August 21,1987
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Introduced by: Gruger, Reams, Nort Sims, Laing, Grieve Grant

Proposed No.: 87 - 589

MOTION NO. 6942

A MOTION related to Harborview Medical Center; approving the Long Range Capital Improvement Program Plan pursuant to the requirements of Ordinance No. 6818.

WHEREAS, Ordinance No. 6818 required that Harborview Medical Center submit a Long Range Capital Improvement Program Plan (LRCIP) for county legislative authority review and approval, and

WHEREAS, Harborview Medical Center subsequently retained a consultant and prepared a LRCIP which has been reviewed and approved by the Harborview Board of Trustees, and

WHEREAS, Harborview Medical Center submitted the LRCIP in May 1987 to the county legislative authority for review and approval, and

WHEREAS, Chapter 5, Scheme A of the LRCIP identifies a ten-project master plan which will serve as the framework for development at Harborview Medical Center over the next fifteen to twenty years, and

WHEREAS, the LRCIP identifies six projects - South Wing Clinic Renovation, Boren Garage, Trauma Center, View Park Garage Addition, Training/Conference/Research Center, Center Wing Nursing Unit Replacement - for implementation from 1988 through 1994, and four projects - Materials Management Building, Center Wing Renovation, Outpatient Clinic Expansion, Inpatient Nursing Unit Addition - for implementation beyond that six-year period, and

WHEREAS, county staff have reviewed the LRCIP, and find that the six projects proposed for implementation between 1988 and 1994 are reasonable and adequately justified;

NOW, THEREFORE, BE IT MOVED by the Council of King County:

A. The ten-project master plan identified in the Long Range Capital Improvement Program Plan as the framework for future development at Harborview Medical Center, is approved.

B. Pursuant to the requirements of Ordinance No. 6818, the attached Long Range Capital Improvement Program Plan is hereby adopted, and the six projects identified in the implementation plan are approved, subject to the following conditions:

1. Boren Garage - Harborview shall adopt a parking rate schedule sufficient to pay for the construction, including market rate interest, of the garage over the useful life of the facility.

2. View Park Garage Addition - Harborview shall adopt a parking rate schedule sufficient to pay for the construction, including market rate interest, of the garage over the useful life of the facility. In addition, actual parking supply and demand shall be reviewed by the county prior to approval of the project CIP appropriation.

3. Training/Conference/Research Center - The University of Washington shall be responsible for developing and financing the building. The funding source for Harborview's portion of the building, if any, remains to be determined. In any event, no county funds shall be used for construction of the facility. While the concept of a long-term lease for county-owned site is approved, specific terms will be the subject of future negotiation between King County and the University of Washington. Prior to actual implementation, Harborview and Pacific Medical Center shall coordinate the planning for medical research space at their respective campuses.

4. If it is determined that Harborview Hall will be demolished within the time period covered by the LRCIP, Harborview Medical Center shall provide adequate and appropriately located space on its campus for a new ITA courtroom.

5. The Seattle-King County Department of Public Health shall conduct a study which assesses the need for a new public health laboratory, evaluates the alternatives for locating a new lab or otherwise meeting lab service needs, suggests funding sources and an implementation schedule. The health department shall report its findings to the council by November 1, 1987. If the county determines that a new lab is needed, and that location at Harborview is the best alternative, the county shall notify Harborview by February 1, 1988. If so notified, Harborview shall design the trauma center to accomodate that need. Financial responsibility for the construction of a new county laboratory will be assumed by the county, to the extent and in the same proportion as it serves public health department service requirements.

PASSED this 24th day of August, 1987.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Gary Grant
Chair

ATTEST:

Dorothy M. Owens
Clerk of the Council

ATTACHMENT 1

Harborview Medical Center's Long Range Capital Program Plan (LRCIP) is hereby amended by the following:

1. The Training/Conference/Research Center will not be funded through the use of King County revenues nor with Harborview revenues, except for that portion of the building required for Harborview's conference room space. This space may be supported with Harborview's revenues as stated in the LRCIP. All other costs for the building will be borne by the University of Washington.

2. The medically related zone as identified in the LRCIP should maintain the flexibility to provide an additional 25,000 to 40,000 sq. ft. of space to accommodate SKCDPH administrative functions currently housed in three separate locations: The Public Safety Building, the Yesler Building, and the Smith Tower. The space needed for administrative functions could be accommodated in the medically related zone, should it be determined to be cost-effective and administratively advantageous by Seattle and King County. Before a final decision, transportation concerns between Harborview and the governmental center will have to be addressed by Seattle and King County.

3. Renovated space for a new SKCDPH Laboratory should be located in the basement, contiguous to the HMC Clinical Laboratory. This project should be integrated in to the plan for the diagnostic and trauma portion of the LRCIP. The costs for such a lab should be accommodated within the estimated cost of the Trauma Center of $75,389,749.

4. If it is determined that Harborview Hall is to be demolished within the time period covered by this LRCIP, there should be adequate and appropriately located space for a new ITA courtroom provided on the Harborview campus.

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HARBORVIEW MEDICAL CENTER
LONG RANGE CAPITAL IMPROVEMENT PROGRAM

EXECUTIVE REVIEW
AUGUST 10, 1987

The King County Executive believes that Harborview's Long Range Capital Improvement Plan (LRCIP) is responsive to the needs of the priority patients of King County and that the cost estimates for construction are within the expected range for such projects. The purposes of this document are to: (1) review how the LRCIP addresses the needs of priority patients; (2) describe the current facility deficiencies and their proposed solutions; (3) review the effect of the LRCIP on the Seattle-King County Department of Public Health; and (4) analyze the cost estimates for the projects.

BACKGROUND

As the County's hospital, Harborview has a unique mission to serve patients belonging to "priority" categories, which include the indigent, non-English speaking patients, trauma and burn victims, substance abusers, the mentally ill, patients with sexually transmitted diseases, including AIDS, and County jail inmates. Eighty percent of Harborview's patients belongs to the priority categories.

The proposed Long Range Capital Improvement Program Plan is the culmination of three years of planning by Harborview's Board of Trustees and staff. The proposed improvements will greatly improve the capabilities and capacity of the regional trauma center, replace several patient care units, and correct many of the problems inherent in providing modern health care in a 55-year-old facility. These improvements will permit Harborview to meet current needs as well as projected increases in demand by priority patients. It will also allow the staff to provide better and more timely care not only to trauma victims but to those suffering from psychiatric disorders, substance abuse, AIDS, and other emergent conditions.

