



*LIGHTHOUSE PROGRAM*  
*APRIL 16, 2024*

NORTH  
**Dakota**  
Be Legendary.

Information Technology

# ABOUT THE LIGHTHOUSE PROGRAM

*Navigating North Dakota data. Charting a course forward.*

## Program Overview

In the Fall of 2022, the Lighthouse Program was established as an NDIIT-led effort to support the improved use and impact of North Dakota data through greater coordination, collaboration, and investment in foundational data capabilities and transformational data use cases. Lighthouse is intended to be a multi-year effort, coordinating multiple projects and initiatives that encompass all State data assets. The Program's primary objective is to establish the framework for how data is governed, managed, and used as a strategic asset for all subject-centric repositories within North Dakota. Lighthouse will define the State's overall data strategy in order to assist agencies in forming their individual data strategies, utilize the existing cloud infrastructure to start incorporating appropriate data to answer evolving policy questions, and update and enhance their existing IT infrastructure (e.g., SPACES, SLDS, STARS).

## Agency Participation

The Lighthouse Program strives to collaborate with NDIIT's agency partners, providing recommendations and resources to assist each agency in identifying opportunities and making decisions regarding their planning, management, and use of data.



# Phase 1: Data Strategy, Governance, and Implementation Support

Phase 1 for the Lighthouse Program is a strategic planning effort that will culminate in a data strategy and roadmap for NDIT and identification of student education and health outcome data use cases for exploration in future initiatives.

As an initial step in this phase, NDIT and its selected contractor, [Guidehouse](#), reviewed the current architecture and technology landscape. This review concentrated on NDIT managed systems and infrastructure, and where applicable, health and education data domain technologies and capabilities. Using the current state review findings, and extensive discussions with NDIT and agency stakeholders, NDIT and Guidehouse drafted the NDIT data strategy and roadmap. ND HHS and DPI leaders will participate in the elicitation of business requirements for data use cases that can be used in later phases of the Program, including Phase 2 proofs of concept (POCs) that will explore providing data insights and early indicators to educators and educational policy makers, assisting them in making more informed, data-driven decisions.

## Core Project Components

Information Gathering and Current State Review

Use Case Elicitation and Deeper Analysis

Data Strategy Development

Organizational Readiness Assessment

Implementation Roadmap Development

# Phase 1 Progress and Milestones

Significant progress and accomplishments have been achieved in support of Phase 1 to include the following, as presented in significant detail on the subsequent slides.



**Data strategy  
development**



**Implementation  
roadmap**



**Data strategy  
roadshow meetings**



**Use case identification  
and research**

# Phase 1 Next Steps and Phase 2

## Coming Soon

- Rollout data strategy and implementation roadmap
- Kick-off Phase 2, consisting of data strategy implementation efforts and analytics Proofs-of-Concept for identified use case(s)



# Data Strategy Development

NDIT has developed a comprehensive data strategy to guide the coordination, collaboration, and investment in foundational data capabilities and transformational data use cases.

## Spotlight

*Data strategy at a glance (data strategy excerpt)*

**DATA STRATEGY AT A GLANCE**

**OVERARCHING AND ENDURING GUIDANCE**  
*Sets the overall direction for how the State handles and uses data across all government operations*

**VISION** Harness the value of data to help North Dakota thrive.

**MISSION** Improve the use and impact of North Dakota data through greater coordination, collaboration, and investment in foundational and transformational data capabilities.

**GUIDING PRINCIPLES**

1. Insight & Impact Focus
2. Commitment to Ethics
3. Entrusted Stewardship
4. Empowered Workforce
5. Innovation Enabler & Accelerator
6. Connectivity & Interoperability

**NEAR-TERM PRIORITIES**  
*Defines goals and objectives that NDIT will be leading and supporting (with agency collaboration) over the upcoming 3+ years*

**GOALS**  
*Each goal has 3-4 supporting objectives*

1. Institute Data Governance & Stewardship
2. Improve Data Infrastructure & Architecture
3. Foster Data Culture & Literacy
4. Enhance Data Consumption Products & Services

Dakota by design 3

## Key Outcomes

- Finalized comprehensive data strategy
- Timeless guidance and direction for the projected future-state of North Dakota data management and use
- Established near-term goals and priorities that NDIT will be leading and supporting (with agency collaboration) over the upcoming 3+ years.

## What's Next?

- Rollout data strategy and socialize with agency partners
- Kick-off data strategy implementation efforts

OUR VISION

**HARNESS THE  
VALUE OF DATA  
TO HELP NORTH  
DAKOTA THRIVE.**

Better  
government  
data & insights



Better  
government  
decisions & actions



Better  
citizen & community  
outcomes

VISION

Harness the value of data to help North Dakota *thrive*.

MISSION

Improve the use and impact of North Dakota data through greater *coordination, collaboration, and investment* in foundational<sup>1</sup> and transformational<sup>2</sup> data capabilities.

