

# 09

## Cost Estimates

### Introduction

The preparation of the space needs for the Circuit Court, the update to the facility conditions report and the selection of a preferred site for the new courthouse led to the development of a recommended reuse plan for the Mitchell and Courthouse East buildings and proposed concepts for a new court facility. This chapter synthesizes all this information into an implementation plan with regards to a proposed project schedule and statement of probable project cost. Several delivery methods of designing and constructing the project are presented and analyzed, and a comparative analysis of the schedule and total cost is presented.

### Preliminary Project Schedule

The Feasibility Study for the Baltimore City Circuit Courthouse includes the following options to be considered:

- **Conceptual Option A** – construct a new 18-level courthouse on the south site. Afterwards renovate Courthouse East, and then follow with the Mitchell Courthouse. The new court facility will be based on a four courtroom per floor scheme.
- **Conceptual Option B** – construct a new 17-level courthouse on the north site. Afterwards renovate Courthouse East, and then follow with the Mitchell Courthouse. The new court facility will be based on a four- and eight-courtroom per floor scheme.
- **Conceptual Option C** – construct a new 12-level courthouse on the north site. Afterwards renovate the East and Mitchell Courthouses simultaneously. All court functions with the exception of the juvenile courts would move to the new facility. The new court facility will be based on an eight courtroom per floor scheme.

Using these three conceptual options, AECOM prepared three ways of phasing and scheduling the projects. The methods range from the tradition design/bid/build where each project would be design and constructed/renovated separately, to an aggressive “fast-tracked” process where construction would start prior to completing design. The following summarizes the three schedule options:

- **Schedule Option 1** – Traditional Design/Bid/Build. Each project – new courthouse, Mitchell and Courthouse East buildings renovation- would be separately designed, bid and constructed. 12 months prior to the completion of the previous project, the design process would start on the next project. For this schedule option, three different design and construction teams may be employed to implement the total project. Total project schedule is approximately eight years.
- **Schedule Option 2** – This schedule is similar to Schedule Option 1 with the exception that the new courthouse would be fast-tracked. In this scenario, approximately eight months after start of the design process, the design team would release bid packages for site work, excavation

and footings/foundations. While construction starts with the site and foundation, the design team would continue to produce the design documents for the remaining bid packages, including the structural systems, and the exterior and interior systems. The inherent risk with this delivery method is the overall design, particularly relating to the structural grid, must be fixed when the early bid packages are released. Changes to the structural grid after construction could result in significant cost increases due to changes in the field. Beyond the construction of the new courthouse, the renovation of Mitchell and Courthouse East buildings are similar to Schedule Option 1. Total project schedule is approximately seven years.

- **Schedule Option 3** – This delivery method is based on using the “fast tracked” method for the new courthouse as described in Schedule Option 2, but consolidating the renovation of Mitchell and Courthouse East buildings during the same period. Total project schedule is approximately five and half years.

Now the question is how to implement this vision. Several steps are needed and are illustrated on the pages that follow. In Figure 9-1, three separate timelines graphically depict the scheduling sequence for the respective options (Options 1-3). This chart is also useful in helping establish a mid-point in the time for construction of each project. This data then is used to determine the escalation rates for the project’s cost. Each of the three options proposes that the new courthouse would be the first project initiated since it would house agencies displaced from the two existing courthouses during their respective renovations.

The first two scheduling options, 1 and 2, show Courthouse East as the secondary project for several reasons. First, the proposed housing plan for Courthouse East includes establishing a jury assembly area that would serve both the new criminal courts building and Courthouse East buildings. A double-story bridge would connect the two buildings and provide secure passage for the public, jurors, and also judges. Second, although the Mitchell Courthouse would eventually house the relocated Juvenile Court, this component of the judicial system in the interim could remain at the Baltimore City Juvenile Justice Center without any impact to the renovation schedule.

The difference between the first two schedules is the delivery method for design and construction. Option 1 shows a traditional design/bid/build approach where the entire set of design documents would be prepared then put out for construction bid. In each project, the preparation of design documents for each of the two renovations of existing buildings is proposed to start approximately 12 months before completing the construction on the previous project. This strategy would allow a constant design/renovation work flow without major service disruptions. For example, 12 months before completing the new court facility, preparation of the design documents for the renovation of Courthouse East would begin. As construction on that project nears completion, bids would be solicited for the construction phase of the Courthouse East renovation while occupants would be relocated to the new facility during a three-month period. After completion of the Courthouse East renovation and its workforce was back in place in that building, the Clarence M. Mitchell, Jr. Courthouse would go through the same process. The total project schedule for this traditional method of staggered timing is approximately eight years.

Option 2 shows a fast-track method where early bid documents such as site work, foundations/footings, and superstructure could be released and construction could start before the entire set of design documents are completed. The risk inherent in this method is that design approvals must be solidified so no changes that can affect column locations or loads would result in costly change orders to the early bid documents. Several major courthouses have used this method, including the new Maricopa County Criminal Courts Tower in downtown Phoenix that is under construction as the time of this report. This proposed fast-track schedule would

reduce the project schedule by one year to a total of seven years.

The final Option 3 shows a more aggressive approach that employs the fast-track method for the new courthouse and the two existing courthouses are renovated concurrently. This method would force all the occupants of the East and Mitchell Courthouses to be relocated to the new courthouse in areas that were not designed for their operation. As an example, family courts would use larger courtrooms. Further, since the top floors would be unable to house all the judicial positions, some judges might be located on other floors in temporary offices until their final move back to the existing courthouse. This schedule method would reduce the overall project schedule to six and one-half years.

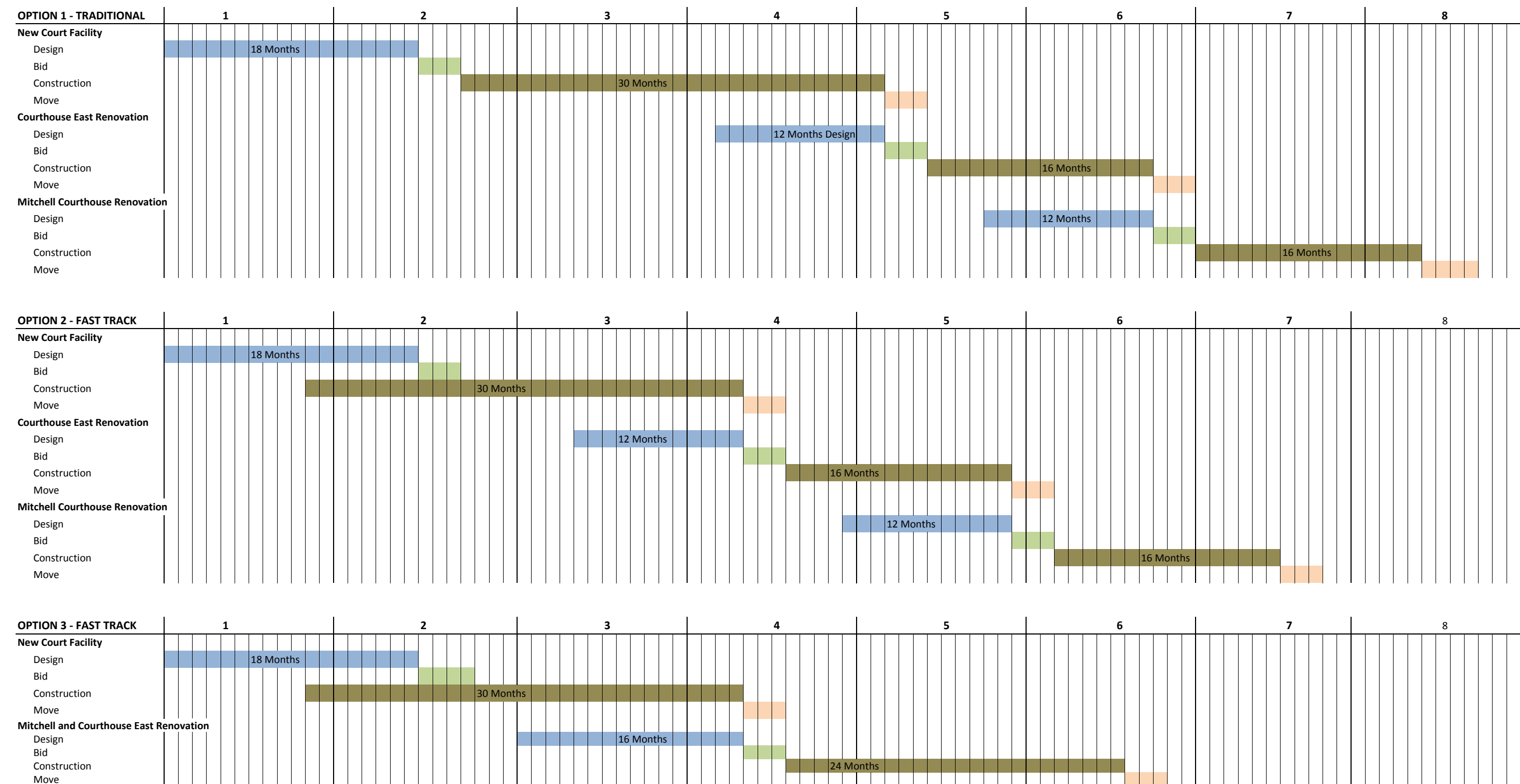
To provide a basis for determining the estimated escalation rate, AECOM assumes that design for the new courthouse would start in early to mid 2011. The escalation rates that were developed are estimated based on information that was available at the time of this report by AECOM's cost estimator. Correspondingly, the escalation rates for each building for the three schedule options are as follows in Table 9-1:

<b>Escalation Rate</b>	<b><i>New Courthouse</i></b>	<b><i>Courthouse East</i></b>	<b><i>Mitchell</i></b>
<b>Scheduling Alternative 1 Schedule</b>	<b>11.80%</b>	<b>17.00%</b>	<b>22.25%</b>
<b>Scheduling Alternative 2 Schedule</b>	<b>8.00%</b>	<b>14.50%</b>	<b>19.25%</b>
<b>Scheduling Alternative 3 Schedule</b>	<b>8.00%</b>	<b>15.75%</b>	

Table 9-1  
Estimated Escalation Rates

Escalation rates are applied to the mid-point of construction and, as demonstrated, they are affected by the project's delivery method. As such, they significantly determine the estimated project cost and outcome for each option.

Figure 9-1  
Proposed Project Schedules



## Preliminary Cost Estimates

Based on the three schedule options and their approximate mid-point of construction, AECOM developed the estimated construction cost for the concepts. The “soft costs” or associated cost for a project was also prepared at an unescalated value. This “soft cost” consist of design and construction management fees; site acquisition; construction testing; construction permit fees and fixtures, furniture and furnishings to name a few.

