

NORTH/EAST CITIES COMMITTEE REGIONAL JAIL STUDY

PHASE 1 FINAL REPORT

Summary Space and Operating Requirements for a Regional Jail Facility



Carter Goble Lee

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Introduction

In response to King County requiring, in the current jail services contract, that all municipal misdemeanor inmates be removed from the County facilities by the end of 2012, the northeast cities of King County formed the North/East Cities Committee (NECC) to explore options for constructing a regional pretrial and sentenced misdemeanor jail facility.

Realizing that the time to plan, acquire a site, design, construct, and prepare for occupancy will require at least four years, the NECC embarked upon a feasibility study to define the size, location, and cost of a regional misdemeanor jail facility. While the NECC is interested in developing as many alternatives to incarceration as are feasible, the focus of this analysis is developing a plan for incarceration of those offenders from the various Northeast cities that are not candidates for pre-or post-trial release.

After a competitive procurement process, Carter Goble Lee was selected to prepare the feasibility study in April 2008. The study began shortly after that time with the goal of determining the feasibility of a regional jail facility by the end of December 2008. The staff for the study was provided through the NECC group representing the interests of the north and east cities. The staff group included representatives from Bellevue, Kirkland, Redmond, Seattle and Shoreline. All data presented in this analysis was reviewed by the NECC members at various bi-weekly meetings.

Scope of Services

Through the contract negotiation process, the study was divided into two phases. Phase 1 established the basic space requirements for a 200, 440, and 640-bed facility in sufficient depth to: 1) estimate the site area requirements; 2) establish a preliminary construction cost; and 3) develop a preliminary staffing plan. Parallel to the development of the spatial parameters of a regional facility, a method for scoring and eventually ranking candidate sites provided by the Northeast cities was prepared in sufficient depth for the cities to be able to identify sites that are feasible for consideration. An outcome of Phase 1 is the identification of the method to select preferred sites to study in greater detail in Phase 2.

Another major outcome from Phase 1 was the establishment of the estimated per diem costs for a 200, 440, and 640-bed facility. Before the NECC can agree to a size and a site, the per diem cost range had to be determined. While Phase 2 explores the various methods of assigning costs to each participating jurisdiction, Phase 1 established the order-of-magnitude of the costs.

While Phase 1 was based on the three facility sizes provided by the NECC, in Phase 2, the confirmation of the size will be determined. The NECC also will identify which sites will be evaluated in Phase 2. From an analysis of the per diem costs through the efforts of Phase 1, Phase 2 will focus on:

- Preparing and testing the validity of the most feasible sites;
- Confirming the participating jurisdictions;
- Studying organizational structures for establishing and operating a regional multi-jurisdictional jail facility; and;
- Clarifying the expected average daily population in five year increments to 2030.

Phase 2 will provide a detailed architectural program for the selected size of the regional facility from which another cost estimate will be prepared. This data, in conjunction with a revised staffing estimate, will permit the refinement of the per diem costs and a methodology for allocating the cost between participating jurisdictions.

With the anticipated candidate sites identified along with the size of the regional jail facility, basic development concepts will be prepared to further test the feasibility of the sites. All of this information will be prepared in a form for public comment and a decision from the municipalities as to their level of participation in the regional jail facility.

The Basic Assumptions

Working through the NECC and with input from the elected and appointed officials of the NECC, a series of assumptions were developed that guided the development of the site scoring variables, the facility size, basic operational tenets, and the preparation of per diem costs. The list of these basic assumptions includes:

1. An available and suitable site ranging from 4 to 14 acres will be located,
2. A full service facility housing males and females will be developed,
3. Although the offenders in the regional misdemeanor facility are expected to represent a low security risk, to accommodate the uncertainty of classification that exists in a predominantly pretrial facility and build in the capability of growth without additional capital investment by double occupying a portion of the cells, the percentage of single cells will represent 70% of the total beds,
4. Surface parking will be available for all staff,
5. Structured parking will be considered, depending on the site characteristics,
6. Work shifts will be based on eight hours,
7. Participating cities will be responsible for transporting arrestees to the regional facility and to and from court, and
8. Calculation of the per diem rates will be based upon 85% occupancy.

In addition to these assumptions that guided the development of the preliminary spatial program and an outline concept of how the regional facility will operate, a series of site evaluation assumptions were also prepared, including:

1. Site size recommendations are calculated for best case situations for both Maximum and Minimum requirements,
2. Site sizes were assessed considering 1 or 4 floors per facility configuration. In this analysis, a floor includes the dayroom and mezzanine level of a housing unit. A four-level scenario assumes support services are on the first floor and housing is on the upper floors,
3. A 50' Setback from the street curb was assumed through consensus of the NECC,
4. Sizes of the building foot print are grossed considering best-case, and do not consider special site needs and services such as utilities, site water, public easements, site access, and setbacks,
5. Construction cost estimates are preliminary and based on interpolation from recent bidding of similar facilities. Firm estimates will be completed by local cost estimators as part of Phase 2.
6. Construction cost estimates do not include site costs which vary greatly by location.
7. Shift change parking for 85% of staff supports alternative modes of transportation for each shift averaging 15% per shift and float.

The combination of the general and site assumptions guided the consideration of the size, acreage requirements, and preliminary staffing costs that will be discussed in the remainder of the report.

Space Requirements

The range of bedspaces was provided by the NECC, based upon the outcome of a previous study of the need for misdemeanor incarceration of the Northeast King County municipalities. While this number will be reviewed in Phase 2, for the Phase 1 analysis, a 200, 440, and 640-bed regional facility was studied. Essentially, the 200-bed facility assumes that the City of Seattle is not a participant in the regional jail facility. A 640-bed facility assumes that all Northeast cities and the City of Seattle are participants and the 440-bed facility assumes only Seattle is a participant.

A correctional facility is comprised of several functional components that are demonstrated in Table 1 with an allocation of space per inmate for each component. This allocation is based upon national benchmarks for the size of jail facilities and varies with the size of the facility as demonstrated in Table 1. The space estimate by component is based on building gross square footage (BGSF) estimates that include a factor for unassigned space, wall thickness, mechanical areas, and many other spaces that support the net of spaces comprising a component.

Table 1
Space Guidelines for Functional Components Based on Facility Size

Space Desig.	Component	Total BGSF for 200 Beds	Total BGSF for 440 Beds	Total BGSF for 640 Beds
	Number of Beds	200	440	640
1.000	FACILITY ADMINISTRATION & COURTROOM	5,800	6,644	7,552
1.100	Public Lobby, Visitor Processing	700	660	960
1.200	Courts Area (w/arraignment court and support space)	4,000	4,004	4,032
1.300	Facility Administration	1,100	1,980	2,560
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	5,200	9,240	12,160
2.100	Security Administration	400	880	960
2.200	Intake and Release	3,400	6,160	8,320
2.300	Training and Muster	1,400	2,200	2,880
3.000	PROGRAM SERVICES	1,600	2,860	3,520
3.100	Counseling and Multi-Purpose Rooms	1,600	2,860	3,520
4.000	INMATE SERVICES	1,700	3,520	3,840
4.100	Inmate Visitation	1,200	2,640	2,880
4.200	Laundry	500	880	960
5.000	MEDICAL SERVICES	2,200	4,620	6,080
5.100	Clinical Area	1,300	2,640	3,520
5.200	Infirmery	900	1,980	2,560
6.000	FOOD SERVICES	3,500	6,600	8,000
6.100	Food Preparation Area	2,500	4,620	5,440
6.200	Staff Dining Area	500	880	1,280
6.300	Receiving and Processing Area	500	1,100	1,280
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	5,600	10,560	13,440
7.100	Maintenance Shops	800	1,540	1,920
7.200	Mechanical Room	4,000	7,480	9,600
7.300	Institutional Storage	800	1,540	1,920
TOTAL SUPPORT CORE		25,600	44,044	54,592
8.000	INMATE HOUSING	%	65,400	136,840
8.100	General Custody Dormitories	30%	13,800	30,360
8.200	General Custody Cells	70%	47,600	100,100
8.300	Housing Support		4,000	6,380
ESTIMATED TOTAL AREA for NECC REGIONAL JAIL			91,000	180,884

Source: Carter Goble Lee, October 16, 2008

By a large measure, the smallest facility has the highest allocation of space on a per inmate basis because the "economies of scale" work against a smaller facility. By using the space allocations from Table 1 and multiplying these by the number of bedspaces, an estimate of the facility size by component can be developed as shown in Table 2.

