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FEASIBILITY ASSESSMENT OF A MULTI-LEVEL PARKING GARAGE AT HAMPTON BEACH, NEW HAMPSHIRE

A REPORT TO

THE HAMPTON BEACH AREA CHAMBER OF COMMERCE

AND

NEW HAMPSHIRE OFFICE OF STATE PLANNING

BY

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WITH

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Submitted in Final Draft
July, 1984

Finalized in
February, 1985

TL175 .F43 1985

The New Hampshire Coastal Program provided a grant for the preparation of this report which was funded in part by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Arthur D. Little, Inc.

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I. INTRODUCTION AND SUMMARY OF FINDINGS

A. Introduction

Supported by a grant from the New Hampshire Office of State Planning, the Hampton Beach Area Chamber of Commerce has commissioned Arthur D. Little, Inc. with the Kimball Chase Company Inc. to determine the financial feasibility of a multi-level parking garage to serve the main beach area at Hampton Beach. Four analyses were undertaken, each of which are described in subsequent chapters of this document:

- Assessment of parking demand in Hampton Beach;
- Identification, screening and selection of alternative sites for a parking garage;
- Cost assessments and conceptual design; and
- Financial feasibility assessment.

A working committee was established with representatives of the Hampton Beach Area Chamber and other state and local representatives. This committee served as a valuable resource to this effort, and provided many valuable comments and suggestions.

B. Findings

Based on recent trends in recreational activity and parking in Hampton Beach, on recreational trends elsewhere along the coastline of New Hampshire, Northeastern Massachusetts and Southern Maine, and anticipated continued growth in population and economic activity in the region, demand for parking at Hampton Beach will continue to grow at an estimated rate of one to three percent annually. This growth is expected to be constrained only by the physical constraints of the beach, itself, other recreational facilities, parking facilities and other support infrastructure. The net additional spaces provided by a two-level parking garage represent only 10 to 15 percent, depending on the design, of the total inventory of spaces in the Hampton Beach Precinct (south of Boar's Head, and exclusive of the lot at the State Park and miscellaneous spaces at motels and private homes). In light of demand for parking, the utilization of the garage during summer months is expected to be high.

Based on cost analyses for the preliminary designs of two alternative parking garage developments, and an assessment of anticipated revenue flow and potential finance; the two parking garages are financially feasible under the following circumstances:

Publicly Developed Garage at the Ashworth Lot - This lot is feasible if the Town of Hampton develops the garage by establishing an enterprise fund for all parking at Hampton Beach. This mechanism is allowed under New Hampshire state law and has been utilized for development of a parking garage in Keene. Through this mechanism, in the early years of development when the garage would not be self-supporting, the town would support the debt and operating costs through increased daily parking fees ($5.00 per space on weekdays and $7.00 on weekends at the garage, $3.00 per space on weekdays, $5.00 on weekends at all other Town lots), combined with the allocation of a portion of net parking revenues from the other Town parking lots to offset the debt. If this "offset" approach were implemented, there would be a net revenue surplus of $49,000 in year 1, rather than the roughly $230,000 surplus in 1983. However the surplus would increase annually and by year 7, surplus revenues would return to the 1983 levels and by year 11, the garage would be generating revenues, itself.

Private Development at the Casino Site - The private development will be feasible at the Casino site if an incentive equivalent to approximately $383,000 is provided to the developer of the site and if parking rates at all lots are raised to the "moderate" levels assumed. Without such an equivalent incentive, the parking garage as a stand alone investment is not viable under current interest rates. In addition, the parking fees required to generate supporting revenues will not capture a sufficient share of the "parking market" if adjacent Town lots provide substantially cheaper parking. A generally consistent rate structure throughout Hampton Beach will be particularly important in the context of weekday parking demand. If the Town does generate additional revenues through increased parking fees, these could support an incentive program to a private or quasi-private development group for the garage, either in the form of direct incentives or in the form of financing assistance.

II. DEMAND FOR PARKING FACILITIES IN HAMPTON BEACH

Hampton Beach is a recreational beach area on the southern end of New Hampshire coastline. Traditionally recognized as a family beach to which visitors come for multiple night stays, Hampton Beach continues to attract those visitors and has increasingly attracted day-time visitors from rapidly growing Southern New Hampshire, the greater Boston metropolitan area, and northeastern Massachusetts. The growth in recreational demand has been reflected in an increased demand for parking, particularly in the central business district of the beach by day-time visitors.

To assess the demand for parking, three steps were undertaken:

- Existing parking facilities were profiled;
- Recent trends in parking demand were evaluated; and
- Estimates of anticipated parking demand were determined.

Each of these is discussed below.

A. Profile of Existing Parking Facilities

For this assessment, parking facilities located within the Precinct area of Hampton Beach were profiled, with a particular focus on the area within the north-south boundaries of Boar's Head and N Street, as shown in Figure 1. This study area is adjacent to the main beach area, which accommodates the majority of recreational activity. Within this area, there are 12 principal parking areas, as summarized in Table 1:

- Town Lots: 3 lots operated by the Town of Hampton provide some 1,100 spaces available daily and include:

  - Ashworth Lot on Ashworth Avenue behind the Hampton Beach Casino;

  - Island Path Lot, at the end of Island Path, with an additional "extension" of this lot adjacent to the marshes;

  - Church Street Lot, the fenced-in parking lot which is owned by St. Patrick's Church and is leased to the Town of Hampton, with an "extension" of this outside of the fenced area.

  Some 140 spaces are leased by the Town on a seasonal basis to motels in the area. Since these leases are renewed annually, their future status is uncertain, although it is anticipated that roughly the same number of spaces will continued to be designated for lease. The future availability of spaces is uncertain at the Island Path Extension (due

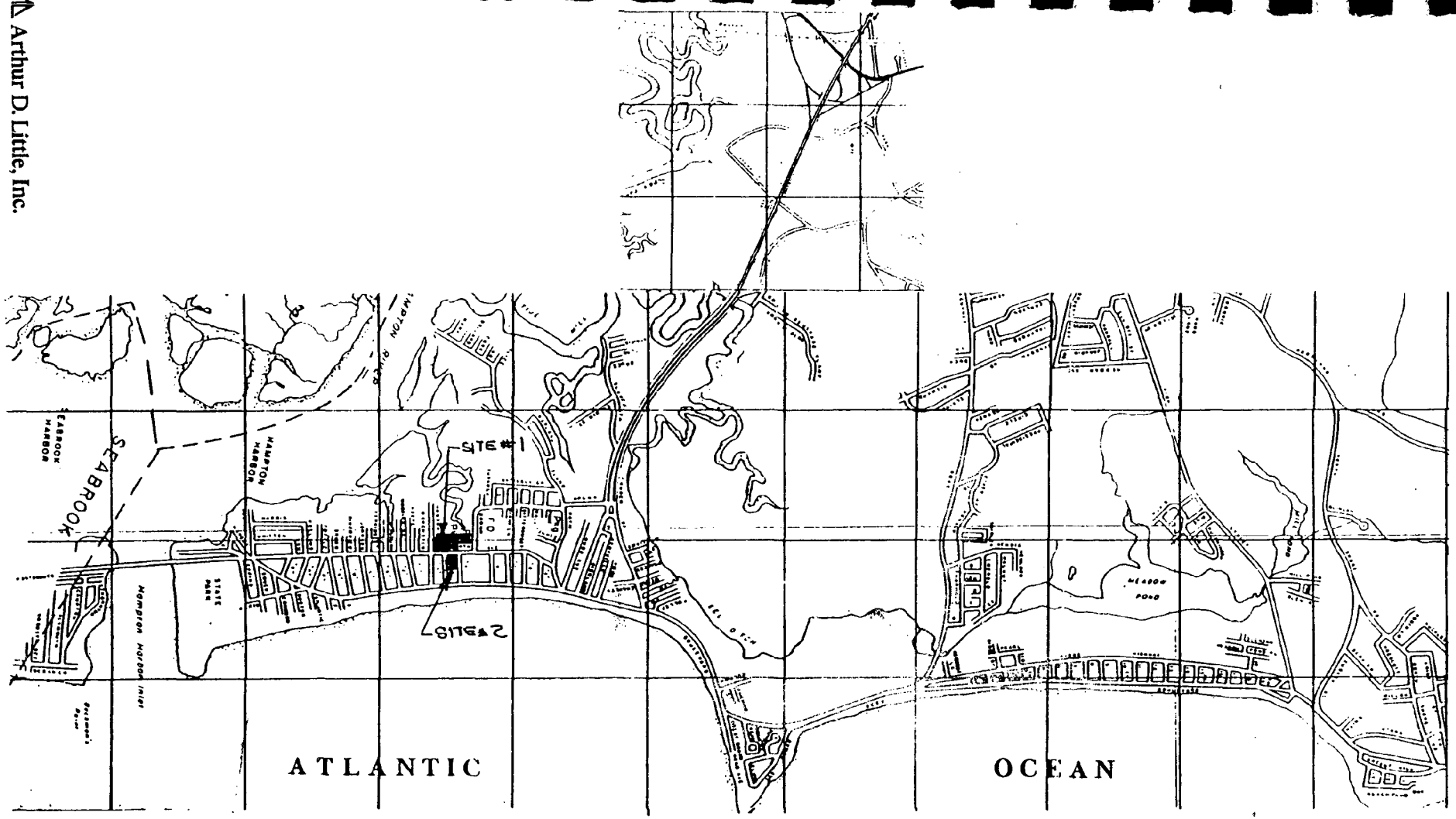


FIGURE 1. Hampton Parking Improvements Study Area

SOURCE. From map provided by Hampton Beach Chamber of Commerce

TABLE 1

INVENTORY OF PARKING SPACES
IN HAMPTON BEACH

Parking Lots	Capacity	Seasonally Leased Spaces	Net Capacity	Comments
Municipal Lots				
Ashworth (MU1)	580	26	554	
Island Path (MU2)	240	60	180	
Island Path Extension (MU2A, MU2B)	75 Autos	--	75	Situated on environmentally sensitive land; may not be available for use
Church Street (MU3)	300	--	300	)Leased to Town; long-term)availability uncertain
Church Street Extension (MU3A)	100	50	50	)
MUNICIPAL TOTAL NET SPACES			1084-1159	
Private Lots				
Casino Lot (CA1)	380	--	380	Owner may develop other uses
State Lots				
Haverhill St.-K. St. (ST1)	23	--	23	
K. St.-Sea Shell (ST2)	43	--	43	
Seashell Building (ST3)	8	--	8	
Seashell-Memorial (ST4)	78	--	78	
Memorial-Ross-Church (ST5)	67	--	67	
Church St.-Rocky End (ST6)	160	--	160	
Rocky End-Coast Guard Station (ST7)	609	--	609	
Central Parking Area (ST8)	143	--	143	
Seasonally Leased Spaces	--	349	--	Located on Merchant side of Ocean Boulevard Lots
TOTAL STATE SPACES			1131	

to the environmental sensitivity of the marsh, the Hampton Conservation Commission has recommended that this area be maintained in its natural condition) and at the Church Street Lot and extension (the lease by the Church to the Town is in effect for four years, after which it may or may not be renewed). Parking rates at the Town lots were $2.00 per day mid-week and $3.00 per day on weekends through 1983. In 1984 these rates were increased to $3.00 and $4.00, respectively.

- State Lots: The parking areas owned and operated by the New Hampshire Department of Resources and Economic Development are located on Ocean Boulevard and provide some 1,100 parking spaces for daily use. Some 349 additional spaces at the state lots are leased seasonally to motels and merchants in the beach area. The state lots are metered and are typically used for more of the shorter term parking than are the municipal lots. The areas designated as the "central parking area", "K Street to Seashell", "Seashell to Memorial" and "Memorial-Ross-Church" are the most heavily utilized. Parking rates through 1983 were $0.25 per hour and have been increased to $0.25 per 24 minutes in 1984.

- Private Lots: The principal private lot is operated by the Casino and is located between the Casino building and Ashworth Avenue. In 1984, this lot provides 380 spaces. Prior to 1984, the Casino Lot Extension, with 150 spaces, was available for parking, however this has been developed into a water slide. The Casino Lot charges $4.00 per day mid-week and $5.00 per day on weekends for parking. The only other private parking is a limited number of individual spaces located at motels and private residences, available only on an irregular basis on peak weekends.

B. Parking Demand Trends in Hampton Beach

Three types of information were examined to determine past trends in parking demand in Hampton Beach: parking revenue data; parking lot attendance data; and population growth data. Because parking rates at the Town and State lots did not change between 1980 and 1983, parking revenue data were examined as an indicator of parking demand during those four years, as shown in Table 2. The most centrally located State lots, because of their tendency to be nearly fully utilized, experienced slower annually growth than the more remote state lots or the Town lots, located a two- to four-block walking distance from the beach. Overall the Town lots experienced the strongest growth, as illustrated by the average annual increase in revenues of 17.5 percent. [NOTE: This trend in Town revenues excludes those associated with the Church Street Lot which was not operated as a Town Lot until 1983.] This high growth reflects a dramatic increase between 1982, which was a notably "bad weather" season, and 1983, which was a

TABLE 2

SUMMARY OF PARKING REVENUE TRENDS, 1980 THROUGH 1983

Revenues $	1980	Δ %	1981	Δ %	1982	Δ %	1983	Ann. Δ% 80-3
Municipal Lots (Ashworth & Island Path)	129,289	13.9	147,208	7.9	158,825	32.2	210,021*	17.5
State Lots Total	156,112	13.6	177,351	-9.3	160,912	17.3	188,679	6.5
Haverill-K Street	7,020	15.0	8,073	-7.4	7,477	12.9	8,448	
K Street-Seashell	13,541	23.7	16,750	-7.5	15,500	3.4	16,027	
Sea Shell-Building	332	-42.2	192	-26.6	141	4.2	147	
Seashell-Memorial	23,604	+17.9	27,829	-7.0	25,869	9.6	28,353	
Memorial-Ross-Church	18,606	19.4	22,222	-12.7	19,390	6.6	20,666	
Church-Rocky Bend	26,547	7.9	28,657	-13.2	24,884	26.3	31,419	
Rocky Bend-Coast Guard	23,099	9.8	25,359	0.3	25,437	46.4	37,239	
Central Parking Area	43,373	11.3	48,269	-12.5	42,214	9.9	46,380	

*ADJUSTED--ACTUAL TOTAL $243,274; CHURCH STREET, CHURCH STREET EXTENSION, ISLAND PATH EXTENSION EXCLUDED.

remarkably "good weather" season. However, despite the "bad weather" in 1982, Town lot revenues continued to increase. If Town revenues are adjusted for the 1983 banner year, annual growth in parking revenues at the Town lots might, instead, be in the range of 10 to 15 percent annually. State parking lot revenues increased by an average of 6 percent annually, with most of the growth occurring at the remote lots.