PRIORITY PATIENT CARE AS ADDRESSED BY THE LRCIP

Below is a summary of how each priority patient group is projected to increase in volume to the year 2000 and how service for each group is enhanced by the passage of the Long Range Capital Improvement Program Plan. Attachment A provides volume projections for each priority patient group from 1988 to the year 2000.

a. King County Jail inmates: The Long Range CIP assumes that the volume of jail inmates served at Harborview will remain somewhat constant, since the major factor affecting growth of this client group is the jail's capacity. Jail inmate patients were estimated by Harborview to increase by 10 percent by 1990 and to remain constant until 2000. Forty percent of jail patients

are admitted into psychiatry. Surgery, orthopedics, medicine, and neurology receive an average of one inpatient a week. Any significant increase or decrease in jail patient load will have the greatest impact on psychiatric services. Under the Long Range CIP, Harborview will continue to be the provider of specialty and inpatient services to all inmates.

b. Mentally ill patients: This priority patient group is projected to increase in patient-days from 25,318 in 1988 to 26,055 in 2000. The LRCIP does not increase the number of beds available to serve this group, but provides for increased privacy and security for these patients in the Trauma Center project. The proposed renovation will incorporate separate areas of the emergency room for mentally ill and substance abuse patients. This will provide markedly improved facilities for their care, allow for short-term stays and evaluation, and will prevent these patients from interfering with the care of other patients in the emergency room (ER), which is currently a serious problem. The construction of a new inpatient bed tower will consolidate all psychiatric beds at Harborview, creating operating efficiencies and improving the quality of care. Additionally, new ventilation and heating systems in the new inpatient unit will significantly improve patient comfort.

c. Patients with sexually transmitted disease (STD): The major factor affecting projections for STD patients is the spread of Human Immunodeficiency Virus (HIV or AIDS) and HIV-related medical conditions. To project STD patient loads, an assumption of the effect of AIDS patients was added to the other STD Projections. AIDS patients were doubled every year to 1990 and then assumed to remain at that level until 2000. The leveling is predicated on the assumption that either AIDS prevention will be developed or the problem will achieve such magnitude that additional facilities or additional funding will be generated, such as AIDS hospice centers. The LRCIP includes the renovation of the South Wing, which will provide improved space for the County's STD program and contribute to patient service by reducing waiting time and improving efficiency.

d. Substance abuse patients: These patients are admitted to all services at Harborview, with medicine and psychiatry receiving the highest impact. This priority group continues to be a constant and significant percentage of the priority patients served at Harborview, showing 25,901 patient-days in 1988 and projected to become 26,655 patient-days in 2000. In addition, these numbers may be undercounted due to lack of identification of a patient as a substance abuser when being treated for another condition at Harborview. The LRCIP includes in the Trauma Center project an expansion of the emergency room to include a separate facility for substance abuse patients. This will provide more privacy and security for themselves and for other patients in the emergency facility.

e. Indigents, including non-English speaking patients: The factor having the most immediate impact on the indigent populations at HMC is the ability and willingness of other area hospitals to take indigent clients. Even a

slight decrease in other hospital indigent care on the part of several area hospitals would have a cumulatively large effect on HMC services. The LRCIP projects an increase of 3,314 patient-days in 1988 to 3,411 patient-days in 2000. Since the indigent patient load is distributed throughout HMC services, all phases of development will result in higher quality care for these individuals.

f. Trauma, burn, specialized emergency care patients: The major predictable source of change in trauma patient levels are likely to be from changes in traffic safety. Traffic death rates for urban areas rose steadily from 1981 to 1985, and ER personnel at Harborview are reporting increasing severity of trauma injuries in recent years. This may be due to a higher severe injury survival rate due to improved technology. The importance of HMC as a trauma center is apparent from the overall numbers of trauma patients, 3,694 admissions in 1988, with 4,223 projected in 2000. The trauma care renovation will consolidate trauma-related services, enhance operating efficiencies, improve the quality of care, and respond to the anticipated growth in emergency cases. In addition, trauma rehabilitation patients will be located in the new in-patient beds.

CURRENT FACILITY DEFICIENCIES

The fundamental facility deficiencies at Harborview can be summarized into three categories -- Building Systems, Space, and Adjacencies.

1. The building mechanical systems are grossly inadequate by the standards for new construction as set by the Department of Social and Health Services (DSHS) and the Joint Commission on the Accreditation of Hospitals (JCAH) for new health care construction. This problem is most evident in the Center (1931) and South (1954) Wings, since only limited system upgrades have occurred in these buildings since their original construction. While all occupants are negatively affected by these conditions in terms of comfort and healthy working conditions, the most crucially impacted functions are the 92 patient beds in the Center Wing and the Laboratory functions in the South Wing.

2. Insufficient space exists to adequately maintain the volumes of services demanded at Harborview. While nearly all departments have been identified as having insufficient space, the Radiology Department, laboratories and outpatient clinics are experiencing the most significant space shortages.

3. Due to incremental, piece-meal patterns of growth at Harborview, there is the common problem of inappropriate functional adjacencies between departments and fragmented activities within departments. This aspect is most severe in Trauma Care, where vital diagnostic and treatment functions, such as Radiology and Labs, are located very far from each other, and from the Emergency Room and the Operating Suite.

These deficiencies will be discussed further in the project descriptions to follow. Given their nature, these deficiencies cannot be corrected singly or in combination without a major renovation of some type. Non-capital alternatives such as leasing space or contracting for outside services have limited potential as solutions without creating adverse operating conditions for the Hospital programs. Off-site facilities are currently employed for a number of Hospital support activities, but this is not possible for the fundamental components of patient care.

ELEMENTS OF THE LONG RANGE CAPITAL IMPROVEMENT PLAN

The Long Range Capital Improvement Program Plan (LRCIP) is composed of the following projects:

Title	Funding Source	Project Construction Cost	Start	Complete
South Wing Ambulatory Care	HMC reserves	$ 12,500,000	1988	1994
Boren Street Garage	HMC reserves	4,100,000	1988	1988
Trauma Center	Bond issue	75,400,000	1990	1992
View Park II Garage	HMC reserves	5,600,000	1991	1992
Training/Conference/Research	UW, with $1.9 m. of HMC funds	41,400,000	1990	1992
Replacement Nursing Units	Bond issue	23,200,000	1991	1993
		$162,200,000		

As is shown by the above table, projects which are projected to be supported by a bond issue will not begin construction until 1990 for the Trauma Center and 1991 for the Replacement Nursing Units. Two separate bond issues will be sold, one prior to the 1990 start date, and the second prior to the 1991 start date. Adequate time would be taken so there would be funds available for any pre-construction costs for each project.

