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United States General Accounting Office
Washington, DC 20548

January 25, 2001

The Honorable Don Young
Chairman
The Honorable James L. Oberstar
Ranking Democratic Member
Committee on Transportation and Infrastructure
House of Representatives

The Honorable Bud Shuster
House of Representatives

Subject: Federal Judiciary Space: Update on Improvement of the Long-Range Planning Process

This letter responds to an August 9, 2000, request from your Subcommittee on Economic Development, Public Buildings, Hazardous Materials, and Pipeline Safety. The Subcommittee asked that we obtain updated information on the Administrative Office of the U.S. Courts' (AOC) progress in implementing six GAO recommendations that were included in our 1993 report entitled *Federal Judiciary Space: Long-Range Planning Process Needs Revision* (GAO/GGD-93-132, Sept. 28, 1993). In that report, we identified three major problems associated with AOC's long-range planning process: (1) the inconsistent treatment of federal districts, (2) the use of inaccurate information in estimating space baselines, and (3) the use of an inappropriate methodology for projecting caseloads. The report's six recommendations identified various steps that AOC could take to help address the problems and improve its long-range planning process.

In the late 1980s, the judiciary recognized that it faced growing space shortages, security shortfalls, and operational inefficiencies at courthouse facilities. To address these problems, the Judicial Conference of the United States directed each of the 94 federal judicial districts, with assistance from AOC—the administrative arm of the judiciary—to develop long-range space plans identifying where new and additional space was needed. The districts' plans comprise the cornerstone of AOC's overall long-range planning process, which primarily involves developing projections for future workload, personnel, and space needs for the judiciary's 94 federal districts. The results of AOC's long-range planning process are used by the General Services Administration (GSA) to develop funding requests for new or expanded space in the districts.

Our initial update of AOC's progress in implementing the six 1993 recommendations occurred in May 1994 when we testified before the Senate Committee on Governmental Affairs.¹ At that time, we found that AOC had made progress in improving its long-range planning process by taking action to implement two of our six recommendations. The two recommendations involved AOC's efforts to update the federal districts' long-range plans and the time periods covered by AOC's projections of the space needed in court-related facilities within various districts. We also found that AOC was assessing other options to fully address the remaining four recommendations that had been partially implemented or not yet fully addressed. These recommendations addressed such matters as the use of improved statistical methods for classifying districts, forecasting caseloads, and projecting personnel needs.

Subsequently, in response to the Subcommittee's August 2000 request, our objective was to obtain updated information on the extent to which AOC has continued its efforts to implement our recommendations since 1994. To accomplish this objective, we interviewed AOC headquarters officials responsible for long-range planning and the consultants who assisted AOC in its long-range planning efforts. We also reviewed relevant documents including (1) prior GAO reports and testimony; (2) AOC materials related to long-range planning, including plans submitted by two federal districts that AOC identified as illustrative examples of recently completed plans; and (3) appropriate sections of a May 2000 study prepared by Ernst & Young (EY) on the judiciary's space and facilities program.²

On December 13, 2000, we used the slides that appear in enclosure I to brief the Subcommittee on the results of our work. The slides include AOC's oral comments. In addition, AOC's written comments on this letter and the slides are included in enclosure II. As agreed with the Subcommittee, the transmittal of this letter and its two enclosures represents the culmination of our work on this assignment.

Results in Brief

The enclosed slides show that, since 1994, AOC has continued its efforts to improve the long-range planning process and has made progress in implementing our six previous recommendations. Of the six recommendations, AOC has fully implemented five and partially implemented one.

Specifically, AOC's actions for implementing the five recommendations primarily involved

¹*Federal Judiciary Space: Progress Is Being Made to Improve the Long-Range Planning Process* (GAO/T-GGD-94-146, May 4, 1994).

²*Independent Assessment of the Judiciary's Space and Facilities Program*, Ernst & Young, May 2000.

- using a statistical classification technique, known as cluster analysis,³ to create groups of federal districts with similar characteristics;
- relying on an automated computer program called AnyCourt, which is based on the *U.S. Courts Design Guide* (the *Design Guide*), to verify that districts' estimates of space baselines are consistent with the *Design Guide*;
- using a standard statistical forecasting technique, known as AutoRegressive Integrated Moving-Average (ARIMA),⁴ as a basis for developing more accurate caseload projections;
- helping districts improve their personnel projections by comparing their projections to AOC personnel projections and discussing the results with districts when large deviations occurred; and
- providing GSA with data related to 10-year projections of the districts' estimated space needs to support the judiciary's request for congressional approval of funds to build new court-related facilities and modify existing buildings.