Table 2
Preliminary Space Allocations for Functional Components Based on Facility Size

Space Desig.	Component	BGSF/ Inmate - 200 Beds	Total BGSF for 200 Beds	BGSF/ Inmate - 440 Beds	Total BGSF for 440 Beds	BGSF/ Inmate - 640 Beds	Total BGSF for 640 Beds
Number of Beds		200	440	640	200	440	640
1.000	FACILITY ADMINISTRATION & COURTROOM	29.0	5,800	15.1	6,644	11.8	7,552
1.100	Public Lobby, Visitor Processing	3.5	700	1.5	660	1.5	960
1.200	Courts Area (w/arraignment court and support space)	20.0	4,000	9.1	4,004	6.3	4,032
1.300	Facility Administration	5.5	1,100	4.5	1,980	4.0	2,560
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	26.0	5,200	21.0	9,240	19.0	12,160
2.100	Security Administration	2.0	400	2.0	880	1.5	960
2.200	Intake and Release	17.0	3,400	14.0	6,160	13.0	8,320
2.300	Training and Muster	7.0	1,400	5.0	2,200	4.5	2,880
3.000	PROGRAM SERVICES	8.0	1,600	6.5	2,860	5.5	3,520
3.100	Counseling and Multi-Purpose Rooms	8.0	1,600	6.5	2,860	5.5	3,520
4.000	INMATE SERVICES	8.5	1,700	8.0	3,520	6.0	3,840
4.100	Inmate Visitation	6.0	1,200	6.0	2,640	4.5	2,880
4.200	Laundry	2.5	500	2.0	880	1.5	960
5.000	MEDICAL SERVICES	11.0	2,200	10.5	4,620	9.5	6,080
5.100	Clinical Area	6.5	1,300	6.0	2,640	5.5	3,520
5.200	Infirmery	4.5	900	4.5	1,980	4.0	2,560
6.000	FOOD SERVICES	17.5	3,500	15.0	6,600		8,000
6.100	Food Preparation Area	12.5	2,500	10.5	4,620	8.5	5,440
6.200	Staff Dining Area	2.5	500	2.0	880	2.0	1,280
6.300	Receiving and Processing Area	2.5	500	2.5	1,100	2.0	1,280
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	28.0	5,600	24.0	10,560	21.0	13,440
7.100	Maintenance Shops	4.0	800	3.5	1,540	3.0	1,920
7.200	Mechanical Room	20.0	4,000	17.0	7,480	15.0	9,600
7.300	Institutional Storage	4.0	800	3.5	1,540	3.0	1,920
TOTAL SUPPORT CORE		128.0	25,600	100.1	44,044	85.3	54,592
8.000	INMATE HOUSING	%	327.0	65,400	311.0	136,840	309.5
8.100	General Custody Dormitories	30%	230.0	13,800	230.0	30,360	230.0
8.200	General Custody Cells	70%	340.0	47,600	325.0	100,100	325.0
8.300	Housing Support		20.0	4,000	14.5	6,380	13.0
ESTIMATED TOTAL AREA for NECC REGIONAL JAIL			455.0	91,000	411.1	180,884	394.8

Source: Carter Goble Lee, October 16, 2008

In Phase 2, a detailed architectural program will be developed that identifies the area for each space in the regional jail facility, but the methodology represented in Table 2 provides sufficient detail to inform the process of identifying a site size. As is apparent from Table 2, the estimated building gross square footage ranges from 91,000 to 252,672 which is equal to a two to six acre footprint just considering the building square footage (assuming a single-story facility). If a high-rise option is considered, the building footprint will be determined based on a combination of the core size (25,600 – 54,592 square feet) and the number of housing units per floor.

One of the principles defined by the NECC was to strive for a single story facility if possible as a way of minimizing community impact and potentially avoiding capital and operating costs. However, as will be demonstrated in the next section, with other site needs such as surface parking, setbacks, and buffer zones, a single story facility may not represent the optimum choice for design.

Site Requirements

In an earlier section, the basic site assumptions identified by the NECC were presented. The overarching driver of the site size is a preference stated by the NECC to operate a single versus multi-level facility, if possible. The assumption to provide staff parking for 85% of the first and second shift overlap is another site driver. The last major site size variable is the amount of “buffer” needed to surround the facility as both a security zone and a safety setback for blast resistance. Using these three variables, a minimum and maximum sized site could be

identified based on a single versus multi-level concept. The following summarizes the assumptions that were used to identify the range of site area requirements based on the range of facility sizes:

1. Both a single and four-story configuration would be tested with the size of the support core the determinant of the building footprint.
2. In all instances, the housing units would be operated on a dayroom and mezzanine concept. This typically means that of the estimated size of a housing unit, approximately 15% of that size will be located at the mezzanine level.
3. Surface parking area was calculated at 500 SF per vehicle to allow for parking spaces, drives, sidewalks, and landscaped areas.
4. While surface parking was preferred by the NECC for cost purposes, the analysis also considered the site area requirements based upon a two-level parking structure with parking space based on 420 square feet per vehicle which includes ramps, circulation, and stairs.
5. Parking calculations assumed that at least a 30-45 minute overlap should be permitted for the 1st and 2nd shifts which employ the greatest percentage of the staff. The calculations also assumed that 15% of the 1st and 2nd shift staff would arrive at work by modes not requiring a parking space.
6. The calculation of official and family visitor spaces was based on 50% of the staff spaces provided. This assumption also provides a "cushion" for additional staff that may elect in the future to drive to work.
7. As noted, a 50 foot buffer zone was calculated around the building and parking areas for landscaping and a security zone. For calculation purposes, the site configuration was assumed to be rectilinear with a minimum dimension of 350 feet in one direction; the approximate dimension of a city block.

Using this method of calculating areas, the range of site sizes was developed based upon the number of beds and the number of levels of each possible facility size. Through this approach, a site maximum area requirement (single story) and minimum area (multi-level housing) was identified. At this stage of planning, this approach is only intended to establish basic area requirements to aid in the identification of candidate sites. In Phase 2, additional factors may be identified that could alter the area requirements.

Table 3 presents the results of the methodology described in the previous paragraph. The results of this table are critical in the search for appropriately sized sites. The major area factor is the amount of surface parking which is a policy decision by the participating jurisdictions. While the facility size can certainly vary based on operational decisions that impact functional area allocations, changes in the functional square footage will not impact the site requirements nearly as much as policy decisions regarding the provision of parking for most staff, the incentives for improving the use of alternate means of travel to work, and the use of structured, as opposed to surface parking. The latter decision is generally cost-driven.

As is evident from Table 3 (Line 3), the proposed building footprint (the area of the building actually resting on the ground) is less than the total estimated square footage (Line 1) which reflects the assumption that the mezzanine level of the housing unit will represent 15% of the total housing square footage. This assumption drives the single story option, but not the multi-story. The single factor driving a multi-level facility will be the size of the support core and the configuration of the housing units.

Table 3
Preliminary Site Area Calculations Based on Facility Size

Regional Jail Facility	200		440		640	
	Maximum Site Size	Minimum Site Size	Maximum Site Size	Minimum Site Size	Maximum Site Size	Minimum Site Size
Building Footprint						
Total Building Square Footage	91,000		180,972		252,672	
Number of Floors (housing Unit floor equals two levels)	1	4	1	4	1	4
Size of Building Footprint (Based on size of the Building Core or stacked housing above)	81,190	25,600	160,534	44,220	222,960	54,592
Number of Acres for Structure	1.9	0.6	3.7	1.0	5.1	1.3
Parking Footprint (Assumes all surface parking)						
Regional Detention Facility						
Estimate Number of Staff Parking (Based on a variable ratio of staff/inmates)	128		162		186	
Staff Parking Spaces Based on 80% of staff on 1st/2nd Shifts	103		129		149	
Family and Official Visitor Parking (Based on peak time and 50% of staff parking)	51		65		75	
Total Estimated Parking	154		194		224	
Parking Demand Based on 15% Alternative Mode Usage	131		165		190	
Square Footage for Surface Parking/Landscaping (Based on 500 SF/car)	65,484		82,477		95,044	
Number of Acres for Surface Parking	1.51		1.90		2.18	
Square Footage for Structured Parking/Landscaping (Based on 420 SF/car)	55,007		69,281		79,837	
Number of Acres for Structured Parking (Assume two levels)	0.63		0.80		0.92	
Setbacks and Buffer Footprint						
SF for Site Setbacks and Buffer Zone	94,000	79,000	105,000	87,000	139,000	101,000
Buffer and Setback Distance	50'	50'	50'	50'	50'	50'
Acres for Setbacks and Buffer Zones	2.2	1.8	2.4	2.0	3.2	2.3
TOTAL SITE ACREAGE REQUIRED BASED ON SURFACE PARKING	5.5	3.9	8.0	4.9	10.5	5.8
Minimum Site Dimensions Based on Surface Parking	350' X 775'	350' X 570'	350' X 995'	350' X 615'	350' X 1390'	350' X 800'
TOTAL SITE ACREAGE REQUIRED BASED ON STRUCTURED PARKING	4.7	3.0	6.9	3.8	9.2	4.5
Minimum Site Dimensions Based on 2-Level Structured Parking	350' X 580'	350' X 380'	350 X 860'	350 X 475'	350' X 1150'	350 X 560'

Source: Carter Goble Lee, August, 2008

Note: An Arraignment Courtroom is included in each option.

