

OFFICE OF THE MAYOR
KE KE'ENA O KA MEIA
CITY AND COUNTY OF HONOLULU

530 SOUTH KING STREET, ROOM 300 • HONOLULU, HAWAII 96813
PHONE: (808) 768-4141 • FAX: (808) 768-4242 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA



MICHAEL D. FORMBY
MANAGING DIRECTOR
PO'O HO'OKELE

KRISHNA F. JAYARAM
DEPUTY MANAGING DIRECTOR
HOPE PO'O HO'OKELE

April 1, 2025

The Honorable Tommy Waters
Chair and Presiding Officer
and Members
Honolulu City Council
530 South King Street, Room 202
Honolulu, Hawaii 96813

Dear Chair Waters and Councilmembers:

SUBJECT: Initial City Data Plan for the City and County of Honolulu

Pursuant to Section 2-19.5 City Data Plan, Revised Ordinances of Honolulu 2021 ("ROH"), and Ordinance 22-31, enclosed is the Initial City Data Plan, submitted within one calendar year of the hiring of the City and County of Honolulu's ("City") first Chief Data Officer ("CDO"), Kira Chuchom, on April 1, 2024.

Over the past year, CDO Chuchom has spent significant time learning about the City and its operations, engaging with internal and external stakeholders on data issues, and understanding and evaluating the City's data capabilities and capacities. The CDO also focused on public safety, housing, homelessness, personnel hiring, and the operations of the Department of Planning and Permitting—identifying these areas as priorities requiring her intentionality and support.

In the course of this engagement and work with the various City departments, the CDO developed a City Data Strategy highlighting six crucial impact areas that will lead to the successful development of each of the specific deliverables articulated in ROH Section 2-19.5.

This deliberate approach through the six impact areas is based on the CDO's expertise and experience that foundational groundwork and mindset change is crucial to the success of any large organization's adoption and implementation of the listed deliverables. This is exemplified by the CDO's establishment of a City Data Community of Practice group made up of members (at least one from each department), who meet

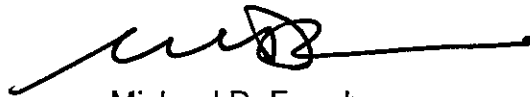
The Honorable Tommy Waters
Chair and Presiding Officer
and Members
April 1, 2025
Page 2

every other week sharing knowledge, improving skills, fostering collaboration, and ensuring relevance and applicability with respect to data. There are now over 50 highly engaged Data Community of Practice Members, who are part of that groundwork and change necessary to guarantee the success of any data-related improvement effort and/or data governance program.

With the active support of the Honolulu City Council, the City is making steady progress and the administration is committed to the ordinance deliverables with timelines included as set forth in the attached City Data Plan.

Should you have any questions about the City Data Plan or any of the foregoing, please contact Kira Chuchom, Chief Data Officer, at kira.chuchom@honolulu.gov or via phone at (808) 768-4203.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Formby', with a long horizontal line extending to the right.

Michael D. Formby
Managing Director

Enclosure

City Data Plan

Pursuant to Council's Ordinance 22-31 BILL 32 (2022), CD2, Section 2-19.5 City Data Plan, this is the Initial City Data Plan, submitted within one calendar year of the hiring of the City and County of Honolulu's (City) first Chief Data Officer (CDO), Kira Chuchom, on April 1, 2024.

Overview: CDO High-Level Milestones

The Initial City Data Plan is a compilation of strategic positioning and tactical actions that are based on a Citywide Data Strategy that is currently in motion, and is primed for operationalization beginning in April 2025. The following diagram highlights key activities and actions undertaken by the CDO in this first year, that have been incorporated into the design and development of the City Data Plan.

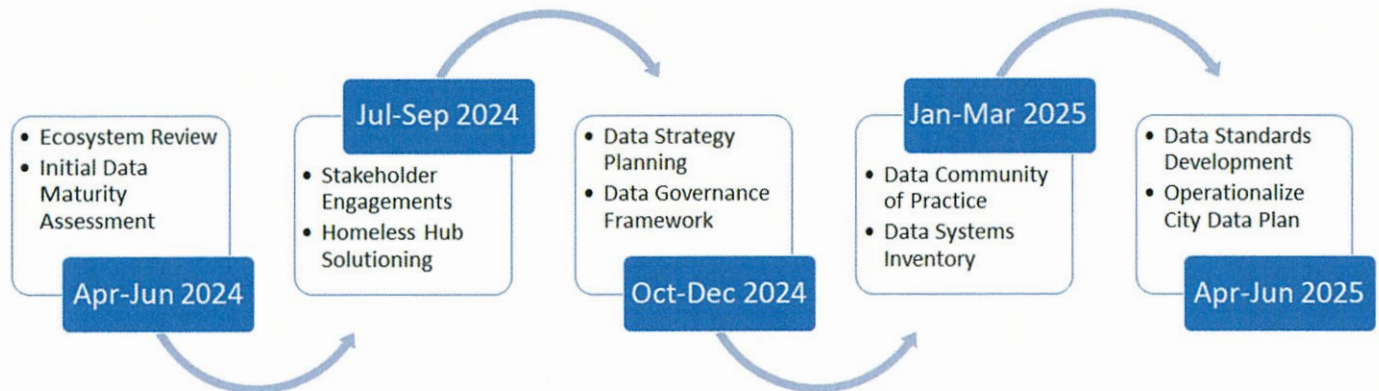


Figure 1: Chief Data Officer Activities and Actions Highlights since April 1, 2024

Preliminary Considerations: Initial Actions

The Initial City Data Plan is based on analysis and evaluation of overall data maturity, data-related processes, operating environments and ecosystem as well as systems, applications, and data management review conducted by the CDO, of the City's departments and agencies, across the following Data Maturity criteria:

People	Process	Data Practices	Technology
- General level of data literacy - Data usage in context of application - Data skills exist in agency - Data skills leveraged - Staff to manage data - Reliance on contractor/vendor for data - Leverage DIT for data-related work	- Business Glossary exists - Data management processes in place - Data mapping and data flows exist - Data standards exist - Data processes followed - Documentation available - Training available	- Data Profiling - Data Architecture - Data Modeling - Data Management - Data Governance - Data Quality Assurance - Data Solutions - Data Applications - Data Visualization and Dashboards - Data Analytics	- Data Systems - Data Operations - Data Platform(s) - Data Integration - Data Interoperability - Data Services and Tools - Data Protection - Data Security

Figure 2: Data Maturity Measured Dimensions

Findings in this first year, indicated that for the most part, the City's readiness from the combined People, Process, Data Practices and Technology perspectives, to become a data-driven organization, is at best, at **Level 1**, on a Data Maturity Assessment Scale from 1 to 5 (5 representing the highest maturity).