The Town of Hampton kept records on the number of cars parked, daily, in each lot in 1983, and these are summarized in Table 3. In addition, daily parking trends of state lots in 1983 were estimated based upon data on five- to seven-day meter collections and estimated rates of turnover. Because these are only rough estimates, they are intended for purposes of comparison with Town lots, rather than precise estimates of capacity utilization. As shown in Table 3, the "official" parking season at Hampton Beach begins in mid-May and runs through mid-September. Beyond the "official" season, state and town lots are unattended and no revenues are collected. The trends in daily parking indicate that the season is comprised of two elements: a "shoulder" season through the end of June and after Labor Day weekend; and a "peak" season which includes July, August and through Labor Day.

Lot attendance also varies considerably by mid-week days and weekends. As shown in Table 3, the Ashworth Lot (noted as MU1) is the most heavily utilized of the three municipal lots. The main portions of the Island Path and Church Street lots are only utilized on weekends until mid-June; during the "peak" season these are fully utilized only on weekends. The extension lots are utilized principally on weekends during the peak season although the Church Street Extension is about half full on many weekends in July and August and buses park at the Island Path Extension throughout the peak season.

Neither the State nor the Town have precise data on attendance of recreational activities in Hampton Beach however, numerous statewide and local representatives report that growth has been occurring at a rate as fast or faster than population; parking data provide our indicator of this. Growth in beach and related tourist activity, and as a result parking demand, has been occurring due to steady population growth in Southern New Hampshire, fueled by a strong economy particularly in technology-related sectors. Regional growth continued with an increase in the number of day visitors to Hampton Beach from Boston and Eastern Massachusetts a natural trend towards increased participation in recreational activity, nationally, have resulted in accelerating growth in summertime activities in Hampton Beach.

One final factor considered in the evaluation of trends in parking demand and general recreational activity was the trends elsewhere along the coastline. Other beach areas examined included Cranes Beach, Plum Island and Salisbury Beach in Massachusetts, Rye in New Hampshire, and Ogonquit and Kittery in Maine. Although these beaches each have unique characters and are not directly comparable to Hampton

TABLE 3

ESTIMATED NUMBER OF CARS BY LOT AND BY DATE

(1983)

month MAY '83

Date	Lot / Day	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	MU1	MU2	MU2A	MU2B	MU3	MU3A	MU3B
1	Su		0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Mo		0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Tu		0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	We		0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Th		0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Fr		0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Sa		0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Su		0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Mo		0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Tu		0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	We		0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Th		0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Fr		0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Sa		0	0	0	0	0	0	0	165	0	0	0	0	0	0
15	Su		0	0	0	0	0	0	0	6	0	0	0	0	0	0
16	Mo		0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Tu		0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	We		0	0	0	0	0	0	0	8	0	0	0	0	0	0
19	Th		0	0	0	0	0	0	0	21	0	0	0	0	0	0
20	Fr		0	0	0	0	0	0	0	19	0	0	0	0	0	0
21	Sa		0	0	0	0	0	0	0	245	0	0	0	0	0	0
22	Su		20	38	0	83	59	51	0	103	271	0	0	0	0	0	0
23	Mo		20	38	0	83	59	51	0	103	0	0	0	0	0	0	0
24	Tu		20	38	0	83	59	51	0	103	0	0	0	0	0	0	0
25	We		20	38	0	83	59	51	0	103	30	0	0	0	0	0	0
26	Th		20	38	0	83	59	51	0	103	0	0	0	0	0	0	0
27	Fr		20	38	0	83	59	51	0	103	0	0	0	0	0	0	0
28	Sa		20	38	0	83	59	51	0	103	447	33	0	0	14	0	0
29	Su		20	38	0	83	59	51	0	103	332	25	0	0	3	0	0
30	Mo		20	38	0	83	59	51	0	103	40	4	0	0	0	0	0
31	Tu		20	38	0	83	59	51	0	103	0	0	0	0		0	0

TABLE 3 (CONTINUED)

ESTIMATED NUMBER OF CARS BY LOT AND BY DATE

(1983)

month June 83

Date	Lot / Day	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	MU1	MU2	MU2A	MU2B	MU3	MU3A	MU3B
1	We		12	38	0	56	34	31	32	72	28	0	0	0	0	0
2	Th		12	38	0	56	34	31	32	72	136	0	0	0	0	0
3	Fr		12	38	0	56	34	31	32	72	125	0	0	0	0	0
4	Sa		12	38	0	56	34	31	32	72	38	0	0	0	0	0
5	Su		12	38	0	56	34	31	32	72	210	21	0	0	5	0	0
6	Mo		12	38	0	56	34	31	32	72	0	0	0	0	0	0	0
7	Tu		12	38	0	56	34	31	32	72	7	0	0	0	0	0	0
8	We		12	38	0	56	34	31	32	72	58	0	0	0	0	0	0
9	Th		12	38	0	56	34	31	32	72	272	0	0	0	0	0	0
10	Fr		12	38	0	56	34	31	32	72	84	2	0	0	0	0	0
11	Sa		12	38	0	56	34	31	32	72	882	209	0	0	234	0	0
12	Su		12	38	0	56	34	31	32	72	767	284	0	0	378	0	0
13	Mo		12	38	0	56	34	31	32	72	485	59	0	0	0	0	0
14	Tu		19	36	0	73	44	52	0	103	546	69	0	0	35	0	0
15	We		19	36	0	73	44	52	0	103	482	86	0	0	64	0	0
16	Th		19	36	0	73	44	52	0	103	114	8	0	0	4	0	0
17	Fr		19	36	0	73	44	52	0	103	280	30	0	0	4	0	0
18	Sa		19	36	0	73	44	52	0	103	733	191	0	0	150	0	0
19	Su		19	36	0	73	44	52	0	103	900	235	0	0	150	0	0
20	Mo		19	36	0	73	44	52	0	103	461	66	0	0	52	0	0
21	Tu		19	36	0	73	44	52	0	103	584	94	0	0	85	0	0
22	We		27	56	1	97	66	93	114	148	684	155	0	0	135	0	0
23	Th		27	56	1	97	66	93	114	148	660	127	0	0	100	0	0
24	Fr		27	56	1	97	66	93	114	148	700	101	0	0	92	0	0
25	Sa		27	56	1	97	66	93	114	148	1000	221	0	0	120	0	0
26	Su		27	56	1	97	66	93	114	148	923	200	0	0	413	0	0
27	Mo		27	56	1	97	66	93	114	148	331	43	0	0	30	0	0
28	Tu		27	56	1	97	66	93	114	148	56	8	0	0	1	0	0
29	We		27	56	1	97	66	93	114	148	463	65	0	0	27	0	0
30	Th		27	56	1	97	66	93	114	148	662	135	0	0	87	0	0

month JULY83 Capacity utilization

Date	Lot / Day	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	MU1	MU2	MU2A	MU2B	MU3	MU3A

TABLE 3 (CONTINUED)

ESTIMATED NUMBER OF CARS BY LOT AND BY DATE

(1983)

month JULY83

Date	Lot / Day	STATE LOTS ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	MUNICIPAL LOTS MU1	MU2	MU2A	MU2B	MU3	MU3A
1	Fr	47	96	1	177	124	235	392	299	700	152	0	0	52	0
2	Sa	47	96	1	177	124	235	392	299	1365	339	0	0	329	0
3	Su	47	96	1	177	124	235	392	299	1250	260	0	0	578	0
4	Mo	47	96	1	177	124	235	392	299	702	135	0	0	388	0
5	Tu	47	96	1	177	124	235	392	299	821	124	0	0	50	0
6	We	35	67	1	118	87	177	270	193	662	80	0	0	24	0
7	Th	35	67	1	118	87	177	270	193	755	153	0	0	98	53
8	Fr	35	67	1	118	87	177	270	193	700	164	0	0	186	0
9	Sa	35	67	1	118	87	177	270	193	1175	243	0	0	107	0
10	Su	35	67	1	118	87	177	270	193	1074	176	0	0	406	0
11	Mo	35	67	1	118	87	177	270	193	633	132	0	5	94	12
12	Tu	35	67	1	118	87	177	270	193	880	138	0	0	122	0
13	We	41	77	1	133	105	200	270	241	1127	207	0	0	275	40
14	Th	41	77	1	133	105	200	270	241	797	140	0	0	215	0
15	Fr	41	77	1	133	105	200	270	241	950	166	0	5	62	7
16	Sa	41	77	1	133	105	200	270	241	1240	250	0	5	403	39
17	Su	41	77	1	133	105	200	270	241	1220	260	5	8	452	61
18	Mo	41	77	1	133	105	200	270	241	740	168	0	5	132	4
19	Tu	41	74	1	124	97	176	256	231	720	198	5	4	260	22
20	We	41	74	1	124	97	176	256	231	1260	232	0	6	179	10
21	Th	41	74	1	124	97	176	256	231	707	147	0	6	159	0
22	Fr	41	74	1	124	97	176	256	231	605	66	2	7	24	0
23	Sa	41	74	1	124	97	176	256	231	1202	229	6	5	400	56
24	Su	41	74	1	124	97	176	256	231	705	135	0	22	19	0
25	Mo	41	74	1	124	97	176	256	231	955	135	2	7	56	6
26	Tu	40	76	1	124	92	179	222	206	750	170	3	14	305	41
27	We	40	76	1	124	92	179	222	206	1040	234	1	5	395	26
28	Th	40	76	1	124	92	179	222	206	804	158	1	5	268	30
29	Fr	40	76	1	124	92	179	222	206	700	155	0	0	93	5
30	Sa	40	76	1	124	92	179	222	206	1101	209	1	6	103	0
31	Su	40	76	1	124	92	179	222	206	906	228	40	5	409	93

TABLE 3 (CONTINUED)

ESTIMATED NUMBER OF CARS BY LOT AND BY DATE

(1983)

month AUG83

Date	Lot / Day	STATE LOTS ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	MUNICIPAL LOTS MU1	MU2	MU2A	MU2B	MU3	MU3A
1	Mo	41	76	1	124	92	179	222	206	676	101	0	3	72	10
2	Tu	44	82	1	135	105	172	190	241	809	132	0	3	79	8
3	We	44	82	1	135	105	172	190	241	1000	182	3	6	253	21
4	Th	44	82	1	135	105	172	190	241	645	115	0	3	46	2
5	Fr	44	82	1	135	105	172	190	241	698	128	0	7	55	0
6	Sa	44	82	1	135	105	172	190	241	1320	243	5	6	204	13
7	Su	44	82	1	135	105	172	190	241	812	209	13	8	378	74
8	Mo	44	82	1	135	105	172	190	241	782	139	0	3	85	6
9	Tu	35	63	0	106	106	139	168	186	560	137	0	0	58	8
10	We	35	63	0	106	106	139	168	186	994	218	1	7	98	9
11	Th	35	63	0	106	106	139	168	186	187	34	0	6	19	2
12	Fr	35	63	0	106	106	139	168	186	109	2	0	0	0	0
13	Sa	35	63	0	106	106	139	168	186	460	128	2	3	34	0
14	Su	35	63	0	106	106	139	168	186	1049	167	4	7	196	12
15	Mo	35	63	0	106	106	139	168	186	500	48	0	7	28	5
16	Tu	39	69	1	117	107	117	110	204	730	110	5	2	49	4
17	We	39	69	1	117	107	117	110	204	947	198	2	7	147	6
18	Th	39	69	1	117	107	117	110	204	352	45	0	1	6	0
19	Fr	39	69	1	117	107	117	110	204	882	150	2	3	63	0
20	Sa	39	69	1	117	107	117	110	204	977	235	5	3	205	2
21	Su	39	69	1	117	107	117	110	204	1018	234	6	4	286	6
22	Mo	39	69	1	117	107	117	110	204	237	32	2	4	15	0
23	Tu	27	47	0	82	57	68	39	129	553	75	2	4	31	0
24	We	27	47	0	82	57	68	39	129	727	145	2	6	48	0
25	Th	27	47	0	82	57	68	39	129	573	73	1	3	29	0
26	Fr	27	47	0	82	57	68	39	129	616	85	0	2	27	1
27	Sa	27	47	0	82	57	68	39	129	810	167	3	3	101	2
28	Su	27	47	0	82	57	68	39	129	852	229	5	6	190	4
29	Mo	27	47	0	82	57	68	39	129	53	1	0	0	0	0
30	Tu	27	47	0	82	57	68	39	129	117	14	0	0	2	0
31	We	27	47	0	82	57	68	39	129	167	5	0	0	0	0

TABLE 3 (CONTINUED)

ESTIMATED NUMBER OF CARS BY LOT AND BY DATE

(1983)

month SEP83

Date	Lot / Day	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	MU1	MU2	MU2A	MU2B	MU3	MU3A
1	Th	17	31	1	53	36	36	29	83	272	35	1	2	10	0
2	Fr	17	31	1	53	36	36	29	83	512	70	1	2	20	2
3	Sa	17	31	1	53	36	36	29	83	981	221	1	3	189	4
4	Su	17	31	1	53	36	36	29	83	1056	255	19	5	305	6
5	Mo	17	31	1	53	36	36	29	83	654	174	5	4	119	4
6	Tu	17	31	1	53	36	36	29	83						
7	We	17	31	1	53	36	36	29	83						
8	Th	17	31	1	53	36	36	29	83						
9	Fr	17	31	1	53	36	36	29	83						
10	Sa	17	31	1	53	36	36	29	83						
11	Su	17	31	1	53	36	36	29	83						
12	Mo	17	31	1	53	36	36	29	83						
13	Tu	17	31	1	53	36	36	29	83						
14	We														
15	Th														
16	Fr														
17	Sa														
18	Su														
19	Mo														
20	Tu														
21	We														
22	Th														
23	Fr														
24	Sa														
25	Su														
26	Mo														
27	Tu														
28	We														
29	Th														
30	Fr														

Beach, all have undergone a similar growth in recreational activity, as summarized in Table 4. Attendances at these beaches has been steadily increasing. Despite parking rate increases at Ogonquit, and annual increases of $0.50 at Crane's Beach (present rate is $7.00 per day), demand has not been dampened.

