

Perspective on New York City local law 144-21 and preparation for bias audits

MAY 2023

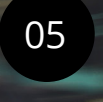


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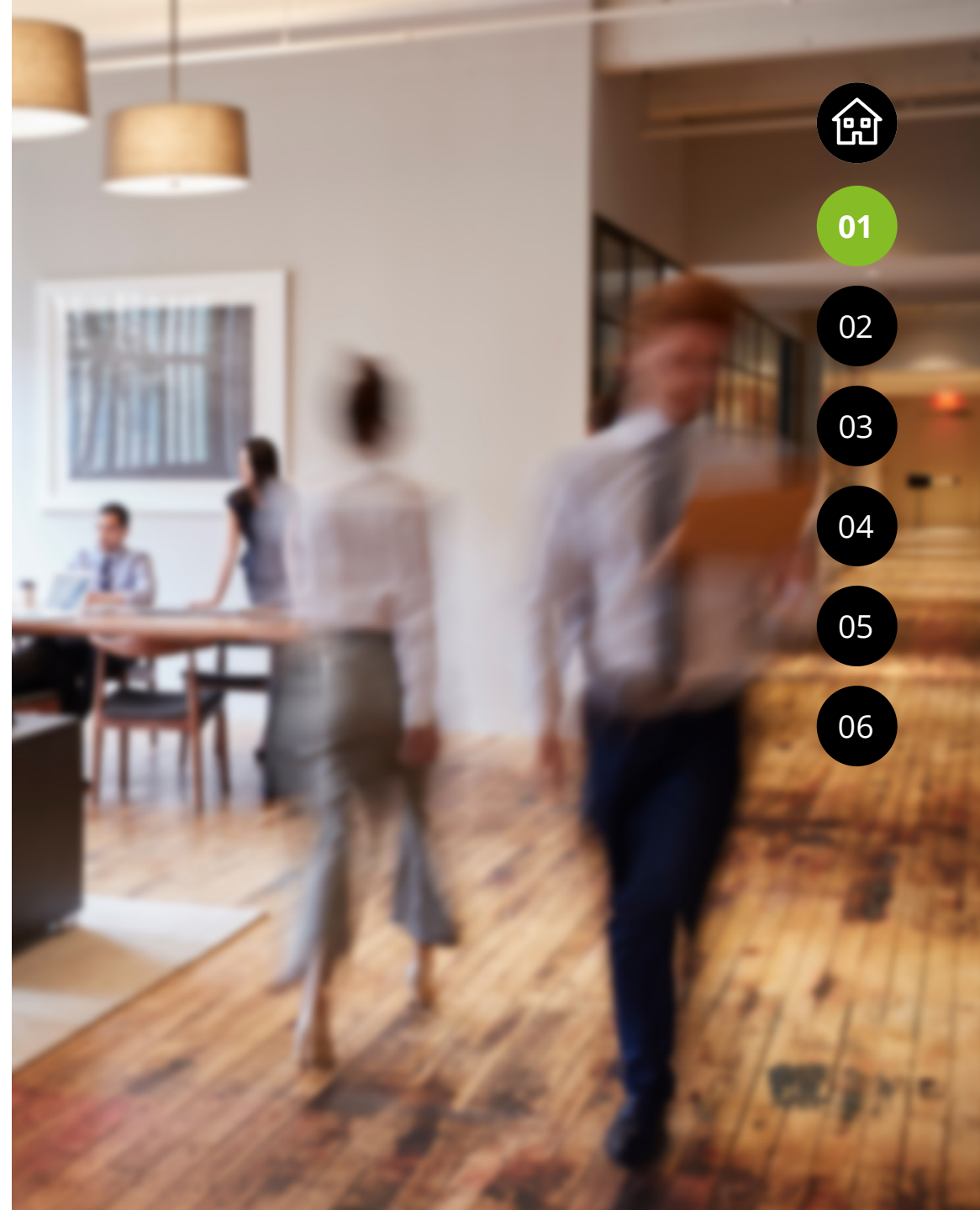


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Introduction

Introduction

Due to increased use of artificial intelligence (AI) and other algorithms by organizations—**especially in potential high-impact decisions such as employment**—stakeholders are concerned about potential bias in AI models, where they are used, how they operate, what the underlying data is, and what organizations are doing to monitor and oversee their AI models.



