SUNNYVALE

Library of the Future

Building Program

Prepared in collaboration with the

Sunnyvale Public Library

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by

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Executive Summary

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Executive Summary

Introduction

The purpose of this document is to define the space, technical and functional requirements (building and site criteria, space allocation, and spatial relationships) of the Library based upon the Plan of Service.

The factors affecting development of space program requirements include the service philosophy and model defined in the Community Needs Assessment and Plan of Service, and the goals for service in the future. Interviews with staff and the Core Team, best practices in library planning, and onsite tours contributed to the development of the space requirements. Factors also include strategies for development of standardized work modes, which identify the amount of space required to perform functions, as well as strategies for modularity, which provide for future flexibility in adaptive reuse of space.

The City of Sunnyvale will need to establish goals for sustainable design once a design project commences, to include any codified criteria used to establish the level of environmental and energy efficient design the building will attain.

Summary of Facility and Site Requirements

The Master Program Summary designates the total sum of square footage by Site Component, Service Model Component, Activity Area, and individual space. This includes all public use areas, storage rooms, conference rooms, resource areas and other non-workspace areas. The Summary contains current and projected staffing, quantity, and unit net square footage per space, use designation, and brief comments to explain the space, as well public technology, and reader seating provided within the space.

The Master Space Program Summary, organized within the following schema, assigns a unique Index Number for each space. An example of the program organization:

1. Central Library Facility
   A. Gateway to Lifelong Learning and Enrichment
      01 Children's Area
         01) Toddlers

Building Standard Assumptions and Functional Work Modes are provided in the Library of the Future Study and Strategy Volume 2, Appendix Item 6. The Building Standard Assumptions describe the technical quality of all spaces. The Work Mode examples provide a diagram and specific functional requirements for each workspace. Individual Space Data Sheets for each space in the Summary are also located in the Appendix, which define each individual area and include the function and quality of each space, any technical requirements atypical of Building Standard Assumptions, and equipment, furniture, and storage spaces.

A total of 143,419 gross square feet are required to support the Library of the Future in one facility. At least 83,100 gross square feet will be required to support the parking required on the site. Exterior spaces have not been allocated square footage at this time, as they will be dependent upon the opportunities and constraints of any site.

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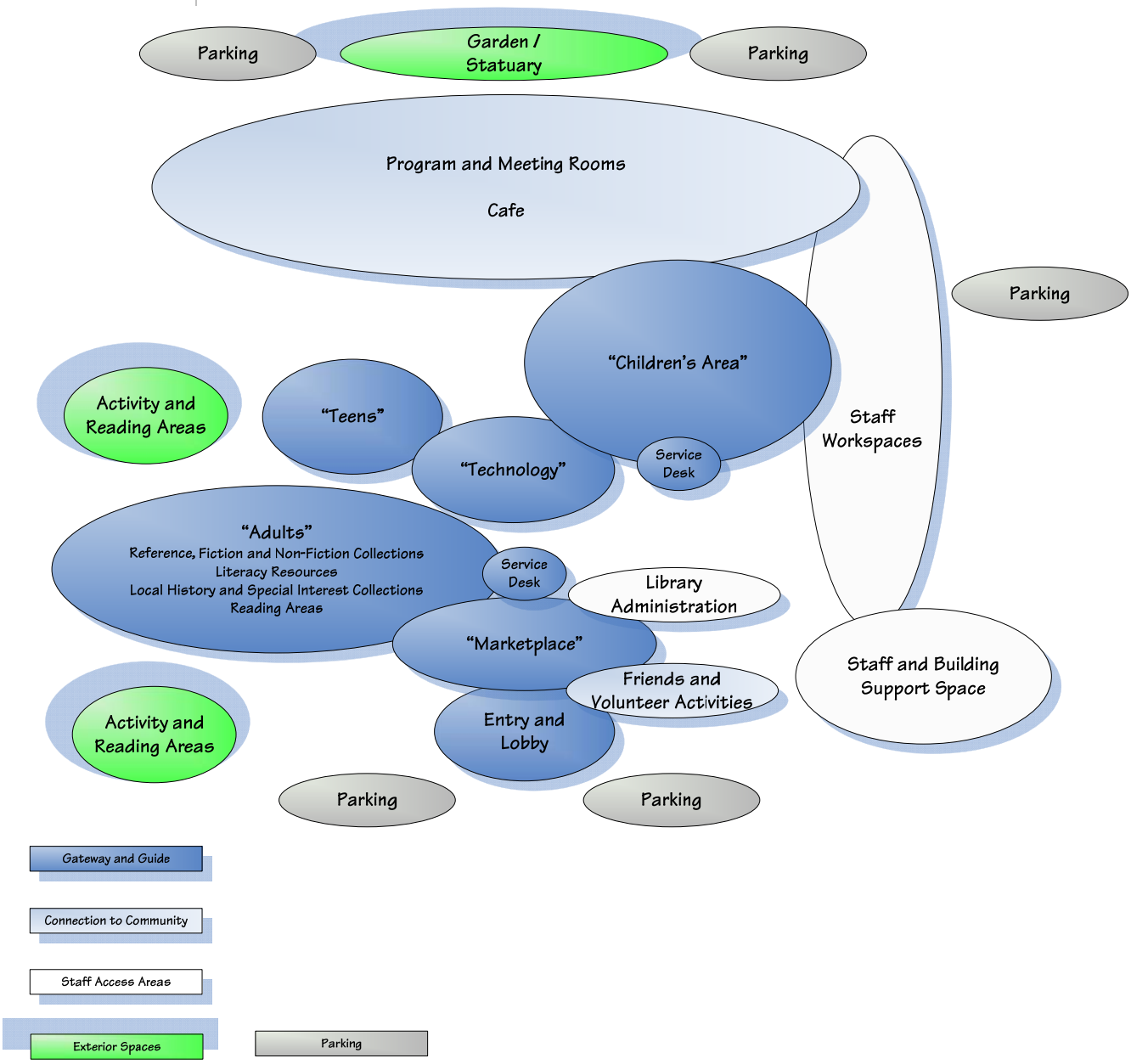
Executive Summary