The minimum dimension was considered a city block; approximately 350 feet.

In all correctional facilities, certain functional components are best located at the ground level for operational efficiency, such as intake and release, food preparation, maintenance and mechanical, and lobby. Therefore, in the calculation of the minimum site size for each facility, the square footage estimated for the support core was used to define the multi-level facility footprint.

In Line 11 of Table 3, the acreage for parking is shown based on the methodology previously discussed. For all three facility sizes, the area for parking represents 21-39% of the total site requirement. While this ratio is acceptable as a planning guideline, this high percentage of surface parking will limit the candidate sites.

The final factor that can be observed from Table 3 is the impact of providing a site buffer. By consensus, a 50' setback from the property line and/or building curb was used as a desirable goal in the search for sites. The total buffer zone surrounding the building and parking ranges from 1.8 to 3.2 acres, or 30 to 40% of the site area. Similar to parking, the inclusion of a buffer around the site is a policy choice. Elimination of the buffer zone does not imply that the regional jail facility is less safe, but means that the exterior walls of the building will become the primary security barrier.

If a two-level structure is considered, the site acreage requirement is reduced. The range would be from 3.0 to 9.2 acres rather than 3.9 to 10.5 acres for an all surface parking solution. While not recommended, if the parking structure was more than two levels, the acreage could be reduced slightly more. Any structured parking scenario that exceeds two-levels would be taller than the two story jail.

Construction Cost

Over a 30-year timeframe, the initial construction cost represents less than 10% of the accumulated annual operating cost compounded at 3% per year, the initial construction cost is the one that most citizens notice. The news media consistently reports on the construction cost and rarely mentions the operating cost over the life of a jail facility. Another way of providing perspective about the capital costs is that in each of the three facility sizes analyzed for this study, the cumulative projected annual operating cost exceeds the projected construction costs by the fifth year of operation. However, when amortizing the capital cost over a 30-year timeframe which is proposed for this analysis, the portion of the per diem devoted to the capital costs ranges from 21 to 30% of the total per diem.

The development of a capital estimate at this stage of a plan is at best preliminary and based upon the experience of other jurisdictions that have completed facilities of similar sizes and function. Since a parallel study was being completed at the same time for a 440-bed Seattle Jail, the unit costs and inflation rates identified by the internationally recognized and locally based firm of Rider Levett Bucknall were used to estimate the construction costs for the 200, 440, and 640-bed options.

In Phase 2 when a table of space assignments will provide greater accuracy about the size of facility components, these preliminary cost estimates will be updated. Using available benchmarks, Table 4 presents an estimate of the unit costs for each of the functional components of the block space program.

Table 4
Preliminary Construction Cost Guidelines (2011 \$\$)

Space Desig.	Component	Inflated Cost/BGSF
		19.04%
1.000	FACILITY ADMINISTRATION & COURTROOM	
1.100	Public Lobby, Visitor Processing	\$ 424
1.200	Courts Area (Arrestment courtroom and support space)	\$ 445
1.300	Facility Administration	\$ 378
2.000	SECURITY ADMINISTRATION/INTAKE and RELEASE	
2.100	Security Administration	\$ 378
2.200	Intake and Release	\$ 424
2.300	Training and Muster	\$ 377
3.000	PROGRAM SERVICES	
3.100	Counseling and Multi-Purpose Rooms	\$ 377
4.000	INMATE SERVICES	
4.100	Inmate Visitation	\$ 424
4.200	Laundry	\$ 423
5.000	MEDICAL SERVICES	
5.100	Clinical Area	\$ 446
5.200	Infirmery	\$ 446
6.000	FOOD SERVICES	
6.100	Food Preparation Area	\$ 423
6.200	Staff Dining Area	\$ 339
6.300	Receiving and Processing Area	\$ 438
7.000	FACILITY MAINTENANCE, MECHANICAL, & WAREHOUSE	
7.100	Maintenance Shops	\$ 234
7.200	Mechanical Room	\$ 323
7.300	Institutional Storage	\$ 234
8.000	INMATE HOUSING	%
8.100	General Custody Dormitories	30% \$ 427
8.200	General Custody Cells	70% \$ 452
8.300	Housing Support	\$ 378

Source: Estimates by Carter Goble Lee and Rider Levett, Bucknall; August 2008

A second aspect of the total capital requirement is the project costs that reflect site development, fees, furniture, equipment, contingencies, inflation, and other capital-related expenditures that can only be estimated at this stage of the planning process. Drawing from other experiences, in Table 5, a preliminary list of items that should be included in the capital budget and an estimate of the unit cost basis is presented.

Using these construction and project cost guidelines and the component square footage that was shown for the three facility sizes in Table 1, the estimated construction cost for each of the three facility sizes was developed and is shown in Table 6. Until the planning progresses to Phase 2 with the identification of a specific site(s) and the preparation of a detailed architectural program, the capital costs will remain very preliminary and essentially most useful in defining an order-of-magnitude per diem cost.

Table 5
Basis for Estimating Project Costs

PROJECT COSTS COMPONENTS	Unit Cost	Unit
SITE DEVELOPMENT COSTS		
Outdoor Recreation Courtyards	\$ 135	Per SF
Site Preparation	\$ 300,000	Per Acre
Site Parking (surface parking only)	\$ 3,500	Per Space
Decorative Property Fence and Lighting	\$ 250	Per LF
FIXTURES, FURNISHINGS & EQUIPMENT and SPECIALTIES		
FF&E	10.0%	Of Construction
Security Electronics and Telecommunication Equipment	10.0%	Of Construction
Kitchen Equipment	25.0%	Of Kitchen Construction
Computer Equipment Costs	1.5%	Of Construction
PROJECT FEES		
Architectural and Engineering Design Fees	13.0%	Of Construction & FFE
Program Management	4.5%	Of Construction & FFE
GCCM Premium	5.0%	Of Construction & FFE
Legal, Testing, Environmental Fees	1.5%	Of Construction & FFE
Transition and Activation Fees	0.35%	Of Construction & FFE
PROJECT CONTINGENCIES		
Design Contingency	15.0%	Of A/E Fees
LEED Contingency	5.0%	Of Construction & FFE
Project Cost Contingency	25.0%	Of Project & FFE Fees

Source: Carter Goble Lee; August 2008

The numbers above in Table 5 represents the best estimate at this time of the additional costs that must be considered over and above construction. In recent years, the City of Seattle has found that project costs average approximately 40% of the total cost for a new building. When applied to the estimated construction costs for the three facility sizes shown in Table 6, the average project estimate was approximately 40% of the total cost.

In Table 6, a nine (9) percent sales tax has been added to the construction cost and is also included in the project cost items where appropriate. The table converts the total estimated capital cost to an annual debt service estimate by assuming the entire construction and project costs will be financed using government sponsored bonds over a 30-year retirement phase and at a current market interest rate of five (5) percent. As the project evolves, alternative financing approaches may be consider, including private financing, but for the purpose of calculating a per diem, public financing has been assumed.

Table 6
Preliminary Construction Cost for Three Facility Sizes (2011 \$\$)

Category	200-Beds		440-Beds		640-beds	
	SF	Cost	SF	Cost	SF	Cost
CONSTRUCTION COSTS						
Components						
Administrative	5,800	\$ 2,492,117	6,644	\$ 2,809,343	7,552	\$ 3,168,157
Security Administration/Intake & Release	5,200	\$ 2,121,414	9,240	\$ 3,775,270	12,160	\$ 4,978,243
Program Services	1,600	\$ 603,419	2,860	\$ 1,078,611	3,520	\$ 1,327,521
Inmate Services	1,700	\$ 720,670	3,520	\$ 1,492,364	3,840	\$ 1,628,033
Medical Services	2,200	\$ 980,734	4,620	\$ 2,059,541	6,080	\$ 2,710,392
Food Services	3,500	\$ 1,446,540	6,600	\$ 2,735,414	8,000	\$ 3,296,842
Maintenance	5,600	\$ 1,664,795	10,560	\$ 3,133,715	13,440	\$ 3,995,507
Subtotal Support Services	25,600	\$ 10,029,688	44,044	\$ 17,084,258	54,592	\$ 21,104,695
Dormitory Housing	13,800	\$ 5,894,194	30,360	\$ 12,967,227	44,160	\$ 18,861,421
Cell Housing	47,600	\$ 21,503,624	100,100	\$ 45,220,856	145,600	\$ 65,775,790
Housing Support	4,000	\$ 1,510,979	6,380	\$ 2,410,012	8,320	\$ 3,142,837
Subtotal Housing	65,400	\$ 28,908,797	136,840	\$ 60,598,095	198,080	\$ 87,780,048
Site Development Costs		\$ 3,944,390		\$ 5,169,312		\$ 6,166,272
Construction Contingency		\$ 6,432,431		\$ 12,427,750		\$ 17,257,652
Building Construction Costs		\$ 49,315,307		\$ 95,279,415		\$ 132,308,668
Sales Tax @ 9%		\$ 4,438,378		\$ 8,575,147		\$ 11,907,780
Total Construction Costs	91,000	\$ 53,753,684	180,884	\$ 103,854,562	252,672	\$ 144,216,448
PROJECT COSTS						
Components						
FF&E		\$ 10,964,426		\$ 21,168,928		\$ 29,270,574
Project Fees		\$ 13,023,295		\$ 28,238,487		\$ 28,031,200
Project Contingencies		\$ 10,712,104		\$ 21,233,038		\$ 24,931,726
Total Project Costs	-	\$ 34,699,825	-	\$ 70,640,452	-	\$ 82,233,501
TOTAL COSTS		\$ 88,453,509		\$ 174,495,014		\$ 226,449,949
Annual Debt Service (30 years @ 5%/year)		\$ 5,754,028		\$ 11,351,151		\$ 14,730,894