PROJECTS INCLUDED IN THE BOND REQUEST

Trauma Center

The key components of the current Trauma Center are physically separated. The emergency room is on 1 North; radiology is on ground center; laboratories are on 2 South; and the operating rooms are on Basement North. Since 75% of Harborview patients require services from the diagnostic labs, radiology and operating room (OR), and are then admitted to intensive care units, this physical separation poses significant hazards to critically ill and injured patients.

In addition, the ER must be expanded to alleviate the current crowded conditions and to provide psychiatric and substance abuse care humanely. The emergency room, built in 1973, was not designed to treat acute psychiatric or alcohol and drug abuse patients, whose volumes have grown dramatically since then and are projected to continue growing. Substance abuse patient volumes are projected at 25,901 patient-days in 1988 and 26,655 patient-days in 2000. Mentally ill patient volumes are projected at 25,318 patient-days in 1988 and 26,055 patient-days in 2000. There is little or no room for these patients, which causes them and other patients in the ER discomfort and distress. At the same time, medical and surgical patient volumes have reached the current capacity of the ER and are projected to grow in the future (see volume projections in Attachment A).

Both the diagnostic labs and radiology are in old structures (1954 and 1931, respectively) which cannot accommodate modern technologies without costly renovations. The lack of adequate heating, ventilation, and air conditioning in the labs jeopardizes the accuracy of test results and poses a safety hazard to staff.

Frustration with the above problems has led to substantial medical staff turnover in the radiology department. Because other medical services depend heavily on radiology services, the effects on overall staff morale are serious and widespread.

Harborview has no clear main entrance. It currently has five entrances, three of which are wheelchair accessible, but are not convenient to parking. This results in a confusing situation for patients and visitors. To gain access from the View Park Garage, patients must climb two flights of stairs and follow a circuitous path to a nondescript rear entrance. There is no significant lobby for patients and visitors to use, and the distribution of public hospital services is difficult for patients to comprehend once they have entered the Hospital.

There are four main functions within the Trauma Center project. The issues within each function are described below:

Radiology: Radiology has no waiting room, which means that severely ill and injured patients wait in a major public corridor with outpatients and in the midst of traffic to and from the cafeteria and clinics. There is a lack of toilet facilities, which means non-ambulatory patients must use bedpans and urinals while waiting in the corridor. The lack of storage for wheel chairs and gurneys means that they either block the hall or must be brought from elsewhere in the hospital while patients wait.

While current patient volumes would warrant the use of more radiology equipment, no space exists for installing it, and the cost of replacing existing equipment is very high in the current facility. Much of the new equipment is sensitive to extremes in temperature due to computer-based operating technology. This equipment requires costly unit air conditioning packages, since no central building air conditioning exists. In addition, the weight of any new radiology equipment or moving any existing equipment requires the reinforcement of the building's structure, since the facility cannot support the weight of the new technology.

Clinical & Anatomic Laboratory Medicine Departments: The 1954 building does not have a ventilation system to assure safety in the diagnostic laboratories. The lack of air conditioning compromises the accuracy of the lab results during the hot summer months. Some analyzers required for immediate results cease to function at 85° F. Certification by the American College of Pathologists is contingent upon the hospital's commitment to improve the facilities. Harborview has received citations for these conditions during recent inspections. Overcrowding of equipment and staff creates an increased risk of mislabeling, misreading, and misplacement of specimens and test results, and endangers staff safety.

Emergency Room (ER): Currently there is observation/treatment space for 15 patients in the ER, but at peak hours the ER has 20 to 30 patients. They are "observed" in hallways for 3-4 hours. Patients are interviewed in hallways when the emergency room treatment rooms are full. Since the psychiatric hold area is too small, mildly depressed patients are held with the acutely psychotic. There is no office space for staff, who must leave the area to do charting. There is no separate area for intoxicated patients, who must wait in the hallway with other patients, which is unacceptable for both. This also results in patients being placed in restraints, which would not be necessary with adequate facilities. There is only one entrance for ambulatory and ambulance patients, and the ER is the only evening entrance to the hospital for staff. While this area should be a restricted area, it has become a public corridor in the evenings due to the entrance situation. The elevator is too small to accommodate patients' life support equipment and the required staff. Since the elevator is not dedicated for emergency use, it opens onto a public lobby and is used by visitors, both of which are inappropriate for patients and guests.

Intensive Care Units: The Medical Intensive Care Unit-Critical Care Unit has been cited by DSHS and JCAH for being out of compliance with health and safety regulations for equipment storage. Storage in the halls is a staff safety

hazard. Patients on stretchers cannot pass. There is no staff lounge space, meaning staff on break must eat at the nursing stations. The units are far from labs and radiology, requiring nursing time to transport patients and specimens. The growing neurosurgical ICU program has exceeded the capacity of the unit of 9 North. Patient volumes on the surgical ICU frequently overflow the facility and are expected to continue growing. Projections for ICU show 7,319 patient-days in 1988 and 7,670 patient-days in 2000.

PROPOSED SOLUTIONS

The Trauma Center will expand the hospital building westward at the B, G, and 1 levels. Key trauma center components (i.e., emergency room, radiology, laboratories, and operating room) will be consolidated at the B level. An expanded consolidated intensive care unit will be built on 1 North in the current emergency room location. The main entrance to the hospital will be built at the G level, facing the patient/visitor parking garage (View Park). Public services, including admitting, medicaid applications, gift shop and lobby will be located at the main entrance. The key diagnostic and treatment departments are sized to accommodate present volume and projected growth.

Each function is described further below:

Radiology: A new radiology department will be built on basement level west. The numbers and types of procedure rooms will be increased to meet current and projected demands and physical infrastructure will be provided to house required new technology.

The space will be sufficient to accommodate the Department well into the future and will be flexible enough to respond to changes in operations likely to occur over time without incurring the extremely high renovation costs encountered in their existing space. Building systems will be planned with this flexibility in mind as well as the physical space itself.