Construction Management (CM) fee was also included in the soft cost. Construction Management is a discipline and management system specifically created to promote the successful execution of capital projects for owners. Large scale projects, such as the Baltimore City Circuit Court complex, can be highly complex. Few owners maintain the staff resources necessary to pay close, continuing attention to every detail--yet these details can “make or break” a project.

A professional CM would augment the owner’s staff with pre-planning, design, construction, engineering and management expertise that can monitor the best possible project outcome no matter what type of project delivery method used. The Circuit Court projects would use an “Agency Construction Manager.” “Agency” CM is a professional service that can be applied to all delivery systems where the CM acts as the owner’s principal agent in the management of a construction project or program, where the CM is responsible to the owner for managing the planning, design, construction and post construction phases, or portions thereof. The CM represents the interests of the project in its dealings with other construction professionals, and with other private and public entities.

- Optimum use of available funds
- Control of the scope of the work
- Project scheduling
- Optimum use of design and construction firms’ skills and talents
- Avoidance of delays, changes and disputes
- Enhancing project design and construction quality
- Optimum flexibility in contracting and procurement

Comprehensive management of every stage of the project, beginning with the original concept and project definition, yields the greatest possible benefit to owners from Construction Management.

AECOM’s cost estimator, D MS Construction Consulting Services, prepared the estimated construction cost for the design options. The methodology used a parametric, or statistical, cost estimating. This method is commonly performed in the initial phases of a project where detailed information such as actual design layouts is not available. The estimate is based on top-level system requirements and design characteristics. In other words, estimating by parametric is a method to show how parameters influence cost. Unit costs per area are used based on historical data of similar court projects and adjusted to local market conditions.

DMS used the site development concept plans, occupancy scenarios, and resulting spatial estimates to prepare the statement of probable construction costs. Several assumptions were also made considering the conceptual level of this planning study. They include:

- Achieve a Silver LEED certification for all projects
- Replace mechanical, electrical and plumbing systems in the Mitchell and Courthouse East buildings.
- Replace window and roofing systems for the two existing structures, and major cleaning and re-pointing of the exterior stone.
- Provide allowance for restoration of existing courtrooms and installation of infrastructure for modern court technology.

- Demolish all office spaces. The historical areas of the Mitchell Courthouse will be preserved and restored
- Renovate the Mitchell and Courthouse East buildings while both structures are completely vacated.

Additional cost items include:

- Hazardous material abatement for the two courthouses (a detailed report with the estimates can be found in the appendices).
- Two different contingency percentages are added to the construction and project cost. A design contingency is used to cover design decisions that were not made during this conceptual study. A construction contingency is added to factor unexpected circumstances that could occur during construction. Typically, renovation requires a higher contingency, around 15%, due to unexpected items that could be uncovered during construction that are not visible or documented on drawings of the existing buildings. One example is uncovering a primary electrical duct bank that requires re-routing. These unknown conditions can add cost to a contract and a contingency is an insurance plan to protect the owner from unexpected issues during construction.

City legal fees were not been included in the project cost since they will be handled internally. Site acquisition costs are based on appraised values provided by the city's Real Estate department. These are the best figures available at the time of the study and a more thorough appraised value should be prepared prior to acquiring the site. Table 9-2 summarizes the assessed value for both sites.

<b>South Site</b>	<b>\$ 4,777,900</b>
<b>North Site</b>	<b>\$ 12,472,700</b>

Table 9-2  
Site Assessment Values

The detailed cost estimate for all conceptual options projects is located in report's appendix.

Tables 9-3, 9-4, and 9-5 provide a summary of the project cost. Further, itemized spreadsheets of each schedule option are provided in the appendix:

<b>Scheduling Alternative 1</b>	<b>New Courthouse</b>	<b>Courthouse East</b>	<b>Mitchell Courthouse</b>	<b>Total</b>
<b>Conceptual Option 1</b>	<b>\$ 290,400,330</b>	<b>\$ 161,248,620</b>	<b>\$ 150,377,511</b>	<b>\$ 602,026,460</b>
<b>Conceptual Option 2</b>	<b>\$ 290,140,345</b>	<b>\$ 161,248,620</b>	<b>\$ 150,377,511</b>	<b>\$ 601,766,475</b>
<b>Conceptual Option 3</b>	<b>\$ 277,357,412</b>	<b>\$ 161,248,620</b>	<b>\$ 150,377,511</b>	<b>\$ 588,983,542</b>

Table 9-3  
Schedule Option 1

<b>Scheduling Alternative 2</b>	<b>New Courthouse</b>	<b>Courthouse East</b>	<b>Mitchell Courthouse</b>	<b>Total</b>
<b>Conceptual Option 1</b>	<b>\$ 281,049,950</b>	<b>\$ 157,929,056</b>	<b>\$ 146,808,198</b>	<b>\$ 585,787,204</b>
<b>Conceptual Option 2</b>	<b>\$ 281,057,373</b>	<b>\$ 157,929,056</b>	<b>\$ 146,808,198</b>	<b>\$ 585,794,627</b>
<b>Conceptual Option 3</b>	<b>\$ 268,703,398</b>	<b>\$ 157,929,056</b>	<b>\$ 146,808,198</b>	<b>\$ 573,440,652</b>

Table 9-4  
Schedule Option 2

<b>Scheduling Alternative 3</b>	<b>New Courthouse</b>	<b>Courthouse East</b>	<b>Mitchell Courthouse</b>	<b>Total</b>
<b>Conceptual Option 1</b>	<b>\$ 281,049,950</b>	<b>\$ 159,588,838</b>	<b>\$ 142,643,999</b>	<b>\$ 583,282,787</b>
<b>Conceptual Option 2</b>	<b>\$ 281,057,373</b>	<b>\$ 159,588,838</b>	<b>\$ 142,643,999</b>	<b>\$ 583,290,211</b>
<b>Conceptual Option 3</b>	<b>\$ 268,703,398</b>	<b>\$ 159,588,838</b>	<b>\$ 142,643,999</b>	<b>\$ 570,936,235</b>

Table 9-5  
Schedule Option 3

The latter two choices show a savings by implementing “fast track” construction methods for the new courthouse. The savings in comparison to the traditional method of scheduling are \$15.9 million and \$18.4 million respectively. Further, in each of the options, the design Option A which proposes 4 courtrooms per floor on the South Site is the most expensive at a cost that is \$9 million more than Option B on the North Site, which proposes 4 courtrooms per floor. Clearly, then, cost savings are available by opting for certain site selections and scheduling strategies.

# 10

## Economic Analysis and Operational Savings

### Introduction

Baltimore City plans to construct a new courthouse, and renovate / restore the existing Mitchell and Courthouse East buildings to support continued operations as court facilities serving the Circuit Court. The three court facilities will be designed to work together as a unified central courts campus, providing:

- A combination of new and restored / renovated courtrooms and hearing rooms to support the Criminal, Civil, Family, and Juvenile Divisions;
- An appropriate combination of distributed and collegial chamber configurations to serve judicial officers including judges, masters, and retired judges hearing cases in the Circuit Courts;
- Required court support spaces including space for the Office the Jury Commissioner and jury assembly and grand jury area; Family Court Mediation Center; Coordinated Domestic Violence Center; Self-Assisted Litigation Project; centralized and distributed court holding and processing areas; court reporters and court interpreters, and other specialized court areas;
- Court-related offices and support spaces for elected and appointed Baltimore City and State of Maryland agencies and departments, including: Office of the State's Attorney; Office of the Clerk of the Circuit Court; Office of the Register of Wills; Office of the Baltimore City Sheriff; Circuit Court Administration; Medical Services; Addiction Assessment; Pretrial Release Program; Pro Se Assistance Center; Criminal Justice Coordinating Council; Services; family court administration center; Medical Services; Baltimore City Police Family Crimes Unit; State of Maryland Department of Juvenile Justice; and others.

### Summary of Benefits

The planning, design, construction and occupancy of a new courthouse in Baltimore City, together with planned renovations and restorations of the Mitchell and Courthouse East buildings will provide considerable economic benefits to Baltimore City and the State of Maryland.

Impacts of the project will include:

- Impact of the Project on Employment (Direct and Annual)
  - Direct (Planning, Design, Construction) -- \$188,410,000, 1,300 + jobs
  - Indirect (Multiplier Effect) -- \$97,974,750
- Public Revenue - Generating Potential
- Direct Revenues
  - Commercial Office / Retail Space / U.S. Postal Service Space Rental – Potential for \$1,677,385 annual rent revenue.
  - Naming Rights – no value established.



- Indirect Revenues
  - Historic Tax Credits – no value established, although historic tax credit benefits could be realized should the facilities qualify under terms that include ownership by a taxpaying entity with not more than 35% leased by the tax-exempt entity.
- Other Economic / Operational Benefits

### Impact of the Project on Employment (Direct and Annual)

The planning, design and construction of the three court projects will create important benefits within the City and State. These benefits will include new jobs, income and new economic activity impacting every sector of the local economy. Through the multiplier effect, indirect economic benefits are added to the direct benefits brought about by initial planning, design and construction expenditures, and from that point forward, from expenditures for annual operations.

Quantifying the indirect benefits of initial and on-going / annual expenditures has been the object of considerable economic study. No single area or political unit is self-contained today, and purchases from other areas and political units are necessary. The actual magnitude of a multiplier depends on the likelihood the goods and services purchased in a region would be produced in or provided from the area or region.

Assuming that strong provisions are made to encourage that goods and services purchased to support the construction and annual expenditures on the new court facilities are kept in the Baltimore City area, a multiplier of 1.52 was used to determine total direct and indirect output created by the project<sup>1</sup>.

Direct costs or output from the initial planning, design and construction phases result from direct project-related costs, including land acquisition, site preparation, and soft and hard costs associated with the construction of the three projects. Total anticipated direct output is \$600 million for the construction and project-related development of the three court facilities. The total Baltimore City output is \$912 million (\$600 million direct, \$312 million indirect, based on the 1.52 multiplier).

Based on comparisons to other recent assessments of economic benefits from construction projects<sup>2</sup>, the \$600 million in direct costs translates also correlates to employment of 1,300 to 1,500 workers on the construction project, with total anticipated wage benefits to the City / Region due sole to the initial construction of more than \$286 million.

