

Appendix A: Specify and Standardize Data Element-Level Response Templates

This Appendix offers element-level response templates for Area A: Specify and Standardize Data.

Note: Use of the TAM Data Assistant is recommended however these templates are provided for informal use or pen and paper assessment.

Date:

Participating Members:

Assessment Context:

A-Specify and Standardize Data

1-Inventory, Condition, and Performance

A.1.a – Asset Inventory Data Model

Element Standardized asset categories, component breakdowns and core attributes, providing the foundation for asset inventory information tracking,
Description integration, summary, and reporting.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
There are no commonly adopted definitions or methodologies for tracking inventory information for a given asset or asset type.	The asset has been defined, and the approach for asset inventory has been established – e.g. sampling versus full inventory; itemize each asset versus counts.	An asset breakdown structure has been established to define various asset subtypes and components. There are clear criteria for assigning sub-types and identifying components.	A minimum set of required inventory attributes have been identified (e.g. unique identifier, location, install date, asset subtype, size/measure). Additional recommended and optional data elements have been identified. The desired extent of collection has been established.	A detailed asset information model has been defined that supports direct integration with project and maintenance information, contracts and/or design files.
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<input type="checkbox"/> Define the “asset” and determine how the asset inventory should be recorded to support current/desired practice.	<input type="checkbox"/> Develop the “asset breakdown structure”, providing clear criteria for identifying various asset “sub-types” and “components”.	<input type="checkbox"/> Specify detailed inventory data elements for each asset, sub-type, and component. Set required, recommended, and optional inventory data.	<input type="checkbox"/> Document a detailed asset information model facilitating direct integration of asset inventory with maintenance work orders and project files.	
<input type="checkbox"/> Coordinate with field and office staff to identify current inventory data collection practices and standards.	<input type="checkbox"/> Evaluate existing inventory standards to identify gaps or inconsistencies in current standards for improvement.	<input type="checkbox"/> Specify minimum levels of inventory data coverage to meet decision-making, communication, and reporting needs.	<input type="checkbox"/> Routinely evaluate the asset information model to ensure alignment with TAM, project, and maintenance development needs.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Date:

Participating Members:

Assessment Context:

A-Specify and Standardize Data
1-Inventory, Condition, and Performance

A.1.b – Asset Condition and/or Performance Data Model

Element Standardized asset condition and performance data types, detailed attributes, and summary indices, ratings, or scores that are useful in asset related
Description decision-making and communication.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Condition or performance data elements and collection methods have not yet been defined for the asset or asset type.	General condition or performance data elements have been defined for the asset or asset type.	General condition or performance categories and/or ratings have been defined for the asset or asset type.	Specific data attributes related to the condition or performance measures have been established (e.g. observation date, detailed data attributes, overall rating).	A methodology has been defined to evaluate asset specific condition or performance information against a common, cross asset performance metric (typically associated with net benefit, value, contribution, or need based on the agency's overarching strategic framework.
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<input type="checkbox"/> Define the various condition and performance data types and associated/anticipated collection methodologies.	<input type="checkbox"/> Document general condition or performance groupings and general criteria (e.g. condition ranges) for these groupings.	<input type="checkbox"/> Specify detailed data elements for each condition or performance rating or categorization. Set required, recommended, and optional data elements.	<input type="checkbox"/> Establish detailed methodology to evaluate asset condition, performance, or contribution to overarching agency strategic priorities.	
<input type="checkbox"/> Coordinate with field and office staff to identify current condition and performance data collection practices and standards.	<input type="checkbox"/> Evaluate existing condition or performance standards to identify gaps or inconsistencies in current standards for improvement.	<input type="checkbox"/> Specify minimum levels of condition or performance data coverage to meet decision-making, communication, and reporting needs.	<input type="checkbox"/> Routinely evaluate the condition and performance standards to ensure alignment with TAM business needs.	
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Participating Members:

Assessment Context:

A-Specify and Standardize Data

1-Inventory, Condition, and Performance

A.1.c – Design Model Standards

Element	CADD standards consistent with asset inventory standards (asset categories and component breakdowns) to support linkage and data exchange with project information with asset inventory and management systems
Description	project information with asset inventory and management systems

