



Automated Decision Systems Procurement and Use Guidance

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Introduction

This guidance was created by Washington Technology Solutions (WaTech) pursuant to the [Governor's directive](#) to develop guidance on the development and procurement of automated decision systems (ADS).

Automated decision systems may have different meanings to different stakeholders. In the 2021-23 biennial operating budget, the Washington state Legislature provided one-time funding to the Office of the Chief Information Officer (OCIO) to convene a workgroup and produce a report related to the adoption and use of automated decision systems in the state. Due to the nature of automated decision systems and the increasing adoption of emerging technology in government, it is important these types of systems are deployed in a fair, transparent, and accountable manner and do not improperly advantage or disadvantage Washington residents. This document is meant to be a resource for Washington agencies to use when developing or procuring ADS.

This document provides a high-level overview of principles of ongoing monitoring of ADS but is not meant to act as guidance for the entire ADS lifecycle. This guide does not represent the legal opinion of any Washington state agency, including the Attorney General's Office. Readers should not rely on information in this guide regarding specific applications of the laws without seeking legal counsel.

Automate Decision Systems must be deployed in a fair, transparent, and accountable manner that does not improperly impact the public.

Relevant legal and regulatory requirements

All ADS implementation development or procurement guidance shall defer to and work in concert with procurement rules and laws in Washington including but not limited to [Chapter 39.26 RCW](#) and Washington Department of Enterprise Services procurement [policies and rules](#).

Implementation considerations

This document includes a series of recommendations that should be considered when evaluating the development or procurement of automated decision systems. The [ADS Workgroup documented recommendations](#) based on its discussions and review of a designated Washington ADS. These recommendations include activities that should take place throughout the lifecycle of use by an agency for the ADS. For purposes of this procurement guidance, the recommendations are organized into three different phases:

1. Requirements development.
2. Procurement and development.
3. Ongoing monitoring.

The purpose of this document is to provide procurement guidance that aligns with the ADS Workgroup recommendations and the state's guidelines for purposeful and responsible use of artificial intelligence. This guidance includes general descriptions on implementation, with example language when possible.

In determining whether to proceed with the development or procurement of an ADS, agencies should exercise discretion and flexibility. In doing so, agencies should consider the risks and goals of using ADS, which are described in the Core Concepts section of the guidance. With these considerations in mind, agencies should consider the appropriateness of progressing with the development or procurement of ADS. As such, agencies should keep in mind that:

- ADS technologies - including production version releases - may change capabilities over the course of time.
- Changes in ADS technology capabilities may change associated risks for both the agency and Washington residents, which could change review or approval requirements for development, procurement, or usage of particular ADS.
- WaTech may adjust and update this ADS procurement and use guidance based on updated government and industry research, experiences, or legal requirements.
- Agencies should be ready to be descriptive in their assessments and are encouraged to seek support and guidance from WaTech.

Core concepts

Definition of ADS

For purposes of this ADS Procurement and Use Guidance, the following definition of an automated decision system shall be used:

- “Automated decision system” means any algorithm, including one incorporating machine learning or other artificial intelligence techniques, that uses data-based analysis or calculations to make or support government decisions, judgements, or conclusions that cause a Washington resident to be treated differently than another Washington resident in the nature or amount of governmental interaction with that individual including, without limitation, benefits, protections, required payments, penalties, regulations, timing, application, or process requirements. (Chapter 334, Laws of 2021, Sec.151(14).)

Goals of using automated decision systems

There are several goals of using automated decision systems, including:

- Efficiencies: ADS may assist governmental entities in streamlining processes and making administrative decisions more quickly and efficiently.
- Cost savings: ADS may reduce costs by reducing the time necessary to record data collected, conduct calculations, and make decisions.
- Reducing the biases and inaccuracies of current systems: While ADS may introduce and reinforce bias, they also potentially provide an opportunity to address them.
- Improving delivery of public services: ADS may help the public receive improved and more accessible services.

Risks

Conversely, there are several risks of using automated decision systems:

- Discrimination: Automated decision systems may reproduce existing patterns of discrimination that are already present in our society.

- **Inaccuracies:** Automated decision systems may reproduce and could exacerbate existing inaccuracies and biases and may be more inaccurate than human decision-makers.
- **Automation Bias:** Humans tend to place too much trust in automated decisions and their suggestions and ignore contradictory information made without automation. Humans may overestimate the accuracy of decision support and decision-making systems that may be as, or more, error-prone than human decision-makers. Automation bias may obfuscate and exacerbate biased and inaccurate decision-making.
- **Non-transparency:** It is difficult or impossible for individuals to know if an automated decision system is being used, how that system operates, and the impacts of the system on individuals and society.
- **Lack of explainability:** Some automated decision systems are very difficult to explain in clear and concise language that would be understandable to those auditing the system or those potentially impacted by their use. This risk may be especially prevalent when an automated decision tool is procured through a third-party vendor.
- **Lack of accountability:** Individuals who are affected by automated decision systems may not have the ability to meaningfully challenge a system's decisions. Governmental entities that adopt automated decision systems may not consult the individuals and communities that may be affected by use of those systems and may not have a human-centered dispute resolution process.
- **Threats to privacy:** Large amounts of data about individuals are often used to train automated decision systems (both simple and complex) to transform inputs into decisions or suggestions. Individuals may not understand or have given consent for their data to be used for such a purpose. Additionally, automated decision systems can be used as surveillance tools.
- **Threats to legitimacy and public trust:** Use of automated decision systems undermine the legitimacy and public trust of governmental entities when such entities re-delegate their decision-making responsibilities to unaccountable and nontransparent systems.

