

# **NYCPS TMS: Consolidated Prescriptive Cutover & User Transition Strategy**

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## **I. Introduction: Objectives, Principles & Scope**

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This document mandates the comprehensive, hyper-detailed strategy for executing the cutover from legacy NYCPS transportation systems and processes to the new Transportation Management System (TMS), encompassing both the technical transition and the critical user onboarding, adoption, and migration journey. The cutover represents a period of maximum operational and organizational risk and requires meticulous planning, flawless execution, comprehensive validation, robust rollback capabilities, clear communication, and dedicated user support to ensure a seamless transition with minimal disruption and maximum positive impact.

## Overall Objectives:

- Safely and accurately migrate essential operational data for the go-live cohort.
- Successfully deploy and activate new TMS functionality for designated user groups in controlled phases.
- Effectively onboard and train all impacted users (~500k+ initially) ensuring high adoption rates.
- Verify system functionality, data integrity, and performance comprehensively post-cutover.
- Disable corresponding legacy system functions in a controlled manner.
- Minimize downtime and operational disruption during the cutover window.
- Ensure a thoroughly tested and executable rollback plan is available.
- Provide effective communication and hypercare support to delight users and manage change effectively.
- Achieve sustained adoption and realization of TMS benefits post-launch.

## Core Cutover & User Transition Principles (Mandatory Adherence):

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- **Safety & Compliance First:** All decisions prioritize student safety and adherence to regulations (FERPA, 2-d, etc.).

- **User-Centric Transition:** Design processes (technical cutover, onboarding, training, comms) from the perspective of the end-user (Parent, Student, Driver, Admin) minimizing friction and maximizing clarity.
- **Meticulous Planning & Rehearsal:\*\* No step (technical or user-facing) is executed without rigorous documentation (runbooks, checklists, comms plans) and validation through testing/rehearsals.**
- **\*\*Phased Rollout (Technical & User):\*\* Mitigate risk by implementing the cutover and user onboarding in manageable, sequential phases, allowing for learning and adjustment.**
- **\*\*Data Integrity is Paramount:\*\* Implement multiple validation checkpoints for both migrated data and user account linking.**
- **\*\*Clear Roles & Proactive Communication:\*\* Define explicit roles, responsibilities, and communication channels for both technical cutover and user transition activities. Over-communicate proactively.**
- **\*\*Executable Rollback (Technical & Procedural):\*\* Maintain and test viable plans to revert \*both\* technical systems and user-facing processes if critical issues arise.**
- **\*\*Hypercare Support:\*\* Provide dedicated, heightened support during initial phases for \*all\* user groups.**
- **\*\*Focus on Adoption & Delight:\*\* Go beyond basic onboarding; aim for sustained usage and positive user**

**experience through ongoing support, feedback loops, and value reinforcement.**

**Scope:\*\* This consolidated strategy covers the technical system cutover (data migration, infrastructure activation, legacy disablement) \*and\* the parallel user transition activities (communication, account creation/migration, training, support, adoption measurement) for each defined rollout phase.**

## **II. Integrated Cutover Governance & Roles**

**Effective cutover requires coordinated governance across technical, operational, and user-facing domains.**

- Cutover Manager (Designated Lead - e.g., Senior PM or Ops Lead):\*\* Overall responsibility for planning, orchestrating, and executing the integrated technical and user cutover runbook. Makes tactical Go/No-Go decisions at defined checkpoints (in consultation). Primary point of communication within the War Room.**
- NYCPS Project Manager (PM):\*\* Co-manages overall project execution, budget, risks associated with cutover, facilitates internal NYCPS coordination and approvals.**

- **Vendor Project Manager:\*\*** Manages vendor resources and deliverables during cutover, coordinates vendor technical support.
- **Technical Leads (Data, Infra/Ops/SRE, App Dev, Security):\*\*** Lead execution of technical tasks (data migration, IaC deployment, validation scripts, security checks). Provide real-time troubleshooting.
- **QA Lead:\*\*** Oversees execution of all technical validation checkpoints (smoke tests, data validation). Provides formal sign-off.
- **NYCPS OPT Business Lead / SME(s):\*\*** Represents operational readiness. Participates in validation from a business process perspective. Key decision-maker for business Go/No-Go criteria. Validates manual workaround readiness.
- **OCM Lead:\*\*** Oversees the organizational change management aspects, ensuring user readiness aligns with technical rollout. Tracks user sentiment and adoption barriers.
- **Communications Lead:\*\*** Executes the detailed user communication plan (pre-, during-, post-cutover). Manages Status Page updates and stakeholder briefings.
- **Training Lead:\*\*** Confirms completion of required training for the go-live user cohort. Coordinates availability of post-go-live training reinforcement materials.
- **Hypercare Support Lead:\*\*** Coordinates dedicated L1/L2/L3 support resources during the post-cutover

