ALAMEDA-CONTRA COSTA TRANSIT DISTRICT

STAFF REPORT

MEETING DATE: 6/8/2022	**Staff Report No.** 22-142

TO: **AC Transit Board of Directors**

FROM: **Michael A. Hursh, General Manager**

SUBJECT: **Data Governance Program**

BRIEFING ITEM

RECOMMENDED ACTION(S):

Consider receiving a briefing on AC Transit's Data Governance Program.

STRATEGIC IMPORTANCE:

Goal - Convenient and Reliable Service
Initiative - Service Quality

The Data Governance Program is essential to ensure that district data is reliable, usable, accessible, and secure. Effective data governance leads to better data analytics, decision-making, operations, and reliable service.

BUDGETARY/FISCAL IMPACT:

There is no fiscal impact in receiving this report.

BACKGROUND/RATIONALE:

The Board of Directors approved the District's Strategic Plan on April 10, 2019. In response, the Department of Innovation and Technology (IT) developed an IT Strategic Plan and Data Governance Program. The Data Governance Program is based on feedback from a survey of executives, stakeholders, and managers. It included a data governance plan, committee, data as service and enterprise business intelligence portal, and training to enable a data-driven culture within AC Transit, executives and decision-makers with reliable data and resources for developing future strategies and roadmap.

Introduction

Due to the growth of business and the adoption of emerging technologies at AC Transit, data has become a critical asset, creating new risks and opportunities in data accessibility, visibility, quality and security. To improve the transit experience and enable a data-driven culture within AC Transit, executives and decision-makers need reliable data and resources for developing future strategies and roadmap. This staff report summarizes the IT data strategy, data gap analysis recommendations from 2019, and data governance program overview, accomplishments, and roadmap.

IT Data Strategy

IT department has established IT Strategic Pillars - based on the District Strategic Plan; by studying ongoing market trends, collecting feedback surveys, and conducting interviews with key stakeholders. IT developed a Data Strategy to enable data-driven decision-making, utilizing accurate, reliable data from an accessible enterprise platform. The key initiatives happening to implement IT Data Strategy are:

- Improve Data Quality and Governance across enterprise systems
- Implement Enterprise Data Warehouse to be the "Single Source of Truth," collating and integrating across multiple platforms
- Enterprise Business Intelligence (BI) platform implementation

This Staff Report focuses on Data Governance.

Data Gap Analysis Recommendations - 2019

In 2019, IT Department conducted an extensive Data Gap Analysis Project, including all stakeholders throughout the District, focused on issues related to data quality, data management, and data availability. The Gap Analysis Project included workshops, interviews and meetings with various stakeholders. As a result of the Data Gap Analysis project, a list of key recommendations was developed to provide the framework for the Data Governance Program, connecting individuals from all departments.

Data Governance Program Overview

As the District transforms into the digital world, data becomes essential to better decision-making and building data-driven organization and culture. Data Governance is more than data management. To evolve as a truly data-driven organization, the District needs to implement a comprehensive Data Governance framework. There are six strategic Data Governance goals recommended to address the District's Data challenges; Leadership, quality, prioritization, collaboration, innovation and training.

A Data Governance Committee was established in 2020 to provide leadership to a data-driven decision-making process with accountability. The Committee prioritizes and establishes control to achieve Data Governance goals to address data gaps, needs, and change enablement. Since September 2020, the DG committee has met monthly to share Data Governance initiatives and collaborations. The meetings are led and organized by IT leadership to establish and facilitate inter-departmental partnership and cooperation on data integration, sharing, and quality assurance. Automated Enhanced Data Quality Assurance (QA) processes have been set up among multiple business systems. The main goal is to coordinate all the data collection and integration efforts to deliver accurate and reliable data. Some recent examples are ZEB Data Collection QA, CAD/AVL Missed Trips, Logon Rate, On-Time Performance QA, etc.

Knowledge base and training opportunities are offered for staff and stakeholders to improve data access, consumption, and resource utilization. In the past two years, PowerBI introduction training was provided to the Materials, Procurements, Planning and Human Resources Departments. New training in Business Intelligence DevOps is forthcoming to Data Custodians for change management processes.

Accomplishments

The Data Governance Program has led several initiatives to grow value in reliable data, promote collaboration, focus on providing customer solutions, create efficiencies and resource savings, develop a high-performance workforce, and adopt an innovative culture.

The top 10 Accomplishments in the data governance program are:

1. Formation of Data Governance **Committee**

2. Development of **Data Governance Plan**

3. Enablement of **Data Security**

4. Launch of **Data Governance Portal**

5. Launch of **Enterprise Business Intelligence**

6. Development of **Working Groups**

7. Deployment Data Governance Program **Training**

8. Launch of Data Quality & Culture 2022 **Survey**

Data Governance Committee
Senior leaders play a crucial role in championing and bringing visibility to the value of data and data governance, which is vital for building and fostering a culture of data excellence. Effective data governance comes with business and IT alignment, collaboration, and formally defined roles around data leadership, ownership, and stewardship. 33 inter-departmental committee members develop the formal Data Governance processes, and procedures for managing all existing and future data programs and are accountable for:
*   Managing, governing and protecting data as a strategic business asset
*   Leveraging data to inform evidence-based strategic and operational decisions
*   Building a culture that values data and promotes public use