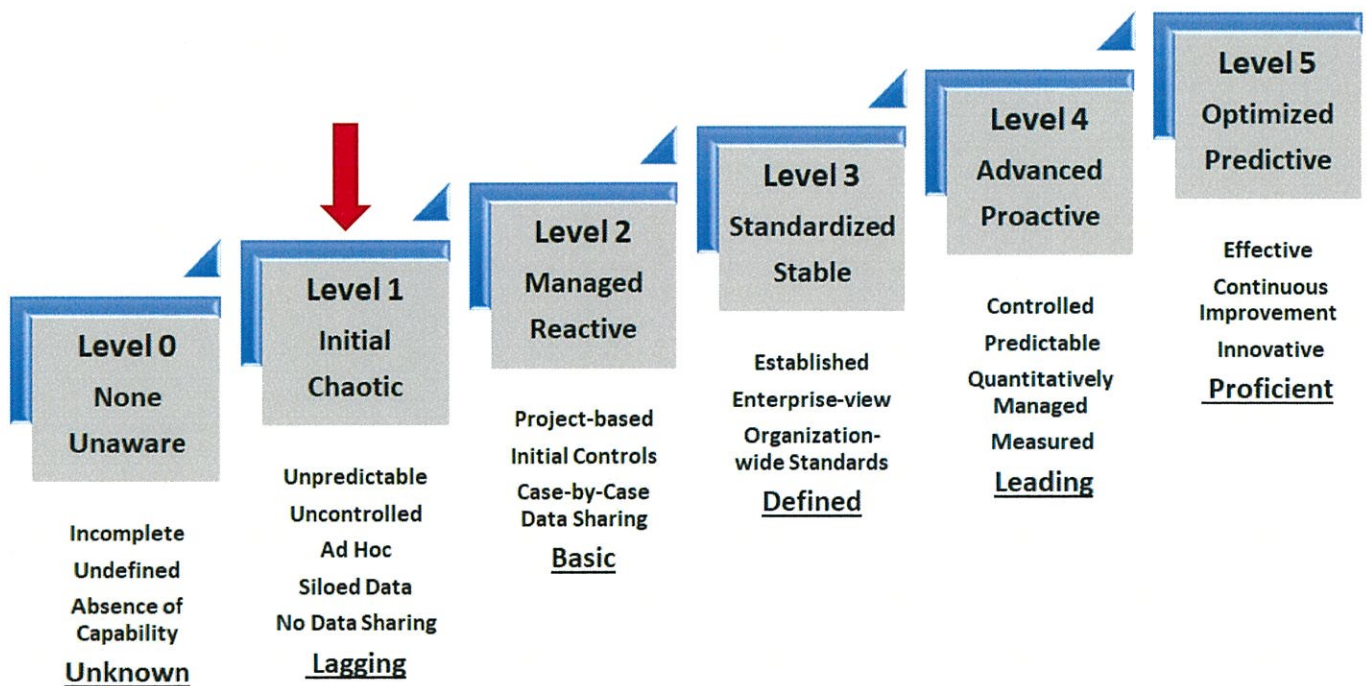


Figure 3: City and County of Honolulu Data Maturity Assessment

In addition to the findings from the Data Maturity Assessment indicating a relatively low level of Data Maturity, it is highly recommended by the CDO that the City embark on a concerted effort to improve the degree of knowledge and overall understanding of “data”

by City employees, and not necessarily relegate data work and/or data-related strategy to external consultants/contractors.

To that end, the CDO has initiated efforts to address the general lack of Data Literacy by helping City employees climb the Data Pyramid through a combination of data-related knowledge-sharing via in-person assistance and engagements, advisory consultations, partnerships, actual projects and work products, as well as providing more upskilling and training opportunities to City employees. Additionally, with Council's support and assistance, the ability to bring in more data-specific resources and tools to increase CDO capacity to build data systems and platforms would be invaluable in making operationalization of the City Data Plan a reality.

In order to progress to the next level, Level 2, the City needs to make progress up the Data Pyramid, from siloed thinking and operations, to eventually being able to derive insights from data by making data more actionable and impactful.

