



ALGORITHMS MANAGEMENT AND POLICY OFFICER

# POLICIES

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## **Policies of the Algorithms Management and Policy Officer Pursuant to the Requirements of Executive Order 50 of 2019**

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Algorithms Management and Policy Officer

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## **1. Introduction**

### **1.1. Purpose**

This document sets forth the collection of policies, protocols, best practice recommendations, and guidance (“Policies”) of the Algorithms Management and Policy Officer (“AMPO”), in accordance with the AMPO’s mandate to develop and centralize management practices around the fair and responsible use of algorithmic tools and systems (“algorithmic tools”) by City agencies.

### **1.2. Authority**

These Policies are issued pursuant to the duties with which the AMPO is charged under [Executive Order 50 of 2019 \(“EO 50”\)](#).

### **1.3. Applicability**

Unless otherwise specified by the Office of the Mayor, all mayoral agencies and offices are subject to these Policies pursuant to EO 50.

### **1.4. Modification**

These Policies, and any associated materials, including Agency Compliance Guidance, may be amended by the AMPO from time to time. Any updated materials will be sent to agency liaisons.

### **1.5. Relationship to Other Relevant Laws and Policies**

These Policies set forth the baseline requirements for City agencies relating to the management of algorithmic and other emerging technical tools, in accordance with the mandates of EO 50. City agencies may adopt supplemental policies and protocols that address topics specific to the unique needs of their agency and the agency’s clients, or to comply with applicable laws and regulations governing the collection, use, disclosure, retention or development of data, algorithms, or other emerging tools by the agency and its contractors and subcontractors.<sup>1</sup>

Agencies are responsible for complying with the requirements of EO 50. Refer to Section 9 of these Policies for more information on agency compliance and reporting requirements.

Referenced below are additional laws and policies that may have relevance to agency use of algorithmic tools, or the data or policy decisions associated with algorithmic tools in use.

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<sup>1</sup> Additionally, Section 5 of EO 50 states: “No information that is required to be disclosed or reported by this Order will be done so in a manner that would violate any applicable provision of federal, state, or local law or that would interfere with a law enforcement investigation or other investigative activity by an agency or would compromise public safety.”

### **1.5.1. Relationship to Federal and State Law**

Where a federal or state law or regulation conflicts with a local law or local executive action on the same subject matter, the federal or state law or regulation will govern. Questions about the applicability of other laws (including local laws and regulations) to the requirements of EO 50 should be directed to the agency liaison (see Section 5), agency general counsel, the AMPO, or the City's Law Department.

### **1.5.2. New York State Freedom of Information Law**

The New York State Freedom of Information Law ("FOIL") establishes a process for members of the public to request copies of government records, and imposes a duty for City agencies to disclose such records in response to a request unless an exemption applies.<sup>2</sup> Such records may include information about the management and use of algorithmic tools as well as underlying data and other information held by an agency relating to compliance with EO 50. When FOIL requires an agency to disclose such information, the agency should disclose it unless an exemption applies. When an exemption to the disclosure requirements under FOIL is applicable, but the agency is considering whether to voluntarily disclose the requested information, the agency must consider the applicability of other laws, such as but not limited to the City's "Identifying Information Law," referenced below.<sup>3</sup> Agency liaisons should consult with their Records Access Officer regarding agency-specific practices and protocols for responding to FOIL requests.

### **1.5.3. New York City Identifying Information Law**

New York City's Identifying Information Law ("IIL") restricts the collection, disclosure, and retention of "identifying information"<sup>4</sup> unless one of the Law's enumerated exceptions applies. It also establishes the position of chief privacy officer for New York City and a citywide privacy protection committee, and requires each agency to designate a privacy officer.

#### **1.5.3.1. Citywide Privacy Protection Policies and Protocols of the Chief Privacy Officer**

The Citywide Privacy Protection Policies and Protocols of the Chief Privacy Officer ("CPO Policy") sets forth citywide privacy protection policies and protocols that City agencies and certain City contractors and subcontractors must follow when collecting, retaining, and disclosing identifying information, as required by the Identifying Information Law. The CPO Policy provides baseline requirements for City agencies relating to the protection of identifying information and comprehensive guidance to agency privacy officers on their role and responsibilities for agency IIL compliance.

