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##### **THE COUNCIL**

##### **BRIEFING PAPER AND COMMITTEE REPORT OF THE**

##### **INFRASTRUCTURE DIVISION**

*Jeffrey Baker, Legislative Director*

**COMMITTEE ON TECHNOLOGY**

*Hon. Robert Holden, Chairperson*

**January 22, 2020**

**Oversight: Local Law 49 of 2018 in Relation to Automated Decision Systems Used by Agencies**

**Int. No. 1447:** The Speaker (Council Member Johnson) and Council Members Levine, Brannan and Holden

**Title:** A Local Law to amend the New York city charter, in relation to an annual inventory of agency data

**Charter:** Adds a new section 20-G

**Int. No. 1806:** by Council Member Koo

**Title:** A Local Law to amend the administrative code of the city of New York, in relation to reporting on automated decision systems used by city agencies

**Administrative Code:** Adds a new section 3-119.3

1. **Introduction**

On January 22, 2020 the Committee on Technology, chaired by Council Member Robert Holden, will hold an oversight hearing on Local Law 49 of 2018 (“Local Law 49”), in relation to automated decision systems used by agencies. The Committees will also hear Int. No. 1447, in relation to an annual inventory of agency data; and Int. No. 1806, , in relation to reporting on automated decision systems used by city agencies.

The Committee expects to receive testimony from the members of New York City Automated Decision Making Systems Task Force (“Task Force”), representatives of the Mayor’s Office of Operations, the Mayor’s Office of Data Analytics, advocacy groups and other interested members of the public.

**II. Legislative Background of Local Law 49 of 2018**

Local Law 49 of 2018 (“Local Law 49”)[[1]](#footnote-1) established the ADS Task Force to recommend procedures for reviewing and assessing City algorithmic tools to ensure equity and fairness.[[2]](#footnote-2) New York City was the first jurisdiction in the United States to enact a law creating a task force to provide recommendations regarding government use of automated decision systems.[[3]](#footnote-3)

The ADS Task Force consisted of 18 members[[4]](#footnote-4) and three co-chairs including Jeff Thamkittikasem,[[5]](#footnote-5) Director of the Mayor’s Office of Operations, and co-chaired by Kelly Jin,[[6]](#footnote-6) Chief Analytics Officer and Director of the Mayor’s Office of Data Analytics, and Brittny Saunders, Deputy Commissioner of Strategic Initiatives at the NYC Commission on Human Rights.[[7]](#footnote-7) The ADS Task Force consisted of representatives from various city agencies and advocates from private entities, nonprofit organizations and research organizations, including the NYC Department of Social Services, New York City Police Department, Mayor’s Office of Criminal Justice, and NYC Administration for Children’s Services.[[8]](#footnote-8)

Pursuant to Local Law 49, within 18 months of the establishing of the ADS Task Force, the task force was required to provide in its report recommendations to the Mayor and to the Speaker of the Council on the following: (a) criteria for identifying which agency automated decision systems should be subject to one or more of the procedures recommended by such task force; (b) development and implementation of a procedure through which a person affected by a decision concerning a rule, policy or action implemented by the city, where such decision was made by or with the assistance of an agency automated decision system, may request and receive an explanation of such decision and the basis therefor; (c) development and implementation of a procedure that may be used by the city to determine whether an agency automated decision system disproportionately impacts persons based upon age, race, creed, color, religion, national origin, gender, disability, marital status, partnership status, caregiver status, sexual orientation, alienage or citizenship status; (d) development and implementation of a procedure for addressing instances in which a person is harmed by an agency automated decision system if any such system is found to disproportionately impact persons; (e) development and implementation of a process for making information publicly available that, for each agency automated decision system, will allow the public to meaningfully assess how such system functions and is used by the city, including making technical information about such system publicly available where appropriate; and (f) the feasibility of the development and implementation of a procedure for archiving agency automated decision systems, data used to determine predictive relationships among data for such systems and input data for such systems.[[9]](#footnote-9) On November 18, 2019, the ADS Task Force issued its report with their recommendations.

**III. ADS Background**

The Oxford English Dictionary defines an algorithm as “a procedure or set of rules used in calculation and problem-solving.”[[10]](#footnote-10) The term originally meant nothing more than basic arithmetic. Now, with the advent of more advanced computers and the ability to collect, compute, and compare ever-increasing amounts of data, algorithms have become more complex and powerful. Significantly, algorithms represent the promise and peril of social engineering on a scale larger, yet more precise, than ever before.[[11]](#footnote-11)

Some examples of entities that use algorithms include: the Social Security Administration uses algorithms to aid its agents in evaluating benefits claims; the Internal Revenue Service uses them to help select taxpayers for audit; the Food and Drug Administration uses algorithms to study patterns of foodborne illness; the Securities and Exchange Commission uses them to detect trading misconduct; local police departments employ algorithms to help predict the emergence of crime surges; courts use them to help sentence defendants; and parole boards use them to predict who is least likely to reoffend.[[12]](#footnote-12) Currently, New York City uses algorithms to assist officials in predicting where crimes may occur, placing students in public schools and scheduling building inspections, among other things.[[13]](#footnote-13) For example, the New York City Administration of Children’s Services (“ACS”) has been using a “software that help[s] strengthen investigations of possible child abuse and neglect, [by] automatically identify[ing] and flag[ing] high-risk cases that need additional review by managerial staff.”[[14]](#footnote-14) The New York City Department of Education (“DOE”) has been using a School Assignment Algorithmto assign students to schools.[[15]](#footnote-15) The New York City Fire Department (“FDNY”) has been using the Risk-Based Inspection System, an Oracle-based program with data-mining capabilities, to better anticipate where fires may spark. This algorithm organizes data from five city agencies into approximately 60 risk factors, which are then used to create lists of buildings that are most vulnerable to fire.[[16]](#footnote-16) The New York City Department of Housing Preservation and Development (“HPD”)has an initiative to use certain predictive analyticsto identify buildings at the greatest risk for physically deteriorating conditions that endanger the health and safety of residents.[[17]](#footnote-17)

