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The *U.S. Courts Design Guide*  
is dedicated to

The Honorable Robert S. Vance  
1931–1989

United States Court of Appeals, 11th Circuit

Judge Vance was the first chairman of the  
Space and Facilities Committee of the  
Judicial Conference of the United States. His  
leadership significantly influenced the  
development of the *Design Guide* and the  
future of the federal judiciary.

## ACKNOWLEDGMENTS

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### ► Committee on Space and Facilities

Honorable Joseph F. Bataillon, United States District Court Chief Judge, District of Nebraska, 2001–2006, Chair (2006–Present)

Honorable Jane R. Roth, United States Court of Appeals Judge, Third Circuit, 1996–2006, Chair (1999–2006)

Honorable Hayden W. Head, Jr., United States District Court Judge, Southern District of Texas, 2002–2006

Honorable Henry E. Hudson, United States District Court Judge, Eastern District of Virginia, 2004–2005

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Honorable Richard C. Wesley, United States Court of Appeals Judge, Second Circuit, 2005–2007

### ► Subcommittee on Space Standards

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Honorable Barrington D. Parker, Jr., United States Court of Appeals Judge, Second Circuit

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## PREFACE

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Since the original publication of the *U.S. Courts Design Guide* in 1991, the federal judicial system has experienced facilities-related problems caused by heightened security needs, automation, significant caseload increases, and fiscal constraints. To address these problems, this fifth edition of the *U.S. Courts Design Guide* is intended for use by judges, architects, engineers, General Services Administration (GSA) personnel, and court administrators who will be involved in federal court construction projects.

The standards in this edition of the *Design Guide* are applicable to the design and construction of new buildings and annexes; all new leases; and repair and alteration projects in which new space, including courtrooms and chambers, is planned for an entire court unit.

This edition of the *Design Guide* was prepared under the direction of the Space and Facilities Committee (formerly the Committee on Security and Facilities) of the Judicial Conference of the United States. The revisions were approved by the Judicial Conference, the policy-making body of the federal court system. This fifth edition replaces all previous editions. Prior to submission to the Judicial Conference for approval, the *Design Guide* was reviewed by judges, clerks of court, librarians, probation officers, staff attorneys, bankruptcy administrators, circuit and district court executives, the U.S. Marshals Service, and the GSA.

The first edition of the *Design Guide* was initially developed over three years in a cooperative effort between the federal judiciary and a team of experts in space planning, security, acoustics, mechanical and electrical systems, and automation.

Direction for this effort was provided by the federal judiciary and the National Institute of Building Sciences. During this three-year period, existing court facilities were visited in all regions of the United States. The facility study included small, medium, and large federal court operations.

The *Design Guide* translates the requirements of the federal judiciary into criteria for the design and construction of court facilities. The *Design Guide* must keep pace with suggestions for changes arising from the application of criteria in the courts and the construction program administered by the GSA.

A long-term cost-containment initiative and planning objective of the Committee on Space and Facilities is to impose tighter constraints on future space and facilities costs. In September 2004, the Judicial Conference requested that the Committee achieve this goal by conducting a comprehensive review of the current edition of the *Design Guide*. This new edition is the result of that comprehensive review.

This edition will ensure that the *Design Guide* continues to reflect accurately the functional requirements of the courts. It incorporates new criteria in response to current economic constraints so that court facilities will serve the judiciary now and in the future.

**Chief Justice of the United States**





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**Glossary**



# 1

## INTRODUCTION AND THE FEDERAL COURT SYSTEM

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This chapter outlines the intent of the *Design Guide*, how to use this publication and its contents, and briefly describes the organization of the federal court system, its administrative functions, and the judicial process.

### Introduction

#### ► Scope

The comprehensive design guidelines contained in this document describe the types of spaces commonly associated with facilities for the U.S. Court of Appeals (USCA), the U.S. District Court (USDC), and the U.S. Bankruptcy Court (USBC). The *Design Guide* includes criteria for accommodating courts in both multi-tenant and leased facilities.

The design guidelines presented in this document apply to the design and construction of new buildings, annexes, all new leased space, and repair and alterations projects in which new space is being configured for an entire court unit, including courtrooms and chambers.

#### ► Objectives

The *Design Guide* has three major objectives. First, it serves as a planning tool for federal judges and key judicial personnel who are directly involved in the design of a federal court facility. Second, it provides relevant information for the General Services Administration (GSA) and an architectural/engineering (A/E) team to effectively plan, program, and design a functional, aesthetically appropriate, and cost-effective court facility. The information enables judges and judicial personnel to collaborate effectively with the GSA and the A/E team throughout a project's design and documentation phases. The *Design Guide* also provides information for the A/E team and specialists regarding

security, acoustics, telecommunications, data, and audio-visual systems. Finally, the *Design Guide* provides the Judicial Conference of the United States, through its Committee on Space and Facilities, and the Administrative Office of the U.S. Courts (AOUSC) with policy guidance for the overall planning, programming, and design of federal court facilities throughout the United States and its territories.

The *Design Guide* contains state-of-the-art design criteria for courthouses. Users should read all introductory text carefully to understand the scope, function, and intent of the design guidelines presented, and their relationship to the design process.

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### Revisions to the *Design Guide*

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From 1997 to 2006, the Judicial Conference endorsed the following revisions to the 1997 edition of the *Design Guide*:

- Reduced chambers space
- Reduced chambers built-in bookcases
- Required standard configurations for chambers and courtrooms by court type
- Reduced staff private offices and open workstations sizes
- Reduced central, satellite, and unstaffed court library spaces
- Revised public spaces in district and bankruptcy clerks' offices to accommodate new work practices

- Eliminated specific space for alternative dispute resolution proceedings
- Eliminated jury boxes and jury facilities for bankruptcy judge courtrooms
- Added new guidance on public spaces and atria
- Revised guidance on providing a special proceedings courtroom
- Eliminated child development centers in court facilities
- Revised requirement for ballistic glazing
- Revised policy for access flooring as a building system
- Developed alternative designs for probation and pretrial services offices
- Made the approval process for exceptions for the judicial circuit councils, the Committee on Space and Facilities, and the Judicial Conference of the United States more specific
- Eliminated references to federal public defenders' offices in new courthouses, with the exception of the trial preparation suite
- Updated building systems (mechanical, electrical, and low voltage), lighting design, and acoustics standards to improve the effectiveness of the systems
- Revised central mail facilities design standards

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## Programming and Budgetary Notes

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Programming and budgetary notes found throughout the *Design Guide* provide assistance with decisions to be made during the development of courthouse projects. The notes include both judicial branch policy and lessons learned from completed projects. The notes supplement the criteria in the *Design Guide*; their purpose is to provide direction in using the flexibility of the *Design Guide* to develop justifiable and cost-effective federal courthouse projects.

### ► Authority of the Circuit Judicial Councils

Circuit judicial councils play an important space management role by reviewing district-wide facility plans, approving requests for new or modified space, and enforcing adherence to design guidelines. The circuit judicial councils have authority over and responsibility for a circuit's space management program (28 USC (§332

and §462(b))) and for determining the need for space. As directed by the Judicial Conference of the United States, any significant exceptions to the *Design Guide* must be approved by the respective circuit judicial council.

### ► General Programming Notes

The *Design Guide* is intended to be a performance document. Criteria for any space or grouping of spaces must be considered in conjunction with the specific needs of the court office or function for which space is being designed.

Criteria in the *Design Guide* do not represent space entitlements. The criteria apply to an array of space types that must be justified based on the specific purpose of each project. Facility plans, programs, and designs must include only the space needed to satisfy the functional and security requirements of the court.

Differences between the space in an existing facility and the criteria in the *Design Guide* are not justification for facility alteration and expansion. In such cases, alternatives to space expansion are investigated before any additional space is requested.

Design architects and court staff are prohibited from adding spaces not originally contemplated in the approved prospectus or design program. Increasing the floor area or building volume is also prohibited.

### ► General Budgetary Notes

Renovation and new construction occur when the court and circuit judicial council identify space needs through the judiciary's asset management planning process and document these needs in the long-range facilities plan. The GSA determines by what method the space is provided—for example, by the construction of a new building, the renovation of an existing building, a lease, or other means.

Any action taken by a court or circuit judicial council that would lead to extravagance in courthouse construction or renovation is prohibited; however, the Judicial Conference recognizes and strongly supports a pragmatic approach to design that includes the use of durable and sustainable materials. This approach ensures that courthouses constructed now will last well into the future.

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## How to Use This Book

### ► Fiscal Considerations

The *Design Guide* is both a design and financial commitment document. The Judicial Conference’s space-rental budget correlates to the design standards contained in the *Design Guide*.

### ► Architectural Programming Considerations

The *Design Guide* lists and describes all major spaces and spatial groupings contained in federal courthouses. The number of major space groupings required for a particular court building shall be determined by the program of requirements submitted by the judiciary. Individual project circumstances dictate which of the major space groupings should be included in a building program.

### ► Relevant Chapters for Trial Courts

Three figures at the end of this chapter (Figures 1.1-1.3) identify the relevant chapters that provide information on the policy and standards for each court unit within the three types of courts: USCA, USDC, and USBC. The information in these chapters, along with technical information found in Chapters 12–16, are to be used to design the various types of court projects.

### ► Adjacency Diagrams

Adjacency diagrams are provided in Chapters 3 through 11. Each diagram represents an idealized arrangement of the required types of spaces, circulation patterns, and access points. Effort must be made during the design process to maintain the arrangements illustrated in the adjacency diagrams. In practice, however, this may not be possible.

It is important for users of the *Design Guide* to understand what the diagrams do and do not represent. Adjacency diagrams describe only circulatory relationships among spaces; they are not floor plans, which normally describe exact spatial sizes, configurations, and corridor distances between spaces. The boxes in the adjacency diagrams represent spaces and show only relative sizes. Regular shapes do not imply




















that actual spaces must be rectangular. Similarly, irregular shapes convey no particular form, since physical conditions, external constraints, and design considerations might dictate other configurations. In addition, the relationships between spaces along circulation routes indicate only adjacencies, not approximate distances. The location of spaces on one side of the diagram or another does not necessarily fix their position on any side of a planned facility or office. Circles showing vertical circulation do not indicate the number or specific location of elevators or stairwells; for example, while a diagram may indicate two circles showing vertical freight circulation, the requirements for a freight elevator might be accommodated by a single elevator.

The adjacency diagrams include three circulation patterns: public, restricted, and secure. Each is indicated by a different line style and weight. A dotted line represents public traffic patterns used by lawyers, spectators, media representatives, and other individuals. Restricted circulation patterns within and between office spaces are represented by broken lines. Restricted circulation is generally used by judges, courtroom deputy clerks, court security officers, authorized visitors, and administrative or clerical support staff. A solid line represents secure circulation for prisoner movement; secure circulation must not intersect public or restricted circulation.

Although the lines used to indicate traffic patterns imply the existence of corridors, this is not always the case. In some instances, a circulation pattern is subsumed by another space, such as when lobby space is used as a public circulation area. In other instances, a circulation pattern might intersect an indicated space—for example, where public traffic intersects a reception counter used to control access from waiting areas to restricted spaces. Any uncontrolled intersection of differing circulation patterns constitutes a breach of security and must be avoided. Additionally, lines indicating circulation do not describe egress requirements.

Large black dots on the adjacency diagrams indicate either transition or circulation termination points, that is, termination points for public or restricted circulation, points of transition from one circulation type to another (e.g., public to restricted or external to internal), or transition points from a circulation type to a given space (e.g., from public access to a reception area).

## Key to Symbols

	Public Circulation
	Restricted Circulation
	Secure Circulation
	Unscreened Public Access
	Screened Public Access
	Screened Public Access, locked when not in use
	Restricted Access, Uncontrolled
	Restricted Access, Remote Access Control
	Restricted Access, Direct Access Control/Keylock
	Restricted Access, Counter/Window Service
	Privacy Lock
	Secure Access, Authorized Staff
	Secure Access, Prisoner/Security Staff
	Circulation/Access Control Point
	Public Vertical Circulation
	Restricted Vertical Circulation
	Secure Vertical Circulation
	Freight Vertical Circulation
	Direct Visual Access, One-Way
	Direct Visual Access, Two-Way

Vertical circulation is also shown on the adjacency diagrams. A circumscribed P indicates vertical public circulation for movement between floors. A circumscribed R indicates restricted vertical circulation, extending to secure parking within the building and connecting with restricted circulation on other floors. A circumscribed F indicates vertical circulation for the movement of freight and other bulky items. A circumscribed S indicates vertical secure circulation exclusively for in-custody defendants and security officers of the U.S. Marshals Service (USMS).

Access to facility circulation patterns, offices, and individual space types is indicated on the adjacency diagrams by arrows. Outlined arrows denote public entry or access points; solid arrows denote restricted and secure entry or access points. For both types of arrows, access types are further distinguished with numbers. Please refer to the keys of the individual adjacency diagrams for additional information.

The types, numbers, and sizes of spaces shown on the adjacency diagrams should not be interpreted literally as specific requirements; instead, the actual types, numbers, and sizes of spaces must be determined on a case-by-case basis, depending upon the program, design, applicable building codes, and other requirements.

For certain spaces, such as courtrooms and judges' chambers suites, the number of boxes shown on the adjacency diagrams does not necessarily indicate the number of actual spaces in a planned facility. The diagram should be used as a guide for determining the space required.

### ► Organization of the *Design Guide*

The *Design Guide* consists of 16 chapters, a glossary, and an index.

Figures 1.1, 1.2, and 1.3 at the end of this chapter indicate relevant chapters for U.S. Court of Appeals projects, U.S. District Court projects, and U.S. Bankruptcy Courts projects, respectively, while Figures 3.5, 3.6, and 3.7 in the "Planning for U.S. Courthouses" chapter illustrate adjacency relationships.

Chapter 1: Introduction and the Federal Court System outlines the intent, the use, and the contents of the *Design Guide*, and briefly describes the organization of the federal court system, its administrative functions, and the judicial process.

