5-16-1988

Seattle Center Phase II Interim Report

Walt Disney Imagineering

Harrison Price Company

Peter Moy & Associates

Sharon J. Dalrymple

SEATTLE CENTER ECONOMIC AND CONCEPTUAL DEVELOPMENT STUDY

Phase II Report:

Attendance and Sizing Estimates for Alternative Redevelopment Concepts

Prepared for

CITY OF SEATTLE
May 1988

Prepared by

WALT DISNEY IMAGINEERING AND
HARRISON PRICE COMPANY,
A Joint Venture

TABLE OF CONTENTS

	Page No.
INTRODUCTION	1
SUMMARY FINDINGS	1
EXISTING ATTENDANCE BASE	1
PROJECTED ATTENDANCE BASE	3
Retained Facilities	3
Common Elements	5
Additional Elements Under Plan A ("As Is" Programming)	8
Additional Elements Under Plan B (Regional Family Entertainment)	11
Additional Elements Under Plan C (Community Park/Arts Center)	13
Comparison of the Three Plans	15
PROJECTED DEMAND FOR FOOD AND RETAIL FACILITIES	15
ESTIMATED PARKING REQUIREMENTS	19

LIST OF TABLES

Table		Page No.
1	Summary of Market Support Available To Seattle Center	2
2	Estimated Current Market Penetration Of Seattle Center	4
3	Attendance Base for Facilities/Programs To Be Retained "As Is"	6
4	Summary of Estimated Attendance For Common Elements (All Plans)	7
5	Summary of Estimated Attendance Under Plan A ("As Is" Programming)	9
6	Summary of Estimated Attendance Under Plan B (Regional Family Entertainment)	12
7	Summary of Estimated Attendance Under Plan C (Community Park/Arts Center)	14
8	Comparative Attendance Generation of Alternative Redevelopment Concepts	16
9	Summary of Demand For Food and Retail Facilities For Seattle Center	17
10	Summary of Parking Requirements For Seattle Center	20

LIST OF APPENDIX TABLES

A-1	Estimated Attendance For The New Center House
A-2	Estimated Attendance For A Themed Children's Play Center
A-3	Estimated Attendance For The Children's Theaters
A-4	Estimated Attendance For The Seattle Children's Museum/Library
A-5	Estimated Attendance For The Intiman Playhouse
A-6	Estimated Attendance For The Pacific Northwest Ballet School
A-7	Estimated Attendance For A Museum in the Nile Temple Building
A-8	Estimated Attendance For The Symphony Hall
A-9	Comparative Nonsports Programming at Major Seattle Area Arenas
A-10	Comparative Nonsports Attendance Profile For Major Seattle Area Arenas
A-11	Nonsports Programming At The Seattle Center Arena
A-12	Estimated Attendance For The Seattle Center Coliseum
A-13	Programming of Meeting Facilities at Seattle Center
A-14	Attendance Profile of Meeting Facilities at Seattle Center
A-15	Estimated Attendance For Meeting Facilities
A-16	Estimated Attendance For An Outdoor Amphitheater
A-17	Estimated Attendance For A Thrill Ride Park
A-18	Estimated Attendance For A Teen Dance Pavilion
A-19	Estimated Attendance For An Ice Skating Rink
A-20	Participation Rates In Selected Sports
A-21	Estimated Available Market For An Active Sports Complex
A-22	Estimated Attendance For An Active Sports Complex

LIST OF APPENDIX TABLES
(continued)

A-23 Estimated Demand For Food and Retail Facilities Under Plan A

A-24 Estimated Demand For Food and Retail Facilities Under Plan B

A-25 Estimated Demand For Food and Retail Facilities Under Plan C

A-26 Estimated Attendance Distribution At Seattle Center By Time of Day

A-27 Estimated Demand For Food and Retail Facilities Facilities Under Plan C

A-28 Estimated Evening Parking Requirements Under Plan A

A-29 Estimated Daytime Parking Requirements Under Plan B

A-30 Estimated Evening Parking Requirements Under Plan B

A-31 Estimated Daytime Parking Requirements Under Plan C

A-32 Estimated Evening Parking Requirements Under Plan C

INTRODUCTION

The work program for the Seattle Center economic and conceptual development study was divided into three phases, of which the present second phase addresses three alternative redevelopment concepts for the site together with associated attendance estimates and, where applicable, facility sizing guidelines. Pictorial and narrative descriptions of the three concept options have been submitted under separate cover; this companion document contains the attendance and sizing estimates pertinent to the three plans. Following this introduction, a summary text and accompanying tables highlight the principal findings and conclusions, while the detailed analysis, including supporting documentation, is presented as a Statistical Appendix.

The Seattle Center study is the product of a joint venture between Walt Disney Imagineering, Inc. as conceptual designer, represented by Juliann Juras and Gordon Hoopes, and Harrison Price Company as economic consultant, represented by Harrison A. Price and Nicholas S. Winslow. In the capacity of subcontractors, Peter Moy & Associates and Sharon J. Dalrymple provided analytical support.

The conclusions reached in this report are based on the study team's present knowledge of the Seattle market and competitive environment as of completion of field work in March 1988. As in all studies of this type, projected results are predicated on competent and efficient management of the Center's component attractions and presume no significant difference in competitive position from that set forth in this report. Since annual operating results are based on estimates and assumptions that are subject to an indeterminate amount of uncertainty and variation, particularly at this early stage in the planning process, they are explicitly not represented as results that will actually be achieved. Additionally, the study does not include the posssible impact of government restrictions on the subject development except those identified in the report.

Outside the scope of this study contract, HPC prepared, at the special request of the client, rough estimates of capital costs for first-phase common improvements under the three alternative development concepts. These estimates were submitted as part of the Interim Report for Phase II delivered May 10, 1988. At the instruction of the client, no further work on capital costing will be done until a complete feasibility analysis is prepared for the recommended project concept in Phase III of the study.

SUMMARY FINDINGS

Subsequent paragraphs summarize the expected attendance performance of each concept alternative and then translate attendance volume into demand for food and merchandise facilities and parking. All estimates, it should be noted, are preliminary and, in the case of the plan alternative ultimately recommended for detailed exposition in Phase III, subject to revision and refinement. Further, all estimates refer to a typical stabilized year of operation, which will occur three to four years after the opening of each component facility. Attendance prior to stabilization will likely be substantially less than that estimated here due to the necessary period of build-up in market response and dislocations caused by the construction program; attendance after stabilization will increase in general accordance with overall market growth to the extent possible given inherent capacity constraints on component facilities.

EXISTING ATTENDANCE BASE

A brief review of Seattle Center's existing attendance base as previously discussed in the Phase I report for this study assignment will establish a context for the attendance projections to follow. **Table 1** shows that aggregate resident and tourist market size currently amounts to about 7 million persons. Population of the primary resident market, or King County, is some 1.36 million, while the secondary resident market (comprised of Kitsap, Pierce, and Snohomish counties) has a total population of about 1.1 million. No official estimates as to the size of the Seattle area tourist market are available; however, extrapolations from hotel capacity and studies by developers currently active in the market (Rouse Company and others) suggest that overnight tourist volume is in the range of 4 to 5 million visitors annually. A midpoint estimate of 4.5 million has been used for purposes of this analysis, as indicated.

The Phase I report noted that total visitation to Seattle Center is believed to be on the order of 8 million as of 1986. The local market surveys conducted as part of that study phase revealed the attendance distribution within the resident market by county. Additional surveys undertaken by the various tenant organizations at Seattle Center suggest that the tourist proportion of the total is approximately 20 percent. On the basis of the latter estimate, percentages associated with each resident market segment in the local market survey were redistributed over an expanded base including tourism, yielding the overall distribution shown in **Table 2**. When adjusted attendance shares are divided by corresponding market size figures, resulting market penetration rates amount to about 380 percent for the City of Seattle, some 260 percent for the remainder of King County, slightly more than 200 percent for the three-county secondary resident market, and 36 percent for the tourist market (penetration rates in excess of 100 percent reflect repeat visitation--Seattle residents, for example, visit the Center roughly four times per year on average). The overall capture rate for the Center is an outstanding 115 percent.

While the foregoing overview of current attendance performance is impressive, Seattle Center is nevertheless highly vulnerable to changing market conditions, and the task of maintaining attendance volume somewhere near the 8 million level should not be underestimated. The Sonics are leaving, competition for meeting, trade show, and food/retail business is increasing markedly, many Center facilities are losing appeal as they become more and more outmoded and/or deteriorated, and certain tenant organizations are prevented from expanding their programs due to capacity constraints or the lack of suitable facilities altogether. Without a comprehensive redevelopment program such as being formulated in the present study, a pronounced and irreversible decline in total visitation can be anticipated.