1. **Benefits of Algorithms**

Algorithms hold tremendous value. Their ability to process data promises significant benefits to the economy, such as allowing consumers to find and sort products more quickly, which in turn lowers search costs. Artificial Intelligence (“AI”), among other things, can use algorithms to aid the detection of financial mismanagement, identity theft and credit card fraud.[[18]](#footnote-18)

Algorithmically informed decision-making promises increased efficacy and fairness in the delivery of government services. As demonstrated in the medical profession, actuarial prediction is sometimes measurably better than clinical prediction: formalized analysis of datasets can result in better assessments of risk than less formal professional determinations developed over years of experience in practice.[[19]](#footnote-19) An algorithm’s data analysis can reveal patterns not previously noticed, recognized or precisely quantified. For example, systematic tracking of restaurant reviews, such as those contained on services like Yelp,[[20]](#footnote-20) can inform city health inspectors about food-borne illnesses emerging from the restaurants in their jurisdictions.[[21]](#footnote-21) In addition, integrating data across siloed administrative domains, such as education and general welfare, and then using that data to prioritize families in need of government help, can improve social service delivery.[[22]](#footnote-22)

1. **Risks Associated with Algorithms**

Although some of the benefits that can be offered by algorithmic decision-making include speed, efficiency and fairness, there is a common misunderstanding that algorithms automatically result in unbiased decisions.[[23]](#footnote-23) While the effects of algorithms' predictions can be troubling in themselves, they become even more problematic when government agencies use them to distribute resources or impose retributions. For example, an individual can be denied parole or credit, fired, or not hired for reasons they will never know and which cannot be articulated.[[24]](#footnote-24)

Most developers neither disclose their predictive models or algorithms[[25]](#footnote-25) nor publish the source code for their software, making it impossible for the consumer to inspect the system. Many criticize this “black box”, as the result of those systems may be discriminatory, erroneous, or otherwise problematic.[[26]](#footnote-26)

Generally, a limited disclosure of an algorithm tells you very little, because its effects cannot be interpreted by a simple reading of the code. A source code disclosure is just a partial solution to the problem of algorithmic accountability.It is hard to know, as a general matter, whether something is potentially unlawful, particularly given the grey areas of legal interpretation around this subject.[[27]](#footnote-27) The Arnold Foundation, developer of the Public Safety Assessment (“PSA”),[[28]](#footnote-28) has disclosed its relatively simple algorithms to the public. The PSA can be implemented without a computer by tallying up points for various factors, and then applying a conversion formula to obtain the final risk assessment. However, the Arnold Foundation provided next to nothing about its development process,[[29]](#footnote-29) and did not reveal how it generated the algorithms. It also did not communicate whether it performed pre-or post-implementation validation tests and, if so, what the outcomes were. Nor has it disclosed, in quantitative or percentage terms, what “low risk” and “high risk” mean.[[30]](#footnote-30)

Bias can generally result from at least one of two factors during the development of an algorithm. The first is largely internal to the process of data collection—when errors in data collection, like inaccurate methodologies, lead to inaccurate depictions of reality.[[31]](#footnote-31) The second type, however, comes from an external source. It happens when the underlying subject matter draws on information that reflects or internalizes some forms of structural discrimination and thus influences the resulting data.[[32]](#footnote-32) To reduce the influence of bias in ADSs used by New York City agencies, he ADS Task Force was created.

**VI. New York City Automated Decision Task Force Development**

1. **Public engagement**

Since its creation, the ADS Task Force has held two major public forums. The first public forum on fairness and accountability was held on April 30, 2019 at New York Law School.  The forum focused on the first three core components from Local Law 49 about fairness and accountability: (1) development of criteria for deciding which systems are considered within the purview of this Task Force and its recommendations; (2) a process for the City to determine if an ADS has disproportionate impact on an individual or population on the basis of characteristics like race or gender; and (3) a process for addressing instances of harm due to such disproportionate impact.[[33]](#footnote-33) During the 2 hour forum, five speakers presented on these questions, including Natalie Evans Harris, Co-Founder and Head of Strategic Initiatives, BrightHive; Sarah Kaufman, Associate Director, New York University Rudin Center for Transportation; Janai Nelson, Associate Director-Counsel, NAACP Legal Defense and Educational Fund, Inc.; Andrew Nicklin, Futurist-At-Large, Johns Hopkins University Center for Government Excellence; and Ginger Zielinskie, President & CEO, Benefits Data Trust.[[34]](#footnote-34) At the end of the presentations, the ADS Task Force opened the forum to the public to ask questions. However, due to timing-related issues, only five questions were allowed. The main question was whether the report would include any recommendations based on actual evaluations of current or historically used systems.[[35]](#footnote-35)

The second forum took place on May 30, 2019, also at New York Law School. The forum focused on the three core components from Local Law 49 about transparency: (1) processes by which impacted people can request information about ADS; (2) strategies for publically disclosing information about those systems; and (3) a feasibility analysis of archiving agency systems.[[36]](#footnote-36) The list of panelists included Chancey Fleet, Fellow, Data & Society and Assistive Technology Coordinator; Andrew Heiskell, Braille and Talking Book Library, New York Public Library; Aaron Pallas, Professor of Sociology and Education, Teachers College, Columbia University; and Rumman Chowdhury, Senior Principal, Global Lead of Ethical Artificial Intelligence, Accenture. Again, limited time was given for public comments and questions. The main concern from the public was the use of facial recognition in residential buildings.

