takes them to collect information for mandatory reporting, and that agencies incorporate business and data analysts in their Open Data processes.

Overall, MODA found that the E&V process was a good opportunity for continuous education. Agencies gained more clarity about Open Data requirements and whether or not they were currently in full compliance. Since MODA's findings have been issued each year, there has also been significant progress on many of the core E&V recommendations. In particular, the Open Data team has greatly increased the

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[2] https://data.cityofnewyork.us/City-Government/NYC-Open-Data-Public-Dataset-Requests/63us-eqtq

number of automated datasets and pace of dataset automation, surveyed the ODCs on their work, formalized the ODC role, created an online resource library for ODCs, held ODC training sessions, streamlined annual citywide Open Data compliance reporting, and worked with DoITT and Mayor's Office counsels to release more guidance around data identification and release.

Commitments for Improving Citywide Compliance

In 2019, as part of developing the "2019 Open Data for All Report: Next Decade of Open Data," [3] the Open Data team held a two-day co-design workshop where more than 60 participants discussed challenges and opportunities, and helped prioritize key initiatives for the Open Data program. From this workshop, the Open Data team committed to working on 27 key initiatives over the next decade. Included in these commitments are many of the recommendations from the 2016–2018 E&V reports. This section covers how the E&V process findings and recommendations will be advanced through program initiatives. Each initiative includes an initiative number from the 2019 Open Data for All Report for ease of reference.

The Open Data team will redesign how we identify new data for publication so that more public datasets are being shared (Initiative #13)

Given the similarities between the E&V process and the annual citywide Open Data compliance process, the Open Data team already incorporates some components into both processes, including listing of each agency's current Open Data inventory, planned future releases, and planned Open Data civic engagement commitments. Starting with the 2020 Annual Compliance Reporting Cycle, the Open Data team intends to incorporate more elements of the E&V process, including sections providing:

- A listing of agency technical systems
- Datasets used to generate MMR indicators
- Datasets published on each agency's website

Given the scale of the annual compliance process (which incorporates reporting from every City agency) versus the scale of the E&V process (which examined three agencies per year) these new elements will likely be phased in to annual reporting over time.

The Open Data team will create a new quality assurance system to check how published datasets comply with updated standards (Initiative #17)

As part of the E&V process, MODA reviewed all existing datasets the examined agencies (DOT, BIC, SBS) maintained on the NYC Open Data, assessing published datasets for quality and documentation. Some datasets were found to be redundant and could use better metadata fields, others were attached files that would perhaps be better imported as tables. Quality assurance not only improves the Open Data inventory, but also gives analysts an opportunity to familiarize themselves with an agency's data operations through closer interaction with data owners. Quality assurance guidelines are codified, and will

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[3] https://opendata.cityofnewyork.us/wp-content/uploads/2019/09/2019_OpenDataForAllReport.pdf

continue to be updated, in the Open Data Technical Standards Manual, and formal quality assurance reviews will continue at the Open Data team's discretion.

The Open Data team will work with agencies to revamp the dataset request process so the most popular requests can be prioritized to be released first (Initiative #7)

Open Data is an opportunity to teach the public how agencies conduct their work. Publishing Open Data proactively, based on an understanding of user demand, can improve agency relations with the public and minimize the costs of compliance with Open Data requirements going forward. After the 2017 E&V process, MODA recommended that agencies "assess demand for public information across multiple public-facing touch points, including dataset requests, public records requests, and 311 service requests, and work with MODA to identify ways in which they can proactively engage public stakeholders through Open Data." The Open Data team will be working with agencies to more formally incorporate requests for public datasets into the prioritization of Open Data releases.

The Open Data team will introduce and track Open Data Key Performance Indicators (KPIs) to show the health of the program at a glance (Initiative #19)

Agencies and the Open Data team can better understand demand for public information and compliance with Open Data requirements through the use of key performance indicators. After the 2018 E&V process, MODA recommended that agencies "need a way to track and manage their data inventories, including performance and usage metrics." The 2019 Open Data for All report included preliminary key performance indicators related to user engagement such as monthly active users, monthly dataset downloads, and resolution time to a user inquiry. It also included an assessment of the quality of inventory, including the number of automated datasets, data freshness, and adherence to publication timelines. These key performance indicators, and others, will continue to be developed and shared publicly to improve the performance and accountability of the Open Data program.