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<sup>2</sup> See Article 6 of the N.Y.S. Public Officers Law.

<sup>3</sup> See N.Y.C. Admin. Code §§ 23-1201 *et seq.* and N.Y.C. Charter, at § 8(h). For additional guidance on the relationship of the Identifying Information Law to other laws and regulations, contact appropriate agency counsel, the Chief Privacy Officer or the Law Department, as needed.

<sup>4</sup> "Identifying information" means any information collected by or on behalf of the City that can be used by itself or in combination with other information to identify or locate a person. See Admin Code, at § 23-1201.

#### **1.5.4. New York City Open Data Law**

Local Law 11 of 2012 (the “Open Data Law”), as amended,<sup>5</sup> mandates City agencies to make all public datasets accessible on a single web portal by the end of 2018. Determinations as to when information constitutes a “public dataset”<sup>6</sup> involves a legal determination that should be made in consultation with the agency liaison, agency privacy officer, or other designated agency counsel before such information is made publicly available.

#### **1.5.5. Citywide Information Technology and Security Policies and Standards**

The City’s Information Technology Security Policies and Standards, as they now exist and may be from time to time amended, are issued by New York City Cyber Command (“Cyber Command”) and the Department of Information Technology and Telecommunications (“DoITT”) (collectively, the “Citywide IT Policies”).<sup>7</sup> These policies relate to the classification, transfer, and storage of data and information, in relation to agency use of technologies and IT services. The following Citywide IT Policies may be especially relevant to the proper handling and management of algorithmic tools and underlying data:

- Data Classification Standard
- Encryption Policy
- Encryption Standard
- Digital Media Re-use and Disposal Policy
- User Responsibilities Policy Citywide Incident Response Planning (P-IR-01)
- Agency Incident Response Plan
- Portable Data Security Policy
- Citywide Cloud Policy<sup>8</sup>

Agency liaisons should coordinate with relevant agency IT/MIS units, Cyber Command, and DoITT, as needed, to: (1) identify and address the impact of any technical requirements for the agency’s use of particular data, new and emerging technologies, and algorithmic tools, in accordance with the Citywide IT Policies; (2) identify agency specific information technology and security policies;<sup>9</sup> and (3) ensure that any guidance issued to their agency’s employees in furtherance of compliance with EO 50 or the AMPO Policies incorporates information on relevant sections of the Citywide IT Policies, agency specific information technology and security policies, and any additional guidance from relevant IT/MIS leadership, Cyber Command, and DoITT, and provides appropriate guidance to their contractors and subcontractors, as appropriate.

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<sup>5</sup> See Admin. Code §§ 23-501 *et seq.*

<sup>6</sup> See Admin. Code § 23-501(g) for a definition of “public data set.”

<sup>7</sup> All Citywide IT Policies are available on Cityshare. Agencies must also comply with any agency specific security policies.

<sup>8</sup> The Citywide Cloud Policy requires that City agencies and entities submit any plans to use cloud services to DoITT for review to ensure that appropriate security, legal, and operational measures are considered.

<sup>9</sup> Relevant agency-specific policies may include Acceptable Use policies, Acceptable Email Usage Policies, IT and Equipment Policies, and Remote Access Policies which may address an employee’s use of City- or agency-issued devices, as well as an employee’s use of personal devices or e-mail addresses for City business.

### **1.5.6. Mayoral Directive 2015-2: Uniform Records Management Practices**

Agencies must comply with Mayoral Directive 2015-3,<sup>10</sup> which sets forth the City's Uniform Records Management Practices, as new records may be created or identified in furtherance of these Policies and of compliance with EO 50. Agencies are responsible for compliance with applicable information retention requirements, including but not limited to the agency's Records Retention and Disposition Schedule approved by the Department of Records and Information Services ("DORIS") in accordance with Mayoral Directive 2015-3. Agency liaisons should consult with their Records Management Officer regarding agency-specific practices and protocols for managing records.