Spatial Relationships

The functional relationship diagrams illustrate the desired functional relationships between spaces and zones of activity within the Sunnyvale Library of the Future. These diagrams do not represent a floor plan configuration , as site opportunities and constraints and the design process will shape the final floor plan. However, the diagrams do represent the intended relationships between spaces and must be considered in the design process.



Conceptual Cost

Recent library projects in the San Francisco Bay Area range from $350 to $450 per square

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Executive Summary

Model

foot. This figure is normally accepted as a 'hard' construction cost and is represented as the range of conceptual construction costs between 50.2M and 64.5M for the facility.

Total project costs include additional costs beyond the constructions costs. Examples include, but are not limited to permitting and other regulatory agency fees, professional fees, furniture and equipment, and move coordination. These 'soft' costs may represent between 20 and 40% of construction costs, and are factored into cost planning and budgeting to determine realistic total project costs to deliver the project. These costs are assumed to be 25% of construction costs in this model, representing an additional range of conceptual soft costs between 12.5M and 16.1M.

The totaled hard and soft listed above illustrates a range of total project costs between 62.7M and 80.7M associated with planning for future new facility construction. The conceptual total project cost is presented in today's dollars, but escalation in costs must be incorporated once construction dates, duration and project budgets are established.

Key Concepts Moving Forward

This building program represents the ideal space allocation and relationships to support the new Plan of Service and Service Delivery Model. The next step in the planning process includes identification of facility scenarios to explore their feasibility in realizing the Library of the Future in Sunnyvale. Dependent upon the scenarios chosen for further study, all of the space program requirements may not be accommodated in a feasible solution.

Once identified, the design process for the preferred facility strategy will validate the space program and adjust accordingly to the opportunities and constraints of the site, as well as any desire for phasing construction or constructing additional facilities over time.

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Methodology

The purpose of this document is to define the space, technical and functional requirements of the Library based upon the Plan of Service. The Building Program defines building and site criteria, space allocation, and functional relationships (spatial adjacencies). This document will serve as a working guide for the remaining planning effort.