While long-term efficiencies in operations of the courts are expected due to planned process improvements in the justice system, there are additional direct and indirect costs that can be expected with the construction, occupancy and day-to-day administration, maintenance, and upkeep of the court facilities. This result from the increase in overall area (SF) occupied by the courts, which is required to alleviate substandard conditions, compaction and crowding that has developed over the last fifty years in the existing court facilities. That there would be increased area occupied by the courts which would tend to support an increase in maintenance, janitorial, and facility management staffing, is offset by the improvements made in the construction / renovation projects, and use of durable and easily / efficiently-maintained systems, materials, products and finishes. Please refer to the paragraphs presented later in this chapter that discuss the net impact to be anticipated in maintenance / housekeeping operations.

<sup>1</sup> Source: Towson University Economic Development Center, 2010, Dr. Daraius Irani, Ph.D., Director, Economic and Work force Development.

<sup>2</sup> Miami-Dade County Children's Courthouse: Economic Impact Analysis, Sharpston, Burnson & Company, P.A., Miami, FL, 2009.

To some degree, the net result of the planning, design, construction and occupancy / operation of the new facilities may lead to a reduction of personnel positions due to process improvement and the adoption of new electronic calendaring and record management systems. However, it is believed that these system improvements generally cannot occur until the new facilities are in place and the new State of Maryland electronic records / case management system is in place and operational. As a result, no immediate impact (plus or minus) is included in the calculation to reflect future efficiencies. Additionally, it is believed that the majority of staff position consolidations can be addressed as current employees retire and leave positions, but the positions are not re-filled. The net impact of these work force reductions will be to reduce the overall gain of the project.

Category	Output	Wages	Employment
Direct – Construction	\$ 600,000,000	\$ 188,410,000	1,300-1,500+
Indirect – Multiplier effect	\$ 312,000,000	\$ 97,974,750	
<b>Total Benefits</b>	<b>\$ 912,000,000</b>	<b>\$ 286,387,731</b>	

Table 10-1  
Summary of Economic Impact from Initial Construction

#### Public Revenue- Generating Potential

The Baltimore Courthouse project analysis includes that opportunities to generate other revenues be explored for spaces not programmed for judicial purposes. AECOM has considered two primary potential sources of funds:

- **Direct Revenues:** Rental of un-programmed space for office and retail uses – this would be dependent upon accessibility policies, rental/lease terms and how operating expenses are to be allocated. Potential rental tenants could include retail/food service facilities, commercial office tenants such as law firms and legal services, and the U.S. Postal Service for a 'retail' postal facility in Courthouse East.
- **Indirect Revenues:** Availability of historic tax credits for appropriate rehabilitation of the Courthouse buildings – the historic credits are only available if [a] the Courthouse is in private ownership (or a required percentage of the total square footage is allocated to 'commercial' / rent-paying uses, [b] the building can be considered to be "in service" by the IRS, and [c] the design and construction are required to meet the Secretary of Interior's Standards for Certified Rehabilitation of Certified Historic Structures (also called the "Secretary's Standards". The fourth requirement is that the structure must be listed on the National Register of Historic Places; the Courthouse buildings are both already included in the Business and Government Historic District listed with the Maryland Historic Trust, Maryland's designated State Historic Preservation Office (SHPO). In addition to the Federal Historic Tax Credits, there is also a Maryland State Historic Tax Credit and a Baltimore County Historic Tax Credit.

#### Base Building Analysis

To determine what portion of the proposed plans might be available as rental space, AECOM completed a preliminary space analysis of the programmed plans developed for the Mitchell and Courthouse East buildings. All of the suggested rentable space is located in the Courthouse East buildings; with a total of approximately 69,000 square feet of rentable space available for outside tenants on three levels (estimated square footages were based on blocking diagrams, and should be considered approximate):

Level EB1 includes approximately 16,230 square feet of rentable space, located one-half floor below the Calvert Street level. This space could be

leased as a coffee shop/snack bar/limited food service location to serve jurors and staff, or could be leased for commercial or government office space. Given the partially below grade access and limited visibility, this space would be considered Class B or B+ space for office tenants, or could be redeveloped as leased space for retail and food service tenants.

Level E 3 contains approximately 34,800 square feet of rentable space; this space would best be used for commercial or government office tenant. Views, windows, direct accessibility through the building's elevator system, etc. suggest that this space could be considered Class B, B+ or A- office space, depending upon the level of rehabilitation completed. Assuming that the proximity to the Courthouse and level of finish are recognized by the legal services community, the space should lease for a rate near the top of the subdistrict office market in this part of downtown Baltimore.

Level E 6 also has rentable space totaling approximately 18,000 square feet inside the roof area of the Courthouse East building. The E6 space would likely be considered Class B/B+ or A- office space, depending upon the level of rehabilitation completed, but could also achieve top subdistrict market rents if properly renovated.

Square Footage Estimates - Baltimore Courthouse Project						
Mitchell Courthouse			Courthouse East			
						Net
Level	Gross SF		Level	Gross SF	Corridors	Rentable
M 6	40,862		E 6	20,640	2,444	18,008
M 5	34,310		E 5	34,805	7,546	
M 4	41,520		E 4	34,805	3,012	
M 3	51,306		E 3	34,805	2,368	34,805
M 2	51,306		E 2	63,778	11,339	
M 1	51,306		E 1	63,778	16,686	
M B	51,306		E B 1	63,778	1,672	16,230
Total	321,916			316,389	45,067	69,043
Source: AECOM Economics						

Table 10-2  
Rentable Area in Courthouse East

**Estimated Annual Rental Revenues**

Based on our Base Building space analysis, Courthouse East has approximately 316,400 gross square feet of usable space, including proposed public corridors (which constitute about 45,000 square feet of the total building area, or approximately 14.2 % of the total. Table 10-2 summarizes space by level in both the Mitchell and Courthouse East buildings.

**1. Direct Rental Revenues – Commercial Office Space**

Rental of available space to private industry tenants, most likely law firms who would want to be located within the new Courthouse project. Based on our preliminary space analysis of the building, there is approximately 69,000 square feet of space which could be leased to 'outside' tenants. Of this total, the EB1 space (one-half level below the street level) would likely generate lower office rental rates than would the upper floor levels (E3 at 34,800 square feet of net rentable area and E6 at 18,000 square feet of net rentable area.)

Commercial office market rents in the Central Business District (CBD) of downtown Baltimore vary according to proximity to the Inner Harbor and the blocks immediately adjacent to Pratt Street versus other CBD areas. For the part of the CBD in which the project site is located (bounded by the Pratt Street/Inner Harbor, Howard Street, Baltimore Street and Interstate 83), commercial office rents in the first quarter of 2010 ranged from \$14 per square foot to \$34 per square foot (both full service), with an average rent of \$24.94 per square foot. This sub-district of downtown Baltimore includes 9,904,790 square feet of office space in 77 properties (as of February, 2010), with an office vacancy rate of 21% (or 2,039,010 square feet of space). There has been no increase in rentable building area (RBA) in this part of the city in over a year; paralleling the national economic downturn, vacancy rates have risen; the vacancy rate in this sub-district in 2007 was 11%, so it has almost doubled in 2 years. This area also includes the greater concentration of newer office space which might be considered as Class A space, due in part to Inner Harbor views and more recent construction.

The Baltimore Courthouse project area is located in a different sub-district (for purposes of our rental rate analysis, defined as an area bounded by Baltimore Street, Howard Street, Mulberry Street and Interstate 83) north of the Inner Harbor area, and is mainly comprised of older office structures. There are 97 commercial office properties in this sub-district with 7,772,960 square feet of space; in the first quarter of 2010, the commercial office vacancy rate is reported at 17% (or 1,320,951 square feet of vacant space). Commercial office rents in this part of downtown Baltimore range from \$8.66 to \$25 per square foot and average \$17.90 per square foot and are lower than the area between Baltimore Street and the Inner Harbor, which achieve rents ranging from \$14 to \$34 per square foot and average \$24.94 per square foot. However, proximity to the courtrooms suggests that legal services and law firms may find the in-building location very attractive and would be willing to pay top market rates for this part of the CBD.

**2. Direct Rental Revenues – Commercial Retail Space**

While the lower level could also be rented as office space, the EB 1 area could accommodate a coffee shop, a "lobby shop" (typically a newsstand format with snack foods, soft drinks and water and a limited range of toiletries/convenience items) and/or a food service facility/snack bar to serve in-courthouse employees as well as prospective and selected jurors.

Accessibility to the general public to this space should include the impact on building security, potential market share and the competitive context and the potential difference in sales volume that would be required to make a food service venture economically viable.

As there will likely be a continuing flow of potential and selected jurors into the courthouse, as well as employees in an area of downtown Baltimore that is underserved in food and beverage options, a coffee shop and/or food service operation within the building would be considered both an amenity and a potential revenue center.

Rents for food service can be [a] structured as a 'flat' rent (an agreed-to amount paid monthly based on the area market), [b] negotiated as a straight percentage of sales (typically 6-10% of annual gross sales) or [c] structured as a base rent plus an 'overage' (an agreed-to minimum rental amount each month, plus an agreed-to share of sales above established sales volumes). The first approach guarantees a rental amount to the Courthouse each month, but offers little benefit if sales are significantly above projected estimates, as the rent is fixed until the next lease term. The second approach provides for the Courthouse/landlord to receive a share of sales, regardless of the volume; if sales are high, the Courthouse would benefit.

Servicing and deliveries for food service and other retail on EB1 may also complicate accessibility and security standards for the loading docks area located in the adjacent space on the same level. While there could be direct servicing and delivery access into the rentable from the designated loading docks, the ability to bring unscreened trucks into a dock area could also present a potential security breach. Determination of the appropriate approach will depend on Courthouse policy about how and when goods can be delivered into retail spaces, assuming that a retail use is included.

### 3. Direct Rental Revenues – U.S. Postal Service 'Retail' Space

It is also understood that the U.S. Postal Service is interested in maintaining a publicly accessible 'retail' post office facility in the East Courthouse. This use would most likely be located on the EB 1 level, although specific data on space required (both "front of house" and "back of house") and potential rental revenues from the USPS have not been analyzed. Any space allocated to the USPS would need to be subtracted from both the available for rent total as well as from the Estimated Annual Rental Revenue summary presented in the following section.

If the upper levels of the Courthouse building were leased to commercial office and retail / food service tenants, the potential annual revenues would likely reach the upper levels of the sub-district, assuming a high quality of finishes in the building and interest on the part of prospective tenants. Estimated annual revenues (in 2010 dollars) are shown in Table 10-3 on the following page. If the average office rent for this part of downtown Baltimore (\$17.90 per square foot per year) is achieved instead, annual rental revenues would reduce to approximately \$1.3 million (full service, 2010 dollars).