### **1.6. Definitions**

Definitions for key terms are provided in the Glossary (see Appendix B).

## **2. Governing Principles**

EO 50 requires the AMPO to "establish governing principles to guide City agencies in balancing the ethical and innovative uses of data facilitated through the use of algorithmic tools and systems in agency decision-making, to ensure they provide the greatest benefit for New Yorkers and the City." The purpose of setting forth governing principles is to create a shared understanding of the ways that algorithmic tools can be used by City agencies to leverage data and promote data-driven practices to enhance the efficiency and quality of agency operations or service delivery for New Yorkers, while acknowledging that such use may, absent appropriate scrutiny, inadvertently carry risks of harm in certain instances for individuals, groups, and communities.

The principles outlined in these Policies are used to inform additional AMPO guidance and responsibilities required by EO 50; they should also be used by City agencies during the course of their development, modification, production, review, or procurement of new or existing algorithmic tools.

### **2.1. Transparency**

Transparency is a cornerstone of democratic government. Transparency becomes all the more important when new or enhanced analytic methods and technologies make it more complicated for the general public to understand agency decision-making, while in some cases also reducing human involvement in the analytical or decision-making process. For these reasons, City agencies should think about, build, and procure algorithmic tools through the lens of transparency.

### **2.2. Fairness**

While the use of data-driven practices to support decision-making by City agencies is not new, algorithmic tools have the ability to amplify the challenges and risks that have long been associated with statistical models, data analytics, and other practices that rely on the analyzing

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<sup>10</sup> See Section 6 of Mayoral Directive, [available at](https://www1.nyc.gov/site/records/about/records-management-policies.page) <https://www1.nyc.gov/site/records/about/records-management-policies.page>.



of data in conjunction with technology. Given this possibility, agency use of algorithmic tools should be oriented toward promoting fairness, pro-actively preventing harm, and remediating any instances of inequity if and where they are found.

### **2.3. Innovation**

Since government funding and resources are typically limited, and because government must also stay current with the evolving expectations of the residents it serves, agencies should seek to innovate the ways they streamline their own operations and deliver services. Algorithmic tools can be an essential part of that innovation. When developing or procuring algorithmic tools, agencies should ensure that the use of these tools is consistent with promoting an innovative approach to problem-solving.

### **2.4. Responsible Data Governance**

During development, procurement, and production, algorithmic tools should adhere to all applicable laws, regulations, City policies, and standards surrounding the privacy and security of data collection, storage, disclosure, and utilization.

## **3. Steering Committee**

EO 50 defines the composition of the AMPO Steering Committee and its responsibilities.

### **3.1. Composition**

The Steering Committee is chaired by the Director of Operations, and includes the heads of the following agencies and offices (or their delegates): Office of the First Deputy Mayor, Corporation Counsel, Commission on Human Rights, Chief Privacy Officer, Office of Data Analytics, Chief Technology Officer, Department of Information Technology and Telecommunications, Cyber Command, and any other department or office designated by the Director of Operations.

### **3.2. Duties**

The Steering Committee must meet once every quarter, and is responsible for advising the Director of Operations and the AMPO on their required duties per EO 50.

## **4. Advisory Committee**

EO 50 defines the composition of the AMPO Advisory Committee and its responsibilities.

### **4.1. Composition**

The Advisory Committee is chaired by the AMPO and consists of six additional members who are members of the public. Three of those members are appointed by the Mayor, and three are appointed by the City Council.

## **4.2. Duties**

The Advisory Committee must meet at least twice a year, and hold at least one of those meetings publicly. The Advisory Committee is responsible for advising the AMPO on protocols and best practices for agency use of algorithmic tools, discussing with the AMPO topical issues related to algorithmic tools, and serving as a channel for collecting and communicating public commentary.

