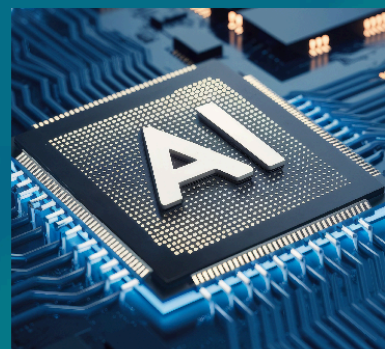




June 2024

# Los Angeles A.I. Roadmap



# ITA

Information Technology Agency  
City of Los Angeles

## **BACKGROUND**

Pursuant to Los Angeles City Council Motion, Council File No. 23-1020, the Information Technology Agency developed this report regarding Artificial Intelligence (AI), its current uses, and best practices to effectively use AI in a responsible and ethical manner, in consultation with the Office of the City Administrative Officer (CAO), Office of the Chief Legislative Analyst (CLA), and Personnel Department.

## **WHAT IS ARTIFICIAL INTELLIGENCE**

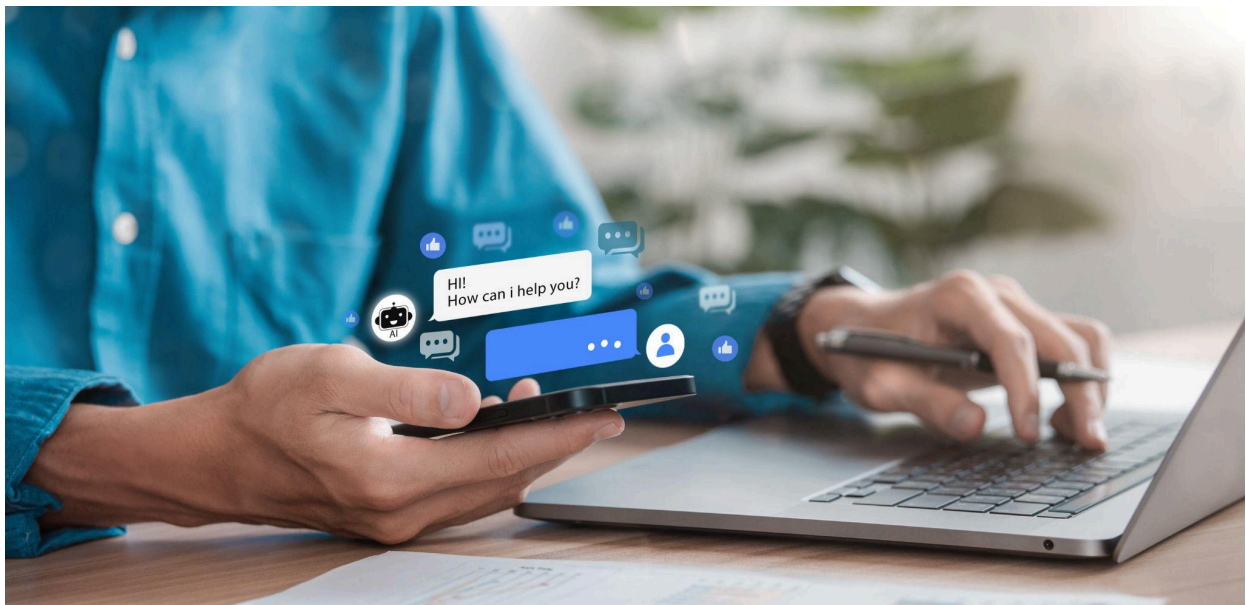
Artificial Intelligence (AI) is a complex “catch-all” term that can have multiple definitions. McKinsey Consulting defines AI as “a machine’s ability to perform the cognitive functions we associate with human minds, such as perceiving, reasoning, learning, interacting with an environment, problem solving, and even exercising creativity.” The United States *National Artificial Intelligence Act of 2020* defines AI as “a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments.” The Encyclopedia Britannica provides one of the most concise and useful definitions of AI that will be used in the course of this report. According to Britannica, “Artificial intelligence (AI) is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.” This is an important synthesis of popular academic and industry definitions, stressing two key components:

1. AI can come in the form of computer software or a physical robot
2. AI is intended to perform tasks commonly associated with human beings

AI capabilities associated with human intelligence include:

- Learning (gradually improves without being programmed)
- Reasoning (draws appropriate inferences)
- Problem Solving (searches through possibilities for best action)
- Perception (scans environment and recognizes objects)
- Language (communicate and understand)

Artificial intelligence tools are composed of various AI sub-branches (machine learning, neural networks, computer vision, natural language processing, fuzzy logic, robotics, etc). GenerativeAI, for example, takes millions of websites, books, reports, and social-media posts, breaks the information into words/phrases, and assigns a value to each item. Using sophisticated computer chips, they form a “neural network” to find patterns in these pieces of text using mathematical formulas and learn to guess the next word in a sequence of words. Then, using “natural-language processing”, GenAI tools, such as ChatGPT, understand what we ask and reply with their response. While it looks like “intelligence”, in many ways it is ultra-sophisticated programming and capabilities.



The stages of artificial intelligence include the following:

**01 Artificial Narrow Intelligence (“Weak AI”)**

A tool for a specific job. This is the current market of AI tools and the focus of this report.

**02 Artificial General Intelligence (“Strong AI”)**

Attempts to emulate the communication and reasoning of the human mind. At this time, “strong AI” tools and products do not exist.

**03 Artificial Super Intelligence (“Super AI”)**

Hypothetical stage where AI surpasses intelligence of all gifted humans in most cognitive areas.