Clinical and Anatomic Laboratory Medicine Departments: The clinical laboratories will be relocated to new space on the basement level adjacent to the operating room, emergency room, and radiology, and nearer the intensive care units, with additional space on the ground level. The space will relieve the existing shortage of 9,200 GSF and provide for projected growth.

Equally important, the new construction will allow the hospital to address the ventilation, air conditioning, and building system deficiencies now encountered. New plumbing and electrical distribution as well as consolidation of fume hood exhaust and high-efficiency air filtration activities can be provided to the levels required by modern laboratory technologies. Code minimum work bench spacing will be achievable (which it is not currently) and the overall safety of employees will be enhanced.

Emergency Room: The emergency room will be located in new space on basement level west adjacent to the new radiology and laboratories and the existing operating suite. Separate and adequate areas will be provided for emergency psychiatric and intoxicated patients, and increased space for medical/surgical volumes will be provided to meet projected need.

The new space for psychiatric holding area will allow for short-term evaluation and overnight stays in the ER area. This service will, in many cases, allow for stabilization of the emergency/crisis situation experienced by the patients and lead to discharge rather than extended stays at the hospital. The advantage of immediate access to the diagnostic laboratory and radiology services cannot be overstated for the medical staff and will contribute to the likelihood of even greater success in the care of Trauma cases.

Intensive Care Units: The project will expand and move the medical, surgical, and neurosurgical intensive care units to 1 North into existing space which will be remodeled. Improvements to central support core areas on the nursing floors can be done to improve storage capacities and make them more responsive to current requirements on the existing floors which are not targeted for use changes.

The current intensive care areas are extremely overcrowded and lack the capacity to receive the growing number of patients requiring this care following trauma stabilization. Further, by providing this space on the first floor, it allows for consolidation of intensive care services on two adjacent floors (1 and 2), instead of the current situation where they are separated by three floors (2 and 5). This will allow for more efficient operation by staff who are cross-trained and can respond for assistance more readily.

CENTER WING INPATIENT UNITS REPLACEMENT

The Center Wing no longer meets basic standards for inpatient care for new construction as set by DSHS and the JCAH. It lacks adequate heating, ventilation, and air conditioning systems. Since cooling in hot weather is provided by opening windows, temperatures on the west side of the building often exceed 80 degrees in the summer. Heating is provided by old iron radiators. Since they are difficult to regulate, it is necessary to open windows in patient rooms in the winter to relieve overheating.

The Center Wing is allowed to operate by DSHS and JCAH in spite of these deficiencies only because they are "existing conditions" which met the standards set at the time of their construction (1931) and over which they do not have retroactive authority for correction. Any renovation to the area, however, will trigger the applicability of the current standards to the area. The only scenario that will prevent this from happening is the "do nothing" approach of no further renovation.

The lack of piped oxygen in some rooms and the poor electrical system restrict the use of the patient rooms for less acute patients. The appearance of the

units is dreary, cramped, and depressing. Rooms and doorways are too small, and waiting areas are minimal. The units themselves are located directly off the main corridor, compromising privacy and security.

Mental health services are scattered across the medical center. Outpatient care is done primarily in the Community Mental Health center. Inpatient care is provided in three locations: at the top of the mental health center, in 5 Center, and in 8 Center. This physical fragmentation impedes the coordination of psychiatric services, particularly the link between inpatients and outpatient services. The Center Wing is very energy-inefficient and wastes considerable heat in the winter months, increasing operating costs and patient discomfort.

PROPOSED SOLUTION

The replacement bed facility would be built above Ninth Avenue, on the fourth, fifth, and sixth floor levels. It would connect the North Wing of the medical center to the Community Mental Health Center. This replacement facility would provide 90 beds to replace the 92 now in the Center Wing. It would also make minor renovations to inpatient units in the North Wing in order to expand and consolidate those units.

This renovation will free up space in the Center Wing. Although no funds have been specifically identified for these projects, Harborview plans to use the area for offices of medical support staff.

DESCRIPTIONS OF PROJECTS NOT INCLUDED IN THE BOND REQUEST

SOUTH WING AMBULATORY CARE

The South Wing, which houses all medical and surgical outpatient clinics, was built in 1954. The facility does not meet contemporary health standards for new construction as set by Washington Administrative Code. It lacks adequate heating, ventilation, and air conditioning, leading to extreme discomfort on hot summer and cold winter days. Ventilation in the ground floor clinics is possible only by opening doors, a violation of the fire code. The clinic layout (long corridors in public health style) reduces Harborview's ability to efficiently use clinic facilities, which reduces the productivity of providers and the facility. The outdated appearance and inadequate facilities make it more difficult to attract sponsored patients, who are needed to generate revenues to support services to priority patients. The lack of space has led to waits of several weeks for appointments in some clinics, which cannot accommodate the projected growth in outpatient services. Small entryways and rooms make movement through the clinics difficult for patients using wheelchairs and other aids. Patients must travel four floors for a wheelchair-accessible bathroom. Exam rooms in the Medical Specialties Clinic, which include the AIDS Clinic, are sized under code. The waiting room is usually full, so patients must stand or wait in the hall. The entire clinic is on a public thoroughfare, which compromises patient privacy. Most of the South Wing lacks wall suction

and oxygen, which is important for certain outpatient programs. The clinics are located far from Radiology, and patients must transport their own films. It takes one hour to get a chest x-ray on a good day, because of the inefficient arrangement and lack of radiology capacity.

PROPOSED SOLUTION

The proposed solution to these problems is a floor-by-floor renovation of the South Wing, with major HVAC improvements and code corrections carried out as part of the renovation. The project would begin in 1988 and be completed in 1994. The project would be supported by a combination of Harborview reserves and funds which were designated for this purpose in the 1976 bond issue. The project entails new clinic layouts that will increase productivity and efficiency, improve the appearance of the clinic to change the "public clinic" layout into a physician office setting, establish adequate heating, ventilation and air conditioning, and make clinics accessible and convenient for disabled and physically challenged patients.

BOREN STREET GARAGE/VIEW PARK GARAGE

Harborview does not meet the Seattle Land Use Code's minimum parking requirement. This has been confirmed by Seattle's Department of Construction and Land Use's response to Harborview's Major Institution Master Plan (MIMP). The City of Seattle will not allow any further facility expansion without reducing Harborview's parking deficit. Currently the parking deficit is 497 stalls. With the addition of the Boren Street Garage, satellite parking lots, and refinements in the current parking facilities, the existing parking deficit should be eliminated. Using the current volume projections, another parking deficit is predicted for sometime in 1990. If this deficit occurs, it will force the construction of the second parking garage, the View Park Garage. These projections assume that 50 percent of Harborview's employees will use single occupancy vehicles. The other 50 percent are projected to use transit, satellite lots, bikes, and walking to Harborview.