**hypercare period. Manages issue triage during hypercare.**

- **War Room Coordinator (Admin/PMO):\*\* Assists Cutover Manager with logistics, tracking runbook progress, documenting issues/decisions in real-time log.**
- **Executive Sponsor / Steering Committee:\*\* Provides final Go authorization for the overall cutover initiation. Serves as the ultimate escalation point for major issues requiring strategic decisions (e.g., invoking full rollback, major delays). Must be reachable during the cutover window.**
- **Legacy System Admin(s):\*\* Executes steps related to freezing, backing up, and eventually decommissioning legacy systems.**
- **User Representatives (from UAT/Pilot):\*\* Potentially participate in final validation checks immediately post-cutover.**

***Decision authority at each Go/No-Go checkpoint (technical and user-readiness) must be explicitly defined and documented. Requires tight coordination between technical and OCM/Comms/Training leads.***

## **III. Cutover Strategy: Integrated Phased Approach**

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A single "Big Bang" cutover for both the system and all users is infeasible and unacceptably risky. We **\*\*must\*\*** adopt an **\*\*Integrated Phased Cutover Strategy\*\***, synchronizing technical rollout, data migration, user onboarding, training, and communication waves.

*Implementation How-To:*

1. **\*\*Phase Definition:\*\*** Define distinct cutover phases based on logical groupings (e.g., by Community School District(s) or groups of SBCs, aligning with technical rollout feasibility). The Pilot Phase (1-2 Districts) serves as the first critical test for **\*both\*** technical cutover and user transition processes.
2. **\*\*Synchronized Scope per Phase:\*\*** Each phase **\*must\*** coordinate:
  - **\*\*Technical Cutover:\*\*** Migrating relevant active data, activating TMS functionality, disabling legacy functions **\*for the specific cohort\***.
  - **\*\*User Onboarding/Activation:\*\*** Enabling account creation/linking (via NYCSA or other methods) **\*specifically for users in that cohort\***.

- **\*\*Targeted Communication:\*\***  
Executing pre-launch, go-live, and post-launch communications  
\*specifically for the users and stakeholders in that cohort\*.
- **\*\*Just-In-Time Training:\*\***  
Ensuring the relevant user groups have completed mandatory training  
\*just before\* their go-live date.
- **\*\*Dedicated Hypercare:\*\***  
Providing focused support resources \*for the cohort\* during their initial weeks live.

3. **\*\*Sequencing & Dependencies:\*\*** Plan the sequence of phases considering technical complexity, user group readiness (training complete, SBC cooperation confirmed), geographical factors, and critical operational periods (avoiding major school start/end dates if possible after initial pilot). Build buffer time between phases for stabilization and feedback incorporation (~2-4 weeks minimum).

4. **\*\*Coexistence Management (Technical & Process):\*\*** During phased rollout, meticulously manage the concurrent operation of legacy and



new systems. Define clear processes for handling data/interactions between cohorts on different systems (minimize where possible). Provide clear guidance to **\*all\*** users on which system/process to use based on district/SBC/function during the transition period.

5. **\*\*Detailed Phase Plans:\*\*** Develop integrated cutover runbooks, communication plans, training schedules, support plans, and readiness checklists **\*tailored to each specific phase/wave\***.

**Responsibility:** Project Managers (Overall Plan), OCM Lead, Comms Lead, Training Lead, Technical Leads (Phase-specific details).

Coordinating technical cutover with user readiness across multiple phases requires exceptional planning and communication. Misalignment is a major risk.