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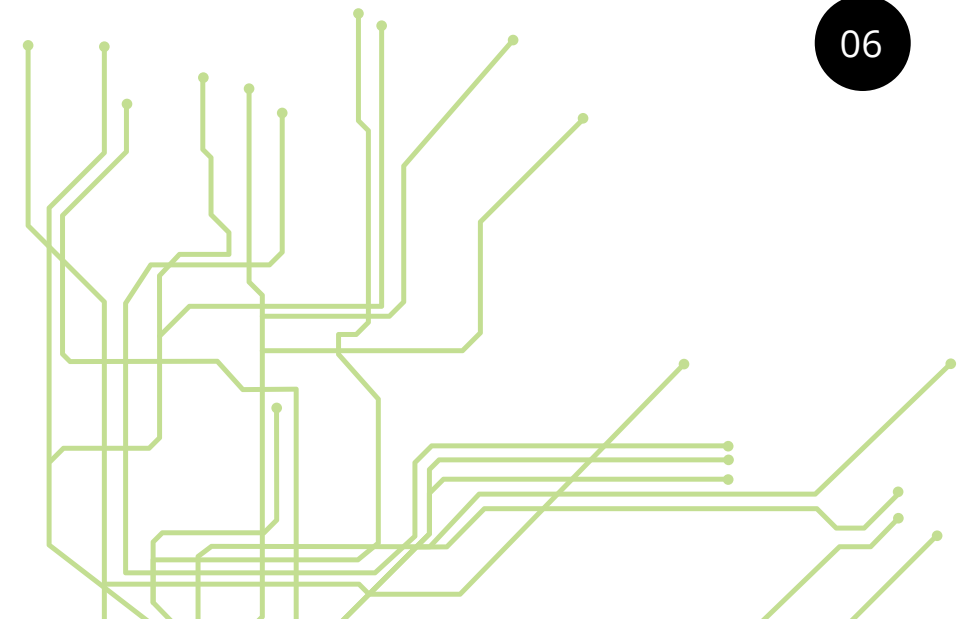
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Introduction

New York City's law (NYC LL 144-21) is part of a broader trend of regulatory bodies, including US federal, state, and local governments and agencies as well as international bodies such as those within the European Union, that are seeking to bring transparency to the use of automated decision systems, including AI, in employment and other decisions. This trend includes states such as [California](#),¹ [Colorado](#),² [Massachusetts](#),³ [New Jersey](#),⁴ [Washington, D.C.](#),⁵ and federal agencies such as the [Equal Employment Opportunity Commission](#)⁶ enacting or developing

requirements around use of automated decision systems. In addition, through the United States White House Office of Science and Technology Policy publishing the [Blueprint for an AI Bill of Rights](#)⁷ and the National Institute of Standards and Technology publishing the [AI Risk Management Framework](#),⁸ the US federal government has outlined a national value statement and framework to inform building AI protections into policy, practice, or technological design process.



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Summary of rules within the current version of the law



Summary of rules within the current version of the law

Organizations that use automated employment decision tools (AEDTs) to substantially assist or replace discretionary decision-making for employment decisions (e.g., hiring, promotions, etc.) in New York City will be required to have a bias audit performed by an independent auditor. The tools include data analytics, statistical modeling, machine learning (ML), and AI that generate simplified outputs like candidate scores, classifications, or hiring recommendations.

The bias audit shall include but not be limited to testing AEDTs to assess the tools' disparate impact on employment decisions for candidates or employees based on protected categories (e.g., sex, ethnicity, and race):

- At a minimum, a bias audit for an AEDT that selects candidates for employment or employees for promotion must calculate the selection rate and impact ratio for each protected category and intersectional categories of sex, ethnicity, and race.

- For an AEDT that scores candidates for employment or employees for promotion, a bias audit must calculate the median score for the full sample of applicants, scoring rate for individuals in each category, impact ratio for each category, as well as the scoring rate and impact ratio for each intersectional category.
- In cases where individuals assessed by an AEDT are not included in the required calculations because they fall within an unknown category, organizations will need to indicate the number of these individuals. In addition, an independent auditor may exclude a category that represents less than 2% of the data being used for the bias audit from the required calculations for the impact ratio. In these cases, the independent auditor will need to include justification for the exclusion as well as the number of applicants and scoring or selection rate for the excluded category.



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Summary of rules within the current version of the law

Organizations will need to make the date of the most recent bias audit, a summary of results, and distribution date of the AEDT prior to its use publicly available on the employment section of their websites in a clear and conspicuous manner. Organizations may choose to have an active hyperlink to a website that contains the required information provided that the link is clearly identified as a link to the results of the bias audit. An employer or employment agency must keep the summary of results and distribution date posted for at least six months after last using the AEDT for an employment decision.

