



City of San Jose
Information Technology Guidelines

Version 1.2

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1 Introduction

These guidelines serve to document the processes by which the City of San Jose will plan for, deploy, and maintain information technology products and assets. The provisions within these guidelines will be updated as new technologies and management processes emerge.

This document acts as a complement to the City Technology Deployments and Management Policy and delves into specific details regarding certain aspects of the policy.

2 Authorities

- City of San Jose Technology Deployments and Management Policy
- Direction from the Chief Information Officer
- City Policy Manual Section 5.1.9, Procurement of Information Technology
- San José City Charter Article VII
- City of San José Municipal Code §2.04.3 Information Technology Department

3 Roles and Responsibilities

- CIO– Assumes final responsibility for the deployment, management, and operation of the City’s IT products and systems
- C3PO Division– Responsible for the successful deployment and value management of the City’s IT products and systems
- Infrastructure and Operations Division – Responsible for ensuring that all of the City’s IT products and systems are properly maintained and operationalized
- Business Solutions Division – Responsible for identifying the City’s IT needs and conducting value management for the City’s IT products and systems.

4 Strategic Planning Guidelines

This section discusses guidelines and procedures relating to long-term strategic planning and product value management.

4.1 Annual Work-planning

Work-planning must be conducted by IT Leadership in conjunction with the City Budget Office and other stakeholders at least annually. Work-plans guide decision making over the course of their existence.

4.1.1 Aspects of an Workplan

Workplans:

- Incorporate aspects of OKRs into their planning and management
- Include goal-setting with customer departments
- Publish and maintain goals and statuses
- Be incorporated into individual performance management

- Include periodic updates
- Connect with the City Budget Process
- Incorporate individual portfolio roadmaps and their resource needs
- Define performance metrics

4.2 Portfolio Roadmaps

All critical and essential systems must have a portfolio roadmap, created by the service owner, which encompasses the different products, projects, maintenance items, and customer relationships which the portfolio is responsible for. A roadmap's purpose is to identify the current and future needs of the portfolio and plan for them. Portfolio roadmaps must be created at least annually and receive approval from the CIO or designee.

4.2.1 *Aspects of a Portfolio Roadmap*

Portfolio Roadmaps:

- Include staffing plans for the roadmap and individual products
- Incorporate individual product needs and goals.
- Must be reviewed and updated by stakeholders and product owners on a period determined by C3PO or after changes are made.

4.3 Product Roadmaps

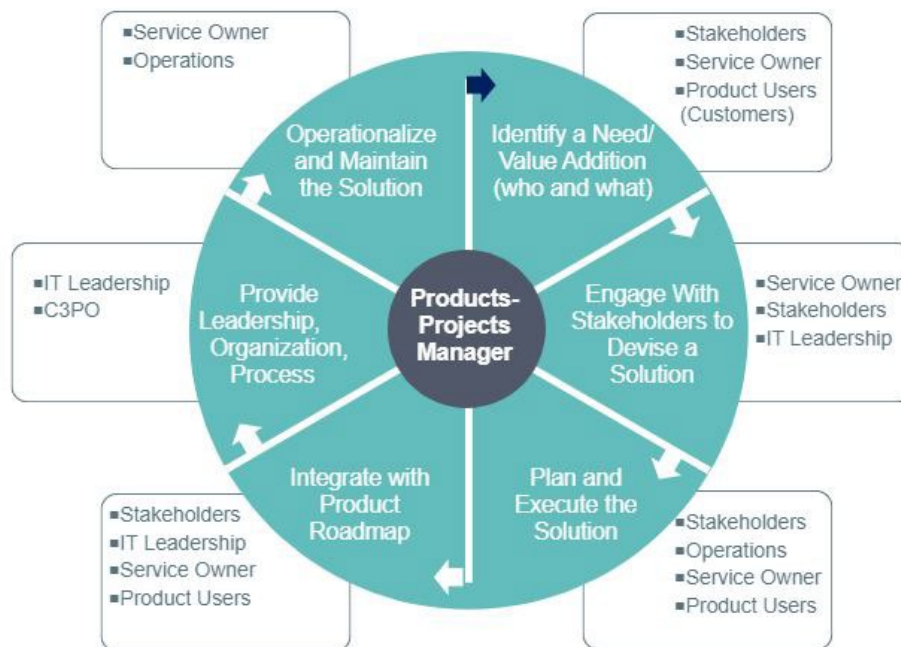
A product roadmap serves to map out the life of a product by identifying critical value improvements, milestones, and the potentially the retirement date of a product.

