

GDOT/ARC Joint Data Program Capability Maturity Enhancements



By Georgia DOT

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Overview

In 2021, the Atlanta Regional Commission (ARC) and Georgia DOT (GDOT) launched the Joint Agency Data Acquisition and Management Program (the Program) to jointly fund and manage transportation data, standardize analytics, eliminate duplication, and reduce costs. The Program grew to serve more than 1,000 Big Data users across over 40 agencies and consultants, procuring statewide speed, trip, freight, and connected-vehicle datasets and generating an estimated \$3.14 million in direct government cost savings. In 2024, the Program conducted a candid self-assessment and national benchmarking that produced 12 strategic recommendations, and within a year it had completed nine of them. The resulting capability-maturity enhancements — a repeatable benefit-cost methodology, a centralized performance-monitoring dashboard, a multiagency data evaluation framework, and expanded training and communication tools — lifted the Program's benefit-cost ratio to 11.9 and an estimated \$3.1 million in annual agency savings.

In this case study you will learn:

1. How ARC and GDOT jointly governed and scaled a shared Big Data program to more than 1,000 users across 40-plus agencies.
2. Why a candid self-assessment and national benchmarking produced 12 actionable capability-maturity recommendations.
3. How a repeatable benefit-cost methodology and a centralized usage dashboard drove an 11.9 benefit-cost ratio and roughly \$3.1 million in annual savings.

BACKGROUND

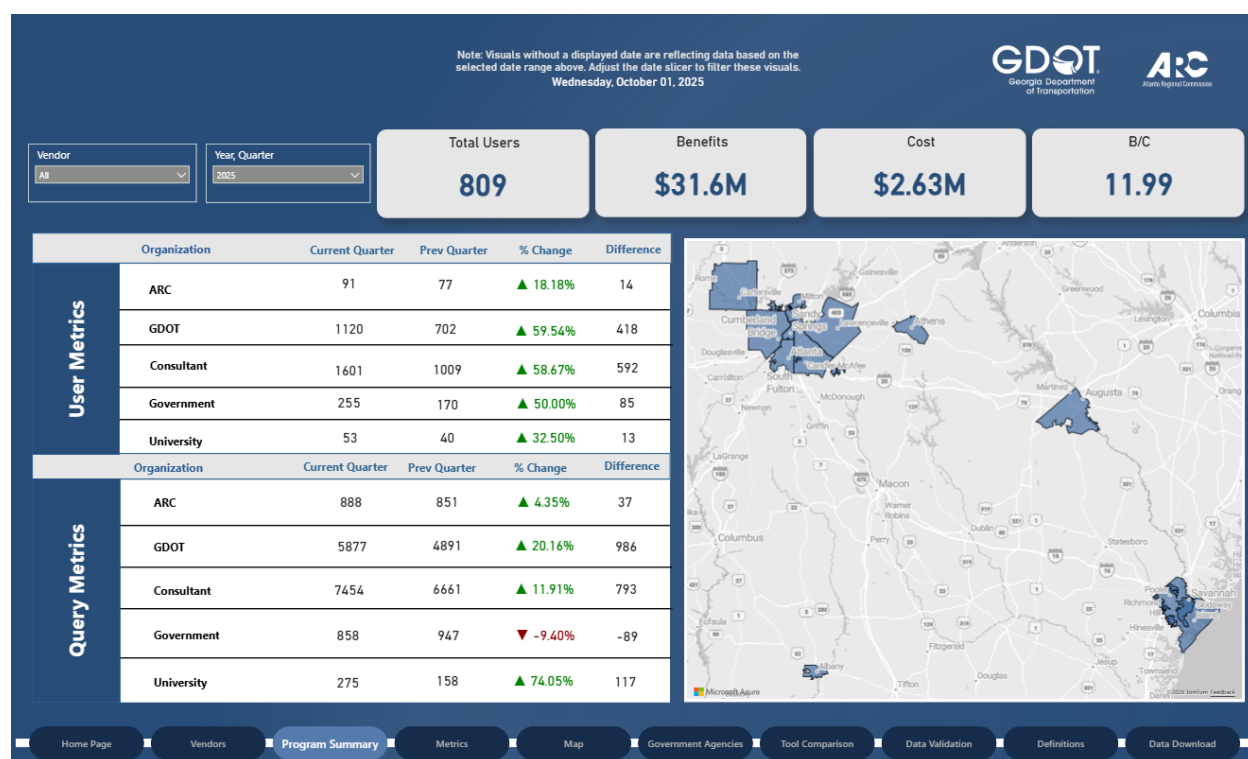
In August 2021, the Atlanta Regional Commission (ARC) and the Georgia Department of Transportation (GDOT) entered into an agreement to jointly fund and manage the Joint Agency Data Acquisition and Management Program (the Program). This interagency, interdisciplinary effort was established with three core objectives:

1. Enhance and standardize data analytics capabilities across projects.
2. Eliminate unnecessary duplication of data and analyses.
3. Reduce overall agency costs.

At program inception, ARC and GDOT developed a formal charter to define scope, governance, and voting representation. Voting membership was set at three representatives per agency, with business units limited to one voting member each. This structure ensured broad representation while institutionalizing collaboration across departments.

Following charter adoption, the Program focused on developing policy recommendations and guidelines for data acquisition. Key elements included licensing requirements for agency staff, partner agencies (including local governments), and consultants; data use and publishing permissions; and interagency gap and overlap analyses to support best-value purchasing decisions.