The City of Seattle plans to develop a residential permit zone (RPZ) in the First Hill area. This will result in the loss of 380 spaces presently supplied by street parking and will severely aggravate the parking shortfall. Staff safety is also a concern, since currently staff are parking four to seven blocks away from Harborview. There have been a number of assaults on staff who were walking to and from their parked cars in the recent past.

PROPOSED SOLUTION

One parking garage is proposed to be built in 1988 to provide 325 parking stalls. it would be built on an existing surface parking lot of 101 stalls. As patient volumes increase, a second garage, View Park Garage, would be built. The View Park Garage would have 243 parking stalls. Both garages would be built using Harborview's capital reserve funds and user payments. The plan assumes a 40-year payback period for the Boren Street Garage.

TRAINING/CONFERENCE/RESEARCH CENTER

There is a lack of research space at Harborview, which is making it more difficult to attract and retain high-caliber physicians. Most academic physicians require research space to carry out their professional responsibilities. In addition, there is very little space available at Harborview for employee training or meetings. Scheduling meetings at Harborview is a time-consuming task due to the serious shortage of rooms.

PROPOSED SOLUTION

The building would be located at the corner of Ninth Avenue and Alder Street and is proposed to be constructed in 1991-1992. The six-story building is proposed to be funded by the University of Washington, except for approximately $1.9 million reserved for Harborview's staff training and meeting space needs. The $1.9 million would be taken from Harborview's capital reserves. No formal commitment has yet been made by the University of Washington to fund this building. However the plan assumes that neither King County funds nor Harborview reserves would be used to fund such a training facility, since it is clearly the University's responsibility to provide for these needs.

EFFECT OF THE LONG RANGE CIP ON THE SPACE NEEDS OF THE SEATTLE-KING COUNTY DEPARTMENT OF PUBLIC HEALTH

The existing Long Range CIP includes 53,475 square feet to accommodate SKCDPH activities, including the STD clinic and control program, the Women, Infant and Children's Clinic, the Medical Examiner, the Pharmacy, the Laboratory, the Tuberculosis Clinic, the Communicable Disease Clinic, the Family Planning Clinic, the Refugee Clinic, and the Dental Clinic. The plan lacks the flexibility to accommodate within the Medical Center an additional 25,000 to 40,000 square feet required for administrative functions currently housed in three separate locations, the Public Safety Building, the Prefontaine Building, and the Smith Tower. This is because King County and Seattle were studying local government space needs at the time of the HMC master site planning process, and SKCDPH did not request space for these functions from Harborview at that time. The medically related zone, however, does have the flexibility to accommodate these functions. The County is initiating a master planning effort for the Department of Public Health which will examine the issue of space for its administrative functions. Their location in the medically related zone of Harborview will be one of the options explored by the Public Health Master Plan.

DEVELOPMENT OF COST ESTIMATES IN THE LRCIP

The original source of cost information for the projects in the LRCIP was provided by Perkins and Will as part of the Master Site Planning Process in December of 1984. These costs were based upon their evaluation of thee work to be performed, Harborview's condition, and their professional experience.

Construction costs were calculated on a cost-per-square-foot basis. The cost was established for each department based on actual experience with renovations at Harborview, the consultant's experiences, and indexes for the cost of new construction.

The base construction costs were prepared utilizing a computer-based system developed by Perkins & Will. The costs were determined in the following manner:

a. The gross square footage required for each department was established based upon the Master Facilities Plan. This plan included narrative and floor-by-floor plans for the proposed construction solutions. These potential solution options were based upon the Functional Program, which identified the existing space allocations as well as anticipated space requirements. These future requirements were based upon the analysis of the hospital's goals and objectives, and its operating workloads projected over a five- to ten-year period.

   These gross square footages were divided into categories:

   New area
   Extensive Renovation (R1)
   Moderate Renovation (R2)
   Modernization (R3)
   Existing to Remain

b. The amount of construction work required, in terms of entire building systems, was established. This was done by developing relative percentages of standard building systems to be renovated. When calculated, a final range was prepared for each type of renovation (R1, R2, or R3).

c. Pre-schematic design construction costs were then developed. First, the basic construction costs developed in step b were adjusted for the cost of construction in the Seattle-King County region, then the following factors were multiplied:

   Gross Square Feet
   Level of renovation
   Department cost ratio
   Base construction cost adjusted for the region.

   Site development costs, design and construction contingencies, and movable equipment costs were then added to the above total as lump sum allowances. No escalation was included in the Perkins & Will base cost estimates.

The assumptions used by Perkins & Will in developing the construction cost estimates were reviewed in 1987 by King County Facilities Management Division for use in the LRCIP and were fine-tuned where necessary. Construction costs were then converted to project costs by the King County Facilities Management Division. This was done by adding escalation to the mid-point of construction,

sales tax, and permits and fee cost estimates to the base construction cost estimates.

These project costs will be further refined as more detailed planning, such as schematic design for specific projects, takes place.

CONSTRUCTION COST COMPARISONS BY PROJECT

As part of the Executive review of Harborview's LRCIP, the project cost estimates were analyzed to determine their reasonableness. The following questions guided the review:

1. Are the costs reasonable relative to the level of planning completed? Are they excessive? Too low?

2. What projects, if any, have been completed at Harborview which may be similar in scope or type for the purposes of establishing historical cost ranges for comparison purposes.

3. What factors remain to be resolved that have the most potential for cost impact?

A review of each of the three types of projects identified in the LRCIP was undertaken, including the South Wing Clinic Renovation, the Replacement Beds project, and the Trauma Center. The conclusion of the review of each project was:

> "In answer to the initial questions posed relative to cost, the ranges forecast by Perkins & Will are reasonable and do reflect the impact of existing conditions at Harborview. They do not appear excessive in light of the factors yet to be resolved and the program elements to which they are responding. This is not to say that they are assured to be adequate for total LRCIP implementation without program modification as the design process continues, but they appear to be sufficient to do so without wholesale changes to the primary concepts proposed."

A full discussion of how the projects were reviewed can be found in Attachment B.