1. **Task Force Progress**

On April 4, 2019, the Committee on Technology held an oversight hearing on the Automated Decision Systems Task Force.[[37]](#footnote-37) ADS Task Force Chairs Jeff Thamkittikasem, Brittny Saunders, and Kelly Jin provided oral testimony and answered committee members’ questions. In particular, Jeff Thamkittikasem’s testimony revealed that the city did not plan to produce a list of automated decision systems currently used by city agencies for the ADS Task Force,[[38]](#footnote-38) but will develop recommendations on an automated decision system. It is important to note that the ADS Task Force chairs admitted that no consensus was reached on a definition for an “automated decision system.” Several advocates, including Janet Haven, Data & Society; Rashida Richardson, AI Now; Albert Fox Cahn, Surveillance Technology Oversight Project; Noel Hidalgo, BetaNYC; and Jordan Kroll, Information Technology Industry Council, expressed their concerns about the lack of transparency from the ADS Task Force on their progress, the absence of public engagement, and the fact that no specific examples of automated decision systems used by city agencies was provided.

In addition, non-governmental task force members Cornell University Professor Solon Barocas, jointly with New York University Professor Julia Stoyanovich provided testimony revealing the city’s reluctance to provide the ADS Task Force with information about automated decision systems used by city agencies despite numerous requests.[[39]](#footnote-39) According to their testimony, “without some knowledge of the systems, the Task Force cannot issue actionable and credible recommendations,”[[40]](#footnote-40) and “[a] report based on hypothetical examples, rather than on actual NYC systems, will remain abstract and inapplicable in practice.”[[41]](#footnote-41) The testimony further reiterated that the City shall provide ADS Task Force members with sufficient information and examples to develop well informed, concrete, and actionable recommendations.[[42]](#footnote-42)

Same concerns about the information on ADS used by the city agencies were raised in correspondence to the Task Force chair by New York City Comptroller Scott Stringer,[[43]](#footnote-43) and New York City Council Member Peter Koo.[[44]](#footnote-44) After the hearing, in an interview with *The Verge*, the chair of the Task Force said that “[the Task Force] is working on providing new, specific examples, including two from the Department of Transportation and the Department of Education.”[[45]](#footnote-45)

On November 18, 2019, the Task Force issued a 33-page report containing provisions required by Local Law 49. According to the report, they “did not reach consensus on every potentially relevant issue.”[[46]](#footnote-46) Meredith Whittaker, a co-founder of AI Now and a ADS Task Force member, stated on her Twitter Account, the “the report reflects the views of the City, not a Task Force consensus.”[[47]](#footnote-47)

Subsequent to the release of that document, on December 4, 2019, the AI Now Institute of New York University[[48]](#footnote-48) issued a Shadow Report (Shadow Report) of the New York City Automated Decision System Task Force. The Shadow Report contained, among other things, recommendations required by Local Law 49, recommendations to government agencies considering ADS use, considerations for legislation regarding government use of ADS, as well as recommendations to specific agencies about ADS use.[[49]](#footnote-49) The first part overviews the history of when the ADS Task Force formed to the end of its 18-month lifespan. The second part offers recommendations for the city’s algorithm usage, and the third part recommends how task forces reviewing ADS should act in the future.[[50]](#footnote-50)

Recommendations contained in the Shadow Report to specific NYC agencies that currently use ADS included recommendations to the Administration of Children’s Services (“ACS”), Department of Correction (“DOC”), Board of Correction (“BOC”), Department of Education (“DOE”), Department of Health and Mental Hygiene (“DOHMH”), Fire Department (“FDNY”), Housing Authority (“NYCHA”), Mayor’s Office of Management and Budget (“OMB”), Mayor’s Office of Criminal Justice (“MOCJ”), Mayor’s Office of Public Engagement (“PEU”), and Police Department (“NYPD”).[[51]](#footnote-51)

1. **Comparisons of the recommendations between ADS Task Force Report and Shadow Report**

Local Law 49 of 2018 mandated that the Task Force find recommendations for how the City should move forward with its assessments of and interactions with Automated Decision Systems.[[52]](#footnote-52) As stated in above, Local Law 49 required the Task Force to report recommendations on certain critical requirements pursuant to the legislation. Both the original ADS Task Force’s report and the Shadow Report structured their recommendations according to the wording of Local Law 49. The original Task Force recommended the creation of a centralized “Organizational Structure” within City government to carry out the recommendations outlined in their report, while the Shadow Report did not mention the creation of any additional body to administer their recommendations, instead referring to the City, the City Council, and the Mayor as the primary actors.[[53]](#footnote-53)

Certain critical requirements of Local Law 49 are highlighted below:

*a. Criteria for identifying which agency automated decision systems should be subject to one or more of the procedures recommended by the Task Force*

The original ADS Task Force Report recommended that the Organizational Structure create a series of prioritization guidelines for city agencies to assess the systems they use (without specifying what should be prioritized) and to establish a framework for agency reporting and publishing of information related to ADS. The Report stated that the protocols developed for agency reporting and publishing of ADS information should be informed by the principle of transparency, through the framework of the prioritization guidelines. Additionally, the ADS Task Force Report emphasized that agencies should report and make public the information about their systems “when possible given relevant legal and security considerations.”[[54]](#footnote-54)

The Shadow Report stated that all city agencies should maintain a public archive identifying the automated decision systems subject to the procedures, rules, policies, or actions recommended by the ADS Task Force, including systems and categories of systems excluded from these criteria, with explanations of their exclusion. The Shadow Report also recommended that the City implement a procedure for the public to challenge an agency’s exclusion of an ADS.[[55]](#footnote-55)

*b. Development and implementation of a procedure through which a person affected by a decision concerning a rule, policy or action implemented by the city, where such decision was made by or with the assistance of an agency automated decision system, may request and receive an explanation of such decision and the basis therefore*

