



Institutional Data Governance

Roadmap

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Version 2.0

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Document History

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Contents

Executive Summary: Data Governance Best Practice Roadmap3
 Data Governance Practice – Actionable Streams and Timeline4
 Pilot and Deployment Activities – High Level Description and Diagram5
 DG Practice Development Activities – High Level Description and Diagram6
 Data Governance – Technology Infrastructure Roadmap7
 DG Practice Development Activities – Practice Component Approval Process and Diagram.....8
 Detailed Plan Actionable Streams9
 Actionable Stream 1: Data Governance Roles and Responsibilities9
 Actionable Stream 2: Data Governance Communication and Awareness Plan10
 Actionable Stream 3: Incremental Rollout11
 Actionable Stream 4: Data Governance Administrator (DGA)13
 Actionable Stream 5: Data Documentation Repository / Metadata Platform.....14
 Actionable Stream 6: Performance Metrics15
 Actionable Stream 7: Data Governance Policy.....16
 Resource Associated Actions17
 Pilot Working Team Actions18
 Appendix A.....20
 Description of the Data Governance Administrator Role20
 Description of the Data Governance Executive Sponsor Role20
 Appendix B – Sample Data Governance Working Team Pilot Process21

Executive Summary: Data Governance Best Practice Roadmap

The University of Calgary (“UCalgary”) has embarked on an initiative to develop and implement a Data Governance Practice to improve the institution’s confidence in the usage of strategic data. The overall goal of the practice is to leverage data as a strategic asset that enhances UCalgary’s decision-making capabilities by enabling and supporting improvements in the delivery of trusted and accessible data.

The initiative described in this roadmap focuses on building the key components of a successful Data Governance Practice and the actions required to continuously improve the practice with each implementation. Before the Practice becomes truly active and finalized, pilot project(s) to demonstrate the effectiveness of these components should be conducted.

After careful consideration of various industry standard models and approaches, the cross functional working group at UCalgary contracted with Robert S. Seiner of KIK Consulting & Educational Services to assist in the definition of its Data Governance Practice by following KIK’s Non-Invasive Data Governance™ approach to formalize existing levels of responsibility and authority.

KIK assisted the UCalgary Data Governance Project Team to complete the Data Governance Best Practice Assessment and Critical Analysis from late January through March 2019. The assessment resulted in the UCalgary Data Governance definition, goals, scope, expectations, and assessment of present practices against industry proven practices customized for UCalgary’s purposes – concluding in recommendations leading to the actionable streams outlined in this document.

The activities described in this roadmap follow two paths:

1. Activities focused on standing up the Data Governance Practice. These activities include: (in Figure 1, Phase 2.a, on the next page)
 - The appointment of a UCalgary Data Governance Administrator.
 - The definition, approval and delivery of the preliminary UCalgary Data Governance Policy.
 - The definition and approval of a preliminary set of metrics to measure the practice.
 - The definition of a *preliminary** set of UCalgary Data Governance Roles and Responsibilities.
 - The development of a *preliminary** UCalgary Data Governance Communications Plan.
2. Activities focused on delivering data governance associated with improving confidence in strategic and critical data. These activities include: (in Figure 1, Phase 2.b, blue on the next page)
 - The incremental rollout of UCalgary’s data governance to a select number of business units through a controlled pilot focused on improving the understanding of and confidence in spatial data within the facility management subject area.
 - The design and development of a data documentation (metadata) platform.

Please note that wherever the word ‘approval’ is noted in this document, the Data Governance Project Team will follow the process defined in the [Component Approval Process section](#) of this document to gain approval.

* Preliminary because the pilot will monitor the success and adjust where appropriate.

Data Governance Practice – Actionable Streams and Timeline

The Actionable Streams and Timeline (Figure 1) demonstrates the primary actionable streams that must be addressed in each of the months of March 2019 through February 2020. The timeline is noted with Notional Time (estimated) as the beginning dates of Phases 2.a and 2.b are still being speculated. The bars represent the estimated amount of time it will take to complete each stream and can be shifted forwards and/or backwards.

The colouring of the timeline bars represents two groups: 1) blue (Phase 2.a) – activities associated with the pilot and incremental deployment of Data Governance at UCalgary and 2) green (Phase 2.b) – the activities that are required to completely setup the UCalgary Data Governance function. Several of the activities have been initiated.

The next two pages provide a brief description of the primary actions that will need to take place to complete each actionable stream. The following section addresses the details of the status and next steps associated with using strategic data with confidence and the UCalgary data governance best practices.