Table 1

SUMMARY OF MARKET SUPPORT AVAILABLE TO SEATTLE CENTER 1986

	Total Population (thousands)
Resident Market	
Primary	
City of Seattle	488
Remainder King County	874
Subtotal	1,362
Secondary (Kitsap, Pierce, and Snohomish Counties)	1,104
Total	2,466
Tourist Market[1]	4,500
Grand Total	6,966

[1] Estimated overnight visitation to the Seattle area.

Source: Washington State Employment Security Department and Harrison Price Company.

Table 2

ESTIMATED CURRENT MARKET PENETRATION OF SEATTLE CENTER 1986

	Market Size (Thousands)	Seattle Center Attendance Number (Thousands)	Seattle Center Attendance Percent of Total	Market Penetration Rate[1]
Resident Market				
Primary				
City of Seattle	488	1,850	23%	379%
Remainder King County	874	2,300	29	263
Secondary	1,104	2,250	28	204
Subtotal	2,466	6,400	80%	260%
Tourist Market	4,500	1,600	20	36
Total	6,966	8,000	100%	115%

1 Seattle Center attendance divided by market size.

Source: Peter Moy and Associates and Harrison Price Company.

PROJECTED ATTENDANCE BASE

Subsequent paragraphs derive attendance estimates for each of the three alternative redevelopment concepts, including facilities to be retained more or less "as is," new or refurbished facilities common to all three alternatives, and additional facilities recommended for development under one or more of the concept options.

Retained Facilities

Facilities to be retained essentially unchanged under all three conceptual plans include the Space Needle, Pacific Science Center, Opera House, Bagley Wright Theater/Poncho Forum, and the grounds at large (in the sense of use for major festivals and other special events). Attendance volume for these facilities as of 1986 totaled approximately 3.2 million, as indicated in **Table 3**. Given publicity generated by the grand reopening of Seattle Center after redevelopment, the provision of new and different entertainment opportunities at the Cneter, and civic pride in the "crown jewel" of the Emerald City, it is reasonable to expect an incremental increase in attendance for these facilities collectively estimated on the order of 10 to 20 percent, for an ultimate stabilized volume of 3.6 to 3.9 million in the aggregate. This increase will not occur across the board, but will instead vary widely among the individual facilities in consideration of capacity limitations and/or financial constraints on program expansion.

Common Elements

A number of facilities, new or refurbished, will be common to all master plan alternatives given the study team's opinion that there is a fundamental level of redevelopment which must occur regardless of the ultimate nature and scope of each plan in its entirety. **Table 4** shows that in Phase I, these common elements encompass a new Center House, a themed children's play center, two children's theaters (500 seats and 200 seats, respectively), and a children's museum and library, plus the recently revamped Intiman Playhouse and the Pacific Northwest Ballet School already scheduled for construction as a new second floor in the Exhibition Hall. Combined attendance for these various attractions is estimated to be about 1 million at stabilization which, when added to the attendance base for retained facilities, brings overall first-phase common attendance to between 4.6 and 5 million.

Common elements in Phase II embrace theater district restaurants and shops, an expanded crafts/fine arts component, and extension of the downtown Seattle trolley line into Seattle Center. These various elements will not add a substantial increment to attendance at the Center; rather, demand for such facilities will arise in response to attendance generated by other attractions at the site. The chief impact of these facilities, accordingly, is qualitative rather than quantitative as they will enhance the overall ambience of the site and favorably affect average visitor length of stay and hence spending propensity.

Common elements of the third and final development phase include a new (as yet undefined) museum in the Nile Temple building and a new 2,500-seat concert hall on the Kreielsheimer property. Aggregate estimated attendance for these components is 370,000 to 560,000.

Table 3

ATTENDANCE BASE FOR FACILITIES/PROGRAMS
TO BE RETAINED "AS IS"

	Total Attendance
Space Needle	1,159,000
Pacific Science Center	910,700
Grounds[1]	500,000
Opera House	480,800
Bagley Wright Theater	172,600
Poncho Forum	15,100
Total	3,238,200
Estimated Incremental Increase Induced by Redevelopment Program	10-20%
Adjusted Attendance Base	3,562,000-3,885,800
Mid-Range Estimate	3,700,000

[1] Excludes Mural Amphitheater.

Source: Seattle Center Finance Division, Space Needle Corporation, Pacific Science Center, and Harrison Price Company.

Table 4

SUMMARY OF ESTIMATED ATTENDANCE FOR COMMON ELEMENTS (All Plans)

Program Component	Attendance Range (Thousands)	Mid-Range Estimate (Thousands)
PHASE I		
Retained Facilities[1]	3,562-3,886	3,700
New or Refurbished Facilities		
New Center House	332-339	335
Themed Children's Play Center	198-247	223
Children's Theaters		
Seattle Children's Theater	179-191	185
Smaller Theater	56-60	58
Children's Museum/Library	163-169	165
Intiman Playhouse	52-56	54
Pacific Northwest Ballet School	22-26	24
Subtotal	1,002-1,088	1,044
Total	4,564-4,974	4,744
PHASE II[2]		
Theater District Restaurants/Shops	N.A.	N.A.
Crafts/Fine Arts Studios and Galleries	N.A.	N.A.
Trolley Line Extension	N.A.	N.A.
Total	N.A.	N.A.
Phase III		
Nile Temple Building Museum	120-281	200
Symphony Hall	250-279	265
Total	370-560	465
Grand Total	4,934-5,534	5,209

[1] Includes Space Needle, Pacific Science Center, Opera House, Bagley Wright Theater, Poncho Forum, and grounds at large (including major festivals).
[2] Common improvements in Phase II will not add significant incremental attendance, but rather will derive support from aggregate visitation to the site as a whole
N.A. means not applicable

Source: Harrison Price Company.

Cumulative attendance generated by all retained or new common project components is projected at 4.9 to 5.5 million, as indicated. Appendix Tables A-1 through A-8 contain detailed attendance analyses for common elements, including notation of planning factors employed. The following explanatory comments are pertinent:

- The present event load of the Center House stage and court area will be transferred essentially intact to the new Center House. Since programming of this facility is already intense at almost three events per day on average, little calendar space is available for program expansion. A modest allowance for 30 to 50 additional events (or up to one additional program per week) has been assumed, which will result in a stabilized attendance volume of 332,000 to 339,000 annually.

- Attendance at the themed children's play center has been based on an overall resident/tourist market capture rate of 3 to 3.5 percent, equivalent to an absolute volume of between 198,000 and 247,000, which is consistent with experience at well located comparable attractions.

- Children's theater attendance, estimated at 178,000 to 191,000 for Seattle Children's Theater and 56,000 to 60,000 for the smaller theater (World Mother Goose and Piccoli Junior Theater), is based on seating capacity and information supplied by the respective user organizations as to program capabilities and typical seat occupancy experience.

- Using methodology comparable to that for the children's theaters, stabilized annual attendance for the new symphony hall is estimated at 250,000 to 279,000, while the estimate for the Intiman Playhouse is 52,000 to 56,000.

- The children's museum and library estimate of 163,000 to 169,000 was based on an incremental increase of 30 to 35 percent over existing volume given enlarged facilities and an upgraded program.

- An estimate of 22,000 to 26,000 annually has been projected for the Pacific Northwest Ballet School on the basis of class schedules and average enrollment as provided by ballet management.

- Estimating attendance for the Nile building museum is problematical in the absence of precise definition of museum scope and content. However, assuming a competitive attraction with moderate admission prices and strong membership support, an overall resident/tourist market capture of 2 to 4 percent has been projected, equivalent to between 120,000 and 281,000 visits annually.

Common and retained facilities generating a cumulative total of 4.9 to 5.5 million visits in the aggregate as mentioned previously comprise the core of the Seattle Center redevelopment program. Over and above these elements are a number of other attractions specific to the various master plan alternatives, which are discussed in the paragraphs to follow.

Additional Elements Under Plan A ("As Is Programming)

The first phase of redevelopment under Plan A calls for refurbishment of the Coliseum as a flat-floor exhibit and family show/rock concert venue, renovation and expansion of meeting facilities at Seattle Center, and the addition of children's rides to the children's zone at the site. As summarized in **Table 5**, combined attendance for these three elements is estimated at 997,000 to about 1.1 million, bringing overall Phase I volume under this plan (including retained and common facilities) to between 5.6 and 6.1 million visits. In Phase II, a temporary amphitheater of 4,000 lawn seats will be added, together with a thrill ride park on the Metro bus property. Combined attendance in this instance is estimated at 689,000 to 887,000. In the third phase of development, the amphitheater will be upgraded to permanent status at 5,000 seats, 3,000 of which will be fixed and 2,000 lawn. The incremental gain in amphitheater attendance over Phase II is projected to amount to 87,000 to 100,000 visits, for a third-phase aggregate volume including common facilities of 457,000 to 660,000 visits. Detailed attendance analyses for these additional elements are presented in Appendix Tables A-9 through A-17 and incorporate the following assumptions:

- Nonsports programming at the Coliseum amounted to 98 event-days in 1986. An additional 85 nonsports event-days were recorded at the Arena to be demolished on implementation of the redevelopment program for Seattle Center, for a combined existing activity base of 183 events. Assuming that the refurbished Coliseum makes provision for flexible seating capacities enabling transfer of much of the Arena's nonsports calendar but, on the other hand, taking into account increased competition in the market area in tandem with the basic shortcomings of the Coliseum structure, a net loss of 25 to 35 percent of the combined Coliseum/Arena nonsports event base is considered realistic. The remaining 120 to 135 event-days will generate an estimated attendance volume of 468,000 to 527,000 at stabilization.