Regarding the remaining partially implemented recommendation related to updating the districts' plans, AOC has not made as much progress as it had anticipated when we testified in 1994 on AOC's progress in implementing our recommendations. AOC's current goal is to update the districts' long-range plans every 3 to 5 years, but it has not been able to meet this goal. AOC said that it encourages, but cannot compel, the districts to update their plans and that the need to modify plans for which funding was delayed impeded its ability to update some other districts' plans. Nevertheless, AOC said that districts with space needs have been treated fairly and consistently. AOC mentioned that it considers the updating of districts' long-range plans to be an important effort and that it has focused its efforts on updating plans from those districts that have construction projects in the judiciary's 5-year plan, so that the Congress and GSA can have the most accurate and up-to-date space requirements for those projects. Also, according to AOC, the judiciary is considering whether to reinstate regular site visits so more consistent updating of the districts' plans can occur.

In addition to its efforts to implement our recommendations, AOC is currently considering how to best implement other improvements, including some that were suggested by EY, to the long-range planning process, such as using more advanced techniques to forecast caseloads. Although AOC's actions to date have improved the overall process, additional study would be needed to determine whether other opportunities exist that could further help improve the long-range planning process. However, as agreed with the Subcommittee, we did not follow up on them in order to give AOC time to fully implement the improvements it already has planned or has underway.

³Cluster analysis is the generic name for several statistical procedures that are used to create groups or "clusters" of similar entities.

⁴ARIMA is an advanced statistical technique that can be used to predict future trends from time series data (e.g., monthly or yearly data on past activity).

AOC's Comments and Our Response

In December 2000, we obtained oral comments on a draft of the enclosed slides from AOC's Assistant Director, Office of Facilities and Security, and other responsible AOC officials. The officials generally agreed with the information presented in the slides. As a result of our discussions with AOC, we made some technical corrections and clarifications to the slides, where appropriate.

In addition to oral comments, in January 2001, AOC's Associate Director provided us written comments on a draft of this letter and the enclosed slides. In his written comments, AOC's Associate Director stated that he was pleased that we recognized the judiciary's progress in improving the process since we completed our initial review in 1993, including AOC's efforts to address and implement our recommendations, and that AOC has worked diligently over the past 10 years to develop a sound long-range planning process. AOC's Associate Director said that the process was the first of its kind to establish a systematic approach to space and facilities planning in the federal government and that it was being used by other agencies as a model. Furthermore, he mentioned that the value of the process was nationally recognized in 1998, when AOC received GSA's Annual Achievement Award for Real Property Innovation. He said that despite these achievements, however, AOC will continue to refine and improve the process. In addition to the written comments, AOC provided some technical clarifications to the letter and the enclosed slides, which we included where appropriate.

We performed our work from August 2000 to December 2000 in accordance with generally accepted government auditing standards. We are sending copies of this letter to the Chairman and Ranking Member, Senate Committee on Environment and Public Works; the Honorable Jane R. Roth, Chair, Judicial Conference Committee on Security and Facilities; the Honorable L. Ralph Mechem, Director, AOC; the Honorable Thurman M. Davis, Sr., Acting Administrator of GSA; the Director of the Office of Management and Budget, and other interested congressional committees. The letter will also be available on GAO's home page at <http://www.gao.gov>. Major contributors to this letter included David Sausville, Martin de Alteriis, James M. Fields, Anne Hilleary, and Casey Brown. If you have any questions about this letter or the enclosures, please contact me at (202) 512-8387 or at ungarb@gao.gov.



Bernard L. Ungar
Director, Physical Infrastructure

Enclosures - 2



Federal Judiciary Space


Administrative Office of the U.S. Courts

Update on Improvement of the Long-Range Planning Process



Presentation Overview

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- Objective
 - Scope and methodology
 - Background
 - Results in brief
 - Status of Administrative Office of the U.S. Courts' (AOC) efforts to implement GAO's recommendations
 - Results of Ernst & Young's (EY) May 2000 study
 - Other AOC actions to improve the long-range planning process
 - Issues that could merit further inquiry
 - AOC's comments and our response
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Objective

- Provide updated information on AOC's progress in implementing GAO's six recommendations intended to help improve the long-range planning process.