<b>Figure 1 Baltimore Courthouse Office Rent Projection</b>			
	<i>Rentable</i>	<i>Rent rate</i>	<i>Annual Rent</i>
<i>Level</i>	<i>SF</i>	<i>psf/year (avg)</i>	<i>Revenue</i>
EB 1	16,230	\$22.00	\$357,060.00
E 3	34,805	\$25.00	\$870,125.00
E 6	18,008	\$25.00	\$450,200.00
<b>Total</b>	<b>69,043</b>		<b>\$1,677,385.00</b>
Source: AECOM Economics, CoStar			

Table 10-3  
Office Rent Projections

### Naming Rights as Potential Revenue Sources

Naming rights, or the “right” to apply a specific name to a venue, facility, space or event, have traditionally functioned in one of three ways – institutional/commemorative in nature, commercial/marketing –oriented, and other (such as the rights to “name” a star in space for \$19.95 up to \$99.95 in exchange for an ‘official naming certificate’ at the lower price up or launching the naming notification into space for the higher price).

In institutional settings such as universities, museums, hospitals and public parks, facilities, rooms, wings, galleries or spaces have frequently been ‘named’ to honor the benefactors and major donors whose contributions underwrote creation of the facilities or spaces in the first place. Hospital wings or pavilions, museum galleries, university Libraries, athletic field houses, dormitories and other structures or spaces have been named to honor those who paid for them.

While most of these ‘naming’ rights have occurred within museums, universities/academic institutions and hospitals, there are also some precedents in public facilities such as parks (for example, the Delacorte Theater and the Wollman Ice Rink in New York’s Central Park) and public memorials. These types of naming rights are generally administered by a governmental unit at some level, from a Parks Board up to a City Council or Commission or a state agency.

Naming rights are not necessarily guaranteed in perpetuity. In fact, most of the recent examples have clearly established terms, so that rights can be offered again in the future. As an extreme example of term-specific use, the frequently re-named Boston Garden (it has been re-named over thirty times since originally constructed), offered naming rights on a daily-purchase basis while seeking a longer-term agreement. The price for one-day naming rights reportedly averaged about \$3,000. As another non-sports example, in 2005 the right to name a previously undiscovered species of monkey was offered online, and attracted a winning bid of \$650,000. The naming rights were offered by a non-profit conservation organization, and the bid revenues were used to preserve part of the threatened habitat of the previously unknown monkey in Madidi National Park in Bolivia.

More recently, as the economic downturn has reduced public revenues, some cities have explored naming rights as another way to cover capital and/or operating costs for necessary public services such as transportation. New York City’s Metropolitan Transportation Authority has hired companies to investigate the ability to sell naming rights for MTA subway stations or other MTA-owned properties, and sold naming rights to Barclay’s Bank for one of Brooklyn’s oldest and busiest stations in mid 2009 for \$200,000 per year for 20 years (total value = \$ 4 million). While the MTA’s interest

in selling naming rights had been unsuccessfully marketed for several years, Barclay's no doubt made this offer because of the station's proximity to its multi-million dollar sports venue proposed nearby. The NY Botanical Garden includes the Con Edison Gallery, the Mitsubishi Wild Wetland Trail and the Texaco Kids Laboratory, all of which were 'named' for their corporate sponsors as part of a public-private partnership to reduce costs and continue programs at the public garden.

The most common commercial naming rights have been used to apply corporate sponsor names to sports facilities and venues. One of the first reported 'naming rights' was for Busch Stadium in St. Louis in 1953. Initially proposed as Budweiser Stadium, the name was considered too commercial and was controversial (initially rejected by the Commissioner of Baseball). Later, when the proposal was changed to memorialize August Busch (and the naming proposal changed to Busch Memorial Stadium) it was approved.

By the time Coors Field in downtown Denver and Miller Park in Milwaukee were proposed, Major League Baseball's policies had changed; Heinz Field in Pittsburgh continues the naming association with individuals and major industries identified with the geographical area where the facility is located. The financial values associated with sports venue naming rights can be significant. The two highest prices paid are both in New York City: Citi Field and Barclay's Center each guaranteed \$20 million per year for at least 20 years; total value is \$400 million.

Allocation of naming rights has not been without complications, however. In some cases, corporate scandal or bankruptcy has terminated the original naming rights agreement (examples include Enron Field in Houston. The Verizon Center in downtown Washington was originally named MCI Center, but after MCI acquired Worldcom after a corporate scandal, the name was changed to reflect Verizon's acquisition of MCI Worldcom and elimination of the old name. Baltimore's M&T Bank Ravens Stadium was renamed after PSINet (the original holder of the Stadium's naming rights) went bankrupt and could not honor its naming rights payment commitments. Philadelphia's Spectrum II Center (housing the Flyers and the 76'ers) has been renamed three times due to bank mergers (CoreStates bank was acquired by First Union Bank, which was subsequently acquired by Wachovia Bank; the current name, Wachovia Center, will change again due to the bank's acquisition by Wells Fargo Bank).

All of this change can lead to some level of confusion by the public, and the likely dilution of the "brand" equity that naming rights are supposed to reinforce for their sponsors. Normally paid for as a marketing/advertising expense by the corporate sponsors, the high values paid for many venues have not necessarily generated value equal to the significant costs involved, as brand value is difficult to quantify. Generally, naming rights are valued according to what a company is willing to pay, not because of a strictly quantifiable commercial benefit.

Other issues also suggest that naming rights sponsors should be carefully chosen and vetted. In 1986, Villanova University named its new on-campus basketball arena the Du Pont Pavilion because it was largely financed by John du Pont, a member of the wealthy Delaware family chemicals family. When du Pont was found guilty of murder 10 years later, the name was removed and the venue is now known as the Pavilion.

As a general comment, assignment/sale of naming rights for public facilities can be controversial.

Some argue that naming rights can generate annual revenues for public facilities, services or systems at little cost (New York City government has a Chief Marketing Officer on its payroll of municipal employees to coordinate generation of these kinds of revenues).



Others suggest that introduction of naming rights, which may later be lost to bankruptcy, scandal or other controversy, can make it more difficult to provide public funding, once dependence on private sources is established, even for a specified period of time. From a public relations and image standpoint, naming rights may be viewed as a failure of public sources to take care of/fund 'public' facilities.

### **Relevance to the Baltimore Circuit Court Buildings**

AECOM Economics believes that it may be possible to solicit some form of naming rights contributions toward completion of the Courthouse project, but would suggest that the model should follow the institutional/commemorative approach rather than a more commercial corporate/marketing approach, as the justice system may be more prone to a negative image result than would a sports venue, which can more easily be viewed as a commercial (or semi-commercial) activity, even if publicly owned.

An exception might be to offer naming rights for public spaces in the new Courthouse buildings to law firms (such as public lobbies or the law library) to honor attorneys or judges. In the naming-rights sponsorship world, this would be structured as "The Judge John Jones Courtroom Presented/Provided by Adams, Baker and Charles LLC, Attorneys at Law" Building components might also be considered for naming (elevator banks, stair halls or other public zones), but it is unlikely that the revenues generated would be substantial for smaller elements.

We would also note that the notion of commercially/corporately sponsored courtrooms could also be perceived as compromising the unbiased status of the courts, or at least create a public relations problem should a sponsor become identified with some illegal activity (such as "The Madoff Associates Courtroom"). Should such an approach be considered, it is strongly suggested that the vetting process for prospective sponsors and the term of the sponsorship/naming rights be carefully considered before awarding any rights.

### **Historic Tax Credits**

Three types of historic tax credits are available in Baltimore: Federal Historic Tax Credits (@ 20% of the approved/Certified costs of renovation); and Maryland State Historic Tax Credits (Maryland Historic Trust Commercial Tax Credit Program @20% of approved renovation costs). Each tax credit has specific requirements for design and construction, review and construction standards employed both during and after completion, ownership/"commercial" status and occupancy by rent-paying occupants, as well as other standards and 'tests' for eligibility.

While the architectural qualities and renovation plans for both Mitchell and Courthouse East buildings could be considered as qualifying for historic tax credits, both the public ownership of both buildings and the public/private occupancy pattern of Courthouse East will preclude eligibility for Federal Historic Tax Credits, as explained below.

The Federal Historic Preservation Tax Incentive provides a 20% tax credit for the certified rehabilitation of certified historic structures or a 10% tax credit for the rehabilitation of non-historic, non-residential buildings built before 1936. The program is jointly administered by the US Department of the Interior (the National Park Service working closely in association with the State Historic Preservation Officer, which in Maryland is the Maryland Historical Trust). Assuming that the building and its renovation (design and completion) qualify for approval by the State and Federal agencies involved, the Department of the Treasury (Internal Revenue Service) is notified of an approved credit, and the applicant can begin claiming the



dollar-for-dollar reduction in Federal Income Taxes owed until the full value of the credit is exhausted. The benefit can be substantial, assuming that renovation standards and uses are compatible with the Secretary of Interior's Standards for Certified Rehabilitation of Certified Historic Structures.

As an example, if total 'qualified' costs (hard and soft costs for renovation meeting the Secretary's Standards) were to be \$10 Million, the qualified tax credit would be \$2 Million, and the credit can be 'carried forward' into future years if the applicant's tax obligation for the first year after approval is not as large as the credit value. Approved Federal Historic Tax Credits can also be sold at discount on Wall Street to corporations and partnerships seeking tax reductions; the discount is usually 20% of the total credit value, so a discounted sale of the theoretical \$2 Million described above would have a secondary market value of \$1.6 Million (\$2 million X .8).

Some approved projects choose to sell their credits in order to reduce initial equity commitments or to provide cash flow to investors. The Federal Historic Tax Credits also have a 'recapture' clause for the first five years after the credit is approved. For a commercial (for rent) residential development, for example, the developer would need to operate the building on a rental basis for the first five years after the credit. If ownership shifted to condominiums, the unused portion of the credit at the point of conversion would revert back to the Federal Government, therefore residential projects do not typically convert until year 6 or later.

There are two major obstacles to claiming the Federal Tax Credit for the Baltimore Courthouse Project: [a] the public ownership of both buildings (since government is not taxed, and therefore cannot have Federal Income Taxes to claim nor to realize any benefit from a credit against taxes owed), and [b] the percentage of space which could be rentable in the Courthouse East building. Based on standards issued by the Internal Revenue Service, the rehabilitation tax credit cannot be used by a tax-exempt entity. However, in some instances, tax-exempt groups are involved in rehabilitation projects by forming a limited partnership and maintaining minority ownership interest as a general partner. If a limited partnership is formed, the limited partner is eligible for tax credits.