## **IV. Pre-Cutover Readiness Phase (Mandatory Integrated Checklist)**

Before initiating any phased cutover window, a rigorous readiness assessment covering **\*\*technical, data, operational, communication,**

**training, and user support\*\* aspects must be completed and formally signed off.**

### ***Implementation How-To:***

**Utilize and track progress against a \*\*Master Cutover Readiness Checklist\*\* (in Confluence/Jira) for \*each specific phase\*. All items \*must\* be verified complete before the final Go/No-Go decision for that phase.**

### **Key Checklist Categories & Items (Consolidated & Expanded):**

#### **1. Technical & Infrastructure Readiness:\*\* (Owner: Tech Leads, SRE/Ops, Security)**

- ☐ **Target Production TMS  
Infrastructure deployed & health-checked (via IaC & Monitoring).**
- ☐ **Target Application versions  
deployed & smoke-tested in Prod.**
- ☐ **Final Data Migration  
scripts/processes tested E2E (Perf validated).**
- ☐ **Production monitoring, logging,  
alerting configured & validated for  
go-live scope.**

- ☐ **Production security controls verified (IAM, SGs, WAF, Encryption).**
- ☐ **Production connectivity verified (Internal NYCPS, External 3rd Parties).**
- ☐ **Detailed Cutover Runbook finalized, reviewed, and approved by all technical leads.**
- ☐ **Detailed Rollback Plan finalized, reviewed, approved, and tested (critical steps).**
- ☐ **Scalability configuration verified for expected go-live load.**

**2. Data Readiness:\*\* (Owner: Data Engineering Lead, DBA, OPT SMEs)**

- ☐ **Final legacy data extract mechanism confirmed and tested for the cohort.**
- ☐ **Data quality assessment of legacy data scope completed; remediation/handling plan in place.**
- ☐ **Data migration validation scripts/queries ready and tested.**

- ☐ **Legacy system data freeze process defined and communicated.**
- ☐ **Pre-cutover backup procedures for legacy data confirmed.**

**3. Operational & Business Readiness:\*\* (Owner: OPT Business Lead, OCM Lead)**

- ☐ **Key OPT staff (Routers, Dispatchers, Admins) for the go-live cohort confirmed trained and proficient (verified via assessment/simulation).**
- ☐ **Relevant SBC personnel (Dispatchers, Drivers, Attendants) confirmed trained (verified via SBC Train-the-Trainer reporting/spot checks).**
- ☐ **School Administrators/Staff within the go-live phase confirmed trained.**
- ☐ **Manual workaround procedures documented, accessible (offline copies distributed), and key staff trained/briefed.**
- ☐ **Business process changes clearly documented and communicated.**

- ☐ **Key personnel availability confirmed for cutover window and hypercare period.**

**4. User Support Readiness:\*\* (Owner: Support Manager, Hypercare Lead)**

- ☐ **Hypercare support team (L1/L2/L3) staffed, trained on TMS system & support processes.**
- ☐ **Support ticketing system configured for TMS issues (queues, routing rules).**
- ☐ **Initial Knowledge Base articles, QRGs, and runbooks for common issues published and accessible to support teams.**
- ☐ **Hypercare communication channels and escalation procedures finalized.**

**5. Communication Readiness:\*\* (Owner: Comms Lead)**

- ☐ **Pre-cutover communication plan executed for the go-live cohort; final reminders scheduled.**
- ☐ **Communication templates for during/post-cutover (including**

**potential rollback) drafted and approved.**

- ☐ **Status Page configured and ready for updates specific to the phase.**
- ☐ **Internal War Room communication channels confirmed operational.**

**6. Governance Readiness:\*\* (Owner: Project Manager)**

- ☐ **UAT formally signed off by NYCPS Product Owner / Business Leads for the target release/functionality.**
- ☐ **All preceding quality gates (Testing, Security, Performance) formally passed/signed off.**
- ☐ **Final Cutover Plan & Runbook (including Rollback) approved by all designated technical, operational, and business leads.**
- ☐ **Formal \*\*Go/No-Go Meeting\*\* scheduled with Steering Committee / Project Sponsors, readiness checklist presented.**

***The final Go/No-Go decision for each phase **\*must\*** be formally documented and requires unanimous agreement based on the***

***successful completion of \*all\* checklist items across \*all\* domains (Technical, Data, Ops, Support, Comms, Governance).***

## **V. Cutover Execution Window: The Integrated Runbook**

**Execution follows the hyper-detailed, time-bound, integrated Runbook managed by the Cutover Manager from a central War Room (physical or virtual).**