**Chapter 2: Courthouse Programming and Budgetary Considerations** includes a guide to supporting documents; describes the process used to plan, program, design, and construct federal court facilities; and discusses strategies for developing cost-effective courthouses to accommodate the judiciary's current and future needs. The budgetary responsibilities of the judiciary, the GSA, and other courthouse project participants are also described.

**Chapter 3: Planning for U.S. Courthouses** contains general design guidelines for judges and judicial personnel working with an A/E team to design a new court facility. In addition, the chapter assists A/E team members in understanding the functional and spatial relationships among the major components of a court facility, and the need for separate circulation systems. The chapter describes the major spaces in each of the three court types (USCA, USDC, and USBC) and spaces common to all courthouses, contains a typical floor plate for a courtroom floor, and discusses collegial versus collocated judges' chambers and courts in multi-tenant buildings.

Chapters 4 through 11 contain specific design guidelines to assist the A/E team in the design of a new court facility. Each chapter addresses a major functional category of space or grouping of spaces. These chapters include discussions of functions and activities, user capacities, and specific design requirements, and contain programming and budgetary notes, a list of possible space types, and adjacency diagrams.

**Chapter 4: Courtrooms and Associated Spaces** contains specific design guidelines for appellate courtrooms and for district, magistrate, and bankruptcy judges' courtrooms.

**Chapter 5: Jury Facilities** describes specific design guidelines for the jury assembly suite, trial jury suite, and grand jury suite.

**Chapter 6: Judges' Chambers Suites** describes specific design guidelines for the resident and non-resident chambers suites of circuit, district, magistrate, and bankruptcy judges.

**Chapter 7: Central Court Libraries** contains specific design guidelines for circuit headquarters libraries, satellite libraries, and unstaffed libraries.

**Chapter 8: Clerk's Office** contains specific design guidelines for clerks' offices of the USCA, USDC, and USBC.

**Chapter 9: Probation and Pretrial Services Offices** contains specific design guidelines for the offices of probation and pretrial services personnel.

**Chapter 10: Other Court Units** contains specific design guidelines for the Office of the Circuit Executive (USCA), the Office of the Bankruptcy Administrator, the Office of the Bankruptcy Appellate Panel clerk (BAP), the Office of the Senior Staff Attorney (USCA), the Office of the Pre-argument/Conference Attorney (USCA), the Office of the District Court Executive (USDC), and the trial preparation suite for the federal defender.

**Chapter 11: Common Building Spaces** defines specific design guidelines for shared judges' conference rooms, news media rooms, central mail and package screening stations, central mail facilities, bulk and archival storage, and communications equipment rooms and risers.

**Chapter 12: Tenant Improvements and Furnishings** contains specific design criteria for finishes, built-in millwork, and movable furniture.

**Chapter 13: Interior Signage** contains specific standards for interior signage.

**Chapter 14: Acoustics** contains specific acoustic criteria for various areas of the courthouse.

**Chapter 15: Building Systems** contains specific technical requirements relevant to courthouse functions and spaces. Generic performance criteria for these systems are provided within the GSA's *Facilities Standards for the Public Buildings Service* (GSA P-100).

**Chapter 16: Building Security** describes security requirements for court facilities.

The appendix provides a useful glossary of abbreviations used in the *Design Guide*.

## ► Changes to the *Design Guide*

Any suggestions for modifications to the *Design Guide* should be forwarded to the chief of the AOUSC Space and Facilities Division.

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## The Federal Court System

### ► Introduction

As established by the Constitution, the federal courts constitute one of three coequal branches of our national government. The other two branches are the executive and legislative. Unlike the members of the executive and legislative branches (i.e., President, Vice President, senators, and representatives), who are elected for a set number of years, members of the judiciary and the Court of International Trade are appointed for life, as set forth in Article III of the Constitution. U.S. Supreme Court justices, circuit judges, and district court judges are appointed to office by the President, with the approval of the Senate. Judges are subject to removal from office only through impeachment, as provided in the Constitution. The Constitution also prohibits lowering the pay of federal judges. These two forms of protection allow federal judges to make decisions, even unpopular ones, without fear of removal from office or reduction of salary.

### ► Types of Federal Courts

Article III of the Constitution provides for a Supreme Court and whatever other federal courts Congress considers necessary. The number of federal judges is small. While the Supreme Court and its justices are located in Washington, D.C., most members of the federal judiciary are dispersed throughout the United States and its territories.

**Trial Courts.** Congress divided the country into 94 federal judicial districts, each with its own USDC. The USDCs are the federal trial courts, where cases are tried, witnesses testify, and juries serve.

In the federal trial courts, broadest judicial responsibility is given to district judges. District judges conduct a wide range of judicial proceedings, including hearings, bench trials, and jury trials. Proceedings occur in both civil and criminal cases. Only district judges are authorized to conduct major criminal trials.

There are currently 678 authorized district judgeships.<sup>1</sup> Typically, 1 to 5 district judges are located in small to medium-sized court facilities; however, in several large metropolitan areas, 15 or more district judges are located in a single facility. Generally, one trial courtroom is required for each district judgeship.

Magistrate and bankruptcy judges assist district judges by conducting some of the proceedings in the federal trial courts. Both are appointed by circuit and district judges and serve for a set number of years.

Magistrate judges exercise jurisdiction in a narrower range of cases than district judges, as determined by statute and a delegation of authority from district judges. Magistrate judges hear preliminary matters in criminal cases and try minor criminal cases. Under certain circumstances, magistrate judges may conduct the full range of proceedings in civil cases, up to and including jury trials. Bankruptcy judges have authority under federal bankruptcy law to act over all matters involving debtor-creditor relationships. Bankruptcy judges conduct a variety of civil hearings and, in very limited circumstances, may conduct civil jury trials.

**Courts of Appeal.** Congress grouped the 94 USDCs into 12 regional circuits and a federal circuit and established within each circuit a single USCA. Litigants who lose in the USDC may appeal their case to the USCA, which reviews cases to see whether the trial judge applied the law correctly. The USCA also reviews cases decided by the tax court and various federal agencies, such as the National Labor Relations Board. The USCA is the final stop for most litigation in the federal system. There are currently 179 circuit judges authorized to review cases in the 13 circuits, including the Federal Circuit. Typically, one to five circuit judges are located in a few cities in the various circuits. Occasionally, many more judges are housed in a single location. Only one headquarters courtroom (en banc courtroom) exists within each circuit. One or more auxiliary, or panel, courtrooms might be located throughout each circuit. Most federal court facilities, however, do not house circuit judges or courtrooms.

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<sup>1</sup> Fiscal year 2007 authorized permanent judgeships.

**The Supreme Court.** The U.S. Supreme Court is the highest court in the land. Cases from the 13 appellate courts and the highest courts of each state can be appealed to the Supreme Court. The Supreme Court is not required to hear every case brought before it. In fact, each year the Supreme Court agrees to hear less than 10 percent of the appeals presented. The courtroom and other facilities for the nine Supreme Court justices are located in the Supreme Court Building in Washington, D.C. Design criteria for the Supreme Court are not included in the *Design Guide*.

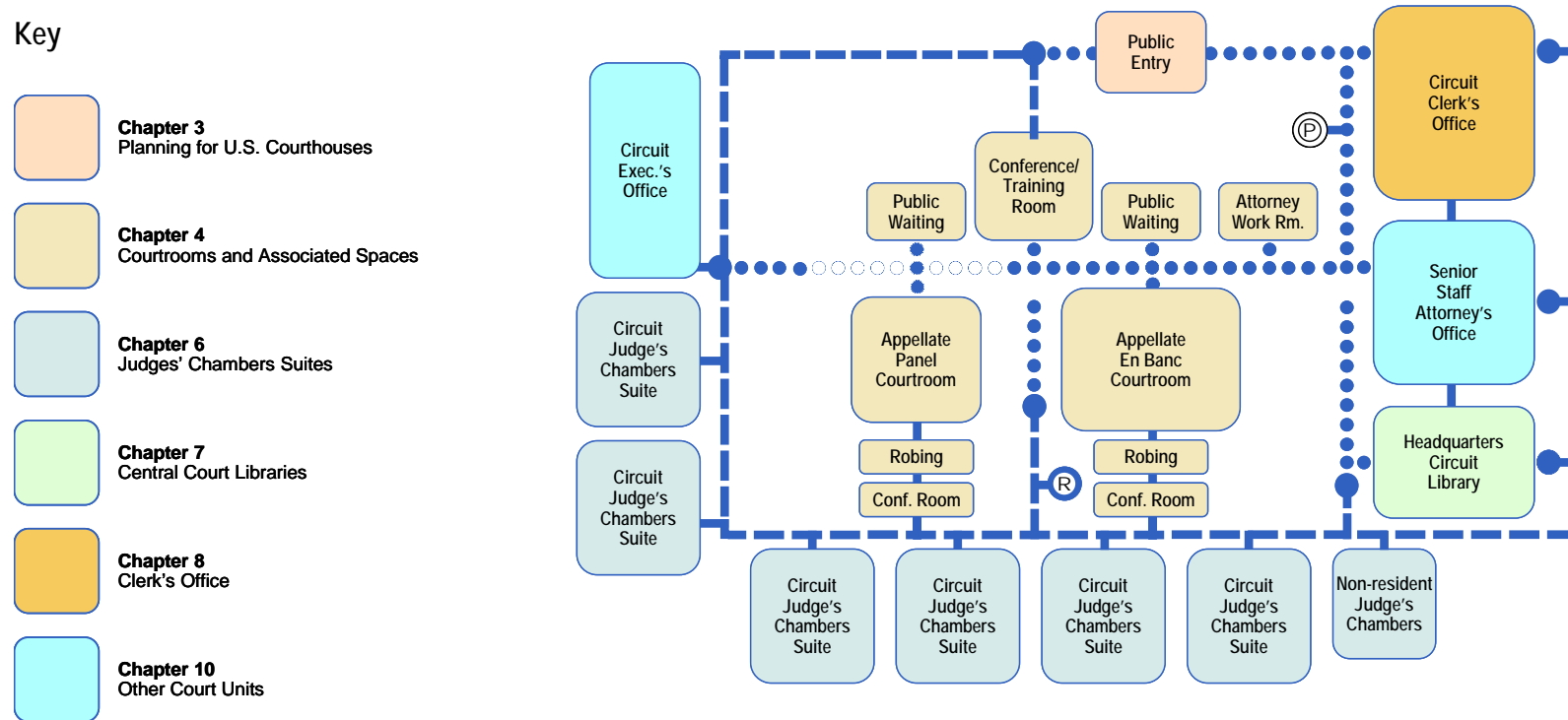
### ► Administration of the Federal Courts

Federal judges, as members of the judicial branch of government, are responsible for the efficient operation of the federal courts. Policies for federal courts are established by a committee of federal judges, called the Judicial Conference of the United States. The Judicial Conference is chaired by the Chief Justice of the U.S. Supreme Court. Standing committees of judges have policy responsibilities that are exercised on behalf of the Judicial Conference. Furthermore, in each of the various circuits, administrative oversight is carried out through committees called circuit judicial councils. Day-to-day administration in the circuits and districts is the responsibility of chief judges; however, within the broad parameters of established policies, federal judges have a considerable degree of independence concerning the operation of their respective courts.

The federal judiciary is served by the AOUSC, which is located in Washington, D.C. The AOUSC performs a wide range of administrative duties to assist the operation of the federal courts. Other administrative officers directly responsible for carrying out judicial work include clerks of court and circuit and district court executives.

Section 462 of title 28, United States Code, gives the Director of the AOUSC authority to provide accommodations for the courts, “but only if the judicial council of the appropriate circuit has approved the accommodations as necessary” and directs that the Administrator of General Services shall provide the accommodations that the Director requests.

Figure 1.1  
**U.S. Court of Appeals – Relevant Chapters**



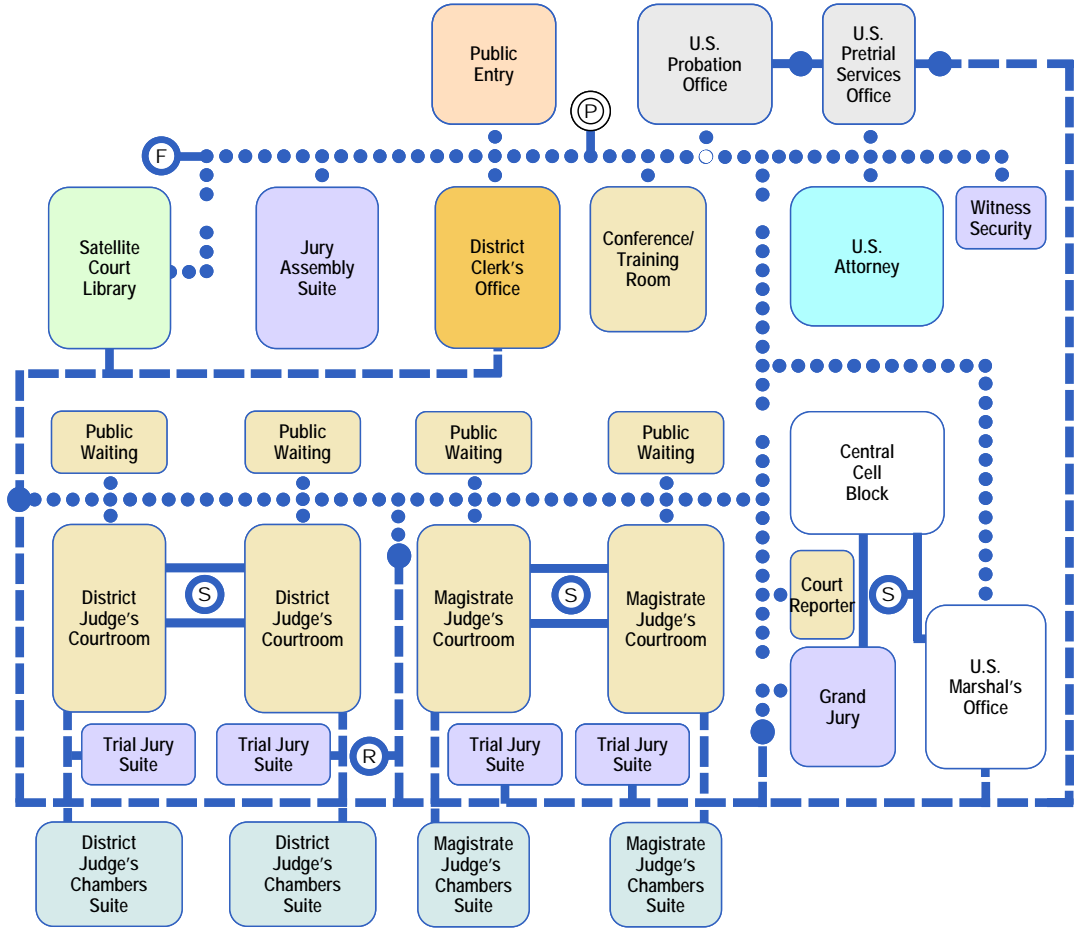
Note: The adjacency diagram is intended only as an illustration.