The ADS Task Force Report advocated for the Organizational Structure taking the lead in educating the public about ADS, explaining how this Organizational Structure must be a visible and accessible presence to the public to learn more about ADS management. The Report put forth that the Organizational Structure should also help individual City residents request additional information from agencies about ADS, incorporating relevant information about ADS into preexisting inquiry response channels and public challenges to City agency decisions. Finally, it recommended that the Organizational Structure provide guidelines to agencies on how to respond to and document specific public inquiries and challenges related to the use of an ADS.[[56]](#footnote-56)

The Shadow Report explained that the City Council and the Mayor should provide agencies with annual budgetary support to make public documents and communications related to the agency’s ADS use broadly available and accessible. This budgetary support would also go towards hiring and consulting group-facilitation experts to carry out public meetings to solicit community concerns about current ADS procedures. Further, the Shadow Report suggests that the City should require procurement contracts to include provisions that require vendors to provide documentation on the development history, performance characteristics, and learning processes of their ADS models, along with plain language summaries of how the ADS model makes decisions. Vendors should also need to provide records of ADS model tests, vendor claims about the model, and any other relevant information that will assist agencies in creating explanations of how an ADS determination was reached. Agencies should produce explanations of how they would use or intend to use ADS, as well as how the agency would interact with and be influenced by ADS, with these explanations made available to the public upon request. From this, agencies could adopt procedures that guarantee an agency response to a request for an explanation of ADS determination within 20 days, with more critical issues like public benefits eligibility warranting a response time of five business days. Lastly, the City should require agencies using ADS to maintain and publish metrics that display how many determinations each ADS was involved in making, the number of requests for explanation received about each ADS, whether these explanation requests resulted in challenges, the outcomes of these challenges, and a summary of anonymous qualitative feedback from residents receiving the explanations. This would allow the public and public officials to assess the efficacy and impact of these automated decision systems.[[57]](#footnote-57)

*c. Development and implementation of a procedure that may be used by the city to determine whether an agency automated decision system disproportionately impacts persons based upon age, race, creed, color, religion, national origin, gender, disability, marital status, partnership status, caregiver status, sexual orientation, alienage or citizenship status*

The ADS Task Force Report stated that the Organizational Structure should provide agencies with guidelines on the types of ADS that should be reviewed and develop options for protocols for an assessment. At a minimum, these protocols should guide agencies in identifying differences in outcomes and differences in error for the populations that could be impacted, while also including ways to assess technical and policy execution. Additionally, agencies should, “where legally permissible and operationally feasible,” provide opportunities for impacted communities and outside experts to communicate questions and comments about specific ADS tools and systems, while also bringing in outside experts “as appropriate given legal and security considerations.” Lastly, the ADS Task Force Report recommends that the Organizational Structure develop protocols to respond to instances where an assessment of an ADS indicates a possible unintended or unjustifiable disproportionate impact upon any individual, group, or community. These protocols should include the prompt convening of appropriate City officials with relevant agency personnel to develop action plans and guidance on minimizing or eliminating the effects of such impacts as appropriate.[[58]](#footnote-58)

The Shadow Report recommended that the City create a pre-acquisition or development procedure to ensure that experts and individuals directly affected by ADS use are meaningfully consulted multiple times during the development of an automated decision system. The Shadow Report states that the “explicit expectation” is that ADS use should not result in a disproportionately negative effect on members of a protected class, with affirmative measures taken to eliminate disparities. To this end, the recommendations suggest that the City should require all agencies using ADS to adopt a standard for assessing disproportionate impact based on protected status, tailored to the specific use and context of a given ADS. The Shadow Report recommends that agencies should look at decisions made by the ADS and the actions taken by City employees, contractors, or other relevant actors in response to the ADS to verify that practitioners are not responding to automated recommendations in discriminatory or unlawful ways.[[59]](#footnote-59)

*d. Development and implementation of a procedure for addressing instances in which a person is harmed by an agency automated decision system if any such system is found to disproportionately impact persons based upon a category described in subparagraph (c)*

The ADS Task Force Report recommended that the Organizational Structure operate similarly to how they would respond in response to clause (b). This would mean incorporating information about ADS into appropriate inquiry and response channels, providing guidelines to agencies on responses and actions, and creating a single point of contact in the City for individuals to submit questions or comments about specific ADS decisions.[[60]](#footnote-60)

The Shadow Report recommended that in the event an agency’s use of an ADS produces a harm or disproportionate impact on individuals or groups of protected status, the agency must cease use immediately if non-ADS alternatives are in place. However, when immediately ceasing use of an ADS would cause more harm, the Shadow Report advised that the agency should publish notice of an ADS or unautomated practice redesign process that includes relevant communities and advocates. Further, the Shadow Report advised that agencies should define and publicly post a procedure that allows the public access to all information required to assess whether an ADS produces disparities between similar individuals based on protected status as well as adopt procedures that guarantee an agency response to a request within 20 days. The Shadow Report also recommended that the City Council pass a law that provides a private right of action for people where agency use of ADS is the proximate cause of injury.[[61]](#footnote-61)

*e. Development and implementation of a process for making information publicly available that, for each agency automated decision system, will allow the public to meaningfully assess how such system functions and is used by the city, including making technical information about such system publicly available where appropriate*

The ADS Task Force Report expressed that the Organizational Structure should create a visible and accessible presence for ADS management across public facing platforms to serve as a resource for the public to ask and learn more about automated decision systems in the city. To this end, the ADS Task Force Report recommends that the Organizational Structure develop and publish materials in plain language that explain all aspects of ADS, and involve impacted communities in discussions about specific automated decision systems with the relevant agencies “where legally permitted and where not contrary to the need for the efficient operation of government.” To mitigate instances where community engagement is not feasible, the Organizational Structure should prepare guidelines and best practices to encourage deeper and more frequent community involvement. Additionally, reports compiled by agencies on ADS should be made available on a platform maintained by the Organizational Structure “following an internal City and agency process for legal and security review and approval.”[[62]](#footnote-62)