Washington State Agency Privacy Principles

The Washington State Agency Privacy Principles serve as a framework to guide state agencies in protecting the privacy and security of personal information they collect and maintain. These principles were developed to address the growing concerns surrounding data privacy and ensure that individuals' personal information is handled with care and transparency. Applying these principles helps agencies balance the risks and goals of systems processing personal information, including ADS. Along those lines, these principles promote accountability, transparency, and the responsible use of personal data by state agencies.

1. **Lawful, fair, and responsible use:** The collection, use and disclosure of information is based on legal authority, not deceptive, not discriminatory or harmful, and relevant and reasonably necessary for legitimate purposes.
2. **Data minimization:** The minimum amount of information is collected, used, or disclosed to accomplish the stated purpose for collecting the information.
3. **Purpose limitation:** The reasons for gathering information are identified before it is collected. Use and disclosure is limited to what is reasonably necessary in relation to the specific reasons the information was collected.
4. **Transparency and accountability:** Transparency means being open and transparent about what personal information is collected, for what purposes, and who it is shared with under what circumstances. Accountability means being responsible and answerable for following data privacy laws and principles.
5. **Due diligence:** Taking reasonable steps and exercising care before and after entering into an agreement or arrangement with a third party that includes sharing personal information.
6. **Individual participation:** Give people control of their information when possible.
7. **Security:** Appropriate administrative, technical and physical security practices to protect the confidentiality, integrity, availability and control of personal information.

The Washington State Agency Privacy Principles aim to establish a culture of privacy and data protection within state agencies, promoting trust and confidence among individuals whose personal information is collected. By adhering to these principles, state agencies can ensure the responsible handling of personal data while balancing the need for data-driven decision-making and public service delivery which may use ADS.

ADS guiding principles

Automated decision systems may use or rely on some form of artificial intelligence (AI). The intention of the state of Washington is to follow the principles in the National Institute of Standard and Technology (NIST) AI Risk Framework, which serve as the basis for the purposeful and responsible use of artificial intelligence. A foundational part of the [NIST AI Risk Framework](#) is to ensure the trustworthiness of systems that use AI, which includes automated decision systems. The guiding principles are:

- **Safe, secure, and resilient:** ADS should be used with safety and security in mind, minimizing potential harm and ensuring that systems are reliable, resilient, and controllable by humans. ADS used by state agencies should not endanger human life, health, property, or the environment.
- **Valid and reliable:** Agencies should ensure ADS use produces accurate and valid outputs and demonstrates the reliability of system performance.
- **Fairness, inclusion, and non-discrimination:** ADS must be developed and used to support and uplift communities, particularly those historically marginalized. Fairness in ADS includes concerns for equality and equity by addressing issues such as harmful bias and discrimination.
- **Privacy and data protection:** ADS should be used to respect user privacy, ensure data protection, and comply with relevant privacy regulations and standards. Privacy values such as anonymity, confidentiality, and control generally should guide choices for ADS design, development, and deployment. Privacy-enhancing systems should safeguard human autonomy and identity where appropriate.

- **Accountability and responsibility:** As public stewards, agencies should use ADS responsibly and be held accountable for the performance, impact, and consequences of its use in agency work.
- **Transparency and auditability:** Acting transparently and creating a record of ADS processes can build trust and foster collective learning. Transparency reflects the extent to which information about an ADS system and its outputs is available to the individuals interacting with the system. Transparency answers “what happened” in the system.
- **Explainable and interpretable:** Agencies should ensure ADS use in the system can be explained, meaning “how” the decision was made by the system can be understood. Interpretability of a system means an agency can answer the “why” for a decision made by the system, and its meaning or context to the user.
- **Public purpose and social benefit:** The use of ADS should support the state’s work in delivering better and more equitable services and outcomes to its residents.

ADS procurement guidance

Phases

1. Requirements Development.
2. Procurement & Development.
3. Ongoing Monitoring.

Requirements development

The Requirements Development phase refers to the initial stage of the process where an assessment is conducted before the system's development or procurement. It involves evaluating the reasons for adopting the system and identifying the associated risks in its design and implementation. This phase focuses on considering factors such as the system's benefits in fulfilling the agency's mission and societal goals, identifying risks for potential inaccuracies, biases, or disproportionate effects, considering the system's needed security against data disclosure or manipulation, and assessing its potential impact on public trust. The phase also emphasizes the importance of providing opportunities for public participation, documenting the process and decisions transparently, and exercising caution in adopting new systems that lack testing

for bias or accuracy. This phase sets the foundation for informed decision-making and paves the way for subsequent development or procurement stages.

Procurement & development

The Procurement and Development phase refers to the stage in which the system is either built or acquired for implementation. During this phase, careful consideration is given to the system's design, functionality, and the procurement process involved. It entails translating the identified requirements and objectives into a tangible system, ensuring that it aligns with the intended purpose and adheres to applicable guidelines and regulations. This phase involves activities such as system development, vendor selection, contract negotiation, and the establishment of technical specifications and implementation plans. It also includes conducting thorough testing and validation to assess the system's performance, accuracy, and potential biases before its deployment. The Procurement phase is critical in ensuring that the automated decision system is properly designed, sourced, and prepared for subsequent operational phases.