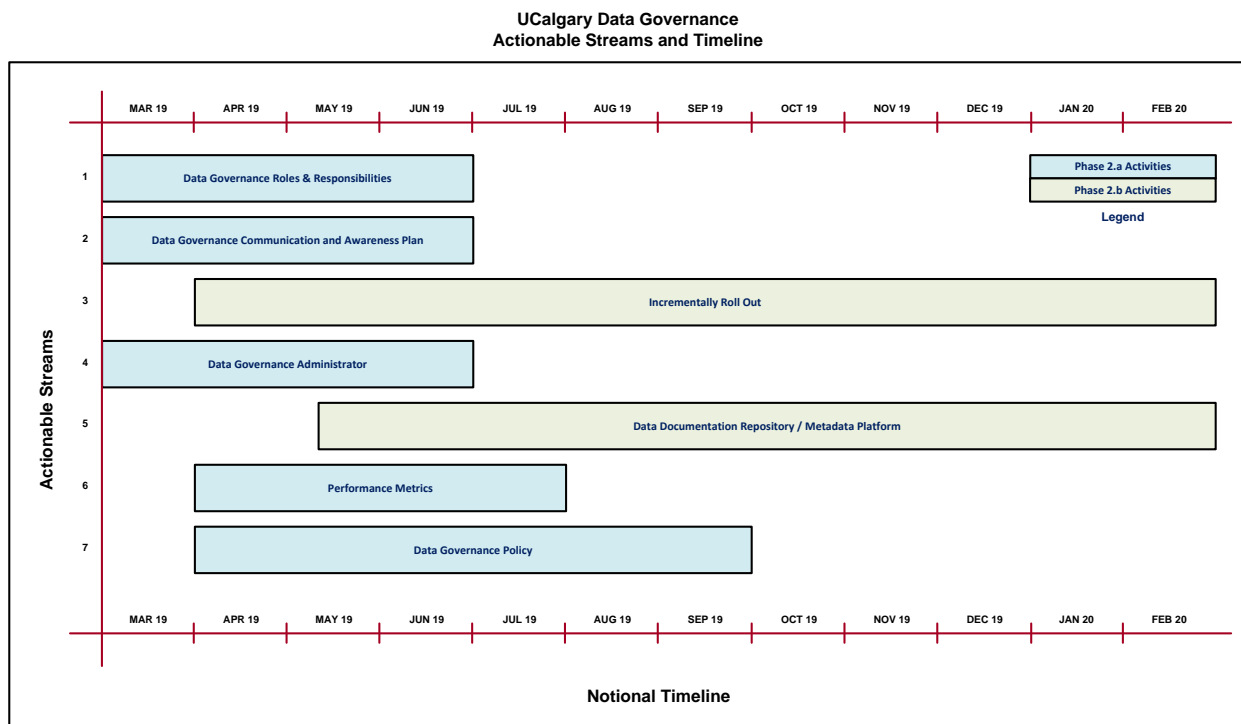
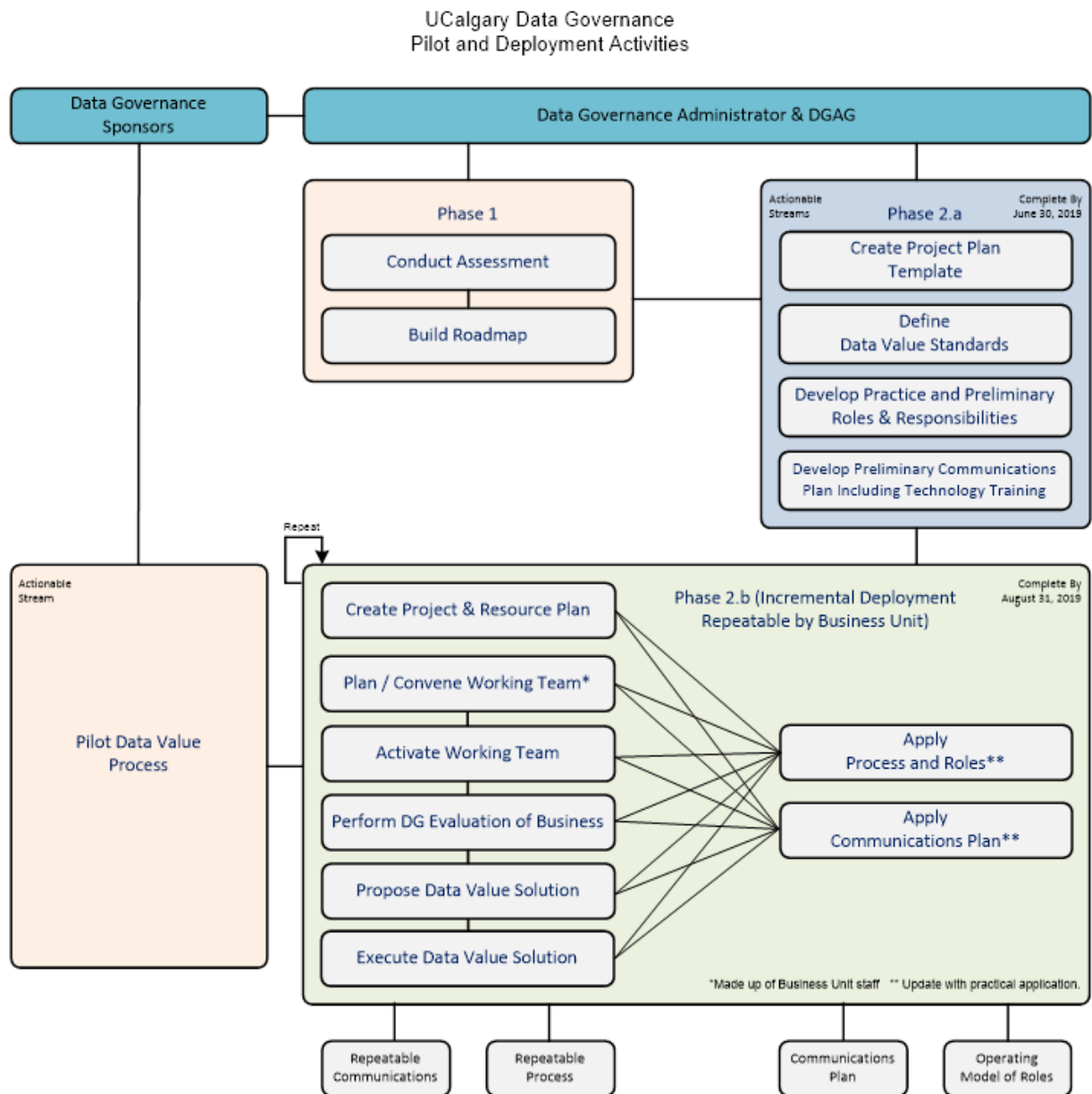


Figure 1. Actionable Streams and Timeline

Pilot and Deployment Activities – High Level Description and Diagram

Figure 2 below focuses on the Pilot and Deployment Activities (Phase 2.a, blue bars) in the project timeline displayed on the previous page. The post assessment and roadmap activities include creating a general project plan template for the pilot and subsequent iterations, defining and gaining approval of a preliminary Operating Model of Roles and Responsibilities (actionable stream 1), development of a preliminary Communications Plan (actionable stream 3) and the application, evaluation and modification of the roles model and communication plan as they are being applied by a working team to the pilot.

The working team’s pilot activities will result in resolving data issues of a limited data set in the pilot subject area, development of a repeatable process that can be used to address future business issues, and revisions to the Communications Plan and Operating Model of Roles and Responsibilities based on application to the pilot data issue.



DG Practice Development Activities – High Level Description and Diagram

Figure 3 below focuses on the activities in the Project Timeline displayed [in Figure 1](#).

The phase 2.a and 2.b activities listed below focus on building out the core components of the Data Governance Practice including appointment of a Data Governance Administrator, pursuing a consistent metadata platform, developing Data Governance Performance Metrics and the approval of a UCalgary Data Governance (or similarly named) Policy.

