



MASSACHUSETTS DATA PRODUCT STUDIO

Putting **learning** at the
center of how we build
and deliver data solutions

NASCIO State IT Recognition Awards Submission
Massachusetts Executive Office of Technology Services and Security

Award Category: **Data Management, Analytics & Visualization**

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Executive Summary

Across government, the expectation to use data to inform decisions continues to grow. At the same time, traditional approaches to delivering data solutions have struggled to keep pace with the complexity and urgency of today's challenges.

In Massachusetts, data and analytics projects have traditionally required significant upfront investment and long delivery timelines before value could be tested. Months, or even years can pass before stakeholders see results. By then, the original policy need may have shifted. This is especially true for cross-agency efforts, where aligning priorities, data, and stakeholders early can be difficult.

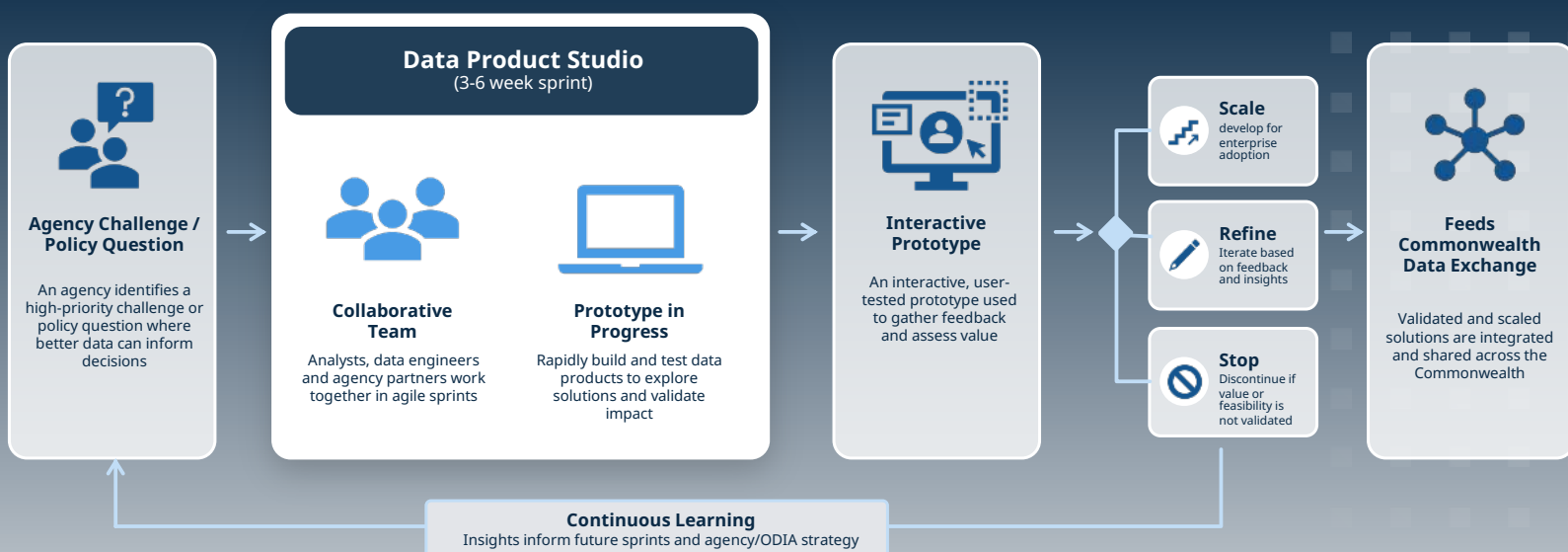
To address this gap, the Executive Office of Technology Services and Security (EOTSS), through the Office of Data Innovation and Analytics (ODIA), launched the **Data Product Studio (DPS)**.

DPS is a rapid prototyping program designed to help agencies test ideas quickly and collaboratively. Small, cross-functional teams partner directly with agencies to build lightweight prototypes in as little as four weeks. These prototypes give stakeholders something tangible, allowing them to explore, react and refine ideas before significant resources are committed.