- Meeting/exhibit facilities at Seattle Center (including the Northwest Rooms, Center House Conference Center, Mercer Forum, Exhibition Hall, Flag Pavilion, and NASA Building) generated an aggregate of 1,550 event-days during 1986. Under Plan A, meeting space will be expanded somewhat even after allowing for demolition of the Flag Pavilion, Conference Center, and NASA Building which, coupled with extensive physical upgrading and a favorable rental price strategy, will tend to offset the factor of increased competition in the marketplace. The projected loss in the existing event base is accordingly estimated at no more than 5 percent, for an overall event load of 1,470 to 1,550 days. Estimated attendance for these events amounts to 529,000 to 558,000 in the aggregate.

- An attendance range of 148,000 to 178,000 has been forecast for the temporary amphitheater on the basis of seating capacity, an event load of 70 to 85 events per year (which presumes aggressive marketing and a major in-house promotion effort), and seat occupancy factors consistent with the likelihood that uncovered lawn seats are difficult to sell except in the case of extremely popular shows. When this venue is upgraded in the second phase as a permanent amphitheater, increased seating capacity, improved occupancy resulting from the

Table 5

SUMMARY OF ESTIMATED ATTENDANCE
UNDER PLAN ~~B~~ A
("As Is" Programming)

Project Component	Attendance Range (thousands)	Mid-Range Estimate (thousands)
PHASE 1		
Retained Facilities	3,562-3,886	3,700
Common Elements	1,002-1,088	1,044
Additional Elements		
Coliseum Refurbishment	468-527	497
Meeting Room Expansion and Refurbishment	529-558	544
Children's Rides[1]	NA	NA
Subtotal	997-1,085	1,041
Total	5,561-6,059	5,785
PHASE 2		
Common Elements	NA	NA
Additional Elements		
Temporary Amphitheater	148-178	163
Thrill Ride Park	541-709	625
Subtotal	689-887	788
Total	689-887	788
PHASE 3		
Common Elements	370-560	465
Additional Elements		
Permanent Amphitheater	235-278	256
Less: Temporary Amphitheater	(148-178)	(163)
Subtotal	87-100	93
Total	457-660	558
Grand Total	6,707-7,606	7,131

1 Children's rides will not add significant incremental attendance, but rather will increase average length of stay in the children's zone.

NA means not applicable.

Source: Harrison Price Company.

availability of fixed seats, and a slightly higher event load (80 to 95 event-days per year) will produce a total attendance of between 235,000 and 278,000, or 87,000 to 100,000 more than in the first phase.

- The addition of children's rides is not expected to induce appreciable incremental attendance within the children's zone as a whole. This facility will nonetheless have an important qualitative impact through its tendency to augment average visitor length of stay and rate of spending.

- The proposed thrill ride park is projected to generate total attendance in the range of 541,000 to 709,000 at stabilization. This estimate is based on a healthy overall resident/tourist market capture rate of 8 to 10 percent in recognition of the uniqueness of this attraction in the marketplace (penetration of the target teen/young adult age group, it should be noted, will be dramatically higher).

Cumulative attendance for all three phases of Plan A, including retained, common, and additional project components, comes to 6.7 to 7.1 million visits before allowing for unallocable attendance associated with casual visitation to the grounds and minor activities for which attendance is not reported or under-reported. Seattle Center's existing attendance base includes an estimated 800,000 such visits, equivalent to 12 percent of the total. If a similar proportion prevails in the future, adjusted total attendance volume at the Center under Plan A would amount to between 7.5 and 8.5 million.

Additional Elements Under Plan B (Regional Family Entertainment)

The Plan B concept alternative calls for meeting room refurbishment and addition of children's rides in Phase I, bringing combined first-phase attendance volume, summarized in **Table 6**, to between about 5 and 5.5 million with inclusion of retained and common facilities. A temporary amphitheater of 4,000 seats, a thrill ride park on the Metro site, and an ice rink in a redesigned Coliseum are the additional elements of Phase II, together yielding an aggregate attendance volume of 825,000 to some 1.1 million. In the third phase, the temporary amphitheater will be replaced by a permanent facility containing 7,700 seats (2,000 lawn, 2,400 fixed open, and 3,300 fixed covered seats), and a teen dance pavilion will be added to the Metro site. Total Phase III attendance volume is projected at 692,000 to 982,000 visits for the latter facilities plus common elements. Taken into account in the detailed attendance computations presented in Appendix Tables A-16 through A-19 are the following assumptions:

- Projections for meeting/exhibit facilities allow for a net decrease in available meeting space at the site plus heightened competition in the marketplace. A 20 to 30 percent loss in the existing event base is forecast, for an overall event load of 1,085 to 1,240 days and an estimated attendance of 391,000 to 446,000 under this plan alternative.

- Temporary amphitheater attendance is the same as under Plan A, or 148,000 to 178,000 annually. In the case of the permanent amphitheater, attendance vol

Table 6

SUMMARY OF ESTIMATED ATTENDANCE UNDER PLAN B (Regional Family Entertainment)

Project Component	Attendance Range (thousands)	Mid-Range Estimate (thousands)
PHASE 1		
Retained Facilities	3,562-3,886	3,700
Common Elements	1,002-1,088	1,044
Additional Elements		
Meeting Room Refurbishment	391-446	418
Children's Rides[1]	NA	NA
Subtotal	391-446	418
Total	4,955-5,420	5,162
PHASE 2		
Common Elements	NA	NA
Additional Elements		
Temporary Amphitheater	148-178	163
Thrill Ride Park	541-709	625
Ice Rink	136-164	150
Subtotal	825-1,051	938
Total	825-1,051	938
PHASE 3		
Common Elements	370-560	465
Additional Elements		
Permanent Amphitheater	389-458	424
Less: Temporary Amphitheater	(148-178)	(163)
Net Amphitheater	241-280	261
Teen Dance Pavilion (increment)	81-142	111
Subtotal	322-422	372
Total	692-982	837
Grand Total	6,472-7,453	6,937

[1] Children's rides will not add significant incremental attendance, but rather will increase average length of stay in the children's zone.

NA means not applicable.

Source: Harrison Price Company.

ume will grow to 389,000 to 458,000 given significantly larger seating capacity and occupancy factors commensurate with the high proportion of fixed seats, 40 percent of which will be covered. The incremental gain over the temporary configuration will thus amount to 241,000 to 280,000 visits.

- As in the case of Plan A, no incremental gain in attendance is expected to be generated by the children's rides.
- Estimated thrill ride park attendance of 541,000 to 709,000 is the same as under Plan A.
- Attendance at the teen dance pavilion was factored as a 15 to 20 percent increment to thrill ride park attendance, or an additional 81,000 to 142,000 visits. In contrast to the children's rides, where impact is essentially qualitative, this attraction is expected to have both qualitative and quantitative benefits, specifically in the form of increased nighttime business.
- Ice rink attendance is forecast at 136,000 to 164,000 at stabilization based on a substantial 25 to 30 percent penetration of the local ice skating market (comprised of 4 percent of the primary resident market population) in recognition of the fact that there is only one competing rink in King County. The nature of the proposed ice facility, which will not be suited for hockey (with the possible exception of Little League games) along with inherent capacity constraints suggest that this is the maximum attainable.

For Plan B at full development on completion of third-phase improvements, cumulative attendance volume is estimated at 6.5 to 7.5 million. Adding a 12 percent increment for unallocable visits, overall cumulative attendance will range from 7.2 to 8.3 million visits.