## **5. Agency Liaisons**

EO 50 requires each agency to identify a liaison to serve as a primary point of contact between the AMPO and the agency; agency liaisons will be responsible for working with the AMPO to help ensure agency compliance with EO 50 requirements. Agency liaisons may be selected from any relevant agency division, including data analytics, information technology, information privacy, or legal affairs. Agency liaison responsibilities include:

- Communicating information received from the AMPO to relevant agency stakeholders, including agency heads, general counsels, agency privacy officers, and chief information officers.
- Convening or coordinating communication between agency personnel to complete required actions and documentation for annual compliance reporting (see Section 9).
- Submitting or ensuring submission of compliance reporting materials (see Section 9).
- Providing feedback, or sharing comments or questions to the AMPO related to any EO 50 obligations.

## **6. Identification and Prioritization of Algorithmic Tools and Systems**

The AMPO's role is to establish and support a centralized management apparatus to ensure that City agency use of algorithmic tools is fair and responsible. To support agencies in understanding how EO 50 affects their computerized tools and systems, these Policies include an Identification and Prioritization Framework that provides guidance on which of their tools and systems qualify as "algorithmic tools," and of those that do qualify, what specific practices apply to them for purposes of the management requirements outlined in these Policies. The first set of criteria ("Identification Criteria") outlines a number of additional characteristics about computer-based tools and systems to focus the interpretation about which of those systems qualify as algorithmic tools for EO 50 purposes. The second set of criteria ("Prioritization Criteria") places qualified algorithmic tools in an ordinal ranking, and clarifies how ongoing management practices may differ for a specific algorithmic tool, depending on its place in that priority ranking.

These sets of criteria were developed through academic and operational research, contributions of professionals with relevant expertise through the AMPO Steering Committee and Advisory Committee, feedback of expertise and experiences from City agencies, and community/interest group input obtained through ongoing public engagement practices.

See Appendix A for the current Identification and Prioritization Framework.

## **7. Assessment**

These policies are currently in development. They will focus on helping to ensure that relevant algorithmic tools used by City agencies are promoting equity, fairness, and accountability. They will include a framework to help agencies assess algorithmic tools, considering their complexity, the benefits, impact, and any potential risk of harm to any individual or group arising from their use.

## **8. AMPO Biennial Reporting**

EO 50 requires the AMPO to produce a report for the Mayor and City Council, and to be made public, once every two years, the first of which was submitted on December 1, 2020. That report must describe the progress made in implementing the directives of EO 50.

## **9. Reporting**

### **9.1. Annual Compliance Reporting**

In order to meet the requirements of Section 2.a (v) and 2.a (vi) of EO 50, there will be an annual agency compliance reporting process, during which City agencies will compile and report relevant information about their algorithmic tools to the AMPO. Certain information from such reports will be made publicly available through the AMPO's public-facing platform.

#### **9.1.1. Compliance Reporting Process**

The compliance reporting process will run from September to December in each calendar year, with the following general milestones:

September: Agencies notified of beginning of compliance reporting process; agencies provided with necessary documentation and forms for completion.

October-November: Agencies hold internal discussions about systems to find algorithmic tools that must be reported pursuant to EO 50 and the criteria set forth in the Identification and Prioritization Framework; agencies complete documentation.

December: Agencies submit documentation to the AMPO.

December-January: Agency reports are reviewed and relevant information is published on the public-facing platform.

Specific requirements, deadlines, and overall timelines will be provided to agencies each year in the Agency Compliance Reporting Guidance.

#### **9.1.2. Scope**

Each year's Agency Compliance Reporting Guidance will inform agencies of the scope of required reporting. The scope of reporting is subject to change between reporting periods based on evolving policies and any changes to the Identification and Prioritization Framework.

### **9.1.3. Documentation**

Each year's Agency Compliance Reporting Guidance will identify all the necessary documentation to assist agencies in preparing for compliance reporting, and the requisite forms to be completed and submitted.

## **9.2. Assessment Reporting**

These policies are in development. They will be developed in conjunction with the Assessment policies cited in Section 7.

## **10. Public Engagement**

These policies are in development. They will focus on identifying core components of ongoing AMPO public engagement, including target approaches, formats, and schedules.