4.3.1 *Aspects of a Product Roadmap*

Product Roadmaps:

- Include upgrades and updates for portfolio products
- Include feature additions for the business line
- Include major business events
- Must be reviewed and re-approved quarterly, or whenever any change is proposed, by all involved parties
- Identify post-deployment upgrades and features, and must define their operational value
- Include a 5 year cost plan which must be approved by all stakeholders and product users at least annually
- Establish a timeframe for the deployment of upgrades and features
- Identify maintenance staff and their roles

- Define, if applicable, the end-of-life date of a product



The above graphic describes the product management cycle in its various phases, and identifies the key players responsible for each phase.

5 Staffing Protocols

This section discusses protocols relating to the training of staff assigned to IT products and projects, as well as the requirements for external products-projects managers.

5.1 Qualifications for Consultant Products-Projects Managers

Consultants should have:

- At least 5 years of experience.
- 3 recent past projects with similar scope and scale within the past 3 years.

5.2 C3PO Training Plans

At the beginning of each year, C3PO staff will be evaluated for skills and attributes to be successful in the performance of their duties. Prioritization will be based on:

- Skills gaps in the team to manage the C3PO portfolio
- Emerging needs and skills for the portfolio look-ahead
- Exploratory technologies and/or methodologies

C3PO Products-Projects Managers should be certified in Product Management, Project Management, Agile Methodologies

5.3 City Staff Training Plans

City staff training plans will be created by C3PO and distributed to all necessary staff members. All recipients of a C3PO training plan must complete it before working on a technology deployment or product.

5.3.1 *Training Plans for Project Staff*

Product users and stakeholders shall be trained on the practices of successful product management, including:

- Value and need identification
- Product road-mapping

5.3.2 *Training Plans for Product Staff*

Prior to project chartering, stakeholders and future product users must be trained on the practices of successful project management, including:

- The project chartering process and their responsibilities within it.
- Risk identification
- Scope identification

6 Project Management

This sections goes over standard practices for various aspects of project management and elaborates on the Technology Deployments and Management Policy.

6.1 Project Approvals

Starting a project requires the signatures of all lead personnel involved as the Project Team accepting the project by signing off on the project charter.

6.2 Contracting

Departments must submit all procurement and contract requests for IT products and services through the Purchasing Division of the Finance Department. Finance-Purchasing is responsible for the procurement and contracting of Information Technology through the delegated authority of the City Manager.

All IT procurements and contracts must follow the Guidelines provided on the Finance-Purchasing Intranet Page at <http://www.sjcity.net/index.aspx?NID=252>.

The Department is responsible for understanding the terms and scope of the agreement, ensuring ongoing vendor and contract management, and notifying Finance-Purchasing when changes are required

to the agreement. See Finance-Purchasing intranet for Vendor Management Guidelines at <http://www.sjcity.net/DocumentCenter/View/19987>.

6.3 Chartering

The Project Charter sets project boundaries, resourcing, and the authority of the project manager. It serves as the preliminary framework for roles and responsibilities, identifies stakeholders, and provides executive sponsorship and mandate for an initiative. To this effect, it is brief. A Project Charter includes only the core project information for all parties to be clear on scope, funding, scheduling, team membership, and guiding needs necessitating the project as an important investment for the organization. All charters must conform to the C3PO template which is maintained and updated on the intranet.