Ongoing monitoring

The Ongoing Monitoring phase refers to the continual process of observing, evaluating, and assessing the system's performance, outcomes, and adherence to established standards. It involves the regular monitoring of system outputs, data inputs, and decision-making processes to identify any potential issues, biases, inaccuracies, or unintended consequences. This phase includes the collection and analysis of relevant data, such as audit trails, to evaluate the system's effectiveness, fairness, and reliability over time. Ongoing monitoring also involves comparing the system's outcomes against desired goals and benchmarks to ensure its alignment with organizational objectives and societal values. Additionally, it may encompass periodic assessments, independent audits, and stakeholder engagement to promote transparency, accountability, and ongoing improvement of the ADS. The monitoring phase aims to maintain the system's integrity, address emerging challenges, and facilitate necessary adjustments and enhancements to optimize its performance and mitigate potential risks. Ongoing monitoring and updated testing and assessments should be required when substantive system modifications or changes in the ADS use occur.

ADS procurement activities

Ten activities should be completed during the procurement or deployment of an automated decision system. As shown in the chart below, some of these activities are tied to a specific phase, while others span two or three phases. These tasks should be considered throughout the ADS lifecycle but are not exhaustive or exclusionary of other considerations. The activities include:

1. Prioritization.
2. Evaluation of whether to adopt system.
3. Updated assessments.
4. Periodic testing.
5. Transparency of the algorithm.
6. Audit trails.
7. Training on automation basis.
8. Evaluation of risks/determination whether to proceed.
9. Review of decisions by those affected.
10. Weighing advantages against known bias or inaccuracies.

ADS Procurement Activities Table

	Phases	Requirements development	Procurement & development	Ongoing monitoring
1.	Prioritization.	✓	✓	✓
2.	Evaluation of whether to adopt system.	✓		
3.	Updated assessments.			✓
4.	Periodic testing.			✓
5.	Transparency of the algorithm.	✓	✓	✓
6.	Audit trails.	✓	✓	✓
7.	Training on automation basis.	✓	✓	✓

8.	Evaluation of risks/determination whether to proceed.	✓	✓	✓
9.	Review of decisions by those affected.	✓	✓	✓
10.	Weighing advantages against known bias or inaccuracies.		✓	✓

Purpose of ADS activities

The purpose of the ten activities for ADS procurement or deployment is to mitigate the risk and help achieve the goals of using automated decision systems. This generally includes practices such as:

- An evaluation of whether it is appropriate for governmental entities to use the automated decision system. Depending on system impacts, this evaluation should incorporate public participation and comment.
- Independent testing for bias and inaccuracy.
- Transparency so that the public knows that an ADS is being used and understands information about the system and its use.
- Accountability so that the public may meaningfully engage and allow individuals to seek redress when impacted by an ADS.

Description of Activities

This section provides a description of the automated decision systems procurement activities identified above and the phase of the ADS procurement lifecycle each activity should be performed.

- **Prioritization:** Government organizations need to establish a framework (See example framework in Appendix B) that guides the allocation of resources to address both procurement and deployment of ADS. This prioritization framework considers various criteria to determine resource allocation. These criteria may include factors such as the significant impact on identified or identifiable individuals, the scale of influence on many individuals, the potential for high error risks (especially for systems lacking transparency, bias testing, or accuracy assessment), the agency's discretion in creating the algorithm, and the level of automation with opportunities for human review. It is important for agencies to refrain from using the prioritization framework as a justification for neglecting the examination of a priority system. Moreover, when the ADS significantly affects individuals, the governmental entity should make its prioritization framework of the ADS available to the public.

Phase(s):

- Requirements development.
 - Procurement & development.
 - Ongoing monitoring.
- **Evaluation of whether to adopt system:** Before acquiring, creating, or employing an ADS, the government organization must conduct an evaluation of the rationale behind adopting such systems and the associated risks related to their design and implementation. This assessment should leverage and optimize the existing procurement process to ensure the most effective use of resources. The evaluation should consider the following:
 - Assessing how the system contributes to the agency's mission and societal objectives.
 - Conducting tests to identify any potential inaccuracies, biases, or disproportionate effects arising from the system or the data sources used in its design. If such issues are recognized, identify appropriate measures that should be taken to address them.
 - Ensuring the system's resilience against unauthorized data disclosure or malicious manipulation.

- Determining whether the use of an ADS for decisions may adversely impact the public's trust in the actions of the Washington state government.
- Providing opportunities for public participation, including informing the public about the risks and benefits associated with the system and soliciting meaningful input from affected individuals and communities regarding its adoption and design.
- Documenting the process and decisions in a manner that enables future review while maintaining transparency for the public.
- Exercising extreme caution when considering the adoption of any new system that will impact individuals' rights and freedoms that has not undergone bias or accuracy testing, and ensuring that the testing process includes appropriate disclosures to facilitate independent review by members of the public or independent entities.

By thoroughly evaluating these factors, the governmental entity can make informed decisions regarding the acquisition, development, and usage of ADS, prioritizing transparency, accountability, and public trust.

Phase:

- Requirements development.
- **Updated assessments:** The evaluation of the ADS employed in procurement or development should be periodically reviewed and re-evaluated whenever there are subsequent modifications made to the ADS itself or to the data collection process (including new training data) that informs the algorithm. These updates and reassessments must be conducted in a transparent manner, ensuring that the public is kept informed of any changes.

Phase:

- Ongoing Monitoring
- **Periodic testing:** It is important to establish a process, ideally through a third-party audit, to regularly test the performance of the automated decision system while it is in use. This periodic testing aims to identify any indications of inaccuracies, biases, or unequal outcomes that may arise from the system. If such tendencies are detected, they should be promptly addressed, or if there are reasons for not addressing them, those reasons must be clearly explained in detail. The entire process and the subsequent testing results should be transparent and made available to the public. The establishment of a regular testing process, testing, and transparency of

results ensures the fairness and accountability of the system's implementation by the government.