The Open Data team will collaborate with NYC's Records Access Officers and the OpenRecords team to align NYC Open Data with FOIL practices and resources across the city (Initiative #18)

Local Law 7 of 2016 and Local Law 244 of 2017 require agencies to review Freedom of Information Law (FOIL) requests containing data to determine whether they contained new public datasets that could be published on Open Data, and this process has been incorporated into the annual Open Data compliance cycle. However, as noted in the 2018 E&V report recommendations, Open Data guidelines on how to release specific categories of data may not currently be aligned with other City practices for FOIL requests. The Open Data team has committed to working more closely with the OpenRecords team so that ODCs and their counterpart Records Access Officers can share best practices and resources.

The Open Data team will work with ODCs to build internal understanding of and support for open data use across Agency leadership and key internal teams through education and training (Initiative #10)

The E&V process has shown that the discovery of datasets requires agencies to dedicate considerable resources to this work. In order to do this, agencies need to have an understanding about why Open Data is important. In addition, data owners at the agency level may misinterpret data publication as a liability. In the 2017 E&V report, MODA recommended developing "internal awareness campaigns to assist Open Data Coordinators in making more agency staff aware of the benefits of Open Data." By working with agency leadership, as well as legal, communications, and information technology staff, the Open Data team hopes to build more support for ODCs and their work.

Recommended Reading

"The Next Decade of Open Data: 2019 Open Data for All Report and Plan." September 16, 2019.
https://opendata.cityofnewyork.us/wp-content/uploads/2019/09/2019_OpenDataForAllReport.pdf

"2018 Open Data Examination and Verification Report." December 1, 2018.
https://nycanalytics.gitbook.io/2018-nyc-opendata-examverf-report/

"2017 Open Data Examination and Verification Report." December 1, 2017.
https://opendata.cityofnewyork.us/wp-content/uploads/2017/12/Examination-and-Verification2017-Findings-Report.pdf

"2016 Open Data Examination and Verification Report." December 1, 2016.
https://www1.nyc. gov/site/analytics/initiatives/examination-and-verification-2016-findings-report.page

"Open Data for All." July 15, 2015.
http://www1.nyc.gov/assets/home/downloads/pdf /reports/2015/NYC-Open-Data-Plan-2015.pdf

Appendix A: Datasets Discovered through Examination and Verification

Note that this list does not include datasets originally identified for publication but later determined to be duplicative of existing public data, or datasets removed from publication plans due to exempt or protected information. A spreadsheet containing URLs for each published dataset is available at https://opendata.cityofnewyork.us/open-data-law/

Agency	Dataset Name	Status	Scheduled Release Date
Business Integrity Commission	Denied TW and Wholesale Market Companies	Published	N/A
Business Integrity Commission	Commercial Recycling Authorization List	Published	N/A
Business Integrity Commission	Commercial Organic Waste Carters	Published	N/A
Business Integrity Commission	Licensees and Registrants Fleet Information	Published	N/A
Department of Sanitation	DSNY Salt Usage	Published	N/A
Department of Transportation	Bike Share Inspections	Published	N/A
Department of Transportation	Bikes in Buildings (BIB)	Published	N/A
Department of Transportation	Borough Engineering Tracking (BETS) System	Published	N/A
Department of Transportation	Bridge Hold Locations for Street Construction Permits	Published	N/A
Department of Transportation	Bridge Strike	Published	N/A
Department of Transportation	Carshare Parking Pilot Spaces	Published	N/A
Department of Transportation	Commercial Bicycle Inspections	Published	N/A
Department of Transportation	Commissioner's Correspondence	Published	N/A
Department of Transportation	Highway Signs Installations	Published	N/A
Department of Transportation	Intercity Bus Stop Permits	Published	N/A
Department of Transportation	Over Dimensional Vehicle Permits	Published	N/A
Department of Transportation	Sidewalk Dismissal Tracking	Published	N/A
Department of Transportation	Sidewalks Correspondence	Published	N/A
Department of Transportation	Street Construction Inspections and Corrective Action Requests	Published	N/A
Department of Transportation	Street Construction Permits and Stipulations	Published	N/A
Department of Transportation	Street Improvement Project (SIP)	Published	N/A