Data Governance Plan
The Data Governance Plan is based on the principles of the Data Management Framework, which was developed and approved by executives in 2020. The DG Plan document is intended to assist the District's overall Data Governance program's advancement and maturity.
*   It is a collaborative effort of all Departments
*   Implements a comprehensive Data Governance framework
*   Helps change enablement to evolve as a truly data-driven organization

Data Security
Data Governance is a fundamental part of security at AC Transit, and the objective of Cybersecurity is to establish, monitor, and enforce District policies, procedures, standards, and guidelines, to ensure data availability, usability, and security. Data Monitoring allows the District to ensure sensitive data is accessible to only data owners and is not accidentally or maliciously shared with users who should not have access. If any sensitive information is detected on public folders, it is removed immediately.   Cybersecurity controls proactively protect District data from being exfiltrated and getting into the wrong hands. To make data available to users outside the District, sensitive data can be securely shared with a one-click email and other tools.

Data Governance Portal
The Open Data Service Portal was launched for internal and external portals to enhance data-driven decision making, increase overall operational efficiency and enable a one-stop-shop for data service.

Enterprise Business Intelligence (BI)
In June 2021, the IT Department launched the Enterprise Business Intelligence platform to support and facilitate better business decisions. BI allows organizations access to information critical to the success of multiple areas, including operations, finance, human resource, and executive leadership. The launch of the Enterprise BI enhanced delivery solutions for business needs and solved several business use cases Next year's focus will be on predictive and prescriptive analytics that will drive the District into advanced computing by using Artificial Intelligence tools.

Working Groups
Three working groups are under the Data Governance Program. The Business Intelligence Working Group is formed for Data discovery, methodology, key performance indicators, reports and multi-department collaboration. The Data Quality Working Group's primary objective is to develop appropriate methods of classifying the quality of digital information. Its formation recognizes the value of data quality assurance and the challenges in managing data quality as it moves through internal and external District environments. The Policies Working Group is collaborating on new Policy development, such as Data Governance and Open Data policies.

Data Governance Program Training
Various webinars, awareness sessions, and remote training were conducted in 2021 on the data governance program and policies, data as a service portal, internal and external data request, publishing processes, and BI tools.

Data Quality and Culture Survey - 2022

The Data Quality and Data Culture Surveys were conducted in April of 2022 to assess the current data governance and target states and learn from the gap analysis results to create the DG roadmap. The survey focused on the district Datawarehouse data quality, importance, and needs. The Data Quality Survey (DQS) helped us measure business satisfaction with data quality, identify and address unmet needs, and schedule and deliver training on the AC Transit Datawarehouse, also known as enterprise database (EDB). The DQS scores indicated positive feedback from the operations department, including transportation, technical services, training and education and maintenance departments. For the last two years, IT has been improving the data coming from their departmental system. The DQS results also illustrated that additional focus needs to be on data quality and training for the planning, scheduling, and finance department users to promote efficiency and confidence. In the future, plans to research and provide self-service options for employees to enroll in training for various areas, including business intelligence, and self-service data portal.

One hundred sixty-eight users across AC Transit were surveyed to produce feedback about our district data and its ability to help them be effective in their roles. The Data Culture Survey (DCS) measured data ownership, governance, data as an asset, tools & processes, accessibility & knowledge, data literacy & training, quality & trust, reporting & analytics, and change management. The DCS diagnostic survey result includes the scores for each category. The survey results provide important insights into the progress of the data governance plan, understand customers' experiences, respond to gaps, and develop an improvement plan.

Roadmap

The Data Governance roadmap items below outline where to focus the priorities and invest the resources effectively.

1. Plan to add new items to refreshed data governance plan document in the collaboration of the DG committee.

2. Data culture and awareness are essential to for promoting clarity and understanding of roles, responsibilities, and data impact. The plan is to continue and grow Data Governance training modules or external recommendations using existing and new resources to increase Data Quality and efficiencies and promote a high-performing workforce with new internal and external training segments.

    Plan to do a gap analysis of existing policy and Governance goals to identify areas of improvement, which will enable our open data vision.

3. Collaborate with each department and business unit to develop the data catalog.

4. Implementing and maintaining reliable and resilient cloud technology is the foundation of the data storage infrastructure. Utilizing Cloud services to host the server and data storage technology and enterprise backup technology ensures data integrity and availability.   Using security best practices and next generation firewall technology means the data is protected around the clock.

5. Once the refreshed data catalog is published, use cases can be identified to enable Artificial Intelligence and Machine Learning capabilities.

In conclusion, the Innovation and Technology department looks forward to collaborating and strengthening our partnership with the business to improve data governance in the District.

ADVANTAGES/DISADVANTAGES:

The Data Governance program enables data-driven culture within AC Transit's executives and decision-makers with reliable data and resources for developing future strategies and roadmap with accurate, consistent, and secure critical datasets.

There is no disadvantage to receiving this report.

ALTERNATIVES ANALYSIS:

This report does not require an alternative analysis.

PRIOR RELEVANT BOARD ACTION/POLICIES:

Staff Report 20-122 - IT Strategic Plan
Staff Report 22-002 - Major IT Projects and IT Strategic Plan Annual Report

ATTACHMENTS:

1.   Presentation Slides

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