If cost-effective and consistent, the attributes above convey some of the tremendous opportunities that artificial intelligence can afford the City of Los Angeles in transforming both the quality and quantity of services to L.A.’s residents, businesses, and visitors. Using the power of AI, L.A. traffic congestion can be reduced, environmental impacts mitigated, fraud & waste can be discovered, automated disaster responses can save lives, etc. However, these attributes also stress the importance of AI safeguards, digital ethics, and human-centered policies to prevent unintended harm to City operations or L.A.’s diverse communities. Every Angeleno has seen science-fiction representations of sentient AI, killer robots, and the horrors of misguided technology. As the government of the people of the City of Los Angeles, it is our responsibility to be informed, aware, effective, and guarded with any emerging technologies that hold such promise and adversity.

# BRIEF HISTORY OF ARTIFICIAL INTELLIGENCE

With the rapid rise of generative AI tools, such as ChatGPT (with 100 million users in its first 60 days!), it would give the impression that artificial intelligence is a recent phenomena. In fact, today's AI tools are not new, but the result of decades of math, science, and computer hardware breakthroughs.

Below are some notable historical milestones in the artificial intelligence timeline:

- 1950** Robotic mouse navigates maze & remembers path  
(Theseus Project, Bell Labs)
- 1955** AI starts playing amateur checkers  
(Arthur Samuel, IBM)
- 1975** AI identifies new discoveries in chemistry and gets published  
(Meta-Dendral)
- 1994** AI drives autonomous vehicle in Paris for 621 miles  
(Prometheus, EUREKA)
- 1997** AI defeats world's human chess champion  
(Deep Blue, IBM)
- 2012** AI consistently identifies objects of cars, dogs, etc.  
(AlexNET, DNN Research)
- 2017** AI defeats world's human Go champion  
(Google's DeepMind AlphaGo; <https://www.bbc.com/news/technology-40042581>)

**2018**

AI language and image recognition comparable to humans  
(ImageNET)

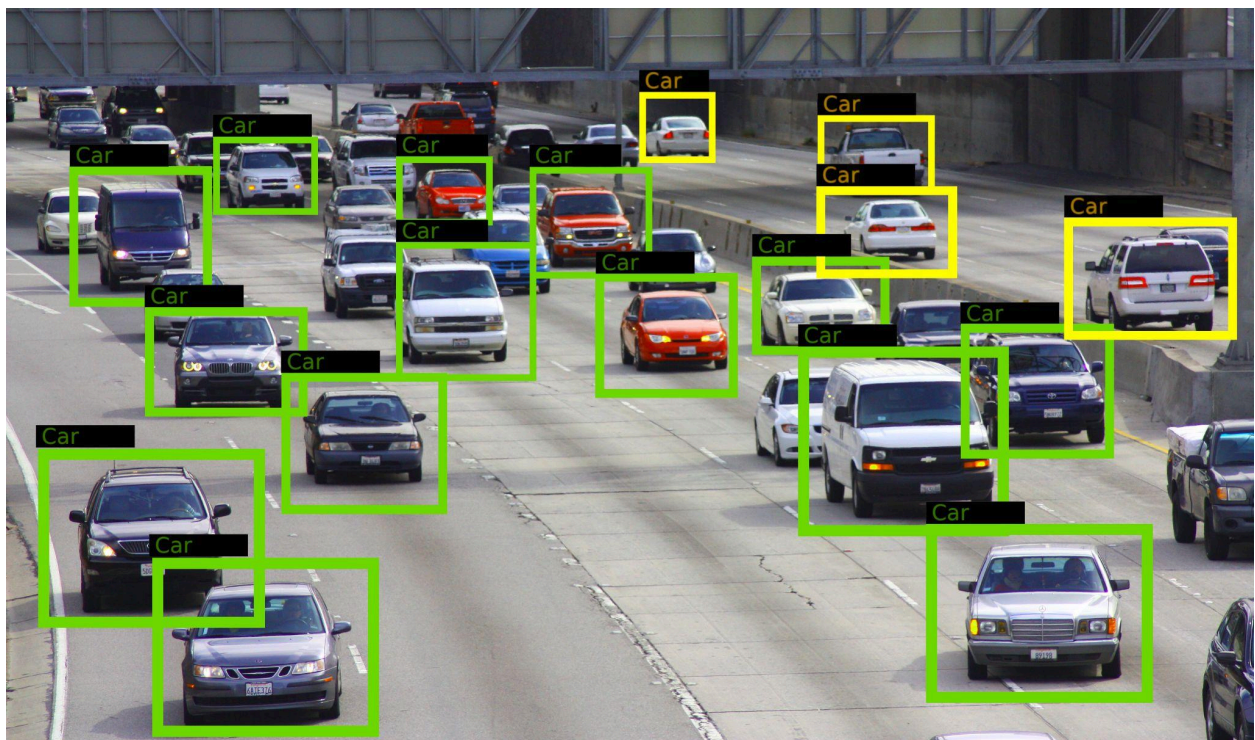
**2021**

AI predicts 3D models for 98.5% of human proteins  
(AlphaFold, Google)

**2023**

AI used by 180 million users to make visual images and text  
(ChatGPT, Open AI)

Increasingly, mathematics, science, and engineering are being combined in AI to replicate abilities previously associated with human beings. While AI truly lacks “intelligence” or the ability to think independently or understand various nuances in our environment or human behavior, these sophisticated tools are increasingly capable of assisting City employees in their jobs or solving complex problems for our society.



