Part II: AI Maturity Assessment and Roadmap

This AI Maturity Assessment and Roadmap serves as the second, and equally critical, part of the comprehensive U.S. Department of Transportation (Department or DOT) AI Strategy. This is a living document and will be updated as DOT continues to evolve through the 1DOT technology modernization initiative. While Part 1 of the plan, the AI Use Case Strategic Alignment, established the what and why of the Department's AI ambitions, this AI Maturity Assessment and Roadmap provides the how. It is the operational playbook designed to translate strategic vision into tangible capability. The ambitious portfolio of identified AI Use Cases can only be realized through a deliberate, disciplined, and enterprise-wide effort to mature the Department's foundational capabilities. This document provides the clear, evidence-based path for that maturation process.

The framework for this assessment is the Federal AI Maturity Model (FAIMM 1.0), a practical management tool synthesized from decades of best practices in enterprise AI, public sector governance, and process maturity disciplines. The FAIMM's unparalleled granularity and prescriptive nature, which provides a detailed to-do list of Key Actions for each stage of maturity, make it the ideal instrument to guide the journey within DOT. It ensures the Department builds its AI capabilities in a way that is effective, responsible, accountable, and aligned with its core public service values and its mission to ensure the United States has the safest, most modern, and most efficient transportation system in the world.

The assessment reveals a significant and common challenge in large-scale technology adoption: while DOT has established a strong strategic and governance foundation, a gap exists in the core technical and enabling capabilities required for execution. This assessment is based on 10 pillars which are the comprehensive, interlocking capabilities required to build a successful and trustworthy enterprise AI program. Each pillar can be rated from lowest to highest level of maturity: Plan, Develop, Execute, and Scale where Scale is highest level of maturity. The Department's self-assessment shows that high-level planning in areas like AI Strategy (Pillar 1) and Trust and Accountability (Pillar 10) is relatively advanced. However, foundational pillars such as Resource Management (Pillar 3), AI/ML Engineering (Pillar 5), and AI-Ready Culture and Workforce (Pillar 8) are in earlier stages of development. This pattern indicates that while the vision is clear, the mechanisms for funding, engineering discipline, and talent management are lagging. The primary purpose of this roadmap is to provide a concrete plan to close this execution gap, ensuring the visionary use cases can become operational realities.

A recurring theme is the tension between the Department's goal of leveraging unified, enterprise-wide AI capabilities and the current reality of leveraging innovation and creativity initiatives within various Operating Administrations (OAs), programs, and offices. This contrast between a top-down strategic push and a bottom-up

reality of fragmented, organic growth highlights a critical need. This roadmap must therefore address not only the creation of central platforms but also the essential change management required to integrate, harmonize, and onboard disparate OA efforts, preventing duplicative spending and ensuring enterprise-wide adoption of best practices.

The Department has set an ambitious goal: to advance all ten FAIMM pillars from their current state to the 'Execute' level over the next two years. Reaching the 'Execute' level signifies that the Department has moved beyond planning and development to the operational stage in which policies are enforced, platforms are deployed, and value is actively monitored. Achieving this level of maturity across all pillars in a coordinated fashion is the key to unlocking the transformative potential of AI described in the Strategy. The following scorecard provides an at-a-glance summary of this journey.

Pillar	LEVEL 1 PLAN	LEVEL 2 DEVELOP	LEVEL 3 EXECUTE	LEVEL 4 SCALE
1 AI Strategy	Establish leadership and resources to create a human-centered, mission-aligned AI strategy.	Draft and approve a formal AI strategic plan with a maturity model-based roadmap.	Operationalize the strategy with a detailed implementation roadmap and performance tracking.	Dynamically optimize the AI strategy using foresight and AI-driven portfolio management.
2 AI Use Case Value & Impact	Establish a framework and process for collecting and screening AI use case ideas.	Create standardized tools and processes for rigorously evaluating use case value and risk.	Implement a portfolio-driven approach to manage AI investments with a central value dashboard.	Use AI to proactively identify new high-value use cases and predict their impact.
3 AI Resource Management	Establish leadership and teams to plan the financial and procurement aspects of AI.	Design specific funding methods, agile contracting techniques, and financial guardrail policies.	Secure recurring budget line items and implement transparent cost tracking and showback.	Pioneer innovative funding models like joint agreements and outcome-based contracts for AI.
4 AI & Data Tech Infrastructure	Create a strategic roadmap for a centralized, secure, multi-cloud IaaS platform for AI.	Design the specific technical services, operational procedures, and cost recovery for the platform.	Procure, build, and automate the IaaS environments with reusable Infrastructure-as-Code scripts.	Evolve the platform to be intelligent and resilient with AIOps and advanced architectures.
5 AI/ML Engineering	Establish leadership and a roadmap to treat AI development as a formal engineering discipline.	Create foundational standards for version control, testing, peer review, and model documentation.	Automate the development lifecycle with CI/CD pipelines and formal V&V frameworks.	Manage the entire AI lifecycle with intelligent automation, proactive resilience, and DevSecOps.
6 Trustworthy Data for AI	Establish data governance leadership to treat data as a strategic enterprise asset.	Design data policies, select standardized tools, and create a framework for bias assessment.	Deploy data catalogs and create curated, AI-ready datasets with automated lineage and monitoring.	Automate data governance with AI, pilot advanced PETs, and implement Policy-as-Code.
7 Research & Development	Establish a strategic agenda and governance for mission-focused, responsible AI innovation.	Create a research problem book and define workforce and infrastructure requirements for R&D.	Fund and manage a balanced R&D portfolio with strong ethical oversight and collaboration.	Become a globally recognized leader by creating prestigious talent programs and pioneering research.
8 AI-Ready Culture & Workforce	Establish the strategic foundation for building the human capital needed for AI.	Create formal plans, standardized roles, and foundational training programs for the workforce.	Fully operationalize the workforce plan by integrating it into core HR functions.	Become a national talent destination by building a broad, sustainable public sector AI ecosystem.
9 AI Data, Model & Code Sharing	Establish the strategic mandate and foundations for breaking down internal data and code silos.	Create the legal, policy, and technical frameworks for safe and efficient sharing.	Deploy platforms and implement policies to enable and encourage collaboration and reuse.	Make sharing intelligent and proactive, extending beyond the agency to build public trust.
10 AI Trust & Accountability	Establish leadership and situational awareness to build a robust AI oversight framework.	Draft and approve the core governance documents like the Accountability Plan and Board charter.	Operationalize governance by integrating it into enterprise risk and deploying monitoring tools.	Make oversight proactive and automated, contributing to national and international standards.