Phase:

- Ongoing Monitoring
- **Transparency of the algorithm:** Unless there are strong justifications indicating otherwise, it is recommended that the algorithms and source code of the ADS should be made available for public scrutiny. This allows the actual algorithm to be accessible and reviewed by the public. However, certain compelling reasons may exist to restrict the release, such as cases where there is a clear and demonstrable threat to governmental integrity or a significant risk that individuals may exploit the system, leading to a factual-based threat to governmental integrity or a significant cybersecurity risk. In situations where commercial or government interests justify the restriction of algorithm or source code disclosure, thorough third-party evaluations should be conducted to assess the potential risks of inaccuracy or bias. It's important to note that while reviewing the algorithm and source code is important, it cannot serve as a substitute for comprehensive testing to identify any inaccuracies or biases in the design and implementation of the ADS.

Phase(s):

- Requirements development.
- Procurement & development.
- Ongoing monitoring.
- **Audit trails:** The ADS should produce audit trails that document the facts and rules used in its decision-making process. This enables the governmental entity to furnish individuals with the rationale behind the ADS's determinations and simplifies potential future scrutiny of those decisions. The recorded information should also be accessible to third-party researchers, granting them the opportunity to conduct impartial assessments of the system's accuracy and potential biases.

Phase(s):

- Requirements development.
- Procurement & development.
- Ongoing monitoring requirements development.
- **Training on automation bias:** Individuals engaged in the procurement, development, or operation of ADS should undergo training that explicitly

addresses the concept of automation bias. Automation bias is an over-reliance on automated aids and decision support systems. As the availability of automated decision aids increases, it is a human tendency to rely on system outputs without question. Training on automation bias makes the workforce aware of these tendencies to mitigate against harmful or biased system outputs.

Phase(s):

- Requirements development.
 - Procurement & development.
 - Ongoing monitoring.
- **Evaluation of risks/determination whether to proceed:** Before deploying the ADS, and whenever there is a discovery of potential inaccuracies or biases, the governmental entity must assess whether the risks and impacts of such inaccuracies or biases on individuals and the potential erosion of public trust are significant enough to warrant not using the system. In making this determination, input from the individuals who will be impacted by the system should be considered along with other risks or harmful impacts that could emerge. The final decision should be clearly outlined in written form, transparent, and made available to the public.

Phase(s):

- Requirements development.
 - Procurement & development.
 - Ongoing monitoring.
- **Review of decisions by those affected:** Individuals impacted by a decision made or facilitated by an automated decision system should have the ability to examine and question the underlying foundation of that decision, especially in cases where the impacts to rights or responsibilities of individuals are significant. Part of the requirements development phase and development and procurement phase should include an evaluation of whether the ADS will be making decisions that impact the rights and freedoms of individuals. If so, the ability to perform decision review should be part of those procurement phases as well as the ongoing monitoring phase for actual review.

Phase(s):

- Requirements development.
- Procurement & development.

- Ongoing monitoring.
- **Weighing advantages against known bias or inaccuracies:** While acknowledging the significance of the benefits generated by automated decision systems, it is essential to prioritize the prevention of harm to individuals caused by known or potential biases or inaccuracies. When weighing the advantages of benefits against the potential harm to natural persons, the avoidance of harm should be assigned considerably greater importance.

Phase(s):

- Development & procurement.
- Ongoing monitoring.

Government organizations should assess the extent to which the acquisition and deployment of their ADS adheres to the ADS Guiding Principles and Washington State Privacy Principles. If it is discovered that the procurement or implementation of a system fails to align with these principles, the governmental entity should identify the reasons for such non-alignment and take suitable actions based on prioritization principles.

Actions or controls to take for activities

Each table below correlates to an activity described above. For each activity there are actions or controls that agencies can take to mitigate risks and align to the Washington State Agency Privacy Principles and ADS Guiding Principles for purposeful and responsible use of automated decision systems. There may be additional risks and principles addressed by controls agencies choose to undertake with activities, but the tables help identify predominant risks and principles.

As ADS are used, state agency staff should continue to work with WaTech technology and privacy staff regarding implicated risk for the state and its residents. Agency staff should complete and update its ADS inventory to maintain a comprehensive record of ADS used throughout the state. To complete a record of ADS refer to Appendix A for questions to identify and assess the ADS and its use to the agency in performing work for Washington.

1. PRIORITIZATION			
Action or Control	Notes	Risk Addressed	Principles
Consider the cost-benefit analysis of procuring or developing an ADS system.		Lack of accountability.	Due diligence. Accountability & responsibility.
Consider operational benefits of procuring or developing an ADS system.		Lack of accountability.	Due diligence. Accountability & responsibility.
Use Prioritization Matrix.		Non-transparency. Lack of accountability.	Purpose limitation. Accountability & responsibility.

2. EVALUATION OF WHETHER TO ADOPT SYSTEM			
Action or Control	Notes	Risk Addressed	Principles
Consider whether ADS is able address the identified problem or issue.	Has the agency defined a clear purpose in using the identified ADS system?	Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Lawful, fair and responsible Use Purpose limitation. Transparency & accountability. Public purpose & social benefit. Safe, secure, resilient. Fairness, inclusion, and non-discrimination.
Consider whether there is agency leadership support for utilization of the ADS system.	Has agency leadership defined clear goals and success criteria for adoption of the ADS system?	Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Public purpose & social benefit. Safe, secure, resilient. Fairness, inclusion, and non-discrimination.