# CITY OF LOS ANGELES CURRENT USAGE OF ARTIFICIAL INTELLIGENCE

In Fall 2023, the Information Technology Agency (ITA) surveyed all City of Los Angeles departments about their usage of artificial intelligence tools. This was conducted through the citywide Information Technology Policy Committee (ITPC). The survey had three objectives:

**01**

Identify *what AI tools* are currently in use or planned to be used in City departments

**02**

Confirm *how AI tools* are being used in City departments

**03**

Detail *the benefits or detriments* that City departments have seen or expect to see coming from AI tools

The vast majority of City departments were not currently using AI tools. The following is a summary list of AI tools currently in use by City departments, AI tools planned to be used, and AI use cases the departments found compelling at this time.

## A - AI Tools Currently In Use by City Departments (Fall 2023 ITPC Survey)

- Chatbots on department public websites.
- Composing non-private emails, documents, interview questions and researching topics in ChatGPT and Google Bard.
- Github Copilot to generate, fix, search, and explain non-private programming code.

#### B - AI Tools Planned to Be Used by City Departments (Fall 2023 ITPC Survey)

- Customer Support Chat Bot (Amazon Lex, Azure AI Bot, Azure AI)
- Productivity Companion (Grammarly, AWS Chatbot, Duet AI)
- Cybersecurity (Pandora, CrowdStrike, Charlotte AI)
- Consumer Chat Bot (ChatGPT, Google Bard, Bing Chat)
- Image Recognition (AWS Rekognition, Google Cloud Vision)
- 5 (Github Copilot)
- Language Translation

#### C - Compelling Future AI Use Cases (Fall 2023 ITPC Survey)

- Virtual voiced agent to answer frequently asked questions (FAQs) and redirect divert calls.
- Chatbot for the public and staff to ask questions about city codes and policies.

#### D - Expected AI Tool Benefits per City Departments (Fall 2023 ITPC Survey)

- Text and code is more eloquently written, fewer mistakes, and produced more quickly.
- Time to research new technologies is reduced.
- Staff can better present ideas after discussing with chatbot.
- Enhanced cybersecurity threat and fraud detection.

#### E - Expected AI Tool Detriments per City Departments (Fall 2023 ITPC Survey)

- Takes time and special skills to set up and maintain bots.
- Staff may produce output from tools without understanding [biases contained in training data] or verifying sources.
- Without security safeguards, AI tools can leak sensitive information.



While City departments officially provided these responses, we are also aware of individual City of Los Angeles employees who have started exploring paid and no-cost AI meeting transcription tools for work through their own personal accounts, such as Otter.ai, Fireflies.ai, etc. While intended for a number of valid purposes, such as disability accommodation, the unintended consequences of these applications reinforce the importance of the AI Roadmap and the need to provide responsible, secure outlets to City employees. For this reason, the Information Technology Agency, in collaboration with the City Attorney and Office of the Mayor, published a ‘Discontinued Use of Unauthorized Automated AI-Based Transcription Tools’ to City departments on March 11, 2024 to require departments to take immediate steps to ensure that City personnel not use these unauthorized Applications in conducting City business.



# ARTIFICIAL INTELLIGENCE REGULATIONS & GUIDELINES

As requested in the Council motion, below is a summary of the current significant federal, state, and local laws and regulations pertaining to the use of artificial intelligence at the City of Los Angeles:

## **Federal Regulations & Guidelines**

### ***1. Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence***

President Biden’s Executive Order, issued on October 30, 2023, focuses on ensuring the safe, secure, and trustworthy development and use of Artificial Intelligence (AI). It establishes comprehensive guidelines and policies aimed at maintaining public trust and safeguarding national interests in AI development. The order highlights the need for ethical considerations, security measures, and transparency in AI systems to mitigate potential risks and societal impacts.

<b>Issued by:</b>	The White House
<b>Date issued</b>	October 30, 2023
<b>Target audience</b>	Policymakers, AI developers, and the general public
<b>Document link</b>	<a href="https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/">https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/</a>

## 2. *Blueprint for an AI Bill of Rights*

Summary:

The White House Office of Science and Technology Policy introduced the AI Bill of Rights. This document outlines principles to protect the public in the age of artificial intelligence. It emphasizes the need for AI systems to be safe, fair, and equitable, while upholding privacy, civil rights, and democratic values. The AI Bill of Rights serves as a guideline for the responsible development and use of AI, focusing on the protection of individuals and communities.

Key points:

- Ethical framework for using AI.
- Emphasis on safety, equity and fairness.
- Importance of privacy in AI applications.
- Respecting civil and democratic rights in AI deployment.

Document information:

**Issued by:** The White House Office of Science and Technology Policy

**Target audience:** General public, policymakers, AI developers

**Document link:** <https://www.whitehouse.gov/ostp/ai-bill-of-rights/>

### **3. OMB Implementation Guidance on President Biden’s Executive Order on AI**

Summary:

The Office of Management and Budget (OMB) released guidance following President Biden’s Executive Order on AI, focusing on the responsible use of AI in the federal agencies.

Document information:

<b>Issued by:</b>	Office of Management and Budget
<b>Date issued:</b>	Nov 01, 2023
<b>Target audience:</b>	Federal agencies, policymakers
<b>Document link:</b>	<a href="https://www.whitehouse.gov/omb/briefing-room/2023/11/01/omb-releases-implementation-guidance-following-president-bidens-executive-order-on-artificial-intelligence/">https://www.whitehouse.gov/omb/briefing-room/2023/11/01/omb-releases-implementation-guidance-following-president-bidens-executive-order-on-artificial-intelligence/</a>

## California State Regulations & Guidelines

### **1. Governor Newsom's Executive Order on Artificial Intelligence**

#### Summary:

Governor Newsom signed an executive order aimed to prepare the state for advancements in artificial intelligence (AI). It focuses on establishing a commission to examine AI's ethical, economic, and policy aspects with the object of developing strategies for leveraging AI for the public good. The order also addresses potential challenges and workforce impacts of AI, and explores AI governance frameworks to ensure responsible development and deployment of AI technologies.