INTRODUCTION

This document provides a comprehensive analysis of the Department's current AI maturity and a detailed roadmap for achieving its strategic goals. It is structured around the Federal AI Maturity Model (FAIMM), which consists of two core components:

- The Ten Foundational Pillars: These are the comprehensive, interlocking capabilities required to build a successful and trustworthy enterprise AI program. They are grouped thematically into a Strategic Foundation (Strategy, Value, Resources), a Technical Engine (Infrastructure, Engineering, Data), Enabling Capabilities (R&D, Workforce, Sharing), and Oversight and Accountability.
- The Four Levels of Maturity: These represent a sequential journey of organizational evolution for each pillar.
    - Level 1 – Plan: The initial stage of formalizing intent and securing consensus, assigning leadership, and developing a strategic blueprint.
    - Level 2 – Develop: The phase of transforming plans into tangible assets like policies, designs, and program charters.
    - Level 3 – Execute: The operational stage where plans and assets are implemented, integrated into daily functions, and actively monitored.
    - Level 4 – Scale: The highest state of maturity, focused on continuous optimization, adaptation, and leadership.

The remainder of this document is divided into ten sections, one for each FAIMM pillar. Each section follows a consistent structure to provide a clear and actionable analysis:

- Pillar Overview: This is a high-level summary of the pillar's purpose and its importance to the Department's overall AI maturity, drawing from the FAIMM's official description.
- Current Level Assessment: This section provides an objective analysis of where DOT stands today in that pillar, based on the self-assessment details provided. It explains the significance of the current maturity level and summarizes the foundational work the Department has already completed.
- Implementation Plan: This is the most critical part of each section, serving as the actionable, step-by-step to-do list for the Department for each pillar. It begins with a discussion of why achieving the goal level of 'Execute' is important for that pillar. It then outlines every remaining Objective and a summary of the Key Actions DOT must complete to progress from its current level to its goal. This plan will help guide program management, resource allocation, and performance tracking for the next two years.

Though the AI maturity of DOT organization will be tracked using the ten foundational pillars and four levels of maturity, the maturity of the AI technology associated with the Maturity roadmap will also be tracked by Integrating NASA's Technology Readiness Levels (TRLs). The combination of FAIMM and TRLs models provides a holistic view of AI maturity, addressing both the organizational and technical aspects of implementing AI solutions.

TRLs provide a more granular and specific, objective measure of the maturity of the underlying AI technologies being implemented. The "Implementation Plan" for each pillar, which serves as a "to-do list," explicitly ties Key Actions to the progression of a technology's TRL. By cross mapping between the two models, the Department can gain a clearer understanding of not only the organizational readiness for AI but also the technical readiness of the specific solutions being deployed.

Levels 1 (Plan) and 2 (Develop) align with early TRLs (1-3), where basic research and proof-of-concept are being developed on a conceptual level. Level 3 (Execute) is where TRLs become most relevant. A technology would progress through TRLs 4-8 during the Execution phase, moving from laboratory validation to a fully operational system. Level 4 (Scale) is synonymous with TRL 9, where the technology can be continuously optimized and applied across the organization.

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Pillar 1: AI Strategy

An AI Strategy is the Department's public commitment to developing and deploying AI in a manner that is not only effective but also accountable and aligned with American values. It serves as the organization's authoritative north star for all AI endeavors, ensuring that AI is not pursued as a series of disconnected, ad-hoc projects, but as a cohesive, enterprise-wide capability deliberately aimed at augmenting human potential and achieving core mission outcomes while ensuring appropriate safeguards are in place to protect privacy, civil rights, and civil liberties, and to mitigate any unlawful discrimination. For a Federal agency like DOT, a robust AI strategy helps guarantee that every AI investment is justifiable, measurable, and aligned with public service goals, such as Safety, Infrastructure, Innovation, and Efficiency. Pillar 1 is critical for accelerating responsible AI adoption because it establishes the essential "why" and "how" before significant resources are committed. It defines the participatory governance structures that provide oversight, break down organizational silos, and ensure community voices are heard. By mandating the creation of an AI Maturity Assessment and Roadmap, the strategy forces a realistic evaluation of current capabilities against desired future states, creating a clear, actionable path forward. A well-executed strategy transforms AI from a technological novelty into a core component of mission delivery and a powerful engine for responsible innovation and public value.

Current Level Assessment

The Department's self-assessed maturity for the AI Strategy pillar is **Level 2: Develop**. This level signifies that DOT has successfully moved beyond the initial planning stage and is actively creating the tangible, documented, and approved artifacts that constitute its formal AI strategy. An organization at the 'Develop' level is no longer just discussing AI; it is building the official blueprint that will guide its responsible AI journey.

The details provided by the Department confirm that it has met the key requirements of this level. Foundational leadership has been established with the formal designation of the Chief Data and AI Officer (CDAIO) as the executive lead and the Deputy Secretary of Transportation as the executive sponsor and champion. A collaborative structure is in place through the AI Coordination and Activities (AICA) Working Group of the Nontraditional and Emerging Transportation Technology (NETT) Council, which serves as the Department’s AI Governance Board. This structure ensures that the strategy is developed with broad input and has the authority to guide execution.

Most importantly, the core components of the strategy have been drafted and approved. The *AI Use Case Strategic Alignment* document explicitly links a portfolio of AI Use Cases directly to the Department's overarching Strategy, ensuring that those AI efforts are mission focused. Furthermore, the Department has formally adopted the Federal

AI Maturity Model (FAIMM 1.0) as its actionable roadmap for assessing capabilities and guiding investments, and it has defined the roles and responsibilities of its AI Governance Board in its Compliance Plan for OMB Memorandum M-25-21 (Part III of this Strategy). These actions demonstrate that DOT has successfully completed the 'Develop' phase by creating a comprehensive, vetted, and formally signed-off AI Strategy that is ready for implementation.

Implementation Plan to Achieve "Execute" Level

Achieving the Goal Level: 'Execute' is the critical next step for the DOTAI Strategy pillar. It involves transforming the AI Strategy from a well-crafted document into a living, operational reality that is woven into Department daily functions. While the 'Develop' level focuses on creating the plan, the 'Execute' level is about disciplined implementation, resource allocation, performance tracking, and active management. This transition is essential to ensure that the strategy does not become a static artifact but instead serves as a dynamic management tool that drives tangible and responsible progress toward Department mission goals. The gap between 'Develop' and 'Execute' is the gap between planning and doing. DOT has a plan; this implementation roadmap outlines the key actions required to make that plan operational and successful.

- Operational Planning and Resourcing: To operationalize the AI Strategy fully, DOT must secure multi-year resources and create a detailed implementation roadmap. This involves securing comprehensive funding and staffing for the program, decomposing the high-level strategy into a granular roadmap with specific milestones and Key Performance Indicators (KPIs), and integrating those KPIs into Department official performance management systems and executive dashboards for consistent tracking and visibility.