Agency	Dataset Name	Status	Scheduled Release Date
Department of Transportation	Street Name Signs (SNS) Management System	Published	N/A
Department of Transportation	Staten Island Ferry Dataset (Schedule)	Published	N/A
Department of Transportation	Truck Overweight Permits	Published	N/A
Department of Transportation	WalkNYC Signs	Published	N/A
Department of Transportation	9/11 Bus Parking Permit	Scheduled	12/31/2019
Department of Transportation	Agency Authorized Parking Permit (AAPP) or On Street Authorized Permit (OSAP)	Scheduled	12/31/2020
Department of Transportation	Agency Business Parking Permit (ABPP)	Scheduled	12/31/2020
Department of Transportation	Annual Bridge Volume Counts (Includes Manhattan River Crossings)	Scheduled	12/31/2020
Department of Transportation	Annual On-Street Parking Permit (AOSPP)	Scheduled	12/31/2020
Department of Transportation	Bike Counters	Scheduled	12/31/2020
Department of Transportation	Bollards Tracking and Installations	Scheduled	12/31/2019
Department of Transportation	Bus Lanes	Scheduled	12/31/2020
Department of Transportation	Bus Pad Tracking	Scheduled	12/31/2019
Department of Transportation	Central Business District (CBD)	Scheduled	12/31/2020
Department of Transportation	Temporary Art Community Commissions Tracking	Scheduled	12/31/2019
Department of Transportation	Curb Metal Protruding Database	Scheduled	12/31/2019
Department of Transportation	Enhanced Crosswalk	Scheduled	12/31/2020
Department of Transportation	Expedited Sidewalk Repair Database	Scheduled	12/31/2020
Department of Transportation	Express Lane Travel Permit	Scheduled	12/31/2019
Department of Transportation	Highway Travel Permit (Annual)	Scheduled	12/31/2019
Department of Transportation	Highway Travel Permit (Single Use)	Scheduled	12/31/2019
Department of Transportation	Leaning Bars	Scheduled	12/31/2019
Department of Transportation	Martello Bollards	Scheduled	12/31/2020
Department of Transportation	On-Street Application (SU) (Single Use)	Scheduled	12/31/2019
Department of Transportation	Staten Island Ferry Passenger Counts	Scheduled	12/31/2019

Agency	Dataset Name	Status	Scheduled Release Date
Department of Transportation	Pedestrian Space Added	Scheduled	12/31/2020
Department of Transportation	PPPD Temporary On-Street Tracking (Single Use Tracking)	Scheduled	12/31/2020
Department of Transportation	Private Ferry Monthly Ridership	Scheduled	12/31/2019
Department of Transportation	Real Time Passenger Information (RTPI) Bus Sign Locations	Scheduled	12/31/2019
Department of Transportation	Sidewalk Database	Scheduled	12/31/2020
Department of Transportation	Speed Reducers	Scheduled	12/31/2019
Department of Transportation	Street Seats	Scheduled	12/31/2019
Department of Transportation	Street Travel Permit	Scheduled	12/31/2019
Department of Transportation	Traffic Information Management System (TIMS)	Scheduled	12/31/2020
Department of Transportation	Weigh in Motion	Scheduled	12/31/2020
Small Business Services	Love Your Local Business List	Published	N/A

Appendix B: Local Law 8 of 2016

A LOCAL LAW in relation to an open data law agency compliance examination.

Introduced by Council Members Vacca, Koo, Constantinides, Greenfield, Kallos, Mealy and Vallone.

Be it enacted by the Council as follows:

Section 1. Open data law agency compliance examination. a. An office or agency designated by the mayor shall conduct a series of examinations and verifications, as described in subdivision c, and make recommendations to improve the disclosure and inclusion of all public data sets required to be on the single web portal pursuant to section 23-502 of the administrative code of the city of New York.

b. Within 60 days of the effective date of this local law, an office or agency designated by the mayor shall present to the commissioner of investigation a plan for conducting the examinations and verifications described in subdivision c. The commissioner of investigation shall review such plan to ensure that it conforms with either a generally accepted auditing process or a process that the department of investigation would itself use in such an examination. The commissioner of investigation shall report to both the mayor and the council when a plan has been approved. The office or agency designated by the mayor may amend the plan with the approval of the commissioner of investigation.