Additional Elements Under Plan C (Community Park/ Arts Center)

Meeting room refurbishment is the only major additional element envisioned for the first phase of Plan C. When combined with retained and common facilities, total Phase I attendance under this plan will amount to roughly 5 to 5.5 million, as indicated in **Table 7**. An ice rink at the Coliseum site and an active sports complex on the Metro site (encompassing such sports as baseball, basketball, tennis, bicycling, and so on) are proposed for Phase II, which will yield an additional 482,000 to 625,000 visits. No additional improvements are envisioned for Phase III, with total attendance of 370,000 to 560,000 in this phase associated only with common elements described earlier. Drawing on the detailed analysis contained in Appendix Tables A-13 through A-15 and A-19 through A-22, comments pertaining to Plan C are as follows:

- Assumptions concerning meeting/exhibit facilities are the same as under Plan B, with stabilized attendance estimated at 391,000 to 446,000 annually.
- Ice rink attendance is also the same as under Plan B, or 136,000 to 164,000 visits.

Table 7

SUMMARY OF ESTIMATED ATTENDANCE UNDER PLAN C
(Community Park/Arts Center)

Project Component	Attendance Range (thousands)	Mid-Range Estimate (thousands)
PHASE 1		
Retained Facilities	3,562-3,886	3,700
Common Elements	1,002-1,088	1,044
Additional Elements		
Meeting Room Refurbishment	391-446	418
Total	4,955-5,420	5,162
PHASE 2		
Common Elements	NA	NA
Additional Elements		
Ice Rink	136-164	150
Active Sports Complex	346-461	403
Subtotal	482-625	553
Total	482-625	553
PHASE 3		
Common Elements	370-560	465
Total	370-560	465
Grand Total	5,807-6,605	6,180

NA means not applicable.

Source: Harrison Price Company.

- Projected attendance for the active sports complex is based on national average participation rates in selected sports together with typical frequency of participation factors. Activities of this nature (as well as ice skating) are ordinarily enjoyed close to home, implying that the effective market does not extend beyond King County. This local market is estimated to generate some 46 million visits annually in ten selected types of sports (baseball, basketball, softball, and soccer in the field sports category, volleyball, tennis, and archery in the court sports category, and bicycling, running/jogging, and roller skating in the trail sports category). At this stage in the planning process, it is not known what the precise mix of sports will be at the Metro site, nor has the relative emphasis on certain sports versus others been identified. This uncertainty, coupled with capacity limitations and the vast array of competing sports venues--including schools and colleges, other public parks, and even local residents' own backyards--suggests that an estimated market penetration rate of 0.75 to 1 percent is generous. Absolute attendance volume is thus liberally estimated at 346,000 to 461,000 visits at stabilization.

Cumulative Plan C attendance including all common elements plus the additional facilities described above is projected at 5.8 to 6.6 million visits. An allowance for unallocable attendance comparable to that of the other two plans brings overall volume to between 6.5 and 7.4 million.

Comparison of the Three Plans

A summary comparison of attendance volume under Plans A, B, and C is presented in **Table 8**. The text table below shows the cumulative, aggregate attendance for each option after adjusting for unallocable visits:

	Estimated Total Attendance (thousands)
Plan A	7,510-8,520
Plan B	7,250-8,350
Plan C	6,500-7,400

Potential attendance generation under Plans A and B, as indicated, is very similar; however, there are important differences in the source of attendance for the two concepts. The success of Plan A is in large measure contingent on aggressive and costly marketing of trade show, meeting, and exhibit facilities in the face of stiff competition. Plan B has greater orientation to the more predictable family entertainment market and implies less risk due to reduction of the meeting component. Attendance-wise, Plan C is inferior to both of the other two concept options and has the further disadvantage of increasing the relative incidence of low-revenue activity through the use of the Metro site for participant sports. Plans A and B, in short, are capable of maintaining Seattle Center's present market share at or above 8 million, whereas Plan C will generate up to 1.5 million visits less than currently experienced.

Table 8

COMPARATIVE ATTENDANCE GENERATION OF ALTERNATIVE REDEVELOPMENT CONCEPTS

Project Component	Plan A Attendance Range (Thousands)	Plan A Mid-Range Estimate (Thousands)	Plan B Attendance Range (Thousands)	Plan B Mid-Range Estimate (Thousands)	Plan C Attendance Range (Thousands)	Plan C Mid-Range Estimate (Thousands)
PHASE I						
Retained facilities	3,562-3,886	3,700	3,562-3,886	3,700	3,562-3,886	3,700
Common Elements	1,002-1,088	1,044	1,002-1,088	1,004	1,002-1,088	1,044
Additional Elements	997-1,085	1,041	391-446	418	391-446	418
Total	5,561-6,059	5,785	4,955-5,420	5,162	4,955-5,420	5,162
PHASE II						
Common Elements	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Additional Elements	689-887	788	825-1,051	938	482-625	553
Total	689-887	788	825-1,051	938	482-625	553
PHASE III						
Common Elements	370-560	465	370-560	465	370-560	465
Additional Elements (Net)	87-100	93	322-422	372	--	--
Total	457-660	558	692-982	837	370-560	465
Grand Total	6,707-7,606	7,131	6,472-7,453	6,937	5,807-6,605	6,180

N.A. means not applicable.

Source: Harrison Price Company.

PROJECTED DEMAND FOR FOOD AND RETAIL FACILITIES

The foregoing attendance estimates provided the basis for determining food service and retail space demand at Seattle Center. Summarized in **Table 9** are the space requirements under each master plan alternative as drawn from the detailed analysis presented in Appendix Tables A-23 through A-25. Underlying assumptions included the following:

- The local market survey conducted during Phase I of this study program revealed an average expenditure at Seattle Center of about $16.50 per party per visit excluding entrance fees and tickets where applicable but including parking. Extrapolations from current parking revenue at the site suggest that parking fees account for approximately $1 of the total expenditure (a substantial proportion of all visitors park free of charge), leaving a balance of $15.50 for food and merchandise. Dividing the latter figure by an average party size of 3.52 persons as determined in the survey yields an average food and merchandise expenditure of about $4.40 per capita. Present experience at the Center House suggests that roughly 70 percent of this total, or slightly more than $3, is expended on food and the balance on merchandise. One strategy for the Center might be an attempt at changing this distribution in the direction of a higher merchandise share, but this analysis has assumed continuance of the existing relationship.

- Under Plan A, the study team has assumed that visitor spending would remain more or less at present levels in constant dollar terms, with the loss of sports-related spending at the Coliseum and Arena offset by spending at new facilities to be developed at the site. Under Plan B, moderate net increases in spending levels have been assumed given this concept's somewhat greater orientation to comparatively high-revenue activities. The assumption for Plan C is a modest net decrease in average spending due to the substitution of low-revenue participant sports for the thrill ride/teen dance component on the Metro site and the exclusion of the amphitheater that is part of the other two plans.

- Target sales ratios, set at $500 per square foot for food facilities (based on a mix of fast food stands and full-service restaurants) and $750 per square foot for merchandise outlets, are purposely high in order to ensure profitable levels of operation.

As Table 9 shows, attendance estimates coupled with the above assumptions result in cumulative demand for food service space amounting to 43,500 to 50,000 square feet of restaurant space or equivalent in snack stand through-put capacity under Plan A, 48,500 to 55,500 square feet under Plan B, and 34,000 to 40,000 under Plan C. These estimates, it should be noted, include existing or planned food service area at the Space Needle, Pacific Science Center, and catered functions elsewhere on site. On refinement of the demand analysis for the recommended concept in Phase III of this study, various adjustments will be made to these estimates in order to determine net incremental demand.

Table 9

SUMMARY OF DEMAND FOR FOOD AND RETAIL FACILITIES FOR SEATTLE CENTER[1]
(Net Square Feet)

	Plan A		Plan B		Plan C	
	Food and Beverages	Merchandise	Food and Beverages	Merchandise	Food and Beverages	Merchandise
Range						
Phase I	35,000-40,000	10,000-12,000	36,000-41,000	10,500-12,000	28,500-33,500	7,000-8,500
Phase II	5,000-6,000	1,500	6,500-7,500	2,000	3,000-3,500	1,000
Phase III	3,500-4,000	1,000	6,000-7,000	1,500-2,000	2,500-3,000	500-1,000
Cumulative	43,500-50,000	12,500-14,500	48,500-55,500	14,000-16,000	34,000-40,000	8,500-10,500
Mid-Range Estimate						
Phase I	37,500	11,000	38,500	11,000	31,000	7,500
Phase II	5,500	1,500	6,000	2,000	3,000	1,000
Phase III	4,000	1,000	6,500	2,000	3,000	1,000
Cumulative	47,000	13,500	51,000	15,000	37,000	9,500

[1] Based on estimated mid-range attendance volume; includes existing or planned facilities at Space Needle and Pacific Science Center.

Source: Harrison Price Company.

Supportable merchandise sales space totals a cumulative 12,500 to 14,500 square feet under Plan A, between 14,000 and 16,000 square feet under Plan B, and 8,500 to 10,500 square feet under Plan C. Again, these estimates are inclusive of sales facilities at retained attractions.