These activities are related to the pilot in terms of their ability to provide substantial and repeatable value to the UCalgary Practice and they will be applied to the pilot when the Data Governance Advisory Group decides that it is appropriate to do so.

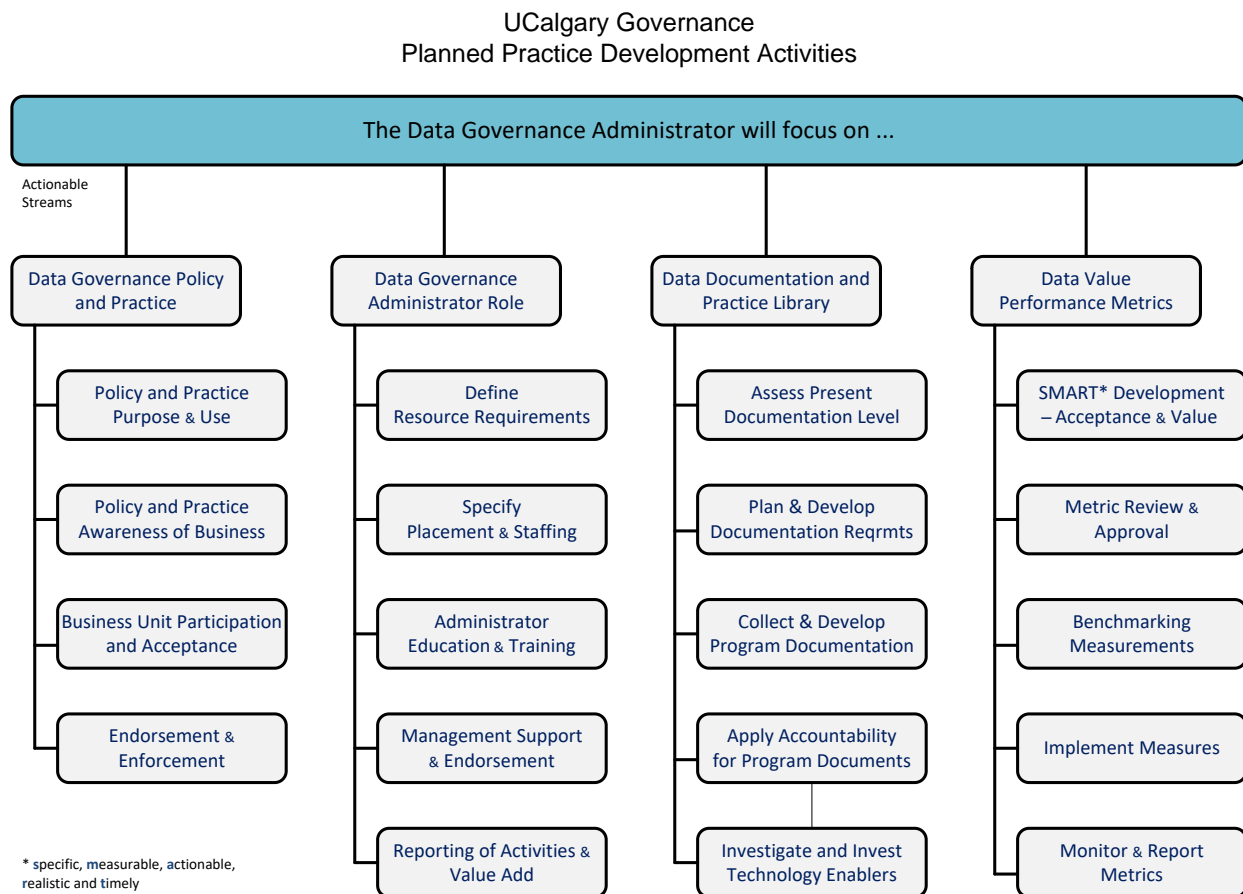


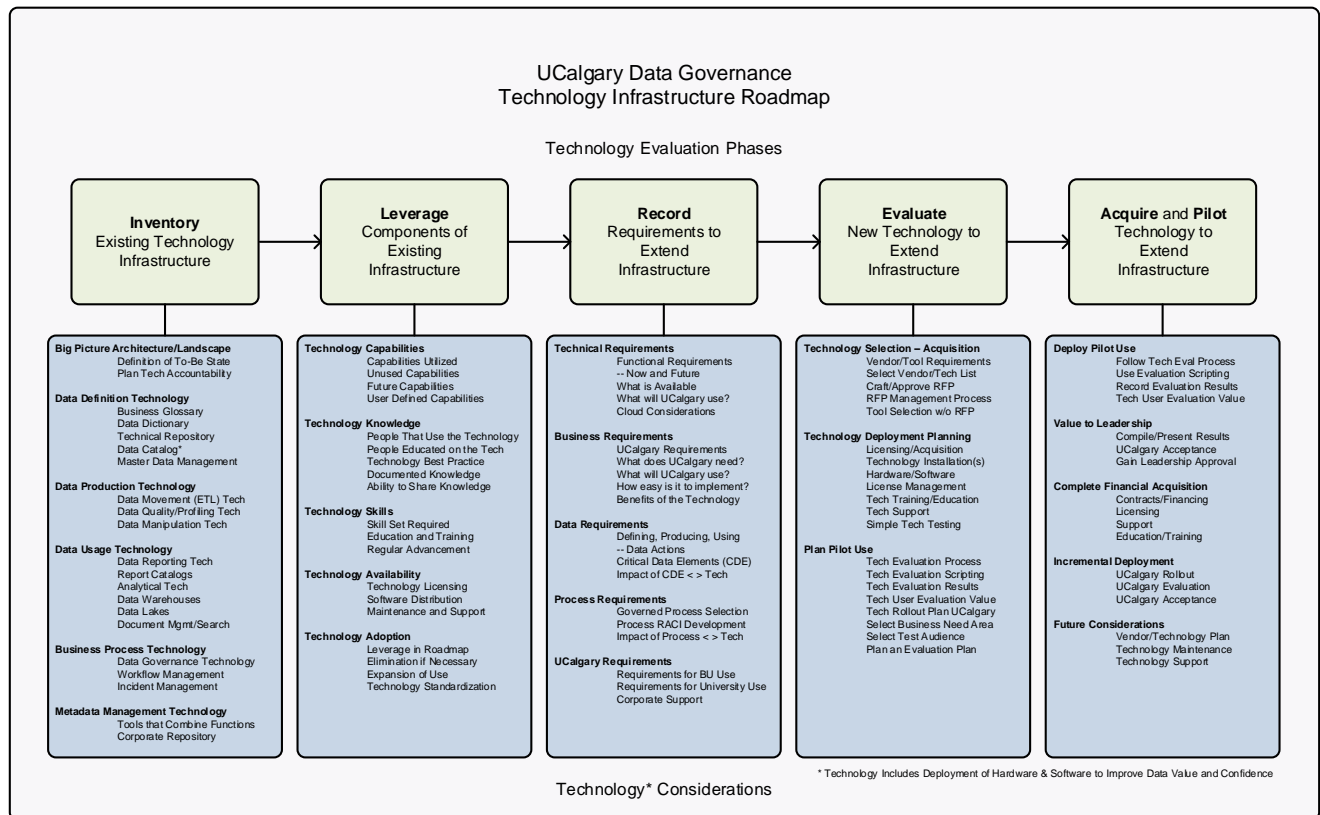
Figure 3. Practice Development Activities