The Shadow Report provided that the City should make a list of automated decision systems used by agencies, disaggregated by agency, publicly available online and accessible in print at branches of the New York Public Library. This list would include descriptions of the purpose of the ADS, the procedure for individuals to learn about how they could be affected by an ADS, the process by which the ADS is used to make decisions, relevant technical information of the ADS, and any materials intended to inform agency employees that interact with the ADS. If any ADS vendors would prevent the disclosure of this information, the Shadow Report states that the City should not permit any agency to enter into any agreement with those vendors. Additionally, the lists should include policies and procedures relating to ADS access, use of the system or input data, safeguards to protect the ADS from unauthorized access or use, and documentation of the ADS’s privacy impact. The lists should also include information regarding audits of such systems, and a statement documenting the processes by which policy decisions related to the development of the ADS model were made. The Shadow Report emphasizes that there should be no exceptions in the creation of these lists, and that the City should develop mechanisms to more strongly connect transparency requirements to the approval of contracts. Finally, the City should require agencies that use or intend to use ADS to first perform an algorithmic impact assessment before acquiring or developing a new ADS.[[63]](#footnote-63)

*f. The feasibility of the development and implementation of a procedure for archiving agency automated decision systems, data used to determine predictive relationships among data for such systems and input data for such systems, provided that this need not include agency automated decision systems that ceased being used by the city before the effective date of this local law Task Force Report*

The ADS Task Force Report outlined that the Organizational Structure would be responsible for creating best practices on ADS development and use, including ADS procurement and data retention, consistent with relevant City laws and policies. The Organizational Structure would also provide guidance to agencies in developing ADS tools and systems. Then, “following an internal City and agency process for legal and security review and approval,” the Organizational Structure would publish agency reported information about ADS on a publicly available platform maintained by the Organizational Structure.[[64]](#footnote-64)

The Shadow Report advised that the City should allow outside experts and researchers access to archived input data and other relevant data necessary to identify systemic and structural problems that may derive from agency practices and procedures in order to identify optimal policy solutions. Further, the Shadow Report recommended that agencies document, archive, and publicly post a retention schedule for changelogs of modifications made to the source code or models of an ADS. These changelogs should include plain text describing any changes, why they were necessary, and agency-internal communication as well as communication between agency employees and vendors related to any changes made to a given ADS system. All information should be presented in a way that allows researchers to understand how such changes affect the determinations produced by the automated decision system as well as evaluate these over time.[[65]](#footnote-65)

**V. Legislative Analysis**

**Int. No. 1447**

Int. No. 1447 would amend New York city charter, in relation to an annual inventory of agency data. The proposed bill would require the submission of an annual report, by the Director of the Office of Data Analytics to the Mayor and Speaker of the Council, describing data collected and maintained by city agencies. The bill would take effect immediately.

**Int. No. 1806**

Int. No. 1806 would amend the administrative code of the city of New York, in relation to reporting on automated decision systems used by city agencies. The proposed bill would require city agencies to provide information regarding every automated decision system used by the agency during the prior calendar year to the Mayor’s Office of Operations. Such information would include what each automated decision system is intended to measure or reveal and a description of the decisions made or based on such system. The Mayor’s Office of Operations would be required to compile the information received by city agencies and report it to the Mayor and the Speaker of the Council every year. The bill would take effect immediately.

**VII. Conclusion**

The Committee looks forward to testimony from the Administration, ADS Task Force members and interested advocates to discuss recommendations provided by the ADS Task Force members, and to understand the challenges faced by the ADS Task Force in forming any such recommendations.

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Int. No. 1447

By The Speaker (Council Member Johnson) and Council Members Levine, Brannan and Holden

..Title

A Local Law to amend the New York city charter, in relation to an annual inventory of agency data

..Body

Be it enacted by the Council as follows:

Section 1. Chapter 1 of the New York city charter is amended by adding a new section 20-G to read as follows:

§ 20-G Annual inventory of agency data.

a. Definitions. For the purposes of this section, the following terms have the following meanings:

Data. The term “data” shall have the same meaning as such term is defined pursuant to subdivision b of section 23-501 of the code, except that it shall also include final versions of statistical or factual information in alphanumeric form that cannot be digitally transmitted or processed.

Data set. The term “data set” means a comprehensive collection of interrelated data, whether such data is available for inspection by the public in accordance with any provision of law or not, that is either: i) maintained on a computer system by, or on behalf of, a mayoral agency; or ii) regularly collected and maintained in a physical format for the purpose of furthering the mission of a mayoral agency. Such term shall not include data stored solely on an agency-owned personal computing device, or data stored solely on a portion of a network that has been exclusively assigned to a single agency employee or a single agency owned or controlled computing device and that is not otherwise shared with or utilized by other agency employees. Such term shall not include data collected in a physical format by a single agency employee meant for the sole use of such employee;

Director. The term “director” means the director of the office of data analytics.

b. On or before July 31, 2020, and annually thereafter, the director shall submit to the mayor and speaker of the council a report on the data sets of mayoral agencies. For every data set of a mayoral agency such report shall include:

1. a specific description of the contents of such data set, including a description of the measurements, transactions or determinations, as such terms are defined in section 23-501 of the code, for which such data set contains data;

2. the agency or agencies responsible for collecting or maintaining such data set;

3. the agencies for which such data set is accessible;

4. whether such data set is maintained in a digital or physical format;

5. whether such data set is available, in whole or in part, on the open data web portal pursuant to chapter 5 of title 23 of the code;

6. a description of the method of collection for the data contained therein;

7. the frequency with which such data set is updated, and the time period during which such data was collected;

8. if such data set is maintained in a physical format, the approximate number of records contained therein; and

9. if such data set is maintained in a digital format then the approximate size of such data set in bytes, and the file format in which it is stored.

c. The report pursuant to subdivision b shall not exclude any individual data set, except that it may exclude specific information about a data set, other than the information in paragraphs 2 and 5 of subdivision b, when disclosing such specific information: (i) is expressly prohibited under federal, state law or local law; (ii) would pose a risk to individual privacy, public safety, or the cyber-security of agency systems; or (iii) would violate a confidentiality agreement or trade secret protection.