In addition, organizations that use AEDTs will need to notify employees or candidates of the following:

- An AEDT will be used as part of the assessment of the employee or candidate; notification will be no less than 10 business days before use of the AEDT to allow the employee or candidate to request an alternative selection process or accommodation.
- The job qualifications and characteristics (i.e., data elements) that the AEDT will use in the assessment of the employee or candidate. This notice must also be made no less than 10 business days before the assessment.
- If not already disclosed on the organization's website, information about the type of data collected for the AEDT, the source of such data, and the organization's data retention policy shall be available within 30 days upon written request by a candidate. Alternatively,

the organization must provide an explanation to the candidate or employee why disclosure of such information would violate local, state, or federal law or interfere with a law enforcement investigation.

Penalties for organizations that fail to comply with NYC LL 144-21 include a civil penalty of \$500 for a first violation and each additional violation occurring on the same day as the first violation and a penalty between \$500 and \$1,500 for each subsequent violation. Each day an organization uses an AEDT in violation of NYC LL 144-21 and fails to provide any required notice to an employee or candidate shall constitute a separate violation. For further details regarding the current rules, refer to the [Notice of Adoption](#).⁹



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Considerations regarding NYC LL 144-21



Considerations regarding NYC LL 144-21

Organizations continue to evaluate the implications of NYC LL 144-21. Additional stakeholders (e.g., academics, legal firms, etc.) also sought clarity regarding NYC LL 144-21's requirements. The New York City Department of Consumer and Worker Protection (DCWP) added new rules to implement the legislation and provide guidance to clarify requirements in NYC LL 144-21. To this end, the DCWP has solicited feedback regarding their proposal via public comments and held public hearings on [November 4, 2022](#),¹⁰ and [January 23, 2023](#),¹¹ to gather stakeholder input. Links to each round of public comments are included on the respective hearing date.

As of the date of publication of this document, the enforcement of this law has been postponed from the originally announced date of January 1, 2023, to **July 5, 2023**.



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Considerations regarding NYC LL 144-21

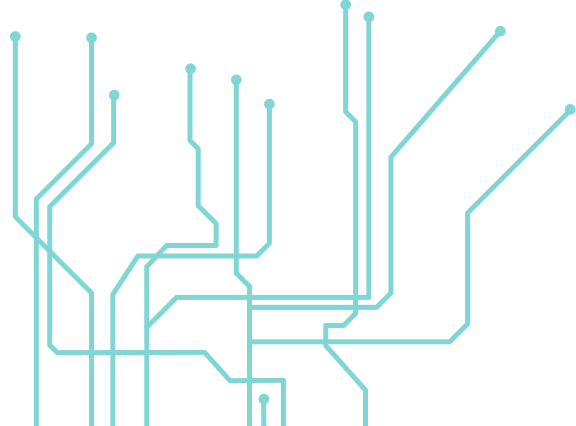
Key considerations or areas for clarification from stakeholders include but are not limited to:

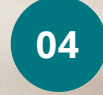
- Types of models and applications that fall under the proposed definition of an AEDT.
- Independence requirements for parties performing bias audits.
- Scope of a bias audit (i.e., employer or vendor, evaluate effectiveness of underlying model(s), or include internal control environment).
- Criteria to measure disparate impact and assess bias (e.g., selection rates and impact ratios).
- Intersectionality of characteristics (i.e., analyzing impact on compound characteristics such as age and gender as opposed to age on a stand-alone basis) when measuring disparate impact and assessing bias and appropriate sample sizes for relevant categories.

- Appropriate data sets to use as part of the bias audit, including cases where underlying models are trained based on data sets from outside New York City.
- Requirements of existing privacy laws, such as General Data Protection Regulation, and impact on availability of historical data.
- Coordination, including sharing data, between AEDT providers and employers.

On April 6, 2023, the DCWP issued a [Notice of Adoption](#)¹² with the final new rules and additional guidance to clarify the requirements in NYC LL 144-21.

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What organizations can do now

What organizations can do now

While there are still questions related to NYC LL 144-21, there are several practices that organizations using an AEDT can consider to be proactive and prepared for the law going into effect:

- **Identify any AEDTs in current use or planned for future use** and determine if they substantially assist or replace discretionary decisions related to employment. This step may include identifying service providers involved in the development of relevant AEDTs and coordinating with them to obtain relevant information to comply with the proposed requirements.
- **Develop an inventory of identified AEDTs to categorize and track AEDTs**, including where and how AEDTs are used, and a process for tracking updates. Organizations can then use the inventory to assist them in identifying, assessing, and tracking risks for

their AEDTs and ongoing compliance with the proposed law. Organizations may also find it helpful to include an AEDT owner, developer (internal or external), and users; type of algorithm; status of the AEDTs, frequency of testing, and results; as well as when and which version was last audited.

