This document outlines a comprehensive, practical, and pragmatic strategic and operational plan for the Maryland Department of Human Services (DHS). It synthesizes multiple proposed initiatives—including the AI Assist for SNAP Work Verification (PBIF Proposal), the FY2025 SNAP Process and Technology Improvement Grant (PTIG) application, and associated internal proposals—into a unified strategy. This plan is designed to significantly increase benefits access, reduce administrative burden, enhance program integrity, and modernize operations through the strategic application of Artificial Intelligence (AI), automation, and data interoperability.

1. Executive Summary

The Maryland Department of Human Services (DHS) is facing critical operational and fiscal challenges. The impending HR1 legislation significantly expands SNAP work requirements for Able-Bodied Adults Without Dependents (ABAWDs), affecting approximately 174,000 Marylanders and imposing a substantial administrative burden (estimated at $412.5 million). Concurrently, Maryland's SNAP Payment Error Rate (PER) stands at 13.64%, far exceeding the 6% federal threshold, risking substantial financial penalties.

This plan outlines a transformative, multi-faceted strategy leveraging AI, automation, and data interoperability. We will implement an integrated system featuring: automated work requirement verification via APIs and AI-driven document processing; proactive PER prevention through real-time dashboards, predictive modeling, and AI-assisted supervisory reviews; modernized client communication; and strategic workforce engagement.

This integrated approach aims to reduce the SNAP PER below 6% within 24 months, prevent wrongful benefit terminations due to administrative hurdles, and establish Maryland as a national model for efficient, equitable, and modernized benefits access.

2. Strategic Vision and Objectives

Vision: To establish a seamless, proactive, and error-free benefits administration system that ensures equitable access for all eligible Marylanders while maximizing administrative efficiency and fiscal responsibility.

Strategic Objectives:

1. **Enhance Program Integrity:** Reduce the SNAP PER to below the 6% federal threshold within 12-24 months.
2. **Reduce Administrative Burden:** Automate verification processes and streamline document management, particularly for ABAWD work requirements mandated by HR1.
3. **Modernize SNAP Operations:** Improve administrative infrastructure and eligibility determination through advanced technology.
4. **Improve Customer Service:** Enhance efficiency, transparency, and accuracy in client interactions through modernized digital interfaces.
5. **Foster Interoperability:** Coordinate eligibility determination processes between SNAP and other assistance programs.
6. **Empower the Workforce:** Enhance staff capability, morale, and buy-in through targeted training, advanced tools, and strategic engagement.

3. Core Challenges and Root Cause Analysis

The current system is characterized by systemic inefficiencies that threaten program integrity

and client access.

- **High Payment Error Rate (PER) (13.64%):**
  - *Root Causes:* Complex eligibility rules, reliance on manual verification (1-4% error rate), and antiquated IT infrastructure. Critically, 90% of supervisors report receiving Quality Control (QC) data too late for proactive intervention.
  - *Top Error Drivers:* Wages and Salaries, Household Composition, Shelter Deductions, and Time-limited participation (ABAWD).
- **HR1 Legislation and ABAWD Burden:**
  - *Impact:* Expands the ABAWD age range and limits exemptions, significantly increasing the volume of required monthly work verification.
  - *Risk:* Manual processes risk wrongful rescission of benefits due to verification delays.
- **Administrative Inefficiency:**
  - *Inefficiencies:* 25% of periodic reports are "oververified," wasting staff time. Manual workarounds and "triple-checking" of data are common.
- **Fragmented Client Experience:**
  - *Siloed Systems:* Redundant application/verification requirements across programs increase burden and reduce take-up rates.

4. The Integrated Solution Architecture

The solution is an integrated, AI-powered ecosystem designed around four strategic pillars, leveraging the MD THINK platform and existing Eligibility and Enrollment (E&E) systems (MarylandBenefits.gov).

Pillar 1: Intelligent Automation of Verification and Eligibility

This pillar focuses on automating verification, prioritizing work requirements and income. The guiding principle is: "We should not require any Marylander to verify manually what we can verify automatically."