Data Governance – Technology Infrastructure Roadmap

Figure 4 below represents the logical phases and order of achieving the use of strategic data with confidence, following a Data Governance Technology Infrastructure Roadmap and the actions that should be considered in each phase. KIK Consulting suggests that UCalgary begin by focusing on the technologies that are already in place, learning the capabilities provided by these tools and identifying the gap between these capabilities and those presently being leveraged. KIK also suggests that UCalgary use this Roadmap to identify the organization’s longer-term needs and clearly articulate requirements that are necessary to acquire and implement new technologies.

The Data Governance Administrator along with the Data Governance Advisory Group should direct this effort and leverage the existing knowledge and know-how from UCalgary’s knowledgeable staff. Technology Roadmaps extend over the course of years rather than months when staff are not formally allocated to direct this effort.

KIK Consulting suggests that UCalgary initiate the first phase of the Technology Infrastructure Roadmap as soon as possible. Allocating resources and acquiring funding for new technologies (the Evaluate and Acquire phases) often take significant time; however, the Inventory, Leverage and Record phases can be completed quickly and at a relatively low cost while preparing to address the final two phases of the Roadmap when resources and funding are available.



Developed by Robert S. Seiner & KIK Consulting for UCalgary – Last updated 2019-03-07

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Figure 4. Technology Infrastructure Roadmap

DG Practice Development Activities – Practice Component Approval Process and Diagram

The diagram below displays the process the Data Governance Administrator will follow to communicate, gain feedback and finalize the core components of the Data Governance Practice. Core components include the Operating Model of Roles and Responsibilities, the Communication and Awareness Plan, the Performance Metrics, and the Policy and Procedures as well as other templates, charters and tools being used to govern data.

The Data Governance Administrator will draft each component and review the work with the Data Governance Advisory Group (DGAG). After incorporating the DGAG’s feedback into the draft component, the components are shared with Data Governance Steering Committee (the Information Asset Management Committee, or IAMC) and people involved in the Working Team activities, as defined by the DGAG during phase 1. After soliciting and incorporating the DGAG and Pilot (Working Team) feedback, the component is brought back to the IAMC for final review and approval.

This cycle repeats until the component is approved for deployment.

Each level carries with it a level of authority to make decisions based on the requirements of the items requiring approval. Once a decision is made at the appropriate level, the decision is then shared with all other levels within the practice.

UCalgary Data Governance Practice Component Approval Process

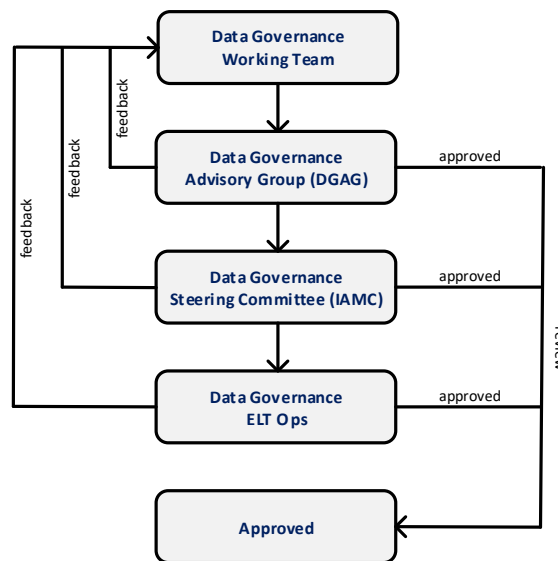


Figure 5. Component Approval Process

Detailed Plan Actionable Streams

Actionable Stream 1: Data Governance Roles and Responsibilities

Develop and deploy a UCalgary Data Governance Model of Roles and Responsibilities. Will include roles of DG Administrator, Data Governance Advisory Group, Risk, IT-Security, Records Management, Data Owners, Business Units, and others.

Status:

This actionable stream is part of phase 2.a of the UCalgary Data Governance Practice development (see Figure 2).

The UCalgary Data Governance Advisory Group (DGAG) has begun defining roles and responsibilities for their Data Governance Practice at both the UCalgary level and the Business Unit level. An initial Operating Model of roles and responsibilities will address the roles required at the executive, strategic, tactical, operational, and support levels. The Operating Model will be a critical component of UCalgary's Data Governance practice as it will be leveraged to build out *communications planning* (who will be communicated with and how the communications will take place) and *process development* (who will be accountable for activities within a business process).

The Operating Model roles will be implemented as part of the pilot rollout activity involving a cross-organization Working Team (support level) focused on improving the level of confidence in the data for UCalgary's critical data assets. The intent is to monitor and adjust the draft model to reflect successful practices.