This section focuses on the factors affecting development of space program requirements, as well as the proposed space program for the Library. The proposed program reflects the minimum space necessary to support the service philosophy and model defined in the Community Needs Assessment and Plan of Service. Interviews with staff and the Core Team, best practices in library planning, and onsite tours contributed to the development of the space requirements. Factors also include strategies for development of standardized work modes, which identify the amount of space required to perform functions, as well as strategies for modularity, which provide for future flexibility in adaptive reuse of space.

Sustainable (Green) Design Goals

The program and building standard assumptions do not make specific reference to green design and energy efficiency at this time. The City of Sunnyvale will need to establish goals for sustainable design once a design project commences, to include any codified criteria used to establish the level of environmental and energy efficient design the building will attain. Currently, LEED™ provides certification criteria for a number of levels, each representing an increase in the building's performance.

Public Space Allocation Strategies

The allocation of space to collections, reader seats, technology, and meeting and activity spaces throughout the building are modeled on library design practices for the square footage necessary to accommodate furniture and functional activities. Other factors used to determine space allocation include applicable codes and regulations regarding occupancy and use of buildings. For the purposes of this document, 40 s.f. per seat and technology stations was used to establish the total square footage required in any space to accommodate these items. This represents an average space allocation, where some seating or technology may require less square footage and some more. The design process will begin with validation of this program, and more detailed decisions will be made regarding specific furniture and technologies utilized in the facility. At that time, adjustments will be made and each space may grow or shrink, but the overall square footage allocation for all seats and technology most likely will not. This applies to collections as well, as shelving assumptions made in the space program may or may not be carried through the design process.

Staff Work and Support Space Allocation Strategies

Allocation of space in organizations is normally addressed through standards developed around hierarchy, parity, or functionality. The Core Team and consultant team have developed a series of workspace prototypes that support the different functional requirements of staff in the organization. These prototypes are defined as Work Modes, and are used in space programming to identify the square feet necessary to accommodate the different functions and specific tasks of staff. This can refer to the actual inventory and size of furnishings and equipment needed in a particular space. The Functional Work Mode determines the actual net square feet (NSF) necessary for an individual workspace, but does

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not identify hierarchical organizational structure, actual final furniture selections or partition material (hard wall vs. panel system). (Work Modes are also used as a way of calculating other spaces such as conference rooms, storage and resource areas.) Work Modes are shown as individual workspaces, however these spaces can be clustered together to create collaborative teaming areas.

Work modes illustrate the desired footprint and configuration of customer technology stations, meeting, program and study rooms, and staff workspaces. Not every site component will utilize each work mode. The work modes applicable to all site components are included in the Library of the Future Study and Strategy Volume 2, Appendix Item 6. Please note that the work modes are conceptual representations of the workspace 'footprint' necessary to accommodate functional requirements and generate space allocation. The work modes do not represent actual furniture, which will be addressed later in the design phase.

Storage in excess of that for each Work Mode is accommodated in storage areas, file rooms or other spaces as required.

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Definition of Terms

General Information

For the purpose of this document, a standard definition of terms has been used to describe space. These have been classified into three (3) categories:

- Net Square Footage (NSF)
- Departmental Net Square Footage
- Departmental Gross Square Footage
- Building Gross Square Footage

All of these square footages represent a mathematical exercise for planning purposes and should ***not necessarily be considered the exact square footage*** that is required. Ultimately, it will be the approved space plans that will be the physical confirmation of the Space Program requirements and square footage requirements for final construction.

Unit Net Square Feet (NSF)

The NSF is the square foot area assigned to an individual public use or staff area, or to a support function such as filing, conferencing, break rooms, etc. The Master Space Program Summary is first assigned and computed in net square footage for workstations and support areas.

Example:

A 10'x15' private office would be assigned 150 Unit Net Square Feet (NSF) in the Space Program Report.

Departmental Net Square Feet

This Unit Net Square Footage (NSF) multiplied by the quantity of each staff or support area in the Space Program becomes the total Net Square Footage (NSF) for the Department.

Departmental Gross Square Feet

The cumulative NSF area for a department, ***plus*** a Departmental Grossing "factor" (expressed typically as a percentage) equals the Departmental Gross Square Footage.

This assignable factor accounts for primary and secondary circulation and corridors necessary to access different areas, offices, support areas, etc. This factor can vary from department to department but is usually in a range of 30%-40% and is based on the utilization of space within a particular department. It is therefore described as an intra-departmental grossing area.