c. Not later than December 1, 2016, and each December 1 thereafter for the next two 2 years, the office or agency designated by the mayor shall conduct an examination and verification of the compliance with the requirements of subdivision a of section 23-502 of the administrative code of the city of New York, of no less than three mayoral agencies and submit the findings of such examination and verification to the mayor, the council and the examined mayoral agencies. Such findings shall include a list of all public data sets that such mayoral agencies did not make available on the single web portal in accordance with subdivision a of section 23-502 of the administrative code of the city of New York or disclose in the agency compliance plan required by section 23-506 of the administrative code of the city of New York as of the date of the findings, as well as a description of any deviations in the examination and verification process from the plan approved pursuant to subdivision b. For the findings due December 1, 2016, the mayoral agencies examined shall at a minimum consist of the department of sanitation, the department of correction and the department of housing preservation and development. For the findings due December 1, 2017, the mayoral agencies examined shall at a minimum consist of the department of buildings, the department of environmental protection and the fire department. For the findings due December 1, 2018, the mayoral agencies examined shall at a minimum consist of the business integrity commission, the department of transportation and the department of small business services. In preparing such findings, the office or agency designated by the mayor shall accept suggestions from the public as to possible public data sets within mayoral agencies that have not yet been disclosed.

d. Not later than December 1, 2019, the office or agency designated by the mayor shall submit a written report to the mayor and the council describing the city's compliance with the requirements of subdivision a of section 23-502 of the administrative code of the city of New York, including a complete list of public data sets discovered by the office or agency designated by the mayor that were not previously made available on the single web portal or disclosed in the agency compliance plan and recommendations to improve the disclosure and inclusion of all public data sets required to be on the single web portal. In preparing this report, the office or agency designated by the mayor shall also accept suggestions from the public as to possible public data sets within mayoral agencies that have not yet been disclosed.

e. The report and findings required by this local law shall be posted on the city's website no later than ten days after being submitted.

§ 2. This local law takes effect immediately.

Appendix C: 2018, 2017, and 2016 Recommendations to Improve Citywide Compliance

2018 Recommendations

1. Agencies should embed data analysts in their Open Data programs to support in the preparation of datasets for publication.

2. The Open Data team should provide guidance on whether and how to disclose specific common data types and elements to Open Data.

3. The Open Data team should develop guidance and provide oversight on publishing inter-agency and integrated data products.

4. Agencies should work with DoITT to explore technology enhancements that improve data discovery, compliance reporting, and stakeholder management.

5. Agencies need a way to track and manage their data inventories, including performance and usage metrics.

2017 Recommendations

1. The Open Data Team should help Open Data Coordinators craft Open Data strategies unique to their agencies and provide additional documentation on open data organizational structures, return on investment, and compliance best practices.

2. The Mayor's Office should regularly communicate the Administration's ongoing commitment to ensuring the success of Open Data – not just as a transparency goal, but also as a data governance policy with well-documented return on investment.

3. MODA should develop internal awareness campaigns to assist Open Data Coordinators in making more agency staff aware of the benefits of Open Data.

4. Agencies should assess demand for public information across multiple public-facing touch points – including dataset requests, public records requests, and 311 service requests – and work with MODA to identify ways in which they can proactively engage public stakeholders through Open Data.

5. MODA should continue to demonstrate the value of open data for data governance and analytics use cases through its Open Source Analytics Project Library and additional channels.

6. MODA should provide proactive guidance to Agency commissioners on ODC selection.

7. Agencies should have internal, cross-functional data governance teams that regularly convene and have Open Data on the agenda.

8. MODA and DoITT should align Open Data reporting with other reporting requirements, including performance reporting and public records requests, to build on existing resource allocations for process efficiencies.

9. When an ODC leaves their position, MODA and DOITT should provide proactive support to assist in handoff to ensure smooth transition and knowledge transfer.

10. MODA and DOITT should investigate tools for metadata documentation and management.

2016 Recommendations

1. Agencies should make their technical ecosystems more accommodating to Open Data by:
   a. Using automations, rather than manual uploads, to update datasets currently on the Open Data Portal.
   b. Writing Open Data requirements into procurements of new data systems and analytics technologies.
   c. Allocating more resources to Open Data personnel, especially Open Data Coordinators.

2. The Open Data team should empower Open Data Coordinators by:
   a. Surveying Open Data Coordinators to better understand their roles, priorities, and communication preferences.
   b. Producing documents clarifying the roles and responsibilities of Open Data Coordinators, including guidelines on complying with legal mandates.

3. MODA should improve the Examination and Verification plan for future years
   a. Consulting with the Department of Investigation on potential improvements.
   b. Creating clear guidelines and definitions of "data" and "dataset"
   c. Creating clear guidelines on determining whether a dataset is "public" or "private