Source: Carter Goble Lee, October 16, 2008

The total cost ranges from \$88.4 million for the 200-bed jail that excludes the City of Seattle to \$226.4 million for a regional jail facility that includes all participating NECC members.

Operational Costs

Traditionally, jail facility operating costs have been estimated assuming that salaries represented approximately 70% of the total operating costs. To test this hypothesis, a preliminary staffing plan was developed for each of the three facility sizes, driven to a large degree by the size of a housing unit. In this analysis, the 200-bed solution is based upon 48 beds (either single cells or a dormitory) in order to gain enough separation between the pretrial and sentenced, as well as the disaggregation of the housing into custody and functional classifications. However, in the larger facilities (440 and 640-beds), a 64-bed housing unit was considered.

In Table 7, a summary of the number of bedspaces by type per facility size is shown as the basis for developing a preliminary staffing plan.

Table 7
Disaggregation of Facility Sizes by Classification and Function

Category	200-Beds	% of Total	440-Beds	% of Total	640-beds	% of Total
BEDSPACES						
Special Management	8	4.0%	16	3.6%	32	5.0%
Women	24	12.0%	32	7.3%	64	10.0%
Special Observation	8	4.0%	16	3.6%	32	5.0%
Pretrial	96	48.0%	256	58.2%	320	50.0%
Sentenced (Including Trustee)	64	32.0%	120	27.3%	192	30.0%
Total Bedspaces	200	100.0%	440	100.0%	640	100.0%

Source: Carter Goble Lee, May 21, 2008

As is evident in the table above, the percentage of pretrial bedspaces ranges from 65-70%. However, this rigid separation by adjudication status is subject to a policy choice by the future administrators and the separation of pretrial and sentenced offenders may not be a requirement, but a choice. In addition, the percentages of bedspaces by classification and functional categories could be held constant. In this analysis, the focus has been upon maintaining a unit size based upon increments of 8 and 12 - bed modules as a building model and not the exact same percentage of inmates by the functional categories. Again, this is a policy decision that can be reached in Phase 2.

While the housing unit is the "form-giver" in a correctional facility, the unit is also the basis for developing the staffing estimate. Each of the modules identified above, regardless of facility size, requires some level of staff commitment, with the fewer the number of housing units translating to a fewer number of staff. Therefore, a 64-bed unit is more staff efficient than a 48, assuming that one officer can manage 64 as well as 48.

The number of support staff is a function of the mission of the support component and is less a factor of the number of inmates. For example, the administration of a 200-bed facility is essentially the same as a 640-bed facility. The same applies for food service. Therefore, economy of scale favors the larger sized facility for this reason alone.

Before demonstrating the 640-bed staffing estimate, a comment is worthwhile on the difference in staffing between a low and multi-level facility. For this analysis, the management style is assumed to be "direct supervision" with at least one office stationed in the dayroom. There's no difference between a low rise or a multi-level facility in the number of housing officers needed (in both models one officer per housing unit is required 24 hours day/7 days per week). However, in a high rise facility, additional officers for escort positions and for central control may be needed due to the reliance on elevators rather than corridors for moving inmates, meals, and supplies.

Using the facility disaggregation by number of housing units and component mission, preliminary staffing estimates were prepared for each facility size. In Appendix A, a staffing plan is shown for the 200 and 440-bed facilities while the 640-bed facility staffing plan is shown in Table 8.

Table 8
Estimated Number of Staff for a 640-Bed Regional Jail Facility

Staff Position	Shifts			Relief	TOTAL	
	Business Shift	1st	2nd			3rd
FACILITY ADMINISTRATION						
Director	1.0	-	-	-	-	1.0
Secretary	1.0	-	-	-	-	1.0
Assistant Director	1.0	-	-	-	-	1.0
Finance Officer	1.0	-	-	-	-	1.0
Receptionist/Mail Clerk	1.0	-	-	-	-	1.0
Senior Records Clerk	1.0	-	-	-	-	1.0
Records Clerk	2.0	-	-	-	-	2.0
Personnel Officer	1.0	-	-	-	-	1.0
Personnel Clerk	1.0	-	-	-	-	1.0
Inventory/Purchasing Clerk	1.0	-	-	-	-	1.0
IT Manager	1.0	-	-	-	-	1.0
Inmate Accounts/Commissary Clerk	1.0	-	-	-	-	1.0
Training Officer	2.0	-	-	-	-	2.0
Total Facility Administration	15.0					15.0
SECURITY ADMINISTRATION/INTAKE and RELEASE						
Security Administration	3.0	5.0	4.0	2.0	8.9	22.9
Security Administrator	1.0	-	-	-	-	1.0
Security Clerk	1.0	-	-	-	-	1.0
Shift Commander	-	1.0	1.0	1.0	2.2	5.2
Control Room Officer	1.0	1.0	1.0	1.0	3.0	7.0
Transportation/General Custody Officer	-	3.0	2.0	-	3.7	8.7
Intake/Release	4.0	9.5	9.5	4.0	17.0	44.0
Booking Supervisor	-	1.0	1.0	1.0	2.2	5.2
Booking Officer	-	3.0	4.0	2.0	6.7	15.7
Pretrial Release Screener	-	3.0	2.0	-	3.7	8.7
Classification Officer	4.0	-	-	-	-	4.0
Property Officer	-	1.0	1.0	-	1.5	3.5
Escort Officer (Intake/Release)	-	1.5	1.5	1.0	3.0	7.0
Total Security Administration/Intake & Release	7.0	14.5	13.5	6.0	25.9	66.9
PROGRAM SERVICES						
Program/Volunteer Coordinator	1.0	-	-	-	-	1.0
Treatment Services Counselor	4.0	-	-	-	-	4.0
Total Program Services	5.0					5.0
INMATE SERVICES						
Lobby Receptionist	1.0	-	-	-	-	1.0
Visitor Processing Officer	-	1.0	1.0	-	1.5	3.5
Visitation Officer	-	1.0	1.0	-	1.5	3.5
Total Support Services	1.0	2.0	2.0		3.0	8.0

Table 8 Continued

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
MEDICAL SERVICES						
Licensed Physician's Assistant	-	1.0	-	-	-	1.0
Registered Nurse	-	2.0	1.0	-	2.2	5.2
Licensed Practical Nurse	-	1.0	1.0	1.0	2.2	5.2
Mental Health Evaluator	-	1.0	-	-	0.7	1.7
Psychiatric Nurse	-	1.0	-	-	0.7	1.7
Records Clerk	1.0	-	-	-	-	1.0
Security Officer	-	0.5	-	-	0.4	0.9
Total Medical Services	1.0	6.5	2.0	1.0	6.3	16.8
FOOD SERVICES						
Food Services Supervisor	1.0	-	-	-	-	1.0
Civilian Cooks	-	2.0	1.0	-	2.2	5.2
Security Officer	-	0.5	0.5	-	0.7	1.7
Total Food Services	1.0	2.5	1.0	-	3.0	7.5
FACILITY MAINTENANCE, MECHANICAL, & STORES						
Maintenance Supervisor	-	1.0	-	-	-	1.0
Maintenance Technician	-	2.0	1.0	-	2.2	5.2
Stores Supervisor	1.0	-	-	-	-	1.0
Total Maintenance, Mechanical, & Warehouse	1.0	3.0	1.0	-	2.2	7.2
TOTAL SUPPORT SERVICES	31.0	28.5	19.5	7.0	40.3	126.3
HOUSING UNITS						
Special Management (32 Single Cells)						
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Management Housing - Unit 1	-	0.5	0.5	0.5	1.1	2.6
Women (64 Single Cells)						
Escort Officers	-	1.0	1.0	-	1.5	3.5
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total Women Housing - Unit 2	-	2.0	2.0	1.0	3.7	8.7
Special Observation (32 Single Cells)						
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Observation Housing - Unit 3	-	0.5	0.5	0.5	1.1	2.6
General Pretrial Housing (64 Single Cells)						
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 4	-	1.0	1.0	1.0	2.2	5.2
General Pretrial Housing (64 Single Cells)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 5	-	1.5	1.5	1.0	3.0	7.0
General Pretrial Housing (64 Single Cells)						
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 6	-	1.0	1.0	1.0	2.2	5.2
General Pretrial Housing (64 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 7	-	1.5	1.5	1.0	3.0	7.0