### **A. The Integrated Cutover Runbook**

#### ***Implementation How-To:***

- 1. The Runbook (Master document in Confluence, potentially executed via checklist tool like Jira/Teams Planner) *\*must\** integrate technical steps, data migration steps, validation checks, communication actions, user access activation, and Go/No-Go decision points in the correct sequence.**

2. Each step has a specific owner, estimated duration, start/end time relative to H-hour, detailed instructions, validation criteria, and rollback procedure.
3. **\*\*Mandatory:\*\*** Conduct at least one full end-to-end **\*\*Dress Rehearsal\*\*** of the Runbook using the Staging/UAT environment and the approved data migration process several days/weeks before the production cutover window. This rehearsal **\*must\*** include participation from all key roles (Technical, Data, Ops, Comms, Support leads) and test communication channels and decision-making processes. Document results and refine runbook based on rehearsal outcomes.
4. During execution, the War Room Coordinator provides real-time status updates against the runbook. The Cutover Manager makes tactical decisions based on progress and validation results at predefined checkpoints.

**Responsibility: Cutover Manager (Orchestration), All Assigned Roles (Execution), War Room Coordinator (Tracking).**

## **B. Example Integrated Cutover Sequence (High-Level for one Phase)**

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*(Runbook contains extreme granular detail per step)*

1. **T-minus 48-72 Hours:** Comms Lead sends final pre-cutover comms to affected users/stakeholders. Training completion verified.

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2. **T-minus 4 Hours:** Final Go/No-Go meeting with Steering Committee. Decision documented.

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3. **T-minus 2 Hours:** War Room convenes (virtual/physical). Final systems check (Prod TMS, Legacy, Monitoring). Confirm personnel readiness & communication channels open.

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4. **H-Hour (Start Window):** Cutover Manager formally announces start. Comms Lead sends internal notification. Update Status Page.

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5. **H+0:00 - H+0:30:** Freeze legacy system transactions/updates for the cutover cohort. Verify freeze. **Checkpoint: Legacy Freeze Confirmed?**

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6. **H+0:15 - H+1:00:** Take final backups of legacy databases/files being migrated. Verify backups complete & secure.

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7. **H+0:45 - H+2:30:** Execute final Data Migration scripts (Delta migration if applicable). Monitor

**progress, logs, performance.**

**Checkpoint 1: Data Migration Script Success?  
Record Counts Match?**

**8. H+2:00 - H+3:00: Execute automated & targeted manual data validation checks in Production TMS DBs (comparing key fields/counts against source). Run DQ scripts.**

**Checkpoint 2: Data Integrity Verified? Critical Data Present & Correct?**

**H+2:45 - H+3:45:\*\* Execute automated Production Smoke Tests (core API endpoints, key application functions). Perform critical path manual validation by designated OPT SMEs/Super Users.**

**Checkpoint 3: Core TMS Functionality  
9. Operational & Correct?**

**H+3:45:\*\* \*\*Formal Go/No-Go Decision Point.\*\*  
Cutover Manager convenes key leads (Tech, Data, QA, OPT Business). Review status of all preceding checkpoints. Assess time remaining vs. plan.**

**\*\*Decision:\*\* Proceed to Activate TMS or Initiate**

**10. Rollback. Decision logged. GO / NO-GO**

**11. \*\*(If GO) H+3:45 - H+4:15:\*\* Execute steps to enable access for the go-live user cohort: Activate user accounts via script/Cognito admin, apply**

necessary permissions/role mappings, potentially update SSO configurations. Verify a sample of users can log in.

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- 12. \*\*(If GO) H+4:00 - H+4:30:\*\* Execute DNS / Load Balancer changes (if not fully automated by DR setup) to direct phased users to Production TMS. Verify propagation/changes globally using monitoring tools.**

**Checkpoint 4: User Access Enabled & Traffic Flowing?**

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- 13. \*\*(If GO) H+4:15 - H+5:00:\*\* Execute final post-go-live smoke tests simulating core user actions. SRE/Ops begin intensive monitoring. Hypercare team activated and ready.**
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- 14. \*\*(If GO) H+5:00:\*\* Cutover Manager declares TMS live \*for the current phase\*. Comms Lead sends targeted "Go-Live" announcement to relevant users/stakeholders. Update Status Page to reflect operational status.**
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- 15. \*\*(If GO) H+5:00 onwards:\*\* Initiate controlled disabling/read-only access for legacy system components pertaining to the go-live cohort as per plan. Continue hypercare monitoring.**
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**16. **(If NO-GO):** Initiate **Formal Rollback Plan** immediately. Follow documented rollback steps meticulously. Validate legacy system restoration fully. Communicate rollback status clearly. Schedule RCA.**

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## VI. Prescriptive Rollback Plan

A meticulously documented and tested rollback plan is the **mandatory** safety net for every cutover phase.