#### Document information:

**Issued by:** Office of the Governor of California

**Date issued:** September 6, 2023

**Target audience:** State officials, AI developers, the public in California

**Document links:** <https://www.gov.ca.gov/wp-content/uploads/2023/09/AI-EO-No.12--GGN-Signed.pdf>

<https://www.gov.ca.gov/2023/09/06/governor-newsom-signs-executive-order-to-prepare-california-for-the-progress-of-artificial-intelligence/>

## 2. California AI Accountability Act (SB896)

### Summary:

The California Senate Bill SB896, titled Artificial Intelligence Accountability Act, directs the Government Operations Agency, the Department of Technology, and the Office of Data and Innovation to produce a report. This report will assess the benefits and risks of using generative artificial intelligence (AI) tools by the state, including a risk analysis of threats posed by AI to critical infrastructure. Additionally, the bill requires state agencies to disclose the use of AI in communications to disclose its use and evaluates automated decision-making systems for risk before implementation.

### Document information:

<b>Issued by:</b>	California State Government
<b>Date issued:</b>	January 03, 2024
<b>Target audience:</b>	Policymakers, AI developers, general public
<b>Document link:</b>	<a href="https://legiscan.com/CA/text/SB896/2023">https://legiscan.com/CA/text/SB896/2023</a>

## **Local Government Regulations & Guidelines**

### **1. New York City AI Law (Local Law 144)**

Summary:

Local Law 144 was issued by New York City to regulate the use of automated employment decision tools by employers in hiring and promotions. The law ensures fairness and reduces bias in employment related AI tools.

Document information:

<b>Issued by:</b>	The New York City Council
<b>Date took effect:</b>	January 1, 2023
<b>Target audience:</b>	policymakers, AI researchers, general public
<b>Document link:</b>	<a href="https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=4344524&amp;GUID=B051915D-A9AC-451E-81F8-6596032FA3F9&amp;Options=ID%7CText%7C&amp;Search=">https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=4344524&amp;GUID=B051915D-A9AC-451E-81F8-6596032FA3F9&amp;Options=ID%7CText%7C&amp;Search=</a>

### **2. City of Seattle Generative Artificial Intelligence Policy**

Summary:

The City of Seattle, under Mayor Bruce Harrell, released a policy on the responsible use of generative artificial intelligence (AI) for city employees. This policy defines how generative AI should be utilized ethically and effectively within city operations. It guides city employees in harnessing the benefits of AI technologies while maintaining public trust and ensuring accountable use.

Document information:

<b>Issued by:</b>	City of Seattle
<b>Date issued:</b>	November 3, 2023
<b>Target audience:</b>	General public, technology professionals
<b>Document link:</b>	<a href="https://harrell.seattle.gov/2023/11/03/city-of-seattle-releases-generative-artificial-intelligence-policy-defining-responsible-use-for-city-employees/">https://harrell.seattle.gov/2023/11/03/city-of-seattle-releases-generative-artificial-intelligence-policy-defining-responsible-use-for-city-employees/</a>

### 3. *New York City AI Action Plan*

Summary:

The NYC AI Action Plan was established in October 2023, outlines strategies for integrating and governing AI technologies across departments and sectors in the city. It focuses on responsible AI usage to ensure public benefit while addressing potential risks and includes initiatives for AI governance, public engagement, and AI knowledge enhancement in city government.

Document information:

<b>Issued by:</b>	Office of the Mayor of New York City
<b>Date issued:</b>	October 16, 2023
<b>Target audience:</b>	NYC officials, NYC employees, policymakers, general public
<b>Document link:</b>	<a href="https://www.nyc.gov/assets/oti/downloads/pdf/reports/artificial-intelligence-action-plan.pdf">https://www.nyc.gov/assets/oti/downloads/pdf/reports/artificial-intelligence-action-plan.pdf</a>



## Foreign Government Regulations & Guidelines

### **1. *European Union - Artificial Intelligence Act***

Summary:

The Artificial Intelligence Act (AI Act) is a European Union regulation that aims to introduce a European regulatory and legal framework for all types of artificial intelligence in a broad range of sectors.

Document information:

<b>Issued by:</b>	European Union
<b>Date issued:</b>	December 9, 2023
<b>Document link:</b>	<a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206</a>

# ARTIFICIAL INTELLIGENCE OBJECTIVES FOR THE CITY OF LOS ANGELES

Per our research of best practices, the following are our key objectives for artificial intelligence tools and their use at the City of Los Angeles:

## **01 Identify AI Opportunities**

Identify use cases and implement AI technologies to improve City of Los Angeles operations via AI embedded tools (e.g. Google Workspace, ServiceNow, Salesforce, etc) and custom developed AI projects for specific use cases (e.g. 3-1-1 virtual agents, traffic reduction, expedited permitting, environmental sustainability, etc).

## **02 Enhance, Not Replace Humans**

Enhance, not replace, City of Los Angeles employees and improve their productivity using AI tools.

## **03 Use AI as Opportunity to Upskill Workforce**

Upskill L.A. City employees and raise their digital skills.

## **04 Comply with AI Regulations & Existing Laws**

Adhere to applicable local, state, federal laws in the process of using AI tools.

## **05 Safeguard LA Stakeholders with Ethical and Innovative AI**

Implement ethical safeguards and prevent unintended consequences of AI tools on Los Angeles employees and our diverse communities.