- **1.1 Automated Work Requirement Verification (ABAWD Focus):** A multi-layered API strategy for real-time employment verification.
  - *State System Integration:* Establish secure API connections to the Maryland Department of Labor's BEACON system (wage reports) and the Maryland New Hire Registry. This requires developing Data Sharing Agreements (DSAs) and custom APIs.
  - *Commercial Employment Verification Services:* Integration with customer-permissioned services (e.g., SteadyIQ, Truv, MeasureOne) offering instant verification via payroll processors for W2, 1099, and gig workers.
- **1.2 AI-Driven Document Management (AI Assist for SNAP):** For cases where API verification is not feasible.
  - *Intuitive Upload Interface:* A user-friendly web/mobile interface for document submission.
  - *AI Quality Assessment:* Real-time assessment of document quality (blur, glare), prompting immediate resubmission if unacceptable (Automated Document Reprocessing).
  - *Intelligent Information Extraction (OCR/NLP):* Utilizing Generative AI and Intelligent Document Processing (IDP) to extract key data (hours, income, dates, signatures)

from various documents, including handwritten notes.
    - *Automated Case Linking and Electronic Receipt:* Automatically connecting extracted data to the correct case and generating an electronic receipt.
- **1.3 RPA for "No-Touch" Processing (Asset ID 331):** Implementing Robotic Process Automation (RPA) to automate ABAWD work verification for clear-cut cases (e.g., 0 or 80+ hours verified), alerting caseworkers only for complex scenarios (e.g., 1-79 hours).
- **1.4 Automation of No-Change Periodic Reports (MBRs):** Automating reports where there are no changes (FNS approval already secured), reducing unnecessary workload.

Pillar 2: Proactive Error Prevention and Operational Oversight

This pillar directly addresses the high PER by integrating AI into the workflow for real-time monitoring and prevention before case finalization.

- **2.1 Interactive PER Mitigation & Challenge Dashboard (Asset ID 277):** A real-time dashboard providing Local Department of Social Services (LDSS) managers with immediate insights into PER data, error trends, and flagged cases.
- **2.2 AI for Supervisory Case Reviews (Asset ID 333):** Integrated into the dashboard, this AI applies rules based on historical QC data to highlight potential errors *before* cases are finalized.
- **2.3 Predictive Caseload Intervention Model (Asset ID 94):** A logistic regression model to identify households at high risk of administrative errors, enabling proactive support.
- **2.4 AI Guardrails for Top PER Errors (Asset ID 332):** Implementing "guardrails" (e.g., "Gemini-like" contextual prompts) within the caseworker workflow, prompting staff with targeted policy guidance when dealing with complex areas (Wages, Shelter, Household Composition) before finalizing cases.
- **2.5 Forecasting (Asset ID 102):** The FIA-Stat Multivariate KPI Forecasting Model will forecast SNAP PER, aiding strategic resource allocation.

Pillar 3: Modernized Client Experience and Communication

This pillar focuses on creating an intuitive, transparent, and accessible interface for beneficiaries, utilizing Human-Centered Design (HCD).

- **3.1 Simplified Digital Interface (Asset IDs 2, 6):** Redesigning online application forms (MarylandBenefits.gov), prioritizing simplification and accessibility.
- **3.2 Automated FAQ Chatbot (Asset ID 3):** An AI-powered chatbot to provide instant answers to FAQs and basic status updates, reducing call center volume.
- **3.3 Proactive Outreach and Nudges (Asset ID 12):** Automated, personalized outreach (SMS/email) to inform clients about deadlines or missing/incomplete paperwork (affirmative contact).
- **3.4 Explainable AI (XAI) (Asset ID 38) and Plain Language (Asset ID 209):** Providing clear explanations for eligibility decisions and notices to foster trust.

Pillar 4: Interoperability and Scalable Infrastructure

This pillar lays the foundation for a "Tell Us Once" system across Maryland benefits, ensuring the technology is scalable and future-proof.

- **4.1 Scalable Architecture:** A cloud-based, API-driven, modular architecture ensures reliability and adaptability.

- **4.2 MD-THINK as 'Benefits-as-a-Service' (BaaS) (Asset ID 5):** Evolving MD-THINK to expose core functionalities via secure APIs (Asset ID 77), enabling seamless data exchange between SNAP, Medicaid, TANF, and WIC.
- **4.3 Universal Benefit Profile (UBP) Blueprint (Asset ID 220):** Advancing the development of a citizen-controlled digital identity for consent-based eligibility across programs.

5. Operational Implementation Plan (Phased Approach)

The project will be executed over 24 months, utilizing an agile methodology, starting October 2025.