Next Steps:

1. DGAG will work directly with the Data Governance Administrator and KIK Consulting to draft an initial Operating Model of Roles and Responsibilities as part of phase 2.a of this initiative. The Operating Model will address roles at executive (sponsor/steering), strategic (council), tactical (data owner/subject matter expert), operational (data steward), and support (team, business functions) levels.
2. DGAG will approve the Operating Model before being accepted for implementation as part of the pilot rollout activities.
3. The Operating Model will be shared with IAMC for review. The model will be revised based on their feedback and sent back for review. This review/feedback process will continue until the final Operating Model is approved.
4. The approved Operating Model will be used for the pilot.

Actionable Stream 2: Data Governance Communication and Awareness Plan

Develop and act on a UCalgary Data Governance Communication and Awareness Plan focused on the use of strategic data with confidence.

Status:

It was established by the participants in the Data Governance Best Practice assessment that thorough communications and awareness at all levels of the organization will be a large factor in the success of the UCalgary's Data Governance practice.

This actionable stream focuses on the development and rollout of an effective communication plan that includes core messages, audience timing, tools & format.

Next Steps:

1. Engage the UCalgary Data Governance Advisory Group (DGAG) in the design and development of the Communications Plan as well as the delivery of the communications artifacts (materials such as slide decks/training materials and Data Governance artifacts) to all UCalgary affected stakeholders in both UCalgary and Business Units.
2. DGAG must meet regularly to discuss the progress of the Communications Plan and to draft, gain approval for, and deliver the messages about Data Governance.
3. DGAG must prioritize and approve the specific messages and tools to deliver to the audiences they represent. DGAG members must assure effective communications of the concepts, approach, and benefits of the Data Governance practice and specifically the concept of improved Data Confidence at UCalgary.
4. For each communications message: Create a template for soliciting business function feedback. The template should include:
 - a. The message that will be communicated (provided on the template)
 - b. The audience for the message (provided)
 - c. The potential tools to be used to communicate the message (provided)
 - d. The timing for when the message will be communicated
 - e. Space to adjust the message, tools, and timing of the message specifically for their Business Unit.
5. DGAG to plan and create the communications that will be distributed.
6. Follow the Plan to communicate the appropriate messages and effect appropriate behaviour change associated with achieving improved Data Confidence at the UCalgary and Business Unit levels. Use UCalgary tools available to the Data Governance Administrator (job aids, interactive sessions including training and education etc.) to share information and measure the effectiveness of the communications.

Actionable Stream 3: Incremental Rollout

Incrementally roll out the UCalgary Data Governance Practice via an approved schedule. Initiate with pilot using the data of one business unit, followed by subsequent University Business Units or Critical Data Elements (CDEs).

Status:

This actionable stream focuses on how UCalgary will implement effective Data Governance that produces improved Data Confidence. It is advisable to initiate the practice with a pilot targeted at solving a specific data issue while applying core components of the Data Governance Practice to a real business situation.

Examples of core components that will be applied are the roles and responsibilities and the communication plan as described in this roadmap.

The business data issue selected for the pilot is to improve the metadata and the processes associated with it for UCalgary's critical data elements within the facilities spatial data. Improving the metadata will improve the understanding of the data and increase confidence in it. The pilot will be initiated after phase 2.a of the Data Governance project effort is complete.

Next Steps:

The RACI matrix on the next page provides the details for these steps.

1. Plan for how the Data Governance Working Group will utilize the Pilot Working Team. The plan should include who will be involved, what they will do, when they will be required to participate, how they will be communicated with and how they will communicate with other roles within the Operating Model.
2. Plan and convene a Pilot Working Team of key stakeholders who are impacted by the usability and accessibility of UCalgary's critical data. The Pilot Working Team's roles and responsibilities will be documented in the Operating Model. The education, training and coaching provided to all people associated with the Pilot Working Team and pilot effort will be included in the Communication Plan.
3. Activate the Pilot Working Team by scheduling meetings to introduce them to why the team has been formed and how it will operate to get to a proposed solution to the issue at hand. The Pilot Working Team actions, communications, and reporting will be facilitated by the Data Governance Working Team in collaboration with the Business Sponsor that is driving the issue toward resolution. See the Pilot Working Team Actions section of this document for additional detail.
4. Work towards proposing a solution by scheduling meetings based on resource availability and the priority of this data issue. Work toward documenting the business impact, business process and data adjustments, technology requirements and communications that will enable the team to execute the solution. The solution from the Pilot Working Team must be approved by DGAG prior to the execution of the solution.
5. Execute the solution by engaging, monitoring and communicating with the stakeholders that will be responsible for specific activities associated with solving the problem. Report the status of activities and any issues associated with solving the problem to the DGAG.

The image below is a sample detailed process RACI matrix that will be used to detail the necessary steps for the Pilot Data Governance initiative focusing on delivering data documentation / metadata for the spatial data within Facilities. The colors of the columns correspond with the colors in the UCalgary Operating Model of Data Governance Roles & Responsibilities. The far-left column details the steps and activities of the process and the top details the Data Governance roles. RACI stands for the parties that are **R**esponsible, **A**ccountable, **C**onsulted, and **I**nformed during the steps of the process.

An updated and full-size version of the RACI matrix is available by request from the Data Governance Administrator or Data Governance Working Team during the pilot.

Detailed Pilot Process RACI			Key >>		R-Responsible	A-Accountable	S-Supportive	C-Consulted	I-Informed		
UCalgary Data Governance Data Documentation (Metadata) Management for Critical Data Elements (CDE) Process RACI Chart			Executive Leaders Data Trustees	Information Asset Management Committee (IAMC)	Data Governance Advisory Group (DGAG)	Data Domain Stewards	Data Governance Working Team (DGWT)	Business Unit Data Stewards	Operational Data Stewards	Data Governance Administrator (DGA)	DGPartners
Step	Detailed Steps	Tactical Steps	Executive	Executive	Strategic	Tactical	Tactical / Operational	Operational	Operational	Support	Support
1	Identify Critical Data Elements (CDE).	Recognize	I	I	A	R	S	R	I	R	C
2	Identify the standard metadata / data documentation that will be required to assure quality and confidence for the CDEs. (Common Data Matrix)	Recognize	I	I	A	R	S	R	I	R	C
3	Gain approval from DGAG for the selected CDEs and metadata.	Recognize	I	I	A/R	I	S	I	I	R	C
4	Collect existing metadata for the CDEs.	Investigate	I	I	A	R	S	R	I	R	C
5	Assess the gap between required metadata and existing metadata.	Investigate	I	I	A	R	S	R	I	R	C
6	Measure the current metadata status as a benchmark.	Solutioning	I	I	A/R	R	S	R	I	R	C
7	Expand the metadata / data documentation to meet minimum standard.	Solutioning	I	I	A/R	R	S	R	I	R	C
8	Share metadata as needed through a UCalgary Data Governance web-site or similar type instrument.	Execute	I	I	A	R	S	R	I	R	C
9	Use metadata to change Business Unit behavior associated with improving the confidence in the data.	Execute	I	I	A	R	S	R	I	R	C
10	Communicate measurable data documentation/metadata improvements and value to UCalgary and Business Unit Stakeholders.	Execute	I	I	A	R	S	R	I	R	C