	<p>Have responsibilities of stakeholders involved in adoption of ADS systems been delineated and communicated to those stakeholders:</p> <ul style="list-style-type: none"> - Business staff. - Technical staff. - Executive/strategic level staff. 	<p>Non-transparency. Lack of accountability. Threats to legitimacy and public trust.</p>	<p>Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Public purpose & social benefit.</p>
	<p>Differentiate between technical and data protection risks.</p>	<p>Discrimination. Inaccuracies. Lack of accountability. Threats to privacy.</p>	<p>Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Fairness, inclusion, and non-discrimination. Privacy and data protection. Transparency & auditability.</p>
<p>Consider level of agency human worker involvement in ADS system decision-making.</p>	<p>Human worker involvement/interaction:</p> <ul style="list-style-type: none"> - Human worker-in-the-loop (human decision-making supports the process). - Human worker-out-of-the-loop (human decision-making is not part of the algorithm). - Human worker-over-the-loop (human intervention may occur in the decision-making process). 	<p>Human-based errors. Discrimination. Inaccuracies. Non-transparency. Lack of explainability.</p>	<p>Transparency & accountability. Valid and reliable. Safe, secure, resilient. Fairness, inclusion, and non-discrimination.</p>
	<p>Factors to consider:</p> <ul style="list-style-type: none"> - Risk tolerance - what is the risk tolerance of the agency for human worker involvement/interaction with ADS system decision-making. - Constituent user-experience - is the constituent's user-experience enhanced or reduced by the involvement/interaction by a human worker in the ADS system user flow. - Operational cost - what is the cost-benefit of a human worker involving/interacting with an ADS system. 	<p>Human-based errors. Discrimination. Inaccuracies. Non-transparency. Lack of explainability.</p>	<p>Transparency & accountability. Explainability & interpretable. Accountability & responsibility.</p>

3. UPDATED ASSESSMENTS

Action or Control	Notes	Risk Addressed	Principles
<p>Assess or re-evaluate ADS if significant modifications made to system.</p>		<p>Non-transparency. Lack of accountability. Threats to legitimacy and public trust.</p>	<p>Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Transparency & auditability. Accountable & responsible.</p>
<p>Assess or re-evaluate ADS if subsequent changes are made to data collection process.</p>		<p>Non-transparency. Lack of accountability.</p>	<p>Lawful, fair and responsible use. Purpose limitation.</p>

		Threats to legitimacy and public trust.	Transparency & accountability. Privacy and data protection. Accountable & responsible.
Assess or re-evaluate ADS if significant changes are made to training data that informs algorithm.		Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Valid and reliable. Accountability and responsibility.

4. PERIODIC TESTING

Action or Control	Notes	Risk Addressed	Principles
Develop evaluation and testing plan for ADS.		Lack of accountability. Non-transparency. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Accountability and responsibility.
Create process for periodic testing.		Automation bias. Inaccuracies. Discrimination.	Lawful, fair, and responsible use. Privacy and data protection. Valid and reliable.
Implement plan and use independent third-party to evaluate risk.	Most likely to use independent third parties for high-risk ADS.	Automation bias. Inaccuracies. Discrimination.	Due diligence. Valid and reliable. Privacy and data protection.
Publish results.		Non-transparency. Threats to legitimacy and public trust.	Transparency & accountability. Transparency & auditability. Accountability and responsibility.

5. TRANSPARENCY OF ALGORITHM

Action or Control	Notes	Risk Addressed	Principles
Consider whether the ADS has a data model developed or if the agency needs to develop a data model.	If the agency needs to develop a data model for evaluation, development and/or procurement of the ADS system, utilize the agency designated data scientist and/or liaise with the WaTech OPDP office for guidance.	Discrimination. Inaccuracies. Automation bias. Non-transparency. Lack of explainability.	Data minimization. Purpose limitation. Transparency & accountability. Transparency & auditability. Valid and reliable. Explainable & interpretable.

	If the data model exists, does it conform to the Washington State Agency Privacy Principles and the Washington Privacy Framework?	Threat to privacy.	Data minimization. Purpose limitation. Transparency & accountability. Privacy and data protection.
	If constituent data is used to develop data model, did the agency review the responses to minimize false, misleading or inaccurate responses?	Discrimination. Inaccuracies. Automation bias. Non-transparency. Lack of explainability.	Data minimization. Purpose limitation. Transparency & accountability. Privacy and data protection. Safe, secure, and resilient.
Consider relevant features or functionalities that have greatest impact on the agency constituents affected by the ADS system.	Have features or functionalities that will improve trust with the agency been identified?	Threats to legitimacy and public trust.	Lawful, fair and responsible use. Data minimization. Purpose limitation. Accountability & responsibility.
	Have features or functionalities that will reduce trust/harm reputation of the agency been identified?	Threats to legitimacy and public trust.	Lawful, fair and responsible use. Data minimization. Purpose limitation. Fairness, inclusion, and non-discrimination.
Has the algorithm of the ADS been assessed as valid by an independent third-party?		Inaccuracies. Non-transparency. Lack of explainability. Lack of accountability.	Transparency & accountability. Valid and reliable. Transparency & auditability.
Can the agency describe in "plain English" how the production version of the ADS system makes decisions?	Can reports be generated by provide detail on the explainability of ADS features and functionalities.	Non-transparency. Lack of explainability. Lack of accountability.	Transparency & accountability. Individual participation. Explainable & interpretable.
	Consider formally documenting and publishing an FAQ about the ADS system, including operational details of the decision-making model.	Non-transparency. Lack of explainability. Lack of accountability. Threats to legitimacy and public trust.	Transparency & accountability. Individual participation. Explainable & interpretable.