Because these materials were grounded in data-sharing principles established by The Eastern Transportation Coalition (TETC), the Program openly shared its findings with TETC and its members to support replication. Once implemented, the Program successfully procured statewide datasets covering speed, trip, freight, and connected vehicle/telematics data, all with open-agency analytics access. As a result, the Program expanded to more than 1,000 Big Data users representing over 40 agencies and consultants, generating an estimated \$3.14 million in direct government cost savings.



TSMO PLANNING, STRATEGIES, AND DEPLOYMENT

To proactively shape its future direction, the Program conducted a comprehensive self-assessment to ensure alignment with evolving agency needs and industry best practices. Rather than relying on incremental adjustments, program leadership initiated a structured review emphasizing candid evaluation and long-term strategic planning. A central component of this effort was a collaborative workshop held at the GDOT Transportation Management Center, which convened stakeholders from ARC and GDOT.

Supported by internal interviews, the workshop provided an open forum to assess program strengths, identify areas for improvement, and define ambitious future goals. This inclusive process fostered transparency, knowledge sharing, and consensus-building to support TSMO planning and deployment. The Program expanded this effort by engaging external partners and peer agencies nationwide, including the Oregon Department of Transportation and the Vermont Agency of Transportation (VTrans). Through interviews and research, the Program gained insight into the evolution, challenges, and innovations of other Big Data programs. This benchmarking validated existing strengths and identified opportunities to enhance collaboration, data management, and analytics.

Based on internal and external feedback, the Program developed a set of actionable solutions tailored to its context and objectives. These were formalized in the 2024 Program Review and Recommendations, which outlined 12 strategic recommendations addressing both near-term operational needs and long-term growth. Recommendations included sustaining effective coordination meetings, improving team responsiveness, strengthening engagement with the transportation community, and expanding data validation efforts.

Additional initiatives focused on developing a performance monitoring dashboard, refining return-on-investment methodologies, improving stakeholder resource management, and advancing connected vehicle data applications.

COMMUNICATIONS PLANNING AND EXECUTION

Guided by the 2024 Program Review and Recommendations, Program members began implementing the defined vision. Recognizing the need for a more robust benefit–cost (B/C) analysis, the Program moved beyond earlier limited assessments by establishing a repeatable evaluation process. The team conducted interviews with interdisciplinary subject matter experts to document Big Data use cases and project impacts. In coordination with data vendors and TETC, the Program extracted usage data from analytics platforms vendors used in Georgia, including RITIS, Replica, Geotab, and Sandborn. This effort was strengthened by applying established costing frameworks from peer agencies, resulting in a comprehensive and repeatable approach to evaluating Program benefits and costs.

To improve internal communication and operational oversight, the Program prioritized development of a centralized performance monitoring dashboard. The dashboard enables proactive tracking of Big Data usage and targeted support where needed. The Program reengaged VTrans to study its data usage dashboard and benefited from shared source code. A unified workflow for vendor data ingestion was established, data use agreements were formalized, and a comprehensive directory of agency users was compiled. These efforts created a master repository to monitor usage across platforms.

The Program also standardized usage metrics in collaboration with vendors and partnered with TETC to digitize all data validation studies



dating back to 2017, enabling longitudinal tracking of vendor performance. In parallel, the Program established an interdisciplinary data evaluation framework that brings together subject matter experts from safety, real-time operations, planning, modeling, design-build, maintenance, and roadway design. This group regularly reviews emerging challenges, pilots new datasets, and evaluates their applicability. The framework ensures that communication about data needs and solutions is both broad and targeted, enabling agile responses to emerging transportation issues.

To further streamline communication and resource sharing, the Program developed standard operating procedures for a dedicated Big Data support email, collaborated with GDOT and ARC Strategic Communications to create a public-facing website, and centralized deliverables, meeting materials, and foundational documents. This coordinated communications approach ensures stakeholders remain informed, engaged, and equipped to advance Georgia's Big Data program.

OUTCOMES, BENEFITS, AND LEARNINGS

Within one year of finalizing the 2024 Program Review and Recommendations, the Program completed nine of the 12 strategic recommendations, with the remaining three actively underway. A major achievement was the updated benefit–cost analysis, which established a revised benefit–cost ratio of 11.9 and estimated annual savings of approximately \$3.1 million in direct agency spending. The analysis was documented in a comprehensive report outlining five evaluation criteria and introduced a streamlined, repeatable methodology that allows future analyses to be updated annually using automated data ingestion.

The deployment of the Program's Big Data dashboard was another key milestone. The dashboard now serves as the foundation of the Program's customer success and power-user strategy by identifying low-usage organizations and geographies, highlighting high-use partners for deeper collaboration, and informing targeted training. Training offerings range from tool-specific sessions to beginner, advanced, and

power-user workshops tailored to planners, traffic operations staff, and other transportation professionals. The Program also shared its dashboard code with VTrans, reciprocating earlier support, and made its data validation dashboard code available to TETC for use by all member agencies.

Communications were further strengthened through the multiagency data evaluation framework for emerging datasets. Subject matter experts reviewed data from NIRA (road conditions), Replica (modeled transportation data), and Sandborn (aerial imagery), producing recommendations on interdisciplinary use cases and identifying limitations. These findings now inform licensing decisions, data acquisitions, and future interagency data needs.

Finally, stakeholder engagement and resource sharing were enhanced through new communication tools. The Program launched a 24/7 monitored support email; a public-facing website in 2025 to provide access to resources and training; and a dedicated SharePoint site housing Program documents, budgets, and meeting materials. In addition, a review process with the Procurement team was established to assess data purchases under professional services contracts, to catalog broader data needs, and connect requestors with existing resources.