§ 2. This local law takes effect immediately.

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Int. No. 1806

By Council Member Koo

..Title

A Local Law to amend the administrative code of the city of New York, in relation to reporting on automated decision systems used by city agencies

..Body

Be it enacted by the Council as follows:

Section 1. Subchapter 1 of chapter 1 of title 3 of the administrative code of the city of New York is amended by adding a new section 3-119.3 to read as follows:

§ 3-119.3 Annual reporting on automated decision systems. a. For purposes of this section, the term “automated decision system” means a computerized implementation of one or more algorithms, including those derived from machine learning or other data processing or artificial intelligence techniques, which is used to make or assist in making decisions. Such an automated decision system includes, but is not limited to: analytics data processing, predictive forecasting or modeling tools, simulation tools, alert tools, identification tools, fraud or anomaly detection tools, data aggregation tools, and assessment tools.

b. Each agency shall report to the mayor’s office of operations, no later than May 31 of every year, the following information regarding every automated decision system the agency has used at least once during the prior calendar year:

1. A name or brief descriptor of such system;

2. What such system is intended to measure or reveal;

3. A description of how the information received from such system is used, including any decisions that may be made using information received from such system;

4. The name of the entity, such as an agency, vendor or other entity, as applicable, that developed such system; and

5. The month and year in which such system began to be used.

c. The mayor’s office of operations shall compile the information received pursuant to subdivision b of this section and report it to the mayor and the speaker of the council, disaggregated by agency, no later than June 30 of every year.

§ 2. This local law takes effect immediately.

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1. [Int 1696-2017](https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3137815&GUID=437A6A6D-62E1-47E2-9C42-461253F9C6D0&Options=Advanced&Search=), A Local Law in relation to automated decision systems used by agencies. [↑](#footnote-ref-1)
2. Press Release, *Mayor de Blasio Announces First-In-Nation Task Force to Examine Automated Decision Systems Used by the City*, May 16, 2018, <https://www1.nyc.gov/office-of-the-mayor/news/251-18/mayor-de-blasio-first-in-nation-task-force-examine-automated-decision-systems-used-by>. [↑](#footnote-ref-2)
3. # Mayor de Blasio Announces First-In-Nation Task Force To Examine Automated Decision Systems Used By The City, Office of the Mayor, may 166, 2018, <https://www1.nyc.gov/office-of-the-mayor/news/251-18/mayor-de-blasio-first-in-nation-task-force-examine-automated-decision-systems-used-by>.

   [↑](#footnote-ref-3)
4. Solon Barocas, Assistant Professor, Cornell University; Shelby Chestnut, National Organizing and Policy Strategist, Transgender Law Center, Khalil Cumberbatch; Chief Strategist, New Yorkers United for Justice, Howard Friedman; General Counsel, NYC Department of Education; Judith H. Germano, Esq., Founder, GermanoLaw LLC; Senior Fellow on Cybersecurity, NYU Center on Law & Security Senior Fellow, NYU Center for Cybersecurity and NYC Center on Law & Security; Dan Hafetz, Special Counsel to the First Deputy Commissioner, NYC Department of Social Services; Tanya Meisenholder, Assistant Commissioner for Strategic Initiatives, New York City Police Department; Afaf Nasher, Esq., Executive Director, Council on American-Islamic Relations – New York; Michael Replogle, Deputy Commissioner for Policy, NYC Department of Transportation; Jennifer Rodgers, Esq., Former Executive Director, Center for the Advancement of Public Integrity at Columbia Law School; Julie Samuels, Esq., Executive Director, Tech:NYC; Susan Sommer, General Counsel, Mayor’s Office of Criminal Justice; Vincent Southerland, Esq., Executive Director, Center on Race, Equality, and the Law at NYU Law School; Julia Stoyanovich, Assistant Professor of Computer Science and Engineering, Assistant Professor of Data Science, New York University; Andrew White, Deputy Commissioner for Policy and Planning, NYC Administration for Children’s Services; Meredith Whittaker, Co-Founder and Co-Director, AI Now Institute at NYU; Distinguished Research Scientist at NYU; Founder of Google’s Open Research Group; Maya D. Wiley, Esq., Senior Vice President for Social Justice, The New School; Co-Director, Digital Equity Laboratory at The New School; Jeannette M. Wing, Avanessians Director of the Data Science Institute and Professor of Computer Science at Columbia University, <https://www1.nyc.gov/site/adstaskforce/members/members.page>. [↑](#footnote-ref-4)
5. Jeff Thamkittikasem joined the Task Force later, the initial chair position was hold by Emily W. Newman, Acting Director of the Mayor’s Office of Operations. [↑](#footnote-ref-5)
6. Joined the Task Force in the fall 2018. [↑](#footnote-ref-6)
7. *See,* NYC Automated Decision Systems Task Force at <https://www1.nyc.gov/site/adstaskforce/index.page>. [↑](#footnote-ref-7)
8. *See,* NYC Automated Decision Systems Task Force at <https://www1.nyc.gov/site/adstaskforce/index.page>. [↑](#footnote-ref-8)
9. Local Law 49 of 2018. [↑](#footnote-ref-9)
10. Algorithm, OXFORD ENGLISH DICTIONARY (3d ed. 2012), <http://www.oed.com/view/Entry/4959?redirectedFrom=algorithms>. [↑](#footnote-ref-10)
11. *See* Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. Rev. 54, 62, 63 (2019). [↑](#footnote-ref-11)
12. Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. Rev. 54, 64–65 (2019). [↑](#footnote-ref-12)
13. Benjamin Freed, *New York City’s Algorithm Task Force to Hold First Public Meetings Nearly a Year After Creation*, StateScoop, March 29, 2019, <https://statescoop.com/new-york-citys-algorithm-task-force-to-hold-first-public-meetings-nearly-a-year-after-creation/>. [↑](#footnote-ref-13)
14. ACS DEPLOYS NEW TECHNOLOGY TO HELP FRONTLINE STAFF PROTECT NYC CHILDREN FROM ABUSE AND NEGLECT, New York City Administration of Children’s Services press release, October 30, 2018, <https://www1.nyc.gov/assets/acs/pdf/PressReleases/2018/ACSMobileTechnology.pdf>. [↑](#footnote-ref-14)
15. # Tracy Tullis, *How Game Theory Helped Improve New York City’s High School Application Process, December 5, 2014,* New York Times*,* <https://www.nytimes.com/2014/12/07/nyregion/how-game-theory-helped-improve-new-york-city-high-school-application-process.html>.