Table 8 Continued

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
General Pretrial Housing (64 Dormitory Beds)						
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 8	-	1.0	1.0	1.0	2.2	5.2
Sentenced Housing (64 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 9	-	1.5	1.5	0.5	2.6	6.1
Sentenced Housing (64 Dormitory Beds)						
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 10	-	1.0	1.0	0.5	1.9	4.4
Sentenced Housing (64 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 11	-	1.5	1.5	0.5	2.6	6.1
TOTAL INMATE HOUSING	-	10.5	10.5	6.5	20.4	60.0
TOTAL STAFF	31.0	39.0	30.0	13.5	60.7	186.4
Overall Inmate to Staff Ratio						3.43

Source: Carter Goble Lee, May 19, 2008

By far the largest percentage of the staff will be correctional officers which is a factor in the calculation of the annual operating cost. While the housing unit officers represent the largest percentage of correctional officers, as seen in Table 9, the intake and release function also represents a significant number of correctional officers. The transportation officers shown in Table 9 do not transport to courts, but are used to transport inmates to local clinics and hospitals for scheduled visits.

Table 9
Estimated Number of Correctional Officers for a 640-Bed Regional Jail Facility

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
Shift Commander	-	1.0	1.0	1.0	2.2	5.2
Intake and Release Officers	-	5.0	6.0	3.0	10.4	24.4
Training Officers	2.0	-	-	-	-	2.0
Control Room Officers	1.0	1.0	1.0	1.0	3.0	7.0
Transportation Officers	-	3.0	2.0	-	3.7	8.7
General Security Officers	-	3.0	2.5	-	4.1	9.6
Escort Officers	-	4.5	4.5	1.0	7.4	17.4
Housing Unit Officers	-	10.0	10.0	8.5	21.1	49.6
Total Correctional Officers	3.0	27.5	27.0	14.5	51.8	123.8
Percentage of Total Staff						66.4%

Source: Carter Goble Lee, May 19, 2008

Using the housing unit staff-driven model for estimating staff, a preliminary estimate was prepared for each of the three sizes. Table 10 presents the economy of scale that results in the comparison of staff estimates by facility size. This economy of scale is very evident when comparing the inmate per staff ratios between the three facility sizes in Table 10.

Table 10
Staffing Comparison a 200, 440, and 640-Bed Regional Jail Facility

Category	200-Beds	% of Total	440-Beds	% of Total	640-beds	% of Total
STAFFING	# of Staff	Inmate/Staff	# of Staff	Inmate/Staff	# of Staff	Inmate/Staff
Administrative	13.0	15.4	13.0	33.8	15.0	42.7
Security Administration/Intake & Release	53.5	3.7	60.7	7.3	66.9	9.6
Program Services	3.0	66.7	3.0	146.7	5.0	128.0
Inmate Services	8.0	25.1	8.0	55.3	8.0	80.4
Medical Services	8.8	22.7	14.1	31.3	16.8	38.1
Food Services	5.4	37.4	5.4	82.2	7.5	85.8
Maintenance	3.7	53.5	3.7	117.6	7.2	88.6
Subtotal Support Services	95.3	2.10	107.8	4.08	126.3	5.07
Special Housing (Spec. Mngt., Women, Obser)	13.9	14.4	13.9	31.6	13.9	46.0
Pretrial Housing	12.2	16.4	27.0	16.3	29.6	21.6
Sentenced Housing	7.0	28.7	7.0	63.2	16.5	38.7
Subtotal Housing	33.1	6.05	47.9	9.20	60.0	10.7
Total Staff and Inmates/Staff	128.4	1.56	155.6	2.83	186.4	3.43

Source: Carter Goble Lee, September 23, 2008

The information from Table 10 serves as the basis for developing an estimate of the operating cost for the three facility sizes. Operating costs are mainly influenced by staff salaries. Table 11 illustrates the average salaries for the major positions that were identified in Table 8. The basis of these salaries was the 2007 King County annual report of jail facility budget and experience in other jurisdictions. These average salary figures do not include benefits.

Table 11
Average 2008 Salaries for Major Components of a Regional Jail Facility

Category	Avg. Cost/Position
STAFFING	Inmate/Staff
Administrative	\$ 65,000
Security Administration/Intake & Release	\$ 54,000
Program Services	\$ 58,000
Inmate Services	\$ 52,000
Medical Services	\$ 67,000
Food Services	\$ 47,000
Maintenance	\$ 51,000
Housing Units	\$ 61,000

Source: Carter Goble Lee, June 10, 2008

The second major category of an operating budget is the annual recurring costs associated with securing, feeding, medicating, and supplying inmates. While salaries are more predictable, estimating some of the non-salary costs has to be based on previous experience. Using the budget line items of other jails, a list of the non-salary costs was developed. In some instances, benefits are added to salaries and in others the benefits are listed separately since a portion (or all) of the benefits may be covered in a city or county "pooled" benefits package (medical or retirement, for example).

In Table 12, a list of the line items that are typically seen in a jail facility budget is shown along with the percentage of salary these costs often represent as well as a per inmate day cost. Not all of the non-salary costs are a derivative of

salaries (e.g., food, medical, utilities) but in this table the cost has been derived based on a per inmate basis and converted to a percent of salary for consistency in presentation. This information was derived from the analysis of other jail operating budgets and has been applied to a 640-bed regional jail facility as a basic guideline. For this stage of planning, the projected operating costs (which were expressed in 2008 dollars) have been inflated using an annual compounded CPI of three (3) percent to 2012.

Note that the estimated cost for the major categories is based upon a 640-bed facility. If a 200 or 440-bed example was used, the costs per inmate would be higher in all categories.

Table 12
Non-Salary Costs for Major Components of a Regional Jail Facility

Non-Salary Cost Items	Cost/Inmate/Day	% of Salary
Benefits	\$ 16.18	35.0%
Administrative Costs	\$ 0.46	1.0%
Consumable Supplies	\$ 0.82	1.8%
Clothing and Equipment	\$ 0.40	0.9%
Travel	\$ 0.08	0.2%
Transportation Costs	\$ 0.65	1.4%
Legal	\$ 0.20	0.4%
Food	\$ 3.65	7.9%
Contracts and Claims	\$ 0.65	1.4%
Medical	\$ 7.25	15.7%
Rentals	\$ 1.25	2.7%
Programs	\$ 0.75	1.6%
Insurance	\$ 0.28	0.6%
Miscellaneous	\$ 0.55	1.2%
Utilities	\$ 3.10	6.7%
Grounds	\$ 0.45	1.0%
Operating Reserve (Based on 10% of all costs)	\$ 9.33	20.2%
Estimated Total Non-Salary Operating Cost/Inmate	\$ 46.05	99.6%
One Time CPI Factor (3% compounded/year to 2012)	\$ 10.41	22.5%

Source: Carter Goble Lee, June 29, 2008

One category that may be high at this time is medical. The salaries for medical staff have already been included in the salary portion of the estimate. The estimated \$7.25 per inmate day for medical represents the non-salary costs associated with medicines, community hospital contract costs, and supplies. In many instances, \$7.25 represents the total cost for medical services. In Phase 2 when the use of in-house versus contract services is considered in greater detail, this cost category (as well as others) may be altered. At this stage of planning, these costs may not fully capture the cost to provide indirect support functions, (like personnel, city attorney, purchasing) that are often centrally provided in city government.

A major cost category has been included in this analysis as a "placeholder estimate" is site acquisition. In Phase 2, an assessment of sites provided by the participating jurisdictions will be undertaken. However, to establish an order-of-magnitude per diem cost for the three sizes of facilities, assessed land values for sites ranging from four to ten acres (see Table 3) in each of the participating jurisdictions were reviewed. A multiplier of 1.5 was applied to an average land cost of \$1.2 million/acre to yield a market cost of \$1.9 million per acre. As with all the costs, this number will be adjusted in Phase 2, but applying this to an average acreage for a low-rise facility, an estimate of the potential land cost per facility size was developed. The land cost, based on instructions from the NECC, was amortized over 30 years at 5% interest. With the inclusion of the annual CPI multiplier, in Table 13, the estimated annual operating cost

in 2012 is presented. The estimate includes the salary, non-salary, and annual debt retirement costs for construction and estimated land acquisition each of the three sized facilities.