Scope and Methodology

- Scope
 - AOC headquarters offices, Washington, D.C.
- Methodology
 - Interviewed
 - AOC officials responsible for long-range planning and consultants that assisted in AOC's statistical analyses.
 - Reviewed relevant documents, including
 - prior GAO reports and testimony;
 - appropriate sections of EY's May 2000 report concerning the judiciary's space and facilities program;
 - materials related to long-range planning, such as plans prepared by two federal districts; and
 - AOC's written responses to GAO's questions.



Background

- The purpose of the judiciary's long-range planning process is to project future workload, personnel, and space needs for federal district courts.
 - Each of the 94 federal districts is expected to prepare and update a long-range plan (LRP).
 - AOC, the administrative arm of the judiciary, assists the districts in their planning efforts.
- The results of the process are used by the General Services Administration to develop funding requests for new or expanded space.



Background: Overview of the Long-Range Planning Process

- To assist the districts, AOC provides workbooks that contain
 - workload forecasts,
 - formulas for developing personnel projections based on workload forecasts, and
 - the districts' previous personnel projections.
- Districts initially update their existing LRPs to send to AOC. The updates include
 - personnel projections for 5, 10, 20, and 30 years and
 - current space and current unmet space needs.
- AOC estimates future space needs based on personnel projections and space baselines, reviews updates, and provides feedback to districts.
- Districts finalize their updates after discussions with AOC.



Background: Prior GAO Work


- In 1993, GAO evaluated the reasonableness of the judiciary's process for projecting long-range space needs.
 - We identified three major problems in our report.
 - We made six recommendations to address the problems.
- In 1994, we testified that the judiciary had made progress in implementing our recommendations.



Results in Brief

- Since 1994, AOC has continued its efforts to improve the long-range planning process.
 - Of the six recommendations, AOC has
 - fully implemented five and
 - partially implemented one.
 - AOC is also working to implement other improvements to the process, such as reinstating site visits and using more advanced forecasting techniques.
 - Although AOC's actions have improved the long-range planning process, additional study would be needed to determine whether other opportunities exist to further help improve the process.

Enclosure I
Federal Judiciary Space: Update on Improvement of the Long-Range Planning Process



Results in Brief

Problems identified in 1993 report	Recommendations	Recommendation status and AOC's actions	Issues that could merit further inquiry
<p>1. Not all districts were treated consistently.</p>	<p>1a) AOC should prepare updated space plans for all districts whenever changes are made to the assumptions that affect staff and space allocations.</p> <p>1b) AOC should devise a method for classifying districts that would consider case complexity in addition to caseload.</p>	<p>Status: Partially implemented AOC's actions: Established a goal to update the plans every 3 to 5 years, but the goal is not being met for some districts. The judiciary is considering the reintroduction of site visit planning sessions so that more consistent updating can occur.</p> <p>Status: Fully implemented AOC's actions: Adopted a statistical classification method that GAO recommended. When performing the classification, AOC uses 45 variables, several of which measure case complexity.</p>	<p>The reasons why some districts do not update their plans and the possible effects on long-range planning</p> <p>AOC's approach in using cluster analysis to develop personnel projections from workload forecasts</p>
<p>2. Districts' baselines to which future space needs were added did not always accurately reflect current space needs.</p>	<p>2) AOC should revise the long-range planning process to require that baselines reflect the relationships among caseloads, staff needs, and space requirements and should include a mechanism to verify that deficits represent actual unmet space needs.</p>	<p>Status: Fully implemented AOC's actions: Checks the baselines using a computer program that is based on the standards in the <i>U.S. Courts Design Guide</i>. In addition, it reviews and discusses deficits with AOC program managers.</p>	<p>No issues</p>
<p>3. Methodology used for projecting caseloads was not statistically acceptable.</p>	<p>3a) AOC should identify and use a standard statistical technique that would generate accurate caseload projections with defined confidence intervals.</p> <p>3b) AOC should reduce the subjectivity of the process by eliminating the use of arbitrarily selected regression models and by verifying the information provided by local representatives.</p> <p>3c) AOC should limit the time span covered by the projections to 10 years.</p>	<p>Status: Fully implemented AOC's actions: Uses a standard statistical forecasting technique (known as ARIMA) that generates confidence intervals.</p> <p>Status: Fully implemented AOC's actions: Uses an acceptable modeling technique (ARIMA) and compares local personnel forecasts to its own data.</p> <p>Status: Fully implemented AOC's actions: Provides GSA with project proposals based on its 10-year space requirements.</p>	<p>Possible additional forecasting improvements</p> <p>The extent to which districts' final space projections differ from AOC's suggested projections</p> <p>No issues</p>