Figure 1.2  
**U.S. District Court – Relevant Chapters**

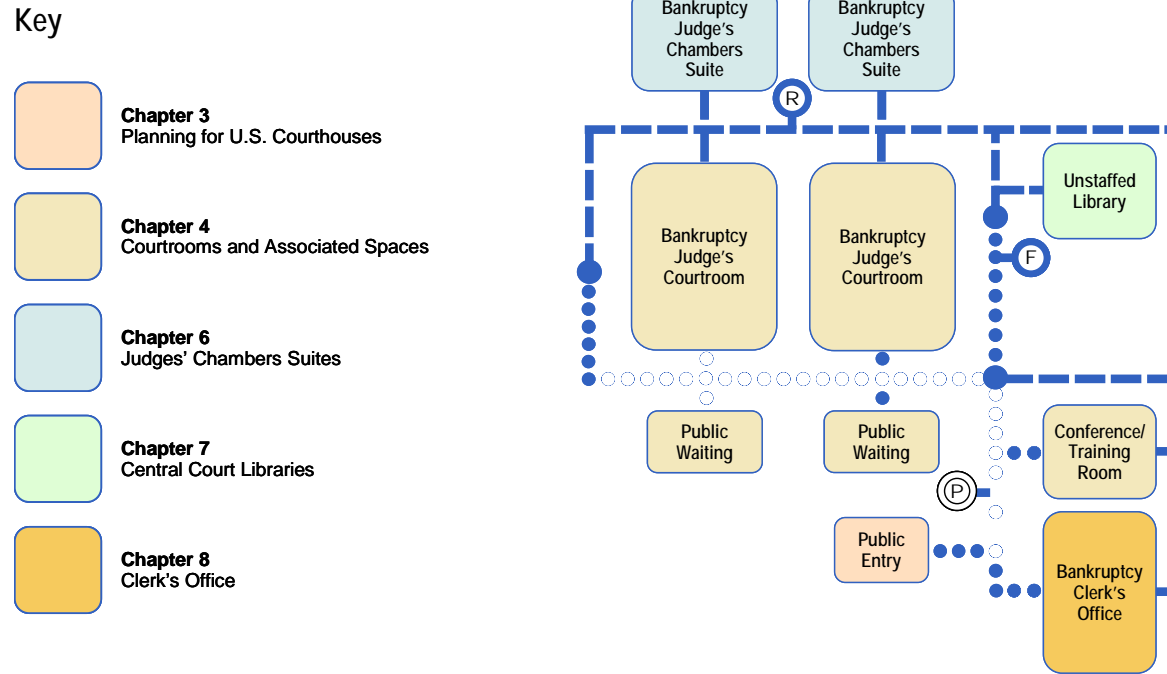
**Key**

- Chapter 3**  
Planning for U.S. Courthouses
- Chapter 4**  
Courtrooms and Associated Spaces
- Chapter 5**  
Jury Facilities
- Chapter 6**  
Judges' Chambers Suites
- Chapter 7**  
Central Court Libraries
- Chapter 8**  
Clerk's Office
- Chapter 9**  
Probation and Pretrial Services Offices
- Chapter 10**  
Other Court Units



Note: The adjacency diagram is intended only as an illustration.

Figure 1.3  
**U.S. Bankruptcy Court – Relevant Chapters**



Note: The adjacency diagram is intended only as an illustration.

# 2

## COURTHOUSE PROGRAMMING AND BUDGETARY CONSIDERATIONS

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This chapter describes the process used to plan, program, design, and construct federal court facilities and provides strategies for developing cost-effective courthouses to accommodate the judiciary's current and future needs. The budgetary responsibilities of the judiciary, the General Services Administration (GSA), and other courthouse project participants are also described.

### Introduction

Federal courthouse space and ceiling requirements are developed through a multifaceted process of planning, programming, design, and construction. This process includes a project team composed of the judiciary (judges, court unit executives, court project architects or assistant circuit executives for space, circuit judicial councils, and Administrative Office of the U.S. Courts [AOUSC] management and professional staff), consultants (architects, engineers, audiovisual engineers, registered communications distribution designers, acoustic and lighting engineers, and U.S. Marshals Service [USMS] systems and equipment engineers), the GSA, the USMS, other federal agencies, and contractors. The project team is required to make informed decisions about the judiciary's functional needs while effectively controlling project costs. The project team must consider efficiency, value, life-cycle cost, and budgetary impact when making design decisions.

The application of criteria presented in the *Design Guide* will help direct project decisions toward producing functional, cost-effective facilities. The *Design Guide* allows flexibility and supports efforts to define criteria and explore solutions that enhance performance and that are fiscally responsible. The criteria presented in this document *do not* represent an entitlement of space, furnishings, or finishes.

### Supporting Documents

The references listed below represent program and design criteria, courthouse planning and related guidelines, policies, and information on many facets of the design and construction of federal courthouses.

#### ► General References

- *American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Handbook of Fundamentals*, most current edition
- *Architectural Barriers Act Accessibility Standard (ABAAS)*

This document contains scoping technical requirements for implementation of the Architectural Barriers Act (ABA) of 1968 and is the new GSA accessibility standard which replaced the UFAS on May 9, 2006. This standard applies to all federal projects. [www.access-board.gov](http://www.access-board.gov)
- *Design Notebook for Federal Building Lobby Security*, GSA and USMS, undated

The goal of this publication is to illustrate how effective security screening and the related equipment and personnel can be integrated into the design of lobby spaces in new courthouses. The notebook includes prototype designs as well as typical details.

- *Facilities Standards for the Public Buildings Service* (GSA P-100), 2005 or most current edition

Court facilities are built under the GSA’s construction program. *Facilities Standards for the Public Buildings Service* establishes design standards and criteria for new buildings, major and minor alterations, and work in historic structures for the Public Buildings Service (PBS) of the GSA. The publication includes criteria for the site; building structure (including seismic design); building mechanical and electrical systems; building services such as elevators, fire protection, and security; and general office design. The publication also contains references to appropriate building codes. In contrast, the *Design Guide* covers only those criteria pertaining to the unique functions of the U.S. courts. Where appropriate, the *Design Guide* directly references criteria found in *Facilities Standards for the Public Buildings Service*.  
[www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8195&channelId=-14201](http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8195&channelId=-14201)

- *Illuminating Engineering Society of North America (IESNA) Lighting Handbook*, 9th Edition, Chapter 10, “Lighting Design Guide”
- *Interagency Security Committee (ISC) Security Design Criteria for New Federal Office Buildings and Major Modernization Projects, Medium-High-Level Construction*, GSA, most current edition
- *Pricing Desk Guide*, GSA Public Building Service (PBS), most current edition  
 The *Pricing Desk Guide* presents the policies and procedures that the PBS uses to price real estate and related services to Federal agencies.  
[http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA\\_DOCUMENT&contentId=10312&noc=T](http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_DOCUMENT&contentId=10312&noc=T)
- *Requirements and Specifications for Special Purpose and Support Space Manual* (also referenced as *USMS Publication 64*), Volume One, *Courthouse Management Group Engineering and Architectural*, most current edition
- *Requirements and Specifications for Special Purpose and Support Space Manual* (also referenced as *USMS Publication 64*), Volume Two, *Electronic Security and Hardware*, most current edition

- *Requirements and Specifications for Special Purpose and Support Space Manual* (also referenced as *USMS Publication 64*), Volume Three, *Judicial Security Systems Requirements and Specifications*, most current edition

Security equipment identified in the *Design Guide* will be furnished by the USMS. Detailed specifications for security equipment and criteria for USMS administrative and secure spaces are found in *USMS Publication 64*.

- *Site Security Design Guide*, GSA, (June 2007 or most current edition)  
 The Guide establishes the principles, elements and the process that should be followed when designing site security at any federal project whether it is new or existing.  
[http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA\\_BASIC&contentId=23429&noc=T](http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=23429&noc=T)

#### Telecommunications Cabling Standards

- *Telecommunications Industry Association (TIA) and Electronics Industries Alliance (EIA), TIA/EIA-568-B Series, Commercial Building*

#### Telephone/Data Procurement Policy

- *ANSI/CSA/TIA/EIA-942, Telecommunications Infrastructure Standard for Data Centers*
- *TIA/EIA-569-A, Commercial Building Standards for Telecommunications Pathways*
- *Vulnerability Assessment of Federal Facilities, Level IV Buildings*, Department of Justice (June 2007 or most current edition)

In addition, the following related guides and manuals published by the Administrative Office of the U.S. Courts (AOUSC) should guide architectural and engineering decisions.

#### ► Administrative Office of the U.S. Courts References

Documents or references relating specifically to policies and procedures within the judiciary are available through the Space and Facilities Division of the AOUSC.

- “AnyCourt” (*Program of Requirements*)  
The judiciary’s automated space-planning tool is used to provide a court’s space program of requirements based on personnel data documented in the long-range facilities plan reviewed by the circuit judicial council.
- *Courtroom Technology Manual*, (August 1999 or most current edition)  
The *Courtroom Technology Manual* defines the roles of the GSA, architectural/engineering teams, and technical consultants for courthouse technology projects and provides technical standards for infrastructure, video evidence presentation systems, videoconferencing systems, and sound systems. <http://www.uscourts.gov/misc/courtman.pdf>
- *Discovering Justice, “The Judicial System: An Overview of the U.S. Federal Legal System”*  
The mission of this website, which is maintained by a nonprofit organization headquartered in the Joseph Moakley U.S. Courthouse in Boston, Massachusetts, is to teach about the role of the justice system in American democracy. Through this organization’s programs, judges dedicate their time to serve as teachers, educating the public about the federal judiciary. [www.discoveringjustice.org/judicial/index.shtml](http://www.discoveringjustice.org/judicial/index.shtml)
- *Guide to Judiciary Policies and Procedures*  
The *Guide to Judiciary Policies and Procedures* is the official medium by which guidance and information are provided to the judiciary in support of its day-to-day operations. The guide also codifies policies that are promulgated by the Director of the AOUSC and/or approved by the Judicial Conference of the United States. Contributing offices and divisions within the AOUSC are responsible for maintaining their information in a current condition.  
  
This document also provides information on the funding, authorization, and documentation required for new furnishings. In addition, information is provided on the hierarchy system for furniture quality and furniture types per position/level of courthouse staff and cost ceilings
- *U.S. Courts, “The Federal Judiciary,”* [www.uscourts.gov](http://www.uscourts.gov)

- *United States Courthouse Design and Construction Process* (June 2007 or most current edition)
- *United States Courts Courtroom Mock-up Evaluation and Assessment Report*, Gulfport, MS; Helena, MT; Miami, FL; Orlando, FL (December 2002 or most current edition)
- *United States Courts Moving Guide: A Handbook for Relocating or Expanding Court Operations* (1996 or most current edition)
- *United States Courts, Courthouse Design Reference Manual: An Architect’s Desk Reference*, most current edition  
This sourcebook of technical information about U.S. federal courthouses was written for design professionals and the judiciary. Please refer to Chapter 4, “Courtrooms and Associated Spaces,” for thumbnail sketches of courtroom types, together with summary descriptions.

The Space and Facilities Division (SFD) of the AOUSC has available upon request post-occupancy evaluation reports of completed courthouse and courtroom designs, courthouse videos, and other documentation of the lessons learned from completed projects.

Design professionals who use the *Design Guide* are expected to possess knowledge of and access to literature pertaining to their particular skill areas. Such professionals are also expected to use government, industry, and consensus-based standards in applying *Design Guide* criteria to the design of court projects.

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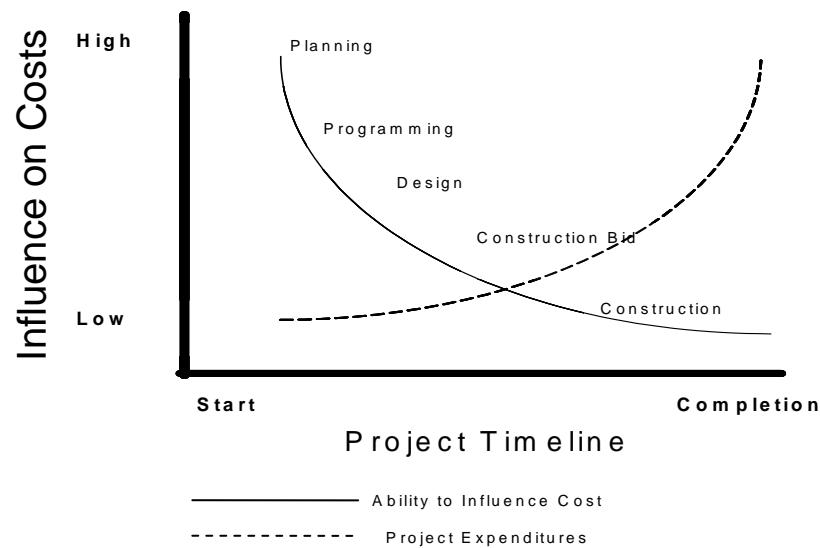
## General Cost-Control Strategies

The cost of a courthouse is primarily determined by the size of the building, including both the area (the size and number of spaces) and the volume (the floor-to-floor heights). The size is determined by evaluating the functional requirements of the court (planning), applying the criteria in the *Design Guide* to determine space

needs (programming), and developing efficient spatial relationships (design). For each courthouse, construction materials and methods must be selected to satisfy the court’s requirements and achieve an optimum balance of up-front initial costs and life-cycle costs.