	Document potential limitations and gaps of the ADS decision-making model	Discrimination. Inaccuracies. Automation bias. Non-transparency. Lack of explainability.	Transparency & accountability. Accountable and responsible. Transparency & auditability.
If certain features or functions of the decision-making model cannot be explained in "plain English," consider conducting additional tests in pre-production environments and additional user-acceptance tests with constituents.	Hold forums for constituent feedback.	Lack of accountability. Threats to legitimacy and public trust.	Transparency & Accountability. Individual participation. Transparency & auditability. Fairness, inclusion, and non-discrimination.
	Work with technical staff to define different models of production implementation for testing against various constituent subpopulations against defined success criteria.	Human-based errors. Discrimination. Inaccuracies. Automation bias. Lack of explainability.	Transparency & accountability. Fairness, inclusion, and non-discrimination. Valid and reliable.
Consider updating agency privacy policy with information regarding use of ADS systems, including information collected and processed, and how decisions are made.	Link to a developed FAQ.	Non-transparency. Lack of accountability. Threats to privacy.	Transparency & Accountability. Individual participation. Transparency & auditability. Explainable and interpretable.
	Consider providing a just-in-time notice for constituents regarding the utilization of ADS.	Non-transparency. Lack of accountability. Threats to privacy.	Transparency & accountability. Individual participation. Accountable and responsible.
Consider updating data sharing agreements (DSAs) if ADS systems are used in the business-to-business relationship.	Refer to DSA implementation guidance.	Non-transparency. Lack of accountability. Threats to privacy. Threats to legitimacy and public trust.	Transparency & accountability. Due diligence. Privacy and data protection.

6. AUDIT TRAILS			
Action or Control	Notes	Risk Addressed	Principles
Consider establishing a knowledge management repository/database to record/archive relevant documents regarding developing or procuring ADS systems.	Consider documenting factors in making decision to develop/procure ADS system.	Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Due diligence. Transparency & auditability.
Formally document change management program for ADS systems.	Consider setting cadence of change management meetings for ADS systems.	Inaccuracies. Non-transparency. Lack of explainability. Lack of accountability.	Transparency & accountability. Security. Safe, secure, and resilient. Accountability and responsibility.
	Include assessment of implicated privacy risk per changes in change management program. Coordinate with WaTech.	Inaccuracies. Non-transparency. Lack of explainability. Lack of accountability.	Transparency & accountability. Security. Accountability and responsibility. Privacy and data protection.
Establish tracking and monitoring of role-based privacy-relevant training on automation bias and additional relevant data protection implications of using ADS.		Discrimination. Automation. Bias. Lack of explainability. Threats to privacy. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Transparency & accountability. Fairness, inclusion, and non-discrimination. Accountability and responsibility.
If the ADS system fails or flags a failure or discrepancy in the decision/projected answer, is there a pre-determined threshold? Consider how staff workers will be notified of this prior to a decision being made by the ADS.	Consider implications to business continuity plan.	Inaccuracies. Automation. Bias. Lack of explainability.	Lawful, fair and responsible use. Transparency & accountability. Security. Valid and reliable.
Consider developing formalized feedback loop with affected constituents.	Utilize feedback from constituents early in the development & procurement cycle to support identification of success criteria.	Lack of accountability. Threats to legitimacy and public trust.	Individual participation. Public purpose and social benefit. Fairness, inclusion, and non-discrimination. Accountability and responsibility.
	Review risk reduction/acceptance of feedback throughout development & procurement cycle.	Lack of accountability. Threats to legitimacy and public trust.	Individual participation. Accountability and responsibility.
	Document closed feedback loop; document report for publication.	Lack of accountability. Threats to legitimacy and public trust.	Individual participation. Fairness, inclusion, and non-discrimination. Accountability and responsibility.

7. TRAINING ON AUTOMATION BIAS			
Action or Control	Notes	Risk Addressed	Principles
Consider whether agency staff involved in the development and/or procurement of ADS systems have been trained on automation bias.		Discrimination. Inaccuracies. Automation bias. Lack of accountability.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Fairness, inclusion, and non-discrimination. Accountability and responsibility.
Consider whether agency staff involved in the development and/or procurement of ADS systems have been training on Washington State Agency Privacy Principles and the Washington Privacy Framework.		Lack of accountability. Threats to privacy.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Privacy and data protection.
Consider designating a specialized role with specific responsibilities regarding ethical and data protection issues of utilizing ADS systems within agency.	Alternatively, consider formalizing liaison relationship with WaTech OPDP for such guidance.	Human-based errors. Inaccuracies. Lack of explainability.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Fairness, inclusion, and non-discrimination. Accountability and responsibility.

8. EVALUATION OF RISKS/DETERMINATION WHETHER TO PROCEED			
Action or Control	Notes	Risk Addressed	Principles
Consider whether agency has ability to test and deploy ADS systems before production implementation.	Is there a sand-box, development, testing or QA environment that can be used to test implementation/integration of ADS system prior to production.	Inaccuracies. Non-transparency. Lack of explainability.	Lawful, fair and responsible use. Transparency & accountability. Safe, secure, and resilient. Valid and reliable.
	Is there an agreed-upon requirements and/or punch list that the ADS system should satisfy before moving to production?	Inaccuracies. Non-transparency. Lack of explainability.	Lawful, fair and responsible use. Transparency & accountability. Safe, secure, and resilient. Valid and reliable.