Status of AOC's Efforts to Implement Six GAO Recommendations Since 1994

Status of the recommendations	1994	2000
Fully implemented	2 (Recommendations 1a and 3c)	5 (Recommendations 1b, 2, 3a, 3b, and 3c)
Partially implemented	2 (Recommendations 3a and 3b)	1 (Recommendation 1a)
Not yet fully addressed	2 (Recommendations 1b and 2)	0
Total	6	6

Note: In 2000, we reclassified Recommendation 1a, which dealt with updating districts' space plans, as "partially implemented" because AOC has been unable to update the plans regularly in recent years.



Recommendation 1a: AOC should prepare updated space plans for all districts whenever changes are made to the assumptions that affect staff and space allocations.

Status: Partially Implemented

- AOC stated that it would begin to update the plans for all districts biennially starting in 1994. However, AOC's data show that more than 20 plans have not been updated since 1994.
- The current goal is to update all plans every 3 to 5 years; however, AOC said that this goal is not being met.
- AOC stated the following:
 - It encourages districts, but cannot compel them, to update their plans. It has recently focused attention on those districts expressing space needs.
 - Districts with space needs are being treated fairly and consistently.
 - Recent delays in construction funding have had an impact on updating.
 - Updating district plans is an important effort, and the judiciary will consider whether to reinstate regular site visits so more consistent updating of districts' plans can occur. It plans to pilot new updating procedures in three districts by March 2001.



Recommendation 1b: AOC should devise a method for classifying the districts that would consider case complexity in addition to caseload.

Status: Fully Implemented

- In response to our recommendation, AOC is now using a statistical classification technique known as cluster analysis.¹
- AOC's cluster analysis uses 45 variables to create groups of districts with similar characteristics.
 - 30 variables are related to court activities, such as the number of criminal and civil cases per district judge.
 - 15 variables are demographic, such as population and income.
- AOC now accounts for case complexity in some of the court-related variables, including
 - weighted caseload and
 - the number of defendants per criminal case.

¹Cluster analysis is the generic name for several statistical procedures that are used to create groups or "clusters" of similar entities.



Recommendation 2: AOC should revise the long-range planning process to require that baselines reflect the relationships among caseloads, staff needs, and space requirements and include a mechanism to verify that deficits represent actual unmet space needs.

Status: Fully Implemented

- AOC stated that it recently started routine checks of districts' space baselines, using an automated computer program, called the AnyCourt model, that is based on the *U.S. Courts Design Guide*.
 - AnyCourt can assess whether a baseline (existing space plus unmet space needs) is consistent with what the *Design Guide* would specify for existing personnel.
- AOC said it investigates any discrepancies between the baselines and the *Design Guide's* standards.
 - As part of its investigation, AOC said it reviews and discusses the baselines with AOC program managers who are familiar with the courthouses.



Recommendation 3a: AOC should identify and use a standard statistical technique that would generate accurate caseload projections with defined confidence intervals.

Status: Fully Implemented

- AOC now uses a standard statistical forecasting technique known as AutoRegressive Integrated Moving-Average (ARIMA)² modeling that generates caseload projections with confidence intervals.³
- AOC is developing procedures to use additional techniques that could yield more accurate forecasts.

²ARIMA is an advanced statistical technique that can be used to predict future trends from time series data (e.g., monthly or yearly data on past activity).

³Confidence intervals can measure one aspect of the quality of forecasting models.