New buildings provide the opportunity to explore cost-saving strategies while defining the functional needs of the courthouse. The project development process for a courthouse facility in an existing structure represents a greater challenge in creating a balance between function and cost-effectiveness and, therefore, demands greater flexibility in defining the program and its relationship to the *Design Guide*.

Figure 2.1  
Cost Influence Graph



The AOUSC, judges, and court unit executives must be a part of the initial planning and program development process to ensure that all requirements are addressed. Before beginning the program development and design phases, the GSA and the judiciary should work together to reach an agreement on the appropriate budget for tenant improvements and shell and core costs. As the cost influence graph in Figure 2.1 shows, the greatest opportunity to influence project cost occurs in the planning and programming phases.

Management participation in the planning and programming phases is very important to ensure cost-effectiveness during design and construction. As the project progresses toward the design and construction phases, the cost of implementing changes increases.

► **Construction Cost Benchmarking**

The GSA construction cost benchmarks are the estimates used for project budgets.

The cost of constructing judicial facilities is typically higher than the cost of constructing standard federal office buildings, due to the courts’ special requirements, such as security and specialized spaces, such as courtrooms. (See Table 2.1 for a summary of constructed costs by building element.)

► **Funding Responsibilities**

Rental fees paid by the judiciary to the GSA are based on an occupancy agreement (OA) executed by the GSA and the AOUSC. The OA identifies shell and core, tenant improvements, parking, and GSA fees. With very few exceptions, the GSA’s rental rates include standards contained in the *Design Guide*. The project team should refer to the GSA’s *Pricing Desk Guide*.

The *Design Guide* works in conjunction with the GSA criteria to define which features and finishes are provided by the GSA as part of the construction cost and which must be funded separately by the judiciary. Tenant improvement features, such as service counters and ballistic-resistant glazing, result in the judiciary paying either a higher rental rate or a one-time reimbursable charge.

Please refer to Table 2.2 for details concerning the funding responsibilities of the judiciary, the GSA, and court-related agencies.

### ► **Programming and Design Cost-Control Considerations**

A facility program that is too rigidly defined does not allow for growth and flexibility. Since a project can take seven years from initiation to completion, a rigid program may result in redesign change orders. To avoid this redesign cost, the AnyCourt program of requirements will be used by the GSA and the architectural/engineering firm to determine the court's needs. The judiciary allows for program growth, with detailed 10- and 30-year housing requirements (as specified in the AnyCourt).

Typically, the GSA designs and constructs courthouses to meet a court's 10-year requirement on a 30-year site. For courthouses, 30-year needs must be considered to avoid having to relocate the courts from a building after it has been constructed. On all prospectus-level construction projects, the GSA must require the design architect to provide a plan for accommodating the 30-year needs of the court on the acquired site and to demonstrate how the plan complements the project's 10-year housing requirements.

A well-designed courthouse includes a flexible strategy for relocation, expansion, and movement of spaces to address not only the 10-year requirements but also the court's 30-year growth requirements. The following three approaches should be evaluated in the initial design of a court building.

**Adjoining Sites.** Adjoining sites should be set aside for future expansion in conjunction with a design that anticipates adding courtrooms, judges' chambers suites, and associated facilities, or providing expanded court-related office areas.

**Convertible Spaces.** Court-related offices initially located in the courthouse can be relocated from the facility to allow expansion of the court. Vacated spaces can be converted into courtrooms and/or associated and support facilities. Major court-related offices with the least need to be adjacent to the court include the U.S. attorney's office. In addition, areas housing non-court-related offices may be converted to court space, or shell space may be constructed and finished as needed.

**Future Expansion.** Additional space can be provided within court and court-related spaces to accommodate future expansion. The amount of space set aside should be based on growth projections contained in the court's long-range facilities plan. Vertical expansion should not be considered as a viable option because of the noise and other disruptions to court operations.

For internal expansion and convertible spaces, the following design considerations apply:

- Creating "structural zones" to accommodate present and future needs
- Constructing court-related office areas with a high bay structure if these offices are to be set aside for future courtroom expansion
- Anticipating the location of future chambers and courtrooms so that judges will have continued access to restricted elevators and circulation patterns
- Planning acoustic isolation to accommodate future offices requiring privacy from the public, but not confidential privacy within the offices
- Creating "mechanical zones" to accommodate the present and future off-hours needs and/or air-handling needs of courtrooms and chambers
- Designing for the expansion and movement of spaces to allow for the relocation and reuse of workstations, partitions, HVAC equipment and registers, lighting fixtures, electrical outlets, and communication systems

The size of a courthouse can incorporate space-saving approaches, such as the following:

- Staffing projections reflecting current staffing , allocation policy, and trends.
- Operational efficiencies, such as limiting the number of conference rooms, training rooms, libraries, and other office support spaces by sharing among court units

- Efficient designs reducing the amount of space needed for circulation
- Shared courtrooms and judicial support spaces such as conference rooms
- Multiuse jury assembly areas and grand jury suites
- Collocating similar functions (e.g., probation and pretrial services offices) so that they can share resources

Other space-saving measures include the following:

- Circulation space in the courthouse is reduced when spaces are organized vertically and corridor lengths are minimized. Double-loaded corridors (rooms on both sides of a hallway) must be provided where practical. Circulation requirements are further reduced by organizing mechanical and electrical shafts, elevators, exit stairs, and public toilets around a central core.
- Building volume can be minimized by locating courtrooms, which require greater floor-to-floor heights than office space, on as few floors as possible. Additionally, building volume can be reduced by using mezzanine space when grouping low structural bay spaces (i.e., chambers and support space) around high bay spaces (i.e., courtrooms).
- Administrative space can be minimized by providing the clerk's office and records shelving with contiguous space on a single floor. Storage for bulk supplies, inactive records, furniture, and equipment must be located in basement areas, on the same floor as the loading dock, or in space provided for long-term expansion. Storage space is also cheaper to rent outside the courthouse, at half the cost of office space.

### ► Site Design Cost Drivers

Courthouse construction and operational costs are greatly influenced by the site and environmental characteristics that define the building's footprint, orientation, and exterior appearance. The size of the site may determine the cost and availability of

secured or public parking and govern strategies for future expansion. Access to the site, current setback requirements, and the location of other federal agencies will influence security considerations. Additional expenses may be incurred for specialized lighting or landscaping to mitigate site conditions. Generally, a square or rectangular site has proved to be the most cost-effective.

### ► Architectural Design Cost Drivers

The most cost-effective court building generally has a rectangular or square footprint and a ratio of 0.3 to 0.6 exterior wall area to contained space for a five-story building. Facilities with low ratios of wall area to space also tend to be more efficient because of reduced circulation requirements, HVAC system costs, and energy consumption.

Other architectural considerations for cost-effective courthouses include the following:

- Spaces sized so that the most efficient structural spans can be used.
- Heavy live load areas such as libraries and file storage grouped around core areas where structural strengthening can be provided economically.
- Non-square angles and rounded areas have been proven to waste space. Also, areas with non-square angles require custom-designed furniture, resulting in additional cost.
- Windows and glazed areas are sized appropriately. Glazing costs are higher in judicial facilities in order to address blast, seismic, and ballistic threats.
- Exterior wall detailing is simplified, especially on upper floors. This allows the use of high-quality materials on lower floors where they can be appreciated.
- Skylights increase HVAC costs and can cause maintenance problems. Windows, borrowed light, and clerestories should provide natural light at lower initial and life-cycle costs.



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## Value Engineering and Life-Cycle Costing

Value engineering is a method of calculating the value received for the dollars spent over the lifetime of a building, with the emphasis placed on obtaining the maximum life-cycle value. These calculations must include the cost of construction, operation, and repair of the facility, and the efficient delivery of services. If value engineering is not applied until the later stages of design or after the design is completed, it may cause an examination of alternative design solutions; the substitution of materials, finishes, or systems; and a reevaluation of project priorities. The maximum life-cycle value may result in increased initial construction costs in exchange for decreased operation costs over the useful life of the building system. Value engineering must not be a vehicle for reducing the initial construction cost of the building. The construction cost per square foot is not the only measure of value when considering the efficiency of the total facility. The life-cycle cost of a building will reflect the efficiency of a building long after it is built and occupied. Life-cycle cost analysis usually addresses the trade-offs between initial cost and the 10- to 20-year payback period, or the expected life of a building component. Because the useful life of a federal courthouse can range from 50 to 100 years, persons conducting life-cycle cost analysis must consider the following:

- The payback period for each building component must take into account the useful life of a federal courthouse.
- The functions performed in the building might change or be relocated over time.
- The location of a particular building system, fixture, or finish must take into account special conditions that arise in federal courthouses.

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## Typical Federal Courthouse Project Development Process

### ► The Planning, Programming, Design, and Construction Process

A typical project development process includes four phases:

- **Planning.** The planning phase includes evaluation of workloads, staffing levels, procedures, organizations, and administrative requirements.
- **Programming.** The programming phase translates functional requirements into a space needs (housing) plan and defines the project's design objectives.
- **Design.** Drawings and specifications for constructing the facility are developed in the design phase through an iterative process of increasing detail.
- **Construction.** Materials and labor are organized to implement the design in the construction phase.

A typical project development process for a federal courthouse is described below. Not all projects will follow this exact sequence of events. Cost evaluation and control opportunities occur at each step and must be addressed by the court, the GSA, and all consultants.

### ► Planning Phase

Before the project begins, a group of court personnel responsible for facility planning and development must be formed, consisting of judges and representatives of the judiciary family. The group must be cost-conscious and creative in developing efficient court facilities. The services of a design and construction professional working directly for the court may be needed to ensure complete and thorough compliance with the *Design Guide*.

**Asset Management Planning (AMP).** In March 2006, the Judicial Conference adopted, in concept, an asset management plan (AMP) process as an objective methodology that identifies costs and benefits of alternatives to enhance the current long-range facility planning process. Asset management planning holistically assesses facilities, identifies non-prospectus- and prospectus-level new construction and renovation space projects, considers costs and benefits of specific housing strategies, and determines the best strategy by city to meet current and future operational needs.

The court begins planning by evaluating existing facilities and identifying any space deficiencies. Concurrent with the evaluation of existing facilities, the court identifies

current and future caseload and staffing requirements. The criteria in the *Design Guide* are combined with these data to identify and develop alternative housing strategies to meet the court's short- and long-term needs. These housing strategies might include leases, minor or major repair and alteration projects, or new courthouse solutions. Accurate data and justifiable assumptions are essential to ensure maximum cost-effectiveness. The resulting long-range facilities plan documents the court's immediate and long-term facility requirements, recommended potential strategies, and cost-benefit analysis and must be approved by the chief judge of the district and reviewed by the circuit judicial council. AMPs are used by the judiciary to identify, justify, and prioritize projects that become part of the judiciary's five-year plan of courthouse construction projects. The five-year plan is a national prioritized list of proposed court construction projects approved by the Judicial Conference.

### ► Program Development Phase

The detailed programming, design, and construction of federal courthouses is the responsibility of the GSA. The GSA initiates a project as requested in the judiciary's five-year plan. The GSA's development process begins with a long-range/community plan that identifies the federal government's facility resources and requirements in a given geographic area. The plan identifies other agencies that may use space in a courthouse for long-term or interim occupancy. The design of facilities for the long-range needs of the courts and overall project budgets will be greatly influenced by these decisions. Projects are reviewed by the GSA's Center for Courthouse Programs (CCP). The CCP ensures consistent, excellent and cost-effective delivery of the courthouse construction program. The CCP is responsible for the management of new federal courthouse construction and the modernization of existing courthouses.

The GSA retains the services of a consulting architect or planner to produce a feasibility study. The feasibility study is a programming document that further defines the project scope and budget. It uses the court's long-range facilities plan, the court's AnyCourt program of requirements, and the GSA construction cost benchmark as a base for development. AnyCourt provides detailed square footage requirements for each court function, based upon the AMP and supplemental information provided by the judiciary.

The study addresses site acquisition, design and construction, building systems, and tenant support services, as well as related design issues such as security, court electronic systems, telecommunications, and funding. The study contains a project implementation strategy, including project scheduling, cost-control measures, and other factors.

The purpose of the construction cost benchmark is to establish a budget that provides sufficient funding to deliver a new court facility that meets all *Design Guide* requirements.

The construction cost benchmark is based entirely on information developed in the courthouse program. Because subsequent changes are difficult and more expensive to make as a project progresses, each court must help ensure that its courthouse program is accurate and complete. Features or systems not included in the initial cost estimate will not be funded if they are identified later in the process.