Phase 1: Foundation and Quick Wins (Months 1-6)

- **Focus:** Discovery, design, foundational development, and initial deployment of core tools.
- **Activities:**
  - *Discovery & Design (M1-3):* Comprehensive requirements gathering with stakeholders (FIA/OBA/LDSS). Detailed architecture design. Negotiation of DSAs for BEACON and New Hire Registry. UI/UX design for the recipient portal and PER dashboard. Design of the Gamification framework.
  - *Initial Development (M4-6):* Development of the Real-Time PER Dashboard (ID 277) and AI Supervisory Case Review tool (ID 333). Initial development of the AI-Driven Document Management module (upload and quality check). Integration with commercial employment verification APIs (Quick Win). Enhancement of the Predictive Caseload Intervention Model (ID 94).
- **Deliverables:** Detailed architecture and API specifications; Executed DSAs; Functional PER dashboard (Beta); Functional document upload and AI quality check interface.

Phase 2: Integration and AI Deployment (Months 7-12)

- **Focus:** Core technical integration, advanced AI development, and preparation for piloting.
- **Activities:**
  - *AI Development:* Development and training of Intelligent Information Extraction (OCR/NLP) models. Development of AI Guardrails (ID 332).
  - *Integration:* Building functional API integrations with BEACON and New Hire Registry. Integrating predictive models and AI guardrails into the caseworker workflow.
  - *RPA Implementation:* Developing RPA scripts for "no-touch" processing (ABAWD and No-Change MBRs).
  - *Customer Service Tools:* Deployment of the Automated FAQ Chatbot (ID 3).
- **Deliverables:** Functional state system API integrations; Deployed AI extraction models and AI Guardrails; Functional RPA workflows; Operational client-facing chatbot.

Phase 3: Pilot and Iteration (Months 13-18)

- **Focus:** Real-world testing, refinement, and evaluation in selected counties.
- **Activities:**
  - *Pilot Launch:* Deploying the integrated system (AI Assist and PER Prevention

Tools) in selected LDSS offices.
    - *Training and Outreach:* Comprehensive staff training. Public outreach efforts with Community Based Organizations (CBOs).
    - *Monitoring and Refinement:* Rigorous monitoring of system performance and AI accuracy. Iterative improvements based on feedback.
    - *Gamification Rollout:* Launching the "LDSS League for PER Excellence" (see Section 7) in pilot counties.
- **Deliverables:** Pilot launch; Pilot evaluation report (efficiency gains, accuracy improvements); Refined system and AI models.

Phase 4: Scaling and Future State (Months 19-24+)

- **Focus:** Statewide rollout, sustainability, and interoperability.
- **Activities:**
    - *Statewide Deployment:* Phased rollout of the integrated solution across Maryland.
    - *Sustainability:* Knowledge transfer to DHS IT staff.
    - *Interoperability Development:* Expansion of MD-THINK BaaS capabilities.
    - *Expansion:* Adapting the AI document management system for other programs (Medicaid, TANF, WIC).
- **Deliverables:** Statewide deployment; Sustainability plan; PER reduction below 6% target.

6. Key Initiatives and Technical Details

6.1. AI-Powered Document Processing Workflow

- **Technology Stack:** Cloud infrastructure; Generative AI/IDP platforms; Custom ML classifiers; RPA tools.
- **Workflow:**
    1. Client uploads document via MarylandBenefits.gov.
    2. AI Quality Classifier assesses image quality instantly. If poor, client is prompted to resubmit.
    3. OCR/NLP extracts and interprets data (e.g., calculating weekly hours from multiple paystubs).
    4. AI maps extracted data to structured fields.
    5. RPA scripts check ABAWD hours. If 0 or 80+, process automatically ("no-touch"). If 1-79, flag for caseworker review.
    6. Data is automatically linked to the case in the E&E system.
    7. Electronic receipt is generated.

6.2. Proactive PER Prevention Mechanisms

- **Data Strategy:** Utilizing historical QC data to train AI models to recognize patterns associated with the top four error types.
- **AI Guardrails (ID 332):**
    - *Mechanism:* Context-aware prompts triggered during the eligibility determination workflow.
    - *Example (Wages):* If a caseworker enters income data that deviates from available third-party data (from Pillar 1), the AI triggers a prompt: "The entered income differs

from the verified commercial data source. Please confirm the source and calculation. Click here for policy guidance."

- **Supervisory Review (ID 333):**
    - *Mechanism:* AI pre-screens cases before finalization, flagging high-risk cases based on the Predictive Model (ID 94).
    - *Workflow:* Supervisors access the PER Dashboard (ID 277), which prioritizes cases needing review. The AI highlights the specific elements likely to be in error, allowing targeted review before finalization—addressing the feedback that QC data is currently "too late."