Table 13
Estimated Annual Operating and Debt Retirement Costs for a Regional Jail Facility

Category	200	440	640
STAFFING COSTS			
Administrative	\$ 845,000	\$ 845,000	\$ 975,000
Security Administration/Intake & Release	\$ 2,886,840	\$ 3,276,720	\$ 3,612,600
Program Services	\$ 174,000	\$ 174,000	\$ 290,000
Inmate Services	\$ 413,920	\$ 413,920	\$ 413,920
Medical Services	\$ 591,610	\$ 941,350	\$ 1,124,930
Food Services	\$ 251,450	\$ 251,450	\$ 350,620
Maintenance	\$ 190,740	\$ 190,740	\$ 368,220
Subtotal Support Services	\$ 5,353,560	\$ 6,093,180	\$ 7,135,290
Special Housing (Spec. Mngt., Women, Obser)	\$ 849,120	\$ 849,120	\$ 849,120
Pretrial Housing	\$ 742,980	\$ 1,645,170	\$ 1,804,380
Sentenced Housing	\$ 424,560	\$ 424,560	\$ 1,008,330
Subtotal Housing	\$ 2,016,660	\$ 2,918,850	\$ 3,661,830
Total Staff Costs	\$ 7,370,220	\$ 9,012,030	\$ 10,797,120
NON-SALARY COSTS			
Benefits	\$ 2,579,577	\$ 3,154,211	\$ 3,778,992
Administrative Costs	\$ 73,702	\$ 90,120	\$ 107,971
Consumable Supplies	\$ 59,860	\$ 131,692	\$ 191,552
Clothing and Equipment	\$ 29,200	\$ 64,240	\$ 93,440
Travel	\$ 5,840	\$ 12,848	\$ 18,688
Transportation Costs	\$ 109,500	\$ 104,390	\$ 151,840
Legal	\$ 14,600	\$ 32,120	\$ 46,720
Food	\$ 266,450	\$ 586,190	\$ 852,640
Contracts and Claims	\$ 103,183	\$ 126,168	\$ 151,160
Medical	\$ 912,500	\$ 1,365,100	\$ 1,693,600
Rentals	\$ 91,250	\$ 200,750	\$ 292,000
Programs	\$ 54,750	\$ 120,450	\$ 175,200
Insurance	\$ 20,440	\$ 44,968	\$ 65,408
Miscellaneous	\$ 40,150	\$ 88,330	\$ 128,480
Utilities	\$ 226,300	\$ 497,860	\$ 724,160
Grounds	\$ 32,850	\$ 72,270	\$ 105,120
Operating Reserve	\$ 1,349,527	\$ 1,767,469	\$ 2,180,571
Subtotal Non-Salary Costs	\$ 5,969,679	\$ 8,459,177	\$ 10,757,542
CPI Factor (3% compounded/year to 2012) ¹	\$ 1,504,897	\$ 1,970,957	\$ 2,431,619
Estimated Total Regional Jail Operating Cost	\$ 13,339,899	\$ 17,471,207	\$ 21,554,662
Annual Debt Service for Regional Jail	\$ 5,754,028	\$ 11,351,151	\$ 14,730,894
Estimated Total Annual Cost w/Debt Service	\$ 19,093,927	\$ 28,822,358	\$ 36,285,556
Total Per Diem Costs w/Debt Service (85% occupancy)	\$ 307.72	\$ 211.14	\$ 182.74
Average Site Costs			
Maximum Site Area (Single level facility)	\$ 10,512,198	\$ 15,200,489	\$ 19,961,077
Maximum Site Area Annual Land Cost (30 years @ 5%)	\$ 683,834	\$988,814	\$1,298,497

Source: Carter Goble Lee, October 16, 2008

Note:

1. One time CPI adjustment to opening not included in annual operating cost but as a line item.

Using this approach, Table 14 illustrates the estimated per diem for the three facility sizes including the annual operating cost (in 2012 dollars), the debt service and land cost amortized over 30 years.

Of particular importance is the assumption that the average occupancy of the new regional jail facility will be 85% when operational after several years. Thus, the per diem calculation is not based upon full occupancy. In any correctional facility, a consistent 100% occupancy is not feasible due to separations by custody levels, gender, and behavior, as well as cells under repair. Therefore, the per diem that will be charged to a participating jurisdiction has been calculated on the assumption that at any given time, the facility will not be full, but regardless of occupancy, the costs will be based upon full occupancy.

Of major concern to the NECC will be the estimated per diem for the opening year, and for this calculation the assumption was made that the facility will, on average, operate at 70% of full occupancy. This assumption is made largely upon the participation of the City of Seattle that is assumed to represent 440 of the 640 beds.

Table 14
Estimated Per Diem Costs for a 200, 440, and 640-Bed Regional Jail Facility

	Number of Beds		
	200	440	640
Per Diem for Operating Costs	\$ 182.74	\$ 108.79	\$ 92.27
Per Diem for Capital Costs	\$ 78.82	\$ 70.68	\$ 63.06
Per Diem for Estimated Land Costs (Low Rise)	\$ 9.37	\$ 6.16	\$ 5.56
Combined Per Diem Costs (Based on 100% occupancy)	\$ 270.93	\$ 185.62	\$ 160.89
Combined Per Diem Costs (Based on 85% occupancy)	\$ 311.57	\$ 213.47	\$ 185.02
Combined Per Diem Costs (Based on 70% occupancy)	\$ 352.21	\$ 241.31	\$ 209.16

Source: Carter Goble Lee, October 16, 2008

The variation is significant between a 200 and 640-bed facility, but the real difference is the operating cost where the 200-bed facility has 200% higher per diem cost than the 640-bed facility. While capital and land costs are also higher as a per diem for a 200 versus a 640-bed regional jail facility, the difference is not nearly the impact to local participating jurisdictions (especially those needing only 20 or less bedspaces) that the operational cost per diem represents.

Phase 1 was intended to define the size of a regional jail facility; the capital and operating cost; and the per diem for three facility sizes. Based upon the data analyzed to date, the NECC should consider constructing the larger of the three possible sizes.

Site Evaluation Criteria

One of the most challenging aspects of developing a regional jail facility is the identification of a site that is acceptable to all participating jurisdictions. Various studies have been completed on a national scale that refute the oft quoted premise that correctional facilities reduce the land values of surrounding properties, but the challenge of finding a willing recipient of a correctional facility remains.

To assure that the process was as objective as possible, a set of variables was developed that define the predominant factors impacting the location of a regional jail facility. With the NECC Committee, these variables were assigned a "weight" that is intended to indicate the importance of this variable. For example, weighting asks the scorer whether access to public transportation is more or less important that site acquisition costs. As shown in Table 15, three possible weightings were assigned to each variable that is intended to reflect the relative importance of that variable.

Table 15
Recommended Weighting of Variables

Importance	Weight	Comments
Most Important	3	Contributes significantly to site viability.
Important	2	Is a factor, but viability decision is not significantly impacted.
Least Important	1	Has no measurable impact, but should be considered.

The assignment of the relative importance (weight) of a variable, was completed by the NECC. In Phase 2, a score for each future site to be evaluated will be completed by the consulting team. The scoring of each variable per site includes assigning a value from 1 to 5 to each variable. A "1" indicates a low score meaning the site does not adequately meet the intent of a particular variable. Conversely, a score of "5" indicates the site meets and exceeds the intent of the variable. Scores of "3" indicate that the intent of the variable is met.

The Consultant will study each site and base a rating for each variable on the "1 to 5" method previously noted. This site variable rating will be multiplied by the weight assigned by the NECC providing an overall score for the variable.

The scoring, and ultimate ranking of the sites will be completed in Phase 2. The Phase 1 report concludes with the definition of the variables and the proposed weight as shown in Table 16.