Example:

A department consisting mostly of 10'x15' private offices (150 net square feet each) would only require a department grossing factor of 35%, or 1.35 times the NSF to account for the typical corridor outside the office.

Building Gross Square Footage

The total Departmental Gross Square Footage, ***plus*** a Building Grossing "factor" equals the Building Gross Square Footage. For a project of this type, this factor is defined as 15% or 1.15 to include the area occupied in the building core by toilet rooms, fan rooms, janitor/electrical/telephone closets, thickness of exterior walls, etc.

Adjacency

There are three levels of adjacency:

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Definition of Terms

- Primary - these adjacencies are a requirement and must be met
- Secondary - these adjacencies are not vital, but are important
- Line of sight – visual access from one space to another is necessary for oversight or direction
- None - there is no need for an adjacency

Functional Work Mode

The Functional Work Mode is a method of creating the necessary individual work area needed for specific job tasks. This can refer to the actual inventory and size of furnishings and equipment needed in a particular space. The Functional Work Mode determines the actual NSF for an individual workspace, but does not identify hierarchical organizational structure, actual final furniture selections or partition material (hard wall vs. panel system). Work Modes are also used as a way of calculating other spaces such as conference rooms, storage and resource areas. Work Modes are shown as individual workspaces, however these spaces can be clustered together to create collaborative teaming areas.

Linear Feet

Storage capacity is represented in linear feet (LF). The total LF includes filing (lateral and pedestal), open shelving, overhead shelving (in work spaces) and bookcases. A special type of filing such as plan storage is represented in total square feet of space for the storage unit. This storage unit can vary in height and that will determine total capacity.

Summary of Facility and Site Space Requirements

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Master Program Summary

The Space Program Summary designates the total sum of square footage by Site Component, Service Model Component, Activity Area, and individual space. This includes storage rooms, conference rooms, resource areas and other non-workspace areas. The Summary contains current and projected staffing, quantity, and unit net square footage per space, use designation, and brief comments to explain the space, as well public technology and reader seating provided within the space.

The Master Space Program Summary, organized within the following schema, assigns a unique Index Number for each space. The program is organized as follows:

1. Site Component
   A. Service Model Component
      01 Activity Area
         01) Individual public or staff space

An example:

2. Central Library Facility
   A. Gateway to Lifelong Learning and Enrichment
      01 Children's Area
         01) Toddlers

Building Standard Assumptions and Functional Work Modes (WM-1, WM-2 etc.) are provided in the Library of the Future Study and Strategy Volume 2, Appendix Item 6. The Building Standard Assumptions describe the technical quality of all spaces. The Work Mode examples provide a diagram and specific functional requirements for each workspace. Individual Space Data Sheets for each space in the Summary are also located in the Appendix. The Space Data Sheets define each individual area and include the function and quality of each space, and provide any technical requirements atypical of Building Standard Assumptions. The Space Data Sheets include equipment, furniture, storage space (expressed in linear feet) and any unique details that are necessary for design of the space.

Summary of Facility and Site Requirements

section II

Collection Allocation Summary

Library staff and the consultant team modeled the future collection allocation based upon the following factors:

- 4 items per capita goal
- allocation (breakdown) of the collection aligned to demographic data and projections
- material formats (known and assumed)

The following summary identifies the collection allocation across all material categories. Assumptions regarding the percent of each collection category in circulation at any one time influence the actual amount of shelving provided in the library to accommodate the 'volumes on the shelf'.

Summary of Facility and Site Requirements

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Collection Shelving Summary

The Core Team identified the desired shelving for each category within the overall projected collection. Overarching principles include the desire for accessible shelving, lower shelving heights, more space between the stacks in certain areas, and the opportunity to highlight, merchandise and display the collection.

This number of projected volumes on the shelf, which is less than the actual total items in the collection, is used to identify the types of shelving and total square feet necessary to accommodate the collection.