ESTIMATED PARKING REQUIREMENTS

The required number of parking spaces at Seattle Center under each of the concept options is highlighted in **Table 10** based on the detailed analysis presented in Appendix Tables A-26 through A-32. Relevant explanatory comments include:

- Maximum parking demand will occur during daytime hours, at which time an overall weighted average of 70 percent of total visits to the site will occur (this ratio will prevail with little variation across the range of redevelopment scenarios).

- Average length of stay for daytime visitors was revealed in the previously cited local market survey at some 2.8 hours. New entertainment opportunities provided at the site under any of the plans should produce an upward trend in stay times, conservatively forecast at 3 to 3.5 hours at stabilization.

- The local market survey also revealed an average party size of 3.5 persons for most activities, with a smaller average of around 2.25 persons for performing arts events as would be expected. The larger factor was employed for daytime business in the parking analysis, and the smaller factor for nighttime business, which is predominantly arts-oriented.

- Arrivals by automobile currently amount to roughly 90 percent of total attendance as determined in the local market survey. This ratio is presumably higher than historical experience due to the present disruption in Monorail service due to construction at the Westlake end of the line. With restored Monorail service and a future trolley link to Seattle Center, the auto proportion should decline. For conservative planning purposes, a range of 80 to 90 percent auto arrivals was used in this analysis.

- Parking requirements have been based on estimated mid-range attendance volume for each component facility before adjustments for shared visitation (attendees who undertake more than one activity on a single visit) and the increment of unallocable attendance as discussed earlier in this report. The latter offsets the former to an indeterminate degree; as a preliminary and conservative planning guideline, no net reduction in parking requirements due to shared visitation was assumed. Phase III of this study will refine the parking analysis for the recommended plan to incorporate these and any other necessary adjustments.

Table 10

SUMMARY OF PARKING REQUIREMENTS FOR SEATTLE CENTER[1]

	Plan A		Plan B		Plan C	
	Day	Evening	Day	Evening	Day	Evening
Range						
Phase I	4,665-4,125	2,015-2,265	3,255-3,660	1,825-2,050	3,255-3,660	1,825-2,050
Phase II	375-420	460-520	460-520	525-590	365-410	170-185
Phase III	220-245	400-450	290-325	655-735	190-215	320-360
Cumulative	4,260-4,790	2,875-3,235	4,005-4,505	3,005-3,375	3,810-4,285	2,315-2,595
Mid-Range Estimate						
Phase I	3,900	2,140	3,460	1,940	3,460	1,940
Phase II	400	490	490	560	390	180
Phase III	230	430	310	695	205	340
Cumulative	4,530	3,060	4,260	3,195	4,055	2,460

1 Based on estimated mid-range attendance volume; excludes employee parking and provision for major festivals..

Source: Harrison Price Company.

Given the aforementioned factors, cumulative maximum (daytime) parking requirements for Plan A amount to between 4,260 and 4,790 spaces, while evening demand comes to a lower 2,875 to 3,235 spaces. Under Plan B, the daytime peak requirement is 4,005 to 4,505 spaces and the peak evening need is 3,005 to 3,375 spaces. A maximum total of 3,810 to 4,285 spaces will be required under Plan C, with evening demand estimated at 2,315 to 2,595 spaces. It should be noted that these preliminary forecasts exclude employee parking and special provision for major festivals when exceptionally large numbers of people are on-site simultaneously.

Statistical Appendix

DETAILED ATTENDANCE ANALYSIS

Table A-1

ESTIMATED ATTENDANCE FOR THE NEW CENTER HOUSE

	Amount/ Factor
Existing Program	
Number of Event-Days[1]	1,025
Total Attendance	319,200
Average Attendance Per Event	315
Estimated Incremental Increase in Program (additional event-days)[1]	30-50
New Center House Program	
Total Number of Event-Days[1]	1,055-1,075
Average Attendance Per Event	315
Estimated Annual Attendance	332,300-338,600
Mid-Range Estimate	335,000

[1] Excludes move-in and move-out days.

Source: Harrison Price Company.

1
1

Table A-2

ESTIMATED ATTENDANCE FOR A THEMED CHILDREN'S PLAY CENTER

	Amount/ Factor
Total Market Size	
Primary Resident Market	1,362
Secondary Resident Market	1,104
Tourist Market	4,500
Total	6,966
Estimated Market Penetration Rate	
Primary Resident Market	8-10%
Secondary Resident Market	5-6
Tourist Market	0.75-1
Estimated Annual Attendance	
Primary Resident Market	109,000-136,200
Secondary Resident Market	55,200-66,200
Tourist Market	33,800- 45,000
Total	198,000-247,400
Mid-Range Estimate	223,000

Source: Harrison Price Company.

Table A-3

ESTIMATED ATTENDANCE FOR THE CHILDREN'S THEATERS

	Amount/Factor	
	Seattle Children's Theater	Smaller Theater
Total Number of Seats	500	200
Estimated Annual Number of Performances[1]	420-450	400-425
Average Seat Occupancy Rate	85%	70%
Estimated Annual Attendance	178,500-191,300	56,000-59,500
Mid-Range Estimate	185,000	58,000

[1] Includes children's theater, major festival events, and miscellaneous public events; excludes rehearsals and other nonpublic use.

Source: Seattle Children's Theater, Piccoli Junior Theater, World Mother Goose, and Harrison Price Company.

Table A-4

ESTIMATED ATTENDANCE FOR THE SEATTLE CHILDREN'S MUSEUM/LIBRARY

	Amount/ Factor
Existing Attendance Base (1987)	125,000
Estimated Incremental Increase Induced by Redevelopment Program	30-35%
New Attendance Base	162,500-168,800
Mid-Range Estimate	165,000

Source: Seattle Children's Museum and Harrison Price Company.

Table A-5

ESTIMATED ATTENDANCE FOR THE INTIMAN PLAYHOUSE

	Amount/ Factor
Total Number of Seats	424
Estimated Annual Number of Performances[1]	
Intiman Theater Group	130-140
Other Users	25- 30
Total	155-170
Average Seat Occupancy Rate	
Intiman Theater Group	80%
Other Users	70
Estimated Annual Attendance	
Intiman Theater Group	44,100-47,500
Other Users	7,400- 8,900
Total	51,500-56,400
Mid-Range Estimate	54,000

[1] Excludes rehearsals and other nonpublic use.

Source: Intamin Theater Group and Harrison Price Company.

Table A-6

ESTIMATED ATTENDANCE FOR THE PACIFIC NORTHWEST BALLET SCHOOL (Exhibit Hall Second Floor)

	Amount/ Factor
Number of Weeks Per Instruction Program	
Fall Semester	20
Spring Semester	20
Summer Session	4
Total	44
Average Number of Students Per Week	
Children's Classes	325-375
Adult Classes	200-250
Summer Session (Children Only)	150-200
Estimated Annual Attendance	
Fall Semester	
Children's Classes	6,500-7,500
Adult Classes	4,000-5,000
Spring Semester	
Children's Classes	6,500-7,500
Adult Classes	4,000-5,000
Summer Session	600- 800
Total	21,600-25,800
Mid-Range Estimate	24,000

Source: Pacific Northwest Ballet and Harrison Price Company.

Table A-7

ESTIMATED ATTENDANCE FOR A MUSEUM IN THE NILE TEMPLE BUILDING

	Amount/ Factor
Total Market Size	
Primary Resident Market	1,362
Secondary Resident Market	1,104
Tourist Market	4,500
Total	6,966
Estimated Market Penetration Rate[1]	
Primary Resident Market	6-10%
Secondary Resident Market	2-5
Tourist Market	0.5-2
Estimated Annual Attendance[1]	
Primary Resident Market	75,700-136,200
Secondary Resident Market	22,100-55,200
Tourist Market	22,500-90,000
Total	120,300-281,400
Mid-Range Estimate	200,000

[1] Nature and scope of museum is yet to be defined; attendance estimates are accordingly very preliminary.

Source: Harrison Price Company.

Table A-8

ESTIMATED ATTENDANCE FOR THE SYMPHONY HALL

	Amount/ Factor
Total Number of Seats	2,500
Estimated Annual Number of Performances[1]	
Seattle Symphony	80-85
Other Users	40-50
Total	120-135
Average Seat Occupancy Rate	
Seattle Symphony	90%
Other Users	70
Estimated Annual Attendance	
Seattle Symphony	180,000-191,300
Other Users	70,000- 87,500
Total	250,000-278,800
Mid-Range Estimate	265,000

[1] Excludes rehearsals and other nonpublic use.

Source: Seattle Symphony Orchestra and Harrison Price Company.