Recommendation 3b: AOC should reduce the subjectivity of the long-range planning process by (1) eliminating the use of arbitrarily selected regression models and (2) verifying the information provided by local representatives.

Status: Fully Implemented

- AOC implemented part (1) of this recommendation by instituting ARIMA modeling.
- Concerning part (2) of this recommendation, AOC
 - compares the personnel projections provided by local representatives to its own statistical data and
 - when large deviations occur,
 - discusses the data with the districts and
 - attempts to help districts develop improved predictions.
- However, the districts finalize the projections based on their own knowledge and understanding of local conditions.



Recommendation 3c: AOC should limit the time span covered by the projections to 10 years.

Status: Fully Implemented

- AOC provides GSA with project proposals that are based on 10-year space requirements.
 - The proposals also include 30-year staff projections, which are used for site selection.
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Results of EY's Study

- In May 2000, EY published its study on AOC's Space and Facilities Program, which included a review of the long-range planning process.
- EY reported that the process was "essentially sound" but could be improved.
- Some of EY's recommendations related to the issues that we identified as possibly meriting further inquiry. Among other things, EY recommended that AOC should
 - use more advanced forecasting techniques,
 - improve its use of cluster analysis or replace it with an alternative statistical technique, and
 - establish a more structured approach to obtaining input from knowledgeable district representatives.



AOC Plans to Improve the Long-Range Planning Process

- AOC is currently working to implement other improvements to the long-range planning process. For example, AOC stated that it is
 - evaluating advanced techniques designed to reduce the error margins in forecasting caseloads and
 - exploring different ways to apply cluster analysis.
- Furthermore, the judiciary is considering the reinstatement of site visits.
- AOC said that it will need at least 6 months to implement these new improvements.



Issues That Could Merit Further Inquiry

- **Issue 1.** Why are some districts not updating their plans, and what effect does this have on AOC's long-range planning? (Related to Recommendation 1a)
- **Issue 2.** Does AOC's cluster analysis, as implemented, provide a reasonable basis for developing personnel projections from workload forecasts? (Related to Recommendation 1b)
- **Issue 3.** Do opportunities exist for AOC to further improve workload forecasting techniques? (Related to Recommendation 3a)
- **Issue 4.** To what extent do the districts' final space projections differ from AOC's suggested projections? (Related to Recommendation 3b)



AOC's Comments and Our Response

- On December 8, 2000, we briefed AOC.
- AOC generally agreed with our findings.
 - AOC stated that the judiciary is considering actions to address the only recommendation that has not been fully implemented.
 - The reinstatement of site visits is being considered so more consistent updating of the district plans can occur.
- As a result of our discussions with AOC and the information it provided, we made some
 - technical corrections and
 - clarifications.

Enclosure II
Federal Judiciary Space: Update on Improvement of the Long-Range Planning
Process



LEONIDAS RALPH MECHAM
Director

ADMINISTRATIVE OFFICE OF THE
UNITED STATES COURTS

CLARENCE A. LEE, JR.
Associate Director

WASHINGTON, D.C. 20544

January 11, 2001

Mr. Bernard L. Ungar
Director, Physical Infrastructure
General Accounting Office
Washington, D.C. 20548

Dear Mr. Ungar:

Thank you for providing us with an opportunity to review your draft report entitled *Federal Judiciary Space: Update on Improvement of the Long-Range Planning Process*. Since the General Accounting Office's original review of the federal judiciary's planning process in 1993, the judiciary has made a conscientious and dedicated effort to improve the space planning program. We are pleased that the General Accounting Office recognizes in this report the strides that the judiciary has taken to address and fully implement five of its six recommendations and our continuing efforts to implement the sixth.

In addition to addressing the General Accounting Office's recommendations, the Administrative Office has worked diligently over the past ten years to develop a sound long-range planning process. Moreover, in 1998, the value of our long-range facility planning process was nationally recognized when the Administrative Office received the General Services Administration's Annual Achievement Award for Real Property Innovation. This process is the first of its kind to establish a systematic approach to space and facilities planning in the federal government, and it is our understanding that it is being used by other federal agencies as a model. Notwithstanding these achievements, we will continue to refine and improve the process.

Sincerely,

A handwritten signature in cursive script that reads "Clarence A. Lee, Jr.".

Clarence A. Lee, Jr.
Associate Director

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