# ARTIFICIAL INTELLIGENCE OPPORTUNITIES FOR THE CITY OF LOS ANGELES

Artificial intelligence promises to provide both tools to empower our workforce and capabilities to define and improve complex problems. Per our research of best practices and the current suite of artificial intelligence tools in the market, the following are key AI opportunities for artificial intelligence tools at the City of Los Angeles:

## 1. LA City Employee Tools

- a. Prioritize flooded email inboxes to spend time on what matters
- b. Clean up grammar and improve communications
- c. Create fast, clear content for public (press releases, images, video)
- d. Transcription and meeting assistants
- e. Writing basic software

## 2. Improve Customer Service to Public & City Clients

- a. AI service agents can reduce hold times, work unpopular shifts
- b. Make LA websites much more user friendly & accessible for residents, businesses, vendors, and other stakeholders

## 3. Data Analysis & Performance Management for Analysts

- a. Financial predictions
- b. Risk management
- c. Fraud detection
- d. Decision support systems
- e. etc

4. Business Process Automation for Administrative Staff

- a. Enhanced workflow tools
- b. AI assistants

5. IT Tools for Technical Staff

- a. Cybersecurity
- b. Code generation

6. Improve the Lives of Angelenos ("Smart City")

- a. Optimize traffic and mobility (shorter commutes, less pollution)
- b. Automated issue detection (potholes, broken sidewalks, graffiti)
- c. Facilitate low-cost housing & neighborhood plans
- d. Detect fraud and waste (save taxpayer money!)
- e. Automate disaster response and communications to save lives
- f. Reduce City operational costs and expand new services
- g. etc

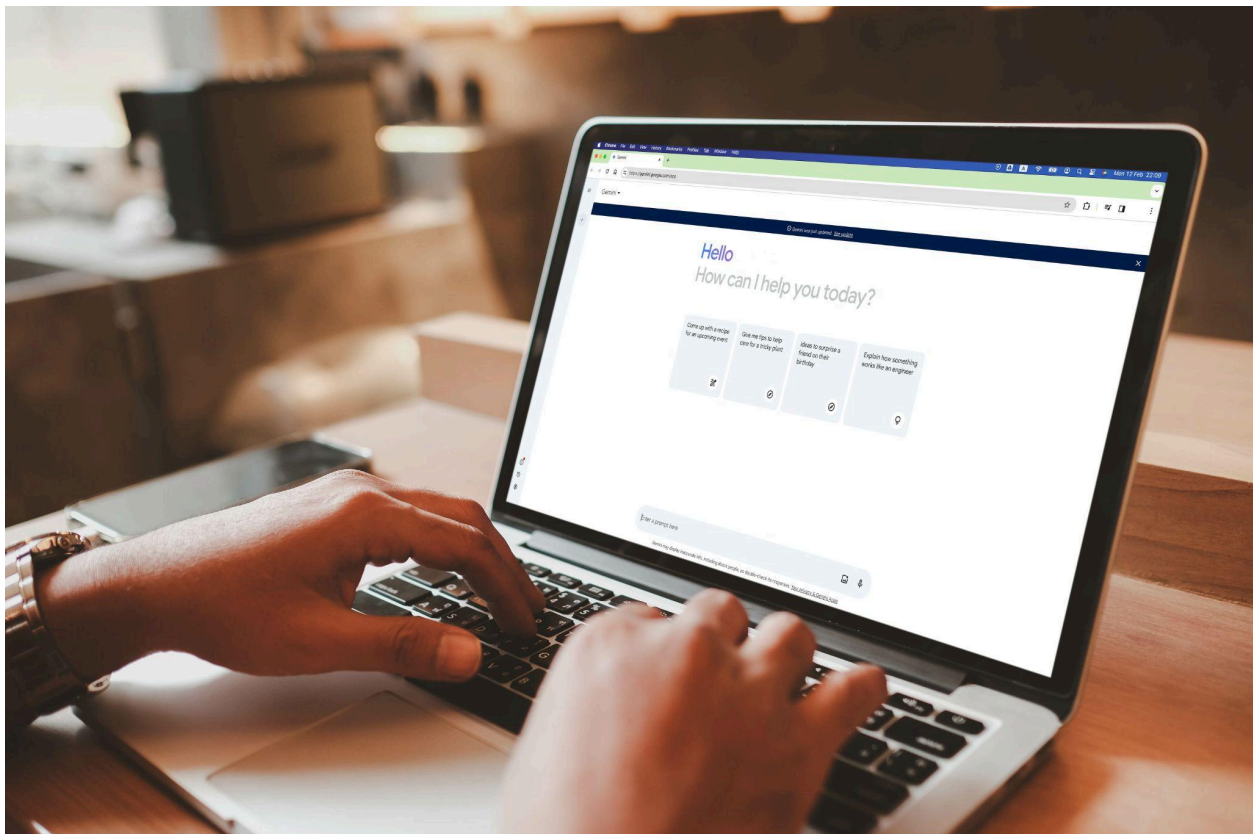
## ETHICAL CONSIDERATIONS FOR ARTIFICIAL TOOLS & FRAMEWORKS

As Americans have become increasingly digital, they have also become increasingly distrustful of digital technology. From privacy concerns to data breaches, Americans are concerned that the innovations they use daily will have profoundly negative impacts on their lives. These anxieties have become so prominent that Oxford Dictionary officially added “techlash” (technology backlash) as a word in the English dictionary. This anxiety is only increasing with every new technological innovation, such as artificial intelligence. ChatGPT instantly became the fastest growing software application in human history, gaining 100 million users within the first two months, challenging social and legal standards for academic work, intellectual property, and the role human/computer interactions play in our society. As a government that heavily uses technology to serve our more than 4 million Angelenos, the City of Los Angeles must emphasize the importance of digital services that are both *innovative and ethical*. This is why digital ethics matters at the City of Los Angeles and why we need safeguards for ethical artificial intelligence.