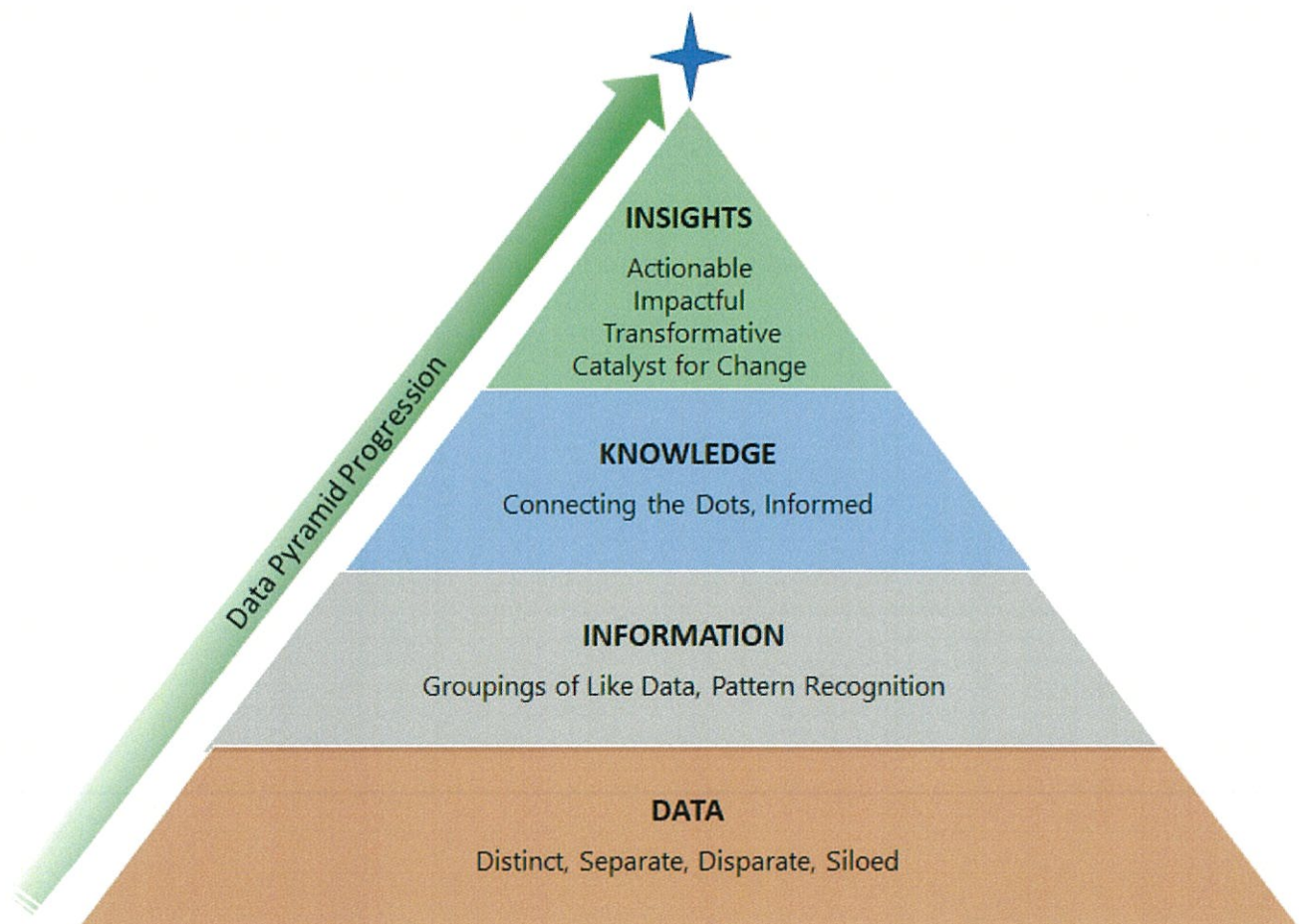


Figure 4: The Data Pyramid Progression – from Data to Insights

In order to guarantee success and sustainability of any data-related improvement effort as well as any data governance program, it is necessary to actively share knowledge, improve skills, foster collaboration, and ensure relevance and applicability. With this in

mind, the CDO initiated the City Data Community of Practice, with a request to all Department/Agency Heads to designate at least one Data Representative (with backups) to participate in the Data Community of Practice.

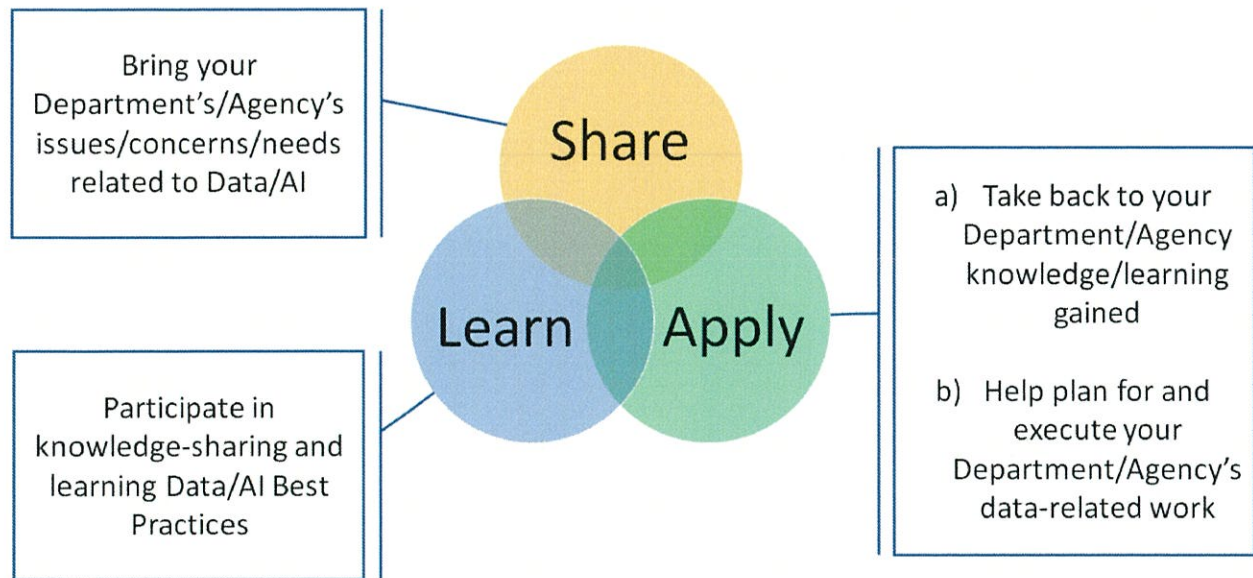


Figure 5: Data Community of Practice SLA

Thus far, there are over 50 highly engaged Data Community of Practice Members who meet every other week to share, learn and apply their knowledge.

Part of building a data-savvy employee base is to provide upskilling and training opportunities. Recently, the CDO engaged with Microsoft to provide “Dashboard in a Day” training to 50 City employees from a variety of Departments/Agencies in Power BI (a Business Intelligence and Data Visualization tool used for data analytics). Many more training and upskilling opportunities are in the works.

The value of data also needs to be applicable and relatable in the real-world, and demonstrated to be more actionable and relevant strategically as well as in day-to-day operations. To date, the CDO has delivered a Homeless Solution Architecture that illustrates Data Sharing in a working prototype, which has now transitioned into a collaborative systems design and applications development project with the Department of Community Services (DCS) and the Department of Information Technology (DIT), piloting the Homeless Command Center with the City's Homeless Outreach Navigation for Unsheltered Persons (HONU). This effort showcases how Data Sharing can be leveraged within and across City agencies, as well as with State agencies, nonprofits (e.g., Partners in Care, Institute for Human Services, etc...) and other programs engaged in managing Homelessness and/or providing services for the Homeless/Houseless community.