Spatial Relationships

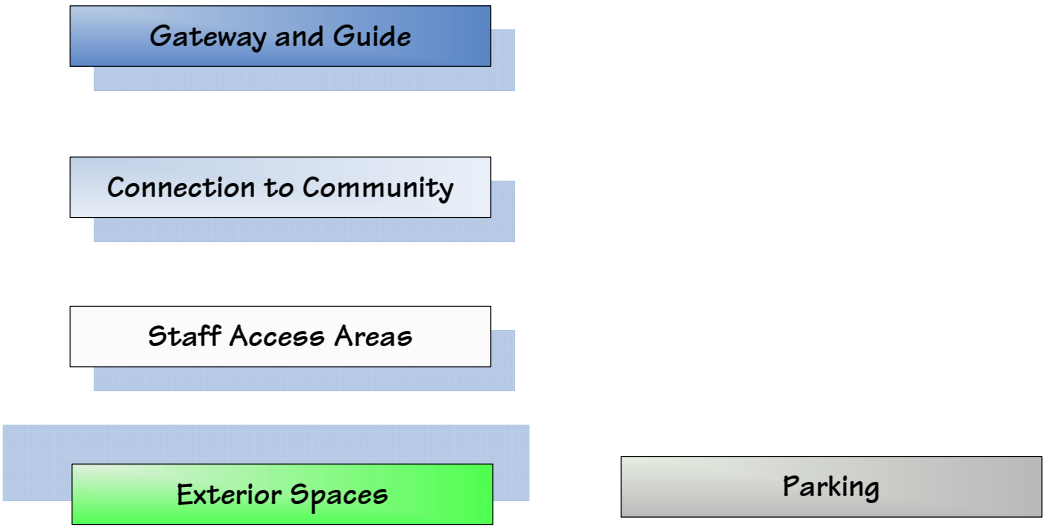
section III

Functional Relationship Diagrams

The diagrams on the next two pages illustrate the desired functional relationships between spaces and zones of activity within the Sunnyvale Library of the Future. The function and square footage of each space represented in the diagrams is located in the Master Program Summary in the previous section. These diagrams do not represent a floor plan configuration, as site opportunities and constraints and the design process will create the final floor plan. However, the diagrams do represent the intended relationships between spaces and must be considered in the design process.

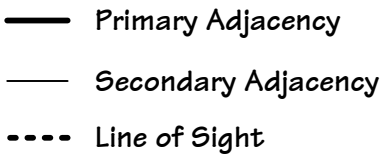
Abstract Spatial Relationships

The first diagram shows the relationships between larger zones of activity and related usage. For example, one ellipse in the diagram represents the multiple Toddler and Kids collections, seating and technology spaces. Please note that the size of each ellipse is not relational to the square footage contained in the space. The program areas are color coded to represent their relationship to the service model.



Detailed Functional Relationship Diagram

The second diagram shows the detailed spatial relationships within and among the larger activity zones, above. Each ellipse represents a specific space in the building program document. A bold line between two ellipses delineates a primary adjacency, or a strong desire for two spaces to be in very close proximity to each other. A thinner, solid line represents a secondary adjacency, and a dotted line represents line of sight requirements (visual access) between two spaces. Please note that the size of each ellipse is not relational to the square footage contained in the space.