## **11. Public Education**

These policies are in development. See Section 10.

## **12. Requests for Information**

These policies are in development. These policies will include a citywide protocol for receiving requests for information from individual members of the public who have been affected by a City agency's use of an algorithmic tool, and for directing them to the appropriate City agency and other resources.

## **13. Complaints**

These policies are in development. These policies will include a citywide protocol for receiving, investigating, and addressing any complaints from individuals regarding any suspected or actual harm experienced in connection with a City agency's use of algorithmic tools, and advising agencies on any further actions that may be appropriate under the circumstances.

## **Version Control**

Version Number	Date Approved	Approved By	Brief Description
1.0	9/14/2020	Jeff Thamkittikasem	Inaugural policies
1.1	9/21/2021	Alex Foard	Reflect change in AMPO personnel

## Appendix A

### Identification and Prioritization Framework

Issue Date: September 21, 2021<sup>1</sup>

An **algorithmic tool** is a partially or fully automated computer-based system that uses an **algorithm** or series of algorithms to turn data (“input”) into a result (“output”) to be used to make a prediction, determine a course of action, or otherwise influence decision-making (“outcome”). While this definition describes an algorithmic tool generally, this guidance provides additional criteria to clarify which systems qualify as algorithmic tools particularly for the purposes of Executive Order 50 (“EO 50”). These criteria are provided in **Section 1. Identification Criteria**.

Additionally, this guidance provides a second set of criteria for qualifying algorithmic tools to determine each tool’s priority level. A tool’s priority level determines particular requirements outlined elsewhere in the AMPO policies. These criteria are provided in **Section 2. Prioritization Criteria**.

#### Section 1. Identification Criteria

An agency’s system qualifies as an algorithmic tool for the purposes of EO 50 if **all three** of the following Identification Criteria are met:

<b>Identification Criterion 1: Data Analysis</b>	
Description	The system is derived from <b>data analysis</b> approaches, or routinely performs data analysis to operate.
Explanation	<p>Data analysis is the use of techniques to derive inferences or conclusions from datasets. Relevant forms of data analysis may be described as:</p> <ul style="list-style-type: none"> <li>• <b>Artificial intelligence</b> (“AI”) or an application of AI, which includes topics such as <b>machine learning</b>, deep learning, speech and <b>natural language processing</b>, and <b>computer vision</b>;</li> <li>• Various categories of algorithms including those used for optimization or matching;</li> <li>• Predictive analytics;</li> <li>• <b>Statistical regression</b> or <b>classification</b>;</li> <li>• Heuristic approaches for tasks such as creating indices, rankings, or scores.</li> </ul> <p>Data analysis does <u>not</u> include producing descriptive statistics or applications of descriptive statistics in the form of data summaries or key performance indicators. Data analysis also does <u>not</u> include <b>data processing</b>, which is the use or manipulation of system data by software to perform required operations or render data in a form that can be used by a human.</p>

<sup>1</sup> This Framework and the criteria outlined herein are subject to periodic modification. The criteria set forth in this Framework are valid for the current version of this Framework, issued on the above date.

Examples That May Meet This Criterion	<ul style="list-style-type: none"> <li>• A risk calculator that applies a score to a client, the inputs for which were determined through a machine-learning algorithm.</li> <li>• A risk calculator that applies a score to a client, the inputs for which were determined by operational considerations.</li> <li>• A logistic regression model that uses client data to evaluate suitability for an agency program.</li> <li>• A tool that provides agency staff with a list of assets to inspect based on characteristics identified through a regression analysis.</li> <li>• A chatbot with which clients can interface to ask questions or submit inquiries.</li> <li>• A tool that groups users based on a schema developed by an algorithm that was trained on historical data of user profiles.</li> <li>• A system that analyzes faces, fingerprints, or other biometric datapoints to authenticate a client's identity.</li> </ul>
Examples That Do Not Meet This Criterion	<ul style="list-style-type: none"> <li>• Software that generates a profile of a client by aggregating inputted data.</li> <li>• A tool that determines client eligibility for a program based on criteria defined by law.</li> <li>• A system or tool that permits the operations of basic computer processes such as opening programs, sending messages, autocorrecting, or using a calculator.</li> <li>• A database management system that performs ETL (extract, transform, load) functions.</li> <li>• A dashboard of agency key performance indicators used in executive planning and strategy.</li> </ul>