This approach shifts the Commonwealth from building first to learning first. Instead of committing upfront to large-scale solutions, agencies can validate ideas, identify what delivers value, and scale with confidence.

Each DPS engagement strengthens the state's broader data ecosystem. Projects help identify valuable datasets, refine use cases, and produce reusable components that feed into the Commonwealth Data Exchange, Massachusetts' enterprise data platform.

Together, these efforts are helping Massachusetts deliver data solutions that are faster, more collaborative, and more responsive to the needs of the people they serve.



Idea

Bringing Data Work Closer to Real-World Needs

For years, data and analytics work in government has followed a familiar pattern. Agencies define requirements, secure funding, and build full solutions, often before they can test whether it will deliver meaningful value.

This approach works well when the problems are stable and clearly defined. But in practice, many public sector challenges are complex and ever-changing. They evolve quickly, span organizational boundaries, and require teams to learn as they build. In Massachusetts, this reality has created several recurring challenges:

01 Value is hard to test early

Agencies must commit time and resources before knowing if a solution will be useful

02 Delivery timelines are long

Projects can take months or years, limiting the ability to respond to changing needs

03 Solutions risk becoming outdated

Policy questions often shift before delivery

04 Cross-agency work is difficult to initiate

Data is owned by different organizations, and there is rarely a shared starting point

These challenges create a disconnect between where resources were invested and where agencies could deliver timely impact. Massachusetts saw an opportunity to take a different approach – one that prioritizes learning early before committing fully.

The Data Product Studio, A More Practical Way to Build Data Solutions

The Data Product Studio (DPS) was created to help agencies move faster in both delivery and understanding. At its core is a simple premise: **start by testing the idea rather than fully building the solution.** Each DPS engagement brings together:



A small team of analysts and data practitioners



Agency partners with deep operational and policy knowledge



A clearly defined question to explore

Over the course of about 3-6 weeks, the team develops a prototype. This may take the form of a dashboard, analytical tool, or a lightweight application designed to make the problem easier to understand and evaluate.

Stakeholders remain involved throughout the process. Rather than waiting for a final deliverable, they interact with prototypes as they evolve, reacting to outputs, identifying gaps and shaping the direction in real time.

This approach allows agencies to learn what works before scaling. Some concepts evolve into larger solutions, while others stop at the prototype stage. In both cases, teams gain clarity quickly and reduce the risk of overcommitting resources too early.

Implementation

Learning First, Then Building

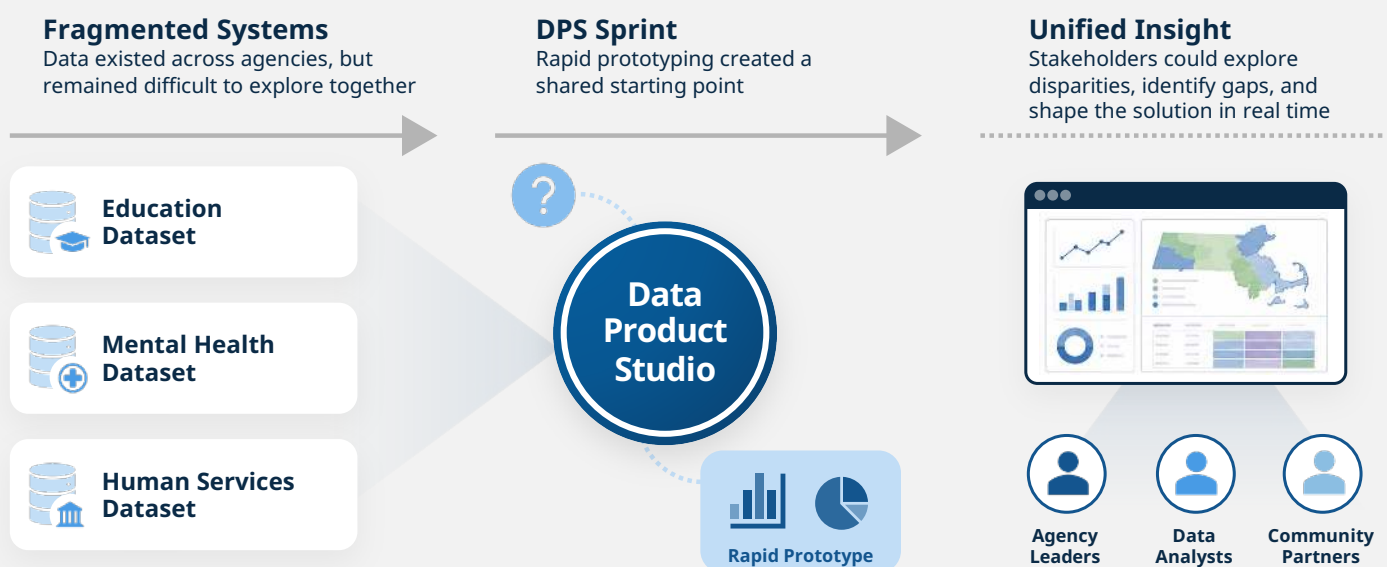
Data Product Studio introduces **a shift in how data work unfolds, as well as a mindset shift.**