Consider conducting risk assessment.	Consider the following types of assessments: - Prioritization matrix (See Appendix B). - PTA. - PIA. - Impact assessment. - Washington Privacy Framework profile.	Human-based errors. Discrimination. Automation bias. Non-transparency. Lack of explainability. Lack of accountability. Threats to privacy.	Lawful, fair and responsible use. Transparency & accountability. Safe, secure, and resilient. Valid and reliable. Privacy and data protection. Accountability and responsibility.
Consider identification of risks to constituents if the ADS is implemented.	Consider risks to rights and freedoms to constituents.	Discrimination. Lack of explainability. Threats to privacy.	Lawful, fair and responsible use. Fairness, inclusion, and non-discrimination. Explainable and interpretable. Public purpose and social benefit.
Can identified risks be accepted, reduced, mitigated or remediated by the agency in accordance with defined success criteria?	Determine a review period for reassessment.	Lack of accountability.	Lawful, fair and responsible use. Transparency & accountability. Safe, secure, and resilient.
	Determine key performance indicators or a cadence of review of success criteria for implementation of ADS systems in production.	Lack of accountability.	Lawful, fair and responsible use. Transparency & accountability. Safe, secure, and resilient. Valid and reliable.
	Determine tracking and monitoring mechanisms for managing risks and success criteria.	Lack of accountability.	Lawful, fair and responsible use. Transparency & accountability. Safe, secure, and resilient.
	Consider updating Incident Response Plan, Business Continuity Plan and Disaster Recovery Plan given certain safety and operational features of particular ADS systems. Consider whether back-up systems or datasets need to be generated/configured if the ADS system fails or causes intolerable risk. Are necessary agency staff able to revert all control to human worker decision-making as needed?	Lack of explainability. Lack of accountability.	Lawful, fair and responsible use. Transparency & accountability. Security. Safe, secure, and resilient. Valid and reliable.

Can the integrity of decisions made by ADS systems be reviewed by state agency workers?	Does the ADS system flag or notify state agency workers of uncertainty in the answer/projected response to a series of data or information?	Human-based errors. Discrimination. Inaccuracies. Automation bias. Non-transparency. Lack of explainability.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Explainable and interpretable. Transparency & auditability.
	Does the ADS system permit the state agency worker to override the ADS answer/projected response?	Human-based errors. Discrimination. Inaccuracies. Automation bias. Non-transparency. Lack of explainability.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Safe, secure, and resilient. Accountability and responsibility.
Consider whether the testing environment accurately reflects the real-life production environment, including the constituent datasets.	If unsure, consider piloting a proof-of-concept release of the ADS with production datasets to evaluate decisions-made by ADS system for validity and success.	Human-based errors. Discrimination. Inaccuracies. Automation bias. Non-transparency. Lack of explainability.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Valid and reliable.
Are constituents able to opt-out of participation in the ADS system and still obtain benefits/services offered/administered by the agency?	What alternatives are available to constituents if they opt-out?	Discrimination. Inaccuracies. Non-transparency. Lack of accountability. Threats to privacy. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Privacy and data protection. Fairness, inclusion, and non-discrimination.
	Consider notification of opt-out implications.	Threats to privacy. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Purpose limitation. Transparency & accountability. Privacy and data protection. Fairness, inclusion, and non-discrimination.

9. REVIEW OF DECISIONS BY THOSE AFFECTED			
Action or Control	Notes	Risk Addressed	Principles
Has the agency identified the constituent populations that will be involved with and/or impacted by the deployment of the ADS system?		Discrimination. Lack of accountability. Threats to privacy. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Privacy and data protection. Fairness, inclusion, and Non-discrimination. Public purpose and social benefit.
Consider assessing risk of those affected at constituent-level by conducting user-testing.		Discrimination. Lack of accountability. Threats to privacy. Threats to legitimacy and public trust.	Individual participation. Fairness, inclusion, and non-discrimination. Public purpose and social benefit.
Consider implications of known vulnerabilities of target populations.		Human-based errors. Discrimination. Inaccuracies. Threats to privacy. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Fairness, inclusion, and Non-discrimination. Public purpose and social benefit.
Consider formally documenting and publishing an FAQ about the ADS system, including operational details of the decision-making model.	Include different components of the FAQ: - Dataset information. - Data model. - Human involvement in the ADS system. - Inferences and projections of the ADS system. - Impact of decisions-made by the ADS system. - Ability to appeal decisions-made by the ADS system.	Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Lawful, fair and responsible use. Transparency & accountability. Individual participation. Transparency and auditability.
Consider publishing outcomes of evaluation to develop/procure ADS system.		Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Transparency & accountability. Individual participation. Accountability and responsibility. Transparency and auditability.
Consider whether the agency should have a policy about publishing a report on agency development & procurement and/or utilization of ADS systems.	Liaise with WaTech Office of Privacy and Data Protection.	Non-transparency. Lack of accountability. Threats to legitimacy and public trust.	Transparency & accountability. Individual participation. Accountability and responsibility.

<p>Did the agency address usability problems and test whether user interfaces served intended purposes?</p>	<p>Consider developing formalized feedback loop with affected constituents.</p>	<p>Discrimination. Lack of accountability. Threats to privacy. Threats to legitimacy and public trust.</p>	<p>Data minimization. Purpose limitation. Transparency & accountability. Individual participation. Public purpose and social benefit. Valid and reliable.</p>
<p>Consider formal feedback channel on impact or for questions regarding ADS systems from both internal and external stakeholders.</p>	<p>Designate appropriate workforce personnel to manage the feedback channel.</p>	<p>Non-transparency. Lack of accountability. Threats to legitimacy and public trust.</p>	<p>Transparency & Accountability. Individual participation. Public purpose and social benefit. Fairness, inclusion, and non-discrimination.</p>
	<p>Formalize how feedback will be ingested and considered by executive stake holders Formalize how feedback will be utilized for ongoing review of ADS system utilization</p>	<p>Non-transparency. Lack of accountability. Threats to privacy. Threats to legitimacy and public trust.</p>	<p>Transparency & Accountability. Individual participation. Safe, secure, and resilient. Valid and reliable. Fairness, inclusion, and non-discrimination.</p>
<p>Consider redress process for constituents regarding decisions made about them by the ADS system.</p>	<p>Clarify redress for updating/correcting constituent data used in by ADS and/or the outcome/decisions made by the ADS regarding the constituents.</p>	<p>Non-transparency. Lack of accountability. Threats to legitimacy and public trust.</p>	<p>Transparency & accountability. Individual participation. Fairness, inclusion, and non-discrimination.</p>