Figure 6: From Concept: Homeless Command Center Prototype

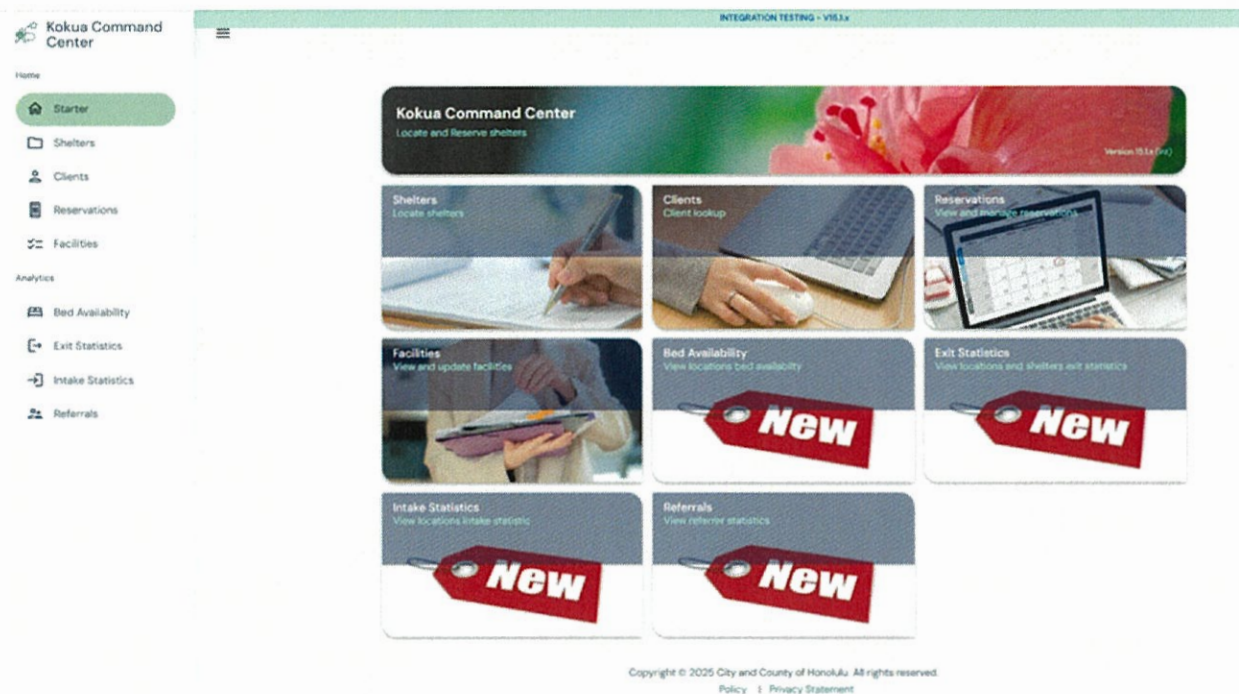


Figure 7: To Reality: Homeless Command Center Application

Setting the Stage for Success: The Strategy

There are several areas that are in need of focus to enable the City Data Plan to be achievable and sustainable over time. These focus areas are comprised of six crucial Impact Areas that make up a Citywide Data Strategy – this is the strategy that will enable the City Data Plan to be successfully implemented:

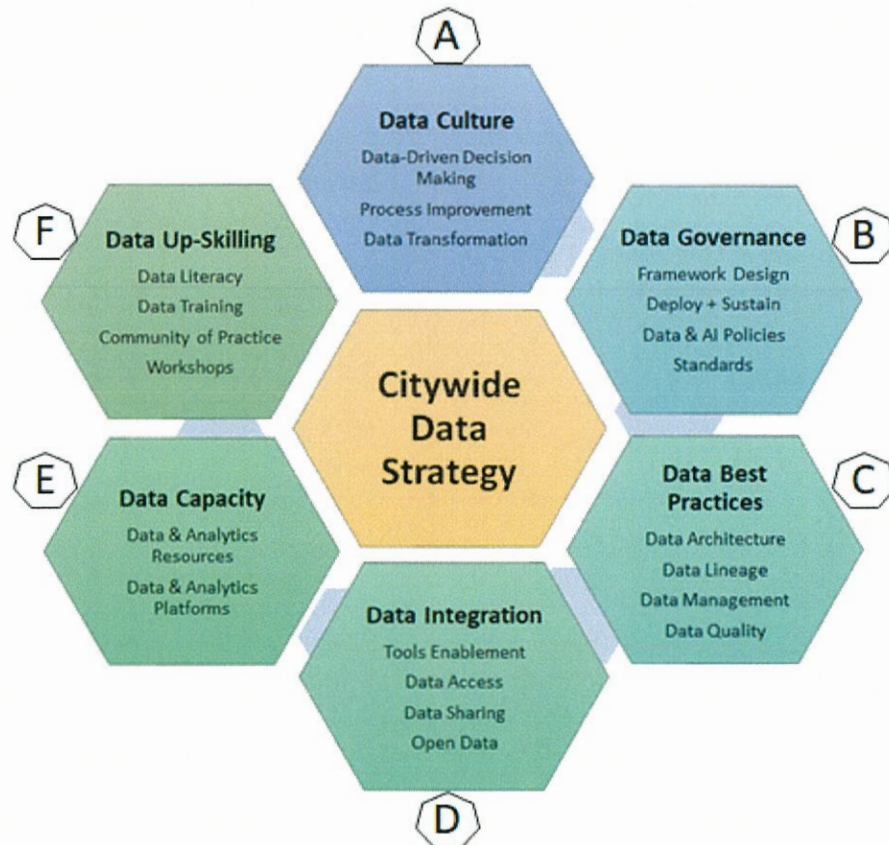


Figure 8: 6 Impact Areas for a Citywide Data Strategy

- A. Data Culture: this represents work that impact a mindset change and eventual transformation into a more data-driven City. Although not specified in Ordinance 22-31, the underlying environment must foster expectations that data can be leveraged more efficiently to enable data-driven insights and decision-making.
- B. Data Governance: a structured and collaborative approach is mandatory to establish a successful Data Governance program that is sustainable, resourced appropriately, and capable of persisting across Administrations.
- C. Data Best Practices: it is imperative that industry-wide data best practices be initiated and implemented across City departmental/agency operations as well as within systems, applications and databases.
- D. Data Integration: as called out in various departmental audit reports, data integration does not exist at the City – **this must change** – data sharing is a must for operational efficiencies within as well as across departments/agencies. Data Tools need to be purchased and deployed to enable data integration across multiple and disparate systems – this is a prerequisite for organizations to become more data-driven.
- E. Data Capacity: the City is lacking in experienced data professionals with expertise in the fields of data architecture, data modeling, data governance, data management, data privacy and security, data quality assurance, data-oriented