Table A-9

COMPARATIVE NONSPORTS PROGRAMMING AT MAJOR SEATTLE AREA ARENAS

Event Type	Seattle Center Coliseum 1986 Event-Days[1]	Seattle Center Coliseum 1986 Total Attendance	Kingdome 1986 Event-Days[1]	Kingdome 1986 Total Attendance	Tacoma Dome 1987 Event Days[1]	Tacoma Dome 1987 Total Attendance
Trade/Consumer Shows[2]	39	94,576	52	559,362	97	213,089
Family/Community Shows[3]	17	70,817	6	100,201	45	206,806
Conventions/Meetings	12	65,070	4	54,707	35	128,795
Concerts	20	195,005	--	--	15	190,134
Miscellaneous	10[4]	N.A.	--	--	22[5]	15,536
Total	98	425,468	62	714,270	214	754,360

1 Excludes move-in and move-out days and other nonpublic uses.
1
1
2 So-called "flat floor" events.
3 Includes ice shows, circus, animal shows, truck/tractor pulls, motocross, graduation ceremonies, and so on.
4 Bumbershoot festival.
5 Includes examinations, private parties, and other events not elsewhere classified.
N.A. mens not available.

Source: Seattle Center Financial Division, Kingdome, Tacoma Dome, and Harrison Price Company.

Table A-10

COMPARATIVE NONSPORTS ATTENDANCE PROFILE
FOR MAJOR SEATTLE AREA ARENAS

Event Type	Seattle Center Coliseum: Percent of Total Attendance	Seattle Center Coliseum: Average Attendance Per Event	Kingdome: Percent of Total Attendance	Kingdome: Average Attendance Per Event	Tacoma Dome: Percent of Total Attendance	Tacoma Dome: Average Attendance Per Event
Trade/Consumer Shows	22%	2,400	78%	10,800	28%	2,200
Family/Community Shows	17	4,200	14	16,700	28	4,600
Conventions/Meetings	15	5,400	8	13,700	17	3,700
Concerts	46	9,750	--	--	25	12,700
Miscellaneous	N.A.	N.A.	--	--	2	700
Total	100%	4,800	100%	11,500	100%	3,500

N.A. means not available.

Source: Harrison Price Company.

Table A-11

NONSPORTS PROGRAMMING AT THE SEATTLE CENTER ARENA 1986

Event Type	Event-Days	Total Attendance	Percent of Total Attendance	Average Attendance Per Event
Family/Community Shows[1]	16	49,876	29%	3,100
Conventions/Meetings	29	62,565	37	2,150
Concerts	20	58,521	34	2,900
Miscellaneous[2]	20	N.A.	N.A.	N.A.
Total	85	170,962	100%	2,600

[1] Includes animal shows, graduation ceremonies, and similar events.
[2] Includes examinations and major festivals.

Source: Seattle Center Finance Division and Harrison Price Company.

Table A-12

ESTIMATED ATTENDANCE FOR THE SEATTLE CENTER COLISEUM

	Amount/ Factor
Existing Nonsports Program Base (total event-days)	
Coliseum	98
Arena	85
Total	183
Estimated Attrition Due to Increased Competition in Market Area	25-35%
Net Nonsports Program Base (total event-days)	120-135
Average Attendance Per Event[1]	3,900
Estimated Total Coliseum Attendance	468,000-526,500
Mid-Range Estimate	497,000

[1] Weighted average of existing Çoliseum and Arena programs.

Source: Harrison Price Company.

Table A-13

PROGRAMMING OF MEETING FACILITIES
AT SEATTLE CENTER
1986

Meeting Venue	Type of Event: Meetings/ Seminars	Exhibits/ Shows	Dances/ Parties	Performing Arts	Festivals/ Special Events	Misc.[1]	Total
Total Event-Days[2]							
Center House Conference Center	491	9	3	14	75	15	607
Northwest Rooms	437	85	36	2	3	5	568
Flag Pavilion	28	65	9	--	24	9	135
Mercer Forum	95	27	1	3	--	7	133
Exhibit Hall	11	68	7	--	--	11	97
NASA Building	--	10	--	--	--	--	10
Total	1,062	264	56	19	102	47	1,550
Total Attendance							
Center House Conference Center	18,598	1,190	120	930	19,168	1,055	41,061
Northwest Rooms	76,582	50,803	15,119	2,800	1,780	2,735	149,819
Flag Pavilion	12,885	57,519	1,573	--	19,810	4,130	95,917
Mercer Forum	11,623	74,796	50	250	--	1,135	87,854
Exhibit Hall	23,350	91,436	12,084	--	--	6,835	133,705
NASA Building	--	51,575	--	--	--	--	51,575
Total	143,038	327,319	28,946	3,980	40,758	15,890	559,931

1 Includes examinations, graduations, and other events not elsewhere classified.
2 Excludes move-in and move-out days, other nonpublic uses, and events for which attendance was not reported.

Source: Seattle Center Finance Division and Harrison Price Company.

Table A-14

ATTENDANCE PROFILE OF MEETING FACILITIES
AT SEATTLE CENTER
1986

Meeting Venue	Meetings/ Seminars	Exhibits/ Shows	Dances/ Parties	Performing Arts	Festivals/ Special Events	Misc.	Total
	Type of Event						
Total Event-Days							
Center House Conference Center	45%	3%	*	2%	47%	3%	100%
Northwest Rooms	51	34	10%	2	1	2	100
Flag Pavilion	13	60	2	--	21	4	100
Mercer Forum	13	85	*	*	--	1	100
Exhibit Hall	18	68	9	--	--	5	100
NASA Building	--	100	--	--	--	--	100
Total	26%	59%	5%	*	7%	3%	100%
Total Attendance							
Center House Conference Center	40	130	40	65	255	70	70
Northwest Rooms	175	600	420	1,400	595	550	265
Flag Pavilion	460	885	175	--	825	460	710
Mercer Forum	120	2,800	50	85	--	160	660
Exhibit Hall	2,100	1,350	1,700	--	--	620	1,400
NASA Building	--	52,000	--	--	--	--	5,200
Total	135	1,250	520	210	400	340	360

* Less than 1 percent.

Source: Harrison Price Company.

Table A-15

ESTIMATED ATTENDANCE FOR MEETING FACILITIES

	Plan A	Plan B and C
Existing Program Base (total event-days)		
Center House Conference Center	607	607
Northwest Rooms	568	568
Flag Pavilion	135	135
Mercer Forum	133	133
Exhibit Hall	97	97
NASA Building	10	10
Total	1,550	1,550
Estimated Attrition Due to Decreased Meeting Space and/or Increased Competition in Market Area[1]	0-5%	20-30%
Net Program Base (total event-days)	1,470-1,550	1,085-1,240
Average Attendance Per Event	360	360
Estimated Total Attendance	529,200-558,000	390,600-446,400
Mid-Range Estimate	544,000	418,000

[1] Available meeting space will increase under Plan A.

Source: Harrison Price Company.

Table A-16

ESTIMATED ATTENDANCE FOR AN OUTDOOR AMPHITHEATER

	Plan A		Plan B	
	Temporary	Permanent	Temporary	Permanent
Total Number of Seats	4,000[1]	5,000[2]	4,000[1]	7,770[2]
Estimated Annual Number of Performances				
Concerts	60-70	70-80	60-70	70-80
Festivals/Other Special Events	10-15	10-15	10-15	10-15
Total	70-85	80-95	70-85	80-95
Average Seat Occupancy Rate				
Concerts	55%	60%	55%	65%
Festivals/Other Special Events	40	50	40	50
Estimated Annual Attendance				
Concerts	132,000-154,000	210,000-240,000	132,000-154,000	350,400-400,400
Festivals/Other Special Events	16,000-24,000	25,000-37,500	16,000-24,000	38,500-57,800
Total	148,000-178,000	235,000-277,500	148,000-178,000	388,900-458,200
Mid-Range Estimate	163,000	256,000	163,000	424,000

1 Lawn seating only.
2 Includes 2,000 lawn seats and balance in fixed seating.

Source: Harrison Price Company.
1
2

Table A-17

ESTIMATED ATTENDANCE FOR A THRILL RIDE PARK

	Amount/ Factor
Total Market Size	
Primary Resident Market	1,362
Secondary Resident Market	1,104
Tourist Market	4,500
Total	6,966
Estimated Market Penetration Rate	
Primary Resident Market	25-30%
Secondary Resident Market	10-15
Tourist Market	2- 3
Estimated Annual Attendance	
Primary Resident Market	340,500-408,600
Secondary Resident Market	110,400-165,600
Tourist Market	90,000-135,000
Total	540,900-709,200
Mid-Range Estimate	625,000

Source: Harrison Price Company.