<b>Identification Criterion 2: Decision-Making Use</b>	
Description	The system is currently <b>in use</b> to support agency <b>decision-making</b> .
Explanation	<p>Agency <b>decision-making</b> is the process by which information is considered by a City or agency official or employee which has the potential to influence or determine an agency's actions, policies, services, programs, employment, contracting, rulemaking, budgeting or allocation of resources. The support for agency decision-making may occur at any point in the decision-making process, and includes both <b>full automation</b>, in which the system's output is final and determinative for a particular outcome, and <b>partial automation</b>, in which the system's output is advisory or preliminary for use by a human decision-maker to determine an outcome.</p> <p>To be considered as an algorithmic tool, a system must have moved from being <b>in development</b> to <b>in production</b>, and once in production, the system must then be currently <b>in use</b>:</p> <ul style="list-style-type: none"> <li>• <b>In development</b> refers to an operational status of an algorithmic tool in which that tool is <u>not</u> reliably ready, and is in fact not used, to support agency decision-making, due to ongoing creation or refinement of models; testing of data; agency business decisions related to purpose, scope or scale; or ongoing design and build.</li> <li>• <b>In production</b> refers to an operational status of an algorithmic tool in</li> </ul>

	<p>which that tool has been developed to such a point that it may reliably support agency decision-making. Reliable support may include regular or routine use, infrequent or irregular use of at least once in a 12-month period, and pilots of limited scope or scale.</p> <ul style="list-style-type: none"> <li>• <b>In use</b> refers to a subset of in-production algorithmic tools in which the outputs or outcomes of such a tool are included in a discrete and identifiable instance of agency decision-making. Such term does <u>not</u> include data analysis processes of which the outputs are exploratory or inform ongoing research.</li> </ul>
Examples That May Meet This Criterion	<ul style="list-style-type: none"> <li>• A score calculator from which the resulting scores are used to determine levels or types of services available to clients.</li> <li>• A tool that produces an asset inspection list used by agency personnel determine inspection targets, where agency personnel may override the tool's selections.</li> <li>• A tool that analyzes imagery to identify or label a person or physical asset to aid in a human analyst's decision-making.</li> <li>• A tool that groups all incoming users, where those groups are used to define levels or types of service delivery.</li> </ul>
Examples That Do Not Meet This Criterion	<ul style="list-style-type: none"> <li>• An analysis investigating user characteristics associated with risk, the conclusions of which have been shared within the agency, but with no operational decisions made therefrom.</li> <li>• The development of an algorithm to predict asset failure that is still being trained with datasets.</li> <li>• A research study that explains historical client outcomes as a function of service delivery to inform policy decisions.</li> </ul>

<b>Identification Criterion 3: Material Public Effect</b>	
Description	The outputs or outcomes derived from the outputs of the system have a <b>material public effect</b> .
Explanation	All agency business is conducted in the public interest. However, a tool meets the public effect criterion <u>only</u> if its effect on the public is material. A <b>material public effect</b> is a discrete, discernible, or otherwise identifiable impact of a system's outputs or outcomes on individuals or populations, which relates to procedural or substantive rights under the law; individual or population protected status; eligibility, receipt, or denial of a City or agency program, service, or benefit; subjection to a specific City program or activity; or judicial, administrative, or other forms of redress. Such term does <u>not</u> include instances in which the output of a tool (or outcomes resulting from the use of those outputs) directly affects only the internal administration of an agency, or where the effect of the use of a tool's outputs has an indirect effect on the public.
Examples That May Meet This Criterion	<ul style="list-style-type: none"> <li>• A score calculator that creates scores or rankings for individual clients of an agency.</li> <li>• A tool that produces an inspection list of the City's physical assets that are used by residents around the City.</li> <li>• A tool that creates a typology of NYC neighborhoods to determine levels of delivery of services.</li> </ul>
Examples	<ul style="list-style-type: none"> <li>• A tool that optimizes agency staff postings based on administrative</li> </ul>