One of the most visible changes is speed. DPS reduces the time to a first working product from approximately 12 weeks to as little as 3–6 weeks. That window of time gives agencies just enough time to evaluate ideas while policy questions are still active and adjust direction before assumptions become solidified in delivery.

The model also changes the typical role of the analyst. Analysts work closely alongside stakeholders throughout the process, testing ideas, responding to feedback, and refining solutions in real-time. This has expanded the role of analysts from “report producers” to active contributors in shaping policy and operational solutions.

Collaboration begins differently as well. A lightweight prototype gives agencies something concrete to respond to early in the process. Instead of spending months aligning around requirements documents, teams can react to the same artifact to identify what is missing, challenge assumptions, and refine direction together. Many projects involve multiple agencies working together from the outset.

What makes this model possible in Massachusetts is ODIA’s centralized enterprise analytics capability. Unlike many state data offices that primarily focus on governance or infrastructure, ODIA includes enterprise analysts and data scientists who can directly partner with agencies to prototype and test solutions. This allows the Commonwealth to deliver innovation from the center while remaining closely connected to operational and policy needs.

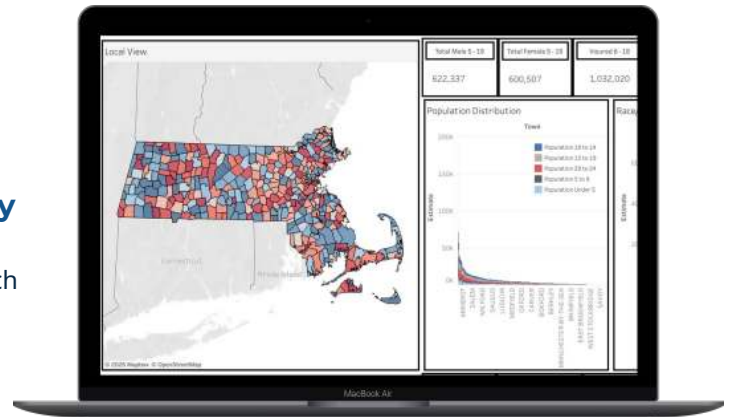


KEY EXAMPLE

Service Atlas

Helping Agencies See Equity in a New Way

Service Atlas shows how the Data Product Studio approach can uncover new insights and drive better outcomes in complex policy areas.



DPS Case Study | Service Atlas



The Challenge

Massachusetts agencies wanted to better understand how access to services varies across communities.

This included looking at data from both education and mental health systems.

In the past, this type of analysis was difficult. Data was spread across agencies, and there was no simple way to bring it together or explore it in a meaningful way.