Through our best practice research and experience, below is a summary list of current ethical challenges and risks related to artificial intelligence and addressed in the Artificial Intelligence Roadmap towards the end of this report:

- Privacy Risk - Sensitive data should not be exposed, tracked, or exploited through the use of AI tools
- Bias - AI cannot be relied upon for decision making if it perpetuates bias and harms L.A. communities
- Misrepresentation - AI tools should not be used to misrepresent human agents and must be clearly labeled and provide options to bypass to interact with a human

- Accuracy - AI results should be consistently reliable, explainable, and accurate
- Intellectual Property - Generative AI should not infringe on others rights without proper attribution and compensation
- Job Impacts - AI should empower humans, not replace them



credit: thaspol - stock.adobe.com

# **BEST PRACTICE AI RECOMMENDATIONS FOR THE CITY OF LOS ANGELES**

For several years, the Information Technology Agency (ITA) has been monitoring trends and tools in artificial intelligence and other emerging technologies. In preparation of this report, the ITA also solicited best practice research from industry subject matter experts, Gartner Inc., a major Big 4 technology consulting company with a specialized AI practice, professors at the University of Southern California (USC) Viterbi School of Engineering, technology vendors, and various periodicals. While artificial intelligence is a rapidly changing field, the following is a summary of key recommendations for the City of Los Angeles based on best practices in artificial intelligence as understood in the industry today:

## ***Recommendation #1 - L.A. City AI Tools Should Tailor to Two Distinct User Segments***

Not everyone uses AI tools in the same way. At the City of Los Angeles, there are two distinct groups of users that we should consider and train to:

1. City Employees & Managers (AI Users) - These are the City employees who will use AI tools that are made available to them. These tools will most be used in Google Workspace, Salesforce, ServiceNow, or other existing software (i.e. AI Embedded Software). In addition, a much smaller set of City employees will use custom-developed AI tools for a specific purpose (e.g. call center software, fraud detection, environmental monitoring, etc). Training in basic AI usage (e.g. prompts, logic, etc) will improve their digital skills in these tools.
2. IT Professionals (AI Developers) - These are the technical staff who develop or configure the AI tools for City departments (i.e. configuring AI embedded productivity software or maintaining custom AI solutions). While smaller in number than the other segment, this group requires

technical training, an understanding of trends in the AI marketplace to assist in tool selection, and the ability to explain the behavior of the tool for transparency. This segment should utilize industry certifications, specialized training, and bi-monthly IT Policy Committee training/discussions.

***Recommendation #2 - Non-Technical Department Leadership Teams Should Set Goals & Objectives Before Deploying AI Tools***

Technology can deliver real value. However, for technology to deliver value, there must be clear department goals and objectives for those technologies before technology investments are to be made. Without clear department goals and objectives and engaged department non-technical staff, the technology will easily miss the mark, result in wasted investment, and not generate the value for the City department. Before undertaking AI projects, City departments must start with clear mission-driven goals and objectives that can direct the technology decisions made with these emerging technologies.

***Recommendation #3 - AI Tools Should Be Piloted and Understood Before Mass Usage***

A proof of concept (PoC) is essential with emerging technologies. The PoC helps organizations determine the strengths of the technology, the weaknesses, the unseen costs, the maintenance requirements, refinements required before mass usage, and potential unintended consequences. A PoC is much like trying on clothing in a dressing room before you purchase the items. This is especially important for artificial intelligence, which can be seen as a “black box” by many City employees who lack familiarity with it. While a PoC reduces time to market, it is also the best way to minimize a waste of funding or human resources.



***Recommendation #4 - City Departments Must Prepare for Most AI Tools To Be Accessed Through Existing Software Platforms (i.e. Embedded AI Tools)***

Based on best practice research, the high initial cost of AI projects, and developments in the tech industry, most AI tools will fall into 3 categories:

1. Embedded AI Tools in Other Software - The majority of AI tool usage will likely be embedded into existing City of Los Angeles software solutions (e.g. Google Workspace, ServiceNow, Salesforce, etc). AI becomes an enhanced service within this software enabling the user to perform greater tasks and processes using the AI tools (e.g. Google Duet used to create a custom image for a Google Slides presentation based on previous presentations in the user's Google Drive). This is also driven by the high entry cost of AI projects and the need for dedicated, high quality data (which existing software companies are best prepared to provide). In other words, most City of Los Angeles users will be introduced to AI tools within the context of software they are already using today.
2. Artificial Intelligence-as-a-Service (AlaaS) Cloud Services - The second category of AI tools is the custom-development of artificial intelligence functions using cloud-based artificial intelligence (AI) services (e.g. Amazon Web Services, Google, Microsoft Azure). Commonly known as "artificial intelligence as a service" (AlaaS), these are AI components that can be subscribed to by IT developers. These tools require a significant level of technical expertise, but are substantially easier to setup and purchase compared to the Vendor-Built Custom AI Solutions (the third category).
3. Vendor-Built Custom AI Solutions - The most sophisticated (and expensive) AI solution is the Vendor-Built Custom AI Solution that is contracted through a vendor and built by their professional services staff. These tools would be used for a specific, niche department use case (e.g.

traffic management, fraud detection, etc). The vendor would contract with the City department and perform a full cycle AI solution deployment (develop requirements, gather datasets, train models, deploy tools, monitor/refine, etc). While these will likely be the least common category and the most expensive, these can be the most impactful tools for our operations and L.A.'s urban challenges.