ATTACHMENT A

PRIORITY PATIENT VOLUME PROJECTIONS

Table B-1

Priority Patient Percent of Medium 1995 Forecast Discharges and Patient Days

Discharges	Total Projected Workload	Priority Patient Percent
Surgery	2,023	77.3%
Cardiology	840	80.3
Geriatrics	199	36.4
General Medicine	2,823	75.7
Psychiatry	2,146	100.0
Orthopedics	1,774	85.2
Neurosurgery	791	71.1
Neurology	1,040	69.0
Burn & Plastic Surgery	769	100.0
Rehab Medicine	212	77.8
Oral Surgery	136	100.0
ENT	171	90.6
Urology	171	51.7
Ophthalmology	20	100.0
Epilepsy	283	11.6
Gynecology	206	75.0
All Services	13,604	80.5
Patient Days		
Surgery	15,295	76.3
Cardiology	4,855	74.4
Geriatrics	1,990	88.4
General Medicine	15,903	94.3
Psychiatric Services	20,726	100.0
Orthopedics	10,777	100.0
Neurosurgery	7,615	79.6
Neurology	5,428	70.5
Burn & Plastic Surgery	8,408	100.0
Rehab Medicine	7,861	71.3
Oral Surgery	713	100.0
ENT	846	70.3
Urology	553	50.4
Ophthalmology	47	100.0
Epilepsy	1,791	18.8
Gynecology	745	87.4
All Services	103,553	87.0

Note: Where priority group projections are near or exceed the medium forecast projections (those with a projection of 100%), we are estimating a saturation of that service by priority patients by 1995. This is most significant for psychiatric services and orthopedics where the client population is large.

Source: Total workload is from Table 2-9. Priority workload is the proportions of priority patients for the first four months of 1987 adjusted by the proportional increases in county population and additional priority group factors as discussed in this Appendix.

Table B-2

Projected Jail Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	0	0	0
	Days	0	0	0
Medicine	Admits	57	63	70
	Days	187	186	209
Cardiology	Admits	3	3	4
	Days	17	17	19
Geriatrics	Admits	0	0	0
	Days	0	0	0
Neurology	Admits	27	30	33
	Days	319	316	355
Neurosurgery	Admits	0	0	0
	Days	0	0	0
Epilepsy	Admits	0	0	0
	Days	0	0	0
Ophthalmology	Admits	0	0	0
	Days	0	0	0
Otolaryngology	Admits	3	3	4
	Days	20	19	22
Oral Surgery	Admits	9	10	11
	Days	64	64	72
Orthopedics	Admits	42	46	52
	Days	171	169	190
Rehabilitation	Admits	0	0	0
	Days	0	0	0
Psychiatry	Admits	114	125	141
	Days	906	897	1,009
Surgery	Admits	42	46	52
	Days	232	230	258
Urology	Admits	3	3	4
	Days	11	11	12
Burn	Admits	0	0	0
	Days	0	0	0
Total	**Admits**	**300**	**330**	**371**
	Days	**1,927**	**1,908**	**2,145**

Table B-3

Projected Mentally Ill Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	3	4	4
	Days	6	6	6
Medicine	Admits	161	174	185
	Days	1,754	1,702	1,805
Cardiology	Admits	13	14	15
	Days	31	30	32
Geriatrics	Admits	3	3	3
	Days	31	30	32
Neurology	Admits	165	178	188
	Days	519	504	534
Neurosurgery	Admits	10	11	11
	Days	390	379	401
Epilepsy	Admits	7	7	8
	Days	46	49	52
Ophthalmology	Admits	3	4	4
	Days	3	3	3
Otolaryngology	Admits	3	4	4
	Days	6	6	6
Oral Surgery	Admits	3	4	4
	Days	9	9	9
Orthopedics	Admits	30	32	34
	Days	255	247	262
Rehabilitation	Admits	3	4	4
	Days	111	107	114
Psychiatry	Admits	2,119	2,284	2,423
	Days	21,727	21,085	22,359
Surgery	Admits	56	60	64
	Days	412	399	424
Urology	Admits	0	0	0
	Days	0	0	0
Burn	Admits	3	4	4
	Days	18	18	19
Total	**Admits**	**2,583**	**2,785**	**2,954**
	Days	**25,318**	**24,570**	**26,055**

Table B-4

Projected Sexually Transmitted Disease (STD) Patient Volumes

		1986	1988	1995	2000
AIDS Patients	Admits	60	240	960	960
Other STD Patients	Admits	273	277	294	312
Total STD Patients	**Admits**	**333**	**513**	**1,254**	**1,272**
	Days	**3,159**	**4,537**	**9,985**	**10,126**

Table B-4, continued

Projected Sexually Transmitted Disease (STD) Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	143	157	166
	Days	612	671	711
Medicine	Admits	240	714	757
	Days	2,822	6,697	7,101
Cardiology	Admits	5	13	14
	Days	17	41	43
Geriatrics	Admits	0	0	0
	Days	0	0	0
Neurology	Admits	37	109	116
	Days	168	404	429
Neurosurgery	Admits	0	0	0
	Days	0	0	0
Epilepsy	Admits	0	0	0
	Days	0	0	0
Ophthalmology	Admits	0	0	0
	Days	0	0	0
Otolaryngology	Admits	9	28	30
	Days	22	51	54
Oral Surgery	Admits	0	0	0
	Days	0	0	0
Orthopedics	Admits	18	55	58
	Days	172	397	421
Rehabilitation	Admits	5	13	14
	Days	108	256	271
Psychiatry	Admits	28	83	88
	Days	431	1,022	1,084
Surgery	Admits	18	55	58
	Days	159	378	401
Urology	Admits	9	28	30
	Days	26	61	65
Burn	Admits	0	0	0
	Days	0	0	0
Total	**Admits**	**513**	**1,254**	**1,330**
	Days	**4,537**	**9,985**	**10,581**