systems and applications design and development, data integration and interoperability, master data management, metadata management, data warehousing and business intelligence, data analysis and business analytics, data science and predictive analytics, or even resources to strategically take advantage of advances in artificial intelligence and machine learning. In addition to the lack of data professionals, the City has no data-specific platforms and/or Central Data Repository for data analysis and analytics beyond what is provided through the installed applications (e.g., C2HERPS) that are designed for transactional reporting, and not for facilitating insights and analytics citywide.

- F. Data Up-Skilling: there is a tendency for departments and agencies to “farm out” and/or rely on outside vendors, consultants and contractors for any data or analytical work based on data. It is imperative that this type of work also be performed “in-house” by City employees – hence the need for enhancing data literacy and upskilling City employees in leveraging data to derive insights. This is especially true for those in decision-making, planning and analytical roles. This can be accomplished by a combination of techniques, from offering classroom training and workshops for targeted audiences, as well as by leveraging a Data Community of Practice.

Operationalization: The How

The following diagram (Figure 9: City Data Plan Cross-reference Map to Current 6 Impact Areas on page 8) indicates the Starting Point where the City is currently at in terms of ability to execute against any City Data Plan, given the current Level of Data Maturity of 1, coupled with the overall lack of Data Literacy:

Ordinance Requirements: Sec. 2-19.5 City Data Plan	Data Culture	Data Governance	Data Best Practices	Data Integration	Data Capacity	Data Up-skilling	Timeline/Roadmap
(a) Initial City Data Plan	●	●	●	●	●	●	1 st deliverable of City Data Plan 4/1/2025
(1) Governance structures	●	●	●	●	●	●	Framework Completed Next Step: Socialization
(2) Strategic Use of Data	●	●	●	●	●	●	From Zero Data Literacy Enhancement In Progress
(A) Data Management and Analysis Standards	●	●	●	●	●	●	From Zero Data & Analysis Standards In Development Socialization via Data Community of Practice
(B) Short-term Goals and Longer-term Goals	●	●	●	●	●	●	Short-term Goals: Target mid-FY2026 Longer-term Goals: Target year-end FY2026
(C) Standardization and Integration of Data Systems and Data Management Practices	●	●	●	●	●	●	Data Inventory In Progress Target Q1 FY2026 Integration Tools + Resources Requested, FY2026 Budget Best Practice Sharing via Data Community of Practice
(3) Open Data Policies and Procedures	●	●	●	●	●	●	Review of Existing Policies & Policies w/ DIT mid-FY2026
(A) Key Performance Indicators	●	●	●	●	●	●	To be Developed with Departments/Agencies w/DIT
(B) Short- and Long-term Goals	●	●	●	●	●	●	To be Developed with Departments/Agencies w/DIT
(C) Guidelines for the Selection and Prioritization of Data Sets	●	●	●	●	●	●	Pending Completion of Data Inventory mid-FY2026 To be Socialized via Data Community of Practice
(4) Processes for Compliance	●	●	●	●	●	●	To be Developed with Departments/Agencies w/DIT
(5) Incorporate Technical Policies, Procedures, or Standards developed by the director.	●	●	●	●	●	●	Pending Completion of Review of Existing Technical Policies, Procedures, or Standards developed by DIT Target mid-FY2026
(b) Subsequent City Data Plans	●	●	●	●	●	●	2 nd deliverable of City Data Plan 4/1/2027

Figure 9: City Data Plan Cross-reference Map to Current 6 Impact Areas

LEGEND:

- **Red:** Initial/Start from Ground Zero and/or current capability is severely lacking
- **Orange:** Activities Under Development or In Progress, results in 6 months to one year
- **Green:** In Operation and/or Upcoming/Ongoing Progress per Roadmap

In order to bring about the necessary transition and transformation into a more data-driven culture, it is recommended that a concerted effort be dedicated to improve the level of Data Literacy through education, training, hands-on upskilling and continued direct data-related knowledge-transfer in engagements with Department/Agency activities and projects, and that the Data Community of Practice be leveraged as much as practicable.

The following is a more detailed breakdown that describes how the City Data Plan can be achievable by maintaining focus on each of the 6 Impact Areas along the way:

A. Data Culture:

1. Initiate, socialize and sustain Data-driven Decision Making at Cabinet, with Department/Agency engagements and through Data Community of Practice *[Status: Initiated and Socialized; Sustain]*
2. Engage in Process Improvement projects (e.g., Procurement Process Improvement) and lend data expertise *[Status: In Progress]*
3. Ensure integration of need for Data Transformation in Department/Agency engagements and through Data Community of Practice *[Status: Ongoing]*

B. Data Governance:

1. Complete Data Governance Framework Design for citywide implementation *[Status: On Target]*

See Figure 10: How to Set Up and Sustain Data Governance on page 10

The Data Governance Structure, designed to optimize efficiency in communications and streamline governance work-related efforts, is made up of several tiers, from Operations-focused Working Groups that are set up to address specific issues, Tactical Problem-solving Teams, as well as a Steering Committee to address Strategic Citywide concerns. The overall functioning of the Data Governance Program is the responsibility of the CDO, tasked with the day-to-day operations of the Data Governance program, setting of Data Standards and Policies, while ensuring collaboration and representation from Departments/Agencies citywide.

See Figure 11: High-Level Data Governance Structure on page 11

Representation from City Departments/Agencies is a prerequisite for a successful Data Governance Program by having a “seat at the table”. Additionally, participation from City Council Members would be highly encouraged and welcomed.