***Recommendation #5 - AI Tools Should Be Dynamic & Adapt to Changes in Department Data or Requirements***

The best technology projects start with a clear set of department goals and objectives, then a rapid/agile deployment of a “minimum viable product” technology, and the iterative enhancement of the technology based on real experience and feedback. AI tools should be dynamic and adaptive to improve their accuracy and capability. In addition, AI as a Service projects and Vendor-Build Custom AI Solutions often require a variety of AI techniques that are better suited for the specific use case. At times, informed experimentation is necessary to yield the necessary results.

***Recommendation #6 - Organizations Should Stay Current on AI Tools & Frameworks***

AI is a rapidly evolving field and suite of tools/techniques. To maximize our effectiveness, the City of Los Angeles should evolve with the industry. This requires an understanding of the technology, best practices from other governments/private sector, and upcoming product roadmaps, especially among IT Developers who are responsible for the implementation or configuration of these tools.

## ***Recommendation #7 - AI Tools Require Training for Both Users & Developers***

Technology is only as good as the humans that use it. AI tools require intermediate knowledge to use them and substantial technical expertise to configure them. The following areas of training are recommended for City Employees and IT Developers:

### 1. Suggested AI Training for City Employees

- a. AI Prompts & Queries
- b. Popular AI Use Cases
- c. AI Privacy & Security Considerations

### 2. Suggested AI Training for IT Developers

- a. Prompt Engineering
- b. Advanced AI Use Cases
- c. AI Privacy & Security for Developers (e.g. Prompt Injections)
- d. Low-Code Machine Learning
- e. Building Language Models
- f. AI Certifications
  - i. Amazon Web Services
  - ii. Google
  - iii. Microsoft

### ***Recommendation #8 - AI Tools Must Be Cyber Secure***

AI tools require significant cyber security and data privacy considerations. Hastily implemented AI tools will be vulnerable to cyber attacks and data breaches. In addition, proprietary data can be published into public AI tools causing challenges for data privacy and security. Cybersecurity requirements must be incorporated early into any AI tool and cybersecurity assessments must be performed before deployment to prevent data security issues.

### ***Recommendation #9 - AI is a Long Term Investment & Requires Patience***

Artificial Intelligence is not a “silver bullet”. It is a new technology that affords tremendous capabilities for organizations willing to apply the effort, investment, and discipline necessary to harness the emerging technology. This is not an issue of technical acumen, but a broad-based effort that requires department management, functional subject matter experts, technical professionals, and vendors to work together towards a common goal using these new technologies. This requires long-term investment, foundational improvements to department data gathering, the training of AI models, department process improvements, and AI tool refinement over an extended timeframe. This is the experience of successful private sector organizations and governments.

### ***Recommendation #10 - Custom AI Tools Require High Quality Data & Data Cleanup***

Artificial Intelligence is not a “cheat” technology that solves all of an organization's process and data issues. In fact, sophisticated AI tools require high quality data and data preparation to make them work. AI models are only as good as the data they are trained on. City of Los Angeles departments must take great preparatory efforts to gather clean, relevant, and accurate data for the use of AI.

***Recommendation #11 - City of Los Angeles Data is Owned by the City & Not to be Given Away to Vendors***

Data from City of Los Angeles systems is owned by the City department that primarily uses the system or makes decisions on how the system works (i.e. system business owner). AI tools operate on large amounts of data and vendors will seek the use of City data to implement these tools. It is imperative that City departments who are considering the use of AI tools clearly understand what data will be used, how the data will be used, where it will be stored, how it will be transmitted to the storage location, ensure data privacy controls are in place where applicable (per City of Los Angeles Information Security Policy), and maintain contractual ownership of that data. Contracts with vendors that utilize City data should be reviewed by City Attorney representatives to ensure proper contractual data ownership and controls. If not, vendors may misuse City department data for their own benefit, place sensitive City data in insecure locations, or violate the City's data privacy guidelines.

***Recommendation #12 - AI Tools Should Be Ethical, Transparent & Human-Centered***

City of Los Angeles technology must be used for the benefit of people that use it or benefit from it. This is even more important with the implementation of emerging technologies, such as AI, which are often viewed as “magical black boxes” that generate good and bad results. All City of Los Angeles AI tools must be understood, examined for unfair biases, transparent to their users, and developed for the betterment of LA City employees, residents, businesses, or visitors. This requires more than just an innovation lens, but a digital ethics lens to ensure these advanced tools provide benefit (not harm) to our employees or diverse communities.

# ARTIFICIAL INTELLIGENCE ROADMAP FOR THE CITY OF LOS ANGELES

**“AI is a tool. The choice about how it gets deployed is ours.”**

*-Oren Etzioni, Professor & 1st Harvard Comp Sci Major*

To accomplish the City of Los Angeles objectives for artificial intelligence and incorporate the best practice AI recommendations found above, the following “roadmap” of next steps has been developed for the City of Los Angeles to be completed by the Information Technology Agency and our partner City departments. With additional investment and resources, this approach can expand and grow based on the needs of City of Los Angeles departments and our elected offices:

## **1. Provide AI Training to Employees (the “how of AI”) | May - August 2024**

### *a. City Employee & Manager AI Literacy Training*

- i. Introduction to Artificial Intelligence Webinar (All Employees)*
- ii. Artificial Intelligence Privacy & Security (All Employees)*
- iii. Introduction to Google Gemini Chatbot GenAI (All Employees)*
- iv. Google Gemini Enterprise for Workspace Training (all employees with Google licenses for 3 months - paid licenses required after)*
- v. Adobe Firefly Generative AI Training (L.A. City Designers & Content Creators)*
- vi. Preventing AI Financial Fraud Training (LA City Accounting & Finance Professionals)*