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
CADD standards are not defined for the asset.	CADD standards are defined for the asset, however they are not related to established asset categories or components.	CADD standards are defined with base objects aligned with asset categories and components in a manner that allows for extraction of asset information from project files with a project specific, manual effort to reconcile differences.	CADD standards are defined with base objects aligned with asset categories and components, in a manner that allows for extraction of asset information from project files through standardized processes.	Data exchange protocols are defined for the asset, allowing direct integration of project files and asset inventory and/or management systems.
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<input type="checkbox"/> Establish uniform standards and procedures for development of electronic design and survey plans	<input type="checkbox"/> Define CADD standards that align based objects with asset types, sub-types and components	<input type="checkbox"/> Define a detailed project information model that contains detailed asset attribution needed for asset management.	<input type="checkbox"/> Define detailed data exchange protocols which support transformation of asset information into CADD design files, and vice versa.	
<input type="checkbox"/> Develop training to communicate design standards.	<input type="checkbox"/> Develop training to communicate CADD standard alignment with asset information.	<input type="checkbox"/> Develop training to communicate detailed project information model and uses in asset management.	<input type="checkbox"/> Develop training to raise awareness of data exchange protocols and requirements.	
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Participating Members:

Assessment Context:

Specify and Standardize Data Inventory, Condition, and Performance

A.1.d – Location Referencing

Element Description Standardized location referencing for asset inventory and condition data to enable mapping and integration with other agency data for analysis.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Location referencing methods and data standards for the asset have not been defined.	Location referencing methods and data standards have been established for the asset, but they cannot be readily transformed to the established enterprise location referencing standard.	Location referencing methods and data standards have been established for the asset and can be readily transformed to the agency's enterprise location referencing standard.	Location referencing methods and data standards have been established for the asset and are consistent with the agency's enterprise location referencing standard.	Location referencing of asset information is kept up-to-date in (near) real time as the enterprise location referencing definitions are updated.
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<input type="checkbox"/> Evaluate agency enterprise location referencing standards and identify a method(s) which best support asset needs.	<input type="checkbox"/> Standardize location referencing in a manner that can be transformed to the agency enterprise standard.	<input type="checkbox"/> Standardize location referencing in a manner that is consistent with the agency's enterprise standard.	<input type="checkbox"/> Fully integrate asset data systems, tools, and records with the agency's enterprise location referencing system.	
<input type="checkbox"/> Examine current inventory, condition, and performance data standards to identify various location referencing methodologies in current use.	<input type="checkbox"/> Document clear processes and business requirements for transformation of any location references not meeting the enterprise standard.	<input type="checkbox"/> Develop specifications for tools to support accurate identification of location based on current enterprise location referencing system definitions.	<input type="checkbox"/> Routinely evaluate the agency location referencing systems to ensure alignment with TAM business needs.	
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Participating Members:

Assessment Context:

A-Specify and Standardize Data
2-Treatments and Work

A.2.a – Treatment and Work Data Model

Element Description Standardized asset treatment/work categories and attribution to enable information collection, integration, and consistent reporting.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
There are no consistently defined treatment/work categories for the asset.	Treatment and work categories impacting asset condition or performance have been defined (e.g. replacement, corrective maintenance, preventive maintenance).	Specific treatment types and work activities have been identified for the asset, and classified according to established categories. Standard methods for tracking work accomplishments are in place.	A standard set of minimum attributes for tracking maintenance activities and projects (e.g. work completion date, cost, location) have been established. Required, recommended, and optional fields have been identified for various treatments and work types.	Impacts of projects affecting multiple assets are tracked for each individual asset. Asset treatment and work data models are periodically adjusted to reflect changes in project delivery methods.
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<input type="checkbox"/> Define what are considered "work accomplishments" for the asset.	<input type="checkbox"/> Develop lists of standard activities and project types, providing criteria for grouping specific work into these activity and project types.	<input type="checkbox"/> Specify detailed treatment and work data elements for various project and activity types. Establish required, recommended, and optional data elements.	<input type="checkbox"/> Integrate methods for tracking impacts of projects affecting multiple assets (e.g. pavement projects that upgrade guardrails) into the treatment and work data models to capture information needed for the assessed asset.	
<input type="checkbox"/> Coordinate with field and office staff to identify current project types and maintenance activities impacting the asset.	<input type="checkbox"/> Evaluate existing treatment and work data standards to identify gaps or inconsistencies for improvement.	<input type="checkbox"/> Determine minimum levels of treatment and work data coverage to meet decision-making, reporting, and communication needs.	<input type="checkbox"/> Establish a program to routinely evaluate asset treatment and work data models to ensure they continue to meet agency needs.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Participating Members:

Assessment Context:

A-Specify and Standardize Data
2-Treatments and Work

A.2.b – Treatment and Work Location Referencing

Element Description Standardized location referencing for planned and completed work to enable accurate collection, mapping, and integration with other agency data for analysis.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Treatment or work data associated with the asset do not include location references and are not mappable.	Some treatment or work types are tracked with location referencing but location referencing methods are not consistent across work types or over time.	Consistent standards for location referencing are established for the asset's project or maintenance treatment data types (where applicable), however these standards cannot be readily transformed to the established enterprise location referencing standard.	Consistent standards for location referencing are established for the asset's project or maintenance treatment data types (where applicable) in a manner that can be readily transformed to the agency's enterprise location referencing standard.	The agency's enterprise location referencing standards are in place for all the asset's project and maintenance treatment data types (where applicable).
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<input type="checkbox"/> Evaluate agency enterprise location referencing standards, identifying methods that best support asset work tracking needs.	<input type="checkbox"/> Standardize location referencing in a manner that is transformable to the agency enterprise standard.	<input type="checkbox"/> Standardize location referencing in a manner that is consistent with the agency's enterprise standard.	<input type="checkbox"/> Integrate asset work tracking data systems, tools, and records with the agency enterprise location referencing system.	
<input type="checkbox"/> Examine current work accomplishment tracking data standards to identify location referencing methodologies in current use.	<input type="checkbox"/> Document clear processes and business requirements for transformation of any location referencing methodologies not meeting the enterprise standard.	<input type="checkbox"/> Develop specifications for useful tools to support accurate identification of location based on current location referencing system definitions.	<input type="checkbox"/> Routinely evaluate the agency location referencing systems to ensure alignment with treatment and work tracking needs.	
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Participating Members:

Assessment Context:

**A-Specify and Standardize Data
2-Treatments and Work**

A.2.c – Process Documentation and Management

Element Established and documented responsibilities and business processes for updating asset information as assets are installed, maintained, upgraded, and replaced or removed.
Description replaced or removed.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Business processes for updating asset inventory, condition and work history information are ad-hoc and undocumented.	Business processes for updating asset information are established but not yet documented.	Business processes for updating asset information are documented in a general fashion based on a standard practice. Documentation is not shared in a consistent, highly visible and accessible place.	Business processes for updating asset information are documented in detail and include explicit information on when and how different data entities are created, updated, and deleted or archived. Documentation is stored in a highly visible, accessible place.	Business process documentation for updating asset information includes detailed business rules suitable for monitoring and/or automating data updates and exchange.
Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>
<input type="checkbox"/> Coordinate with field and office staff to identify current asset data updates based on asset work accomplishment.	<input type="checkbox"/> Develop standard operating procedures relating to primary asset maintenance activities and project types. Include steps for asset data updates.	<input type="checkbox"/> Augment standard operating procedures to include detailed responsibilities and instructions for asset data updates reflecting work accomplishment.	<input type="checkbox"/> Document detailed business rules for how individual asset data elements are adjusted based on work data. Establish metrics that can be used to evaluate process execution.	
<input type="checkbox"/> Coordinate with field and office staff to identify various business practices relating to asset work accomplishment tracking.	<input type="checkbox"/> Evaluate current business practices to identify where there are significant gaps in asset data updates relating to work accomplishment.	<input type="checkbox"/> Develop detailed process documentation identifying when various asset data entities are or should be created, updated, deleted, or archived.	<input type="checkbox"/> Define detailed exchange protocols facilitating automation of asset data updates based on capture of work accomplishment information.	
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Participating Members:

Assessment Context:

A-Specify and Standardize Data
3-Resource Allocation and Prioritization

A.3.a – Prioritization Factors

Element Description Use of asset tiers, condition or performance levels, work types or other prioritization factors to support high-level decision-making.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Investment prioritization factors are not defined for this asset.	General investment prioritization factors have been established for the asset (e.g. functional classification) but do not include key factors of concern to asset managers.	Specific Investment prioritization factors have been established for the asset that address key factors of concern to asset managers. However, they don't address concerns of other key stakeholders or other agency business processes (e.g. safety planning).	Investment prioritization factors have been established that address factors of concern to asset managers as well as concerns of other key stakeholders and other agency business processes.	Investment prioritization factors have been distinguished for both internal asset level decision-making as well as cross-asset or cross-program investment prioritization.
Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>
<input type="checkbox"/> Identify basic geographical, organizational or network information useful in determining how to prioritize needed work on assets.	<input type="checkbox"/> Expand prioritization factors to include asset specific information such as asset type, utilization, condition category.	<input type="checkbox"/> Expand prioritization factors to include stakeholder input such as asset performance requirements, or risks, impacts and/or need in other asset or business areas.	<input type="checkbox"/> Expand prioritization factors to include individual asset contributions to agency goals or objectives (e.g. safety).	
<input type="checkbox"/> Communicate general expectations for what information should be considered in deciding how work is to be prioritized.	<input type="checkbox"/> Document a methodology for prioritization factor use in distribution of asset-related resources.	<input type="checkbox"/> Update resource distribution methodology as appropriate. Document factor use in external investment decisions (e.g. when an asset must/should be included in an unrelated asset improvement or project).	<input type="checkbox"/> Develop a methodology for calculating prioritization factors that can be used across different programs.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Participating Members:

Assessment Context:

A-Specify and Standardize Data
3-Resource Allocation and Prioritization

A.3.b – Analysis Parameters

Element Established analysis parameters (e.g. asset deterioration and treatment benefit models, treatment unit costs, analysis time horizons) supporting
Description resource allocation analysis and decision-making.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Analysis is ad-hoc and therefore there is no recognized need for standardizing analysis parameters.	Simple analysis parameters (e.g. unit costs or service life) are standardized to support asset decision-making and resource allocation. These are only useful for general, network-level analysis.	Condition or performance-based analysis parameters (e.g. improvement benefits of various treatment types or asset deterioration models) are standardized to support asset decision-making and resource allocation. These are typically only useful for network-level analysis or rough project-level estimates.	Condition or performance-based analysis parameters are standardized to support asset decision-making and resource allocation. These are useful for both network- and project-level analysis.	Analysis parameters are defined consistently across assets, supporting cross-asset resource allocation analysis.
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<input type="checkbox"/> Identify base parameters supporting estimation of annual needs (e.g. asset service life, typical treatment unit costs, or annual life-cycle maintenance costs).	<input type="checkbox"/> Expand parameters to support condition or performance based forecasting (e.g. asset deterioration and improvement benefit models).	<input type="checkbox"/> Work with field asset managers to expand analysis parameters to support individual asset level needs assessment and investment optimization.	<input type="checkbox"/> Expand analysis parameters to include asset specific contributions to agency goals or objective areas.	
<input type="checkbox"/> Communicate general expectations for asset-related needs or investment analysis.	<input type="checkbox"/> Document a methodology for asset needs forecasting.	<input type="checkbox"/> Document a methodology for application of network-level analysis for project-level, field decisions.	<input type="checkbox"/> Examine analysis methodologies across different assets and develop a consistent approach to analysis parameter definition (e.g. service life) to enable cross-asset analysis.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Assessment Context:

A-Specify and Standardize Data
4-Metadata

A.4.a – Data Dictionary Standards and Guidelines

Element Description Standardized data dictionaries documenting data element definitions, calculation methods, formats and value domains.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
There are no requirements or standards for data dictionaries to document data element definitions.	Data dictionaries may be required for new systems, but data dictionary elements are not standardized beyond those required for technical database design (e.g. field name, data type, format).	Data dictionaries requirements are defined and specifications for key content (field description, allowable values), are defined.	Guidance, training and quality assurance processes are in place to ensure that data dictionaries contain useful information for both business and IT staff and that they are maintained in a known, designated location.	Policies or guidelines for creating and maintaining data dictionaries ensure update as changes to databases are made. They are stored and managed at enterprise level, enabling identification of similar data elements across databases.
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<input type="checkbox"/> Establish basic scope, elements and needs for development of data dictionary content.	<input type="checkbox"/> Document metadata policy for new IT projects or system enhancements. Define a standard format and required, recommended, and optional fields.	<input type="checkbox"/> Develop guidance and training to ensure metadata standards meet business and IT needs.	<input type="checkbox"/> Develop standard operating procedures for maintaining metadata.	
<input type="checkbox"/> Work with IT and business owners to document data dictionary content for critical asset data.	<input type="checkbox"/> Work with IT and business owners to document data dictionary content for remaining asset data.	<input type="checkbox"/> Develop requirements for and implement a standardized metadata repository to store, manage, and provide access to agency metadata.	<input type="checkbox"/> Improve functionality of metadata repository, enhancing data search and identification functionality.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Participating Members:

Assessment Context:

A-Specify and Standardize Data
4-Metadata

A.4.b – Dataset Metadata Standards and Guidelines

Element Description Standardized dataset-level metadata documenting dataset contents, collection methods, coverage, and limitations.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
There are no requirements or standards for dataset level metadata documenting dataset contents, collection methods, coverage and limitations.	Dataset-level metadata requirements are defined, however detailed standards for content are not in place or are not consistently defined.	Dataset-level metadata requirements are defined and specifications for key metadata elements are defined.	Guidelines, training and quality assurance processes ensure that dataset level metadata contain useful information for both business and IT staff and that they are maintained in a known, designated location.	Processes are in place to ensure updates to dataset metadata as changes occur. Dataset metadata are stored and managed at enterprise level, supporting creation of data catalogs and data search capabilities.
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<input type="checkbox"/> Establish basic scope, elements and needs for development of dataset level metadata content.	<input type="checkbox"/> Document dataset metadata policy for new IT projects or system enhancements. Define a standard format and required, recommended, & optional fields.	<input type="checkbox"/> Develop guidance, training and quality assurance processes to ensure that metadata meets business and IT needs.	<input type="checkbox"/> Develop metadata standard operating procedures.	
<input type="checkbox"/> Work with IT and business owners to document dataset level metadata for critical asset datasets.	<input type="checkbox"/> Work with IT and business owners to document dataset level metadata content for remaining asset datasets.	<input type="checkbox"/> Develop requirements for and implement a standardized metadata repository to store, manage, and provide access to agency metadata.	<input type="checkbox"/> Develop easily navigated, searchable data catalogs for the asset and key asset related business processes.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Assessment Context:

A-Specify and Standardize Data

5-Governance

A.5.a – Data Stewardship

Element Description Established data governance structures and data stewardship roles.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
No formal data governance structures or specified data stewardship roles and responsibilities for asset data.	Contact people for data related to different assets are generally known, but roles and responsibilities have not been explicitly defined or formalized.	Steering committees or similar structures formed to manage enterprise data systems (e.g. GIS or data warehouses); data stewards with responsibility for asset data in these systems have been designated.	One or more agency data governance bodies has been formed with responsibility for establishing governance processes and stewardship roles. Stewardship roles may have been defined but are not yet implemented.	Data governance bodies are well-established and are actively working to strengthen data management practices in the agency. Data stewards have been designated and are performing their intended functions.
Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>
<input type="checkbox"/> Define base concepts and organization of governance structures, roles, and responsibilities.	<input type="checkbox"/> Engage business experts and leaders to participate in the governance program.	<input type="checkbox"/> Define governance bodies with stewardship responsibilities (e.g. data quality accountability, developing curated master data).	<input type="checkbox"/> Identify an asset steward and system owners. Document clear responsibilities for strengthening governance and data management.	
<input type="checkbox"/> Engage executives and business management in discussion of governance functions and implementation.	<input type="checkbox"/> Complete self-assessment and, action planning exercises to identify gaps and prioritize action. Periodically reevaluate.	<input type="checkbox"/> Establish communities of interest in priority business areas and functions. Capture business needs, terminology, rules, etc.	<input type="checkbox"/> Implement enterprise systems to manage and provide access to governance products (e.g. a rules engine or glossary repository).	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

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Participating Members:

Assessment Context:

A-Specify and Standardize Data
5-Governance

A.5.b – Data Standards & Guidelines Development/Adoption Processes

Element Description Formal processes for the development, review, improvement and adoption of new data standards and guidelines.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
The agency has no data standards or practices for standardizing data elements.	Existing external data standards are considered for new system development, and some internal agency data elements adhere to “de-facto” standards.	Data standardization initiatives have been undertaken and results of these efforts have been disseminated. However, a formal adoption process has not been established.	A formal process for nominating, adopting, and publishing data standards has been established.	Roles, responsibilities and processes have been established to ensure that data standards are being followed and facilitate updates to standards based on experience.
Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>
<input type="checkbox"/> Define processes and formats for creating data standards.	<input type="checkbox"/> Undertake a pilot effort to create a data standard for a high priority data element (e.g. project ID or location reference).	<input type="checkbox"/> Define formal processes for nominating, adopting, and publishing data standards.	<input type="checkbox"/> Incorporate responsibilities for established processes within new or existing governance bodies.	
<input type="checkbox"/> Document existing external (e.g. federal) data standards and internally used formats and definitions for priority data elements.	<input type="checkbox"/> Complete self-assessment and, action planning exercises to identify gaps and prioritize action. Periodically reevaluate.	<input type="checkbox"/> Advance initiatives to create standards for priority data elements.	<input type="checkbox"/> Organize communities of interest around established standards to ensure they are maintained and implemented.	
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Assessment Context:

**A-Specify and Standardize Data
5-Governance**

A.5.c – Data Collection Approval / Coordination Practices

Element Formal processes for the evaluation, approval, and coordination of new data collection processes - to reduce or eliminate duplicate data collection and
Description ensure that the value of new data collection is maximized.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Decisions about data collection are made independently by individual business units with little or no coordination.	Decisions about data collection are made independently by individual business units but some level of informal communication and coordination occurs to avoid duplication.	Guidelines for data collection have been created or adopted and disseminated to promote following best practices.	A formal process has been established to evaluate and approve new data collection or acquisition. This process has been applied on a limited basis.	A formal process for evaluating and approving new data collection or acquisition efforts is in place and is being followed.
Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>
<input type="checkbox"/> Establish guidance for data collection decision-making which include coordination to avoid duplication and identify potential added value.	<input type="checkbox"/> Engage business experts and leaders to participate in data collection best practice initiatives.	<input type="checkbox"/> Define formal processes for evaluating new data collection or acquisition.	<input type="checkbox"/> Incorporate responsibilities for established processes within new or existing governance bodies.	
<input type="checkbox"/> Encourage informal data collection collaboration between business units.	<input type="checkbox"/> Complete self-assessment and, action planning exercises to identify gaps and prioritize action. Periodically reevaluate.	<input type="checkbox"/> Provide training to key data collection decision-makers regarding formal processes for new data collection evaluation.	<input type="checkbox"/> Organize communities of interest around key data collection to ensure the data meet agency needs.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

Assessment Notes:

Improvement Notes:

Date:

Participating Members:

Assessment Context:

A-Specify and Standardize Data
5-Governance

A.5.d – Change Control (Systems and Data) Processes

Element Formal processes to manage change in data and information systems to ensure that limited resources are effectively leveraged and reduce
Description unanticipated impacts to downstream systems and users.

Benchmark Level 0	Benchmark Level 1	Benchmark Level 2	Benchmark Level 3	Benchmark Level 4
Communication about planned or actual changes to data and information systems is limited and downstream consequences of these changes on reports or other systems are not anticipated or planned for.	Communication about changes generally occurs but is not formalized.	Data change management guidelines have been documented but are not always consistently followed.	Formal change control committees are in place and consistently follow established procedures to minimize downstream impacts of database changes.	Change control processes are periodically reviewed and improved based on stakeholder feedback.
Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>	Current: <input type="checkbox"/> Desired: <input type="checkbox"/>
<input type="checkbox"/> Establish guidance for communication regarding planned or actual data or information system changes.	<input type="checkbox"/> Document policy for communication regarding planned or actual data or information system changes.	<input type="checkbox"/> Define formal processes for proactively evaluating proposed system or data changes with known stakeholders.	<input type="checkbox"/> Organize communities of interest around key data and systems. Include change control as recurring topic of discussion.	
<input type="checkbox"/> Identify primary users of current asset related data and systems.	<input type="checkbox"/> Identify extended and/or downstream users of current asset related data and systems.	<input type="checkbox"/> Incorporate responsibilities for established processes within new or existing governance bodies.	<input type="checkbox"/> Integrate change control processes with a formal, enterprise change management program.	
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	

Assessment Notes:

Blank area for assessment notes.

Improvement Notes:

Blank area for improvement notes.