C. Anticipated Parking Trends

If growth could continue unconstrained by the capacity of the beach, other recreational facilities, parking and other supporting infrastructure, recent growth trends might continue as shown in Figure 2. If the parking demand at Town lots continued to grow at an average rate of 10 percent annually, consistent with the early 1980s, total revenues (1983 parking rates) would be equivalent to $409,000 (without Church Street) per year or roughly 150,000 to 160,000 cars, compared to roughly 95,000 cars in 1983. With Church Street, the total 1983 demand was around 110,000 cars and total 1990 revenues would be around $473,000 with 182,000 cars. If state parking demand increased at 5 percent annually, a rate consistent with recent trends (dampened slightly due to the fact that the number of spaces are limited at the most centrally located, more desirable locations), annual revenues would be equivalent to $266,000 per year (1983 parking rates) or roughly 140,000 cars, compared to roughly 97,000 cars in 1983.

The capacity of parking and other Hampton Beach recreational facilities is limited, however, and unconstrained growth will not be accommodated unless these are expanded. More realistic growth in parking demands will likely be consistent with anticipated growth in the population of the Southern New Hampshire region, which has been projected at three percent annually by the Office of State Planning and one percent by other regional forecasts. If these growth rates prevail, then future demand would average around 120,000 to 125,000 cars per year at the Town lots (including Church Street) and around 100,000 to 110,000 cars per year at the state lots. Based on the limited capacity of parking lots and other facilities, it is assumed that most of this growth will occur during the weekdays.

TABLE 4

DEMAND FOR COASTAL RECREATIONAL ACTIVITY AND PARKING

Beach Area	Run By	Number of Spaces	Fee	Recent Fee Changes (effects)	Attendance (Mid-May to Mid-September)* Weekday Cars	Weekday People	Weekend Cars	Weekend People	Use of Funds	Percentage of Lot Filled Weekday	Weekend	Comments	Contact
Plum Island	Nat'l Fish & Wildlife Service	350	0	N/A	3-400	~1,000	1,000	2,500-3,000	N/A	100%	100% and close access from 9am to 3pm	Wildlife Reservation	"Asst Manager Zeley" 465-5753
Plum Island	State Dept of Environmental Mgt	50	0	N/A	<200	<500	<400	<1000	N/A	100%	100%	Wildlife	Peter Carlson, Superintendent 462-4481
					total cars ('83):89,773								
Salisbury	State Dept of Environmental Mgt	4,000+	$3 daily $20 seasonal	Raised 3 yrs ago from $2, no lasting effects	3,000-7,000	10-15,000	6,000-12,000	20,000-30,000	$5 million (from all State Dep En Mgt) to General State Fund, Remainder to State Dept.	50%	75-100%	Camping available	
					total cars ('83):1,900,025								
Ogonquit	Town	400M 175L 200L 100S 100P	$5/day	New rates this year. ~5 yrs ago, $4 all lots, town people complained, $3 smaller lots, $5 main lot	half-filled lots	<5,000	filled lots	~5,000	$100,000-beach expenses, remainder to general town fund	50-100%	100-125% (overflow parked illegally)	Currently bldg a 200 space lot, funded w/$95,000 bond, anticipate payment by proceeds from parking	Brad Moulton 207/646-9711 PO Box 1948 Oqonguit, ME
Crane	Trustees of the Reservation (nonprofit)	1,300M 1,200C 450T	Day: $5/car $2.50/motorcycle End: $7/car $3.50/motor ---------- $34/bus $1/ped.	Increase all fees 50¢/year (since 1980) no noticeable diff in attendance.	300-1,300		1,000-2,600		Beach, grounds & administrative expenses 7.5% of gross to town of Ipswich in lieu of taxes	50-75%	75-100%		Michael Gormley 356-4354 Superintendent
					total cars ('83): 76,500								

*Assuming decent weather

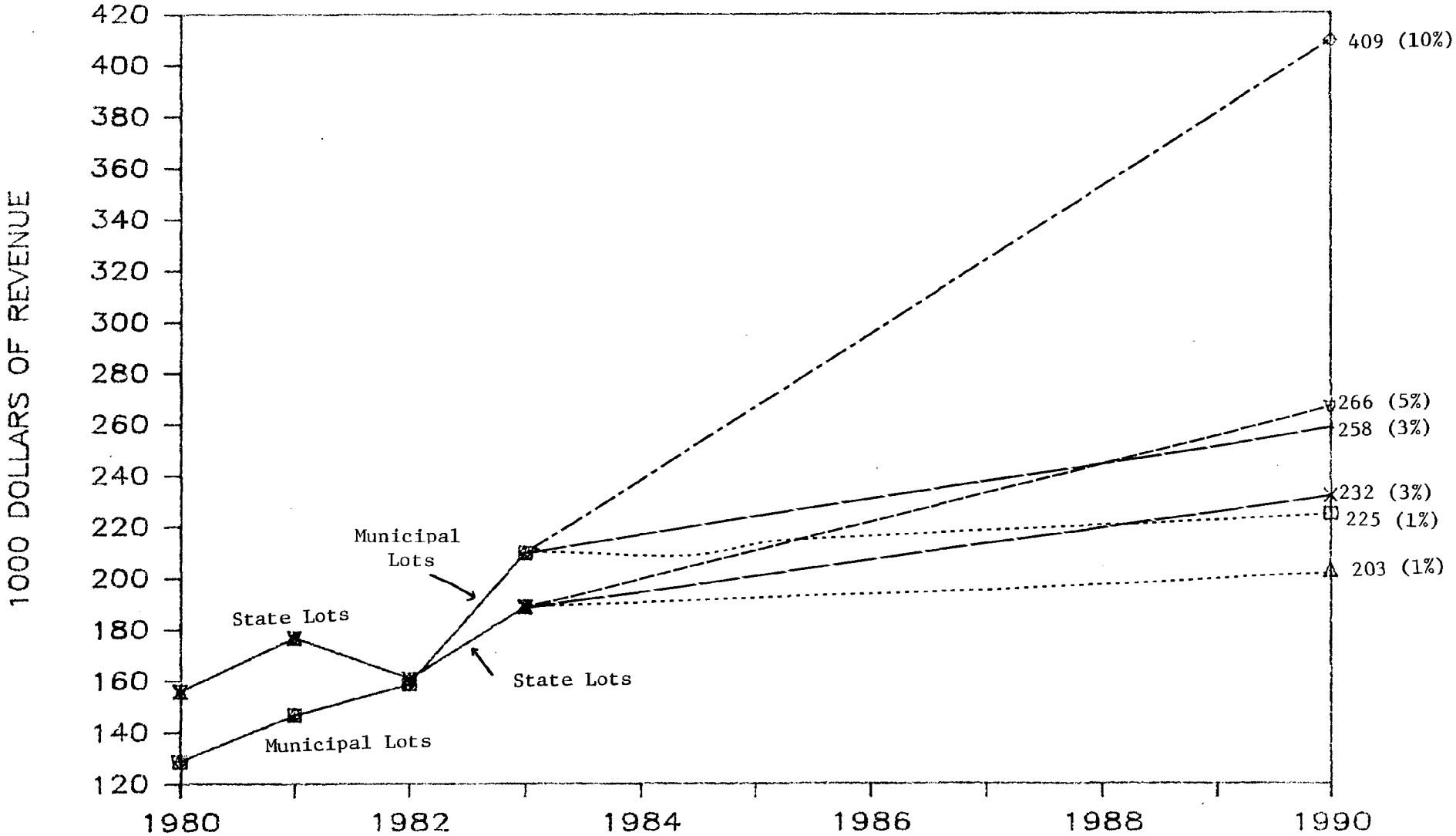
Legend: M-main
L-lower
S-short term-metered
P-private
T-town lot, sticker parking only
C-Castle Hill Parking

Arthur D. Little, Inc.

FIGURE 2

PARKING TRENDS IN HAMPTON BEACH

1980 – 1990



III. ALTERNATIVE SITES FOR A PARKING GARAGE

Initially, four sites were seriously considered as alternative locations for development of a multi-level parking garage. These sites were of sufficient size to accommodate a multi-level garage and included:

- Ashworth Town Lot;
- Island Path Town Lot and Extension;
- Church Street Town Lot and Extension; and
- Casino Lot.

Working closely with the Parking Garage Advisory Committee, these sites were screened for their suitability as sites for a parking garage. Four factors were weighted heavily in the evaluation process (these are not necessarily ranked in order of priority):

- Cost of the Land and Construction - Certain sites not noted above were eliminated from consideration at the outset because the site was already occupied and would require demolition or were highly developable resulting in high purchase or lease costs. In a beach community with Hampton soil characteristics, a key cost factor associated with a parking garage is the foundation: the Island Path lot and extension were rated unfavorably on the basis of this factor.

- Accessibility to Hampton Beach - This factor was determined to be key for two related reasons. First, if higher parking rates are charged to support the cost of a garage, then its location must be convenient and central so that the market will bear those rates. Second, parking lot utilization data shows that central-most lots bear considerably more utilization than more remote lots, particularly on weekdays. High utilization will be essential if the garage is become self supporting. The Island Path and Church Street lots were judged unfavorably in light of this factor.

- Environmental Sensitivity - Hampton Beach is located on a natural barrier with wetlands to its north and west and coastal beaches to its east. Hampton Beach's greatest asset is its natural environment, and development of a parking garage must be developed on a site without significant adverse environmental impacts. The Hampton Conservation Commission has indicated that the Island Path Extension may be vulnerable to adverse environmental impacts if it is used for parking.

- Pedestrian Safety - As a tourist area with a particular emphasis on family visitors, safety is a key concern. Although none of the sites, themselves, were considered at a disadvantage in this regard, the parking garage design must reflect this important factor.

Other factors considered included the impact on traffic congestion in the Hampton Beach Precinct and the potential for enhancement of economic activity. Traffic congestion impacts were considered in designing access to the facility, as discussed in more detail in Chapter IV. As a stand-alone parking garage, none of the sites are likely to provide a particularly significant long-term benefit to the local economy. However, if the garage is developed as a multi-use facility, with retail establishments or other uses, then a more central location such as the Casino site or Ashworth Avenue Town Lot will offer considerable advantage.

Based on examination of these factors, two sites were selected for more detailed design, cost, and financial feasibility analysis:

- Ashworth Avenue Town Lot - This lot, owned and operated by the Town, is the largest single site in the central Precinct area which could be developed publicly. It has been the most heavily utilized of the three Town Lots, and, based on preliminary analysis, rests on acceptable soils.

- Casino Lot - This lot is the largest, single privately owned site in the central Precinct area. It also has been heavily utilized and, based on preliminary analysis, rests on acceptable soils.

Both sites were chosen for further analysis because of their respective ownership status. Depending on the financing mechanisms and costs available, it will be important to consider options for either a privately or publicly developed garage.

IV. COST ANALYSIS AND CONCEPTUAL DESIGN

INTRODUCTION

The two sites selected for final evaluation are the so-called municipal Ashworth parking lot near the fire station, and the privately owned parking lot directly to the rear of the Casino. The study area and site locations are shown in Figure 1.

A. Ashworth Parking Lot (Municipal)

This municipally owned and operated lot presently has a capacity of 580± vehicles, the figure of which has been used for estimating purposes throughout this study. The parking spaces, which occupy the entire lot area to the maximum limit of the property, are controlled by the marsh area to the west; Brown and Ashworth Avenues to the north and east; and private developed property to the south; and involve approximately 3.5 acres. In developing the preliminary plans for the two-story parking garage, existing information on the physical characteristics of the site was utilized.

1. Site Characteristics

Apart from the topography and layout of the land area itself, basic information necessary to the evaluation was obtained from existing Town and Beach Precinct records. The most important factor to evaluate was the nature of the existing parking lot structure and supporting soils. In the interest of economy, subsurface exploration records obtained by the Town of Hampton in the recent reconstruction of the municipal sewer system were utilized.

It was found that virtually the entire parking area was constructed of a layer of generally frost-free material (gravel and sand) over layers of mixed fill and organic material, all overlying layers of loose, wet sand and organic peat. To support a garage structure of one or more stories, together with the live loading imposed by parked vehicles, it appears that special type foundation construction will be necessary, probably a complete pile structure. In developing the cost estimates, allowance has therefore been made for foundation construction that will not only support a single level parking garage but will allow for the construction of additional stories if this becomes desirable in a long range plan.

2. Parking Garage Characteristics

A schematic layout plan is included as Figures 3 and 4 showing the parking arrangement, together with entrances and exits, for two completely constructed floors. In addition, necessary vehicular ramps, elevators and walkways for the handicapped have been provided at convenient locations as well as required sanitary facilities. The 950 parking spaces provided on the two floors, while showing an