The DPS Approach

Through Data Product Studio, agencies came together early to define a shared question. The team worked quickly to build a prototype that combined data from multiple sources and presented it in a way that was easy to explore.

Stakeholders were able to interact with the tool as it was being developed. They could see patterns, ask new questions, and suggest changes in real time.



What Changed

For the first time, stakeholders had a clear view of how services and outcomes varied across different communities. They could explore the data themselves and better understand where gaps existed.

Just as important, they could help shape the solution as it evolved. This created a sense of shared ownership and ensured that the final product reflected real needs.

Building on the Model

Service Atlas is one example, and the Data Product approach is being applied in other areas:



Childhood Nutrition Suite

Brings together data across education, human services, and community programs to identify gaps in food access and better target interventions.



Metadata Generator

Helps standardize how data is defined and understood across agencies, improving consistency and saving time.



Synthetic Data Generator

Enables teams to test ideas using privacy-protecting datasets, supporting safe data sharing and collaboration.



One model, many solutions

These efforts show that Data Product Studio is not limited to one type of solution. It can support a wide range of needs, from policy analysis to data infrastructure.

Impact

Data Product Studio is already changing how data work is done across Massachusetts



Faster Time to Value

By reducing delivery timelines from about 12 weeks to about 4 weeks, DPS allows agencies to access insights much sooner. This helps inform decisions while they still matter.



Lower Risk

Because ideas are tested early, agencies can avoid investing in solutions that may not deliver value. This leads to better use of time and resources.



Greater Collaboration

DPS brings multiple agencies together at the start of a project. This early alignment makes it easier to work across boundaries and share data effectively.



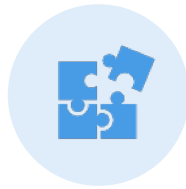
Better Solutions

Continuous feedback from stakeholders helps ensure that solutions stay focused on real needs. Instead of building in isolation, teams build with their users.



Cost Savings

By testing ideas early and scaling what works, agencies avoid costly rework and reduce the likelihood of investing in solutions that don't deliver results.



A Stronger Workforce

DPS also supports the people doing the work. Analysts gain experience building products, working in agile cycles, and experimenting with new tools.

From Prototypes to Enterprise Capability

Data Product Studio is closely connected to the Commonwealth Data Exchange, the state's enterprise data platform. This connection ensures that the work done through rapid prototyping does not stop at insight, but instead contributes directly to long-term, scalable solutions.

Each DPS engagement helps identify what matters most. Teams surface high-value datasets, test how those datasets can be used in real scenarios, and develop approaches that can be reused in future work. Instead of building the platform based on assumptions, the Commonwealth builds it based on proven needs.