Table B-5

Projected Substance Abuse Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	16	18	19
	Days	58	57	60
Medicine	Admits	995	1,073	1.138
	Days	6,976	6,770	7,179
Cardiology	Admits	112	121	128
	Days	409	396	420
Geriatrics	Admits	10	11	11
	Days	233	227	240
Neurology	Admits	438	473	501
	Days	2,147	2,084	2,210
Neurosurgery	Admits	155	167	177
	Days	1,422	1,380	1,464
Epilepsy	Admits	7	7	8
	Days	135	131	139
Ophthalmology	Admits	7	7	8
	Days	9	9	8
Otolaryngology	Admits	33	36	38
	Days	166	161	171
Oral Surgery	Admits	66	71	75
	Days	341	331	351
Orthopedics	Admits	379	409	433
	Days	2,694	2,614	2,772
Rehabilitation	Admits	36	39	41
	Days	1,152	1,118	1,185
Psychiatry	Admits	708	764	810
	Days	5,664	5,497	5,829
Surgery	Admits	465	501	531
	Days	3,953	3,837	4,068
Urology	Admits	26	28	30
	Days	147	143	152
Burn	Admits	33	36	38
	Days	393	382	405
Total	**Admits**	**3,486**	**3,759**	**3,986**
	Days	**25,901**	**25,137**	**26,655**

Table B-6

Projected Indigent Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	26	28	30
	Days	65	63	66
Medicine	Admits	152	163	173
	Days	534	519	550
Cardiology	Admits	30	32	34
	Days	58	57	60
Geriatrics	Admits	0	0	0
	Days	0	0	0
Neurology	Admits	59	64	68
	Days	166	161	171
Neurosurgery	Admits	43	46	49
	Days	264	256	272
Epilepsy	Admits	3	4	4
	Days	18	18	19
Ophthalmology	Admits	0	0	0
	Days	0	0	0
Otolaryngology	Admits	10	11	11
	Days	31	30	32
Oral Surgery	Admits	16	18	19
	Days	74	72	76
Orthopedics	Admits	105	114	121
	Days	488	474	503
Rehabilitation	Admits	3	4	4
	Days	114	110	117
Psychiatry	Admits	66	71	75
	Days	713	692	733
Surgery	Admits	119	128	136
	Days	541	525	556
Urology	Admits	10	11	11
	Days	12	12	13
Burn	Admits	20	21	23
	Days	237	230	243
Total	**Admits**	**662**	**714**	**757**
	Days	**3,314**	**3,217**	**3,411**

Table B-7

Projected Non-English Speaking Poor Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	3	4	4
	Days	18	18	19
Medicine	Admits	23	25	26
	Days	120	116	123
Cardiology	Admits	0	0	0
	Days	0	0	0
Geriatrics	Admits	0	0	0
	Days	0	0	0
Neurology	Admits	3	4	4
	Days	12	12	13
Neurosurgery	Admits	3	4	4
	Days	3	3	3
Epilepsy	Admits	0	0	0
	Days	0	0	0
Ophthalmology	Admits	0	0	0
	Days	0	0	0
Otolaryngology	Admits	0	0	0
	Days	0	0	0
Oral Surgery	Admits	0	0	0
	Days	0	0	0
Orthopedics	Admits	13	14	15
	Days	111	107	114
Rehabilitation	Admits	0	0	0
	Days	0	0	0
Psychiatry	Admits	30	32	34
	Days	258	250	266
Surgery	Admits	16	18	19
	Days	77	75	79
Urology	Admits	3	4	4
	Days	120	116	123
Burn	Admits	0	0	0
	Days	0	0	0
Total	**Admits**	**96**	**103**	**109**
	Days	**719**	**698**	**740**

Table B-8

Projected Trauma Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	3	4	4
	Days	3	3	3
Medicine	Admits	152	163	173
	Days	642	623	661
Cardiology	Admits	7	7	8
	Days	43	42	44
Geriatrics	Admits	56	60	64
	Days	1,164	1,130	1,198
Neurology	Admits	99	107	113
	Days	464	450	477
Neurosurgery	Admits	501	540	573
	Days	5,053	4,904	5,200
Epilepsy	Admits	3	4	4
	Days	18	18	19
Ophthalmology	Admits	20	21	23
	Days	46	45	47
Otolaryngology	Admits	76	82	87
	Days	323	313	332
Oral Surgery	Admits	145	156	166
	Days	793	769	816
Orthopedics	Admits	1,371	1,478	1,567
	Days	11,154	10,824	11,478
Rehabilitation	Admits	132	142	151
	Days	5,108	4,958	5,257
Psychiatry	Admits	59	64	68
	Days	313	304	322
Surgery	Admits	995	1,073	1,138
	Days	6,835	6,633	7,043
Urology	Admits	33	36	38
	Days	166	161	171
Burn	Admits	43	46	49
	Days	510	495	525
Total	**Admits**	**3,694**	**3,983**	**4,223**
	Days	**32,635**	**31,671**	**33,585**

Table B-9

Projected Burn Patient Volumes

Service Area		1988	1995	2000
Gynecology	Admits	0	0	0
	Days	0	0	0
Medicine	Admits	0	0	0
	Days	0	0	0
Cardiology	Admits	0	0	0
	Days	0	0	0
Geriatrics	Admits	3	4	4
	Days	175	179	190
Neurology	Admits	0	0	0
	Days	0	0	0
Neurosurgery	Admits	0	0	0
	Days	0	0	0
Epilepsy	Admits	0	0	0
	Days	0	0	0
Ophthalmology	Admits	0	0	0
	Days	0	0	0
Otolaryngology	Admits	0	0	0
	Days	0	0	0
Oral Surgery	Admits	3	4	4
	Days	6	6	7
Orthopedics	Admits	0	0	0
	Days	0	0	0
Rehabilitation	Admits	0	0	0
	Days	0	0	0
Psychiatry	Admits	3	4	4
	Days	12	13	13
Surgery	Admits	63	71	75
	Days	888	907	962
Urology	Admits	0	0	0
	Days	0	0	0
Burn	Admits	494	561	595
	Days	4,961	5,069	5,376
Total	**Admits**	**567**	**643**	**682**
	Days	**6,042**	**6,174**	**6,547**

Table B-10

Projected Specialized Emergency Care Volumes

Service Area		1988	1995	2000
Gynecology	Admits	3	3	3
	Days	15	16	17
Medicine	Admits	228	246	261
	Days	2,478	2,672	2,833
Cardiology	Admits	570	615	652
	Days	3,438	3,707	3,931
Geriatrics	Admits	9	10	10
	Days	444	479	508
Neurology	Admits	96	104	110
	Days	1,059	1,142	1,211
Neurosurgery	Admits	30	32	34
	Days	765	825	875
Epilepsy	Admits	3	3	3
	Days	108	116	123
Ophthalmology	Admits	0	0	0
	Days	0	0	0
Otolaryngology	Admits	6	6	7
	Days	108	116	123
Oral Surgery	Admits	0	0	0
	Days	0	0	0
Orthopedics	Admits	0	0	0
	Days	0	0	0
Rehabilitation	Admits	0	0	0
	Days	0	0	0
Psychiatry	Admits	0	0	0
	Days	0	0	0
Surgery	Admits	81	87	93
	Days	957	1,032	1,094
Urology	Admits	0	0	0
	Days	0	0	0
Burn	Admits	3	3	3
	Days	42	45	48
Total	**Admits**	**1,029**	**1,110**	**1,117**
	Days	**9,414**	**10,151**	**10,764**

ATTACHMENT B

CONSTRUCTION COST COMPARISION

SOUTH WING CLINICS

The LRCIP identifies costs for full south wing floor renovations as from $90 to $100 per square foot on a floor-by-floor basis. The entire building average is $85 to $95 per square foot.