See Figure 12: Data Governance Engagement Model on page 11

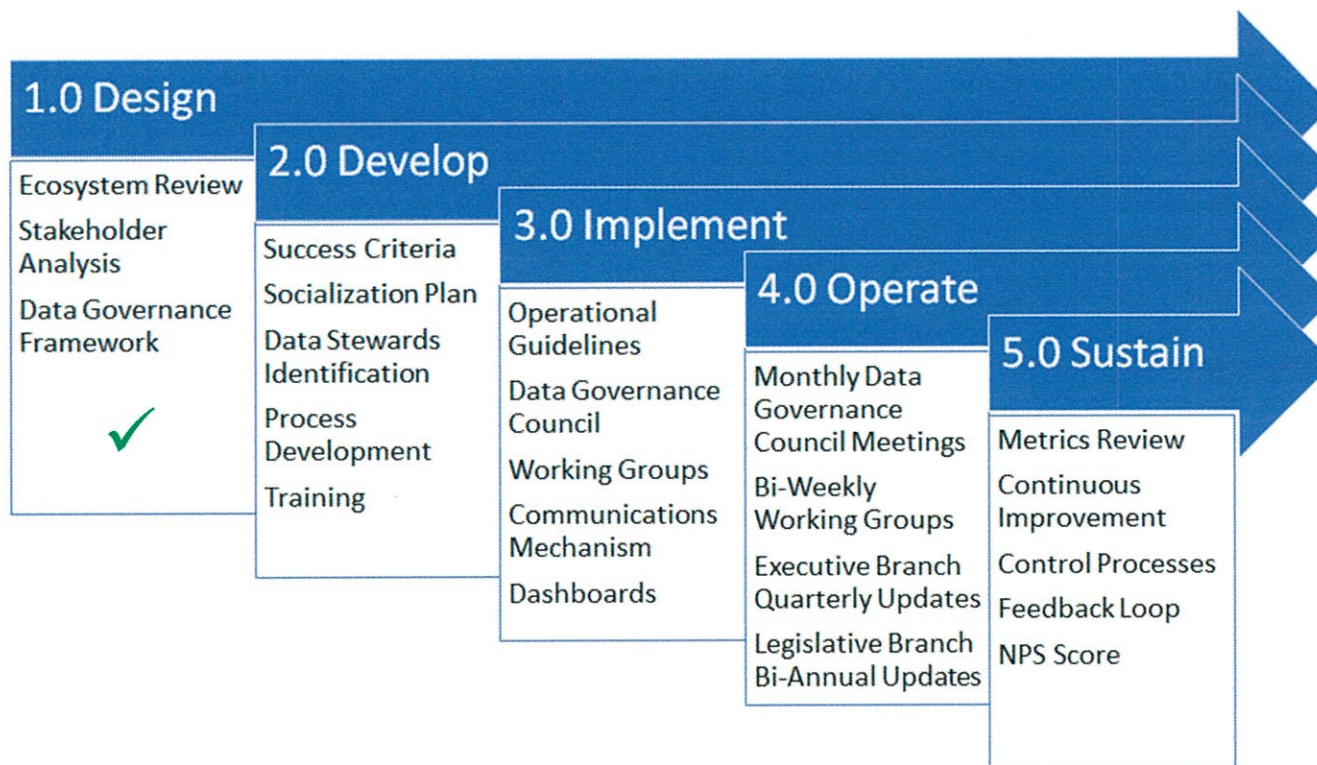


Figure 10: How to Set Up and Sustain Data Governance



Figure 11: High-Level Data Governance Structure

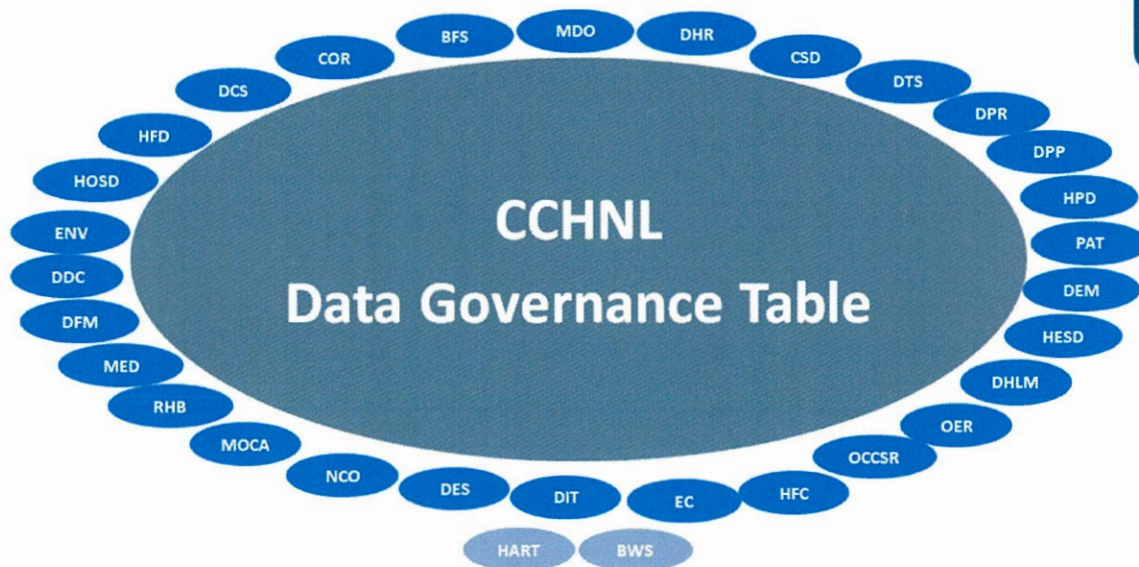


Figure 12: Data Governance Engagement Model

2. Deploy and sustain Data Governance citywide with Data Governance Steering Committee in place in FY2026 *[Status: socialization to start; deployment progress pending FY2026 budget approval of Data Governance Analyst position]*
3. Identify need for selected Data and AI Policies & Standards, and draft for review, as-needed approvals and execution *[Status: Ongoing]*
4. Review/revise existing [Open Data Policy](#) with new CIO/DIT Director *[Status: To Start]*
5. Review/revise existing [Open Data Portal](#) with new CIO/DIT Director *[Status: To Start]*