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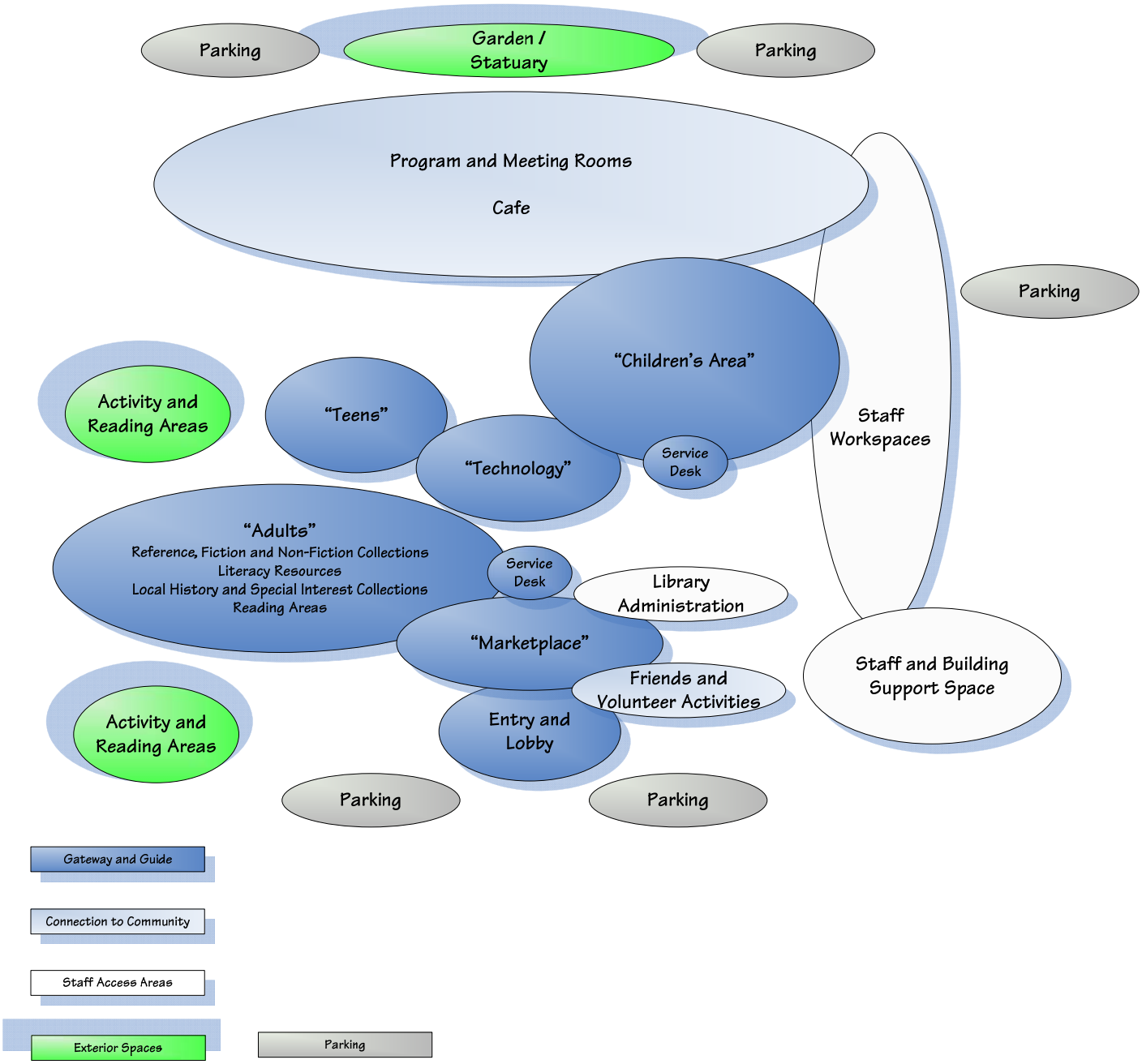
Sunnyvale's Library of the Future