Table A-18

ESTIMATED ATTENDANCE FOR A TEEN DANCE PAVILION

	Amount/ Factor
Attendance Base For Thrill Ride Parks	
Range	540,900-709,200
Mid-Range Estimate	625,000
Estimated Increment Induced By Dance Pavilion	15-20%
Estimated Combined Attendance of Thrill Ride Park and Dance Pavilion	
Range	622,000-851,000
Mid-Range Estimate	736,000
Estimated Incremental Attendance Induced By Dance Pavilion	
Range	81,100-141,800
Mid-Range Estimate	111,000

Source: Harrison Price Company.

Table A-19

ESTIMATED ATTENDANCE FOR AN ICE SKATING RINK

	Amount/ Factor
Primary Resident Market Population	1,362,000
Average Participation Rate in Ice Skating	4%
Estimated Number of Regular Skaters	54,500
Average Frequency of Participation (days per year)	10
Total Skating Visits Generated By Primary Resident Market	545,000
Estimated Market Penetration Rate	25-30%
Total Skating Visits to Seattle	136,300-163,500
Mid-Range Estimate	150,000

Source: Harrison Price Company.

Table A-20

PARTICIPATION RATES IN SELECTED SPORTS
1986

	Participation Rate[1]			Distribution of Participants by Age Group				Average Frequency of Participation (days per year)
	Male	Female	Total	Under 18	18-34	35-54	55+	
Field Sports								
Basketball	14.4%	5.5%	9.9%	47.7%	41.3%	10.4%	0.6%	35
Softball	12.4	7.2	9.7	31.8	50.5	15.0	2.5	21
Baseball	10.9	2.4	6.5	52.1	35.9	10.5	1.5	35
Soccer	5.1	2.6	3.8	72.0	20.6	7.1	0.3	25
Subtotal	10.7%	4.4%	7.5%	46.7%	40.4%	11.5%	1.4%	29
Court Sports								
Volleyball	9.5%	9.8%	9.7%	33.7%	48.0%	16.5%	1.9%	15
Tennis	9.2	7.6	8.4	27.4	46.5	21.3	4.7	19
Archery	4.0	0.8	2.4	37.4	42.9	17.0	2.7	17
Subtotal	7.6%	6.1%	6.8%	31.3%	46.8%	18.7%	3.3%	17
Trail Sports								
Bicycling	22.7%	23.5%	23.1%	37.2%	34.6%	19.1%	9.0%	58
Running/Jogging	12.0	9.7	10.8	27.4	47.4	19.6	5.7	70
Roller Skating	7.5	11.3	9.5	61.8	27.8	9.3	1.2	8
Subtotal	14.1%	14.8%	14.5%	39.1%	37.0%	17.4%	6.5%	52
Total	10.8%	8.4%	9.6%	39.9%	40.1%	15.8%	4.2%	37

1 Percent of national population over seven years of age regularly participating in various sports.

Source: National Sporting Goods Association and Harrison Price Company.

Table A-21

ESTIMATED AVAILABLE MARKET FOR AN ACTIVE SPORTS COMPLEX

	Average Participation Rate	Total Participants[1] (thousands)	Average Sports Visits Per Year	Total Sports Visits (thousands)
Field Sports				
Basketball	10%	136	35	4,767
Softball	10	136	21	2,860
Baseball	6	82	35	2,860
Soccer	4	54	25	1,362
Subtotal		408		11,849
Court Sports				
Volleyball	10%	136	15	2,043
Tennis	8	109	19	2,070
Archery	2	27	17	463
Subtotal		272		4,576
Trail Sports				
Bicycling	23%	313	58	18,169
Running/Jogging	11	150	70	10,487
Roller Skating	9	123	8	981
Subtotal		586		29,637
Total		1,266		46,062

1 Based on primary resident market population of 1.36 million.

Source: Harrison Price Company.

Table A-22
ESTIMATED ATTENDANCE FOR AN
ACTIVE SPORTS COMPLEX

	Amount/ Factor
Total Sports Visits Generated by Primary Resident Market	46,062,000
Estimated Market Penetration Rate	0.75-1%
Estimated Annual Attendance	345,500-460,600
Mid-Range Estimate	403,000

Source: Harrison Price Company.

Table A-23

ESTIMATED DEMAND FOR FOOD AND RETAIL FACILITIES UNDER PLAN A

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Attendance (thousands)[1]	5,780	790	560	7,130
Average Per CapitaExpenditure[2]				
Food and Beverages			$3.00-$3.50	
Merchandise			1.25- 1.50	
Estimated Total Gross Sales (millions)[2]				
Food and Beverages	$17.3-20.2	$2.4-2.8	$1.7-2.0	$21.4-25.0
Merchandise	7.2-8.7	1.0-1.2	0.7-0.8	8.9-10.7
Target Sales Ratio (sales per square foot)[2]				
Food and Beverages			$500	
Merchandise			750	
Total Supportable Net Floor Area (square feet)[3]				
Food and Beverages	35,000-40,000	5,000-6,000	3,500-4,000	43,500-50,000
Merchandise	10,000-12,000	1,500	1,000	12,500-14,500
Mid-Range Estimate				
Food and Beverages	37,500	5,500	4,000	47,000
Merchandise	11,000	1,500	1,000	13,500

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Constant 1988 dollars.
2
2
3 Includes existing or planned facilities at Space Needle and Pacific Science Center.

Source::Peter Moy & Associates and Harrison Price Company.

Table A-24

ESTIMATED DEMAND FOR FOOD AND RETAIL FACILITIES UNDER PLAN B

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Attendance (thousands)[1]	5,160	940	840	6,940
Average Per CapitaExpenditure[2]				
Food and Beverages		$3.50-$4.00		
Merchandise		1.50- 1.75		
Estimated Total Gross Sales (millions)[2]				
Food and Beverages	$18.1-20.6	$3.3-3.8	$2.9-3.4	$24.3-27.8
Merchandise	7.7-9.0	1.4-1.6	1.3-1.5	10.4-12.1
Target Sales Ratio (sales per square foot)[2]				
Food and Beverages			$500	
Merchandise			750	
Total Supportable Net Floor Area (square feet)[3]				
Food and Beverages	36,000-41,000	6,500-7,500	6,000-7,000	48,500-55,500
Merchandise	10,500-12,000	2,000	1,500-2,000	14,000-16,000
Mid-Range Estimate				
Food and Beverages	38,500	6,000	6,500	51,000
Merchandise	11,000	2,000	2,000	15,000

---

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Constant 1989 dollars.
2
2
3 Includes existing or planned facilities at Space Needle and Pacific Science Center.

Source::Peter Moy & Associates and Harrison Price Company.

Table A-25

ESTIMATED DEMAND FOR FOOD AND RETAIL FACILITIES UNDER PLAN C

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Attendance (thousands)[1]	5,160	550	470	6,180
Average Per CapitaExpenditure[2]				
Food and Beverages			$2.75-$3.25	
Merchandise			1.00- 1.25	
Estimated Total Gross Sales (millions)[2]				
Food and Beverages	$14.2-16.8	$1.5-1.8	$1.3-1.5	$17.0-20.1
Merchandise	5.2-6.5	0.6-0.7	0.5-0.6	6.3-7.8
Target Sales Ratio (sales per square foot)[2]				
Food and Beverages			$500	
Merchandise			750	
Total Supportable Net Floor Area (square feet)[3]				
Food and Beverages	28,500-33,500	3,000-3,500	2,500-3,000	34,000-40,000
Merchandise	7,000-8,500	1,000	500-1,000	8,500-10,500
Mid-Range Estimate				
Food and Beverages	31,000	3,000	3,000	37,000
Merchandise	7,500	1,000	1,000	9,500

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Constant 1989 dollars.
2
2
3 Includes existing or planned facilities at Space Needle and Pacific Science Center.

Source::Peter Moy & Associates and Harrison Price Company.