#### **Properties Leased to a Tax-Exempt Entity**

A building owner who incurs the cost of rehabilitating an historic structure cannot pass the credit on to a lessee(s) if the owner is tax-exempt. A taxpaying entity, however, can claim the rehabilitation tax credit on property that is leased by a tax exempt entity as long as the percentage of space occupied does not exceed 35% of the gross square footage. (e.g., a governmental or non-profit organization occupying more than a third of a renovated historic structure that would otherwise qualify for historic tax credits would not be eligible). Public financing of historically appropriate renovations are also restricted. The lease must not result in a disqualified lease; a disqualified lease means that:

1. Part or all of the property was financed directly or indirectly by an obligation in which the interest is tax exempt and the entity participated in the financing (for example, tax-exempt bonds were used in the financing of the project).
2. Under the lease there is an option to buy by the tax-exempt entity,
3. The lease term is in excess of 20 years, or
4. The lease occurs after a sale or lease of the property and the lessee used the property before the sale or lease (for example, if a public school building is in need of renovation and it is sold to a private entity, which renovates the property and in turn leases the property back to the school, this would result in a disqualified lease).

An exception states that property is considered tax-exempt use property if the portion of property leased to tax-exempt entities under disqualified leases is more than 35% of the gross square footage of the eligible property. The phrase “more than 35%” implies more than 35% of the net rentable floor space of the building (excluding the common areas of the building). If more than 35% of a building is leased to a tax-exempt entity, a taxpayer would be able to claim the rehabilitation tax credit on expenditures incurred for the portion of the building not rented to a tax-exempt entity.

## Qualified Projects

A certified historic structure is a building listed individually in the National Register of Historic Places or a building that is located in a registered historic district and certified by the NPS as contributing to the historic significance of the district. The NPS must certify all rehabilitation projects. Certification requires that the rehabilitation be consistent with the historic character of the building. The Certification process involves three sequential steps, all involving both the State Historic Preservation Office (SHPO), which in Maryland is the Maryland Historical Trust.

The first step is Part 1, Certification of the Building as ‘Historical’. Because both of the Courthouse buildings are considered “contributing” to the Business and Government Historic District in Downtown Baltimore, this would not be an issue. Part 2 of the Certification Process requires that the rehabilitation is planned to be consistent with the Secretary of the Interior’s Standards for Certified Rehabilitation of Certified Historic Structures (“The Secretary’s Standards”). These standards require (among other things) that:

1. The property will be used for its historic purpose or in a new use that requires minimal change to the key characteristics of the structure.
2. The historic character of the building will be preserved.
3. The restoration will recognize the original time, place, and use of the building.
4. Changes over time that contribute to the historic character of the building will also be preserved.
5. Distinctive features, construction techniques or craftsmanship will be preserved.
6. Ideally, deteriorated historic features will be repaired, if possible. If they are replaced, the missing features will be documented.
7. Chemical or physical treatments that can potentially cause damage to the property will be avoided.
8. Significant archeological resources will be avoided.
9. Any required new construction will not destroy historic materials and will be designed in the same character as the historic structure.
10. Any new construction will be designed so that if removed in the future, the removal will not destroy the historic integrity of the building.

According to the regulations, the building must be depreciable (used in trade or business or held for income). The rehabilitation must also be substantial (e.g. during a selected 24-month period, rehabilitation expenditures must exceed the greater of \$5,000 or the adjusted basis (the unamortized value of the building, but not including land, as the IRS does not consider land to be depreciable. In general, the cost of rehabilitation must exceed the pre-rehabilitation ‘value’ cost of the building. The tax credit is typically allowed in the tax year that the building is placed back in service and the approvals have been granted by the SHPO and the IRS has received notification from the Department of Interior.

Qualified expenditures include direct work costs, architectural and engineering fees, site survey fees, legal fees, development fees, and other construction related costs (if costs are added to the property basis and are related to the services performed). The

fees cannot include landscaping, feasibility studies, financing fees, paving, retaining walls, sidewalks, storm water construction, new construction, new additions that expand the existing historic structure, or parking.

The owner must hold the building for five full years after completing the rehabilitation, or repay the credit (the amount owed is reduced by 20% per year).

#### **Maryland Historical Trust – Commercial Tax Credit Program**

It is possible to apply for both federal tax credits and tax credits through the Maryland Historical Trust (MHT). Property may be eligible if it has been designated locally by the city or county or is listed on the National Register of Historic Places (described earlier). Paralleling the Federal Historic Tax Credit eligibility restrictions, in Maryland, the definition of a “certified heritage structure” specifically excludes “a structure that is owned by the State, a political subdivision of the State, or the federal government.”

For the Baltimore Courthouse structures to become eligible for the State tax credit program, any lease of property owned by a government agency to a non-public entity must make clear that the structure to be rehabilitated using the tax credits is owned by the non-public entity, and may become the property of the government only after the end of the useful life of improvements funded through the tax credit program. The public owner of the land may not finance any of the rehabilitation work financed through the tax credit and the public owner of the land cannot be responsible for costs associated with maintenance and repair of the building.

Furthermore, it is advised that for a structure on publicly owned land to be eligible, any lease of the land must include language similar to the following: “Throughout the term of the lease and any renewals, lessee shall be the owner of all improvements on the property and may, if it elects, remove such improvements at the end of the lease term.”

The adjusted basis of a certified historic structure under the Maryland Historical Trust program is the purchase price, minus the value of the land, minus any depreciation, plus improvements. The state program does not require that you hold the property for five years after receiving the state tax credit. Similar to the federal tax credit program, additions and similar new construction are not eligible for the state tax credit.

#### **Baltimore Courthouse Project: Revenue Summary**

While the historic characteristics of both the Mitchell Courthouse and the Courthouse East buildings would qualify as eligible for historic tax credits (Federal and State) providing that they were privately owned and renovated, the public ownership of both structures and the future use mix would preclude use of the credits under Federal and State regulations.

The greater revenue generating opportunity would be to lease the approximately 69,000 square feet of rentable space to commercial office tenants, most likely with a legal or legal services focus. Should naming rights be considered, any notifications of naming rights should be carefully designed and placed so the integrity of the courts are not compromised by glaring signs or other identifiers of sponsorships.

As there is likely to be a gap between the likely cost of the courthouse buildings project and the available funds, it is also suggested that the earned revenue streams (office, retail/food and postal service rental revenues) could serve as the basis to seek public bond funding through revenue bonds. While current bond rates have been complicated by the economic downturn, using a 10% capitalization rate, the projected revenue stream could ‘backstop’ or guarantee somewhere between about \$15 million and \$16 million in construction bond funds.

There are other annual cost reductions / saving benefits that can be realized by Baltimore City and the State of Maryland associated with implementation of proposed improvements in the Existing and Renovated Mitchell and Courthouse East buildings.

In total, the combined benefits of proposed improvements in the existing courthouses coupled with efficiencies and improved operational improvements that can be achieved in the proposed new criminal courts should result in overall benefits to the City and Court of more than \$6.1 million per year in revenues or cost savings.

This analysis is based on the impact of: simplified and more effective holding areas; efficient in-custody movement systems; improved court access for attorneys, public, judges, staff, and others; improved jury spaces with potential staff savings due to reduced need for observation and control of multiple jury assembly / waiting areas; improved records storage areas, reduced duplication of files, and improved record access systems)

Please note that projected savings are based on the assumption that engineering system upgrades and improvements bring the facilities to a high level of thermal and energy performance, essentially comparable to that of new construction, and that the architectural improvements support efficient energy conservation, durability and ease of housekeeping, and appropriate system performance and ease / cost-effectiveness of maintenance.

Specific areas and estimates:

#### **Other Economic or Operational Benefits**

- Reductions in Energy Consumption – \$412,428 annual savings.
- Reductions in Anticipated Maintenance Costs – \$3.869 million annual savings.
- Reductions in Anticipated Janitorial Costs – \$742,767 annual savings.
- Improved Electrical / D-T / A-V Systems and Distribution Plans – \$200,000+ annual savings (est.).
- Reduced Impact of Moves, Adds and Changes -- Benefit; specific impact not calculated.
- Water Cost Savings – \$12,700+ Annual Savings.
- Potential Cost Savings / Improvements from Process Improvement Study – Potential savings of between \$325,000 and \$.8M (may be \$1M+ per year for entire Circuit Court);
- Improved Record Processing / Systems – \$250,000+ estimated annual savings.
- Consolidated Jury Call / Jury Assembly – \$50,000+ estimated annual savings.
- Consolidation of adult holding facilities -- \$100,000+ estimated annual savings.

#### **1. Reductions in Energy Consumption – \$ 412,428 annual savings**

Energy savings for newly and properly renovated court and agency spaces in the Mitchell Courthouse and Courthouse East buildings – both currently in need of system upgrades and significant improvements in exterior enclosure (insulation, windows, doors, closure of specific areas – should be substantial given the current age and condition of the building engineering systems and architectural enclosure and systems.

In 2007, the US Department of Energy and U.S. Environmental Protection Agency launched the Sector Collaborative on Energy Efficiency, an initiative to create a sustainable, aggressive national commitment to energy efficiency.

In one of the early papers prepared for this effort, the “National Action Plan for Energy Efficiency Sector Collaborative on Energy Efficiency Office Building Energy Use Profile”

notes that across the United States, the average annual energy intensity for office buildings is 79.8 kBtu per square foot and the average cost is \$1.65 per square foot. Of the total energy consumption, 66% is for electricity and 34% is for natural gas and other fuels. This translates to 15.5 kWh per square foot of electricity and 0.27 therms per square foot of natural gas<sup>3</sup>.

In Figure 10-1, space conditioning and lighting together account for 70% of all energy consumed in a typical office 250,000 SF building (800 occupants, 900 personal computers and 55 hours of operation per week), with an additional 20% of energy consumption used to power office equipment. The remaining energy is consumed by water heating, cooking, and refrigeration systems, as well as other miscellaneous uses.

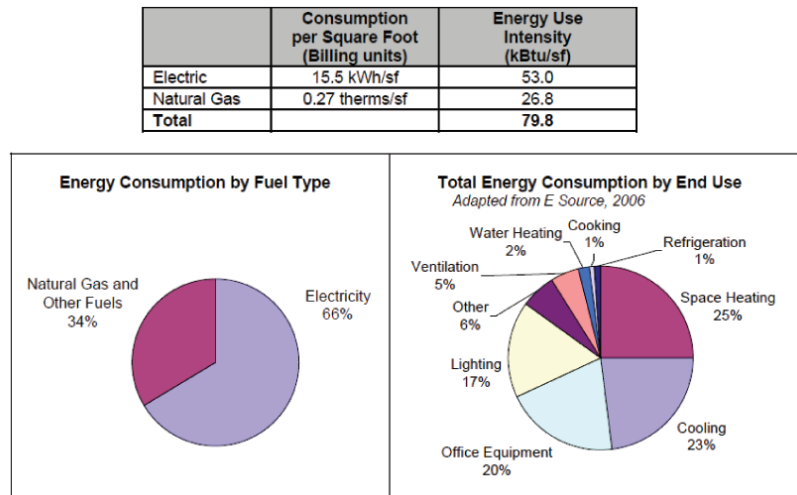


Figure 10-1

<sup>3</sup> Based on the 2003 EIA Commercial Building Energy Consumption Survey (CBECS). For the purposes of illustration, all non-electric energy consumption has been converted to the equivalent consumption of natural gas. Other fuels may include oil, steam, and propane.