<sup>1</sup> Basic, fundamental data management capabilities

<sup>2</sup> Advanced, best-in-class data management capabilities



# DATA STRATEGY AT A GLANCE

## OVERARCHING AND ENDURING GUIDANCE

*Sets the overall direction for how the State handles and uses data across all government operations*

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### GOALS

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# Implementation Roadmap

NDIT is in the process of finalizing an implementation roadmap to serve as a sequenced 3-year plan to make progress against the strategic direction, goals, and objectives set in the data strategy.

## Key Outcomes

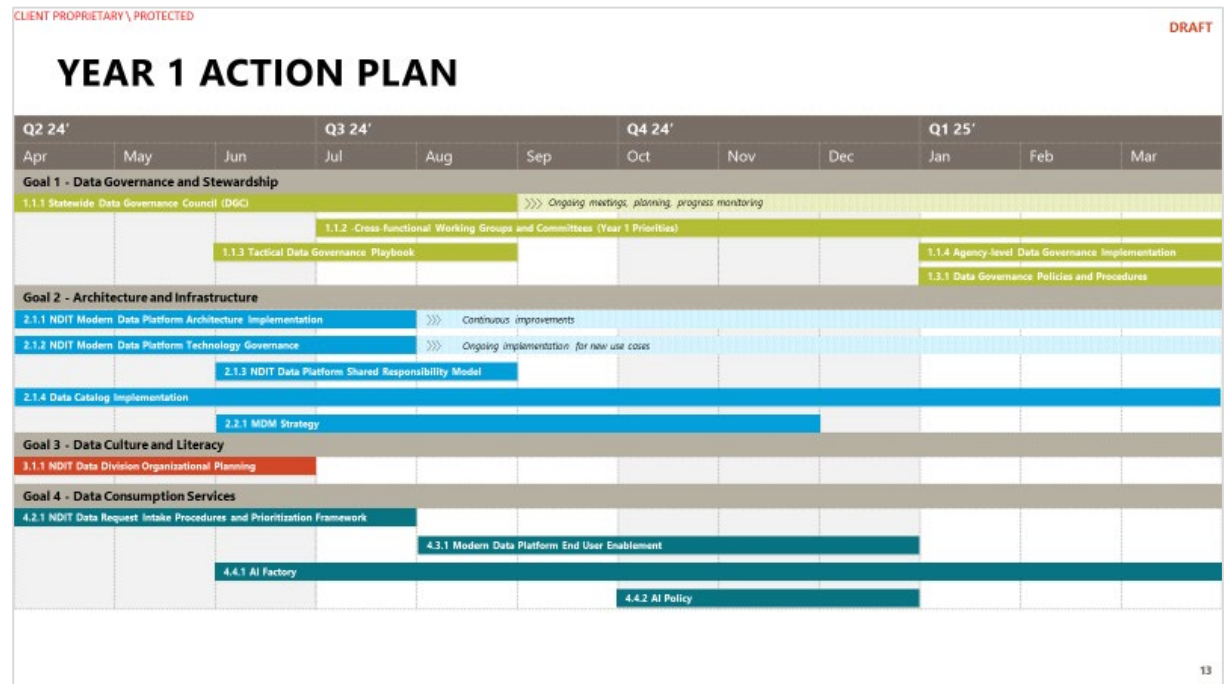
- Identified direction and concrete actions for data strategy implementation
- Proposed timelines and project plans for identified projects, including level-of-effort required
- Prioritized Year 1 projects and tasks to build foundational data capabilities and promote collaboration across the State

## What's Next?

- Finalize roadmap and prepare for Phase 2 data strategy implementation efforts
- Begin data strategy roadmap execution, focusing on Year 1 priorities and projects

## Spotlight

*Year 1 Action Plan (draft implementation roadmap excerpt)*



# Overview of Roadmap Workstreams



## Data Governance and Stewardship

**Formalize governance practices to direct data management and use.**

Implementation of statewide governance structures, data stewardship functions, policies, and procedures to effectively govern the data lifecycle.



## Data Infrastructure and Architecture

**Create a modern, scalable data infrastructure and architecture.**

Establishment of foundational technical capabilities and structures to meet the needs of today and look ahead to the requirements of the future.



## Data Culture and Literacy

**Build a workforce with the skills, talent, and mindset to harness data as an asset.**

Development of data literacy training and curriculum to address skill gaps and definition of formal and funded roles for data management execution.



## Data Consumption Products and Services

**Expand mechanisms to improve the consumption of data and insights.**

Formalization of data quality practices and expansion of self-service analytic capabilities, interactive dashboards, and data analytic services.

# Roadmap Anticipated Benefits and Value

The data strategy and implementation roadmap aim to meet agencies where they are, providing the critical guidance, resources, accelerators, and support to make progress on long-standing data challenges, build and grow foundational data capabilities, and expand the use of data as a strategic asset to support agency operations and mission delivery.