Actionable Stream 4: Data Governance Administrator (DGA)

Identify, organize, place and deploy a DG Administrator.

Status:

The UCalgary Data Governance Advisory Group (DGAG) presently consists of individuals that represent all the VP / Data trustee portfolios of the University. This team will operate as the Data Governance strategic group until the permanent resources and placement are approved.

The DG Administrator (DGA) is responsible for planning, facilitating and communicating the daily activities of Data Governance at UCalgary and the Business Units. The detailed role and responsibilities of the DGA will be documented and approved as part of the Operating Model of Roles and Responsibilities described in Actionable Stream 1.

The DGA must report into a functional unit of UCalgary's Offices to be successful in guiding consistent data related behaviour at the Business Unit level. It has become a standard industry best practice for the DGA to report into a business function that is aligned with the goal, scope and expectations of the Data Governance practice. Currently, that area is the Office of Institutional Analysis (OIA).

The DGA must direct Data Governance activities and report on the practice's status to appropriate sponsors and stakeholders. A typical job description for a DGA is included at the end of this document. The percentage of time this person and other resources allocate for Data Governance activities will directly influence the speed in which the practice can become active and react to business data issues. Additional resources with skills associated with data management, information technology, business intelligence, master data management and business data reporting/analytics may be assigned to support Data Governance efforts.

Next Steps:

1. Follow the identical steps as described for development and approval of the Operating Model of Roles and Responsibilities in Actionable Stream 1 while focusing on the specific role and responsibilities of the DGA and any support roles that should be included and the amount of time that should be allocated.
2. Identify internal or external resources that will be required to operate the Data Governance function. Provide detailed information about the roles and responsibilities of the individuals that will fill the UCalgary and Business Unit roles and assure that there are people with time allocated to complete the responsibilities.
3. Utilize the DGA to facilitate and manage the Data Governance activities and communications associated with the Pilot Working Team and stakeholders associated with resolving the pilot issue.

Actionable Stream 5: Data Documentation Repository / Metadata Platform

Evolve a UCalgary Data Documentation Repository / Metadata Platform (leverage, build or acquire) supporting the UCalgary's ability to use strategic data with confidence.

Status:

The actionable stream calls for the development of a Data Documentation platform that will make available improved intelligence around the critical UCalgary and Business Unit data assets and the business function processes that are associated with the data.

UCalgary presently manages its metadata (documentation about the data) through ad-hoc and informal processes. System documentation is minimal and the details of the processes the Business Units follow are independently maintained, inconsistent and not easily accessible.

UCalgary must take a three-tiered approach to improve data documentation (information about data definition, production and usage) that is the focus of Working Teams engaged in the drive toward improved Data Confidence. The DGAG will follow the three primary steps listed below to deliver an effective Data Documentation Platform to support improved Data Confidence initiatives.

Next Steps:

1. Define UCalgary and Business Unit data documentation requirements and how the documentation will enable UCalgary to provide improved Data Confidence.
2. Identify existing data documentation that addresses these requirements and facilitates the collection, storage and management of the documentation in a **consistent manner** across UCalgary and the Business Units such that the documentation will be portable to a technology platform when or if the technology is made available.
3. Investigate existing technologies for how they will add value and be utilized across UCalgary. Proceed through a formal Request for Proposal (RFP) process with discerning vendors that provide products and services aligned with UCalgary's requirements.

The UCalgary DGAG must follow a planned approach to leverage existing UCalgary and Business Unit metadata and documentation and provide stakeholders and data process followers access to the Data Documentation.

KIK Consulting has a depth of knowledge in the metadata management space based on Mr. Seiner's corporate work in that discipline and management of metadata efforts and tool acquisition practices as a core part of his consulting capabilities. A preliminary RACI Matrix for delivering data documentation / metadata will be provided as part of the present KIK engagement.

One item to note is that significant UCalgary resources will be required to manage a Data Governance and Metadata Management tool acquisition process, implementation and consistent support. The positive side of that statement is that, if managed properly, metadata management and the use of a tool can play a powerful role in achieving improved Data Confidence and achieving UCalgary Data Governance best practice.

Actionable Stream 6: Performance Metrics

Deliver a set of performance metrics that focus on UCalgary Strategic Data quality and confidence.

Status:

The activity of defining UCalgary-level success metrics for measuring improved Data Confidence and data availability to stakeholders has not been completed. Sets of enterprise-level metrics will be defined, approved, benchmarked, and implemented to report to Senior Management that confidence in the data in the possession of UCalgary and Business Units is being improved and made available to stakeholders.

Next Steps:

1. Define a series of SMART metrics (specific, measurable, actionable, realistic and timely) to evaluate the progress and success of UCalgary Institutional Data Governance practice. Performance metrics may include, but are not limited to, the following:
 - Number / percentage of data rules and processes documented and communicated.
 - Number / percentage of data rule categories that have been defined with associated handling rules and procedures documented, communicated, made available, and enforced.
 - Number / percentage of divisions that have documented the data resources they manage in an Available Data Catalog, including the steps required to gain access to these resources.
 - Number of data subject areas/domains that have implemented data governance.
 - Number/percentage of UCalgary data stewards identified and that have been educated/refreshed on the data governance practice standards and processes.
 - The amount of time it takes to access each data resource documented in the Data Documentation Platform per Business Unit and data resource.
 - Elapsed time from the last mass communication event about the Institutional Data Governance Practice.
 - Number of data issues and access requests and the amount of time it takes to complete the requests by Business Unit and data resource.
 - Number of Data Governance service requests and their status.
 - Number and amount of time it takes to respond to data requests taking into consideration the application of data rules.
2. Set a baseline measurement for each of the selected metrics. The baseline will require current state and historic quantifiable recordings of the items listed above.
3. Identify the processes and the person accountable for the processes that will be required to collect data and the place where the data will be recorded and validated for each of the selected metrics. Implement the process to collect and record the data to test the effectiveness of the processes and adjust as necessary.
4. Develop dashboards or visual tools to report on the progress and success of the Data Governance Practice using the data recorded and validated in the previous steps. Use these tools to report the results of the metrics outlined above. Validate that these tools are communicating the results to Senior Management in a reliable, accessible and understandable format.