- Portfolio Management and Oversight: To ensure the strategy is effectively managed, DOT must establish rigorous review processes to oversee the AI portfolio. This step includes conducting formal, regular reviews of the DOT AI portfolio to assess progress and reallocate resources, implementing a systematic process for tracking the actual benefits delivered by deployed use cases against their initial projections, and operationalizing a tailored AI Risk Management Framework (RMF) based on National Institute of Standards and Technologies (NIST) guidelines to manage risks for every project systematically.

- Fostering Adoption and Innovation: To drive cultural change and accelerate development, DOT must launch a formal change management and public engagement program to manage the cultural aspects of AI integration and communicate progress transparently. A significant aspect of AI literacy involves hands-on experiential learning. The ongoing chat.dot.gov beta test exemplifies this approach, having already boosted productivity for more than 2,000 testers across the OAs. DOT must also formally establish an AI Center of Excellence (CoE) to act as a central hub of expertise and activate strategic partnerships with academia, industry, and civil society to accelerate responsible innovation.

Pillar 2: AI Use Case Value & Impact

The AI Use Case Value and Impact pillar provides the essential financial and mission-centric discipline for the Department AI program. Its purpose is to ensure that AI investments are targeted, remain justifiable, and deliver measurable, positive value to the organization and the public it serves. This pillar moves the Department from a technology-first approach, where projects might be chosen based on technical novelty, to a value-first approach, where projects are selected and prioritized based on their potential to advance the mission, improve efficiency, and provide a tangible return while upholding public trust and ethical principles. For a Federal agency, value must be interpreted broadly, encompassing not just cost savings (Return on Investment, or ROI) but also improvements in service delivery, decision quality, and public trust (Return on Mission, or ROM). This pillar establishes the systematic processes and tools to propose, evaluate, prioritize, track, and retire AI Use Cases based on this holistic view of value. It focuses limited resources of time, money, and talent on the AI initiatives that matter most.

Current Level Assessment

The Department's self-assessed maturity for the AI Use Case Value and Impact pillar is **Level 2: Develop**. This level signifies that DOT has established the standardized tools and processes and organizational commitment to a value-driven approach for AI as well as a developed centralized process for submitting new AI Use Cases. An organization at the 'Develop' level is focused on applying these mechanisms to assess AI opportunities against mission, financial, and societal factors consistently to ensure responsible and high-impact investments.

The details provided by the Department confirm that it has met the key requirements of this level. Leadership has been established, with the Chief Data and AI Officer designated to lead the initiative to assist leadership in making value-based decisions about AI investments. A process and system for collecting use case ideas from across the Department have been established in the form of the Transportation Use Case Knowledge Repository (TrUCKR). Critically, TrUCKR has been identified as the system of record within the Department for not only gathering the pipeline of ideas but also for aligning those ideas to Department Strategic Objectives and conducting preliminary evaluations for risk, feasibility, and return on mission/investment. These actions demonstrate that DOT has successfully created the foundational structures to solicit and capture AI use case proposals and has begun the initial analysis required for a value-driven approach.

Implementation Plan to Achieve "Scale" Level

Achieving the Goal Level: Scale for this pillar is critical for enabling DOT to use AI itself to identify new high-value use cases proactively and predict their impact, ensuring a continuously evolving and strategically aligned portfolio of AI investments. The 'Develop' and 'Execute' levels build the rigorous processes and tools needed to evaluate, prioritize, fund, and track those ideas systematically based on their full lifecycle impact. The Scale level proactively identifies new AI use-cases. The progression from 'Develop' to 'Scale' is essential for ensuring that limited taxpayer dollars are directed toward the AI projects that will deliver the greatest public value, such as preventing transportation fatalities or improving infrastructure reliability, and that it will go towards solving problems that genuinely require AI solutions. The Department has a system for collecting ideas (TrUCKR); this implementation plan provides the roadmap to build the capability to manage those ideas as a strategic portfolio.

- Creating Standardized Evaluation Tools: To ensure all projects are evaluated consistently, DOT must develop a standardized template for AI Use Case Proposals that mandates consideration of benefits, potential harms, and affected stakeholders. This includes evaluating impacts on privacy, civil rights, and civil liberties, and unlawful discrimination. It must also create a detailed cost estimation model to forecast full lifecycle costs and a standardized framework for assessing technical, operational, and societal risks.
- Designing the Evaluation Process: To operationalize these tools, DOT must develop a formal process for how OAs will regularly evaluate and prioritize their submitted proposals. This must be paired with a process for conducting periodic value re-evaluations after a use case is in production, and a requirement that every proposal include a formal Benefits Realization Plan detailing how benefits will be measured and tracked.
- Developing a Portfolio Prioritization Methodology: To enable strategic decision-making, DOT must design a portfolio-balancing scorecard to compare enterprise-level AI projects on how they collectively contribute to strategic goals and formally document the methodology for scoring and prioritizing competing proposals based on criteria like strategic alignment, public value, risk, and feasibility.
- Operationalizing the Value Framework: To execute the plan, DOT must secure resources for ongoing operations, implement the systematic use of the standardized proposal template across the Department, and establish an enterprise-level AI Use Case selection and development capability responsible for coordinating the funding and development of high-impact, cross-cutting projects.
- Tracking and Visualizing Value: To ensure transparency and accountability, DOT must create a central AI Use Case Value dashboard providing a comprehensive view of all projects. It must also implement a system to track the realization of benefits actively and a formal process for conducting "lessons learned" reviews after project completion to inform future planning.
- Managing the Portfolio and Culture: To manage the portfolio actively, DOT must establish a formal process for retiring AI Use Cases that are not delivering value or are causing harm. It should also launch ideation

challenges and communicate success stories to foster a culture of responsible innovation and conduct regular AI portfolio health reviews with senior leadership to make strategic decisions.

- Balancing formality with agility is essential: While formal processes ensure safety and accountability, they must be applied flexibly to avoid stifling rapid innovation, prototyping, and iteration—particularly as fresh ideas flow into the Department from external sources. Creating and preserving this innovation space is a strategic imperative for DOT, as it is necessary to enable the Department to adapt quickly, harness emerging technologies, and maintain leadership in transportation advancements.

Pillar 3: AI Resource Management

The AI Resource Management pillar is the pragmatic engine that powers the entire Federal Artificial Intelligence Maturity Model. It addresses the critical, foundational questions of how the agency will pay for, procure, and financially manage its AI ambitions in a sustainable and responsible way. Without a sophisticated resource management strategy, even the best AI strategy, data, and talent will fail due to uncertain funding and cumbersome procurement processes. This pillar focuses on moving the agency away from slow, project-by-project funding cycles toward modern, agile, and portfolio-based financial management that explicitly allocates resources for safety, oversight, and ethical considerations. It establishes the mechanisms for central funding of shared infrastructure, agile contracting for AI services, and transparent cost-recovery from the programs benefiting from AI. For a Federal agency, navigating the complexities of Federal budgeting and acquisition law is paramount, and this pillar provides the roadmap to do so effectively for AI, tackling the bureaucratic friction that can grind responsible innovation to a halt.