## Strategy Implementation Plans

- **Year 1.** Establish foundations and strengthen statewide collaboration.
- **Year 2.** Facilitate agency-level adoption and expand into more transformational initiatives
- **Year 3.** Continue transformation efforts, maintain momentum, and sustain adoption

## Anticipated Benefits and Value



Greater access and use of quality data and insights to inform decision-making.



Improved and greater consistency in how data is handled (e.g., risk and compliance).



Expanded role and use of data in guiding how we deliver services to North Dakotans.

# Year 1 Action Plan

Q2 24'			Q3 24'			Q4 24'			Q1 25'		
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
<b>Goal 1 - Data Governance and Stewardship</b>											
1.1.1 Statewide Data Governance Council (DGC)					>>> Ongoing meetings, planning, progress monitoring						
1.1.2 -Cross-functional Working Groups and Committees (Year 1 Priorities)											
1.1.3 Tactical Data Governance Playbook					1.1.4 Agency-level Data Governance Implementation						
										1.3.1 Data Governance Policies and Procedures	
<b>Goal 2 - Architecture and Infrastructure</b>											
2.1.1 NDIT Modern Data Platform Architecture Implementation				>>> Continuous improvements							
2.1.2 NDIT Modern Data Platform Technology Governance				>>> Ongoing implementation for new use cases							
2.1.3 NDIT Data Platform Shared Responsibility Model											
2.1.4 Data Catalog Implementation											
2.2.1 MDM Strategy											
<b>Goal 3 - Data Culture and Literacy</b>											
3.1.1 NDIT Data Division Organizational Planning											
<b>Goal 4 - Data Consumption Services</b>											
4.2.1 NDIT Data Request Intake Procedures and Prioritization Framework											
						4.3.1 Modern Data Platform End User Enablement					
4.4.1 AI Factory											
								4.4.2 AI Policy			

# Year 1 Agency Engagement and Expectations

The strategy's implementation will be led by NDIT, with agencies collaborating with on specific initiatives and/or leveraging new products and service offerings coming online from NDIT and its Data Division. Year 1 efforts are intentionally designed with flexibility to support agencies considering their as-is staffing models and long-term planning needs.



# Data Strategy Roadshow Meetings

NDIT has begun conducting roadshow meetings with agency partners to socialize the data strategy and plans for implementation as well as solicit agency feedback and identify priority data needs.

## Spotlight


*Roadshow meeting discussion prompts*

CLIENT PROPRIETARY, PROTECTED

### AGENCY FEEDBACK AND SUPPORT NEEDS

Discussion

- What feedback or questions do you have regarding the data strategy, its components, upcoming rollout, or agency expectations?
- How can this effort best advance your agency's data management and use?
- What priorities and data needs should we be aware of to best support you?



NDIT  
No Silos. No Borders.

### Key Outcomes

- Initial data strategy roadshow conversations conducted with DOT, DOCR and HHS
- Critical feedback on how the strategy can advance agency data management and use

### What's Next?

- Continue data strategy roadshow meetings and socialization with agency partners

# Use Case Exploration And Research

In support of Phase 1 use case focus on educational outcomes and early warning indicators, NDI and Guidehouse have been researching and preparing preliminary use cases for future agency review and discussion.

## Key Outcomes

- Initial exploratory analysis to understand the universe of data directly and indirectly collected to build a golden record for juvenile data

## What's Next?

- Complete exploratory analysis and determine use case(s) to be explored through the Phase 2 Proof-of-Concept (PoC) effort.

## Spotlight

*Use case proof-of-concept objectives*

### Objectives

<b>Expand technical capabilities of the State</b>	<ul style="list-style-type: none"><li>• Provide technical planning and execution support to transform the NDI data lake into a modern data platform</li><li>• Explore emergent technologies and support transition to production</li><li>• Test and validate the processes and procedures for onboarding new use cases to the modern data platform (<i>AI Factory</i> and <i>Modern Data Platform</i> roadmap projects)</li></ul>
<b>Explore data matching and master data challenges regarding citizen/population data</b>	<ul style="list-style-type: none"><li>• Align matching learnings for the proof of concept to broader master data management initiatives (part of the broader Data Strategy and Roadmap)</li><li>• Test use of ML and AI to facilitate matching across disparate systems</li></ul>
<b>Provide a POC data product</b>	<ul style="list-style-type: none"><li>• Develop a model(s) POC to explore particular data topics and questions posed by DPI/HHS</li></ul>
<b>Strengthen inter-agency data exchange</b>	<ul style="list-style-type: none"><li>• Incorporate learnings from requirements gathering, data access, and analytic efforts into greater Data Strategy Implementation Roadmap planning around the <i>technical, cultural, and structural</i> aspects of inter-agency data exchange</li></ul>



Questions?

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