Actionable Stream 7: Data Governance Policy

Deliver a Data Governance Policy to cover UCalgary with a plan of action for using strategic data with confidence.

Status:

This actionable stream directs UCalgary to develop an enterprise level policy establishing the Data Governance practice and stating the guidance and leadership of said practice. As an enterprise policy, it need not address the specifics of how the practice will operate around achieving improved Data Confidence and improving access to data.

This action also requires that UCalgary develop a minimum set of standards for UCalgary and Business Units to follow that assures that steps are being taken to achieve improved Data Confidence and improve the efficiency and effectiveness of access to data.

While focusing on the ability to achieve improved data confidence, the DGAG must analyze data quality rules and business rules to determine the UCalgary-wide standards for how each rule will be communicated, implemented and enforced by each Business Unit. This action also requires that each Business Unit inventory the data resources associated with data issues being addressed and the processes they follow to maintain or improve data confidence and make the data available to stakeholders. The Data Governance Project Team will oversee and facilitate these activities.

Business Units will be allowed to apply their own data standards and procedures within their Business Unit as long as the Business Units meet the minimal standards defined by the Data Governance Project Team and approved by DGAG. The Data Documentation resource described in actionable stream 5 will be utilized to enforce the minimal data standards and will be leveraged as appropriate to assist each Business Unit in the application of achieving improved Data Confidence.

All the standards for achieving improved Data Confidence and making data available will not be released or become active at the same time. UCalgary will group together similar sets of standards and begin acting on those groups as additional groups are being defined, the metadata is collected, and processes are developed and deployed.

Next Steps:

1. Define the policy purpose and assure that the policy development effort follows UCalgary Policy standards and uses the tools and approval processes already in place for policy development.
2. Engage UCalgary and Business Unit business functions in the policy development efforts and gain acceptance from the Business Units in the need and ability to implement the policy.
3. Communicate the policy thoroughly to both UCalgary and Business Unit business functions through the Communication Plan during practice orientation, onboarding and on-going awareness activities.
4. Gain IAMC and DGAG's endorsement of the policy itself and the manner that it will be communicated, monitored and enforced across UCalgary and the Business Units.

Resource Associated Actions

The following are specific actions that must be taken by the Data Governance Advisory Group (DGAG) to complete the roles and resources parts of phase 2.a of the UCalgary Data Governance initiative:

- Complete and gain approval for UCalgary’s Data Governance Operating Model of Role & Responsibilities
 - Distribute the Data Governance Operating Model document to the appropriate audiences.
 - Follow the approval process with the Information Asset Management Committee (IAMC), and the DGAG, administered by the Data Governance Administrator (DGA). (See Actionable Stream 4: Data Governance Administrator (DGA))
- Hire or Identify a DGA.
 - The draft responsibilities, qualifications, and desired skills will be spelled out in UCalgary Data Governance Operating Model of Roles & Responsibilities.
 - This individual must be focused on continual improvement and will lead the Data Governance Practice in administrating and facilitating Data Governance activities at UCalgary.
 - The person identified as UCalgary’s DGA is Jean Gomes, Senior Institutional Analyst in the Office of Institutional Analysis (OIA).
- Add and maintain Business Unit representation for the Data Governance Practice as activities warrant.
 - As activities require work beyond what UCalgary’s present DGA can provide, it is important for the Business Units to continue to allocate resource time to the Data Governance Practice to assure representation in how UCalgary will use strategic data with confidence.
 - The ability of the DGA to communicate the value and practice of Data Governance effectively with Senior Management from their Business Unit and staff will be critical to the success of the Data Governance Practice.
- Engage Data Governance Practice and Operational Data Stewards to formally identify, record, and communicate University data confidence and availability rules.
 - The DGA will record data rules and business rules for the data used by University business functions using the templates and tools.
 - Store and publish Data Governance, business and availability rules in the established UCalgary Data Governance Documentation Platform (Actionable Stream 5: Data Documentation Repository / Metadata Platform).

Pilot Working Team Actions

- Formulate a Data Governance Working Team focused on achieving improving the value and use of specific data subject areas.
- The Working Team will consist of the DGA and Business Leader(s) – people that are the largest stakeholders in the subject area data, as well as representation from impacted Corporate and Division business functions and from Information Technology.
- The Working Team is a partnership between the Business Leaders, and the DGA to appropriately affect data change at both the Corporate and Division levels.
- Suggested Working Team members include:
 - Lead Business Stakeholders – co-leading initiative from business purpose
 - Corporate Business Stakeholders – individuals impacted by the usability and understanding of the data
 - Division Stakeholders – individuals that impact the usability and understanding of the data
 - Data Governance Administrator – co-leading the initiative from the Practice perspective
 - Information Technology and Reporting – as enablers of successful governance
 - Marketing for Communications & Awareness – as needed to improve communications
 - Other Data Governance Partners – Audit, Human Resources, Marketing as needed
- Engage the Spatial Data Pilot Working Team
 - Focused on the spatial data subject area within Facilities.
 - Define and gain approval for the business issue being resolved by the Working Team.
 - Gain approval for resources being applied to the pilot business data issue that will be resolved.
- Follow these High-Level Steps to Govern Pilot Data (Spatial and Facility Data):
 - Recognize leadership of the Data Governance Working Team (DGWT) and plan a meeting cadence.
 - Draft a DGWT Charter or committee document to include specific goals, scope, path.
 - DGAG approval of DGWT resources and activities.
 - Define and gain approval of data documentation (metadata) requirements.
 - Define and gain approval for how the documentation will be used to achieve the delivery of high value and quality data for this subject matter – will require detailed data and process flow diagrams, RACI matrices and role-based accountability process maps, development of job aids and other onboarding materials.
 - Identify and record the key data elements that must be governed (Critical Data Elements – CDEs).
 - Compare existing data and process documentation to required documentation.
 - Qualitative and quantitative evaluation of existing data and process documentation including the effectiveness of present documentation and whether steps are being followed.
 - Identify and record changes to data standards and processes in a manner that it will be understood at the Business Unit levels.