FIGURE 3

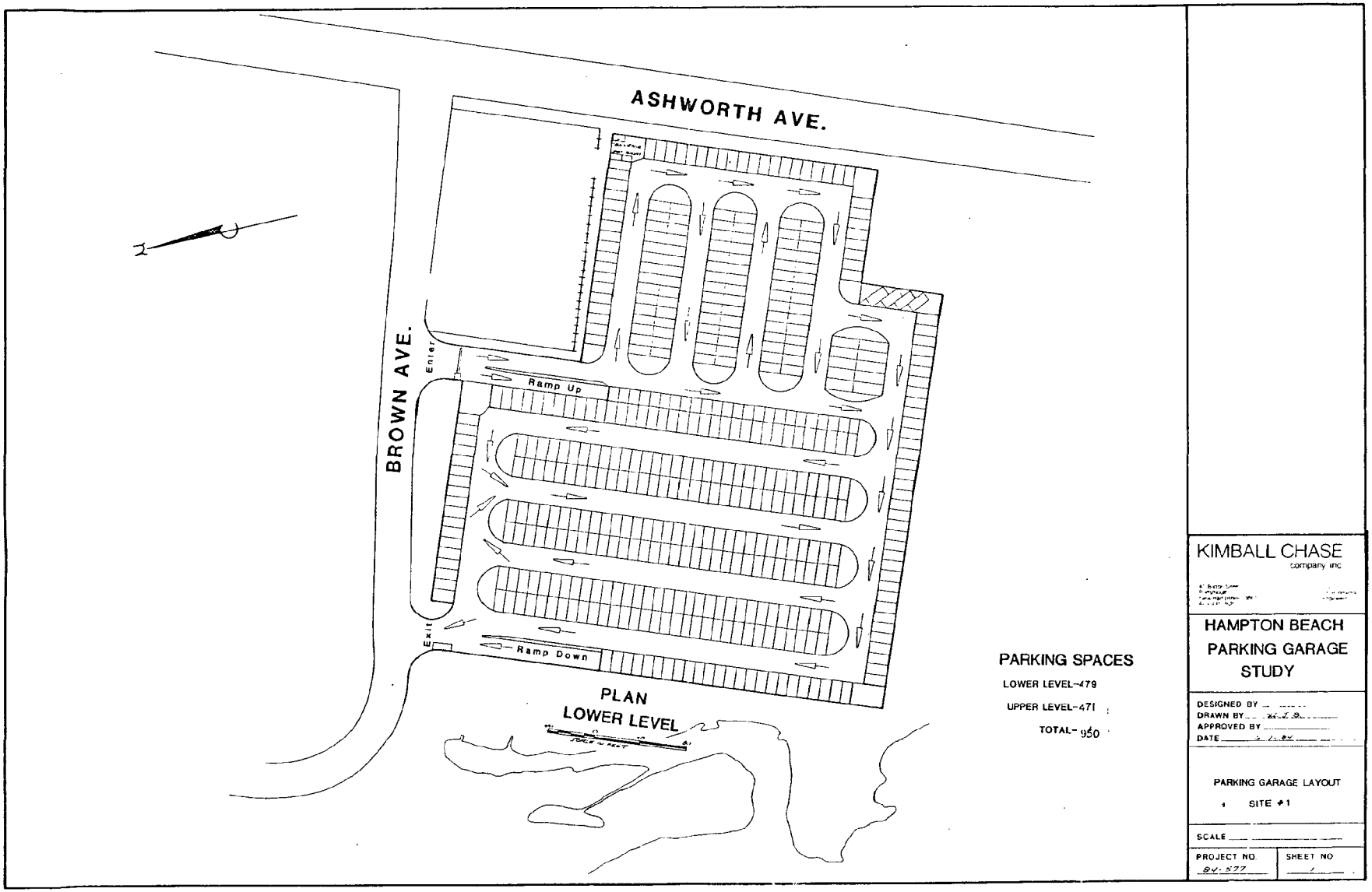
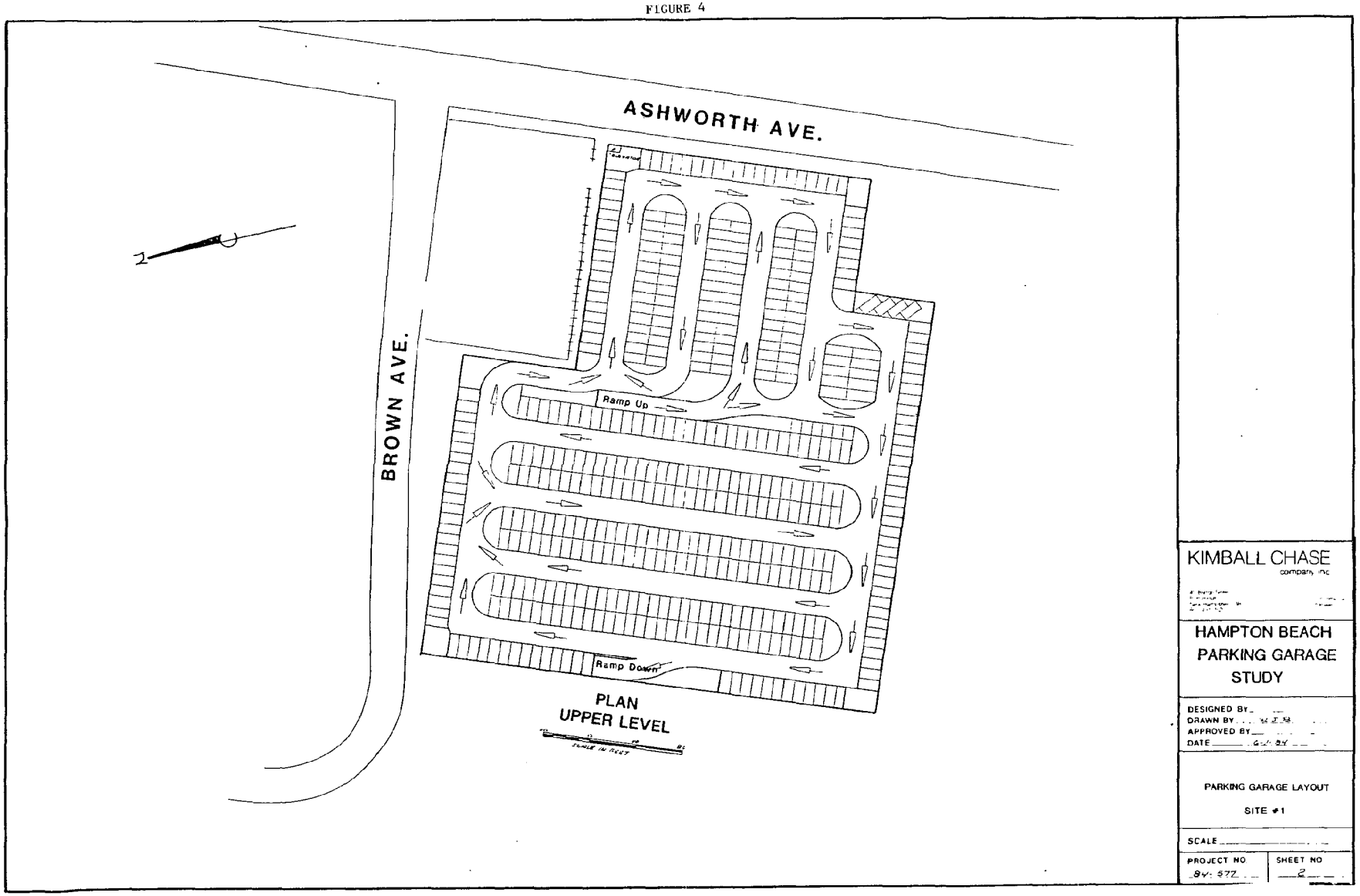

ASHWORTH AVE.
BROWN AVE.
Enter
Ramp Up
Exit
Ramp Down
PLAN
LOWER LEVEL
PARKING SPACES
LOWER LEVEL-479
UPPER LEVEL-471
TOTAL- 950
KIMBALL CHASE
company inc
HAMPTON BEACH
PARKING GARAGE
STUDY
DESIGNED BY
DRAWN BY
APPROVED BY
DATE
PARKING GARAGE LAYOUT
SITE #1
SCALE
PROJECT NO.
SHEET NO

FIGURE 4


ASHWORTH AVE.
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Ramp Up
Ramp Down
PLAN
UPPER LEVEL
KIMBALL CHASE
company inc
HAMPTON BEACH
PARKING GARAGE
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DESIGNED BY
DRAWN BY
APPROVED BY
DATE
PARKING GARAGE LAYOUT
SITE #1
SCALE
PROJECT NO
84-572
SHEET NO
2

increase of 364 spaces over that existing, show a reduction in useable parking not equal to double the existing parking spaces, attributable to the above noted services. A summary of the estimated costs for the two-floored parking garage are summarized in Table 5.

To minimize the initial construction costs, consideration has been given to the elimination of the first floor concrete construction and the utilization of as much of the bituminous pavement as is possible with a new overlay for leveling purposes and a temporary parking surface. The net reduction in cost is shown in Table 5 as an alternate for site #1.

3. Access and Circulation Plan

a. Ground Floor Access and Exit

While there may be future changes in the overall beach traffic circulation pattern, we have based our initial plans for entering and exiting (on the first floor of the parking garage) on the present beach traffic pattern; i.e., Brown Avenue two-way traffic and Ashworth Avenue one-way traffic during the summer. The planned entrance off Brown Avenue is generally located to permit as many right-hand turns as is possible without crossing traffic in the opposite direction. It is also sited to optimize efficient first-come, first-serve parking. An automatic barrier type device is shown with the cash collection window located for easy service.

b. Parking Circulation Plan

Both first and second floors are planned for optimum control of occupied areas to divert entering traffic to available spaces without any reversal of traffic movements. A carefully planned signing will permit segregation of parking, consistent with length of planned stays at the beach, with the resulting improved efficiency of operation and business management.

B. Casino Parking Lot (Private)

This privately owned and operated lot presently has the capacity of 380 vehicles, a figure which has been utilized for comparative purposes during the course of the study. The developed parking spaces cover all of the lot area to the maximum and is controlled by Ashworth Avenue to the west; D Street to the north; the "Casino proper" to the east; and F Street and developed property to the south. Town information, in addition to plans of the lot and other data available from the owner of the Casino property, was utilized in developing the schematic plan and traffic pattern for entrance and exit.

1. Site Characteristics

Based on information from the owner of an adjacent development, it would appear that, again, the parking area was constructed of frost-free material over sand and peat (natural deposits) of greatest depth along Ashworth Avenue, gradually improving towards the Casino itself. With the concentrated heavier loading of the garage structure of one or more stories, it would appear that special type foundations will be required, quite possibly piling, to give the required bearing capacity. Allowance has been made in our estimates for foundation construction that will support one or more stories above the ground level.

2. Parking Garage Characteristics

A schematic plan of the maximum sized parking arrangement has been included as Figures 5 and 6 two completely constructed parking floors.

In addition to the vehicular ramps and elevators, we have provided walkways and sanitary facilities, at convenient locations for the handicapped, as well as access to the waterfront and shopping activities. The parking spaces through careful layout on the two floors provide for a total of 610 spaces; an increase of 230 spaces over that which now exists. As in the case of the municipal parking lot, estimates have been provided both for a complete two-floor garage and an alternative two-floor facility (minus the concrete first-floor, and utilizing asphalt pavement in lieu thereof). A summary of the estimated cost for each alternate is shown in Table 6.

To minimize the initial construction costs, consideration has been given to the elimination of the first floor concrete construction and the utilization of as much as the bituminous pavement as is possible with a new overlay for leveling purposes and a temporary parking surface. The net reduction in cost is shown in Table 6 as an alternate for site #2.

3. Access and Circulation

a. Ground Floor Access and Exit

The present access to the parking lot, as well as to the exit, is from D Street which is one-way towards the Boulevard. This arrangement, which appears quite workable, has been incorporated into the lower or ground-floor level of the parking garage. In this instance, all traffic makes only right-hand turns with no cross traffic movements. The location of the entrance and the exit have been selected to optimize the right-hand turning movements. Automatic barrier-type control is shown with cash collection provided. Final design will permit off-street stopping locations.

TABLE 5

COST ESTIMATES: ASHWORTH AVENUE LOT

Site #1 - Ashworth Avenue Parking Lot (Municipal)

Number of Spaces: 950		
@ $6,000/space x 950 (includes special funds)		$ 5,700,000
Architect/Engineering Fees (6%)		342,000
Contingencies (5%)		285,000
	Total Project Cost:	$ 6,327,000
	Rounded:	$ 6,400,000
	Cost Per Space:	$ 6,740

Revised Ashworth Avenue Parking Lot
Estimate with Asphalt First Floor (Municipal)

Assumed removal of structural slab from original estimate, 151,000 ft^2, First Floor area.

Assume slab 8" thick.

= 3,750 CY @ $200 = $750,000

Add in cost of 1" Bituminous overlay (960 tons @ $34.00/Ton)

= $32,000

Net Savings: $750,000 - 32,600 - $717,000

	Original Estimate:	$ 5,700,000
	Less Above:	717,000
	$5,250/Space:	$ 4,983,000
Architect/Engineering (6%)		299,000
Contingencies (5%)		264,100
	Total Project Cost:	$ 5,546,100
	Cost per Space:	$ 5,840