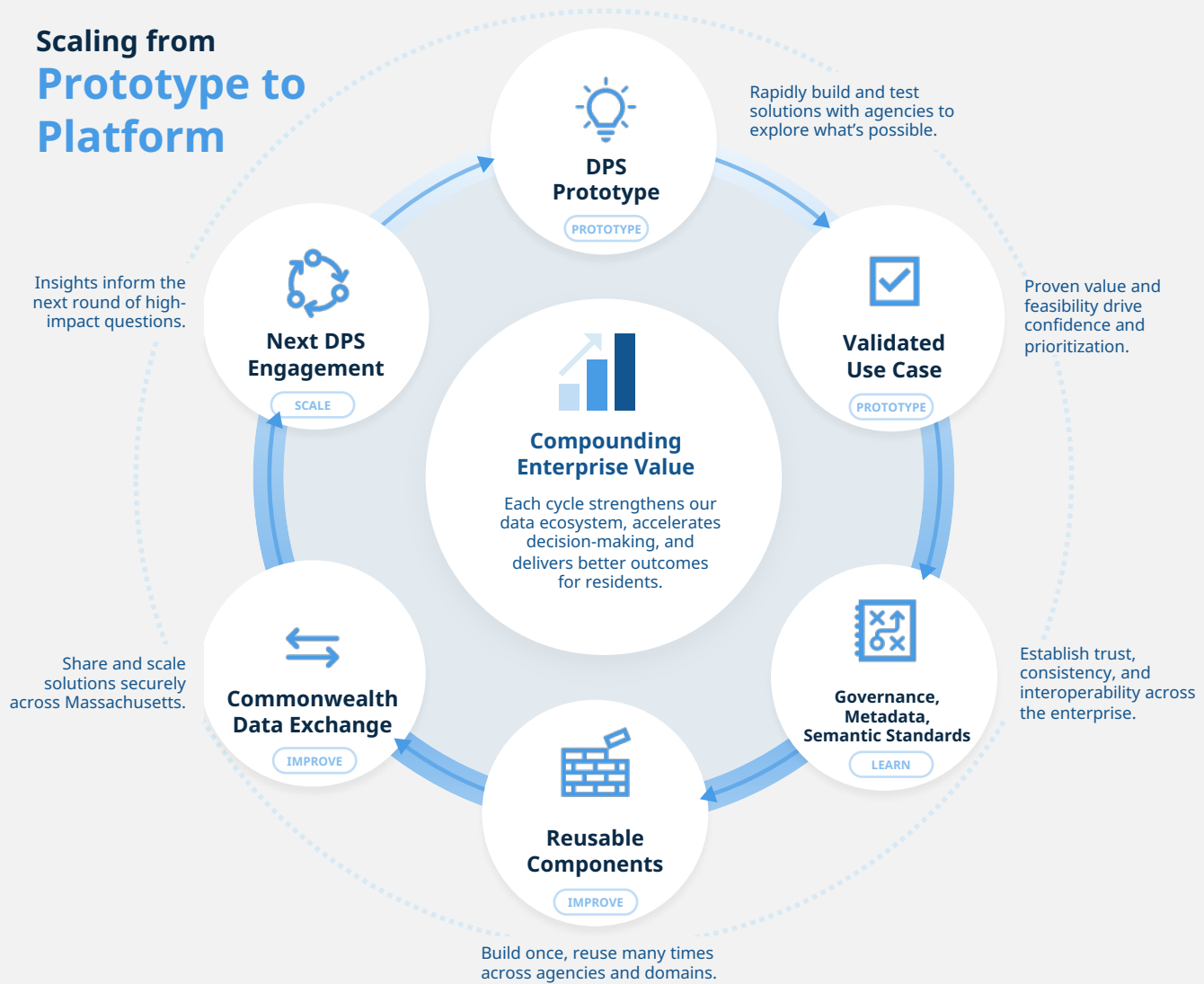
Over time, this creates a stronger and more practical data ecosystem. The platform grows with each project, shaped by real use cases and grounded in how agencies actually work.



By partnering with Data Product Studio, we were able to quickly pressure-test an idea that could provide an equity-centered framework for the state serves communities, allowing us to move forward with greater speed and confidence.

Heidi Gold,
MA Executive Office of Education

Scaling from Prototype to Platform



Data Product Studio as a Scalable Solution

DPS follows a simple cycle: **Prototype** → **Learn** → **Improve** → **Scale**

This cycle ensures that innovation and infrastructure evolve together, with each informing the other.

The model is designed to grow, and ODIA is expanding this approach across agencies by sharing tools, practices, and lessons learned. As more teams adopt this way of working, it creates a network of practitioners who can build on each other's progress.

Overall, Data Product Studio is helping Massachusetts take a more adaptive and effective approach to delivering data solutions. By prioritizing rapid prototyping, continuous feedback, and incremental delivery, the Commonwealth is able to test ideas earlier, adapt more quickly and focus investment where it delivers the greatest value.

As governments navigate increasingly complex challenges, this model offers a clear path forward – one where data is used to understand problems, and respond to them in ways that are timely, practical, and centered on the people being served.