Current Level Assessment

The Department's self-assessed maturity for the AI Resource Management pillar is Level 1: Plan. This level signifies that DOT has established the strategic foundation for the financial and procurement aspects of its AI program. An organization at the 'Plan' level is focused on assembling the right leadership and expertise from its financial and acquisition communities and beginning the foundational analysis required to build a compliant and effective resource management strategy.

The details provided by the Department indicate that it has initiated the key actions of this level. Planning discussions have occurred within the Office of the Chief Information Officer (OCIO) to establish the necessary leadership and collaborative teams to move toward modern, agile financial management. Future budgets will consider AI investments. This action demonstrates that DOT has correctly identified central resource management challenges and has begun the strategic planning required to address them, fulfilling the intent of the 'Plan' level.

Implementation Plan to Achieve "Execute" Level

Achieving the Goal Level: 'Execute' for this pillar is essential for the Department to create a stable and transparent financial and acquisition ecosystem for the entire AI program. While the 'Plan' level involves initial discussions,

the 'Develop' and 'Execute' levels are about creating and operationalizing specific, actionable financial and procurement strategies. This progression is critical for moving beyond funding uncertainty and providing the predictable, long-term resource streams necessary to build shared infrastructure, develop a skilled workforce, and sustain the ambitious use cases outlined in the Strategy. This implementation plan provides the roadmap to translate high-level discussions about funding into concrete, operational mechanisms that will accelerate responsible AI adoption across the Department.

- Developing Core Funding Methods: To create a sustainable financial model, DOT must determine the specific methods for funding a shared AI infrastructure, individual use case development, and the technical mechanisms for cost allocation. This planning may include as appropriate designing a chargeback or showback model for cloud and AI service costs to ensure financial accountability. The beta test of chat.dot.gov is a model for a showback approach—the DOT Chief Data and AI Officer (CDAIO) can monitor usage by OA or at a more granular level without imposing chargebacks or administrative burdens that would inhibit use, enabling transparent cost visibility, data-driven allocation, and rapid feedback while teams freely prototype and iterate.
- Strategic Procurement and Policy: To enable agile acquisition, DOT must determine how to use agile or modular contracting techniques, including criteria for evaluating vendors on their commitment to ethical AI practices. This stage also involves developing a strategy for a "cloud marketplace" of pre-approved tools.
- Business Case and Training Development: To secure long-term funding mechanisms, DOT must create the formal business case and operational plan for utilizing the WCF.

- Establishing Sustainable Funding Streams: To execute the plan, DOT must clearly identify AI-related funding needs in the annual budget, with dedicated sub-allocations for governance and safety. It must also implement methodologies for Departmental entities to contribute to central funds for infrastructure, consumption, and development services, ensuring stable, long-term funding.
- Implementing Financial Tools and Processes: To ensure transparency, DOT must integrate budget allocation with the AI value evaluation process, implement a real-time spending dashboard, and deploy a dedicated cloud cost management platform. It must also implement software license management and execute the first showback reporting cycle to build financial accountability and establish a Cost Optimization Review Board to drive financial efficiency and create a financial guardrail policy to prevent runaway cloud costs.
- Strategic Procurement Capability: DOT will leverage the forthcoming GSA-managed AI procurement toolbox, in coordination with OMB, to ensure Federal-wide consistency and compliance in acquiring AI solutions. To support this, DOT will provide targeted training for the acquisition workforce to help contracting officers and program offices responsibly evaluate and procure AI technologies. In addition, DOT will explore establishing practicable guidance and tips to promote efficiencies across AI investments

Pillar 4: AI & Data Tech Infrastructure

The AI and Data Technology Infrastructure pillar is the technical bedrock of the entire Federal Artificial Intelligence Maturity Model. It provides the core computing, storage, and networking capabilities, digital highways, and factories, that are essential for building, training, and deploying AI models in a manner that is trustworthy, secure, and accountable. In a modern context, this means engineering a sophisticated, multi-cloud, Infrastructure-as-a-Service (IaaS) ecosystem that is secure and resilient by design. For a Federal agency, establishing this foundation as a shared service is paramount. It eliminates the inefficiency and security risks of each operational division building its own bespoke AI environment. By creating standardized, secure, and reusable "houses" for AI development, an agency can dramatically accelerate the AI lifecycle, reduce costs, and ensure consistent security and compliance. This pillar is a critical accelerator because it addresses one of the most significant historical bottlenecks in AI development: access to powerful, properly configured computing resources. A centrally managed IaaS platform democratizes access to AI tools, allowing a developer to provision a secure, fully equipped AI environment in minutes rather than months.

Current Level Assessment

The Department's self-assessed maturity for the AI and Data Technology Infrastructure pillar is Level 3: Execute. This level signifies that DOT has progressed past roadmap planning and design and is now focused on procuring, building, and automating its centralized AI platforms with reusable Infrastructure-as-Code and implementation practices. An organization at the 'Execute' level is defining the specific capabilities, services, and operational procedures for its IaaS platforms to ensure they are reliable and safe for procurement and implementation.

The details provided by the Department confirm that it has made substantial progress in this phase. Leadership is established with the Chief Data and AI Officer as the executive lead and the Chief Information Officer (CIO) as the executive sponsor. The core technical design is well underway: the common AI and data infrastructure capabilities, platform-level administrative services, and methods for integrating enterprise data have been designed. The operational and user enablement processes have also been defined, including administrative roles, network architecture design, a process for onboarding new users, and a disaster recovery plan. Furthermore, initial plans for financial sustainability (cost recovery), contracting, and federated data access have been developed, and partial funding sources have been identified. This comprehensive design work demonstrates that DOT has a detailed, actionable plan ready for implementation.

Implementation Plan to Achieve "Scale" Level

Achieving the **Goal Level: Scale** for this pillar is the crucial step of transforming the detailed infrastructure designs into tangible, operational AI platforms. While the 'Execute' level creates the blueprint, the 'Scale' level is about evolving the platform to be intelligent and resilient. This transition is essential for providing the Department's data scientists, developers, and transportation professionals with the actual tools and environments they need to build the innovative safety and efficiency applications envisioned in the Strategy. This implementation plan outlines the key actions required to move from a comprehensive design document to a functioning, optimized, and automated IaaS ecosystem.