*b. IT Developer Training*

- i. Google Gemini for Developers (*Pilot Group - Licenses Required*)
- ii. GitHub CoPilot for Developers (*Pilot Group - Licenses Required*)
- iii. Artificial Intelligence Certifications (Optional)
  - 1. Google Machine Learning Engineer
  - 2. Google Generative AI Learning Path
  - 3. AWS Certified Machine Learning
  - 4. Microsoft Azure AI Fundamentals

**2. Deliver AI Tools to City Workforce (the “what of AI”) | May-Dec’ 2024**

*a. Deliver Embedded AI Tools to City Employees*

- i. Google Gemini Enterprise for Workspace (26,500+users; 3 months) - May ‘24
  - 1. Google Gemini Enterprise (formerly known as Google Duet) is Google’s AI-powered assistant to help users write, organize, visualize, improve meetings, build workflows, etc.
  - 2. All LA City employees with Google licenses across City departments and elected offices will be provided training and the ability to use Gemini Enterprise for Google Workspace for three months free of charge (requires paid license beyond pilot timeframe)
- ii. Google Gemini Chatbot Generative AI for Employees - August ‘24
  - 1. Google Gemini Chatbot Generative AI (formerly known as Google Bard) is comparable to ChatGPT and creates text, graphics, and video content

2. Google Gemini is included at no cost with the City's Google Workspace license and is equivalent to the paid premium ChatGPT 4
  3. All 26,500+ City employees with a Google license will be provided training and access to use this Generative AI tool
- iii. Adobe Firefly Generative AI for L.A. City Content Creators
1. Adobe Firefly is a sophisticated AI development tool to ideate, create, and communicate for City of Los Angeles content creators (e.g. Graphic Designers, Web Developers, etc)
  2. Adobe Firefly will be trained to and turned on for all Adobe Creative Cloud licenses, focusing on Graphic Designers, Website Developers, and Public Information Officers

*b. Pilot Additional-Cost AI Tools for IT Developers*

- i. Microsoft GitHub CoPilot for Developers (30 users)
  1. Solicit 30 volunteers across City departments to learn and use GitHub CoPilot for software development, focusing on Programmer/Analysts and Systems Programmers

*c. Examine More Complex AI Tools (AlaaS & Vendor-Built Custom Tools)*

- i. Establish plans for the research and development of high-value AI projects, including:
  1. MyLA311 mobile application AI tool
    - a. Implement Amazon Web Services (AWS) Vision AI tool into the MyLA311 mobile app, allowing residents to take a photo of an urban issue and let the app auto-populate the category, location, description, etc



- b. Will initially focus on Top 5 most popular MyLA311 service requests (Illegal Dumping, Graffiti, Bulky Item Pickup, etc)
- c. This functionality will be researched and incorporated into MyLA 311 Modernization project that will start this year

## 2. 3-1-1 Call Center AI Virtual Agent

- a. Implement Amazon Web Services (AWS) Connect Virtual Agent tool to assist 3-1-1 Call Center Operators with simple service requests and reduce call wait times during peak times
  - b. This functionality will be researched and incorporated into 3-1-1 Call Center Modernization project that will start this year
- ii. Survey City Department leadership teams to identify AI use cases in their department
  - iii. Survey City department IT managers and facilitate vendor demonstrations of complex AI tools through citywide I.T. Policy Committee, such as AI customer service agents, data analysis & performance management tools, smart city tools, business process automation, environmental sustainability, etc.
  - iv. Utilize the existing ITA Data Analytics & Artificial Intelligence benchmark contracts for departments seeking to initiate complex artificial intelligence projects using artificial intelligence as-a-service Cloud tools and custom-built vendor solutions

## 3. Build Additional AI Safeguards at the City of L.A. | March - August 2024

- a. *Publish Citywide Digital Code of Ethics (Emerging Technology Guidelines)*

- i. Develop and publish a citywide Digital Code of Ethics that articulates City of Los Angeles' ethical standards and principles in the use of technology and data for our residents, providing guidance to all City departments
- ii. Include core values (Human-Centric, Equitable, Transparent, Secure, and Sustainable) and digital standards applicable to all LA City departments
- iii. Detail guidelines in the use of emerging technologies, across 10 emerging technology areas:
  1. Artificial Intelligence & Machine Learning,
  2. Blockchain,
  3. Data Analytics,
  4. Digital Assistants,
  5. Drones,
  6. Facial Recognition,
  7. Healthcare Data,
  8. Internet of Things,
  9. Social Media,
  10. Virtual/Augmented Reality

*b. Incorporate AI into City's Existing Acceptable Use Policy (AI Usage)*

- i. Every employee reviews and signs the City of Los Angeles Acceptable Use Policy
- ii. Artificial intelligence instructions will be added to the existing Technology Usage Policy to ensure employee awareness and compliance

*c. Develop & Publish an AI Playbook for IT Developers*

- i. Develop an AI Playbook for IT Developers across the City of Los Angeles, including:
  1. Definitions of Artificial Intelligence
  2. AI Technologies and Models
  3. AI Frameworks
  4. AI Benefits
  5. AI Potential Issues
  6. AI Use Cases
  7. AI Implementation Roadmap
  8. Existing AI Contracts & Resources

*d. Incorporate AI into Information Security Policy (AI Data Privacy)*

- i. Every City department reviews and adheres to the City of Los Angeles Information Security Policy, including data handling and privacy instructions
- ii. Artificial intelligence instructions will be added to the existing Information Security Policy for department awareness and compliance

Artificial intelligence offers tremendous opportunities and issues for the City of Los Angeles. Through the effective and responsible use of artificial intelligence, City of Los Angeles departments can deliver greater services and benefits to the residents, businesses, and visitors of Los Angeles. The research, recommendations, and roadmap found in this report is a responsible and promising start to the journey of using artificial intelligence.