    [↑](#footnote-ref-15)
16. Brian Heaton, New York City Fights Fire with Data, Government Technology, May 15, 2015, <https://www.govtech.com/public-safety/New-York-City-Fights-Fire-with-Data.html>. [↑](#footnote-ref-16)
17. Sohaib Hasan, Using Analytics to Make Bad Buildings Better in New York City, Data look, <http://blog.datalook.io/using-data-analytics-to-make-bad-buildings-better-in-new-york-city/>. [↑](#footnote-ref-17)
18. Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. Rev. 54, 65 (2019). [↑](#footnote-ref-18)
19. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 115–16 (2018). [↑](#footnote-ref-19)
20. https://www.yelp.com/ [↑](#footnote-ref-20)
21. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 115–16 (2018) (citing See Edward L. Glaeser et al., Big Data and Big Cities: The Promises and Limitations of Improved Measures of Urban Life (Harv. Bus. Sch. NOM Unit, Working Paper No. 16-065, 2015), <https://dash.harvard.edu/bitstream/handle/1/24009688/16-065.pdf>). [↑](#footnote-ref-21)
22. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 115–16 (2018). [↑](#footnote-ref-22)
23. Simson Garfinkel, Jeanna Matthews, Stuart S. Shapiro, Jonathan M. Smith, “Toward Algorithmic Transparency and Accountability,” Communications of the ACM, Vol. 60 No. 9, Page 5, <https://cacm.acm.org/magazines/2017/9/220423-toward-algorithmic-transparency-and-accountability/fulltext>. [↑](#footnote-ref-23)
24. *See* Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103 (2018). [↑](#footnote-ref-24)
25. An algorithmic process will typically involve (1) the construction of a model to achieve some goal, based on analysis of collected historical data; (2) the coding of an algorithm that implements this model; (3) collection of data about subjects to provide inputs for the algorithm; (4) application of the prescribed algorithmic operations on the input data; and (5) outputs in the form of predictions or recommendations based on the chain of data analysis. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 107–08 (2018). [↑](#footnote-ref-25)
26. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 107–08 (2018). [↑](#footnote-ref-26)
27. Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. Rev. 54, 137 (2019). [↑](#footnote-ref-27)
28. Public Safety Assessment (PSA) is a pretrial risk assessment tool developed by the Laura and John Arnold Foundation, designed to assist judges in deciding whether to detain or release a defendant before trial.  PSA includes three different risk assessment algorithms, which are intended to assess the risks that a released defendant will, respectively, fail to appear for trial; commit a crime while on release; or commit a violent crime while on release.