- Resourcing and Procurement Execution: To build the platform, DOT must first secure the full and appropriate resources for its ongoing development, operations, and maintenance. This involves implementing the necessary interagency agreements to allow departmental entities to contribute funds and executing the contracts and procurement vehicles required to build and manage all IaaS multi-cloud shared service environments.
- Core Platform Implementation: The next step is to establish the initial Operations, Sandbox, and R&D IaaS environments from at least one cloud vendor. These environments must then be actively optimized for capacity, cost, and security. A critical action is the creation of a library of reusable Infrastructure-as-Code (IaC) scripts to automate the provisioning of standardized AI workspaces, which is key to delivering speed and consistency.
- Establishing Platform Operations: To manage the platform, DOT must deploy a financial dashboard for real-time visibility into cloud spending. It must also formally establish and staff a central Platform Engineering Team responsible for maintaining and improving the IaaS, launch a user-facing support portal with documentation and a help desk, and implement a centralized logging and security monitoring solution for the entire platform. Innovative pilot efforts can inform the evolution of central platforms.

Pillar 5: AI/ML Engineering

The AI/ML Engineering pillar provides the discipline, rigor, and methodology required to build, test, deploy, and maintain AI systems in a manner that is not just scalable and efficient, but also trustworthy, secure, and accountable. This pillar adapts and extends the principles of traditional software engineering to the unique challenges of AI development, an approach commonly known as MLOps (Machine Learning Operations). The pillar operationalizes these principles by embedding them directly into the development lifecycle, ensuring that accountability, fairness, and transparency are engineered into systems from the start, not added as an afterthought. For a Federal agency, establishing a mature AI/ML Engineering practice is the difference between producing fragile, one-off AI prototypes and delivering robust, enterprise-grade AI solutions that can be trusted with mission-critical tasks, such as preventing runway incursions or predicting bridge failures. This pillar is the "how" that makes the "what" of the AI strategy possible in a responsible way, transforming AI development from a craft practiced by individual artisans into a professional engineering discipline practiced by high-performing, accountable teams.

Current Level Assessment

The Department's self-assessed maturity for the AI/ML Engineering pillar is Level 1: Plan. This level signifies that DOT recognizes the need to formalize its AI development practices and has begun the foundational work of creating a strategic framework to do so. An organization at the 'Plan' level is moving away from purely ad-hoc development and toward a deliberate, planned effort to professionalize AI engineering across the enterprise.

The details provided by the Department reflect this initial stage. Current AI/ML engineering efforts are described as "ad hoc" across OAs and research organizations, highlighting the value that this pillar aims to provide. In response, the CDAIO has developed initial high-level plans for creating an enterprise engineering roadmap. This roadmap addresses the foundational elements of a mature engineering practice, including the need for version control, integrated governance, a standardized MLOps toolchain, and the definition of engineering roles and responsibilities. This stage indicates that while current practice is fragmented, a strategic vision for a unified, disciplined approach is forming, which is the core purpose of the 'Plan' level.

Implementation Plan to Achieve "Execute" Level

Achieving the Goal Level: Execute for this pillar is fundamental to the Department's ability to deliver the AI Use Cases outlined in its Strategy reliably and safely. Achieving the goal requires moving from the current state of ad-hoc, fragmented development to a disciplined, automated, and governed engineering practice. While the 'Plan' level establishes a vision, the 'Develop' and 'Execute' levels are about creating and implementing the specific standards, tools, and automation that professionalize the AI lifecycle. This progression is essential for increasing the speed and reliability of AI deployment, reducing security and ethical risks, and ensuring that all AI systems are built with accountability and trustworthiness from the start. This implementation plan provides the roadmap to build a true MLOps foundation for the Department.

- Establishing Code and Project Standards: To institute fundamental engineering discipline, DOT must develop and enforce version control standards for all AI code, create a standardized template for structuring AI projects, and define a consistent branching strategy for the version control system. This provides a foundation for collaborative, auditable, and repeatable development. These standards will incorporate generative development tools to transform prototypes into production-ready code and artifacts automatically.
- Instituting Quality and Review Processes: To ensure quality and transparency, DOT must develop standardized templates for AI solution test plans that include checks for fairness and bias which is further addressed in pillar Trustworthy Data for AI. DOT must also establish a formal peer review process for all code and create required templates for model cards and datasheets for datasets to ensure comprehensive documentation. DOT can learn from private sector toolsets and industry for developing AI frameworks and technical tools for AI quality control.
- Implementing Security and Dependency Management: To build secure systems, DOT must establish and disseminate secure coding standards tailored for AI/ML development and institute a formal process for managing software packages and dependencies to prevent security risks from vulnerable components and ensure environments are reproducible.
- Automating the Development Pipeline: To accelerate development, DOT must select and implement a standard, automated testing framework for AI models and deploy a Continuous Integration/Continuous Deployment (CI/CD) pipeline to automate the building, testing, and initial deployment of AI models. This pipeline must include automated data validation checks to prevent training on corrupt data.
- Establishing Formal Verification and Monitoring: To ensure trustworthiness, DOT must implement a formal Verification and Validation (V&V) framework that all models must pass before deployment, including mandatory scans for security vulnerabilities and algorithmic bias. DOT must also deploy a centralized system for the automated, continuous monitoring of all production models for performance drift and fairness degradation.

- Building MLOps Management Tools: To manage the MLOps ecosystem, DOT must automate governance and compliance checks directly into the CI/CD pipeline. The Department must also deploy a centralized feature store to promote reuse, a model registry to manage the model lifecycle, and tools that automatically capture data and model lineage for full auditability and accountability.
- Implementing While Iterating: These capabilities must be implemented as they become available, but it would be counterproductive to require all elements to be in place fully before any tool advances to production. Tool developers need to iterate rapidly on even mature code, and this process will naturally evolve as experience grows and tools are enhanced.

Pillar 6: Trustworthy Data for AI

The Trustworthy Data for AI pillar is arguably the most critical element of the entire FAIMM, as data is the fuel that powers every Artificial Intelligence and machine learning model. Without access to high-quality, relevant, and well-governed data, even the most advanced algorithms and powerful infrastructure are rendered ineffective and potentially harmful. For a Federal agency like DOT, which is the custodian of vast and unique datasets of national importance, a mature approach involves treating this data not as a series of siloed operational byproducts but as a core strategic enterprise asset. This pillar establishes the governance, policies, and technical systems required to manage the full lifecycle of data, from discovery and preparation to quality control, security, and ethical use. The pillar is fundamentally about ensuring that the data used to train AI models is not only accurate and relevant but also equitable, representative, and free from biases that could lead to unfair or discriminatory outcomes for the public. It ensures that privacy, civil liberties and civil rights are protected by design and that data is handled with demonstrable accountability.

Current Level Assessment

The Department's self-assessed maturity for the Trustworthy Data for AI pillar is Level 1: Plan. This level signifies that DOT has established the strategic governance foundation necessary to treat data as a critical and sensitive enterprise asset for AI use. An organization at the 'Plan' level is focused on assigning clear ownership for data governance and beginning the initial assessment and planning required to build a comprehensive data strategy.