The closest historical project to this type of renovation was found to be the Primary Care Clinic Renovation done in 1978. This renovation, like those proposed in the LRCIP, was done as a single floor remodel, essentially gutted and reconstructed for clinic use. Contract records show a construction cost of $906,017 in 1978 which equates to approximately $1,389,000 in 1984 dollars (Master Plan units of measure.) On a cost per square foot basis, this equates to $86.80, indicating a very close comparison to the projected dollars. The primary differences between this project and the proposal are as follows:

1. The project occurred on the ground floor and the contractor had full access to the site during normal working hours. Access will likely be restricted in the new renovation due to limited space available for temporary relocations of users and limits on types of construction to be performed while the building is occupied. Project development must address resolution of these issues with the least impact.

2. No structural renovation or modification to exterior walls or windows occurred. This may be necessary in the future due to energy and building code changes.

3. No new major backbond mechanical equipment was provided. An alternate to the documents that would have increased the cost by approximately 11% for this type of equipment was rejected due to limits on available funds. Some costs of this type will undoubtedly be incurred in the proposed new work.

Based upon the above information it was determined that the dollars projected in the LRCIP were totally within reason for the level of planning completed. Generally, they may even be considered slightly low but achievable costs.

NEW INPATIENT BEDS

The LRCIP identifies costs for new nursing units as from $170 to $180 per square foot for new construction and $15 to $80 for minor to major levels of renovation in the existing north wing. The project average including both new and renovation work is between $85 and $90 per square foot.

The closest historical project to this proposal was found to be Phase II of the North Wing Tower done in 1982. In that project, four new nursing floors (ninety-two beds) were added on top of the five floors constructed in the 1970's. The basic plan for the new work was the same as the original floors, the elevations were straight repetitions of the floors below and the elevator cores (supplied in the first phase) were merely tied into. Cost of this work was about $132 per square foot. The primary differences between this project and the proposal are as follows:

NEW INPATIENT BEDS (continued)

1. The North Wing Addition was very straightforward, repetitive extension of existing construction. No structural modification to the original project was required and very limited renovation to original floor layouts were required. The proposed work must interface with two separate buildings (North Wing and Community Mental Health Center) and will require significant renovation on each side of Ninth Avenue.

2. Construction and staging for the north wing addition was consolidated - the new work will spread horizontally and encounter far more restrictions due to its crossing the street.

3. While ventilation and heating were provided for the north addition, new air conditioning was provided at one floor only. The proposed construction will bear a higher mechanical cost relative to both new and remedial system requirements.

Based upon the above information it was determined that the dollars projected in the LRCIP were within reason for the level of planning completed and the range established in the past for relatively "simple" additions. Certainly the most volatile issue to be resolved relative to cost is the interface of the new structure at both the North Wing and CMHC.

TRAUMA/DIAGNOSTIC CENTER

The LRCIP identifies costs for the Trauma Center as from $110 to $195 per square foot for new construction depending upon the technical level of space provided (i.e. offices vs. radiology or labs.) Renovation costs range from $60 to $170 per square foot and the project total averages about $150 per square foot for construction in 1984 funds.

Unlike the south wing clinic's north wing beds, there is no single project to compare to the proposed Trauma Center due to the unique combination of services to be located there. "Trauma Center Projects" are not a standard item nationally since so few institutions provide the comprehensive trauma program characteristic of Harborview. As a result, historical renovation costs for radiology were examined as the high level "water mark" for comparison of high tech space and a variety of national average costs for medical facilities were viewed as low to middle levels of expectation. The national average costs include a broad range of hospital space types and would be indicative of facilities with less extensive concentrations of high technology space than projected for concentration in the Trauma Center.

The radiology costs examined indicated a range of $225 to $300 per square foot for renovation. These costs reflect the significantly substandard condition of building systems for such space and tend to justify the recommendation to build new rather than continue renovation for such activities. The national average costs ranged (in 1984 dollars) from $132 to $137 per square foot for general hospitals and $134 to $139 per square foot for an oncology research building which may house many of the same types of building systems as would be required in hospital laboratory facilities.

TRAUMA/DIAGNOSTIC CENTER (continued)

Using the average building costs, the Trauma Center is projected at only 8% to 14% more expensive on a total construction cost per square foot basis than "standard" medical construction. In terms of historical costs, the high tech range of $195 per square foot is 65% cheaper than the most expensive renovation.

The primary factors which will impact cost at the Trauma Center and will remain variable until further project resolution are as follows:

1. The extent of renovation required in the existing facility to interface effectively with the new construction. This includes renovation to structure, mechanical and electrical systems, site utilities and roads. It is known that considerable levels of asbestos abatement will be required.

2. Site constraints. It is known that considerable relocation of utilities will be required. Equally difficult however will be staging of the work itself due to the high percentage of below grade work to be done. The site area is roughly equivalent to one downtown city block and the building is three stores high. From this, a much higher percentage of cost must be expected relative to excavation and other ground related conditions than for more standard site/building configurations.

Based upon the above information it was determined that the dollars projected in the LRCIP were within an acceptable range for the level of planning completed.

CONCLUSION

In answer to the initial questions posed relative to cost, the ranges forecast by Perkins and Will are reasonable and do reflect the impact of existing conditions at Harborview. They do not appear excessive in light of the factors yet to be resolved and the program elements to which they are responding. This is not to say that they are assured to be adequate for total LRCIP implementation without program modification as the design process continues but they appear to be sufficient to do so without wholesale changes to the primary concepts proposed.