FIGURE 5

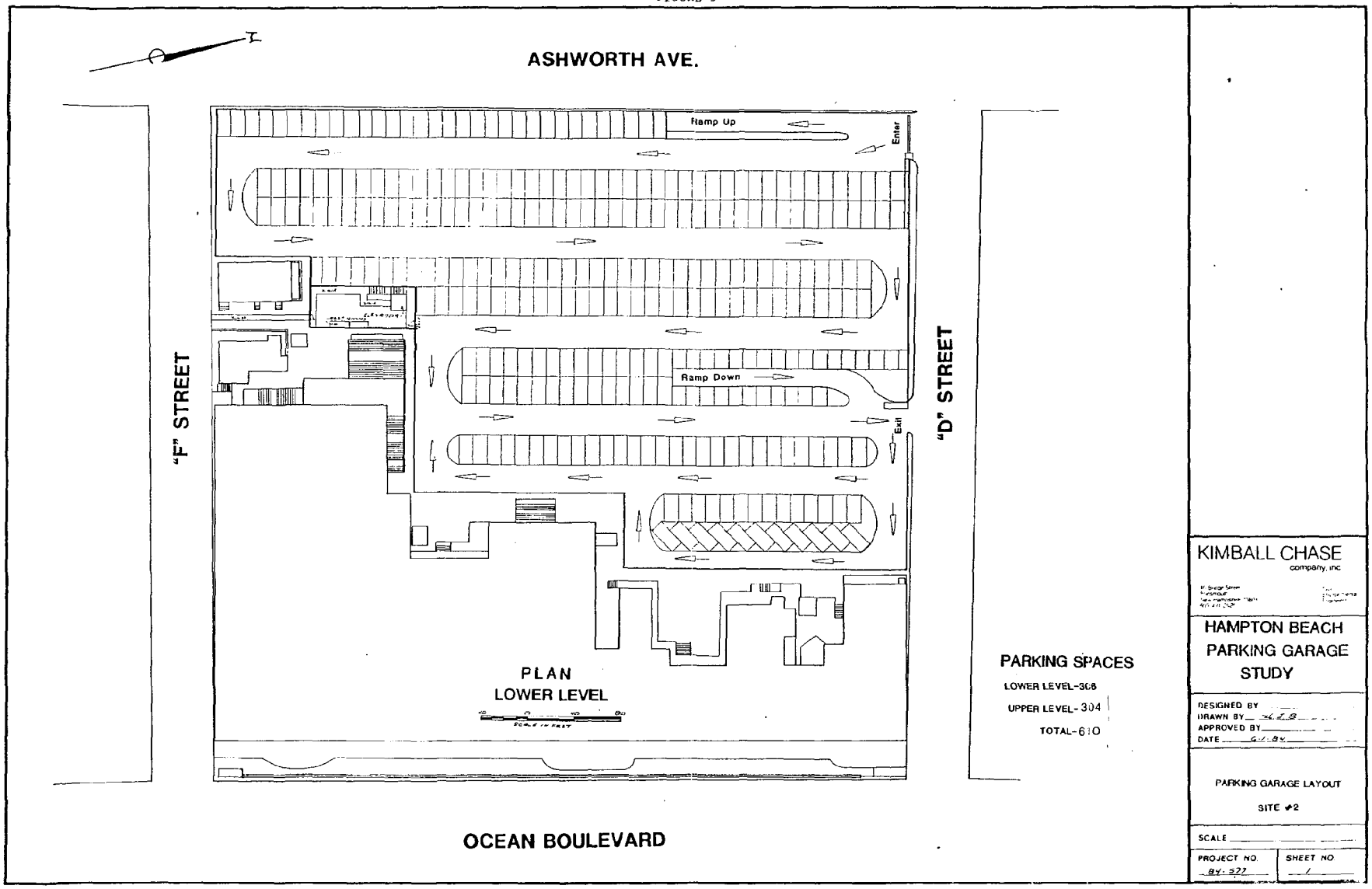
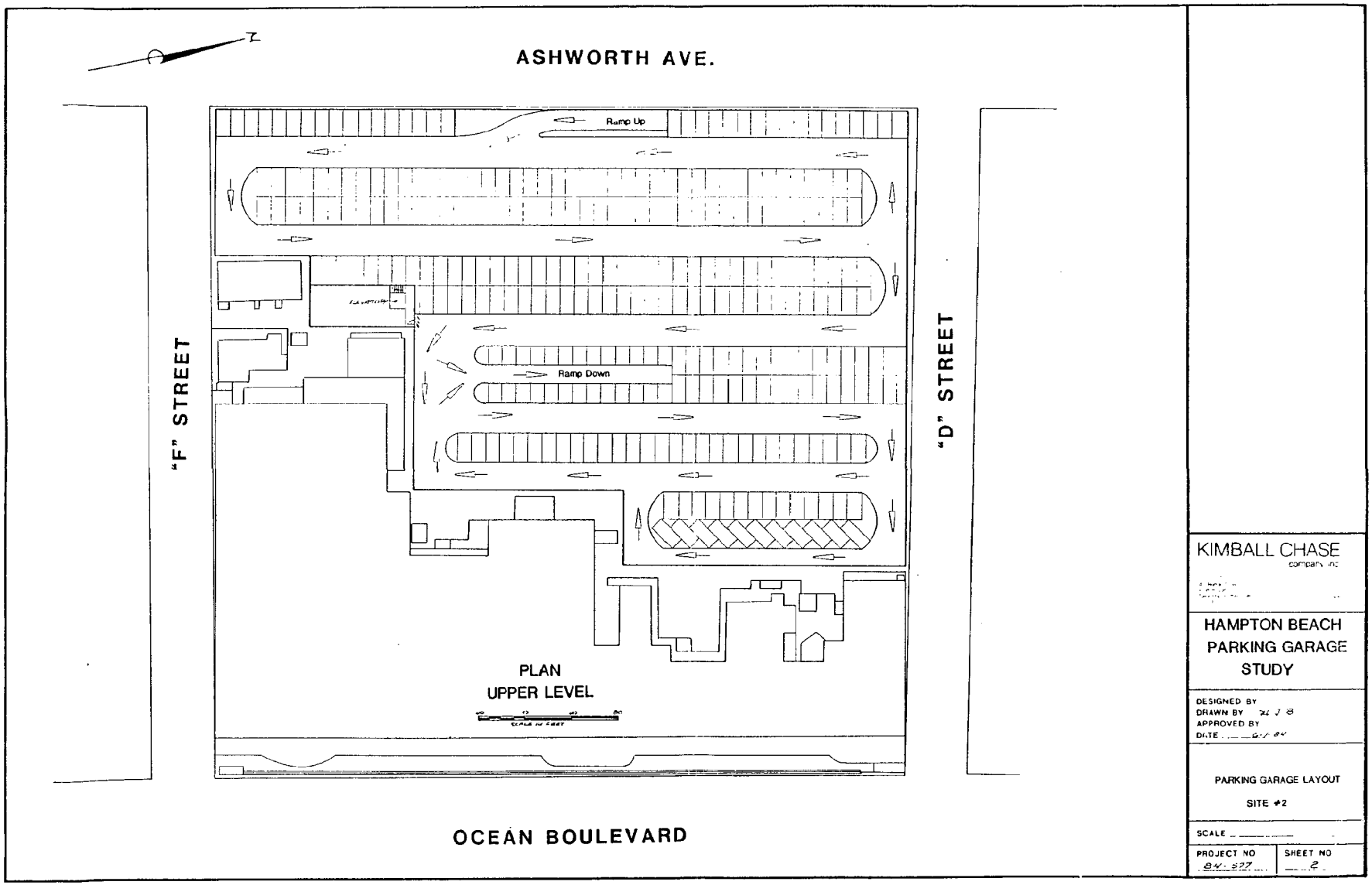

ASHWORTH AVE.
Ramp Up
Enter
Ramp Down
Exit
"F" STREET
"D" STREET
PLAN
LOWER LEVEL
PARKING SPACES
LOWER LEVEL-306
UPPER LEVEL-304
TOTAL-610
OCEAN BOULEVARD
KIMBALL CHASE
company, inc
HAMPTON BEACH
PARKING GARAGE
STUDY
DESIGNED BY
DRAWN BY
APPROVED BY
DATE
PARKING GARAGE LAYOUT
SITE #2
SCALE
PROJECT NO.
SHEET NO.

FIGURE 6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"D" STREET
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UPPER LEVEL
OCEAN BOULEVARD
KIMBALL CHASE
company inc
HAMPTON BEACH
PARKING GARAGE
STUDY
DESIGNED BY
DRAWN BY
APPROVED BY
DATE
PARKING GARAGE LAYOUT
SITE #2
SCALE
PROJECT NO
84-327
SHEET NO
2

TABLE 6

COST ESTIMATES: CASINO LOT

Site #2 - Casino Parking Lot (Private)

Number of Spaces: 610

@ $6,000/space x 610 (includes special funds)		$ 3,660,000
Architect/Engineering Fees (6%)		219,600
Contingencies (5%)		183,000
	Total Project Cost:	$ 4,062,600
	Rounded:	$ 4,100,000
	Cost Per Space:	$ 6,720

Revised Casino Parking Lot Estimate
with Existing Asphalt First Floor (Private)

Assumed removal of structural slab from original estimate, 105,000 ft^2, First Floor area.

Assume slab 8" thick.

= 2,600 CY @ 200 = $520,000

Add in cost of 1" Bituminous overlay (665 tons @ $34.00/Ton)

= $22,610

Net Savings: $520,000 - $22,610 = $497,390

	Original Estimate:	$ 3,660,000
	Less Above:	497,390
		$ 3,162,610
Architect/Engineering (6%)		189,757
Contingencies (5%)		158,130
	Total Project Cost:	$ 3,510,497
	Cost per Space:	$ 5,755

b. Parking/Circulation Plan

The circulation pattern for both floors has been designed for continuous one-direction traffic movements and optimum control of all areas for most efficient parking arrangements. The ultimate signed plan will provide for segregation of parking hours as well as direct access both to public streets and the casino facility at lower and upper levels.

c. Summary of Costs and Designs

Based on this analysis of a parking garage for Hampton Beach, this represents a practical approach to the final design for two alternative parking garage developments. The schematic plans and cost estimates form the basis for projects that can be constructed which will provide the number of spaces estimated within the cost projected.

V. ASSESSMENT OF CAPACITY UTILIZATION OF PARKING GARAGE AND ANTICIPATED PARKING REVENUES

Based on the anticipated demand and garage designs, the anticipated capacity utilization of the garage and other lots and associated revenues were evaluated. This chapter summarizes underlying assumptions and determines estimates of capacity utilization and revenues.

A. General Assumptions

First, it was assumed that the status quo will be maintained regarding current seasonal parking space leases by the Town of Hampton (146 spaces) and the State (349 spaces), and associated seasonal rates. Under the public development scenario in which the present Ashworth Lot is the site of the two-level garage, it was assumed that the seasonal spaces previously at Ashworth would be accommodated at the Church Street Lot Extension.

It was assumed that the Island Path Extension will continue to be utilized only on a marginal basis for buses and a limited number of cars only on peak summer weekends. Because of the environmental sensitivity of this site, it was believed to be unlikely that it would be developed for use with significant surface parking or as a garage.

It was assumed that the status quo will be maintained regarding the availability of parking at the Church Street Lot (300 spaces), Church Street Extension (100 spaces, including seasonal spaces) and Casino, if a garage is not developed there (380 spaces, without garage). If the status of this parking changes, that is, if a significant number of spaces is removed from the Hampton Beach inventory then the capacity utilization at the remaining lots will increase substantially.

For development of the parking garage, two alternative levels of parking rates were assumed:

- a "low" rate structure of $3.00 per day on weekdays and $4.00 per day on weekends at all lots, reflecting the rate levels for the summer of 1984;
- a "moderate" rate structure of $5.00 per day on weekdays and $7.00 on weekends at the parking garage and $3.00 per day weekdays and $5.00 per day on weekends at all other municipal lots.

B. Capacity Utilization

Based upon recent trends and estimated future demand for parking, the anticipated capacity utilization was estimated for a parking garage (under both private and public development scenarios) and for other municipal lots. In 1983, the Ashworth Lot consistently was utilized

near or in excess of full capacity on weekdays, as shown in Figure 7, while other Town lots were utilized at 75 to 100 percent in July and 50 to 75 percent in August (utilization in excess of 100 percent indicates turnover in parked cars). As shown in Figure 8, the Ashworth Lot was consistently used at near 200 percent of capacity on July weekends and about 175 percent on August weekends. Other lots were used at or slightly above full capacity. Based on these trends, which were adjusted for the effect of better than average weather in 1983, capacity utilization estimates were determined for the garage and other lots under the public and private development alternatives and under two rate scenarios, a "moderate" and a "low". These capacity utilization estimates ar summarized in Table 7.

Estimates of capacity utilization at the various lots reflect the significant variation in utilization between weekends and weekdays, and during the peak versus shoulder seasons. They also reflect the effect of the price elasticity of demand for parking in response to price, i.e., that where parking at a lower fee is available adjacent to the garage, under the moderate rate scenario, then the lower price parking will capture more of the demand.

C. Parking Revenue

Based upon the estimates of future demand, parking revenues were determined under each of the four garage development scenarios, as summarized in Table 8: public garage with low and moderate parking rates; and private garage with low and moderate parking rates. These revenue estimates distinguish between the base revenues derived from the first floor of the garage (i.e., revenues which would be collected from the first floor without the garage, 1984 parking fees), garage revenues, and other revenues.

TABLE 7A

CAPACITY UTILIZATION

ALTERNATIVE I: PUBLIC FINANCE MID-RANGE RATES

Lots Capacity: # Spaces	Shoulder Season May 15-June 15		Peak Season June 16-August 31		Labor Day September 1-September 5	
	Weekends/Holidays (8 Days)	Mid-Week (22 Days)	Weekends/Holidays (23 Days)	Mid-Week (55 Days)	Weekends/Holidays (3 Days)	Mid-Week (2 Days)
Ashworth-Lower Level (475)	75%	40%	150%	75%	150%	75%
Ashworth-Upper Level (475)	75%	0%	150%	75%	150%	75%
Island Path (180)	75%	20%	150%	75%	100%	75%
Island Path Extension (75)	0%	0%	25%	0%	25%	0%
Church Street (300)	75%	20%	150%	75%	100%	75%
Church Street Extension (24)	0%	0%	75%	25%	75%	0%

NOTE: Assumes seasonal 146 spaces maintained by Town of Hampton are excluded from space totals, and are located only at Island Path, Church Street and their extensions.

TABLE 7B

CAPACITY UTILIZATION

ALTERNATIVE II: PUBLIC FINANCE LOW RATES

Lots Capacity: # Spaces	Shoulder Season May 15-June 15		Peak Season June 16-August 31		Labor Day September 1-September 5	
	Weekends/Holidays (8 Days)	Mid-Week (22 Days)	Weekends/Holidays (23 Days)	Mid-Week (55 Days)	Weekends/Holidays (3 Days)	Mid-Week (2 Days)
Ashworth-Lower Level (475)	90%	50%	175%	90%	175%	90%
Ashworth-Upper Level (475)	90%	0%	175%	90%	175%	90%
Island Path (180)	50%	10%	150%	50%	100%	50%
Island Path Extension (75)	0%	0%	25%	0%	25%	0%
Church Street (300)	50%	10%	150%	50%	100%	50%
Church Street Extension (24)	0%	0%	75%	25%	75%	0%

NOTE: Assumes seasonal 146 spaces maintained by Town of Hampton are excluded from space totals, and are located only at Island Path, Church Street and their extensions.

TABLE 7C

CAPACITY UTILIZATION

ALTERNATIVE III: PRIVATE DEVELOPMENT MID-RANGE RATES

Lots Capacity: # Spaces	Shoulder Season May 15-June 15		Peak Season June 16-August 31		Labor Day September 1-September 5	
	Weekends/Holidays (8 Days)	Mid-Week (22 Days)	Weekends/Holidays (23 Days)	Mid-Week (55 Days)	Weekends/Holidays (3 Days)	Mid-Week (2 Days)
Ashworth-Lower Level (554)	100%	40%	175%	80%	150%	80%
Island Path (180)	75%	20%	150%	75%	100%	75%
Island Path Extension (75)	0%	0%	25%	0%	25%	0%
Church Street (300)	75%	20%	150%	75%	100%	75%
Church Street Extension (50)	0%	0%	75%	25%	75%	0%
Casino Lower Level (305)	75%	40%	150%	70%	150%	75%
Casino Upper Level (305)	75%	0%	150%	70%	150%	75%

NOTE: Assumes seasonal 146 spaces maintained by Town of Hampton are excluded from space totals, and are located only at Island Path, Church Street and their extensions.

TABLE 7D

CAPACITY UTILIZATION

ALTERNATIVE IV: PRIVATE DEVELOPMENT LOW RATES

Lots Capacity: # Spaces	Shoulder Season May 15-June 15		Peak Season June 16-August 31		Labor Day September 1-September 5	
	Weekends/Holidays (8 Days)	Mid-Week (22 Days)	Weekends/Holidays (23 Days)	Mid-Week (55 Days)	Weekends/Holidays (3 Days)	Mid-Week (2 Days)
Ashworth-Lower Level (554)	90%	40%	165%	9%0	150%	90%
Island Path (180)	75%	20%	145%	50%	100%	50%
Island Path Extension (75)	0%	0%	25%	0%	25%	0%
Church Street (300)	75%	20%	145%	50%	100%	50%
Church Street Extension (50)	0%	0%	75%	25%	75%	0%
Casino Lower Level (330)	90%	40%	165%	90%	150%	70%
Casino Upper Level (330)	90%	0%	165%	90%	150%	90%

NOTE: Assumes seasonal 146 spaces maintained by Town of Hampton are excluded from space totals, and are located only at Island Path, Church Street and their extensions.