The details provided by the Department confirm that it has a strong foundation at this level. Executive leadership is firmly in place, with the Department’s CDAIO designated as the executive leader and the CIO as the executive sponsor. The Office of the CDAIO is already successfully leading Department-level initiatives to establish the strategic governance foundation necessary to treat data as a critical asset and comply with Federal data management requirements. This pillar's work is described as a refocusing of these existing, successful efforts specifically on the data that powers AI. The central leadership and strategic intent are clearly established as is evidenced by their incorporation in R&D and OAs ad hoc initiatives. This demonstrates that DOT has successfully formalized the leadership and charter for this pillar, fulfilling the requirements of the 'Plan' level.

IMPLEMENTATION PLAN TO ACHIEVE "EXECUTE" LEVEL

Achieving the Goal Level: 'Execute' for this pillar is fundamental to the success of the entire AI Strategy. It requires moving from the current state of established governance leadership and ad-hoc initiatives to a fully implemented, enterprise-wide system for providing discoverable, reliable, and equitable data to AI teams. While the 'Plan' level assigns leadership, the 'Develop' and 'Execute' levels are about creating and deploying the specific policies, tools, and curated datasets that form a trustworthy data foundation. This progression is essential for accelerating the AI lifecycle, as it eliminates the massive, duplicative effort where every project team spends up to 80 percent of its time cleaning and preparing data. More importantly, it builds trust and confidence in the entire AI system by ensuring the data it is built on is fair and representative.

- Designing Governance Policies and Processes: To build the rulebook for data, DOT must integrate AI data governance into its existing privacy and cybersecurity programs, develop a formal data classification policy, design a comprehensive metadata management strategy, and create a streamlined process for data sharing agreements. It must also design a formal process for remediating data quality and bias issues as well as alignment of data with the purpose of the tool/model.

- Selecting Tools and Defining Requirements: To provide the right toolkit, DOT must select standardized, Department-level platforms for the enterprise data catalog and data preparation. DOT must also develop a standardized framework for assessing datasets for bias and fairness and create a data quality scorecard to provide transparency into the health of critical data assets.

- Deploying Core Data Platforms: To execute the plan, DOT must procure and deploy Data Governance Platform and Master Data Management (MDM) capabilities to create an authoritative source of truth for critical data. The Department must also establish an internal "data marketplace" or portal where users can discover and request access to available internal and commercially available datasets through a streamlined workflow.

- Implementing Governance and Quality Processes: To put policies into practice, DOT must begin creating high-quality, curated AI-ready datasets for common use cases, each accompanied by a fairness assessment and metadata that addresses alignment for AI development goals. DOT must deploy tools to track data lineage automatically, establish a dashboard to monitor data trustworthiness, implement the mandatory bias assessment process for all training data, and launch the data stewardship program automatically. DOT should create an AI-ready dataset checklist that includes authoritative data ownership, privacy/CUI tags, quality score, and other relevant metadata fields.

- Fostering a Data-Literate Culture: To ensure widespread adoption and responsibility, DOT must launch a Department-wide data literacy campaign to train all employees on the fundamentals of data governance, quality, and the ethical use of data, including how to recognize and question potential biases in data.

Pillar 7: Research & Development

The Research and Development (R&D) Pillar is the forward-looking engine of the FAIMM, ensuring the Department does not become technologically stagnant but instead remains at the cutting edge of responsible AI innovation. While the AI Strategy pillar focuses on applying current capabilities to meet existing mission goals, the R&D pillar focuses on creating future capabilities to solve tomorrow's challenges within clear ethical boundaries. For a Federal agency, this is a necessity. The pace of AI advancement is relentless, and reliance on only commercially available technology guarantees that an agency will eventually fall behind. A dedicated R&D strategy allows the Department to explore high-risk, high-reward areas, such as developing quantum sensors for navigation or creating self-healing infrastructure materials, and to cultivate the deep technical expertise needed to be an intelligent adopter of new technologies. Multiple initiatives are in place to engage industry and academic partners to help shape the future of transportation, and these partnerships can also become assets in the DOT AI strategy. This exploration must be guided with potential societal impacts considered even at the earliest stages of research. This pillar is vital for creating a long-term pipeline of novel ideas, techniques, and talent that feeds the entire AI ecosystem.

Current Level Assessment

The Department's self-assessed maturity for the Research and Development pillar is Level 3: Execute. This level signifies that DOT has moved beyond agenda-setting and problem definition and is now actively funding and managing a balanced R&D portfolio with strong ethical oversight and collaboration. An organization at the 'Execute' level is focused on directing resources toward its most critical research challenges, while building the partnerships, talent programs, and infrastructure necessary to advance responsible, mission-driven AI innovation.

The details provided by the Department confirm that it has a strong foundation at this level. Executive leadership is in place, with the Director of the Volpe AI Center of Transportation Innovation (AI CoTI) as the executive leader and the Assistant Secretary for Research and Technology (OST-R) as the executive sponsor. The Office of the Assistant Secretary for Research and Technology already leads and executes many initiatives that create a pipeline of novel ideas and talent for the Department's R&D ecosystem. The work of this pillar is described as a refocusing of these existing, successful efforts specifically on creating future capabilities using AI. This level indicates that the core structures for managing R&D are already operational, and the 'Execute' phase work involves formalizing the AI-specific components within this established framework.

Implementation Plan to Achieve "Scale" Level

Achieving the Goal Level: Scale for this pillar is about bringing the AI R&D plan to life through active funding, disciplined portfolio management, and strong ethical oversight to become a globally recognized leader. While the 'Execute' level focuses on defining the problems and requirements, the 'Scale' level is about the operational execution of the research agenda to solve global problems. This transition is essential for ensuring that the Department's R&D efforts are not purely academic but are well-funded, mission-responsive, and have a clear pathway to transition successful innovations into operational use. This goal will allow DOT to tackle "moonshot" challenges, such as those in the mission space of ARPA-I, and maintain its position as a global leader in transportation innovation. This implementation plan provides the roadmap to run a dynamic, well-funded, and mission-responsive AI R&D program that innovates responsibly.

- Funding and Portfolio Management: To execute the R&D program, DOT must first identify and acquire the appropriate and adequate funding for all internal and external AI R&D program costs. It must then implement a formal, systematic process for managing the entire R&D portfolio, actively balancing investments across basic, applied, and advanced research, and track performance using a dashboard of R&D-specific KPIs like patents and successful transitions.
- Fostering Innovation and Collaboration: To create multiple avenues for innovation, DOT must establish the infrastructure and funding mechanisms to enable operational sponsors to collaborate easily with R&D experts. It should also launch a competitive internal grant program to fund grassroots research ideas and charter small, independent "skunkworks" teams to tackle high-risk, high-reward challenges with clear ethical oversight. DOT must establish a formal Technology Transfer Office (TTO) or function responsible for actively managing the transition of mature R&D projects to operational teams, bridging the "valley of death" between research and production. Such processes are routine at advanced research agencies like the Defense Advanced Research Projects Agency (DARPA), where time-limited, metrics-driven programs are actively managed and operational transition is incorporated into planning from the start of the project, even for potential breakthrough ideas at low TRL. Similar processes and culture are planned for ARPA-I.