- Measure present adherence to data rules of data and consistency of process to identify impact of the changes to University business functions. Use this information as a benchmark to provide Data Governance value measurement after implementation of change.
- Develop detailed communications regarding changes in data and process, why this is important to them and the company, and how change will be applied to achieve the use of strategic data with confidence. These materials will be outlined in the UCalgary Communications Plan (see Actionable Stream 2).
- Complete data documentation for achieving the use of strategic data with confidence.
- Make data documentation available to people that are stakeholders in the data.
- Gain approval of data subject area documentation.
- Implement pilot in a manageable number of University Business Units following the approved data standards and processes that will be defined to resolve data issues.
- Measure the usability and accessibility of data and consistency of process after the new rules have been implemented. Use these measurements to mark and report improvement over time.
- Observe how effective the Operating Model of Roles and Responsibilities and Communications Plan were with their initial application as part of the pilot. Formalize changes (adjustments to reflect what worked better) to the Operating Model and the Communications Plan. Gain approval of the updated items using the Component Approval Process defined earlier in this document.
- Report practice success to the DGAG and IAMC.
- Repeat similar activities to improve the value and confidence of data in this subject area and other appropriate subject areas.

Appendix A

Description of the Data Governance Administrator Role

The UCalgary Data Governance Administrator (DGA) manages all UCalgary-wide Data Governance activities and has the responsibility for reporting the results and status of the DG Practice effort to the DG Practice sponsors.

The position focuses on establishing and ensuring adherence, at the Business Unit level, to the UCalgary Data Governance framework for policies, data standards, standard operating procedures, and practices, to achieve the required level of auditable data.

The DGA serves as a point of escalation for governance and information protection issues and will work closely with Business Unit leadership to improve the use of strategic data with confidence.

Description of the Data Governance Executive Sponsor Role

The DG Sponsor is a senior UCalgary manager with planning and policy-level responsibility and accountability for the management of data and the Data Governance Practice including its creation and maintenance, within UCalgary. Initially, the Executive Sponsor lays the foundation for the Data Governance Practice. The up-front responsibilities that establish the structure of the Practice include:

- Assign or hire the Data Governance Administrator
- Encourage participation in the Data Governance Practice by all Business Units
- Stay informed about activities of the Data Governance Administrator and Practice
- Review Data Governance success metrics and make Practice decisions based on results
- Foster cooperation among Business Units as it relates to protecting classified information
- Assure, provide, and secure funding for the Data Governance Practice

The ongoing role of the Executive Sponsor is oversight of the Data Governance Practice.

Appendix B – Sample Data Governance Working Team Pilot Process

This RACI is provided as a sample workflow associated with the UCalgary Data Governance pilot and continuing activities. The draft roles documented across the top of the matrix are estimated roles based on discussions to date and will be adjusted with the process as part of preparing for the DG pilot to improve the value of Critical Data Elements (CDEs).

For a larger version of this RACI matrix, please contact Adnan Ahmed or Jean Gomes (OIA).

Detailed Pilot Process RACI			Key >>		R-Responsible	A-Accountable	S-Supportive	C-Consulted	I-Informed	DGPartners	
UCalgary Data Governance Data Documentation (Metadata) Management for Critical Data Elements (CDE) Process RACI Chart			Executive Leaders Data Trustees	Information Asset Management Committee (IAMC)	Data Governance Advisory Group (DGAG)	Data Domain Stewards	Data Governance Working Team (DGWT)	Business Unit Data Stewards	Operational Data Stewards	Data Governance Administrator (DGA)	DGPartners
Step	Detailed Steps	Tactical Steps	Executive	Executive	Strategic	Tactical	Tactical / Operational	Operational	Operational	Support	Support
1	Identify Critical Data Elements (CDE).	Recognize	I	I	A	R	S	R	I	R	C
2	Identify the standard metadata / data documentation that will be required to assure quality and confidence for the CDEs. (Common Data Matrix)	Recognize	I	I	A	R	S	R	I	R	C
3	Gain approval from DGAG for the selected CDEs and metadata.	Recognize	I	I	A/R	I	S	I	I	R	C
4	Collect existing metadata for the CDEs.	Investigate	I	I	A	R	S	R	I	R	C
5	Assess the gap between required metadata and existing metadata.	Investigate	I	I	A	R	S	R	I	R	C
6	Measure the current metadata status as a benchmark.	Solutioning	I	I	A/R	R	S	R	I	R	C
7	Expand the metadata / data documentation to meet minimum standard.	Solutioning	I	I	A/R	R	S	R	I	R	C
8	Share metadata as needed through a UCalgary Data Governance web-site or similar type instrument.	Execute	I	I	A	R	S	R	I	R	C
9	Use metadata to change Business Unit behavior associated with improving the confidence in the data.	Execute	I	I	A	R	S	R	I	R	C
10	Communicate measurable data documentation/metadata improvements and value to UCalgary and Business Unit Stakeholders.	Execute	I	I	A	R	S	R	I	R	C

Summary Pilot Process RACI						
UCalgary Data Governance Data Documentation (Metadata) Management for Critical Data Elements (CDE) Process RACI Chart		Data Governance Advisory Group (DGAG)	Data Domain Stewards	Data Governance Working Team (DGWT)	Business Unit Data Stewards	Data Governance Administrator (DGA)
Step	Tactical Steps	Strategic	Tactical	Tactical / Operational	Operational	Support
1	R ecognize	A/R	R/I	S	R/I	I
2	I nvestigate	A	R	S	R	I
3	S olutioning	A/R	R	S	R	I
4	E xecute	A	R	S	R	I