- **Identify data used by the AEDT(s) and other candidate or employee data retained by the organization** and assess if the organization needs to retain additional data to perform the proposed impact calculations. This may include performing a “dry run” of the proposed calculations and drafting the proposed disclosures to identify potential gaps prior to an independent party performing the bias audit.
- **Coordinate with human resources and legal functions/departments** to prepare or adapt necessary disclosures to comply with the proposed requirements.

Looking to the future:

Government and regulatory bodies, including the DCWP, will likely continue to focus on AEDTs and refine requirements and supporting guidance. As the regulatory environment continues to mature and automated decision systems, including AEDTs, harness increasingly complex models (e.g., machine learning), requirements around bias audits or impact assessments and transparency disclosures will likely expand. In addition to the practices to address the current proposed requirements for NYC LL 144-21, there are more holistic practices around governance, model development and testing, and the review function that can provide a strong foundation for organizations, especially those involved in developing automated decision systems, to prepare for potential expanded requirements around the use of automated decision systems, including AEDTs, as the regulatory environment continues to evolve. We have included several leading practices for organizations to consider on the following pages.



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What organizations can do now

Governance:

- **Implement a governance model** over automated decision systems that includes leading practices, relevant frameworks, and regulations. The adoption of an appropriate framework, such as [Trustworthy AI™](#),¹³ is important in addressing risk considerations such as fairness, bias, and transparency.
- **Organizations may have preexisting governance frameworks, policies, and testing procedures that can be leveraged or adapted.** Many organizations have adopted a “three lines of defense” model (i.e., management or model/process owners, risk management, and internal audit) to address model and operational risk. Professionals across the existing three lines can be leveraged to effectively oversee, evaluate, and monitor AEDTs.

Model development and testing:

- **Develop AEDTs and underlying models in a secure environment** with access controls coupled with an established change control process to prevent unauthorized or inappropriate changes to underlying models. Model owners (i.e., first line of defense) may have a formal model development test plan that defines thresholds or considerations to evaluate test results. Common components of a model development test plan include but are not limited to:
 - Procedures and controls to confirm internal/external data inputs for bias, completeness, and consistency.
 - Data proxies that are identified, justified, and tested for bias. Any data adjustments are tracked and analyzed to assess impact to underlying models.
 - Sensitivity analysis to understand underlying model output responsiveness to changes in certain variables or parameters.

- **A robust, ongoing monitoring process** should track performance of AEDTs on a regular basis. This process includes controls over the input data as well as the output of underlying models to assess operational execution and accuracy. In addition, developers need to monitor the sensitivity and stability of the underlying models.
- **Documentation of an organization’s governance, development, and testing of AEDTs** is a good practice and can also support the performance of a bias audit. Quality documentation is typically comprehensive and clearly articulates the model methodology, data sources, how the data is used, assumptions, limitations of models, ongoing monitoring and testing plans, as well as results. An auditor will likely need to review the organization’s documentation to support their procedures.



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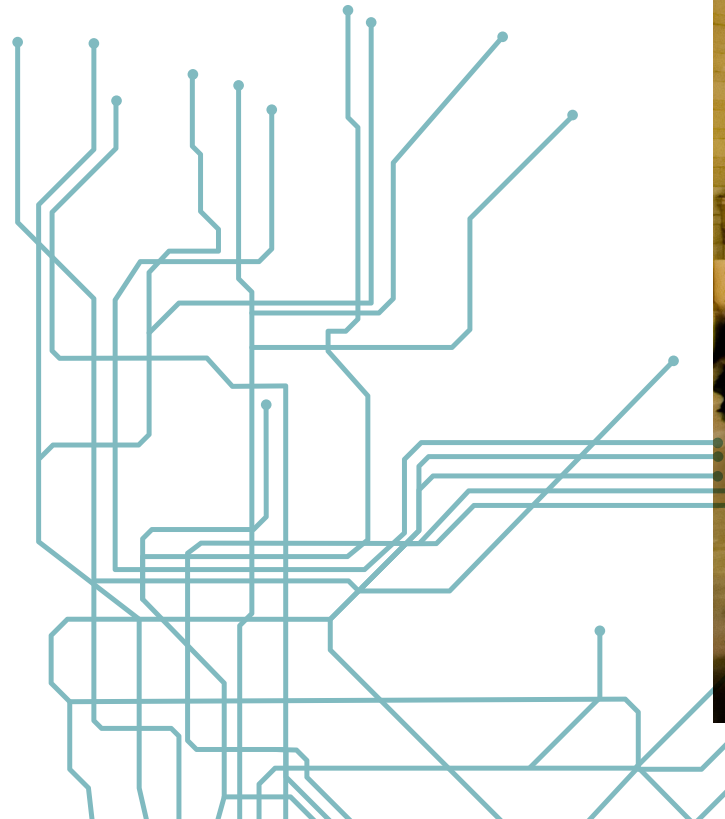
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What organizations can do now