10. WEIGHING ADVANTAGES AGAINST KNOWN BIAS OR INACCURACIES			
Action or Control	Notes	Risk Addressed	Principles
Does the agency staff have insight into the data model/dataset used for the ADS system?	Did the agency account for unintended biases of the dataset through mitigation/remediation actions?	Discrimination. Automation bias. Non-transparency. Lack of explainability. Lack of accountability. Threats to privacy.	Lawful, fair and responsible use. Data minimization. Purpose limitation. Transparency & accountability. Explainable and interpretable. Transparency and auditability.
	Liaise with the agency data scientist and/or WaTech OPDP to evaluate potential bias of data model and/or dataset of ADS system algorithm.	Discrimination. Automation bias. Non-transparency. Lack of explainability. Lack of accountability. Threats to privacy.	Lawful, fair and responsible use. Data minimization. Purpose limitation. Transparency & accountability. Fairness, inclusion, and non-discrimination.
Consider perception of risk of identified ADS by target constituent population/subpopulation.	Identify and document perceived risk. Document risk reduction strategies. Determine whether agency should accept, reduce, mitigate or remediate risks if development and/or procurement of ADS continues.	Discrimination. Inaccuracies. Automation bias Non-transparency. Lack of explainability. Lack of accountability. Threats to privacy.	Lawful, fair and responsible use. Data minimization. Purpose limitation. Transparency & accountability. Fairness, inclusion, and non-discrimination. Accountability and responsibility.

Appendix A. Sample ADS Questionnaire

1. What is the automated decision system's name, vendor and version?
2. What decisions is the system utilized to make?
3. What data is input into the system?
4. How is the input data gathered, how often is it updated, and are subjective inputs ever audited for consistency across data collectors?
5. Is the decision algorithm available for examination by the agency and/or the public?
6. Has there been any public or community engagement used in selection or design of the system? If so, please describe this engagement.
7. Does law or regulation mandate any of the decision system criteria? If so, which criteria?
8. Do the system's decisions intentionally differentially affect members of protected classes, such as selecting persons with disabilities for certain benefits?
9. Has the system been tested for unintended bias by the agency or an independent third party? If so, what were the results? Describe briefly the nature of the testing.
10. Has the system produced known erroneous results and if so, what were those errors (including the results of any audits conducted to check for erroneous results)?
11. In addition to any intentional differential effect on members of a protected class, are there other differential effects on protected classes as shown by comparison of the system's data to general census data or, where relevant, subpopulation data, such as the effect on justice system defendants of color as contrasted with all defendants? If audits have been performed to determine such differential effects, what were the results of those audits?
12. Can those affected by a system decision review and challenge the basis for that decision? If so, how, and what were the results of any such challenges?
13. Is the decision system operated by a third party? If so, what rules govern such operation and what audits are conducted to ensure compliance?
14. What is the fiscal impact of the system, including initial cost, operating costs, and any cost savings established as flowing from use of the system?
15. What were the personnel hours required to gather the relevant information (questions 1-14) for the system examined?

Appendix B. Sample ADS Prioritization Matrix

Below is a method to assess and prioritize automated decision systems. Prioritization of ADS to be evaluated can be explained along with context information such as a description of decision being made, the approximate size of impacted population, and the need or advantages of the ADS.

To determine risk and prioritize ADS for further review and assessment, agencies should evaluate the following:

Effect on people

- Low: Decision does not impact legal rights or the provision of services or scrutiny that could lead to an impact on legal rights or services.
- Medium: Decision impacts processing, relatively minor services or legal rights or financial impacts on individuals. Small number of impacted clients.
- High: Decision can have a significant impact on the provision of services, financial impact, or legal rights. Large number of impacted clients.

Likelihood of bias

- Low: Decision directly follows federal or state regulations or follows adopted policy or rule.
- Medium: Developed with disclosure of information used and the algorithm has been tested for bias and inaccuracy.
- High: Developed without disclosure of information used or the algorithm created and has not been tested for bias or accuracy.

Complexity

- Low: Simple decision rule.
- Medium: Simple calculation of existing data elements (i.e., a weighted average).
- High: Complex algorithm, estimation, machine learning, etc.

Matrixes could be used to determine a rating such as:

	Low impact	Medium impact	High impact
Low likelihood	5	4	4
Medium likelihood	4	3	3
High likelihood	4	2	1

Complexity rating can be used to determine the type of review, for example:

- Low: ADS questionnaire.
- Medium: Privacy impact assessment or formal outcome analysis.
- High: Assessment by professional or third party.

ADS Evolution

WaTech acknowledges that the field of automated decision systems and artificial intelligence is rapidly evolving.

The guidance provided serves as a tool for agencies, drawing from the recommendations outlined in the ADS Workgroup Report. It is rooted in a foundation of guiding principles, providing a framework for agencies to navigate the complex landscape of Automated Decision Systems (ADS). It is important to recognize that this guidance will evolve over time, reflecting the advancements and changing landscape of technology and data governance. While it is to be used as a best practice, it should not serve as a substitute for regulations or agency policies that may be in place. Instead, it should be employed in harmony with other relevant resources and tools, ensuring a comprehensive and well-rounded approach to addressing the challenges and opportunities presented by ADS.

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