Table A-26

ESTIMATED ATTENDANCE DISTRIBUTION AT SEATTLE CENTER
BY TIME OF DAY

Project Component	Estimated Attendance Split Day/Evening[1]	Plan A Attendance[2] (thousands)		Plan B Attendance (thousands)		Plan C Attendance (thousands)	
		Day	Evening	Day	Evening	Day	Evening
PHASE I							
Retained Facilities							
Space Needle	80/20%	930	230	930	230	930	230
Pacific Science Center	75/25	680	230	680	230	680	230
Grounds	95/5	490	30	490	30	490	30
Opera House	25/75	120	360	120	360	120	360
Bagley Wright Theater Poncho Forum	25/75	50	140	50	140	50	140
Subtotal	70/30%	2,270	990	2,270	990	2,270	990
Incremental Increase in Attendance	70/30%	310	130	310	130	310	130
Total	70/30%	2,580	1,120	2,580	1,120	2,580	1,120
Common Facilities							
New Center House	70/30%	240	100	240	100	240	100
Themed Children's Play Center	100/0	220	--	220	--	220	--
Children's Theaters	80/20	190	50	190	50	190	50
Children's Museum/Library	100/0	170	--	170	--	170	--
Intiman Playhouse	25/75	10	40	10	40	10	40
Pacific Northwest Ballet School	65/35	10	10	10	10	10	10
Total	80/20%	840	200	840	200	840	200

Project Component	Estimated Attendance Split Day/Evening[1]	Plan A Attendance[2] (thousands) Day	Evening	Plan B Attendance (thousands) Day	Evening	Plan C Attendance (thousands) Day	Evening
Additional Facilities							
Coliseum Refurbishment	75/25%	380	120	--	--	--	--
Meeting Room Expansion and/or Refurbishment	75/25	410	130	320	100	320	100
Total	75/25%	790	250	320	100	320	100
Grand Total	75/25%	4,120	1,570	3,740	1,420	3,740	1,420
PHASE II							
Additional Facilities							
Temporary Amphitheater	30/70%	50	110	50	110	--	--
Thrill Ride Park	60/40	380	250	380	250	--	--
Ice Rink	65/35	--	--	100	50	100	50
Active Sports Complex	80/20	--	--	--	--	300	80
Grand Total Phase II	60/40%	430	360	530	410	420	130
PHASE III							
Common Facilities							
Nile Building Museum	75/25%	150	50	150	50	150	50
Symphony Hall	25/75	70	200	70	200	70	200
Total	45/55%	220	250	220	250	220	250
Additional Facilities							
Permanent Amphitheater (net)	30/70%	30	60	80	180	--	--
Teen Dance Facility (increment)	0/100	--	--	30	80	--	--
Total	30/70%	30	60	110	260	--	--
Grand Total Phase III	45/55%	250	310	330	510	220	250
Cumulative Grand Total	70/30%	4,890	2,240	4,600	2,340	4,380	1,800

[1] Based on extrapolations from Seattle Center Duty Manager's Log and Interviews with tenant organizations.
[2] Mid-range attendance estimates rounded to nearest 10,000 visits.
Source: Harrison Price Company

Table A-27

ESTIMATED DAYTIME PARKING REQUIREMENTS UNDER PLAN A

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Daytime Attendance[1]	4,210,000	430,000	250,000	4,890,000
Average Peak Month Attendance (at 15 percent)	631,500	64,500	37,500	733,500
Average Weekly Attendance During Peak Month (at 4.43 weeks)	142,600	14,600	8,500	165,700
Average Peak Day Attendance (at 25 percent)	35,700	3,700	2,100	41,500
Average Peak In-Grounds Crowd (at 45 percent)[2]	16,000	1,600	1,000	18,600
Estimated Arrivals By Car (at 80-90 percent)	12,800-14,400	1,300-1,500	800-900	14,900-16,800
Number of Parking Spaces Required (at 3.5 persons per car)[3]	3,665-4,125	375-420	220-245	4,260-4,790
Mid-Range Estimate	3,900	400	230	4,530

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Based on average length of stay of approximately 3 to 3.5 hours spread over a 10-hour operating period.
3 Excludes employee parking and provision for major festivals.

Source: Peter Moy & Associates and Harrison Price Company.

Table A-28

ESTIMATED EVENING PARKING REQUIREMENTS UNDER PLAN A

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Evening Attendance[1]	1,570,000	360,000	310,000	2,240,000
Average Peak Month Attendance (at 10 percent)	157,000	36,000	31,000	224,000
Average Weekly Attendance During Peak Month (at 4.43 weeks)	35,400	8,100	7,000	50,500
Average Peak Day Attendance (at 20 percent)	7,100	1,600	1,400	10,100
Average Peak In-Grounds Crowd (at 80 percent)[2]	5,700	1,300	1,100	8,100
Estimated Arrivals By Car (at 80-90 percent)	4,500-5,100	1,000-1,200	900-1,000	6,400-7,300
Number of Parking Spaces Required (at 2.25 persons per car)[3]	2,015-2,265	460-520	400-450	2,875-3,235
Mid-Range Estimate	2,140	490	430	3,060

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Weighted average of performing arts events at 100 percent in-grounds and other activities at 70 percent in-grounds spread over 5-hour operating period.
3 Excludes employee parking and provision for major festivals.

Source: Peter Moy & Associates and Harrison Price Company.

Table A-29

ESTIMATED DAYTIME PARKING REQUIREMENTS UNDER PLAN B

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Daytime Attendance[1]	3,740,000	530,000	330,000	4,600,000
Average Peak Month Attendance (at 15 percent)	561,000	79,500	49,500	690,000
Average Weekly Attendance During Peak Month (at 4.43 weeks)	126,600	17,900	11,200	155,700
Average Peak Day Attendance (at 25 percent)	31,700	4,500	2,800	39,000
Average Peak In-Grounds Crowd (at 45 percent)[2]	14,200	2,000	1,300	17,500
Estimated Arrivals By Car (at 80-90 percent)	11,400-12,800	1,600-1,800	1,000-1,100	14,000-15,700
Number of Parking Spaces Required (at 3.5 persons per car)[3]	3,255-3,660	460-520	290-325	4,005-4,505
Mid-Range Estimate	3,460	490	310	4,260

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Based on an average length of stay of approximately 3 to 3.5 hours spread over a 10-hour operating period.
3 Excludes employee parking and provision for major festivals.

Source: Peter Moy & Associates and Harrison Price Company.

Table A-30

ESTIMATED EVENING PARKING REQUIREMENTS UNDER PLAN B

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Daytime Attendance[1]	1,420,000	410,000	510,000	2,340,000
Average Peak Month Attendance (at 10 percent)	142,000	41,000	51,000	234,000
Average Weekly Attendance During Peak Month (at 4.43 weeks)	32,100	9,300	11,500	52,900
Average Peak Day Attendance (at 20 percent)	6,400	1,900	2,300	10,600
Average Peak In-Grounds Crowd (at 80 percent)[2]	5,100	1,500	1,800	8,400
Estimated Arrivals By Car (at 80-90 percent)	4,100-4,600	1,200-1,300	1,500-1,700	6,800-7,600
Number of Parking Spaces Required (at 2.25 persons per car)[3]	1,825-2,050	525-590	655-735	3,005-3,375
Mid-Range Estimate	1,940	560	695	3,195

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Weighted average of performing arts events at 100 percent in-grounds and other activities at 70 percent in-grounds spread over a 5-hour operating period.
3 Excludes employee parking and provision for major festivals.

Source: Harrison Price Company.

Table A-31

ESTIMATED DAYTIME PARKING REQUIREMENTS UNDER PLAN C

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Daytime Attendance[1]	3,740,000	420,000	220,000	4,380,000
Average Peak Month Attendance (at 15 percent)	561,000	63,000	33,000	657,000
Average Weekly Attendance During Peak Month (at 4.43 weeks)	126,600	14,200	7,400	148,200
Average Peak Day Attendance (at 25 percent)	31,700	3,600	1,900	37,200
Average Peak In-Grounds Crowd (at 45 percent)[2]	14,200	1,600	800	16,600
Estimated Arrivals By Car (at 80-90 percent)	11,400-12,800	1,300-1,400	700-800	13,400-15,000
Number of Parking Spaces Required (at 3.5 persons per car)[3]	3,255-3,660	365-410	190-215	3,810-4,285
Mid-Range Estimate	3,460	390	205	4,055

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Based on an average length of stay of approximately 3 to 3.5 hours spread over a 10-hour operating period.
3 Excludes employee parking and provision for major festivals.

Source: Peter Moy & Associates and Harrison Price Company.

Table A-32

ESTIMATED EVENING PARKING REQUIREMENTS UNDER PLAN C

	Phase I	Phase II	Phase III	Cumulative
Estimated Total Daytime Attendance[1]	1,420,000	130,000	250,000	1,800,000
Average Peak Month Attendance (at 10 percent)	142,000	13,000	25,000	180,000
Average Weekly Attendance During Peak Month (at 4.43 weeks)	32,100	2,900	5,600	40,600
Average Peak Day Attendance (at 20 percent)	6,400	600	1,100	8,100
Average Peak In-Grounds Crowd (at 80 percent)[2]	5,100	500	900	6,500
Estimated Arrivals By Car (at 80-90 percent)	4,100-4,600	400	700-800	5,200-5,800
Number of Parking Spaces Required (at 2.25 persons per car)[3]	1,825-2,050	170-185	320-360	2,315-2,595
Mid-Range Estimate	1,940	180	340	2,460

1 Estimated mid-range attendance volume rounded to nearest 10,000 visits.
2 Weighted average of performing arts events at 100 percent in-grounds and other activities at 70 percent in-grounds spread over a 5-hour operating period.
3 Excludes employee parking and provision for major festivals.

Source: Peter Moy & Associates and Harrison Price Company.