That Do Not Meet This Criterion	<p>needs and personnel variables.</p> <ul style="list-style-type: none"> <li>• A process that matches users to a basic administrative outcome such as time slots for appointments or next available client services specialist.</li> <li>• A tool that is used to model economic outcomes for the City as a whole.</li> <li>• A tool that predicts failure in individual agency vehicles.</li> </ul>
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## Section 2. Prioritization Criteria

For tools that meet all three Identification Criteria listed in Section 1 (Data Analysis, Decision-Making Use, Material Public Effect), use the criteria outlined below to determine an algorithmic tool's priority level. Refer to the AMPO Policies and other guidance for additional information related to the impact of priority levels on EO 50 compliance.

Outcome	Priority Level
Tool meets no Prioritization Criteria	Level 0
Tool meets one or both Prioritization Criteria	Level 1

Prioritization Criteria:

1. The data analysis from which the system is derived, or that the system performs, is considered a form of:
  - Artificial intelligence (including machine learning, deep learning, speech and language processing, and computer vision); and/or
  - A category of algorithm including those used for optimization and matching.
2. The system/tool collects or analyzes "identifying information," as such term is defined under New York City's Identifying Information Law ("IIL"), in section 23-1201 of the N.Y.C. Administrative Code:

**Identifying information.** The term "identifying information" means any information obtained by or on behalf of the city that may be used on its own or with other information to identify or locate an individual, including, but not limited to: name, sexual orientation, gender identity, race, marital or partnership status, status as a victim of domestic violence or sexual assault, status as a crime victim or witness, citizenship or immigration status, eligibility for or receipt of public assistance or city services, all information obtained from an individual's income tax records, information obtained from any surveillance system operated by, for the benefit of, or at the direction of the police department, motor vehicle information or license plate number, biometrics such as fingerprints and photographs, languages spoken, religion, nationality, country of origin, place of birth, arrest record or criminal conviction, employment status, employer information, current and previous home and work addresses, contact information such as phone number and email address, information concerning social media accounts, date and/or time of release from the custody of the administration for children's services, the department of correction, or the police department, any scheduled court appearances, or any scheduled appointments with any employee, contractor, or subcontractor.



**Version Control**

Version Number	Date Approved	Approved By
1.0	9/14/2020	Jeff Thamkittikasem
1.1	9/21/2021	Alex Foard

## Appendix B

### Glossary

Issue Date: September 21, 2021

This glossary includes terms defined within Executive Order 50 of 2019 (“EO 50”) and additional terms that appear in EO 50 or the Algorithms Management and Policy Officer (“AMPO”) Policies.

<b>Terms Defined by EO 50</b>	
<b>Algorithm</b>	A sequence of instructions, rules, or other problem-solving operations used to cause a technical tool or system to execute a set of actions.
<b>Decision-making</b>	The process by which information is considered by a City or agency official or employee which has the potential to influence or determine an agency's actions, policies, services, programs, employment, contracting, rulemaking, budgeting or allocation of resources.
<b>Terms Included in EO 50</b>	
<b>Algorithmic Tool</b>	A partially or fully automated computer-based system that uses an algorithm or series of algorithms to turn data (“input”) into a result (“output”) to be used to make a prediction, determine a course of action, or otherwise influence decision-making (“outcome”).
<b>Identification</b>	The process by which a City agency evaluates the characteristics of a computerized process in use by that agency to determine if it meets the definition of an algorithmic tool as set forth by the criteria in the Identification and Prioritization Framework, and therefore subject to EO 50 and AMPO Policies.
<b>Prioritization</b>	The process by which the City uses select criteria to order the universe of identified algorithmic tools along an ordinal ranking and to group tools of similar importance, to enable more expedient, tailored, and appropriate management practices.
<b>Terms Included in AMPO Policies</b>	
<b>Artificial Intelligence</b>	An umbrella term without precise boundaries, that encompasses a range of technologies and techniques of varying sophistication that are used to, among other tasks, make predictions, inferences, recommendations, rankings, or other decisions with data, and that includes topics such as machine learning, deep learning, supervised learning, unsupervised learning, reinforcement learning, statistical inference, statistical regression, statistical classification, ranking, clustering, and expert systems.
<b>Computer Vision</b>	An application of AI involving images or video, including photographs, video, medical imagery, or infrared, 3D LiDAR, and other imagery outside the visible light spectrum, for purposes including object detection, object recognition, object tracking, pose estimation, image restoration, image classification, and motion estimation or planning.
<b>Data Analysis</b>	The use of techniques to derive inferences or conclusions from a data set. Relevant forms of data analysis may be described as artificial intelligence (“AI”) or an application of AI, which includes topics such as machine learning, deep learning, speech and natural language processing, and computer vision; various categories of algorithms include those used for