Review function:

- **An effective second line of defense to review and test AEDTs** typically consists of individuals who have the authority to challenge developers and elevate findings for timely resolution but have not been involved with the development of the AEDT.
- **Evaluate changes to governance and policies, performance of AEDTs, and ongoing testing results, as well as remediation of gaps or deficiencies in related controls and processes as part of an ongoing monitoring plan.** Relevant stakeholders (e.g., human resources, business unit leaders, risk management, legal, internal audit, privacy and cybersecurity, etc.) across the organization need to be aware of the results of the monitoring plan.

- **Evaluate the adequacy of testing and identify any gaps in the testing plan.** Common sources of gaps in testing plans include but are not limited to newly identified risks, new requirements or regulations, and existing procedures and controls that do not sufficiently address the risk(s).





What organizations can do now

Deloitte & Touche LLP continues to monitor the regulatory environment and can help organizations prepare for potential bias audits and respond to current proposed requirements regarding automated decision systems as well as strengthen overarching practices for governance, model development and testing, and the review function.

Our capabilities include the following:

- **Strategy and governance:**
Assist management in establishment of risk management strategy and governance structure to manage risks, promote accountability, and enable compliance.
 - Appropriate oversight by executive leadership, the board, and enterprise risk functions
 - Organizational structures in place to coordinate and manage risks for bias
 - Policies, procedures, and guidance exist to ensure accountability and integration of controls in operational processes
- **Design, development, deployment, and use:**
Assist management in development and implementation of AI and ML model risk processes, tools, and controls to address risks throughout the data and product development life cycle.
 - Appropriately designed AI risk management protocols, tools, and controls
 - Effective integration into product/model development processes, and supporting documentation
 - Training and guidance on ethical AI practices
- **Monitoring, testing, and validation:**
Objective assessment of automated decision systems, including AI enabled systems, models, and data, for bias.
 - Bias assessment and testing procedures related to regulatory requirements
 - Effectiveness assessment and validation of AI models, systems, and related controls



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Endnotes

- ¹ California Civil Rights Council, “Proposed Modifications to Employment Regulations Regarding Automated-Decision Systems,” July 28, 2022.
- ² Colorado Senate Bill 21-169, “Concerning Protecting Consumers from Unfair Discrimination in Insurance Practices Act,” July 6, 2021.
- ³ Commonwealth of Massachusetts, 2021 MA House No. 4029, “An Act Relative to Algorithmic Accountability and Bias Prevention,” July 29, 2021.
- ⁴ State of New Jersey, Assembly no. 4909, 220th Leg., “An Act Concerning the Use of Automated Tools to Assist with Hiring Decisions and Supplementing Title 34 of the Revised Statutes,” December 5, 2022.
- ⁵ Council of the District of Columbia, “Stop Discrimination by Algorithms Act of 2023,” B25-0114, introduced February 2, 2023.
- ⁶ US Equal Employment Opportunity Commission (EEOC), “Draft Strategic Enforcement Plan for 2023–2027,” 88 FR 1379, January 1, 2023.
- ⁷ The White House, *Blueprint for an AI Bill of Rights*, accessed May 2023.
- ⁸ National Institute of Standards and Technology (NIST), *Artificial Intelligence Risk Management Framework (AI RMF 1.0)*, January 2023.
- ⁹ New York City Department of Consumer and Worker Protection (DCWP), “Notice of Adoption of Final Rule,” April 6, 2023.
- ¹⁰ DCWP, “Automated employment decision tools,” November 4, 2022.
- ¹¹ DCWP, “Automated employment decision tools (updated),” January 23, 2023.
- ¹² DCWP, “Notice of Adoption of Final Rule.”
- ¹³ Deloitte, “Trustworthy AI™,” accessed May 10, 2023.



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