TABLE 8

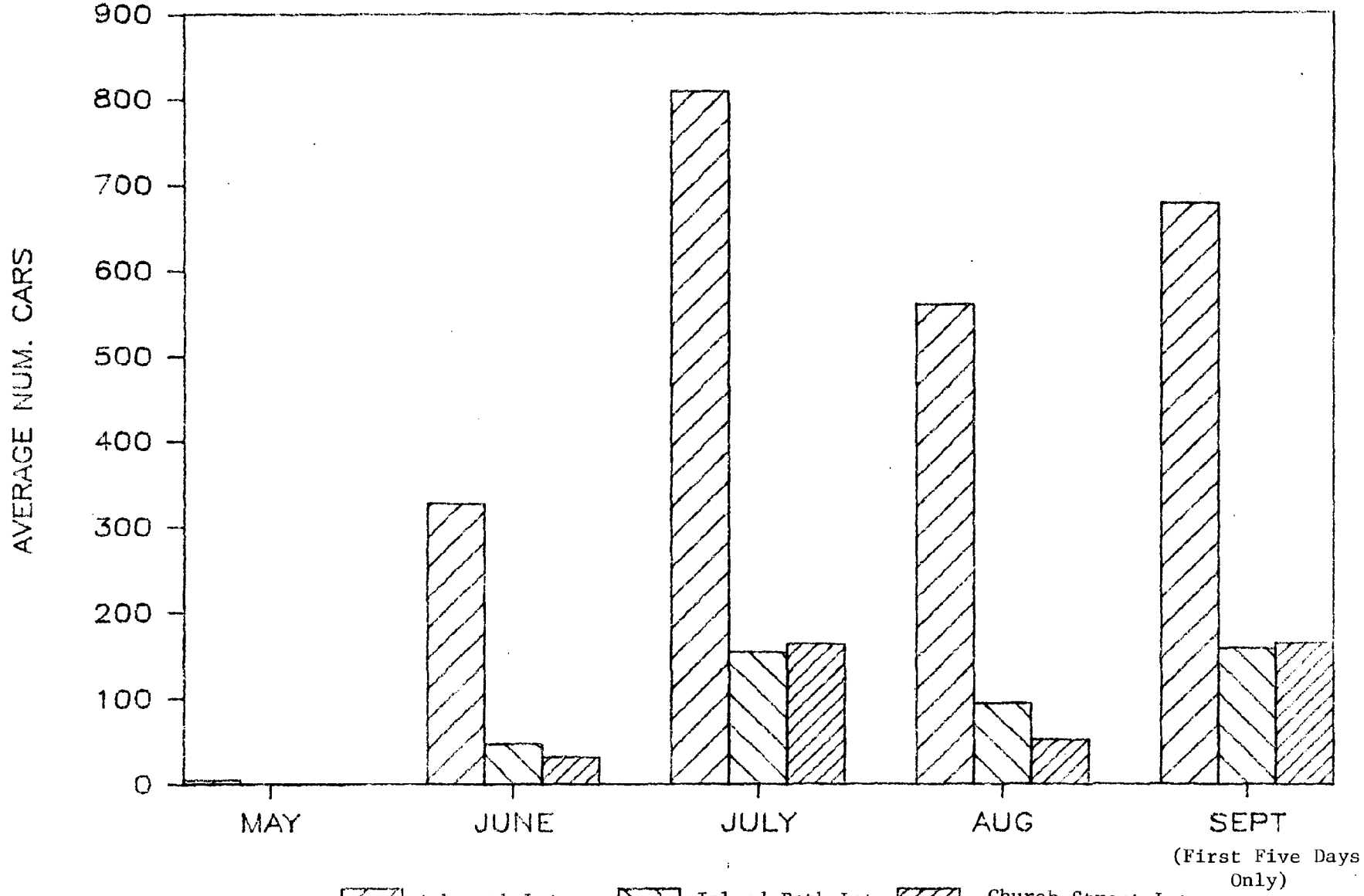
REVENUE ASSUMPTIONS FOR MULTI-LEVEL PARKING GARAGE AND MUNICIPAL LOTS

Development Options	2nd. Level and Incremental 1st. Level	Weekday Revenues Excluding Ashworth	All Other Municipal Revenues	Total Revenues-Municipal (Excl. O&M)	Base Casino Revenues (1st. Floor)	Casino Total Revenues (Excl. O&M)
I. Public Development Mid-Range Rates	$355,421	$68,886	$276,770	$701,077		
II. Public Development Low Rates	188,908	45,528	256,735	491,171		
III. Private Development Mid-Range Rates	213,310	27,524	348,244	375,768	122,562	326,066
IV. Private Development Low Rates	106,650	49,439	297,073	346,512	124,641	221,324

FIGURE 7

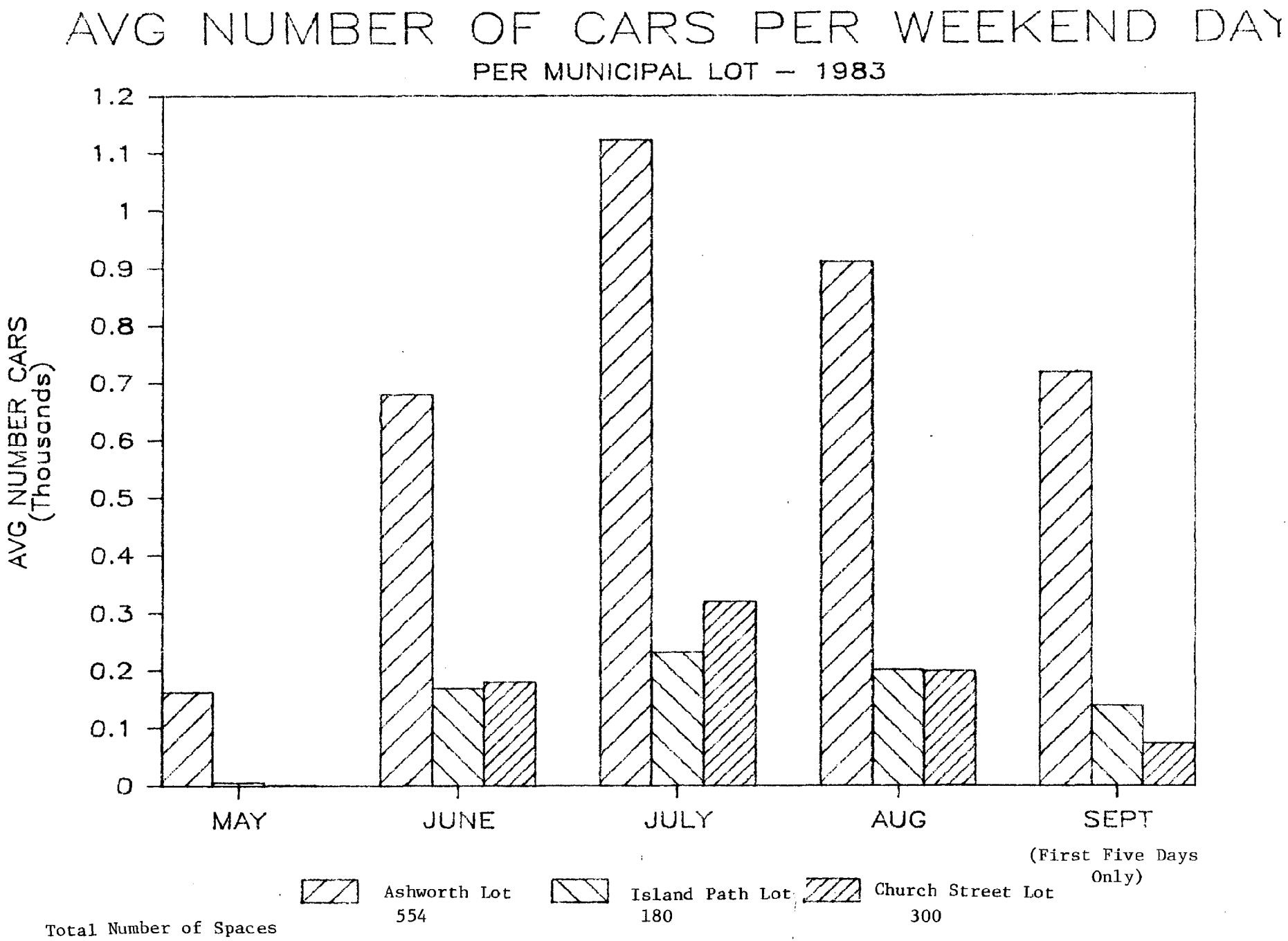
AVERAGE NUMBER OF CARS PER WEEKDAY

PER MUNICIPAL LOT – 1983



Total Number of Spaces	Ashworth Lot	Island Path Lot	Church Street Lot
	554	180	300

FIGURE 8


AVG NUMBER OF CARS PER WEEKEND DAY
PER MUNICIPAL LOT — 1983
AVG NUMBER CARS (Thousands)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
MAY
JUNE
JULY
AUG
SEPT
(First Five Days Only)
Ashworth Lot
Island Path Lot
Church Street Lot
Total Number of Spaces
554
180
300

VI. FINANCIAL FEASIBILITY ASSESSMENT

Based upon the anticipated demand for parking facilities in Hampton Beach (as discussed in chapter II), cost estimates of two alternative parking garage designs, at the Ashworth lot and behind the Casino (as discussed in chapter IV), the financial assessment evaluates the feasibility of a publically and privately financed parking garage.

A variety of potential mechanisms to finance both construction and operations and maintained were considered and are summarized in Table 9. Based on this review it was concluded that general obligation bond financing in combination with a municipal enterprise fund established to pool all parking revenues would be the least cost viable public financing alternative (see Section VI.A). Financing alternatives dependent on receipt of grant money from federal and state agencies were found to be not viable either for political or legal reasons. As discussed below in Section VI.B, the private financing alternative was also evaluated. This was done to determine the potential for attracting private investment.

A detailed discussion concerning the assumptions on financing mechanisms and other factors used to determine the financial feasibility of the parking garage is presented below.

A. Public Finance Options

1. Introduction

Tables 10 and 11 summarize assumptions used in projecting parking garage cash flows assuming the Ashworth garage is publically financed. Tables 10 and 11 also show base revenues attributable to all other municipal parking lot revenue collections. Estimates of non-garage related municipal parking revenue collections are made to determine whether these revenues would be sufficient to offset parking garage deficits. Tables 10 and 11 also itemize assumptions concerning capital costs, O&M costs, net cash flow assuming "moderate" and "low" rates. Revenue projections as well as costs and cash flow projections are discussed below.

2. Rates and Revenues (Moderate Rate Scenario)

Table 10 shows cash flow projections given "moderate" rates equivalent to:

- $5.00/space at the garage on weekdays;
- $3.00/space at all other lots on weekdays;
- $7.00/space at the garage on weekends; and
- $5.00/space at all other lots on weekends.

TABLE 9

MECHANISMS FOR FINANCING AND MAINTAINING A PARKING GARAGE

	SOURCES OF FINANCING						METHODS OF PAYMENT		
			General Obligation Bond						
	Community Development Block Grant	Revenue Bond	Standard	Tax Increment Financing	Federal UDAG Funds	Private Financing	Municipal Enterprise Fund	Designated State Parking Meter/Lot Funds	Service District
Construction	●Needs approval of N.H. Office of State Planning ●Recent Federal restrictions now provide that primary benefits must be for low/moderate income people	●Must show that project funds are sufficient to pay capital/operating costs ●Higher interest than G.O. Bonds	●Town commits general revenues to repay parking garage capital cost ●Problems reduced if garage can be demonstrated to be self sufficient	●Capital costs paid off with increased property tax revenues resulting from increased property values ●Most tax revenue increases generally come from new construction rather than increases in existing property values	●Hampton not eligible for UDAG funds	●Seasonality reduces utilization and expected revenue/profit ●No ITC and 15 year depreciation reduces attractiveness to private investors (Concord developer needed equivalent of 3% loan to break even)	●Funds from municipal parking lots could be pooled to cover capital costs of parking garage ●Can be managed by an existing municipal department ●Question concerning amount of surplus parking revenues available to cover capital costs	●A precedent exists for using state funds for specified improvements in Hampton Beach ●Question exists concerning amount of surplus parking revenues available for improvements ●N.H. State legislature approval required	●Can not be used to pay for capital improvements
Operation and Maintenance (O&M)	NA	NA	NA	NA	NA	NA	O&M costs could be paid with an Enterprise Fund	Uncertain whether state funds could be designated for O&M	O&M costs of a specified public facility like a parking garage could be funded through a service district assessment based on front footage

Hampton Beach Parking
Garage 5/24/84
(Publicly Financed - Moderate Rates)

TABLE 10

Interest Rate	10.50
Term of Debt (years)	30
Garage Cost ($1000's - w/o 1st Lev. Concrete Floor)	5550.00
Revenue Assumptions	
$/Space Weekdays(Garage/Other)	5/3
$/Space Weekends(Garage/Other)	7/5
# Of Spaces	475
Annual O&M (Incremental - $1000's)	13.00
Annual Inflation	6.50