Pillar 8: AI-Ready Culture & Workforce

The AI-Ready Culture and Workforce pillar recognizes the fundamental truth that an organization's AI capability is only as good as the people who build, manage, govern, and use it. Technology, data, and strategy are inert without a skilled, confident, and responsible workforce. This pillar addresses the entire lifecycle of human capital management for the AI era. Its goal is to build a holistic, AI-ready culture that extends beyond a small cadre of technical specialists to empower the entire organization. This process involves fostering broad-based AI literacy for all employees, creating clear career paths for AI professionals, and developing a culture of continuous learning and responsibility that embraces AI as a tool to augment human capabilities and enhance mission delivery. This pillar is a critical accelerator for the AI lifecycle because it directly addresses the most common constraint on AI adoption: the availability of skilled personnel. By creating standardized position descriptions and using modern hiring incentives, the plan shortens the time it takes to bring new talent on board. In addition to hiring skilled practitioners, a key lesson from the private sector is the value of "upskilling" from within; it is often faster and more effective to train existing employees, who have deep mission knowledge, in AI than to hire external experts with no context.

Current Level Assessment

The Department's self-assessed maturity for the AI-Ready Culture and Workforce pillar is Level 2: Develop. This level signifies that DOT is actively creating the concrete plans and programs needed to hire and train its workforce for the AI era. An organization at the 'Develop' level is moving beyond high-level strategic concepts and is drafting formal workforce plans, creating standardized roles, and launching foundational training programs.

The details provided by the Department indicate a mixed but advancing state of maturity. While no overall executive leader or sponsor has been designated for the entire pillar, the CDAIO is leading a critical enterprise capability: the AI Support and Collaboration Center (AISCC). The AISCC is a SharePoint resource, currently in beta-testing, designed to provide the entire workforce with educational resources, use case examples, community connections, and expert support. This resource represents a significant step in developing a foundational training and cultural program. These AI trainings should have distinct tracks for staff of varying experience levels, which is a practice that has been part of successful efforts so far. Concurrently, ad hoc initiatives are underway in R&D and the OAs to address their separate needs for upskilling and hiring. This combination of a centrally developed,

foundational resource (AISCC) and decentralized, ad-hoc efforts is characteristic of the 'Develop' stage, where formal plans and programs are being created and tested before full operationalization.

Implementation Plan to Achieve "Execute" Level

Achieving the Goal Level: 'Execute' for this pillar is essential for building the human capital required to deliver on the Department's AI ambitions. It requires moving from the current state of beta-testing a central resource and ad-hoc initiatives to a fully operationalized, enterprise-wide system for managing AI talent. While the 'Develop' level creates the initial programs, the 'Execute' level is about integrating them into the Department's core HR functions, securing long-term funding, and creating the dynamic tools needed to develop and retain top performers. This progression is critical for ensuring DOT can compete for scarce AI talent and build a culture where all employees are empowered to use AI responsibly to enhance mission delivery.

- Develop AI-Ready Culture and Workforce Plan – Outline a strategic roadmap to build an AI ready culture and workforce that embraces innovation, drives ethical AI adoption, and ensures employees are skilled, confident, and supported in using AI technologies. Align organizational culture with AI and data-driven transformation to organizational goals and business outcomes.
- Engage Leadership: Implement AI Workshops and change management training for senior executives, executives and managers. Assign AI champions across DOT..
- Assess Culture and Workforce Capabilities: Survey current digital and AI maturity to assess readiness and perceptions of AI. Conduct skill gap analysis to identify skills needed for future roles and map existing capabilities. Identify roles at risk, roles that will evolve, and new roles to be created. Use AI and HR analytics to forecast future workforce needs.
- Modernize HR Infrastructure and Tools: Invest in cloud infrastructure, data pipelines, and AI platforms. Provide the technical foundation, proper data access, and tools employees need to work with AI.
- Integrate AI into Core HR Processes: First, secure the necessary resources for execution of the DOT workforce plan. Fully integrate AI talent management into core HR processes by creating clear career paths for AI professionals, integrating AI-related competencies into official employee performance plans, and implementing a formal system for continuously tracking workforce AI skills.
- Develop and Retain Talent: Invest in workforce training and development, data literacy and digital skills that enable cross-functional collaboration and agility in AI adoption and retention. Develop and retain critical talent, by considering implementing a formal rotational program to spread expertise, using available hiring and retention incentives to attract top performers, launching a formal mentorship program to cultivate a culture of responsibility, and creating an internal mobility program to ensure investments in reskilling and upskilling translate into career progression.
- Build a Learning Culture and Ecosystem: Establish and support Communities of Practice (CoPs) for different

AI disciplines, including one for Responsible AI, to foster continuous learning. Develop AI training programs for all with fundamentals, data, privacy and ethics. Recruit, attract, develop, and retain top talent with career pathways and internal skills certification program to recognize acquired AI skills formally and deploy people analytics capabilities to track the effectiveness of all hiring and training initiatives.

Pillar 9: AI Data, Model, & Code Sharing

The AI Data, Model, and Code Sharing pillar is designed to be a powerful force multiplier for the entire FAIMM. Its core purpose is to dismantle the data, model, and code silos that naturally form in large organizations, thereby combating redundant effort, accelerating development, and fostering a collaborative culture of transparency to build collective intelligence. In a Federal agency like DOT, where different OAs often face similar challenges, the failure to share assets represents a massive waste of taxpayer money and time. This pillar establishes the policies, platforms, and cultural incentives necessary to ensure that digital assets—from curated datasets to trained models and reusable code libraries—are discoverable, accessible, and easily reused across the Department. This pillar is founded on the principles from the Foundations for Evidence-based Policy Making Act[1] of "share by default for the public good" and "design for reuse," fundamentally shifting the organizational mindset from "this is my data" to "this is our data." This evolution is a direct accelerator of the AI lifecycle. By creating a central source code repository and a library of reusable models, it allows a new project to start from an 80 percent solution instead of from scratch, a core practice of every elite software company that can benefit DOT.

Current Level Assessment

The Department's self-assessed maturity for the AI Data, Model, and Code Sharing pillar is Level 1: Plan. This level signifies that DOT recognizes the strategic importance of breaking down internal silos and has begun the foundational work of establishing the mandate and structures to do so. An organization at the 'Plan' level is focused on designating leadership to champion a culture of sharing and beginning the initial analysis required to build a sharing strategy that is both ambitious and practical.