### ► Determining the Number of Courtrooms per Courthouse

*The following policy statement, adopted by the Judicial Conference, encourages courts to take several factors into account when considering the construction of additional courtrooms.*

- *Recognizing how essential the availability of a courtroom is to the fulfillment of the judge's responsibility to serve the public by disposing of criminal trials, sentencing, and civil cases in a fair and expeditious manner, and presiding over the wide range of activities that take place in courtrooms requiring the presence of a judicial officer, the Judicial Conference adopts the following policy for determining the number of courtrooms needed at a facility:*
- *With regard to all authorized active judges, one courtroom must be provided. In addition, with regard to senior judges who do not draw a caseload requiring substantial use of a courtroom, and visiting judges, the judicial circuit council should utilize the following factors, as well as other appropriate factors, in evaluating the number of courtrooms at a facility necessary to permit them to discharge their responsibilities.*

- *An assessment of workload in terms of the number and types of cases anticipated to be handled by each such judge.*
- *The number of years each active judge is likely to be located at the facility until eligible to take senior status.*
- *An evaluation of the current complement of courtrooms and their projected use in the facility and throughout the district in order to reaffirm whether construction of an additional courtroom is necessary.*
- *An evaluation of the use of the special proceedings courtroom and any other special-purpose courtrooms to provide for more flexible and varied use, such as use for jury trial.*
- *An evaluation of the need for a courtroom dedicated to specific use by visiting judges, particularly when courtrooms for projected authorized judgeships are planned in a new or existing facility.*
- *The average age of newly appointed judges at the court location.*
- *Caseload projections based upon the district's long range facilities plan (other caseload measures, such as raw or weighted filings, might also be considered).*
- *The percentage of the total district caseload handled at the location.*
- *The ratio of courtrooms per active and senior judge (at present, the model assumes a ratio of one courtroom per judge).*
- *The number of years it will take for a new judgeship to be approved by the Judicial Conference and Congress once weighted filings reach the level that qualifies a court for an additional new judgeship.*
- *The number of years before a replacement judge will be on board after a judge takes senior status.*
- *The year the judges are expected to take senior status once they become eligible (a court or council should assume that a judge will take senior status when eligible).*

*In addition, each circuit judicial council has been encouraged by the Judicial Conference to develop a policy on sharing courtrooms by senior judges when a senior judge does not draw a caseload requiring substantial use of a courtroom.*

*The following assumptions, endorsed by the Judicial Conference in March 1997, should be considered to determine courtroom capacity in new buildings, new space, or space undergoing renovation. This model allows assumptions to be made about caseload projections and the time frames in which replacement, senior, and new judgeships will occupy the new facility. The model affords flexibility to courts and circuit judicial councils when making decisions about the number of courtrooms to construct in a new facility since adjustments to the assumptions can be made to reflect a specific housing situation "on line".*

- *The number of new judgeships approved by the Judicial Conference and recommended for approval by Congress, and the year approval is expected.*
- *The number of years senior judges will need a courtroom after taking senior status (a 10-year time frame is recommended).*

*The planning assumptions listed above are subject to modification for just cause by courts in consultation with the respective judicial council.*

In addition, the following factors should be taken into account:

- *The availability of district courtrooms for other proceedings and the sharing of courtrooms should be considered.*
- *A special proceedings courtroom may be planned for a new courthouse with at least four standard district judge's courtrooms at a district headquarters. Such courtrooms should be provided only when needed and must be assigned for normal daily use in addition to being used for special proceedings and large, multi-party trials.*

### ► Sizing Courthouse Support Spaces

Certain design decisions are based on the number of people served by the courthouse (the number of exits and restrooms, etc.). Most building codes have square footage allotments per person. Such allotments, which vary by building type, generally yield an estimate far exceeding the actual population in court facilities. The primary cause of this overestimation is the failure to adequately consider the following two factors:

- First, some users of a courthouse have different facilities requirements at various times of the day, resulting in duplicate spaces. For example, in a typical day, a single juror might occupy the jury assembly room, jurors' lounge, courtroom jury box, trial jury room, and other spaces. Similarly, a judge might use a private chambers office, judges' conference room, and courtroom.
- Second, a simple count of the number of seats in a courtroom does not accurately yield the size of the spectator population. Because spectator seating is used in the jury selection process, the average size of a jury panel largely determines the number of seats provided in the spectator area (usually 65 to 85). A typical U.S. District Court (USDC) trial usually attracts fewer than a dozen spectators.

For the above reasons, population estimates for court facilities should take into account the different types of space, the users of the space, and overlapping space use.

### ► Design Phase

When project design funding has been authorized and appropriated, the GSA selects the design architect/engineer with input from the courts, in accordance with the requirements of the Brooks Act (40 USC Sections 541–544). The courts must actively participate throughout the selection process to become familiar with the various design teams and to ensure that each team understands the court's facility requirements. Court participation is important because once a design team is selected, the success of a project depends on the ability of all parties to communicate effectively.

During the design stage, after a more definite cost estimate has been generated, a construction prospectus is submitted to Congress for the authorization and appropriation of construction funds. If appropriations are lower than requested, or if construction bids are higher than estimated, the courts, the GSA, and consultants may have to modify the facility program and redesign the project to meet the appropriated budget.

### ► Construction Phase

Once a construction prospectus is funded, a contract is awarded. The contract might specify that the GSA contractor identify opportunities for cost savings. The courts must be aware of the functional and cost impact of changes made during construction.

### ► Construction Costs of Judicial Facilities by Building Element

Table 2.1 provides an overview of relative construction costs for major components of federal courthouses.

Table 2.1  
**Construction Costs of Judicial Facilities by Building Element<sup>1</sup>**

ELEMENT	SHARE OF TOTAL COSTS	MAJOR VARIABLES	ELEMENT	SHARE OF TOTAL COSTS	MAJOR VARIABLES
Foundations <sup>2</sup>	1%–4%	- Local Soil Conditions - Water Table - Number of Floors	Electrical	7%–15%	- Load Requirements - Lighting Levels and Quality - Security - Operating Flexibility - Communications - Audio and Video Design
Substructure <sup>3</sup>	0.5%–3.5%	- Basement Requirements - Soil Capacity - Water Table	Equipment	0.3%–1.5%	- Scope
Superstructure	10%–18%	- Spans - Live Loads - Seismic Conditions - Plan Shape	Site Work	2%–7%	- Utility Service Location - Local Conditions - Access/Egress - Security - Parking (see notes)
Exterior Closure	7%–17%	- Wall-to-Area Ratio - Floor-to-Floor Height - Material Selections - Amount and Choice of Glazing - Wall Detailing	General Conditions, Overhead, and Profit	6%–13%	- Project Magnitude - Project Complexity - Market Conditions - Other Risks - Location
Roofing	0.5%–2.5%	- Roof Treatment - Traffic Requirements - Number of Floors			
Interior Construction and Tenant Improvements (TIs)	13%–25%	- Partitions - Lighting - Material Selection - Acoustics/Floor-to-Slab Partitions - Finish Detailing - Security Requirements - Number of Court Units/Specialized Spaces			
Conveying Systems	3%–5%	- Traffic Requirements - Number of Core Areas - Cab Detailing - Escalators - Number of Floors			
Mechanical (includes raised access flooring)	10%–19%	- Load Requirements - Security and Acoustics - Operating Flexibility - System Selections - Controls - Local Geographic Conditions			

<sup>1</sup> These ranges for building elements do not include any overhead or profit. Overhead and profit are shown as a separate element.

<sup>2</sup> Foundations, substructure, and roofing percentages will vary by the number of floors and the building footprint.

<sup>3</sup> If the building includes parking, that area does not count as usable square feet in the gross square feet of a new courthouse construction project.

Table 2.2  
**Funding Responsibilities**

BUILDING COMPONENT	GSA BUDGET COST	JUDICIARY BUDGET COST	FUNDED BY OTHERS
Base Building	Site Improvements	None	None
	Building Envelope and Structure	None	None
	Building Systems (HVAC, plumbing, electrical)	None	None
Exterior Materials	Exterior facade materials of brick, stone, glass, precast, metal, or similar materials	None	None
Finishes in Interior Public Spaces	Courtroom lobbies on each floor finished as an extension of the main public lobby spaces; all areas and corridors connecting the main public lobby on the primary entry level to all courtroom lobbies finished at a quality level equivalent to the main public lobby; and public corridors connecting other office areas finished at standards described in the Facilities Standards for the Public Buildings Service.	None	None
Finishes in Courtrooms, Judges' Chambers, Associated Spaces and Offices	Per requirements outlined in Chapter 12 of the U.S. Courts Design Guide (USCDG)	None. Levels beyond those specified in Facilities Standards for the Public Buildings Service and the USCDG cannot be provided without first consulting with the GSA, which will then consult with the Judiciary or executive branch agencies such as U.S. Attorney or USMS.	Funding policy is the same as for the Judiciary

Table 2.2  
**Funding Responsibilities (cont'd)**

BUILDING COMPONENT	GSA BUDGET COST	JUDICIARY BUDGET COST	FUNDED BY OTHERS
Fixed Furniture	Because GSA is responsible for providing most "fixed" improvements in the tenant spaces, the GSA project budget should include fixed improvements that are attached to the building, such as counters, cabinets in urinalysis laboratories and testing facilities, service units and biosafe central mail facility. The only chairs included as a GSA budget cost are all jury and witness chairs, (including Grand Jury trial rooms) which are fixed improvements and typically installed with a fixed base. One (1) attorney lectern will be part of each courtroom and is included in the GSA project budget. The GSA project budget also includes the cost of all fixed furnishings such as the judge's bench, jury box, witness box, courtroom deputy clerk's station, law clerk's station, fixed public seating, railings separating public seating from the well of the courtroom, and cabinetry and fixed bookcases in the judge's chambers.	None	None
Movable Furniture and Equipment	Two (2) attorney tables per courtroom and two (2) "smart" tables per district, magistrate, and bankruptcy judge courtroom	All movable furniture and equipment. Costs should not be included in the project budget and are budgeted separately by the judiciary in a furniture acquisition plan (FAP).	Funding policy is the same as for the Judiciary
Signage	The building signage system will be provided by the GSA, except within internal spaces	Signage (including court seals) within internal judiciary-occupied spaces	Signage within internal executive branch court-related agency spaces

Table 2.2  
**Funding Responsibilities (cont'd)**

BUILDING COMPONENT	GSA BUDGET COST	JUDICIARY BUDGET COST	FUNDED BY OTHERS
Artwork	The GSA administers a federal art-in-architecture program, which commissions specific artists on a building-by-building basis. The GSA should be consulted concerning funding for this program.	None	None
Interior Plantings	Plantings are not included in the GSA budget.	Plantings should not be included without first consulting with the GSA and the judiciary.	Plantings should not be included without first consulting with the GSA and the executive branch court-related agency.
Security Systems	Conduits, closets, and raceways for security systems; appropriate electrical power. Cameras, consoles, conduit and wiring for prisoner holding cells, and other prisoner occupied areas, and main security console.	None	The U.S. Marshals Service (USMS) pays for ballistic glazing for all courtrooms and chambers (or as required) interior security surveillance and monitoring systems, including CCTV cameras and monitors, duress alarm devices, annunciators, and motion detection equipment; electronic security hardware, remote control devices, and communications systems; and the control wiring for each of these security components and systems. This includes "swipe" cards on all interior judiciary spaces, including chambers and courtrooms.
	At the building perimeter, egress controls such as direct or remote monitoring, strike releases, card readers, PIN keypads, or keys and controlling mechanisms; all control and monitoring equipment such as card readers, exterior CCTV, exterior lighting, ballistic glazing at the lobby entrance, blast resistant glass, and intrusion detection systems	None	Control and monitoring equipment within the building is paid for by the USMS.



Table 2.2  
**Funding Responsibilities (cont'd)**

BUILDING COMPONENT	GSA BUDGET COST	JUDICIARY BUDGET COST	FUNDED BY OTHERS
Security Systems	Security door hardware (manual and electronic), raceways, conduits, power wiring, and connections to fire alarm systems for electric locks and strikes	None	The USMS pays for the installation of control wiring to interior electronic locks and strikes.
	Standard, emergency, backup, clean, and predefined electrical power needs, including battery-powered lights (as specified under GSA P-100)		The uninterrupted power supply required for the internal security systems is the responsibility of the USMS (not GSA P-100 required).
Acoustic Planning	Physical treatments (gasketing, etc.) to meet standards	None	None
Clock and Clock Systems	Wall outlets	Building-wide clock systems should not be specified. Movable clocks may be provided as per the judiciary's Guide to Policies and Procedures.	Consult with the executive branch court-related agency.
Audiovisual Equipment	None, except for the design and development of infrastructure specifications for speech reinforcement systems in courtrooms. Includes provisions for microphone amplification and speaker/broadcast systems; conduits for the audio and video system; and built-in or pull-down screens in the courtrooms.	Audiovisual equipment, presentation boards, sound system equipment, and wiring, including options for sound recording systems. These items are budgeted separately by the judiciary and should be included as a contract bid option in the coordinated architect/engineering construction bid package.	Generally not required by an executive branch court-related agency; the policy will be the same as for the judiciary.

Table 2.2  
Funding Responsibilities (cont'd)

BUILDING COMPONENT	GSA BUDGET COST	JUDICIARY BUDGET COST	FUNDED BY OTHERS
Telecommunications	<p>The basic building infrastructure for telecommunications wiring, including telephone and data distribution closets, and the vertical and horizontal distribution system (e.g., chases, under-floor ducts, cable trays, raised floors, etc.) are part of the GSA project budget.</p> <p>Conduits and ducts for court telecommunications are provided for not more than one voice and one data outlet for every 100 NSF (9.3 Nm<sup>2</sup>).</p>	<p>Telecommunications equipment, wiring, and service is purchased and installed separately either by the GSA or by the judiciary, and should not be included as a contract bid option in the coordinated architect/engineering construction bid package.</p> <p>Requirements in excess of the 100 NSF standard are to be budgeted by the Judiciary.</p>	Telecommunications equipment and service are purchased and installed by the executive branch court-related agency.
Master Antenna/TV	One (1) conduit from the basement to the roof for one (1) cable master antenna/TV connection to locations listed in this Design Guide, and conduit from the USMS area to the roof for the radio antenna lead are provided in the GSA project budget.	Any required cable TV or master antenna	Any required cable TV or master antenna equipment
Satellite Downlink	One (1) conduit from the roof to the basement for satellite downlink. Roof space structured to accommodate a satellite downlink dish.	Satellite dish, cabling and receptacles.	Any satellite dishes, associated cabling, distribution systems and receptacles.
Computer Equipment	The basic building infrastructure for computer cabling, including the horizontal and vertical distribution system, is provided as part of the GSA project budget.	Computer equipment, including terminals, computer workstations, file servers, and computer cabling and connecting wiring, is the responsibility of the judiciary and should not be included in the project budget.	Computer equipment is purchased and installed by the executive branch court-related agency.

# 3

## PLANNING FOR U.S. COURTHOUSES

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This chapter addresses detailed planning concepts for U.S. courthouses. Spaces common to all courts and the functions of the three court types are discussed, along with space allocations for circulation and definitions of area accounting techniques. This chapter concludes with direction for planning the zoning of courthouses and adjacency diagrams illustrating the relationships among various court occupancies.