### *Implementation How-To:*

- 1. **Integration with Runbook:** Rollback procedures **must** be embedded within the main Cutover Runbook, with specific rollback steps defined for each major stage or Go/No-Go decision point.**
- 2. **Clear Triggers:** Document explicit, objective criteria for invoking rollback (e.g., failure of Validation Checkpoint 1, 2, or 3; migration exceeding time limit by X%; critical TMS instability**

**post-activation; major security issue detected during cutover).**

**3. \*\*Decision Authority:\*\* Clearly define who makes the rollback call (Cutover Manager, potentially requiring Sponsor concurrence depending on timing/impact).**

**4. \*\*Detailed Rollback Steps (Mandatory Content):\*\***

- \*\*Immediate Actions:\*\* Halt all ongoing cutover activities. Securely isolate the new TMS environment (prevent further data writes/user access). Trigger internal communication declaring rollback initiation.**
- \*\*Traffic Reversal:\*\* Execute pre-defined steps to revert DNS/Load Balancer configurations, directing all traffic back to the stable legacy system. Verify traffic flow restoration.**
- \*\*Legacy Data Restore:\*\* Execute tested procedures to restore legacy database(s) from the final pre-cutover backup. Validate restore integrity and completeness.**

- **\*\*Legacy System Reactivation:\*\***  
Re-enable transaction processing and full user access to the legacy system.
- **\*\*Validation:\*\*** Perform predefined checks to confirm the legacy system is fully operational and data is consistent with the pre-cutover state.
- **\*\*Communication:\*\*** Communicate rollback completion status internally and externally (if initial go-live was announced).
- **\*\*TMS Data Handling:\*\*** Define procedures for handling data partially migrated to TMS during the failed attempt (typically secure archival for analysis followed by data destruction).
- **\*\*Post-Rollback Analysis (RCA):\*\***  
Mandate a thorough root cause analysis of the cutover failure before attempting again.

**5. \*\*Rollback Testing (Mandatory):\*\*** The **\*entire\*** rollback procedure (or at minimum critical steps like DB restore and DNS reversal) **\*must\*** be tested end-to-end during the full cutover dress rehearsal in the Staging/UAT environment. Document results, timings, and any issues encountered.

**Responsibility:** Cutover Manager, Tech Leads, SRE/Ops, DBA, Network Team, Comms Lead.

**An untested or incomplete rollback plan presents an unacceptable risk to operational continuity.**

## **VII. Post-Cutover Hypercare & Stabilization**

**The immediate post-cutover period for each phase requires dedicated focus to ensure system stability, address user issues rapidly, and confirm successful adoption.**

***Implementation How-To:***

1. **\*\*Define Hypercare Period:\*\*** Establish duration (e.g., 1-2 weeks minimum per phase) with clear entry/exit criteria.
2. **\*\*Dedicated Hypercare Team & War Room:\*\***  
Assemble the cross-functional team (Support L1-L3, SRE/Ops, Dev reps, QA, OCM, Comms, PM). Maintain the cutover War Room communication channels for hypercare period. Ensure clear on-call coverage.
3. **\*\*Intensified Monitoring:\*\*** SRE/Ops implement heightened monitoring sensitivity and lower alert thresholds during hypercare. Closely watch adoption metrics, application performance, error rates, infrastructure utilization, data quality metrics.
4. **\*\*Expedited Issue Triage & Resolution:\*\***  
Implement dedicated hypercare queue in ticketing system. Conduct daily (or more frequent) hypercare triage meetings to prioritize issues impacting users or stability. Ensure rapid access to L3 engineering for critical bug fixes. Deploy hotfixes via an expedited (but still controlled/tested) process if necessary.
5. **\*\*Enhanced User Support:\*\*** Ensure L1/L2 support is fully briefed on known issues/workarounds. Provide clear guidance to users on how to access



hypercare support. Proactively communicate common issues and solutions.