The details provided by the Department confirm that it has established this strategic intent. The Department acknowledges that it already has multiple offices responsible for the Department adhering to Federal requirements for data, model, and code sharing, such as the OPEN Government Data Act and the SHARE IT Act. The work of this pillar is described as a refocusing of these existing efforts to combat redundant work, accelerate development, and foster a collaborative culture of transparency. The 'Plan' level indicates that the foundational principles and

[1] H.R.4174 - 115th Congress (2017-2018): Foundations for Evidence-Based Policymaking Act of 2018 | Congress.gov | Library of Congress, https://www.congress.gov/bill/115th-congress/house-bill/4174

external mandates are understood, and the Department is now planning how to translate them into a cohesive, Department-wide program, which is the core purpose of this level.

Implementation Plan to Achieve "Execute" Level

Achieving the Goal Level: 'Execute' for this pillar is critical for unlocking significant efficiencies and accelerating innovation across the Department. It requires moving from the current state of acknowledging sharing mandates to deploying the specific platforms, policies, and cultural incentives that make sharing easy, secure, and the default behavior. While the 'Plan' level establishes intent, the 'Develop' and 'Execute' levels are about building the ecosystem that enables and encourages collaboration.. By creating discoverable, reusable assets the Department can deliver more value, faster, with the same resources.

- **Procuring Enabling Technologies:** To facilitate safer sharing, DOT must procure critical technologies for de-identifying datasets and at least one Privacy-Enhancing Technology (PET), such as a platform for federated learning. DOT should also investigate advanced zero copy data architectures that allow data to be analyzed securely in place.
- **Designing the Sharing Ecosystem:** To make assets discoverable, DOT will utilize the US DOT Data Hub, which is a unified catalog for shared data assets. DOT will evaluate expanding metadata attributes stored in the DOT Data Hub to facilitate the discoverability and sharing of AI Models, code, and training materials.
- **Deploying Core Sharing Platforms:** To execute the plan, DOT must create a central AI repository for discovering and accessing internal source code for all new AI projects, reusable models, and code components. Multiple OAs have started recognizing the importance of code sharing solutions, and DOT should find best practices in OAs for enterprise solutions.
- **Implementing Cultural Change Policies:** To drive the cultural shift, DOT must formally expand the DOT Order 1351.34 Data Management Policy "share by default" and "design for reuse" policies to ensure AI code and models are included.
- **Fostering and Recognizing Collaboration:** To incentivize sharing, DOT must establish a stewardship program for key shared assets, create a dashboard to track reuse metrics, establish a program to recognize and reward top contributors formally, and host events to highlight the value of the ecosystem.

Pillar 10: Trust, Accountability, and Oversight

The AI Trust, Accountability, and Oversight pillar serves as the essential framework of accountability and the conscience of the AI program. It ensures that the Department's pursuit of powerful AI technology is always guided by a commitment to law, ethics, safety, and public trust including safeguards to protect privacy, civil rights, and civil liberties, and to mitigate any unlawful discrimination. While other pillars focus on building and deploying AI, this one provides the critical oversight, rules, and structures to ensure use of AI is done responsibly. For a Federal agency, governance is not optional; it is a fundamental obligation to the public. This pillar establishes the authoritative bodies (like the AI Governance Board), policies (the AI Trust and Accountability Plan), and processes (the AI Use Case Inventory and lifecycle management) that translate high-level principles of fairness, accountability, and transparency into enforceable, day-to-day practice. This pillar accelerates the responsible adoption of AI by creating clarity and predictability for developers and program managers. Instead of navigating a vague compliance landscape, teams are given a clear roadmap with defined checkpoints and risk assessment tools. This guard-railed approach fosters, rather than stifles, innovation by giving developers the confidence to experiment within safe and ethical boundaries.

Current Level Assessment

The Department's self-assessed maturity for the AI Trust, Accountability, and Oversight pillar is Level 2: Develop. This level signifies that DOT has moved beyond initial planning and is actively engaged in drafting the core, documented instruments of AI governance. An organization at the 'Develop' level is translating high-level principles into the specific policies, charters, and frameworks that will form its official rulebook for responsible AI.

The details provided by the Department confirm that it has made significant progress in this phase and is on the cusp of the 'Execute' level. A robust governance structure has been established: the Chief Data and AI Officer is the executive lead, the Deputy Secretary is the champion, and the NETT Council serves as the authoritative AI Governance Board. The NETT Council Board's AICA Working Group is the collaborative team that has been assembled to develop the AI Trust and Accountability Framework. Furthermore, the Safety, Risk, and Security Review (SR2) Committee of the NETT Council has been established to review and approve the operational deployment of all AI Use Cases. The Department has defined its governance approach in its AI Strategy and its

OMB M-25-21 Compliance Plan. DOT reports that it has met all Key Actions for the 'Plan' and 'Develop' levels of this pillar, with the single exception of Key Action 10.2.3, "Developing Operational Frameworks."

Implementation Plan to Achieve "Execute" Level

Achieving the Goal Level: 'Execute' for this pillar is the final and most critical step in operationalizing the Department's commitment to responsible AI. It requires moving from the current state of having well-defined governance bodies and drafted plans to fully resourcing, integrating, and actively monitoring the governance framework across the Department. While the 'Develop' level creates the policies, the 'Execute' level is about embedding them into daily practice, ensuring compliance is an ongoing activity, not a one-time check. This transition is essential for building enduring public trust and ensuring that every AI system deployed by DOT operates safely, ethically, and in full accordance with the law.

- Developing Operational Frameworks: To complete the 'Develop' level, DOT must design the practical, step-by-step methodologies and plans that operationalize its policies. This includes creating a standardized AI risk assessment methodology based on the NIST AI RMF, developing a specific AI incident response plan, defining the detailed process for managing the AI Use Case Inventory, and creating a policy framework for a regulatory sandbox to enable controlled innovation.
- Resourcing and Enterprise Integration: To execute the plan, DOT must secure the long-term funding for governance operations, formally issue new and amended Department policies, and formally integrate AI risk management into the Department's overall Enterprise Risk Management (ERM), cybersecurity, safety, and privacy frameworks.
- Operational Monitoring and Assurance: To ensure compliance, DOT must implement a tool to track the AI use case lifecycle through all required governance checkpoints, establish a standard policy for the continuous monitoring of deployed models for performance and fairness, establish a process for regular, independent audits of the governance framework, and conduct formal red teaming exercises to find unforeseen weaknesses.
- Building a Governance Culture: To foster a culture of responsibility, DOT must launch mandatory training for all members of the AI Governance Board and for all developers involved in the AI lifecycle. It must also charter an external AI Ethics Advisory Council to provide independent advice and implement a formal, accessible appeals process for individuals to seek redress from significant AI-driven decisions.