7. Workforce Engagement and Change Management

Success depends on staff adoption and adaptation to new roles where AI acts as a co-pilot, freeing staff for complex, empathetic tasks.

7.1. Strategic Gamification: "LDSS League for PER Excellence"

A targeted framework designed to boost morale and foster a shared mission, focusing on positive reinforcement rather than punitive metrics.

- **Objective:** Improve accuracy and efficiency by building a positive and proactive work culture.
- **Mechanism:** A "Challenge League" ranking LDSS offices based on "positive and helpful actions" that directly lower PER.
- **Scoring Components:**
    - *Digital Verification Usage:* Points for successfully utilizing new automated verification methods.
    - *AI Tool Adoption:* Recognition for consistently responding to AI Guardrails.
    - *Policy Knowledge:* Scores from daily policy quizzes ("Daily Policy Challenge").
    - *Proactive Outreach:* Points for calls made to mitigate administrative churn.
- **Features:** Team-Based Challenges, Leaderboards, Progress Tracking, and celebration of milestones.

7.2. Training and Development

- **AI-Enhanced Training:** Interactive didactic training for staff in policy and business processes.
- **AI Policy Guidance Chatbot (Internal):** Implement an internal chatbot allowing staff to quickly clarify policy guidance during case processing.
- **Business Process Redesign (BPR):** Analyze and redesign workflows (using tools like CURRENT/CIA) to maximize efficiency gains.

8. Impact, Evaluation, and Metrics

A data-driven evaluation plan will measure the project's success.

Objective	Key Performance Indicator (KPI)	Baseline	Target (24 Months)
Program Integrity	SNAP Payment Error	13.64%	< 6%

Objective	Key Performance Indicator (KPI)	Baseline	Target (24 Months)
	Rate (PER)		
Accuracy	Automated Data Extraction Accuracy Rate	N/A (Manual: 96-99%)	99.959%+
Admin Burden (Staff)	Document Processing Time (Work Verification)	TBD (Hours/Days)	90% Reduction
Admin Burden (Staff)	Rate of "Oververification"	25%	< 10%
Workforce	Staff Engagement (Gamification Participation)	TBD	80%+ Active
Benefits Access (Client)	Rate of Wrongful Benefit Terminations (ABAWD)	TBD	Significant Reduction

9. Data Security, Privacy, and Risk Management

- **Data Security and PII Safeguarding:** Adherence to stringent government protocols (FIPS 140-2 Encryption, SOC 2 Type 2 compliance). Implementation of Role-Based Access Controls (RBAC), Multi-Factor Authentication (MFA), and immutable audit logs. All data encrypted in transit and at rest, complying with 7 CFR 272.1(c) and the Privacy Act of 1974.
- **Privacy and Consent:** Consumer consent is foundational for commercial data access. Commitment to "zero data leakage"; no customer content used for AI training without explicit consent.
- **Risk Mitigation:**
    - *Risk:* HR1 burden leading to wrongful benefit rescissions. *Mitigation:* Automation (Pillar 1) prevents terminations due to administrative delays.
    - *Risk:* Integration challenges with legacy state systems (BEACON). *Mitigation:* Phased approach; prioritizing DSAs early; utilizing commercial APIs in parallel.
    - *Risk:* Staff adoption challenges. *Mitigation:* Comprehensive training and strategic gamification (Section 7); emphasizing AI as a co-pilot.

10. Resources, Budget, and Partnerships

- **Partnerships:**
    - *Maryland DHS (FIA/OBA):* Operational lead, domain expertise, policy guidance.
    - *MD THINK Team:* Core technical development and integration.
    - *Nava PBC (or similar vendor):* Expertise in user-centric solutions and AI/ML engineering (as proposed in PBIF).
    - *Maryland Department of Labor:* Critical partner for BEACON and New Hire Registry data access.
- **Funding Strategy:** Aggressively pursuing integrated funding sources, combining the FY2025 SNAP PTIG Grant and the Public Benefit Innovation Fund (PBIF - $1,000,000 request).

- **Sustainability:** The inherent automation significantly lowers ongoing operational costs (anticipated 10-30% reduction) and reduces PER-related penalties. The plan includes comprehensive knowledge transfer to DHS IT staff, with sustainment covered under existing platform operation obligations or legislative appropriation.