6.3.1 Key Charter Elements

A clear project description will provide its reader the following information in the shape of the Charter:

- Clear reason/case for the project (Project Mandate and Purpose)
- Stakeholder identification
- Roles and responsibilities of the project team's members
- Schedule
 - Initial Work Breakdown Structure for preliminary staff/vendor time requirements
 - Realistic schedule outlining when staff members/vendors will be needed and for what amount of time
 - Procurement time needed
- Scope
 - Executive, Functional, and Technical requirements detailing what the product of the project must do or accomplish (often requires scoping sessions)
 - Major constraints—e.g., Business cycles, regulatory and compliance limits, et al
 - What is excluded from the project's scope
 - Measurable criteria on which the project will be assessed
 - Consideration of key characteristics required --e.g., speed, capacity, redundancy
 - Customer satisfaction metrics to be attained when surveyed
- Cost
 - Cost of staff time
 - Cost for services and/or vendor time
 - Budget for hardware
 - Budget for software
- Demonstration of acceptance to initiate and begin work on the project
- Demonstration of final acceptance when the project is complete and meets requirements
- Process for modifying scope

6.4 Project Monitoring and Remediation

This section describes various project monitoring processes, including status reporting, Independent Verification and Validation, and IT project remediation.

6.4.1 *Internal Project Status Reporting*

Internal project status reporting consists of status reporting to project sponsors and stakeholders.

Projects which meet or exceed one or more of the following standards shall be classified as high priority projects and shall be required to report to project leadership at least bi-weekly:

- Cost meeting or exceeding \$1,000,000.
- Project duration meeting or exceeding one calendar year.
- Projects which involve multiple City departments
- Projects which encompass multiple City systems
- Deemed urgent or sensitive by the City Manager's Office or designee

Status reports must include budget, scope, schedule, risks and mitigation, project phase, and the number of open roadblocks. These metrics will be used to assess a project status.

- Failure to report status will cause an automatic reassignment of the Products-Projects Manager.
- Status reports must be compiled in an online form which projects the information onto a public dashboard as described in Section 10.b.ii.
- ITD shall publish the form on the City Intranet.

Status reports must be provided:

- On a weekly basis to the C3PO Division Manager
- To the designated attendee to the Scrum of Scrums for ITD
- To the stakeholders, steering committee and user base on a defined schedule

Status reports must be saved in documents stored off-device (e.g. SharePoint) for the duration of the project. These repositories must contain the following key technology decision points:

- Approval of specifications
- Product customizations and their approvals
- Progress against project plans
- Changes to agreed-upon features
- Key communications with the vendor

6.4.2 *External Project Status Reporting*

External status reporting is conducted by C3PO to external stakeholders, including City Council.

C3PO shall report to external stakeholders, including the City Council, on a pre-determined schedule no more infrequent than every month.

Detailed status reports must be viewable by external stakeholders within the City organization.

Reporting must be done via a status dashboard which must be updated at least quarterly.

All IT projects must be listed on a public dashboard along with the following information:

- Products-Projects Manager Name
- Short description of project outcomes
- Project cost
- Estimated completion date
- Criticality/value (Rated low, medium, high)
- Project health (Rated red, yellow, green)
 - A green rating indicates that the project has no issues and is on track to achieve its scope within the allotted schedule and budget.
 - A yellow rating indicates that the project faces significant risks, but that there is still a high chance that the project will achieve its scope within the allotted schedule and budget.
 - A red rating indicates that there is little to no chance that the project will achieve its scope within the allotted time and budget without significant remediation.

Project health ratings must be determined based on the following:

- Schedule Adherence
- Scope Management
- Risks
- Resource Management
- Business Value

6.4.3 *ITD Project Remediation*

ITD leadership shall be required to remediate all projects where the following take place:

- Budget increase of 10% or greater.
- Schedule increase by 2 quarters or greater.
- Scope change of 10% or greater.

All remedial actions proposed by ITD must be implemented by project staff.