Table 16
Site Evaluation Variables and Weighting

Site Selection Variables	Weight
Site Specific Criteria	
1. Site Area	
<i>Adequate site area to accommodate building footprint, public parking, secure parking, pedestrian and vehicular access, security setbacks and related site development.</i>	3
2. Site Configuration and Orientation Potential	
<i>Overall site configuration, geometry and orientation to accommodate the required building footprint, minimum dimensions, zoning setbacks, allowable building area, easements, security setbacks, topographic variation and other site considerations affecting the functional and operational layout of the facility.</i>	3
3. Phasing and Expansion	
<i>Adequate site area to accommodate building expansion post 2012, site access and related site development.</i>	3
4. Site Compatibility	
<i>Relationship of the site to the surrounding land use.</i>	3
5. Zoning	
<i>Current site zoning to allow the detention facility as a permitted use, building heights limitations and bonus height allowance, setbacks and floor area (FAR) limitations. The approval process to obtain variances to the site zoning and degree of difficulty favorable to the detention center without unnecessary delays.</i>	2

Table 16 Continued

Site Selection Variables	Weight
6. Utilities Infrastructure	
<i>Location of existing utility services adjacent to the site to include electric, telephone, fiber optics, water sanitary sewer, storm sewer, gas, storm water detention/retention, etc. Capacity and redundancy to assure continuous operation.</i>	3
7. Negative Site Characteristics	
<i>Least amount of impacts that affect circulation to or operation of the detention center including railroad tracks, etc.</i>	1
Functional Criteria	
8. Operational Infrastructure	
<i>Ability of the site to accommodate operation of the building facilities such as trash removals, recycling, emergency vehicle movements.</i>	2
9. Public Image & Visibility	
<i>Considerations to include public image of the site as an appropriate setting for a detention facility, existing site features, visibility from adjacent buildings and districts, neighborhood character, topography, views from the facility, open space, etc.</i>	2
10. Site Amenities & Adjacent Facilities	
<i>Proximity of the site to adjacent amenities, existing parking facilities, shopping, restaurants, convenience establishments, etc.</i>	1
11. External Site Security	
<i>Includes crime rates relative to the proposed site; ability to provide required "stand-off" setbacks or barrier requirements, buildings on or near the site that could present fire hazards; emergency response times; presence of tunnels, tunnel interceptors, sanitary and storm sewers on or near the site; proximity to gas pipelines and other similar security concerns.</i>	1
Site Accessibility & Parking Criteria	
12. Public and Pedestrian Access	
<i>Relationship of the site to existing pedestrian systems, walking distances from parking facilities, related uses, etc.</i>	1
13. Public Transportation Access	
<i>Relationship of the site to public transportation facilities to include public bus routes and stops, shuttle systems and other public transportation systems.</i>	3
14. Vehicular Accessibility	
<i>Once in the general area, convenience of vehicular accessibility to the site from local roads, ease of wayfinding.</i>	3
15. Regional Access	
<i>Accessibility to the site from cities' and related justice facilities; minimizing driving distances.</i>	3

Table 16 Continued

Site Selection Variables	Weight
16. Parking	
<i>Adequacy of the site to accommodate required parking for the proposed facilities, including adjacency of parking for staff and public within 600 feet of the detention facility. Is parking easily accessible without crossing streets? Is a covered connection possible?</i>	2
Technical Criteria	
17. Soil and Subsurface Conditions	
<i>Suitability of soils for construction of buildings and facilities, absence of rock, existing building foundations, contaminated soils, high water table, potential groundwater migration, etc.</i>	3
18. Historic Considerations	
<i>Locations within historic districts; presence of historic structures or archaeological features on the site and relative likelihood of obtaining approval to demolish the buildings or features.</i>	2
19. Environmental Factors	
<i>Sites which have complicated environmental reviews and approvals that cannot easily be amended; potential liabilities related to soil remediation and other environmental considerations.</i>	3
Land Acquisition and Cost Criteria	
20. Site Ownership, Availability and Ease of Acquisition	
<i>Consideration of sites with one owner, without existing development and without complicated acquisition problems such as vacation of easements and rights-of-ways, deed restrictions and covenants and lease termination. Acquisition includes estimated time to acquire the site and ease in dealing with private owners and regulatory agencies.</i>	3
21. Acquisition Costs	
<i>Site acquisition costs based on the assessed value of property from King County tax records.</i>	1
22. Site Development Costs and Readiness	
<i>Specific development costs and time to prepare include demolition of existing structures, site work allowance for utilities and roadway improvements, and misc. expenses such as utility relocations.</i>	2
23. Parking Cost	
<i>Cost to construct parking for public and staff.</i>	1
24. Displacement Impact	
<i>Costs of relocating existing tenants, facilities and open space.</i>	2
Total Number of Variables Weighted 3	11
Total Number of Variables Weighted 2	7
Total Number of Variables Weighted 1	6

Source: Carter Goble Lee and NECC; September 2008

The information presented in the Phase 1 report is intended to assist the NECC to reach decisions on the following question: Will the cities build one combined facility or will the City of Seattle build a separate facility from the remaining cities? Based on the first decision, the number of beds that should be provided in a regional jail facility and the approximate site size can be determined. From these answers, the study can proceed to provide more specific evidenced-based answers on participants, location, cost, and governance structure.

While approximate area requirements, operational costs, construction costs, and per diem ranges have been analyzed in the Phase 1 study, as additional information on specific sites emerge from Phase 2, the data from Phase 1 will be updated.

Conclusion

Based upon the information analyzed in the Phase 1 study, the NECC should proceed with the more detailed assessment of a **640-bed** regional jail facility that includes the City of Seattle. The first priority should be the identification of sites that will be included in the more detailed and required environmental assessment. The identification of the site and land acquisition costs will allow for a more precise per diem rate for participating NECC jurisdictions. While this process is on-going, a detailed operational and spatial program should be prepared so that more precise staffing and capital costs can be identified.

APPENDICES

Appendix A-1
ESTIMATED STAFFING FOR 200-BED REGIONAL JAIL

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
FACILITY ADMINISTRATION						
Director	1.0	-	-	-	-	1.0
Secretary	1.0	-	-	-	-	1.0
Assistant Director	1.0	-	-	-	-	1.0
Finance Officer	1.0	-	-	-	-	1.0
Receptionist/Mail Clerk	1.0	-	-	-	-	1.0
Records Clerk	2.0	-	-	-	-	2.0
Personnel Officer	1.0	-	-	-	-	1.0
Inventory/Purchasing Clerk	2.0	-	-	-	-	2.0
IT Manager	1.0	-	-	-	-	1.0
Inmate Accounts/Commissary Clerk	1.0	-	-	-	-	1.0
Training Officer	1.0	-	-	-	-	1.0
Total Facility Administration	13.0		-	-	-	13.0
SECURITY ADMINISTRATION/INTAKE and RELEASE						
Security Administration	2.0	5.0	4.0	2.0	8.9	21.9
Security Administrator	1.0	-	-	-	-	1.0
Shift Commander	-	1.0	1.0	1.0	2.2	5.2
Control Room Officer	1.0	1.0	1.0	1.0	3.0	7.0
Transportation/General Custody Officer	-	3.0	2.0	-	3.7	8.7
Intake/Release	2.0	7.0	6.0	4.0	12.6	31.6
Booking Supervisor	-	1.0	1.0	1.0	2.2	5.2
Booking Officer	-	2.0	2.0	2.0	4.4	10.4
Pretrial Release Screener	-	2.0	1.0	-	2.2	5.2
Classification Officer	2.0	-	-	-	-	2.0
Property Officer	-	1.0	1.0	-	1.5	3.5
Escort Officer (Intake/Release)	-	1.0	1.0	1.0	2.2	5.2
Total Security Administration/Intake & Release	4.0	12.0	10.0	6.0	21.5	53.5
PROGRAM SERVICES						
Program/Volunteer Coordinator	1.0	-	-	-	-	1.0
Treatment Services Counselor	2.0	-	-	-	-	2.0
Total Program Services	3.0		-	-	-	3.0
INMATE SERVICES						
Lobby Receptionist	1.0	-	-	-	-	1.0
Visitor Processing Officer	-	1.0	1.0	-	1.5	3.5
Visitation Officer	-	1.0	1.0	-	1.5	3.5
Total Support Services	1.0	2.0	2.0		3.0	8.0

Appendix A-1
ESTIMATED STAFFING FOR 200-BED REGIONAL JAIL

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
MEDICAL SERVICES						
Registered Nurse	-	1.0	-	-	0.7	1.7
Licensed Practical Nurse	-	1.0	1.0	-	1.5	3.5
Mental Health Evaluator	-	1.0	-	-	0.7	1.7
Records Clerk	1.0	-	-	-	-	1.0
Security Officer	-	0.5	-	-	0.4	0.9
Total Medical Services	1.0	3.5	1.0	-	3.3	8.8
FOOD SERVICES						
Food Services Supervisor	1.0	-	-	-	-	1.0
Civilian Cooks	-	1.0	1.0	-	1.5	3.5
Security Officer	-	0.5	-	-	0.4	0.9
Total Food Services	1.0	1.5	1.0	-	1.9	5.4
FACILITY MAINTENANCE, MECHANICAL, & STORES						
Maintenance Supervisor	-	1.0	-	-	-	1.0
Maintenance Technician	-	1.0	-	-	0.7	1.7
Stores Supervisor	1.0	-	-	-	-	1.0
Total Maintenance, Mechanical, & Warehouse	1.0	2.0	-	-	0.7	3.7
TOTAL SUPPORT SERVICES	24.0	21.0	14.0	6.0	30.3	95.3
HOUSING UNITS						
Special Management (8 Single Cells)						
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Management Housing - Unit 1	-	0.5	0.5	0.5	1.1	2.6
Women (24 Single Cells)						
Escort Officers	-	1.0	1.0	-	1.5	3.5
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total Women Housing - Unit 2	-	2.0	2.0	1.0	3.7	8.7
Special Observation (8 Single Cells)						
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Observation Housing - Unit 3	-	0.5	0.5	0.5	1.1	2.6
General Pretrial Housing (48 Single Cells)						
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 4	-	1.0	1.0	1.0	2.2	5.2
General Pretrial Housing (48 Single Cells)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 6	-	1.5	1.5	1.0	3.0	7.0