### Introduction

The architecture of federal courthouses must promote respect for the tradition and purpose of the American judicial process. To this end, a courthouse facility must express solemnity, integrity, rigor, and fairness. The facility must also provide a civic presence and contribute to the architecture of the local community.

Courthouses must be planned and designed to frame, facilitate, and mediate the encounter between the citizen and the justice system. All architectural elements must be proportional and arranged hierarchically to signify orderliness. The materials employed must be consistently applied, be natural and regional in origin, be durable, and invoke a sense of permanence. Colors should be subdued to complement the natural materials used in the design.

A U.S. courthouse may house multiple court units, court-related offices, and other federal government agencies. Courthouses must be planned and designed to accommodate the needs of the public, needs of the judges, court staff, U.S. Marshals Service (USMS), other court-related offices. The guidelines set forth in this chapter address the adjacency requirements for judges' and court staff offices and court-related offices (e.g., USMS, U.S. attorney's office), along with sizing and volume factors for common spaces in all buildings, specifically, segments of public spaces such as entrances, lobbies, atria, and corridors. The chapter includes a typical diagram and stacking plan for a multi-level courthouse and a typical court floor layout.

### Supporting Documents

A comprehensive guide to supplementary publications can be found in Chapter 2, "Courthouse Programming and Budgetary Considerations." That listing includes program and design criteria, courthouse planning and related guidelines, policies, and information on many facets of the design and construction of federal courthouses. The references listed below relate specifically to this chapter.

- "AnyCourt" (*Program of Requirements*), the judiciary's automated space-planning tool used to provide a court's space program of requirements
- *Architectural Barriers Act Accessibility Standard* (ABAAS)
- *Courtroom Technology Manual*
- *Design Notebook for Federal Building Lobby Security*
- *Requirements and Specifications for Special Purpose and Support Space Manual, Volume Three, Judicial Security Systems Requirements and Specifications* (USMS Publication 64), most current edition
- *United States Courts, Courthouse Design Reference Manual: An Architect's Desk Reference*, most current edition, all chapters

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## Spaces Common to All Courts

Courthouses for the U.S. Court of Appeals (USCA), the U.S. District Court (USDC), and the U.S. Bankruptcy Court (USBC) contain several common elements, including public spaces and atria, secure parking, service areas, heavy traffic areas, clerks' offices, judges' chambers, and court libraries.

### ► Public Spaces and Atria

The public space should be designed as an integrated continuum of spaces that leads from the building's main entrance to the various public destinations within it. Each segment of space along the continuum performs multiple functions and must be designed accordingly. The functions include ingress/egress, admittance/discharge, security screening, the provision of information/orientation, circulation/conveyance, and accommodation/queuing/waiting/seating.

**Entrance.** The entrance or entrance vestibule should be clearly visible and recognizable as such from the exterior of the building. The vestibule should be a minimum of 7 feet in depth and able to handle the flow of traffic at peak times.

**Security Screening Station.** The security screening station should be designed with a nonsecure zone in front of the screening equipment (i.e., metal detectors and X-ray machine). The nonsecure zone should be large enough to provide safe and comfortable queuing during peak load periods. The design team should include a representative from the USMS to ensure that the requirements for the screening equipment are provided in accordance with the *Requirements and Specifications for Special Purpose and Support Space Manual, Volume Three, Judicial Security Systems Requirements and Specifications* (USMS Publication 64). The screening station should be integrated with the design of the surrounding architecture.

**Lobby.** The main occupant and public gathering point is the building lobby on the secure side of the security screening station. The size and shape of the lobby should facilitate the process of understanding the layout of the building. The amount of floor area required for the lobby space will be determined by the number of people who pass through it, as well as by the ways that other segments of the public space are developed.

**Atrium.** If the design of the public space includes an atrium, there should be no more than one in the building. If an atrium is provided as a substitute for a lobby, it must otherwise be designed to perform all the functions normally performed by the lobby. It is recommended that no atrium should be conditioned space on the exterior of the body of the main building when there is a lobby inside the building that is performing the major entry sequence functions (i.e., screening with queuing, the provision of information, and orientation).

As a volume that connects two or more floors, the atrium's proportional relationships of height to floor area should conform to familiar ratios and responsible budgeting. The relationship of the atrium volume to a source of natural light at its top, side(s), or base is also critical.

**Corridors.** Corridors convey, orient, and provide places for people to confer and, often, to wait. Corridor lengths and widths vary according to the volume of traffic and the nature of the spaces to which they lead. Basic corridor widths should enable a minimum of four people to pass abreast of each other (one person escorted by two others and a fourth passing from the opposite direction).

Corridors may be developed uniformly throughout the building, that is, with standardized dimensions and layout from floor to floor. More typically, however, the public corridor layout will vary between the ground level and the floors above, and it may also vary on a single floor—for example, from one wing of a building to another. Some portions of the corridor system may be developed on a double-loaded basis, while others are single loaded.

When the corridor is on a courtroom floor, an additional 300 net square feet for appellate courtrooms and 400 net square feet (NSF, 37.2 net square meters [Nm<sup>2</sup>]) for district and bankruptcy courtrooms must be provided for the public waiting area outside each courtroom. The space for waiting should not obstruct the space for circulation next to it. Single-loaded corridors on court floors may be able to accommodate the required waiting area(s) more easily. Double-loaded corridors on court floors where entrances to the courtrooms are opposite each other may involve an added design challenge to provide sufficient waiting space.

All public corridors should be straight, not unduly long, and comfortably proportioned; all should have access to daylight and views.

**Court Staff Entry.** Other spaces common to all courts include the court staff entry. Staff entry should be through the central public screening point. If the Building Security Committee and/or the Court Security Committee requires a separate staff entrance, the entrance must be manned by a court security officer and be provided with the required screening equipment. Circulation for judges and others requiring additional security must not intersect public circulation; these individuals must enter through a restricted lobby from secure parking.

**Secure Parking.** Parking for judges and the USMS must be secure and located within the court building. Refer to Chapter 16, “Building Security,” for details of judges’ and staff parking.

**Service Areas.** A building service area requires loading docks with direct restricted entry. The area requires access via freight elevator to all building offices.

**Heavy Traffic Areas.** All areas generating heavy traffic, such as the clerk’s office, cafeteria, and building services, must be located on or adjacent to the main public entry level.

**Clerks’ Offices.** The clerks’ offices of the three courts must have convenient access to public circulation, courtrooms, and judges’ chambers. See Chapter 8, “Clerk’s Office,” for a discussion of functions within the clerk’s office suite.

**Judges’ Chambers.** Judges’ chambers may be located close to a courtroom or clustered in a separate area. Chambers are accessed from restricted circulation with convenient access to the courtroom(s). See Chapter 6, “Judges’ Chambers Suites,” for a discussion of functions within the judges’ chambers suites.

**Central Court Libraries.** The location of central court libraries must provide access for judges, law clerks, and other court staff by means of a restricted staff corridor. Public access may also be required, as determined by the court. See Chapter 7, “Central Court Libraries,” for a discussion of functions within the central court libraries.

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## Functions of the Three Court Types

### ► Major Spaces in Each of the Three Courts

The following is a discussion of the major spaces, groupings, and circulation systems in each of the three courts.

**U.S. Court of Appeals (USCA).** Since the USCA does not conduct trials as does the district court, it requires only two circulation systems: public and restricted. For an overview of the USCA’s circulation and adjacency patterns, see Figure 3.3.

The major functional spaces in the USCA are the appellate courtrooms, circuit judges’ robing rooms, and circuit judges’ chambers suites. For court proceedings, the judges move from their chambers to the judges’ conference room, then through the robing room to the courtroom.

The circuit executive’s office must have restricted access to judges’ chambers and the USCA clerk’s office. Since the circuit executive’s office often has little contact with the public, the level of public access should be coordinated with each circuit executive.

The office of the senior staff attorney must be located off a restricted corridor, adjacent to both the USCA clerk’s office and the central court library, and with easy access to judges’ chambers, if possible.

**U.S. District Court (USDC).** The USDC conducts jury trials for both civil and criminal cases and other court proceedings. The court requires public, restricted, and secure circulation patterns. For an overview of the USDC’s circulation and adjacency patterns, see Figure 3.4.

The activities of the USDC focus on the courtroom. The district and magistrate judge courtrooms require direct access from public, restricted, and secure circulation. Associated spaces located near the district courtroom include attorney/witness conference rooms, accessed from public circulation; the judges’ conference/robing room (provided only if the judges’ chambers are not located close to the courtroom),

accessed from restricted circulation; the trial jury suite, accessed directly from the courtroom or restricted circulation; and prisoner holding cells, accessed from secure circulation.

Jury assembly facilities should be located on a main public entry floor, preferably close to the district court clerk's office. The facilities must have controlled entry and should provide for the convenient movement of jurors to and from courtrooms.

The grand jury suite should be located near the Office of the U.S. Attorney, as that office is responsible for presenting evidence to and obtaining indictments from the grand jury. Grand jurors enter the suite through restricted circulation from a controlled area or an area that is remote from public view.

The U.S. Probation Office requires access from public circulation after the security screening area in the lobby. If the office operates during off-hours, a separate controlled off-hours access point is desirable.

The U.S. Pretrial Services Office also requires access from public circulation after the security screening area at the main courthouse entrance. In addition, the office requires restricted access to the USMS and magistrate judges' courtrooms.

The federal defender's staffed offices are normally located outside the courthouse or other federal facilities housing law enforcement agencies.<sup>1</sup> A small trial preparation area of 450 usable square feet (41.9 Nm<sup>2</sup>) is provided in the courthouse which includes internal circulation. The staffed office should be located within reasonable walking distance of the courthouse. Since the federal defender's office essentially functions as an independent law office, it must be readily accessible after normal working hours. Whether outside or inside the courthouse, the office must be distanced from the U.S. attorney, USMS, U.S. Probation Office, U.S. Pretrial Services Office, Bureau of Prisons, and other law enforcement agencies.

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<sup>1</sup> If the federal defender's office requests to be located in a courthouse, the office must have written approval from the Committee on Defender Services, and all space sizes and standards will follow staff office sizes and standards for all other court and court-related offices. Any exceptions must be approved by the Committee on Space and Facilities and concurred with by the Judicial Conference.

**U.S. Bankruptcy Court.** The USBC hears only civil cases. Like the USCA, the USBC needs only two circulation systems: public and restricted. In some locations, jury trials may be held by bankruptcy courts. When this occurs, the USBC should use a vacant USDC courtroom. For an overview of the USBC's circulation and adjacency patterns, see Figure 3.5.

USBC courtrooms are accessed by public and restricted circulation. Similar to those near USDC courtrooms, associated spaces located near the bankruptcy courtroom include attorney/witness rooms, accessed from public circulation, and the judges' conference/robing room (provided only if the judges' chambers are not located close to the courtroom), accessed from restricted circulation.

If located in the building, the bankruptcy administrator or the U.S. Trustee must have access to the USBC clerk's office.

Although the USBC clerk's office must be accessible to the public, staff must have convenient access to courtrooms, judges' chambers suites, and the central court library, as well as the USDC clerk's office (if located in the same building).

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## Users and Capacities

Users vary according to the size of the courthouse; the type and volume of cases; and the number of maintenance staff, service company/agency personnel, and public. For the purposes of certain references in this *Design Guide*, the following designations apply:

*A small courthouse* has 5 or fewer courtrooms.

*A medium courthouse* has 6 to 12 courtrooms.

*A large courthouse* has more than 12 courtrooms.

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## Barrier-Free Access

The federal courts are required to conform to the standard of the Architectural Barriers Act of 1968 for new construction and renovation of existing facilities. *The*

*Architectural Barriers Act Standard (ABAAS)* is the GSA accessibility standard. It replaces the previous UFAS/ADAAG requirements for accessibility. The standard is based on the ADAAG published by U.S. Access Board on July 23, 2004. In addition, GSA policy requires compliance with local accessibility standards if they are more stringent (reference GSA P-100).

All public areas in federal court facilities, including jury facilities, as well as restricted and secure areas, must be made accessible when newly constructed or renovated. Under ABAAS, an “accessible” facility must be usable by persons with disabilities. Disabled persons include not only those with mobility limitations but also persons with sight, speech, or hearing impairments. While the courtroom work areas (judge’s bench, clerk’s station, bailiff station, etc.) are permitted to be adaptable,<sup>2</sup> ABAAS recommends providing access during initial design and construction instead of adapting the space later. This limits the need for more expensive alterations when accessibility is required.

Accessibility within the courtroom should be achieved with minimum use of well space. The design team should contact the AOUSC for sample courtroom layouts. Access for judges and court personnel may be provided by way of ramps outside the courtroom, within the restricted circulation space.

In addition to facility design, other features can assist disabled persons in the courthouse. First, a sign indicating the availability of assistance should be posted in a prominent place. Second, wireless assisted-listening systems (ALSs) using infrared transmission are to be provided in accordance with ABAAS. An appropriate number of ALS receiving units must be available for use when needed in the courthouse. Wireless ALSs, using infrared transmission, provide flexibility and privacy in the courtroom. ALS controls and emitters must be permanently installed and integrated with the courtroom sound system. The *Courtroom Technology Manual* provides a formula for determining the number of ALS receiver units needed in the courthouse.

Hearing-impaired persons must also be accommodated. In some cases, a sound-reinforcement system is sufficient; in others, a signer is necessary for proceedings involving deaf participants. Courtroom layouts must place the signer within the

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<sup>2</sup> Adaptable for accessibility means providing maneuvering clearance and other features.

reader’s field of vision and also provide the reader with a view of the speaker. This allows the participant to observe the speaker’s gestures, facial expressions, and other visual cues.

Courtroom areas used by the public must be accessible to persons with disabilities. Court participants with disabilities should approach and use the following spaces in the same way as nondisabled participants:

- Public seating
- Litigants’ tables
- Jury box
- Witness box
- Lectern

Private work areas, including the judge’s bench and the clerk, law clerk, bailiff, and court reporter stations, must be adaptable for accessibility. While all judges’ benches and court personnel stations need not be immediately accessible, disabled judges and court personnel must be accommodated if required.