### Energy Consumption

This paper goes on to track the load profile of a “typical” office building after the implementation of three different packages of energy efficiency measures.

Operations and maintenance or re-commissioning measures generally represent low or no cost opportunities that should be a first step in energy management efforts. Lighting measures require capital investment, but have a relatively low simple payback. The full package of measures includes more comprehensive equipment upgrades.

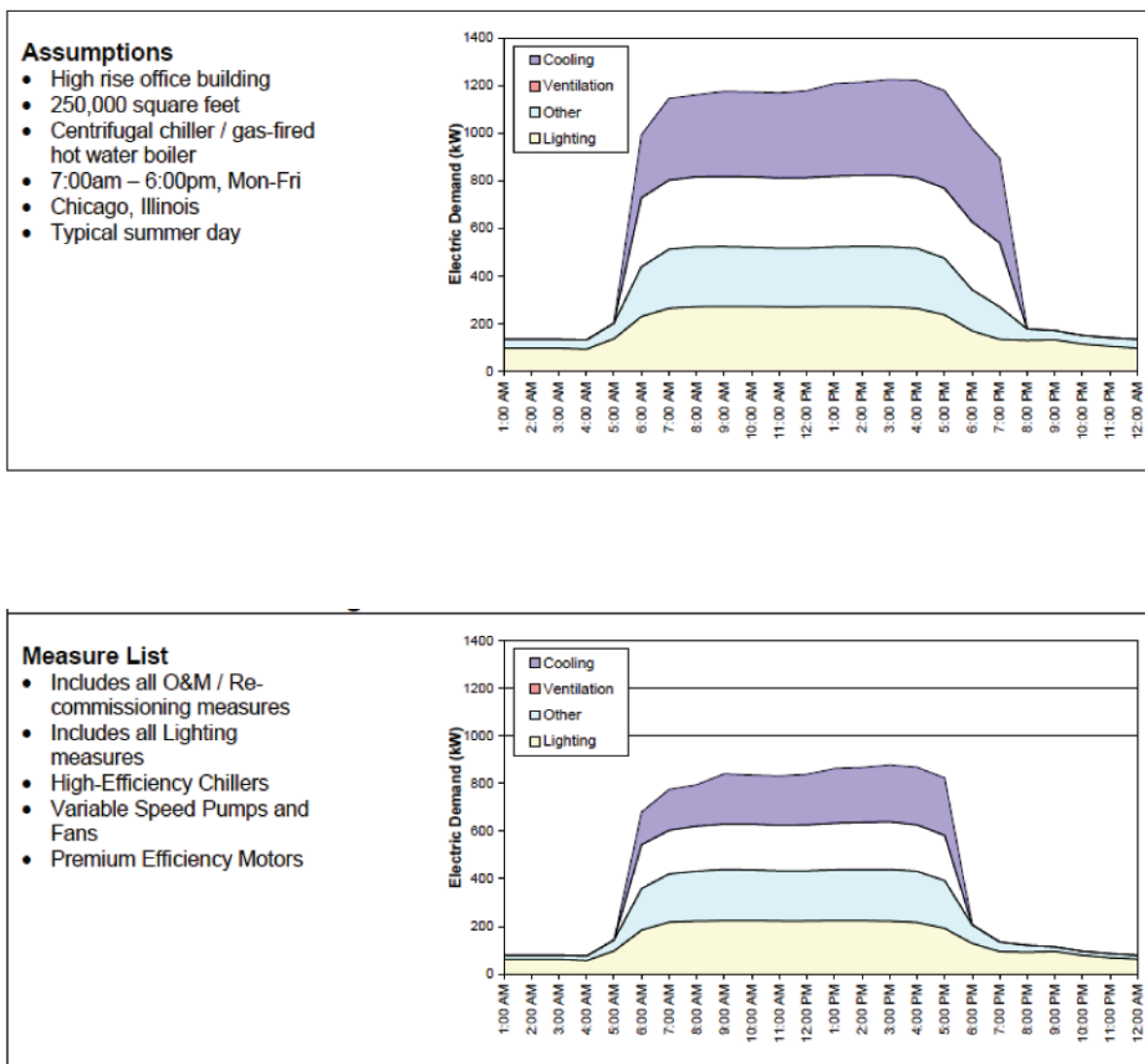


Figure 10-2  
Energy Profile

The load profile after the implementation all measures showed a reduction in peak demand from temperature setpoint changes, and a reduction in overnight energy consumption from turning off unnecessary lights and equipment. The lighting measures result in savings during the work day as a result of more efficient lighting technologies, and savings overnight from lighting controls.

In addition to the savings from O&M and lighting, the load profile with the full package of measures shows reductions in peak cooling demand as a result of high efficiency chillers and variable speed drives. The total reduction in peak demand for this building on a typical summer day was 347 kW, or 22% of the baseline. On an annual basis, the savings from the full package of measures results in a reduction in energy intensity of 22 kBtu per square foot, or \$133,262 in energy savings (\$.533/SF).

If similar results were experienced through the renovations of the Mitchell Courthouse and Courthouse East buildings, the energy savings for the 773,716 SF could translate to a savings of \$412,428 annually.

To validate this prospect an energy model was prepared to test the approximate cost for energy savings. Appendix C provides an energy assessment comparing the current operating cost of the Mitchell Courthouse heating ventilation air-conditioning (HVAC) system to a more energy efficient proposed new system.

The energy assessment of the new system is an estimate with various assumptions based on conceptual design drawings. Some of the assumptions made include amount of people in the building, type of equipment in the building, cost of electricity, cost of steam, cost of chilled water and daily operating hours.

The building configuration of the renovated building is different from that of the existing building. For example, the proposed occupancy scenario for the renovated building includes more occupied space in the basement than the current condition in the existing building and the upper floors of the renovated building will have less floor area since the light wells are reopened.

The usage of chilled water in the renovated building will increase. Therefore the annual cost of chilled water will increase. This is due to the fact that a substantial part of the existing building, approximately 40%, does not utilize chilled water to cool the spaces. The existing spaces not cooled with chilled water are cooled with refrigerant that requires more electrical power to operate. Although the chilled water cost increases, the consumption thus annual cost of electricity will decrease.

The comparison of the existing system to the proposed system is not a direct comparison as there is not enough data to compile a direct “apples to apples” comparison at this conceptual level. Based on the estimated cost to operate the HVAC system, the Mitchell Courthouse will operate at a 14% (\$85,754) lower operating cost than the existing HVAC operating cost.

However, based on more detailed information, the potential to achieve savings of up to 35% or \$237,000 may be realistic if an energy recovery system is installed and other more detailed design features are developed. Determination of this actual savings would require a more detailed development of the design. In addition the new system will require less maintenance and repairs.

Courthouse East would have a slightly improved operational savings since approximately 15% of the building is not served by the Comfort Chilled Water system as compared to the Mitchell Courthouse.

## 2.Reductions in Anticipated Maintenance Costs -- \$ 3.869 million annual savings

Maintenance costs for newly constructed facilities, particularly facilities in which materials and design features are specifically designed to be cost-effectively maintained, will be significantly lower than the costs of existing facilities.

A recent comparison of the anticipated costs for maintenance of newly / fully renovated facilities to costs for existing governmental facilities showed that the cost per SF could reasonably be expected to be approximately 55% of the costs of maintenance for existing facilities (\$5.75/SF versus \$10.74/SF).

Table 10-4 demonstrates how this could translate to savings of more than \$3.8 million per year in Baltimore City for renovations of the Mitchell and the Courthouse East buildings.

Please note that these estimates, together with the estimated janitorial cost savings that are identified in point 3, below, should be considered real savings – even if they cannot be accomplished today based on reduced staffing levels – considering the deferments that have occurred over the past decades. With the construction of new facilities and/or major renovation / restoration, these savings can be realized as compared with the anticipated costs that should be expected / budgeted should the projects not be undertaken.

<b>Mitchell Courthouse</b>				
Floor	Building Area	Est maintenance Cost (current):	Est. Maintenance Cost (renovated)	Savings
Basement	54,228	\$ 582,951	\$ 311,811	\$ 271,140
First	58,520	\$ 629,090	\$ 336,490	\$ 292,600
Second	58,016	\$ 623,672	\$ 333,592	\$ 290,080
third	40,276	\$ 432,967	\$ 231,587	\$ 201,380
fourth	56,176	\$ 603,892	\$ 323,012	\$ 280,880
Fifth	43,474	\$ 467,346	\$ 249,976	\$ 217,370
Sixth	57,209	\$ 614,997	\$ 328,952	\$ 286,045
<b>Total</b>	<b>367,899</b>	<b>\$ 3,954,915</b>	<b>\$ 2,115,420</b>	<b>\$ 1,839,495</b>

<b>Courthouse East</b>				
Floor	Building Area	Est maintenance Cost (current):	Est. Maintenance Cost (renovated)	Savings
Sub Basement	45,233	\$ 486,255	\$ 260,090	\$ 226,165
Basement	65,052	\$ 699,309	\$ 374,049	\$ 325,260
First	64,774	\$ 696,321	\$ 372,451	\$ 323,870
Second	64,774	\$ 696,321	\$ 372,451	\$ 323,870
third	44,000	\$ 473,000	\$ 253,000	\$ 220,000
fourth	44,000	\$ 473,000	\$ 253,000	\$ 220,000
Fifth	44,000	\$ 473,000	\$ 253,000	\$ 220,000
Sixth	33,984	\$ 365,328	\$ 195,408	\$ 169,920
<b>Total</b>	<b>405,817</b>	<b>\$ 4,362,534</b>	<b>\$ 2,333,449</b>	<b>\$ 2,029,085</b>

1. Based on Building Owners and managers Association (BOMA) International Foundation annual surveys of maintenance costs in more than 20 US cities.