**6. \*\*Daily Health Check & Status Reporting:\*\***

Conduct daily internal hypercare status meetings.

Publish daily health check summary report (system stability, key metrics, major issues, user sentiment) to stakeholders.

**7. \*\*Formal Hypercare Exit Review:\*\*** Conduct

review at end of planned period. Assess system

stability against predefined metrics, outstanding

critical/high issue count, support ticket

volume/trends, user feedback. Make formal Go/No-

Go decision to exit hypercare and transition to

standard operational support model. Document

decision and rationale.

**Responsibility:** Hypercare Support Lead, L1/L2/L3 Support Teams, SRE/Ops, PM, OCM Lead, Comms Lead.

## **VIII. Legacy System Decommissioning (Post Full Rollout)**

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**After the \*entire\* TMS rollout is complete, stable, and formally accepted across all phases, we will execute the planned decommissioning of replaced legacy systems according to strict data retention and security protocols.**

***Implementation How-To:***

- 1. \*\*Develop/Finalize Decommissioning Plan:\*\***  
Create detailed, system-specific plans (MapInfo/FoxPro, Edulog components) requiring approval from OPT, DIIT, Security, Compliance, Legal.
- 2. \*\*Final Data Archival & Retention Verification:\*\***  
Conduct a final audit confirming \*all\* required historical data from legacy systems is securely archived according to the 7-year policy (within S3 Glacier/Deep Archive or other approved repository) and is retrievable if needed. Obtain formal sign-off from Data Owner/Steward and Compliance.
- 3. \*\*Remove User Access:\*\*** Coordinate with DIIT/Legacy Admins to revoke all remaining user accounts and system access privileges to the legacy applications/databases.
- 4. \*\*System Shutdown & Network Isolation:\*\***  
Gracefully shut down legacy application servers and database instances following documented

**procedures. Remove systems from monitoring. Isolate servers via network ACLs/firewall rules or physically disconnect.**

- 5. \*\*Infrastructure Decommissioning (Post Confirmation Period):\*\* After a defined waiting period (e.g., 60-90 days) post-shutdown to ensure no critical rollback needed, execute formal decommissioning of servers (VM deletion, physical server wipe/removal) and storage according to NYCPS asset disposal and media sanitization policies (aligned with NIST 800-88). Update asset inventory.**
- 6. \*\*Secure Data Destruction (Legacy Media):\*\* Execute secure destruction procedures for any remaining physical media (tapes, disks) or residual data stores, obtaining formal Certificates of Destruction.**
- 7. \*\*Terminate Licenses/Contracts:\*\* Formally terminate any remaining software licenses or maintenance contracts for the decommissioned systems.**
- 8. \*\*Final Documentation:\*\* Create a final decommissioning report for each legacy system, documenting all steps taken, verification evidence, data destruction certificates, and final status. Store report securely.**

**Responsibility: PM, Legacy System Admin, DIIT Infrastructure Team, Security Team, Compliance Officer, Contract Manager, Data Owner.**

***Ensuring complete, verifiable data destruction for legacy systems containing PII is a critical compliance requirement.***

## **IX. Conclusion: Ensuring a Seamless & Successful Transition**

**This consolidated Cutover and User Transition Strategy provides the mandatory, hyper-detailed framework essential for navigating the complexities of migrating to the new NYCPS TMS. By rigorously adhering to the integrated phased approach, meticulous readiness checks covering technical and organizational aspects, exhaustive runbook execution, robust validation checkpoints, tested rollback procedures, proactive multi-channel communication, dedicated hypercare support, and a human-centric focus on user onboarding and adoption, we establish the highest possible degree of control and predictability.**

**This prescriptive plan, demanding discipline and collaboration from all technical, operational, and business stakeholders, is designed to mitigate the significant risks inherent in such a large-scale transformation. Its successful execution is paramount to achieving a**

**seamless transition, ensuring operational continuity, meeting compliance mandates, and ultimately delivering a modern, reliable, and user-delighting Transportation Management System that enhances safety and efficiency for the entire NYCPS community.**