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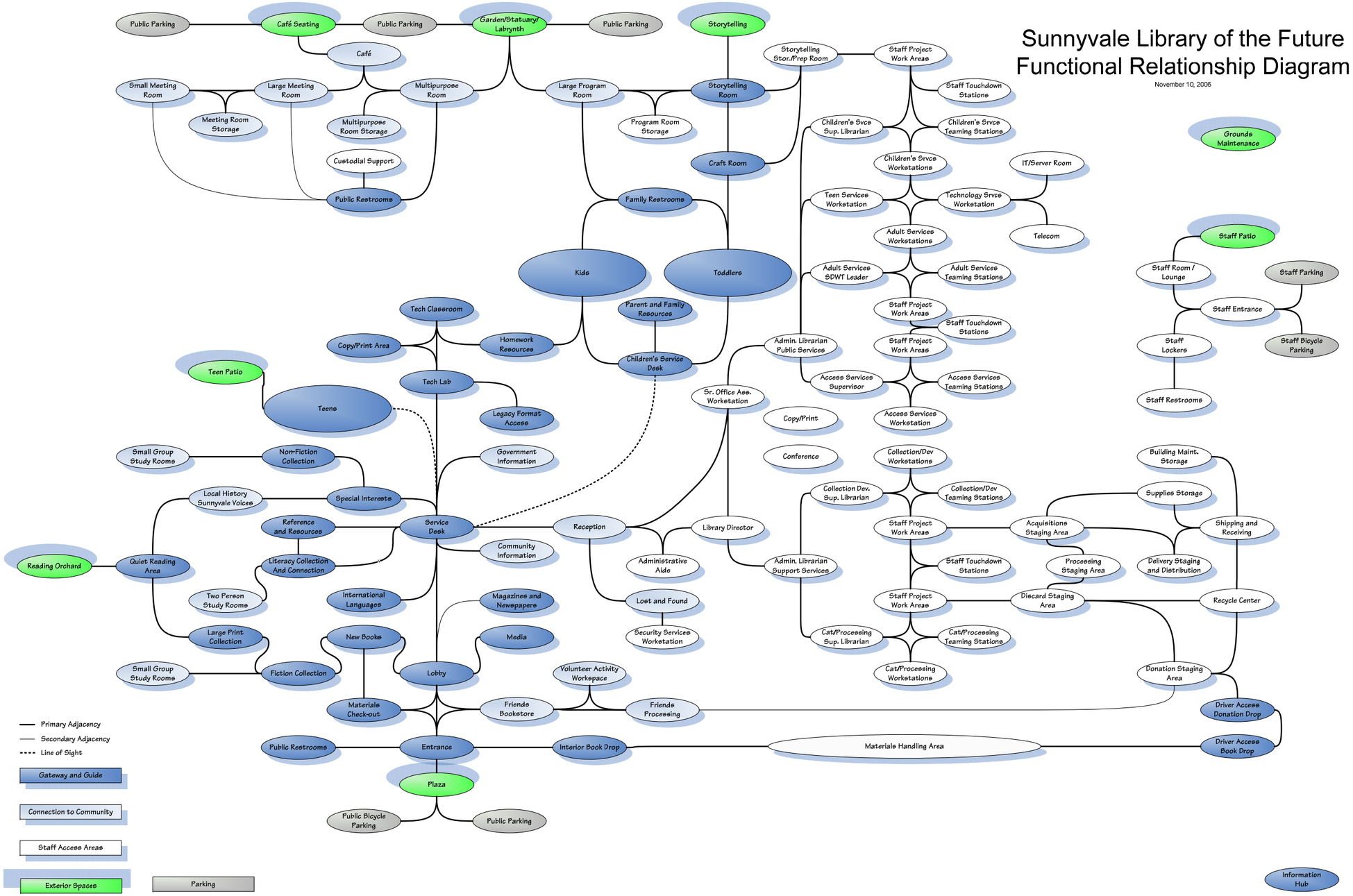

Spatial Relationships

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Conceptual Cost Model

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Introduction

Recent library projects in the San Francisco Bay Area range from $350 to $450 per square foot. This figure is normally accepted as a 'hard' construction cost and is represented as the range of conceptual construction costs in the table below.

Total project costs include additional costs beyond the constructions costs. Examples include, but are not limited to permitting and other regulatory agency fees, professional fees, furniture and equipment, and move coordination. These 'soft' costs may represent between 20 and 40% of construction costs, and are factored into cost planning and budgeting to determine realistic total project cost to deliver the project.

The following table illustrates a range of total project costs associated with planning for future new facility construction. The conceptual total project cost is presented in today's dollars, but escalation in costs must be incorporated once construction dates, duration and project budgets are established.

New Construction for Sunnyvale Library
Capital Costs: Conceptual Total Project Cost Model

		Gross S.F.		$/S.F. Low		$/S.F. High
			$	350.00	$	450.00
Conceptual Construction Costs		143,419	$	50,196,650	$	64,538,550
Conceptual Soft Costs	Assumed 25% of Construction Costs		$	12,549,163	$	16,134,638
Conceptual Total Project Cost Model			**$**	**62,745,813**	**$**	**80,673,188**

Conclusion

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Key Concepts Moving Forward

This building program represents the ideal space allocation and relationships to support the new Plan of Service and Service Delivery Model. The next step in the planning process includes identification of facility scenarios to explore their feasibility in realizing the Library of the Future in Sunnyvale. Dependent upon the scenarios chosen for further study, all of the space program requirements may not be accommodated in a feasible solution.

Once identified, the design process for the preferred facility strategy will validate the space program and adjust accordingly to the opportunities and constraints of the site, as well as any desire for phasing construction or constructing additional facilities over time.