Table 10-4  
Maintenance Savings



Specific strategies that will help achieve these significant savings include<sup>4</sup>:

- Easy access will reduce the cost of scheduled maintenance, repair, and eventual replacement.
- Using durable, long-lasting sustainable materials can decrease maintenance and repair costs. For instance, cement companies have tested fly ash and slag concretes and found that, if properly cured, they have greater strength and durability than concrete made from normal Portland cement<sup>5</sup>.
- Using low-emitting paints offers excellent durability according to some vendors<sup>6</sup>.
- Designing buildings with areas for efficient and convenient collection of recyclable materials, such as paper, plastic, and glass, can reduce annual waste disposal costs (if recycling costs are lower than normal charges for municipal solid waste).
- Using fluorescent lamps reduces labor costs for maintenance. These lamps last about 10,000 hours as opposed to 1,000 hours for incandescent lamps. Therefore, about 10 lamp changes (and the associated labor costs) are avoided by using fluorescent lamps.
- Lightening roof color can prolong a roof's lifetime (in addition to reducing summertime heat gains and air conditioning costs) (Rosenfeld et al. 1995).
- Using recycled carpet tiles, which can be removed and replaced individually, reduces the need to replace carpet.

### 3. Reductions in Anticipated Janitorial Costs -- \$ 742,767 annual savings

Savings at both the Mitchell and Courthouse East buildings should be realized after careful and extensive renovations in the annual costs of housekeeping and janitorial services considering both standard and specialized cleaning, floor services, and other projects. Costs for maintenance contracts for a recent RFP from Washington County, MD, for a bid opened 04-23-08 showed average costs for janitorial services for governmental facilities including the courthouse ranged between \$.16 and \$.17 per SF.

Recent experience at the Clark County / City of Las Vegas Regional Justice Center<sup>7</sup> demonstrated that careful selection of materials (walls, floors, ceilings) and provisions for efficient cleaning in areas accessible to the public (at handrails, below 5 feet in height, at all locations where the public or visitors, particularly children, could touch or access walls or floors), increased janitorial staff coverage by almost 100% per staff member (from 20,000 SF per staff position to 40,000 SF per janitorial staff position) as compared with the existing courthouse, with a corresponding reduction in janitorial service costs of more than 40%.

Table 10-5 demonstrates how this could translate to savings of more than \$742 thousand per year in Baltimore City if savings of only \$.08 per SF are achieved based on reduced costs for housekeeping services after renovations of the Mitchell and Courthouse East buildings.

Please note that these estimates, together with the estimated janitorial

<sup>4</sup> The Business Case for Sustainable Design in Federal Facilities Resource Document, U.S. Department of Energy – Office of Energy Efficiency and Renewable Energy.

<sup>5</sup> For example, see <http://www.lafargenorthamerica.com/lafargeNA.ns/CementSplash?OpenForm>.

<sup>6</sup> For example, see <http://www.duron.com/products-generalinfo-interior-genesis.html>.

<sup>7</sup> Clark County, NV Regional Justice Center, completed 2009.

cost savings that are identified in point 3, below, should be considered real savings – even if they cannot be accomplished today based on reduced staffing levels – considering the deferments that have occurred over the past decades. With the construction of new facilities and/or major renovation / restoration, these savings can be realized as compared with the anticipated costs that should be expected / budgeted should the projects not be undertaken.

Mitchell Courthouse				
Floor	Building Area	Est. Maintenance Cost (current) <sup>1</sup>	Est. Maintenance Cost (renovated)	Savings
Basement	54,228	\$ 9,219	\$ 4,881	\$ 4,338
First	58,520	\$ 9,948	\$ 5,267	\$ 4,681
Second	58,016	\$ 9,863	\$ 5,221	\$ 4,642
Third	40,276	\$ 6,847	\$ 3,625	\$ 3,222
Fourth	56,176	\$ 9,550	\$ 5,056	\$ 4,494
Fifth	43,474	\$ 7,391	\$ 3,913	\$ 3,478
Sixth	57,209	\$ 9,726	\$ 5,149	\$ 4,577
<b>Total</b>	<b>367,899</b>			<b>\$ 29,432</b>
			<b>Annual Costs:</b>	<b>\$ 353,183</b>

East Courthouse				
Floor	Building Area	Est. Maintenance Cost (current) <sup>1</sup>	Est. Maintenance Cost (renovated)	Savings
Sub Basement	45,233	\$ 7,690	\$ 4,071	\$ 3,619
Basement	65,052	\$ 11,059	\$ 5,855	\$ 5,204
First	64,774	\$ 11,012	\$ 5,830	\$ 5,182
Second	64,774	\$ 11,012	\$ 5,830	\$ 5,182
Third	44,000	\$ 7,480	\$ 3,960	\$ 3,520
Fourth	44,000	\$ 7,480	\$ 3,960	\$ 3,520
Fifth	44,000	\$ 7,480	\$ 3,960	\$ 3,520
Sixth	33,984	\$ 5,777	\$ 3,059	\$ 2,718
<b>Total</b>	<b>405,817</b>			<b>\$ 32,465</b>
			<b>Annual Costs:</b>	<b>\$ 389,584</b>

1. Cost estimate: [www.washco-md.net/washco.../PUR-1062%20Janitorial%20Services.pdf](http://www.washco-md.net/washco.../PUR-1062%20Janitorial%20Services.pdf)

Table 10-5  
Custodial Savings

4. Improved Electrical / D-T / A-V Systems -- \$ 200,000+ annual savings (est.)

Development of a new building and/or renovated spaces provides a significant opportunity for development of standard spaces and work stations, and for adoption and use of systems that allow employees to make moves, adds and changes without assistance. This can save staff and direct costs associated with periodic moves and changes. New systems allow staff to disconnect and reconnect their phones personally when making moves. In a recent office project, letting employees connect their own phones saved more than \$100,000 annually, and the corporation reduced circuit costs by almost \$250,000 annually by using the same circuits for both voice and data traffic and dynamically allocating bandwidth to voice as needed.

Zone distribution is based on dividing the floor space into zones and installing an enclosure in each that houses an intermediate connection (or consolidation point), which can be active or passive depending on the user's needs. In place of multiple home-run cables, bundled copper cables or a fiber backbone runs to the intermediate connection. From that point, cables or patch cords run to individual workstations. Use of a zone distribution system will alleviate some of the cost of relocating wired furniture by reducing the amount of cabling affected, speeding reconfiguration, and minimizing employee disruption. Zone cabling enables more efficient use of the furniture system's flexibility and reduces the costs associated with moves, adds, and changes (MACs). Furthermore, MAC-induced disruption is minimized and affects only those users within the zone that is being changed.

5. Impact of Reduced Moves, Adds and Changes<sup>8</sup> -- Specific impact not calculated.

In systems furniture the chief factor impacting service life is the churn that occurs in today's offices. "Churn, described as Moves, Adds and Changes (MACs) can average 40% a year for most companies and can reach as high as 200% according to industry statistics," Bassil says. "It involves adding, moving or removing workspaces to support changing business conditions and it can place a heavy strain on poorly constructed systems furniture. In fact," he says, "bends or distortions in structural elements due to MACs can render components unusable – and negate what may have appeared as a favorable first cost."

Similarly, MACs can cause severe headaches if the systems furniture voice, data and power cabling is not designed to accommodate trouble-free alterations to the local area network (LAN). "With conventional LAN cabling, network downtime can be office-wide and very costly in terms of lost production and in terms of hiring outside experts to handle the job," Bassil says. "This is part of life cycle costs. MAiSPACE addresses it through its patented plug-and-play cabling system that can be mastered by in-house personnel after a short period of training. With it only the affected modules are disconnected while business continues uninterrupted elsewhere."

The company's floor-to-ceiling wall layouts are used for private offices, conference and collaboration rooms. "These can be reconfigured overnight at 1/3 the cost of conventional drywall construction," Bassil says. "Non-destructive fasteners firmly attach wall elements to ceilings and floors without damaging tiles or carpeting – another life cycle cost factor." Systems furniture can yield savings because it is not part of the building structure and therefore may qualify for depreciation and real estate tax benefits.

6. Water Cost Savings<sup>9</sup> – \$ 12,700 + Annual Savings

The Office of Energy Efficiency and Renewable Energy (EERE) invests in clean energy technologies that strengthen the economy, protect the environment, and reduce dependence on foreign oil. In Section 2.3 of their recent publication regarding the business case for Sustainable design, they note that water-saving strategies for use of water-efficiency features in fixtures has short payback periods ranging from 2.8 to only 0.3 years.

<sup>8</sup> Systems Furniture Decision Check Points, by Chris Carter, Article Alley. 10/10/08. Refer to: [http://www.articlealley.com/article\\_661158\\_15.html](http://www.articlealley.com/article_661158_15.html)

<sup>9</sup> The Business Case for Sustainable Design in Federal Facilities Resource Document, U.S. Department of Energy – Office of Energy Efficiency and Renewable Energy.

If all of the recommended strategies are adopted, water consumption within a building can be reduced by 57%, with related cost savings. Total construction / initial cost savings to the project of using these systems would be under \$100,000, but the annual water savings would be more than \$12,700, resulting in an overall savings over the first 30 years of use of more than \$382,000 (non-compounded). Since sewer costs are related to water consumption, additional cost savings should be realized through use of water-conserving strategies.

7. Potential Cost Savings / Improvements from PI Study – Potential Savings of between \$325,000 and \$.8M (actual savings may be \$1M+ per year for entire Circuit Court)

A process improvement study of the criminal division of the Circuit Court was undertaken over the course of the development of the master plan to a) document existing processes employed by the division to manage individual cases from filing to disposition (“as is” workflow), b) work with division employees and others to reduce or eliminate duplication, overlaps and gaps (“to be” workflow), and c) create transition guidelines for moving from the “as is” to the “to be” workflows.

Process-improvement planning can produce measurable reductions in time, through elimination of unnecessary (non-value-adding) activities. For example, in Maricopa County, AZ (Phoenix), where this process was employed, more than 162 processes were identified, and 111 were improved (68% of the criminal case management processes).

Process Identified	Total Processes	Improved Processes	Time Saved (minutes)	Time Saved per Process Improved (AVG)
Case Filing	20	15	384	25.6 minutes
Pre-Judgment	39	25	3,490	139.6 minutes
Calendaring	34	29	180	6.1 minutes
Court Operations	41	22	1,238 (est.)	56.3 minutes
Judgment	9	8	205	25.6 minutes
Post-Judgment	20	11	1,536	139.6 minutes
<b>Totals</b>	<b>162</b>	<b>111</b>	<b>7,033</b>	

Table 10-6  
Results of Process Re-Engineering Workshops<sup>10</sup>  
Maricopa County Criminal Court Tower Project

With more than 30,000 cases per year handled in the Maricopa County criminal, the total estimated annual impact of these cases was initially estimated to be approximately 2,000,000 minutes saved. When implemented, Maricopa County Superior Court actually realized annual savings of more than the estimated \$1,000,000 in operational costs.