Additional design solutions and information should be obtained from the Space and Facilities Division of the AOUSC.

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## Space Allocations for Circulation: Gross vs. Rentable Areas

Although building users are frequently unaware of the quantity of square footage allocated to building corridors and aisles, this circulation space often accounts for 30 to 50 percent of the usable space in a building. Rather than attempting to calculate the actual area of this space, space planners multiply the total assigned space, called “net area,” by a net-to-usable circulation factor to estimate the amount of square footage to allocate to circulation.

In order to understand this calculation, the project team must understand the terms used to describe building area.

## ► Space Measurement Standards

*Design Guide* Space Measurement Standards. Space criteria in the *Design Guide* are presented in terms of net square feet (NSF) and net square meters (Nm<sup>2</sup>). It is important to note that NSF (Nm<sup>2</sup>), as used in the *Design Guide*, is not synonymous with ANSI/BOMA’s definition of usable space.

- **Net square footage (NSF)** is the square footage allocated to an assigned space, such as an office, workstation, storage space, or conference room. The sum of all net areas in the building is the total assigned space, also called net square footage. Net square feet are measured to the inside face of walls.
- **Circulation space** includes corridors, aisles, and other similar space required for occupants to access means of egress and all other functions in and serving their space. Circulation may be fully enclosed, as in a corridor, or unenclosed, as in a phantom corridor in open office configurations.
- **Circulation factors** are used in conjunction with a space requirements projection. The internal circulation factor is applied to the assignable net square foot area to calculate the required usable square foot area. It accounts for both internal corridors and wall thicknesses between offices. Care must be taken in the application of a circulation factor. For example, if the circulation factor is 25 percent, do not multiply the net square footage by 1.25. Instead, divide the net square footage by 0.75 (Rule: divide by the complement).
- **Usable square footage (USF)** is a measure of usable area constituting the basis upon which the U.S. Courts will pay rent.
- **Total envelope of space** is the total usable square feet with the circulation factors applied. A court unit has discretion to reconfigure this total envelope. The circulation factor is inclusive of wall thicknesses.

The NSF criteria in the *Design Guide* do not include space for circulation among programmed spaces or vertical slab penetrating spaces. For example, the net space of a courtroom includes space for circulation within the courtroom; however, it does not account for the additional usable square footage that is calculated for the courtroom’s

vertical penetrating slab, or the space for travel to and from the courtroom. Likewise, the net space of a workstation in an open office does not include circulation among workstations.

Space needed to accommodate circulation among programmed spaces varies significantly with each facility’s specific design. Determining appropriate internal circulation factors depends upon many issues, such as building configuration, average size and depth of spaces, and the general design of the area (e.g., “compressed” versus “spacious”). Based on a study of completed courthouse designs, the *Design Guide* provides specific values to estimate circulation space requirements for various offices and functional areas of a courthouse.

The NSF criteria in the *Design Guide* also do not account for building support spaces that are included in the building gross area. The building gross area includes public circulation, partitions, mechanical and electrical rooms and risers, elevator shafts, stairs, public corridors and lobbies, public toilets, internal and external wall thicknesses, and other areas.

**GSA Space Measurement Standards.** The GSA uses the American National Standards Institute (ANSI) and the Building Owners and Managers Association (BOMA) space measurement standard (refer to ANSI/BOMA Z65.1-1996, Standard Method for Measuring Floor Area in Office Buildings).

The following describes the spaces included in the ANSI/BOMA standards for usable, rentable, and gross square feet in a GSA building:

- **Usable square footage (USF)** includes the space occupied by a tenant with circulation between spaces and all other spaces that a tenant can use to house personnel and furniture. For planning purposes, a useful general internal circulation factor is 20 percent usable area.

The usable area of a single organization is the “footprint” of that organization on the floor plan of the building. Usable area excludes building infrastructure spaces such as mechanical rooms, and public toilets.



Under ANSI/BOMA, in the case of vertical slab penetrating spaces such as some courtrooms, an additional rental charge is incurred due to the increase in the judiciary’s usable square footage equal to the area of the slab penetration. However, if an entire floor is double height, there is no penetrated slab measured and therefore no increase in usable square footage.

The usable area typically accounts for 67 percent of the total gross area of court facilities. To calculate the total gross area, divide the usable area by 0.67. The resulting value is expressed in gross square feet (GSF) or gross square meters (Gm<sup>2</sup>).

- **Rentable square footage (RSF)** is the quantity of square footage tenants pay for in a building. It includes the USF each tenant actually occupies, plus a pro-rated portion of other building spaces, such as a lobby, that are used by all tenants of the building.
- **Gross square footage (GSF)** is the total enclosed area of a building, including exterior walls. If necessary, the gross area of an existing building can be calculated by measuring the outside surface of the building perimeter of a scaled drawing and computing the interior area.

► **Metrication**

The Metric Conversion Act of 1975, as amended by the Omnibus Trade Act of 1988, establishes the modern metric system (International System of Units) as the preferred system of measurement in the United States. To facilitate the transition to the metric system, English units in the text are followed by metric equivalents in parentheses. Metric units have been rounded to simplify their use in design and construction. Table 3.1 lists the equivalent types of English and metric units used in the *Design Guide*.

**Table 3.1  
Metrication**

MEASUREMENT CATEGORY	ENGLISH UNIT	METRIC UNIT
Area	Square Foot (SF)	square meter (m <sup>2</sup> )
Length	foot (ft), inch (in)	millimeter (mm)
Thickness	gauge (ga)	millimeter (mm)
Weight/Mass	ounce (oz)	kilogram (kg)
Load	Pounds per Square Foot (PSF)	Pascals (Pa)
Volume	gallon (gal)	Liter (L)
Temperature	degrees Fahrenheit (°F)	degrees Celsius (°C)
Air Flow	Cubic Feet per Minute (CFM)	Liters per Second (L/S)
Illuminance	Foot-Candles (FTC)	lux (lx)

**Circulation Requirements for Courthouse Areas**

► **Public Space<sup>3</sup>**

It is imperative that a consistent method of measuring space be employed in the application of any formula used to form and manage the design of public space. This is especially true when considering the criteria of designing to an efficiency of 67 percent. Efficiency is the ratio of usable area (all net areas assigned to the building occupants plus the circulation around those areas) to gross area (total enclosed area of a building, including exterior walls) without parking. Gross area without parking is used because parking quantities vary significantly from project to project and would skew any formula. Gross area without parking includes upper levels of multistory (unassignable) space. When unassignable space is included in gross area and an efficiency of 67 percent is achieved, it is impossible to generate a high volume of public spaces.

<sup>3</sup> Reference GSA P-100 for further guidance.

Strict adherence to ANSI/BOMA standards will regulate the overall volume of buildings because every footprint of every multistory space will count against gross area. The project team should be required to evaluate where to employ multistory spaces, as they count against the gross.

The design and anticipated population of each project will determine how area and volume should be distributed along the continuum. Every project will diverge somewhat from the formula but should not exceed the formula. Recommended area factors for public space are presented in Table 3.2.

**Table 3.2**  
**Recommended Public Space Area Factors**

BUILDING HEIGHT	PUBLIC AREA FACTOR	PUBLIC VOLUME FACTOR
Low-Rise (0–4 floors above grade, not including a penthouse)	11.0%	22x
Mid-Rise (5–9 floors above grade, not including a penthouse)	9.5%	25x
High-Rise (10+ floors above grade, not including a penthouse)	10.5%	24x

► **Recommended Benchmarking Formula for Public Space**

The factors above are used to calculate the total square feet and volume of public space as follows:

$$\text{Total Public Area [in square feet (SF)]} = \text{Gross Building Area without Parking} \times \text{Public Area Factor}$$

$$\text{Total Public Volume [in cubic feet (CF)]} = \text{Total Public Area} \times \text{Public Volume Factor}$$

Example: Given a gross building area without parking for a mid-rise courthouse of 200,000 GSF

$$\text{Total Public Area} = 200,000 \text{ GSF} \times 9.5\% = 19,000 \text{ SF}$$

$$\text{Total Public Volume} = 19,000 \text{ SF} \times 25 = 475,000 \text{ CF}$$

► **Court Space**

**Courtrooms.** The net areas specified in the *Design Guide* are exclusive of the area required to accommodate circulation among spaces. The courtroom is programmed with no internal additional circulation space. Circulation space is added only when considering the courtroom in conjunction with chambers suites and associated facilities. While the amount of circulation space required varies with each facility’s specific design, an additional allotment of 17 percent is generally applied to courtroom/chambers floors during preliminary planning to determine the total usable area of the facility. The additional allotment for circulation includes accommodating for the thickness of walls.

**Judges’ Chambers.** Table 6.1 identifies the spaces and NSF requirements within a chambers suite. If necessary, circulation space up to 8 percent of the chambers’ net square footage may be added. This circulation factor should accommodate the thickness of the walls. Circulation space may not be added if connecting hallways are not dictated by the design. The amount of circulation space required for courtroom/chambers floors varies with the actual design; however, 17 percent for the entire floor can be applied during preliminary planning. If circulation space is added within the suite, the square footage is included in the 17 percent allowed for circulation on the courtroom/chambers floor.

**Jury Facilities.** The net areas specified in the *Design Guide* exclude space required to accommodate circulation among the listed spaces. While the amount of required circulation space varies with each facility’s specific design, an additional allotment of 13 percent can be applied to the jury assembly area and 11 percent to the grand jury suite during planning to determine the total usable area of the facility (i.e., the estimated total usable area of the facility is equal to the sum of all the net programmed spaces plus 11 to 13 percent). The trial jury suite is programmed as net usable space, with a circulation percentage of 17 percent added as part of restricted circulation on the courtroom/trial jury suite/chambers floor.

**Central Court Libraries.** The net areas specified in the *Design Guide* exclude the space required to accommodate circulation. While the amount of required circulation space varies with each facility’s specific design, an additional 24 percent can be applied during preliminary planning to determine the total usable area of the facility (i.e., the estimated total usable area of the facility is equal to the sum of all the net programmed spaces plus 24 percent).

**Clerk’s Office.** Net areas specified in the *Design Guide* exclude the space required to accommodate circulation. While the amount of circulation required for the clerk’s office varies with each facility’s specific design, 24 percent of the net programmed space can be added to determine the total usable area of the clerk’s office (i.e., the estimated total usable area of the clerk’s office is equal to the sum of all the net programmed spaces plus 24 percent). Refer to Table 8.1 for additional detail regarding space sizes in the clerk’s office.

**Other Court Units.** The net areas specified in the *Design Guide* exclude space required to accommodate circulation among the listed spaces. While the amount of circulation space required varies among court-related offices and with each facility’s specific design, 19 to 21 percent of the net programmed space can be added to determine the total usable area of the court-related offices (i.e., the estimated total usable area of the court-related offices is equal to the sum of all the net programmed spaces plus 19 to 21 percent, depending upon the department). See the criteria for specific judiciary-related departments for the percentage to be added. Add 21 percent for circulation within a department if specific criteria are not provided.

**Common Building Spaces.** The net areas specified in the *Design Guide* exclude space required to accommodate circulation among listed spaces. While the amount of circulation space required varies with each facility’s specific design, 20 percent can be added to the net programmed space to determine the total usable area of the building support facilities (i.e., the estimated total usable area of the building support facilities is equal to the sum of all the net programmed spaces plus 20 percent).

**Table 3.3  
Interior Circulation Requirements**

SPACES	% CIRCULATION
Courtrooms <sup>1</sup>	17%
Judges’ Chambers <sup>2</sup>	8% - 17% <sup>1</sup>
Jury Assembly Area	11%
Grand Jury Suite	13%
Trial Jury Suite	17%
Central Court Libraries	24%
Clerk’s Office	24%
Other Courtrooms	19-21%
Common Building Spaces	20%

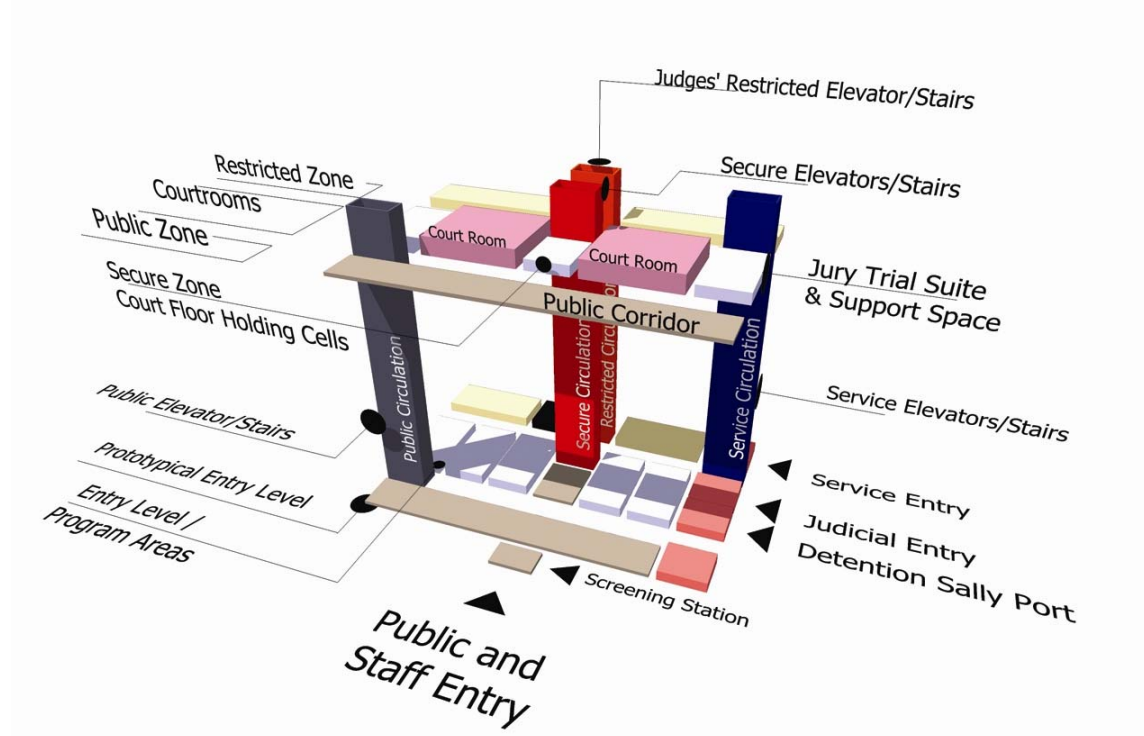
<sup>1</sup> This space enables movement from spaces associated with the courtroom to the courtroom itself.