    The three algorithms operate by assigning points based on nine facts about the defendant's criminal history; some facts are used for only one or two of the algorithms, while others are used for all three. For the failure-to-appear and commission-of-crime assessments, the raw point scores are converted to a six-point scale, in which one signifies lowest risk and six signifies highest risk. For the commission-of-violent-crime assessment, the raw score is converted into a binary yes/no answer; a crime committed is either likely to be violent, or likely not to be violent. [↑](#footnote-ref-28)
29. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 137 (2018). [↑](#footnote-ref-29)
30. Robert Brauneis, Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 Yale J. L. & Tech. 103, 138 (2018). [↑](#footnote-ref-30)
31. Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. Rev. 54, 141 (2019) (citing Kate Crawford et al., *The AI Now Report: The Social and Economic Implications of Artificial Intelligence Technologies in the Near-term*, 6-7 (2016), <https://ainowinstitute.org/AI_Now_2016_Report.pdf>. [↑](#footnote-ref-31)
32. *See* Joanna Bryson, *Three Very Different Sources of Bias in AI, and How to Fix Them*, Adventures NI (July 13, 2017), <http://joanna-bryson.blogspot.com/2017/07/three-very-different-sources-of-bias-in.html>. [https://perma.cc/B77S-46DY] (demonstrating that bias is introduced to artificial intelligence when there is poor quality data that is tainted with human biases and/or when the formal models behind AI are not well reasoned);Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. Rev. 54, 141 (2019). [↑](#footnote-ref-32)
33. New York City ADS Task Force event page <https://www1.nyc.gov/site/adstaskforce/events/events.page>. [↑](#footnote-ref-33)
34. New York City ADS Task Force event page, <https://www1.nyc.gov/site/adstaskforce/events/events.page>. [↑](#footnote-ref-34)
35. Transcript of PUBLIC ENGAGEMENT FORUM AUTOMATED DECISION SYSTEMS TASK FORCE, April 30, 2019, p. 118 l.13, <https://www1.nyc.gov/assets/adstaskforce/downloads/pdf/Public-Engagement-Forum-4-30-2019.pdf>. [↑](#footnote-ref-35)
36. New York City ADS Task Force event page, <https://www1.nyc.gov/site/adstaskforce/events/events.page>. [↑](#footnote-ref-36)
37. Oversight - Update on Local Law 49 of 2018 in Relation to Automated Decision Systems Used by Agencies, April 4, 2019, <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3895664&GUID=2861FF59-AD17-4805-BEEB-E68E1D213B1C&Options=&Search=>. [↑](#footnote-ref-37)
38. “to be clear, the ADS task force is not going to produce a list of algorithms in use by the City…” Testimony of Jeff Thamkittikasem, Oversight - Update on Local Law 49 of 2018 in Relation to Automated Decision Systems Used by Agencies, April 4, 2018, <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3895664&GUID=2861FF59-AD17-4805-BEEB-E68E1D213B1C&Options=&Search=>. [↑](#footnote-ref-38)
39. See Testimony of Julian Stoyanovich and Solon Barocas before New York City Council, April 4, 2019. [↑](#footnote-ref-39)
40. Testimony of Julian Stoyanovich and Solon Barocas before New York City Council, April 4, 2019. [↑](#footnote-ref-40)
41. Testimony of Julian Stoyanovich and Solon Barocas before New York City Council, April 4, 2019. [↑](#footnote-ref-41)
42. Testimony of Julian Stoyanovich and Solon Barocas before New York City Council, April 4, 2019. [↑](#footnote-ref-42)
43. A letter dated March 26, 2019 from the City of New York Office of the Comptroller Scott M. Stringer. [↑](#footnote-ref-43)
44. A letter dated April 26, 2019 from New York City Council Peter Koo. [↑](#footnote-ref-44)
45. Colin Lecher, *New York City’s Algorithm Task Force is Fracturing*, THE VERGE, April 15, 2019, <https://www.theverge.com/2019/4/15/18309437/new-york-city-accountability-task-force-law-algorithm-transparency-automation>. [↑](#footnote-ref-45)
46. New York City Automated Decision Systems Task Force Report, November 2019, p. 3. [↑](#footnote-ref-46)
47. “The report should reﬂect that the City’s management of the Task Force and Report drafting gave City employees control of most elements of the process, including making the final decisions in interpreting the law, structuring engagement, designing events, and scoping and drafting the Report. It should note the significant lack of consensus among Task Force members, and make clear that the Report does not reflect such a consensus. it should also a clarify that the Report is a document drafted and produced primarily by City employees, and should acknowledge the Reports bias in favor of the City's use of ADS.” Meredith Whittaker, an ADS Task Force member, November 20, 2019, <https://twitter.com/mer__edith/status/1197190462051946497?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1197190462051946497&ref_url=https%3A%2F%2Fwww.muckrock.com%2Fnews%2Farchives%2F2019%2Fdec%2F03%2Fnyc-ads-task-force-final-report-next-steps%2F>. [↑](#footnote-ref-47)
48. A co-founder of AI Now, Ms. Whittaker, is a member of ADS Task Force. [↑](#footnote-ref-48)
49. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force,” AI Now Institute, December 4, 2019, p. 20, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-49)
50. # Charlie Innis, *Shadow Report” Clashes with City Algorithms Report,* Kings County Politics*,* December 16, 2019,<https://www.kingscountypolitics.com/shadow-report-clashes-with-city-algorithms-report/>.

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51. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force,” AI Now Institute, December 4, 2019, p. 20, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-51)
52. Local Law 49 of 2018. [↑](#footnote-ref-52)
53. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force,” AI Now Institute, December 4, 2019, p. 20, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-53)
54. New York City, “Automated Decision Systems Task Force Report”, November 2019, p. 19, 23, <https://www1.nyc.gov/assets/adstaskforce/downloads/pdf/ADS-Report-11192019.pdf>. [↑](#footnote-ref-54)
55. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force,” AI Now Institute, December 4, 2019, p. 20, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-55)
56. New York City, “Automated Decision Systems Task Force Report”, November 2019, p. 22, 24, <https://www1.nyc.gov/assets/adstaskforce/downloads/pdf/ADS-Report-11192019.pdf>. [↑](#footnote-ref-56)
57. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force,” AI Now Institute, December 4, 2019, p. 21-22, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-57)
58. New York City, “Automated Decision Systems Task Force Report”, November 2019, p. 25, <https://www1.nyc.gov/assets/adstaskforce/downloads/pdf/ADS-Report-11192019.pdf>. [↑](#footnote-ref-58)
59. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force,” AI Now Institute, December 4, 2019, p. 23, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-59)
60. New York City, “Automated Decision Systems Task Force Report”, November 2019, p. 24, <https://www1.nyc.gov/assets/adstaskforce/downloads/pdf/ADS-Report-11192019.pdf>. [↑](#footnote-ref-60)
61. Rashida Richardson, ed., “Confronting Black Boxes: A Shadow Report of the New York City Automated Decision Sy Shadow Report stem Task Force,” AI Now Institute, December 4, 2019, p. 24, <https://ainowinstitute.org/ads-shadowreport-2019.html>. [↑](#footnote-ref-61)
62. New York City, “Automated Decision Systems Task Force Report”, November 2019, p. 23-24, <https://www1.nyc.gov/assets/adstaskforce/downloads/pdf/ADS-Report-11192019.pdf>. [↑](#footnote-ref-62)
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