	optimization and matching; predictive analytics; statistical regression or classification; or heuristic approaches for tasks such as creating indices, rankings, or scores.
<b>Data Processing</b>	The use or manipulation of system data by software to perform required operations or render data in a form that can be used by a human.
<b>Full Automation (Fully Automated)</b>	A characteristic of algorithmic tool where the system's output is final and determinative for a particular outcome. See also the definition for "Partial Automation" in Terms Included in AMPO Policies.
<b>In Development</b>	An operational status of an algorithmic tool in which that tool is not reliably ready, and is not in fact used, to support agency decision-making, due to ongoing creation or refinement of models; testing of data; agency business decisions related to purpose, scope or scale; or ongoing design and build.
<b>In Production</b>	An operational status of an algorithmic tool in which that tool has been developed to such a point that it may reliably support agency decision-making. Reliable support may include regular or routine use, infrequent or irregular use of at least once in a 12-month period, and pilots of limited scope or scale. See also the definition for "In Development" in Terms Included in AMPO Policies.
<b>In Use (Used)</b>	A subset of in-production algorithmic tools in which the outputs or outcomes of such a tool are actually directly or indirectly included in a discrete and identifiable instance of agency decision-making. Such term does not include data analysis processes of which the outputs are exploratory or inform ongoing research, or have not yet been included in agency decision-making. See also the definition for "In Production" in Terms Included in AMPO Policies.
<b>Machine Learning</b>	A means of building software or designing algorithms that learn from data or improve through experience using training data to make predictions, decisions, or other inferences without the relationships between input data and predicted outputs being explicitly programmed.
<b>Material Public Effect</b>	A discrete, discernible, or otherwise identifiable impact of a system's outputs or outcomes on individuals or populations, which relates to procedural or substantive rights under the law; individual or population protected status; eligibility, receipt, or denial of a City or agency program, service, or benefit; subjection to a specific City program or activity; or judicial, administrative, or other forms of redress. Such term does not include instances in which the output of a tool or outcomes resulting from the use of those outputs directly affect only the internal administration of an agency, or where the effect of the use of a tool's outputs has an indirect, aggregate effect on the public.
<b>Natural Language Processing</b>	An application of AI involving language, including text and spoken works, for purposes including machine translation, document classification, speech recognition, speech-to-text, natural language understanding, information extraction, and natural language generation.
<b>Partial Automation (Partially Automated)</b>	A characteristic of an algorithmic tool where the system's output is advisory or preliminary for use by a human decision-maker to determine an outcome. See also the definition for "Full Automation" in Terms Included in AMPO Policies.

<b>Statistical Regression</b>	The process of using mathematical models to estimate a relationship between one or more independent variables and a dependent variable.
<b>Statistical Classification</b>	The use of a statistical model to produce a predicted output for a given input that belongs to a defined set of categories.

## Version Control

Version Number	Date Approved	Approved By
1.0	9/16/2020	Jeff Thamkittikasem
1.1	9/21/2021	Alex Foard

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