Appendix A-1
ESTIMATED STAFFING FOR 200-BED REGIONAL JAIL

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
Sentenced Housing (48 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 7	-	1.5	1.5	0.5	2.6	6.1
Trustee Housing (16 Dormitory Beds)						
Unit Correctional Officers	-	-	-	0.5	0.4	0.9
Sub-Total Trustee Housing - Unit 8	-	-	-	0.5	0.4	0.9
TOTAL INMATE HOUSING	-	7.0	7.0	5.0	14.1	33.1
TOTAL STAFF	24.0	28.0	21.0	11.0	44.4	128.4
Overall Inmate to Staff Ratio						1.56

Source: Carter Goble Lee, May 19, 2008

Summary of Correctional Officer Staff						
Shift Commander	-	1.0	1.0	1.0	2.2	5.2
Intake and Release Officers	-	4.0	4.0	3.0	8.1	19.1
Training Officers	1.0	-	-	-	-	1.0
Control Room Officers	1.0	1.0	1.0	1.0	3.0	7.0
Transportation Officers	-	3.0	2.0	-	3.7	8.7
General Security Officers	2.0	2.0	2.0	-	3.0	9.0
Escort Officers	-	3.0	3.0	1.0	5.2	12.2
Housing Unit Officers	-	5.0	5.0	5.0	11.1	26.1
Total Correctional Officers	4.0	19.0	18.0	11.0	36.3	88.3

Appendix A-2
ESTIMATED STAFFING FOR 440-BED REGIONAL JAIL

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
FACILITY ADMINISTRATION						
Director	1.0	-	-	-	-	1.0
Secretary	1.0	-	-	-	-	1.0
Assistant Director	1.0	-	-	-	-	1.0
Finance Officer	1.0	-	-	-	-	1.0
Receptionist/Mail Clerk	1.0	-	-	-	-	1.0
Senior Records Clerk	1.0	-	-	-	-	1.0
Records Clerk	1.0	-	-	-	-	1.0
Personnel Officer	1.0	-	-	-	-	1.0
Inventory/Purchasing Clerk	1.0	-	-	-	-	1.0
IT Manager	1.0	-	-	-	-	1.0
Inmate Accounts/Commissary Clerk	1.0	-	-	-	-	1.0
Training Officer	2.0	-	-	-	-	2.0
Total Facility Administration	13.0					13.0
SECURITY ADMINISTRATION/INTAKE and RELEASE						
Security Administration	3.0	5.0	4.0	2.0	8.9	22.9
Security Administrator	1.0	-	-	-	-	1.0
Security Clerk	1.0	-	-	-	-	1.0
Shift Commander	-	1.0	1.0	1.0	2.2	5.2
Control Room Officer	1.0	1.0	1.0	1.0	3.0	7.0
Transportation/General Custody Officer	-	3.0	2.0	-	3.7	8.7
Intake/Release	3.0	8.0	8.0	4.0	14.8	37.8
Booking Supervisor	-	1.0	1.0	1.0	2.2	5.2
Booking Officer	-	3.0	3.0	2.0	5.9	13.9
Pretrial Release Screener	-	2.0	2.0	-	3.0	7.0
Classification Officer	3.0	-	-	-	-	3.0
Property Officer	-	1.0	1.0	-	1.5	3.5
Escort Officer (Intake/Release)	-	1.0	1.0	1.0	2.2	5.2
Total Security Administration/Intake & Release	6.0	13.0	12.0	6.0	23.7	60.7
PROGRAM SERVICES						
Program/Volunteer Coordinator	1.0	-	-	-	-	1.0
Treatment Services Counselor	2.0	-	-	-	-	2.0
Total Program Services	3.0					3.0
INMATE SERVICES						
Lobby Receptionist	1.0	-	-	-	-	1.0
Visitor Processing Officer	-	1.0	1.0	-	1.5	3.5
Visitation Officer	-	1.0	1.0	-	1.5	3.5
Total Support Services	1.0	2.0	2.0		3.0	8.0

Appendix A-2
ESTIMATED STAFFING FOR 440-BED REGIONAL JAIL

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
MEDICAL SERVICES						
Registered Nurse	-	1.0	1.0	-	1.5	3.5
Licensed Practical Nurse	-	1.0	1.0	1.0	2.2	5.2
Mental Health Evaluator	-	1.0	-	-	0.7	1.7
Psychiatric Nurse	-	1.0	-	-	0.7	1.7
Records Clerk	1.0	-	-	-	-	1.0
Security Officer	-	0.5	-	-	0.4	0.9
Total Medical Services	1.0	4.5	2.0	1.0	5.6	14.1
FOOD SERVICES						
Food Services Supervisor	1.0	-	-	-	-	1.0
Civilian Cooks	-	1.0	1.0	-	1.5	3.5
Security Officer	-	0.5	-	-	0.4	0.9
Total Food Services	1.0	1.5	1.0	-	1.9	5.4
FACILITY MAINTENANCE, MECHANICAL, & STORES						
Maintenance Supervisor	-	1.0	-	-	-	1.0
Maintenance Technician	-	1.0	-	-	0.7	1.7
Stores Supervisor	1.0	-	-	-	-	1.0
Total Maintenance, Mechanical, & Warehouse	1.0	2.0	-	-	0.7	3.7
TOTAL SUPPORT SERVICES	26.0	23.0	17.0	7.0	34.8	107.8
HOUSING UNITS						
Special Management (16 Single Cells)						
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Management Housing - Unit 1	-	0.5	0.5	0.5	1.1	2.6
Women (32 Single Cells)						
Escort Officers	-	1.0	1.0	-	1.5	3.5
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total Women Housing - Unit 2	-	2.0	2.0	1.0	3.7	8.7
Special Observation (16 Single Cells)						
Unit Correctional Officers	-	0.5	0.5	0.5	1.1	2.6
Sub-Total Special Observation Housing - Unit 3	-	0.5	0.5	0.5	1.1	2.6
General Pretrial Housing (64 Single Cells)						
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 4	-	1.0	1.0	1.0	2.2	5.2
General Pretrial Housing (64 Single Cells)						
Escort Officers	-	1.0	1.0	-	1.5	3.5
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 5	-	2.0	2.0	1.0	3.7	8.7

Appendix A-2
ESTIMATED STAFFING FOR 440-BED REGIONAL JAIL

Staff Position	Shifts				Relief	TOTAL
	Business Shift	1st	2nd	3rd		
General Pretrial Housing (64 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	1.0	2.2	5.2
Sub-Total General Pretrial Housing - Unit 6	-	1.5	1.5	1.0	3.0	7.0
Sentenced Housing (64 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 7	-	1.5	1.5	0.5	2.6	6.1
Sentenced Housing (64 Dormitory Beds)						
Escort Officers	-	0.5	0.5	-	0.7	1.7
Unit Correctional Officers	-	1.0	1.0	0.5	1.9	4.4
Sub-Total Sentenced Housing - Unit 8	-	1.5	1.5	0.5	2.6	6.1
Trustee Housing (56 Dormitory Beds)						
Unit Correctional Officers	-	-	-	0.5	0.4	0.9
Sub-Total Trustee Housing - Unit 9	-	-	-	0.5	0.4	0.9
TOTAL INMATE HOUSING	-	10.5	10.5	6.5	20.4	47.9
TOTAL STAFF	26.0	33.5	27.5	13.5	55.1	155.6
Overall Inmate to Staff Ratio						2.83

Source: Carter Goble Lee, September 23, 2008

Summary of Correctional Officer Staff						
Shift Commander	-	1.0	1.0	1.0	2.2	5.2
Intake and Release Officers	-	5.0	5.0	3.0	9.6	22.6
Training Officers	2.0	-	-	-	-	2.0
Control Room Officers	1.0	1.0	1.0	1.0	3.0	7.0
Transportation Officers	-	3.0	2.0	-	3.7	8.7
General Security Officers	3.0	3.0	2.0	-	3.7	11.7
Escort Officers	-	4.5	4.5	1.0	7.4	17.4
Housing Unit Officers	-	7.0	7.0	6.5	15.2	35.7
Total Correctional Officers	6.0	24.5	22.5	12.5	44.8	110.3