C. Data Best Practices:

1. Initiate Data Architecture practice as part of building Central Data Repository *[Status: start pending budget approval of funding for Data Integration Software Tool along with Data Integration Professional Services contractor(s)/consultant(s)]*
2. Complete Data Inventory for all Departments/Agencies by mid-FY2026 and initiate Data Lineage diagramming *[Status: On Target for Data Inventory Completion; Data Lineage dependent on completion of Data Inventory]*
3. Share best practices in Data Management as part of daily interactions with Departments/Agencies as well as through Data Community of Practice *[Status: Ongoing]*
4. Highlight importance of Data Quality as part of daily interactions with Departments/Agencies as well as through Data Community of Practice *[Status: Ongoing]*

D. Data Integration:

1. Deploy and enable use of Data Integration Tools in FY 2026 *[Status: start pending FY2026 budget approval of Data Integration Software Tool, along with Data Integration Professional Services contractor(s)/consultant(s)]*
2. Review Data Access as part of setting up Data Governance for the City and with Departments/Agencies *[Status: Co-dependent on deployment of Data Governance]*
3. Encourage and enable Data Sharing across the City and as part of the Data Community of Practice *[Status: Initiated, Ongoing]*
4. Review and set up guidelines, standards and monitoring to ensure currency and compliance vis-à-vis Open Data in FY2026 *[Status: Started]*

E. Data Capacity:

1. Add capacity for Data & Analytics Resources:
 - a. Data Governance Analyst *[Status: pending FY2026 budget approval]*
 - b. Data Integration Professional Services contractor(s)/consultant(s) *[Status: pending FY2026 budget approval]*
 - c. Data Scientist *[Status: On Hold (required, will be in future budget ask)]*
2. Add capabilities and functionality for Data & Analytics Platforms:
 - a. Data Integration Software *[Status: pending FY2026 budget approval]*, along with

- b. Deployment of Power BI Data Visualization software *[Status: In Progress with DIT Infrastructure team support; training provided to 50+ employees]*

F. Data Up-Skilling:

1. Improve Data Literacy through direct engagements with Departments/Agencies and via Data Community of Practice *[Status: In Progress]*
2. Create more opportunities for City employees to get Data-related Training *[Status: Ongoing]*
3. Provide specific Data Training for Data Community of Practice members *[Status: In Progress]*
4. Create Data Community of Practice (referenced earlier in Figure 5: Data Community of Practice SLA), solicit Data Representatives from City Departments/Agencies to become members of the Data Community of Practice (currently 50+ members), maintain going forward *[Status: Data Community of Practice Launched in January 2025, currently meeting every other week]*
5. Design and develop Workshops on Data-related topics, with at least two workshops in FY2026 *[Status: In Planning Stage]*

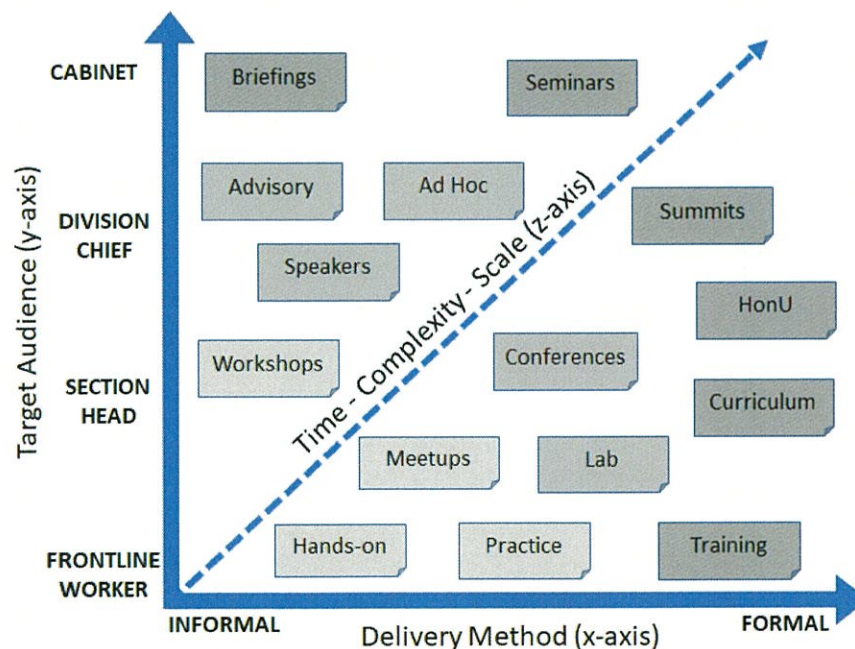


Figure 13: Path to Data Literacy

The 3 “R’s” of Data:

Reading:

- Understand what the Data represents
- How to interpret the Data

‘Riting:

- How to “visualize” Data
- Visualizing Data for Impact

‘Rythmetic:

- How to Analyze Data
- Identifying patterns, trends and anomalies

Conclusion:

The City Data Plan is achievable, albeit at a slower pace of implementation Citywide due to the current low Level of Data Maturity across People, Process, Data Practices, and Technology dimensions, along with the overall lack of Data Literacy, and is pending FY2026 budget approval:

See Figure 14: CDO Action Plan on page 15

With the CDO Action Plan in mind, the Initial City Data Plan is achievable:

See Figure 15: Initial City Data Plan – CDO Actions and Responses on page 16

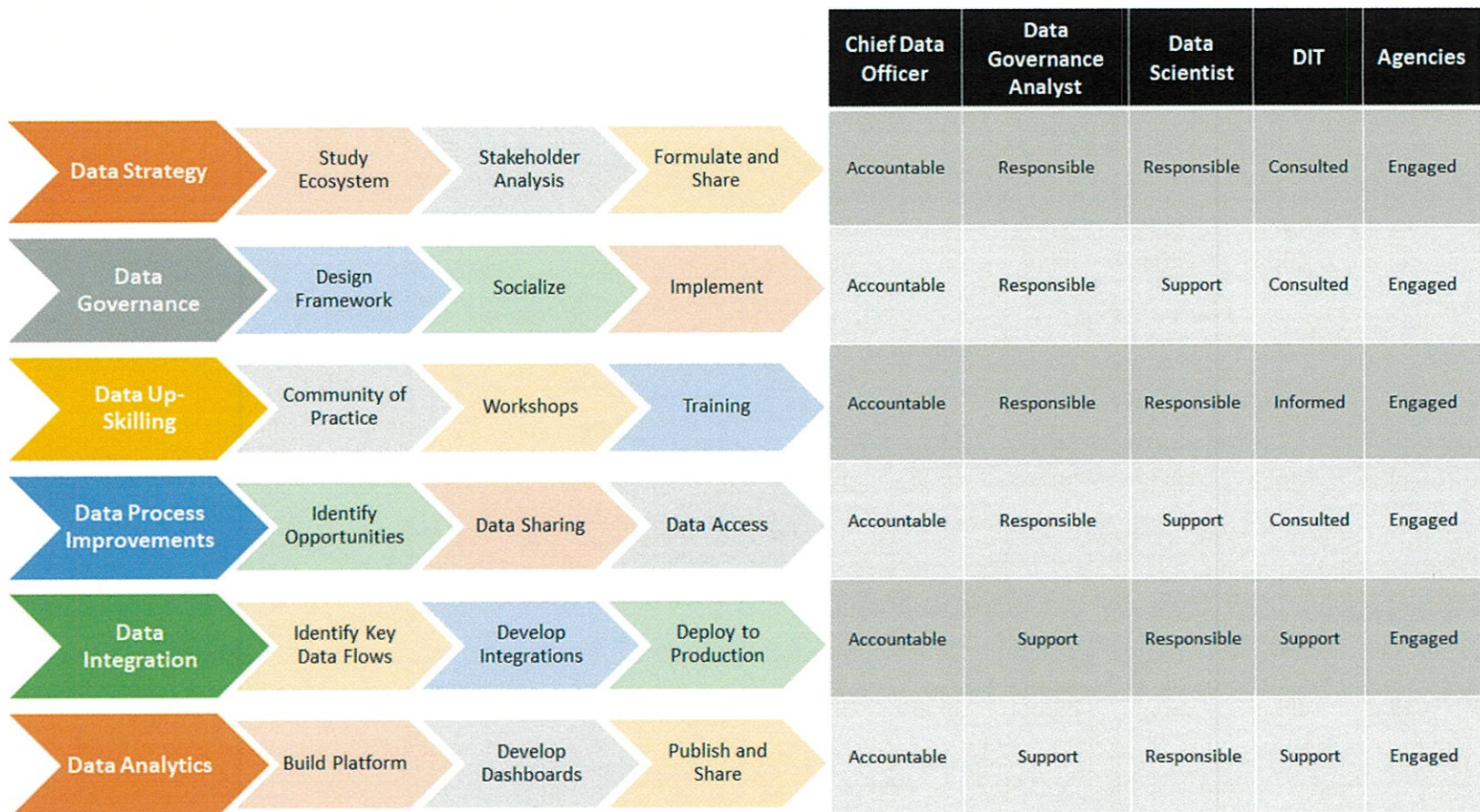


Figure 14: CDO Action Plan

Ordinance Requirements: Sec. 2-19.5 City data plan	CDO Actions and Responses
(a) Within one year of the hiring of a chief data officer and every two years thereafter, the managing director, in consultation with the director, other city agencies, agency data coordinators, and the council, shall create a city data plan for submission to the mayor, the council, and all agency directors. The city data plan, at minimum, shall:	Initial Data Plan (this submission) by April 1, 2025
(1) Establish <u>governance structures</u> for the implementation of the city data plan;	Data Governance Structure: Data Governance Framework design completed, ready for socialization, full deployment pending budget approval of Data Governance Analyst
(2) Address the <u>strategic use of data</u> throughout city operations by, at a minimum: A. Establishing data management and analysis standards across all agencies; B. Developing specific, short-term goals achievable for each agency within the two years following the submission of the initial city data plan (which plan is to be submitted within one year of the hiring of a chief data officer) and within two years of each plan submitted thereafter, as well as longer-term goals; and C. Making recommendations to enhance standardization and integration of data systems and data management practices across all agencies;	- Evangelization of Strategic use of Data throughout city operations is in progress: A. Data Management and Data Analysis Standards are currently in development with target implementation during FY2026 B. Overall Short-term Goals development in progress through Data Community of Practice, with specific Agency Goals by FY-end 2026 C. Recommendations are ongoing: Data Standardization pending Data Inventory submissions by mid-FY2026; Data Integration implementation pending budget approval for Data Integration Software and contractor(s)/consultant(s); Data Management Best Practices sharing are ongoing through the Data Community of Practice and Engagements
(3) Address <u>open data policies and procedures</u> by, at minimum: A. Determining specific minimum key performance indicators for each agency, to be posted pursuant to Section 2-19.2 and Section 2-19.9; B. Developing specific short- and long-term goals for each agency for the posting of data sets, pursuant to Section 2-19.2; and C. Establishing guidelines for the selection and prioritization of data sets for posting for each agency;	- Existing Open Data Policies and Procedures to be addressed with new DIT Director, along with Department/Agency engagements A. Specific KPIs by Agency to be posted by FY-end 2026 B. Agency-specific Short- and Long-term goals to be developed with each Agency for posting of data sets by FY-end 2026 C. Establishment of guidelines for selection and prioritization of data sets for posting pending completion of Data Inventory
(4) Establish processes for compliance with the city data plan by each agency in accordance with Section 2-19.6; and	Processes for Agency Compliance with the City Data Plan is designed to be part of the Data Governance Program
(5) Incorporate any technical policies, procedures, or standards developed by the director.	Technical policies, procedures, or standards developed by the new DIT Director will be incorporated into the City Data Plan
(b) All city data plans submitted after the submission of the initial city data plan (which shall be submitted within one year of the hiring of a chief data officer) shall report project funding and expenditures, cost savings, cost avoidance, efficiency gains, process improvements, and major accomplishments. A description of cost savings and cost avoidance shall include immediate monetary impacts as well as ongoing projections	Subsequent City Data Plan submission by April 1, 2027

Figure 15: Initial City Data Plan – CDO Actions and Responses