Year	Cash Flow Attributable to Garage Construction (1) Revenues (2nd Lev. + Inc. 1st Lev. Revenue)	(2) Annual Loan Repay. (f(cost, term, int.))	(3) Interest (Calc. from (4))	(4) Principal (Calc. from (4))	(5) Annual O&M	(6) Net Cash Flow (1-3-4-5)	Base Revenues (7) Weekday Revenues (Excluding Ashworth)	(8) All Other Revenues	(9) Other O&M	(10) Net Revenues	Total Revenues (11) (Cash Flow Attributable to Garage Construction + Base Revenues)
0	0.00										
1	355.42	613.43	582.75	30.68	13.00	-271.01	68.89	276.77	26.00	319.66	48.64
2	378.52	613.43	579.53	33.90	13.85	-248.75	75.43	294.76	27.69	342.50	93.75
3	403.13	613.43	575.97	37.46	14.74	-225.05	82.60	313.92	29.49	367.03	141.98
4	429.33	613.43	572.03	41.40	15.70	-199.81	90.44	334.32	31.41	393.36	193.55
5	457.24	613.43	567.69	45.75	16.72	-172.92	99.03	356.06	33.45	421.64	248.72
6	486.96	613.43	562.88	50.55	17.81	-144.29	108.44	379.20	35.62	452.02	307.73
7	518.61	613.43	557.58	55.86	18.97	-113.79	118.75	403.85	37.94	484.65	370.86
8	552.32	613.43	551.71	61.72	20.20	-81.32	130.03	430.10	40.40	519.72	438.40
9	588.22	613.43	545.23	68.20	21.51	-46.73	142.38	458.05	43.03	557.40	510.67
10	626.45	613.43	538.07	75.36	22.91	-9.89	155.90	487.83	45.83	597.90	588.01
11	667.17	613.43	530.16	83.28	24.40	29.34	170.72	519.54	48.81	641.44	670.78
12	710.54	613.43	521.41	92.02	25.99	71.12	181.81	553.31	51.98	683.14	754.26
13	756.73	613.43	511.75	101.68	27.68	115.61	193.63	589.27	55.36	727.54	843.16
14	805.91	613.43	501.07	112.36	29.48	163.00	206.22	627.57	58.95	774.83	937.84
15	858.30	613.43	489.28	124.16	31.39	213.47	219.62	668.36	62.79	825.20	1038.67
16	914.09	613.43	476.24	137.19	33.43	267.22	233.89	711.81	66.87	878.84	1146.05
17	973.50	613.43	461.83	151.60	35.61	324.46	249.10	758.03	71.21	935.96	1260.42
18	1036.78	613.43	445.92	167.52	37.92	385.42	265.29	807.35	75.84	996.80	1382.22
19	1104.17	613.43	428.33	185.11	40.39	450.35	282.53	859.83	80.77	1061.59	1511.94
20	1175.94	613.43	408.89	204.54	43.01	519.50	300.90	915.72	86.02	1130.59	1650.09
21	1252.38	613.43	387.41	226.02	45.81	593.14	320.46	975.24	91.61	1204.08	1797.22
22	1333.78	613.43	363.68	249.75	48.78	671.56	341.29	1038.63	97.57	1282.35	1953.91
23	1420.48	613.43	337.46	275.97	51.96	755.09	363.47	1106.14	103.91	1365.70	2120.79
24	1512.81	613.43	308.48	304.95	55.33	844.04	387.09	1178.04	110.67	1454.47	2298.51
25	1611.14	613.43	275.46	336.97	58.93	938.78	412.26	1254.51	117.36	1549.01	2487.79
26	1715.87	613.43	241.68	372.35	62.76	1039.67	439.05	1336.16	125.52	1649.69	2689.37
27	1827.40	613.43	201.98	411.45	66.84	1147.12	467.59	1423.01	133.68	1756.92	2904.05
28	1946.18	613.43	158.78	454.65	71.18	1261.56	497.98	1515.51	142.37	1871.12	3132.69
29	2072.68	613.43	111.04	502.39	75.81	1383.44	530.35	1614.02	151.62	1992.75	3376.18
30	2207.40	613.43	58.29	555.14	80.74	1513.23	564.83	1718.93	161.48	2122.28	3635.51

Hampton Beach Parking
Garage 5/24/94
(Publicly Financed - Low Rates)

Interest Rate	10.50
Term of Debt (years)	30
Garage Cost ($1000's - w/o 1st Lev. Concrete Floor)	5550.00
Revenue Assumptions	
$/Space Weekdays(Garage/Other)	3.00
$/Space Weekends(Garage/Other)	4.00
# Of Spaces	475
Annual O&M (Incremental - $1000's)	13.00
Annual Inflation	6.50

TABLE 11

	Cash Flow Attributable to Garage Construction						Base Revenues				Total Revenues
Year	(1) Revenues (2nd Lev. + Inc. 1st Lev. Revenue	(2) Annual Loan Repay. (cost, term, int.)	(3) Interest	(4) Principal	(5) Annual O&M	(6) Net Cash Flow (1-3-4-5)	(7) Weekday Revenues (Excluding Ashworth)	(8) All Other Revenues	(9) Other O&M	(10) Net Revenues	(11) (Cash Flow Attributable to Garage Construction + Base Revenues
			Calc. from (4)								
0	0.00										
1	188.91	613.43	582.75	30.68	13.00	-437.53	45.53	256.74	26.00	276.26	-161.26
2	201.19	613.43	579.53	33.90	13.85	-426.09	49.85	273.42	27.69	295.59	-130.51
3	214.26	613.43	575.97	37.46	14.74	-413.91	54.59	291.20	29.49	316.29	-97.62
4	228.19	613.43	572.03	41.40	15.70	-400.95	59.78	310.12	31.41	338.49	-62.45
5	243.02	613.43	567.69	45.75	16.72	-387.13	65.45	330.28	33.45	362.29	-24.85
6	258.82	613.43	562.88	50.55	17.81	-372.42	71.67	351.75	35.62	387.80	15.38
7	275.64	613.43	557.58	55.86	18.97	-356.76	78.49	374.61	37.94	415.16	58.40
8	293.56	613.43	551.71	61.72	20.20	-340.07	85.94	398.96	40.40	444.50	104.42
9	312.64	613.43	545.23	68.20	21.51	-322.31	94.10	424.90	43.03	475.97	153.66
10	332.96	613.43	538.07	75.36	22.91	-303.38	103.04	452.51	45.83	509.73	206.34
11	354.61	613.43	530.16	83.28	24.40	-283.23	112.93	481.93	48.81	545.95	262.72
12	377.66	613.43	521.41	92.02	25.99	-261.77	120.16	513.25	51.98	581.44	319.67
13	402.20	613.43	511.75	101.68	27.68	-238.91	127.97	546.61	55.36	619.23	380.32
14	428.35	613.43	501.07	112.36	29.48	-214.56	136.29	582.14	58.95	659.48	444.92
15	456.19	613.43	489.28	124.16	31.39	-188.64	145.15	619.98	62.79	702.35	513.71
16	485.84	613.43	476.24	137.19	33.43	-161.03	154.59	660.28	66.87	748.00	586.97
17	517.42	613.43	461.83	151.60	35.61	-131.62	164.63	703.20	71.21	796.62	665.00
18	551.05	613.43	445.92	167.52	37.92	-100.30	175.33	748.91	75.84	848.40	748.10
19	586.87	613.43	428.33	185.11	40.39	-66.95	186.73	797.59	80.77	903.54	836.60
20	625.02	613.43	408.89	204.54	43.01	-31.43	198.87	849.43	86.02	962.28	930.85
21	665.64	613.43	387.41	226.02	45.81	6.40	211.80	904.64	91.61	1024.82	1031.23
22	708.91	613.43	363.68	249.75	48.78	46.69	225.56	963.44	97.57	1091.44	1138.13
23	754.99	613.43	337.46	275.97	51.96	89.60	240.22	1026.07	103.91	1162.38	1251.99
24	804.07	613.43	309.48	304.95	55.33	135.30	255.84	1092.76	110.67	1237.93	1373.23
25	856.33	613.43	276.46	336.97	58.93	183.97	272.47	1163.79	117.86	1318.40	1502.37
26	911.99	613.43	241.08	372.35	62.76	235.80	290.18	1239.44	125.52	1404.10	1639.89
27	971.27	613.43	201.98	411.45	66.84	291.00	309.04	1320.00	133.68	1495.36	1786.36
28	1034.40	613.43	158.78	454.65	71.18	349.79	329.13	1405.80	142.37	1592.56	1942.35
29	1101.64	613.43	111.04	502.39	75.81	412.40	350.52	1497.18	151.62	1696.08	2108.47
30	1173.25	613.43	58.29	555.14	80.74	479.07	373.30	1594.50	161.48	1806.32	2285.40

Revenues directly attributable to the parking garage are shown in Column 1. These estimated revenues include revenues from the second level of the Ashworth garage as well as increases in revenues collected from the first floor of Ashworth due to rate increase resulting from garage construction. These revenues are assumed to increase with the rate of inflation -- assumed to be 6.5 percent per year over 30 years.

Base weekday revenues from all non-garage related parking lots are shown in Column 7. These revenues are assumed to increase for the next ten years due to a 3 percent annual growth in weekday parking attendance and due to a 6.5 percent general inflation rate. After ten years it is assumed that available weekday capacity would be fully utilized. At that time, it is projected that base parking revenues will continue to increase at the general rate of inflation. All other base revenues are shown in Column 8, and these include:

- Weekday and weekend revenues which would have been collected at the Ashworth lot in absence of garage construction; and

- All weekend revenues at all other municipal lots (excluding the Ashworth lot).

3. Capital Costs

Table 10 summarizes estimates of:

- Capital costs; and
- Interest rates associated with a municipal bond.

As shown in Table 10 the capital cost for the Ashworth garage (with an asphalt first floor) is estimated to be $5.5 million. This would provide sufficient funds for 475 additional spaces on the second level of the Ashworth garage. Interest rates on a 30-year general obligation bond are assumed to be 10.5 percent. This is below current rates which, at present, exceed 11 percent. The 10.5 percent rate represents what is assumed to be a long term average rate. This rate is based on the assumption that long run inflation is likely to be 6.5 percent and that the spread between tax exempt bond rates and expected inflation rates will be between 3 percent and 5 percent. This spread is lower than the 5.2 percent spread which existed between 1981 and 1983 - but higher than the 1.4 percent spread which existed between 1960 and 1970.

Based on a 10.5 percent interest rate and a bond with a 30 year life, principal and interest payments required to finance a $5.5 million garage are shown in Columns 3 and 4 of Table 10.

4. Operations and Maintenance Costs

Annual incremental O&M costs of $13,000 associated with the garage are shown in Column 5. These are based upon the assumption that the garage includes staffing in late Spring, Summer, and early Fall, utilities, janitorial service, and other minimal maintenance expenses.

5. Net Cash Flow (Moderate Rate Scenario)

Column 6 illustrates the net cash flow attributable to garage construction. As shown in Column 6, the initial year cash flow is $-271,000 in year 1. This deficit declines to $-9,890 in year 10. In year eleven the garage would, given assumptions discussed above, have a positive cash flow.

As previously discussed, net base revenues of approximately $320,000 shown in Column 10 (these revenue projections include revenues shown in Columns 7 and 8 less O&M costs shown in Column 9 associated with operating current municipal lots) are sufficient to cover the year 1 deficit of $271,000. In fact as shown in Column 1, there would be a net municipal parking revenue surplus of approximately $49,000 in year 1.

6. Net Cash Flow (Low Rate Scenario)

Table 11 shows cash flow projections assuming current rates of $3.00/space on weekdays and $4.00/space on weekends are maintained. With the exception of change in parking rates, all financial assumptions are the same.

As shown in Column 6 of Table 11 the parking garage deficit would in the first year equal approximately $438,000. This deficit is projected to decline to approximately -$31,400 in the twentieth year. In the 21st year the garage would generate a small surplus.

Table 11 also shows that base revenues from other parking lots would in the first year would not be great enough to offset the parking garage deficit. In fact approximately $161,000 in municipal revenues would be required to offset losses from all parking activities.

As shown in Column 11, by year 6, there would be sufficient parking revenues to meet total capital and O&M costs associated with the parking garage and other municipal parking lots.

B. Private Finance Options

1. Introduction

The following discussed revenue projections assuming "moderate" and "low" rates collected at a privately financed garage located behind the casino. Also discussed are capital cost assumptions, tax deductible expenses, taxable and after tax income, after tax cash flow, and the present value of the after tax cash flow.

2. Rates on Revenues (Moderate Rate Scenario)

Parking rates under the private finance option moderate rate scenario are assumed to be the same as under the public finance option Moderate Rate Scenario. Revenue projections shown in Table 12, Column 3 illustrate parking revenues attributable to building a parking garage behind the casino. As with the publically financed option, revenues are assumed to increase with inflation--projected to be 6.5 percent for the next 30 years.

3. Capital Costs

Capital costs for a 610 space garage or 305 additional spaces on a second floor at the casino lot are estimated to be $3.92 million.

Table 12 shows that these costs are assumed to be financed with 20 percent equity and 80 percent debt. The cost of debt is assumed to be 13.5 percent. This rate is consistent with projections of long term fixed rate mortgages for real estate development. (These projections were made prior to the current surge in interest rates however represent a reasonable expectation of long term interest rates.) Annual interest and principal payments are shown in Columns 5 and 6 of Table 12.

In the private finance option it is assumed that private investors require an after-tax discount rate of 13.5 percent. This rate reflects a rate of return on equity which a private investor would require--given the level of risk of a parking garage investment relative to a low risk tax exempt bond assumed to yield 10.5 percent (after tax). The 3 percentage points difference between a relatively risk free investment in a high grade municipal bond and the required return on equity invested in a parking garage is meant to reflect the premium an investor would expect if he were to give up potential returns in other investments with similar levels of risk. [NOTE: Estimation of precise risk premiums required to attract private investment is difficult due to lack of data on returns on equity invested in parking garages. Given the past steady growth in apparent parking demand in Hampton Beach it is assumed that the risk premium (rate of return above the risk free rate of return) would be relatively low (i.e., less than 5 percent).]