6.4.4 *Independent Verification and Validation (IV&V)*

The goals of IV&V are to ensure that the product meets its stated requirements, identify shortcomings in the process, procedures, architecture, and governance of the project, and make recommendations for improvements in those areas.

C3PO shall evaluate the necessity of conducting an IV&V for projects which require ITD remediation as described in Section 6.4.3.

An independent contractor will conduct IV&V for all projects considered High Priority as described in Section 6.4.1.

The IV&V process must review:

- Adherence to product requirements
- Risks
- Governance and the effectiveness of control points

6.5 Project Extension

Proper and professional planning of projects minimizes impacts on project schedules. However, in the real world, some delays are inevitable. Extensions are granted on the basis of (1) Customer request based on an operating need in their area; (2) Sponsor decision based on new priorities; or (3) technical or personnel barriers that could not have been planned for and for which a strong testing and communications steps were in place.

6.6 Testing

Products-Projects Managers must create a Test Plan for projects which are considered high risk by the PPM and stakeholders, or designated as High-Priority in accordance with Section 6.2.1.

All test scripts must:

- Contain previously agreed-upon acceptance criteria.
 - Test scripts cannot be tested until acceptance criteria is finalized.
- Be repeatable and reusable.
- Include a unique and easily identifiable marker to differentiate it from other scripts.
- Include a case description which contains the following:
 - One brief description of the requirement or scenario that will be tested.
 - One thorough description which includes testing preconditions, test steps, and an expected result.
- Be compiled in a test script repository which must be accessible to all project and product management staff.

Testing must be organized into the following categories and performed prior to production and post-development:

- Unit testing
 - Must be performed by the developer or vendor for each specific product feature.
- Integration Testing
 - Tests all of the product’s functionalities in an integrated environment.
- Functional Testing
 - Tests specific functionalities and features of a product.
 - Scripts must relate to testable functional requirements.
- Technical Testing
 - The performance, load and cybersecurity requirements of the product must be tested.
- User Acceptance Testing (UAT)
 - Tests must be conducted by end-users in order to ensure that the product’s usability meets end-user demands.

6.7 Change Management

If the projects has the likelihood of multiple change requests from the project and/or significant information still need to be discovered, frame how you will handle changes to the project. A template change order request form is appropriate, in this instance. Describe how and how soon changes will be approved or denied by the project manager and sponsors, including effects on schedule, scope, and costs.

6.8 Project Closure

The Executive Steering Committee must sign off on the project charter in order to close a project. This cannot be done unless all costs are reconciled, and SLAs and primary and secondary support are confirmed by the Products-Projects manager.

7 Operations Management

This section elaborates on the City Technology Deployments and Management Policy by defining standard performance metrics for IT services, and identifying the information to be included in the City’s central asset database.

7.1 Standard IT Service Measures

All City IT services, infrastructure, and products must meet or exceed the following measures:

- Up-time and availability greater than or equal to 99.9%.
- Project success rate greater than or equal to 80%.
- Customer satisfaction ratings greater or equal to 80% (Good to excellent).

8 Glossary

- Product Management: The processes which govern a product and its associated staff, features, and value over the course of its lifecycle.
- Information system: A discrete set of resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information.

- **Project Management:** The management of the deployment of products and features, and the regulation of change within an organization.
- **Operations Management:** The maintenance and monitoring of all operational technology products and infrastructure.
- **IT Product:** Any information technology system, software, hardware, or feature owned by the City for more than one use.
- **Roadmap:** Identifies the current and future needs of a product or portfolio and plans for them.

9 Document Change History

Editor Name	Date	Version	Change Summary
Abhinav Ganesh	June 20, 2020	1.0	Document Created
Abhinav Ganesh, Rob Lloyd, Jerry Driessen, Michael Foster	July 27, 2020	1.1	Formatting changed, Sections 6.1, 6.2, 6.5, 6.7 created.
Abhinav Ganesh	August 11, 2020	1.2	Product Management Graphic Replaced