<sup>10</sup> For more information, please contact Marcus W. Reinkensmeyer, Judicial Branch Administrator, Superior Court of Arizona in Maricopa County, Phoenix, AZ. The time estimates were made by expert court staff in Maricopa County and are “order of magnitude” estimates of the time each activity currently takes, and would take if the recommendations of the reengineering group are accepted by the transition team. They represent the best estimates of the “experts” who do the work every day. The time saved is what is known as “system cycle time”, i.e., the time it takes from the beginning to the end of the process. The object is to make the cycle time as short as possible by eliminating all non-value added time and activity from each process.

In Baltimore, a similar study was conducted between September and December 2009. Participants identified 126 work processes and suggested improvements in 43 of them. Additionally, 93 general recommendations were developed. Some 37 of the 93 recommendations were facilities related and approximately fifteen (15) of those had to do with the physical arrangement of space or the benefits of operating out of consolidated facilities.

Table 10-7 summarizes processes, improved processes, and estimated time reductions in case processing that resulted from the improvements. Estimates of time savings per case per proposed process improvement were not prepared in the course of this study.

Process Identified	Total Processes	Improved Processes	Time Saved (minutes)
New Filings	14	8	--
Pre-Judgment	34	5	--
Calendar	15	14	--
Courtroom	1	1	--
Judgment	5	-	--
Post-Judgment	48	9	--
Administration	9	6	--
<b>Totals</b>	<b>126</b>	<b>43</b>	<b>--</b>

Table 10-7

Results of Process Re-Engineering Workshops (Criminal Case Management Review)<sup>11</sup>  
Baltimore City Circuit Court Master Plan

To determine detailed, reliable numbers, in the future, the Circuit Court would have to conduct a thorough time and motion study with expert court staff, in a project that was beyond the scope and budget of the master planning project. Detailed calculations of actual benefit would require a) review of total numbers of the activities currently involved in the “as is” process multiplied by the time associated with each, with the sum of the times multiplied by the frequency of the activity and b) review of the “to be” process multiplied by the time associated with the adjusted process, with the sum of the times multiplied by the proposed frequency of the activity.

Not all proposed process improvements affect all cases. The recent study for the City of Baltimore was targeted to criminal case processing and management. The total criminal caseload over the past 15 years has ranged between 21,736 and 27,189 cases (always more than 1/3 of the cases, but never more than 2/5s of the cases). Complicating this, while each proposed process improvement may save 30 to 60 minutes of court staff time per criminal case, some of the proposed changes affect less than ½ of the criminal cases.

As a broad-stroke assumption, however, if the 43 proposed improvements each saved 30 to 60 minutes per case on 33% of the criminal case filings in a given year, the between 650,000 and 1.6 million minutes per year. If the ratio of minutes saved to cost savings is similar to that experienced in Phoenix (\$.50 savings per minute), this would translate to between \$325,000 and \$.8M in operational cost savings per year for the criminal division alone. If all processes of the Circuit Courts were similarly reviewed, potential savings of \$1M or more per year may be a reasonable or even conservative estimate of potential future savings<sup>12</sup>.

<sup>11</sup> City of Baltimore Circuit Court, Summary Report, December, 2009, Straub & Associates (Pittsburgh, P.).

<sup>12</sup> The following examples of items, description, and estimates of potential impacts were excerpted from the recent study to illustrate the type and nature of the proposed improvements. The examples are all taken from just the “Filings” section of the report. Please note that

## 8. Improved Record Processing / Systems – \$ 250,000 + estimated annual savings

Currently, for many reasons – including the distances involved and difficulty in getting access to physical files – it has been estimated that copies of the complete court record or significant portions of the record are kept in two or more places in the existing court facilities. Based on process improvement studies and assessments, it has been observed that two or three entries of some portions of the court record are currently required. It is not clear if judges would allow data entry in the courtroom, but reductions of duplicate records / information should be reduced or eliminated. Future adoptions of more complete electronic record and paperless system, including use of scanners in the clerk's offices and / or near the loading dock (with a remote operation, if possible) could convert file clerk positions to electronic court clerk positions over time and lead to reduction in staff as files are converted. High-level review and estimate of impact of improvements suggests potential for reduction of more than 10 – 20 positions with a potential cost impact (reduction) of \$250,000 per year or more.

## 9. Consolidated Jury Call / Jury Assembly – \$ 50,000 + estimated annual savings

A specific study of potential cost savings due to provision of improved jury facilities has not been completed. However, with improved facilities, it should be possible to reduce the in-person presence of jury staff in multiple spaces (fixed position or intermittent visits). By providing most (virtually all) jury courtrooms and jury activities within a single security perimeter and reducing escort requirements, a benefit should be achievable in reduced time and staff positions, particularly if jury movement / escort staff assignments are considered in concert with the proposed collegial chamber arrangement.

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they are provided solely to illustrate the nature of the proposed / possible improvements. All show the potential for significant savings of effort, time and duplication of activity, and all show that savings of 30 to 60 minutes per proposed improvement may be very reasonable or even conservative. However, and importantly, a number of these proposed improvements would duplicate other proposed efficiencies identified in this section (specifically those calculations of possible benefits to be derived from conversion to use of electronic records and electronic case management systems). Care should be taken to avoid double-counting possible proposed efficiencies expected due to implementation of electronic case management, electronic records management or other proposed improvements.

- F-02 Dismissals: As is tasks: 6. To be tasks: 4. Description: Eliminate two steps by having a bail clerk enter information directly on an automated information system. Estimated time savings: 25 minutes for defendants with bail approved (confirm number).
- F-04 Data Entry – Dismissals: As is tasks: 7. To be tasks: 3 (est.). Description: Eliminate additional processing work associated with F-02, above. Estimated time savings: 5 minutes for defendants with bail approved (confirm number).
- F-05 District Court Appeals – As is tasks: 12. To be tasks: 8 or 9 (est.). Description: Currently, the clerk personnel are using a manual process to receive, record, post, deposit, and confirm posting of funds associated with new filings. Estimated time savings: 25 minutes per case. Confirm number of cases where this would apply.
- F-06 Data Entry Instant Jury Trial Prayer Cases – As is tasks: 9. To be tasks: 5 (est.). Description: Currently, the clerk of the circuit court must create a new record for new filings of cases from District Court prayed to the Circuit Court. If electronic transmission of complete court file was provided from district to circuit court, an estimated 30 minutes per record could be saved. Savings: 30 minutes times number of cases prayed from District to Circuit Court each year.
- F-12 Miscellaneous Cases – New Filings – As is tasks: 6. To be tasks: 6. Description: New filings are manually added to Miscellaneous Docket book. Future: Create a database to eliminate the need for the docket book. Savings: 30 minutes times the number of miscellaneous cases.
- F-13 Show Cause – Jury Duty – New Filings – As is tasks: 6. To be tasks: 6. Description: A file is currently created for each show cause, unless a file has been created for a previous show cause. If a petition is received, it must be stamped, placed in the file, and the information must be written into a jury services docket books and each name indexed. Future: Create a database to eliminate the need for the docket book. Savings: 30 minutes times the number of show cause filings / petitions (annual - confirm number).
- F-14 Filing Files – As is tasks: 2. To be tasks: 5. This is a duplication of proposed process improvement described in use of electronic records and electronic filing. Calculation of benefit would require review of total number of files created, time associated with each, frequency of pre-trial, during trial, and after trial access, number of files affected, and impact of similar process with electronic record and process.

If all operational, policy and procedural changes can be made, two+ staff positions (in total) could be affected, which could translate to a reduced cost of more than \$50,000 per year with prompt juror access and movement, and major improvement in juror comfort, safety, and perceptions.

10. Consolidation of Adult Holding Facilities -- \$ 100,000 + estimated annual savings

Detention holding in the court house is required for the Department of Public Safety and Correctional Services (DPSCS), with responsibility for secure custody and movement of in-custody defendants. DPSCS is responsible for transporting the defendants to and from the detention facility and providing security supervision while the respective defendants are in holding waiting and during their appearance.

A central holding area in the court house is required sufficient to hold the typical peak number of in-custody defendants that are transported by DPSCS to the courthouse. The central holding area must have sufficient capacity to allow DPSCS to unload the transport vehicles and separate the defendants appropriately. This includes separation of male, female and youthful offenders, separation of high security risks from other defendants, and organization of the defendants according to the type of court appearance and specific courtroom, hearing room, or other destination for which they are scheduled.

Consolidation of adult holding facilities and provision of a secure access system for transport of in-custody defendants from the holding facilities directly to the litigation areas of the courtrooms would have a significant impact on current security staffing. Coupled with savings in administrative positions, training, escort requirements, and costs / impact of delays in court proceeding, the savings due to improvements in this system would be dramatic.

Time savings will result from a number of planned improvements, including: a) improved proximities and shorter distances; b) direct (safe and security) access between the courtroom and the holding areas (not requiring movement through public areas of the courthouse with associated delays); and c) direct access from vehicles to central and distributed holding areas.

Assuming movement of current levels (averaging between 100 and 180 in-custody defendants per day, including both adult and juvenile in-custody defendants), at varying staff-to-defendant ratios based on security level and requirements, this could translate to a reduction in workload of between four and eight positions each year at current levels, or could provide the ability of security transport personnel to meet increased needs at current staffing levels. For example, if savings of just 15 minutes could be made in the handling (on average) of each of the 32,000 in-custody appearances at the Circuit Courts (all division), each of the more than 32,000 in-custody transports (2008) would require 8,000 less hours in direct custody-transport, or more than four full-time staff positions fully utilized, not including allowances for supervision personnel, down times, and so forth.

As mentioned earlier the sum of these benefits could exceed \$6M in annual savings. The following table provides a summary of the savings by area.

**Summary of Operational  
Savings**

<b>Area</b>	<b>Estimated Annual Savings</b>
1. Reductions in Energy Consumption	\$ 412,428
2. Reductions in Anticipated Maintenance Costs	\$ 3,869,000
3. Reductions in Anticipated Janitorial Costs	\$ 742,767
4. Improved Electrical / D-T / A-V Systems and Distribution Plans	\$ 200,000
5. Reduced Impact of Moves, Adds and Changes ( <i>Impact not Calculated</i> )	\$ -
6. Water Cost Savings	\$ 12,700
7. Potential Cost Savings / Improvements from Process Improvement Study <sup>1</sup>	\$ 500,000
8. Improved Record Processing / Systems	\$ 250,000
9. Consolidated Jury Call / Jury Assembly	\$ 50,000
10. Consolidation of adult holding facilities	\$ 100,000
<b>Total Estimated Savings</b>	<b>\$ 6,136,895</b>
<sup>1</sup> Impact estimated between \$325,000 and \$0.8M. Mid-point used in calculations.	

Table 10-8  
Estimated Annual Savings by Area



