

# A Framework for Computer Vision Deployment

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*This policy project was developed by Aspen Policy Academy fellows while participating in the Science and Technology Policy Fellowship. The Fellows were asked to recommend updates to the New York City Office of Technology and Innovation's [Artificial Intelligence Action Plan](#). This policy brief provides an overview of the fellows' proposed solution. [The full project is available here](#). Please note that all authors' opinions published here are their own. This publication does not reflect the views of the Aspen Policy Academy or the Aspen Institute.*

## Overview

In connection with New York City's Office of Technology and Innovation (OTI), **this project recommends that OTI incorporate a 3-tier computer vision deployment framework into the City's Artificial Intelligence (AI) Action Plan.** OTI and other city agencies are increasingly exploring computer vision technologies for transportation, infrastructure monitoring, and public safety applications, but New York City's municipal government lacks a comprehensive deployment framework to balance embracing these technologies with protecting privacy. This draft framework would provide agencies with clear guidance on implementing this technology responsibly while helping them keep pace with new innovations.

## Background

Computer vision is a technology that uses cameras and sensors to see, understand, and interpret the world. When applied by cities, it can enhance public safety, improve building and road maintenance, and optimize traffic patterns. Yet the rapid growth of this technology also raises complex questions about privacy, accountability, and public impact. Unlike other forms of AI, computer vision operates directly in public spaces, recording people, places, and activities in real time. This raises distinct risks. Governance of computer vision technologies must often account for a broader range of issues than that

of other tools, such as privacy issues connected to the use of biometrics, civil liberties sensitivities, the potential for dual-use applications, the systemic effects of citywide adoption, and the ways in which a tool's deployment impacts all these considerations.

In the absence of clear federal standards, New York City has an opportunity to lead by example. Establishing a transparent and accountable framework would enable the City to harness the benefits of computer vision while safeguarding rights and fostering public trust.

New York City, like much of the nation and the world, currently employs a fragmented approach to computer vision, relying on a patchwork of state, city, and agency-specific policies. One example is the [2020 Public Oversight of Surveillance Technology Act](#), which requires the New York Police Department to publicly disclose its surveillance tools and to provide information on rules for their use and potential impacts on privacy. In 2025, [this act was expanded](#) to place greater oversight on facial recognition and other surveillance technologies — demonstrating the City's capacity to refine and strengthen oversight mechanisms.

Facial recognition has frequently been the subject of state regulatory action. Some jurisdictions have adopted blanket bans of facial recognition technologies, such as San Francisco, while others have allowed broad deployments without privacy-preserving safeguards. A better approach would be to develop a risk-based framework that can adapt to multiple types of computer vision technologies and contexts, especially given the evolving nature of this technology. Such an approach would foster public trust and position New York City as a national leader in responsible computer vision governance.

## Recommendation

To responsibly embrace computer vision technologies, New York City should adopt a flexible framework that provides clear, actionable guidance on how to deploy them. This framework could help anticipate the potential impacts of these technologies before they are deployed while protecting privacy and upholding public trust. This framework should have 3 tiers: a foundational tier covering lower-risk use cases; an operational tier covering use cases with moderate privacy impacts; and a sensitive tier that directs more intense oversight in response to more severe privacy risks.

## Computer Vision Tiered Framework

| Tier                            | Risk Level                                              | Examples                                                                          | Governance                                                             |
|---------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Tier 1:<br/>Foundational</b> | Low privacy impact, no identifying information          | Traffic flow optimization, infrastructure monitoring, waste management alerts     | Standard privacy assessment, public notification, streamlined approval |
| <b>Tier 2:<br/>Operational</b>  | Moderate privacy impact, engineered anonymization       | Smart traffic management with face blurring, parking enforcement with data limits | Enhanced OTI review, community notification, annual bias audits        |
| <b>Tier 3:<br/>Sensitive</b>    | High privacy impact, identifying information collection | Facial recognition, individual tracking, predictive analytics                     | Rigorous oversight committee, community hearings, independent audits   |

## Rationale for a Tiered Computer Vision Framework

A tiered framework would ensure proportional governance, focusing oversight and resources where they are most needed. This contrasts with a one-size-fits-all approach to governing computer vision, which would either impose unnecessary burdens on low-risk applications or fail to provide adequate safeguards for high-risk uses. By categorizing technologies based on risk level and data sensitivity, a tiered framework would enable innovation in low-risk applications — such as traffic flow optimization or waste management — while reserving rigorous review and community engagement for sensitive uses like facial recognition or public safety applications.

The framework would also align seamlessly with New York City’s existing policy architecture. It would complement the City’s 4-level information confidentiality classification system (public, sensitive, private, confidential) outlined in the [Agency Privacy Officer Toolkit](#), allowing agencies to apply familiar principles of data governance to emerging technologies. This alignment would reduce the complexity of compliance, avoid

duplication, and ensure consistency with current privacy and cybersecurity requirements.

Importantly, a tiered approach would support innovation. By streamlining approval pathways for low-impact applications, the City could encourage the responsible deployment of computer vision tools that improve safety, efficiency, and service delivery without compromising resident privacy. At the same time, the explicit categorization of sensitive applications as Tier 3 technologies would signal a clear commitment to transparency, accountability, and community voice, which is essential for maintaining public trust.

The tiered framework would also provide the adaptability required to remain effective as technologies evolve. By tying safeguards to underlying risk factors rather than narrow use cases, the policy could accommodate novel applications without the need for constant revision. This flexibility would position New York City at the forefront of responsible computer vision governance while providing practical steps for agencies when deploying and using this technology.

Finally, the framework reflects global best practices and local expertise. Developed in consultation with computer vision and data governance experts, informed by cross-city policy analysis, and aligned with international risk-based AI frameworks, it ensures that New York City's approach is both practical and forward-looking. In doing so, the City affirms its role as a national leader in common sense computer vision deployment, setting a model for other jurisdictions.

**If you'd like to learn more, see the full project, including the Computer Vision Deployment Framework, an informational one-pager, and case studies, at [aspennpolicyacademy.org/project/nyc-computer-vision-deployment-2025](https://aspennpolicyacademy.org/project/nyc-computer-vision-deployment-2025).**



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