<sup>2</sup> Varies based upon whether a collegial or collated scheme is selected. Consult with the Administrative Office of the U.S. Courts.

## Courthouse Zoning and Building Circulation

Adjacency and circulation among spaces are determined by the movement of people and materials for court activities, security, and public access requirements. To accommodate movement within courthouses, three separate circulation zones must be provided: public, restricted, and secure. Public circulation requires a single controlled entry but allows free movement within the building. Restricted circulation has a controlled interior entry and is limited to judges, court personnel, and official visitors. Secure circulation is intended for prisoners and is controlled by the USMS. There are four separate and distinct entrances to courthouses—for the public and staff, judges, prisoners, and deliveries. Courthouses may also house other federal government agencies, and the team must review and optimize adjacencies between the courts and other government agencies to be located in the building. Figure 3.1 is a typical diagram of a multilevel courthouse.

Figure 3.1  
**General Organizational Relationships**

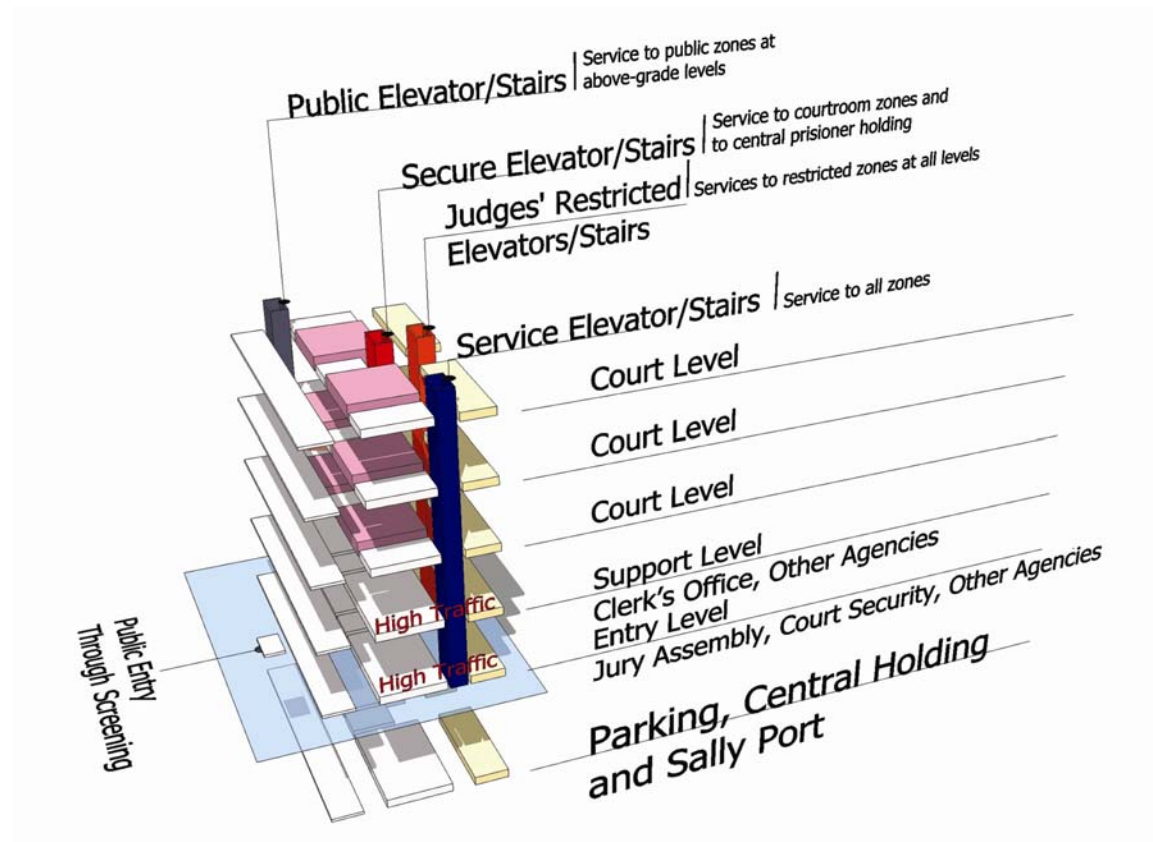


Note: This plan is illustrative and not meant as a standard for design.

## Program Stacking

The plan for a courthouse should locate all high-pedestrian-traffic functions on the lower floors and provide dedicated elevator and stairway systems for the public, court staff and judges, freight, and prisoner movement.

Figure 3.2  
**Typical Stacking Diagram**

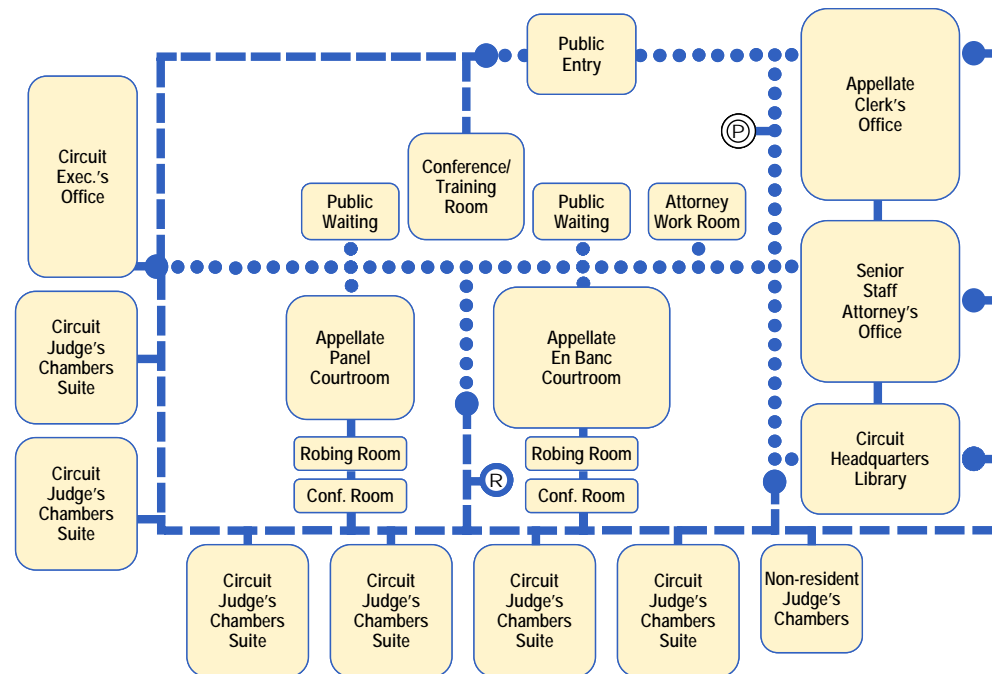


Note: This plan is illustrative and not meant as a standard for design.

## Key to Symbols

- ○ ○ ○ ○ Public Circulation
- ■ ■ Restricted Circulation
- ▬ Secure Circulation
- 1 ➤ Unscreened Public Access
- 2 ➤ Screened Public Access
- 3 ➤ Screened Public Access, locked when not in use
- 1 ➤ Restricted Access, Uncontrolled
- 2 ➤ Restricted Access, Remote Access Control
- 3 ➤ Restricted Access, Direct Access Control/Keylock
- 4 ➤ Restricted Access, Counter/Window Service
- P ➤ Privacy Lock
- 1 ➤ Secure Access, Authorized Staff
- 2 ➤ Secure Access, Prisoner/Security Staff
- Circulation/Access Control Point
- (P) Public Vertical Circulation
- (R) Restricted Vertical Circulation
- (S) Secure Vertical Circulation
- (F) Freight Vertical Circulation
- ⋯➤ Direct Visual Access, One-Way
- ⋯↔ Direct Visual Access, Two-Way

Figure 3.3  
U.S. Court of Appeals Adjacency Relationships

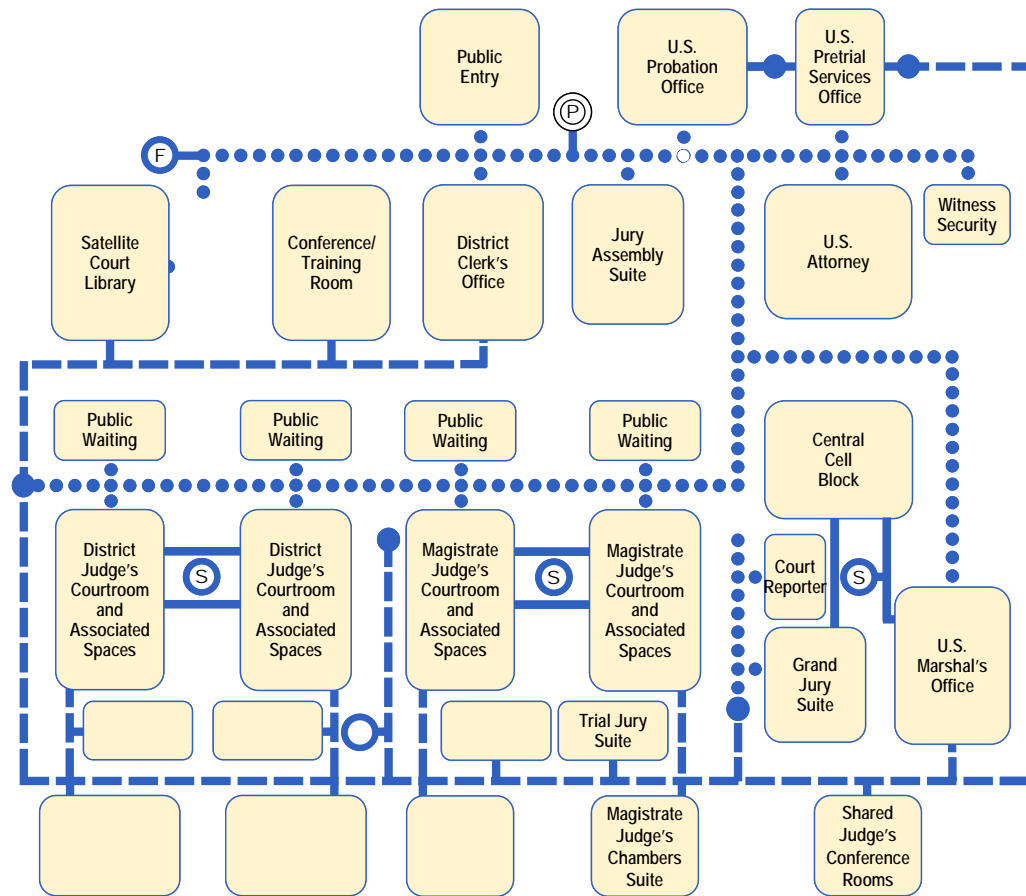


Note: The adjacency diagram is intended only as an illustration.

### Key to Symbols

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- Circulation/Access Control Point
- Ⓟ Public Vertical Circulation
- Ⓡ Restricted Vertical Circulation
- Ⓢ Secure Vertical Circulation
- Ⓡ Freight Vertical Circulation
- ⋯➡ Direct Visual Access, One-Way
- ⋯↔ Direct Visual Access, Two-Way

Figure 3.4  
**U.S. District Court Adjacency Relationships**

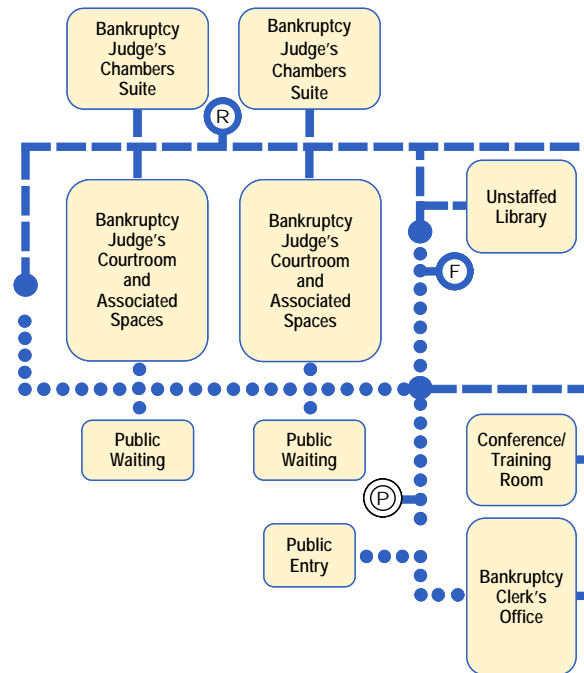


Note: The adjacency diagram is intended only as an illustration.

## Key to Symbols

- ○ ○ ○ ○ Public Circulation
- ■ ■ Restricted Circulation
- Secure Circulation
- 1 → Unscreened Public Access
- 2 → Screened Public Access
- 3 → Screened Public Access, locked when not in use
- 1 → Restricted Access, Uncontrolled
- 2 → Restricted Access, Remote Access Control
- 3 → Restricted Access, Direct Access Control/Keylock
- 4 → Restricted Access, Counter/Window Service
- P → Privacy Lock
- 1 → Secure Access, Authorized Staff
- 2 → Secure Access, Prisoner/Security Staff
- Circulation/Access Control Point
- (P) Public Vertical Circulation
- (R) Restricted Vertical Circulation
- (S) Secure Vertical Circulation
- (F) Freight Vertical Circulation
- ..... Direct Visual Access, One-Way
- ..... Direct Visual Access, Two-Way

Figure 3.5  
U.S. Bankruptcy Court Adjacency Relationships



Note: The adjacency diagram is intended only as an illustration.