4. Tax Deductible Expenses

Table 12 lists tax deductible expenses which include:

- Interest, shown in Column 5
- Depreciation, shown in Column 7. These rates assume that 100 percent of the property could be depreciated over 15 years. (Current tax law changes may extend the number of years to 20. Thus the depreciation rates shown in Table 12

Hampton Beach Parking
Garage 5/24/84
(Private Investor - Moderate Rates)

TABLE 12

Assumptions:	
%Equity	20
%Debt	80
Investor Tax Br. %	50
Interest on Debt	13.50
Term of Debt (years)	30
Discount Rate (Aft. Tax)	13.50
ACRS Depreciation (Building Only)	
% 5 Year	0
% 10 Year	0
% 15 Year	100
% Not Depreciable	0
Investment Tax Credit	0.00
Property Tax (%)	1.80
Annual Increase in Property Tax (%)	2.50
Garage Cost ($1000's - w/o 1st Lev. Concrete Floor)	3511.00
Revenue Assumptions	
$/Space weekday	5
$/Space weekend	7
# Of Spaces	305
Annual O&M (Incremental - $1000's)	13.00
Annual Inflation	6.50

Year	(1) Equity	(2) Debt	(3) Revenues (2nd. Lev + Inc. 1st. Lev. Revenue)	(4) Annual Loan Repay. (cost, term, int.)	(5) Interest	(6) Principal	(7) Depreciation	(8) Property Tax (Increasing 2.5%/Year)	(9) Annual O&M	(10) Taxable Income	(11) After Tax Income	(12) Aft. Tax Inc. + Depreciation-Principal = Aft. Tax Cash Flow	(13) Net Present Value Of Aft. Tax Cash Flow	(14) Net Present Value of Equity Cash Flow	(15) Net Present Value - Equity
					Calc. from (4)		Calc. from ACRS above	cost x prop.tx rate		(3-5-7-8-9)	(10 x .50)	(11)+(7)	@Discount Rate	Sum of (13)	(14)-(1)
0	702.20	2808.80	0.00												
1			213.31	387.87	379.19	8.69	421.32	63.20	13.00	-663.40	-331.70	80.94	80.94	318.96	-383.24
2			227.17	387.87	378.02	9.86	351.10	64.78	13.85	-580.56	-290.28	50.96	44.90		
3			241.94	387.87	376.68	11.19	315.99	66.40	14.74	-531.88	-265.94	38.86	30.17		
4			257.67	387.87	375.17	12.70	280.88	68.06	15.70	-482.15	-241.07	27.11	18.54		
5			274.42	387.87	373.46	14.41	245.77	69.76	16.72	-431.30	-215.65	15.71	9.46		
6			292.25	387.87	371.51	16.36	210.66	71.50	17.81	-379.24	-189.62	4.68	2.49		
7			311.25	387.87	369.30	18.57	210.66	73.29	18.97	-360.98	-180.49	11.60	5.43		
8			331.48	387.87	366.80	21.08	210.66	75.12	20.20	-341.30	-170.65	18.93	7.80		
9			353.03	387.87	363.95	23.92	210.66	77.00	21.51	-320.10	-160.05	26.69	9.69		
10			375.97	387.87	360.72	27.15	175.55	78.93	22.91	-262.14	-131.07	17.33	5.54		
11			400.41	387.87	357.06	30.82	175.55	80.90	24.40	-237.50	-118.75	25.98	7.32		
12			426.44	387.87	352.90	34.98	175.55	82.92	25.99	-210.92	-105.46	35.11	8.72		
13			454.16	387.87	348.18	39.70	175.55	84.99	27.68	-182.24	-91.12	44.73	9.79		
14			483.68	387.87	342.82	45.06	175.55	87.12	29.48	-151.29	-75.64	54.85	10.57		
15			515.12	387.87	336.73	51.14	175.55	89.30	31.39	-117.86	-58.93	65.48	11.12		
16			548.60	387.87	329.83	58.04	0.00	91.53	33.43	93.80	46.90	-11.14	-1.67		
17			584.26	387.87	321.99	65.88	0.00	93.82	35.61	132.84	66.42	0.54	0.07		
18			622.23	387.87	313.10	74.77	0.00	96.16	37.92	175.05	87.52	12.75	1.48		
19			662.68	387.87	303.01	84.87	0.00	98.57	40.39	220.72	110.36	25.49	2.61		
20			705.75	387.87	291.55	96.32	0.00	101.03	43.01	270.16	135.08	38.76	3.49		

may overstate tax deductible expenses in early years. This tends to make the present value of the after tax cash flow discussed below, greater than it would be under current tax depreciation rules).

- Property taxes, shown in Column 8.

- Annual O&M, shown in Column 9. It is assumed that the incremental O&M costs for the private garage would be the same as for the public garage even though there would be fewer spaces. This is concluded because most O&M costs are assumed to be fixed--i.e., would vary little with the scale of the project. These expenses are used to compute taxable income.

5. Taxable Income

Taxable income shown in Column 10 is calculated by subtracting tax deductible expenses (Columns 5,7,8, and 9) from revenues (Column 3).

6. After Tax Income

After tax income is estimated assuming the investor is in the 50 percent tax bracket. Therefore, 50 percent of taxable income would equal after tax income shown in Column 11.

7. After Tax Cash Flow

After tax cash flow to the investor is estimated by taking the after tax income and adding back non-cash tax deductions (depreciation) and by subtracting actual cash payments (principal repayment shown in Column 6) not used in calculating after tax income.

8. Present Value of After Tax Cash Flow (Moderate Rate Scenario)

To determine the current value of a parking garage investment, after tax cash flows were discounted at the after tax cost of capital. This cost (assumed to be 13.5 percent) is meant to represent foregone percentage return on equity invested in the next best alternative investment with a similar level of risk.

The present value calculation shown in Column 14 is meant to show the current value of the investment. By subtracting the initial equity investment shown in Column 1, the net value of the project to a private investor can be estimated. As shown in Column 15, the net present value of the investment is approximately $-383,000. This implies that a private investor would need to receive a grant worth approximately $-383,000 in order for him to agree to invest in a parking garage--assuming the "moderate" rate scenario.

9. Rates and Revenues (Low Rate Scenario)

Table 13 Column 3 illustrates projected revenues assuming current rates of $3.00/space and weekdays and $4.00/space on weekends. The revenue projections assume rate increases 6.5 percent per year--which is equal to the projected inflation rate.

10. Present Value of After Tax Cash Flow (Low Rate Scenario)

As shown in Table 13, the present value of after tax cash flows, assuming the Low Rate Scenario, is calculated using the same methodology as described above for the "Moderate Rate" scenario. Column 15 shows that the net present value of the investment under the Low Rate Scenario is a negative $1.10 million. This suggests that a grant equivalent to this amount would need to be paid under a Low Rate scenario in order to attract private investment.

C. Findings

From the public development perspective, it is concluded that even with "moderate" daily parking rates equal to $5.00/space on weekdays at $7.00/space on weekends at a public garage built at the Ashworth lot, funds generated from garage parking revenues, alone, would not be sufficient to cover capital and operating costs until eleven years after initial operation. In the first year of operation there would be a deficit of approximately $271,000. These conclusions are based on the assumption that parking rates and O&M costs would increase 6.5 percent per year, approximately at the anticipated rate of inflation.

Assuming rates at all other lots are $3.00 on weekdays and $5.00 on weekends, there would, however, be approximately $320,000 net parking revenue in the first year from all non-garage related municipal parking lots. This would be sufficient to cover all deficits at the Ashworth parking garage over the first eleven years. This estimate is based on the assumption that there is a modest 3 percent growth in weekday parking attendance for the next ten years. Combining the $271,000 parking garage deficit with the $320,000 net parking revenue from other parking operations, there would be a surplus in year 1 of approximately $49,000.

If rates at the parking garage and at all other lots remain at 1984 levels (i.e., $3.00/space on weekdays and $4.00/space weekends) there would be a first year deficit of approximately $440,000 attributable to the parking garage. Assuming as before revenues and O&M costs increase 6.5 percent per year, it would take 20 years for parking garage revenues to cover capital and O&M costs. In the first year, net base revenues, from other lots of approximately $280,000 would not cover the $440,000 parking garage deficit. Therefore, other municipal, non-parking related revenues would be required to cover the parking garage deficit for five years if initial parking rates were set at the 1980 municipal rate level.

Hampton Beach Parking
Garage 5/24/84
(Private Investor - Low Rates)

TABLE 13

Assumptions:

%Equity	20
%Debt	80
Investor Tax Br. %	50
Interest on Debt	13.50
Term of Debt (years)	30
Discount Rate (Aft. Tax)	13.50
ACRS Depreciation (Building Only)	
% 5 Year	0
% 10 Year	0
% 15 Year	100
% Not Depreciable	0
Investment Tax Credit	0.00
Property Tax (%)	1.80
Annual Increase in Property Tax (%)	2.50
Garage Cost ($1000's - w/o 1st Lev. Concrete Floor)	3511.00
Revenue Assumptions	
$/Space weekday	3.00
$/Space weekend	4.00
# Of Spaces	305
Annual O&M (Incremental - $1000's)	13.00
Annual Inflation	6.50

Year	(1) Equity	(2) Debt	(3) Revenues (2nd. Lev + Inc. 1st. Lev. Revenue)	(4) Annual Loan Repay. (f(cost, term, int.)	(5) Interest (Calc. from (4))	(6) Principal (Calc. from (4))	(7) Depreciation (Calc. from ACRS above)	(8) Property Tax (Increasing 2.5%/Year) (cost x prop.tx rate)	(9) Annual O&M	(10) Taxable Income (3-5-7-8-9)	(11) After Tax Income (10 x .50)	(12) Aft. Tax Inc. + Depreciation-Principal = Aft. Tax Cash Flow ((11)+(7))	(13) Net Present Value Of Aft. Tax Cash Flow @Discount Rate	(14) Net Present Value of Equity Cash Flow Sum of (12)	(15) Net Present Value - Equity (14)-(1)
0	702.20	2808.80	0.00												
1			106.65	387.87	379.19	8.69	421.32	63.20	13.00	-770.05	-385.03	27.61	27.61	-417.83	-1119.83
2			113.59	387.87	378.02	9.86	351.10	64.78	13.85	-694.15	-347.08	-5.83	-5.14		
3			120.97	387.87	376.68	11.19	315.99	66.40	14.74	-652.85	-326.42	-21.62	-16.78		
4			128.83	387.87	375.17	12.70	280.88	68.06	15.70	-610.98	-305.49	-37.31	-25.52		
5			137.21	387.87	373.46	14.41	245.77	69.76	16.72	-568.50	-284.25	-52.90	-31.87		
6			146.13	387.87	371.51	16.36	210.66	71.50	17.81	-525.36	-262.68	-68.38	-36.30		
7			155.62	387.87	369.30	18.57	210.66	73.29	18.97	-516.60	-258.30	-66.21	-30.97		
8			165.74	387.87	366.80	21.08	210.66	75.12	20.20	-507.04	-253.52	-63.94	-26.35		
9			176.51	387.87	363.95	23.92	210.66	77.00	21.51	-496.62	-248.31	-61.57	-22.36		
10			187.99	387.87	360.72	27.15	175.55	78.93	22.91	-450.13	-225.06	-76.66	-24.53		
11			200.21	387.87	357.06	30.82	175.55	80.90	24.40	-437.70	-218.85	-74.12	-20.89		
12			213.22	387.87	352.90	34.98	175.55	82.92	25.99	-424.14	-212.07	-71.50	-17.76		
13			227.08	387.87	348.18	39.70	175.55	84.99	27.68	-409.32	-204.66	-68.81	-15.06		
14			241.84	387.87	342.82	45.06	175.55	87.12	29.48	-393.13	-196.56	-66.07	-12.74		
15			257.56	387.87	336.73	51.14	175.55	89.30	31.39	-375.42	-187.71	-63.30	-10.75		
16			274.30	387.87	329.83	58.04	0.00	91.53	33.43	-180.50	-90.25	-148.29	-22.19		
17			292.13	387.87	321.99	65.88	0.00	93.82	35.61	-159.29	-79.65	-145.52	-19.19		
18			311.12	387.87	313.10	74.77	0.00	96.16	37.92	-136.07	-68.03	-142.81	-16.59		
19			331.34	387.87	303.01	84.87	0.00	98.57	40.39	-110.62	-55.31	-140.18	-14.35		
20			[illegible]	387.87	291.55	96.32	0.00	101.03	43.01	-82.72	-41.36	-137.68	-12.42		

From the private development perspective, "moderate" rates of $5.00 on weekdays and $7.00 on weekends would generate insufficient funds to cover debt service, O&M costs and required return on equity investment. It is estimated that a grant or other incentive equivalent to approximately $383,000 would be needed in the first year to attract private investment in a parking garage. If parking rates equivalent to current Town 1984 levels were charged and parking rates and O&M costs increased with the annual projected rate of inflation (6.5 percent) it is estimated that a grant or other incentive equivalent to approximately $1.1 million would be needed to attract private investment.

VII. FINDINGS AND IMPLEMENTATION RECOMMENDATIONS

A. Findings

Based on recent trends in recreational activity and parking in Hampton Beach, on recreational trends elsewhere along the coastline of New Hampshire, Northeastern Massachusetts and Southern Maine, and anticipated continued growth in population and economic activity in the region, demand for parking at Hampton Beach will continue to grow at an estimated rate of one to three percent annually. This growth is expected to be constrained only by the physical constraints of the beach, itself, other recreational facilities, parking facilities and other support infrastructure. The net additional spaces provided by a two-level parking garage represent only 10 to 15 percent, depending on the design, of the total inventory of spaces in the Hampton Beach Precinct (south of Boar's Head, and exclusive of the lot at the State Park and miscellaneous spaces at motels and private homes). In light of the demand for parking, the utilization of the garage during the summer months is expected to be high.

Based on cost analyses for the preliminary designs of two alternative parking garage developments, and an assessment of anticipated revenue flow and potential finance; the two parking garages are financially feasible under the following circumstances:

- Publicly Developed Garage at the Ashworth Lot - This lot is feasible if the Town of Hampton develops the garage by establishing an enterprise fund for all parking at Hampton Beach. This mechanism is allowed under New Hampshire state law and has been utilized for development of a parking garage in Keene. Through this mechanism, in the early years of development when the garage would not be self-supporting, the town would support the debt and operating costs through increased daily parking fees ($5.00 per space on weekdays and $7.00 on weekends at the garage, $3.00 per space on weekdays, $5.00 on weekends at all other Town lots), combined with the allocation of a portion of net parking revenues from the other Town parking lots to offset the debt. If this "offset" approach were implemented, there would be a net revenue surplus of $49,000 in year 1, rather than the roughly $230,000 surplus in 1983. However the surplus would increase annually and by year 7, surplus revenues would return to the 1983 levels and by year 11, the garage would be generating revenues, itself.

- Private Development at the Casino Site - The private development will be feasible at the Casino site if an incentive equivalent to approximately $383,000 is provided to the developer of the site and if parking rates at all lots are raised to the "moderate" levels assumed. Without such an

equivalent incentive, the parking garage as a stand alone investment is not viable under current interest rates. In addition, the parking fees required to generate supporting revenues will not capture a sufficient share of the "parking market" if adjacent Town lots provide substantially cheaper parking. A generally consistent rate structure throughout Hampton Beach will be particularly important in the context of weekday parking demand. If the Town does generate additional revenues through increased parking fees, these could support an incentive program to a private or quasi-private development group for the garage, either in the form of direct incentives or in the form of financing assistance.

B. Recommendations

Hampton Beach faces a limitation on parking facilities in the Precinct to serve the increasing demands of recreational visitors. Due to the nature of the recreational season that is, extended summer season only, the parking lot will consistently generate revenues only during four months of the year, at a maximum. The garage will be feasible under the circumstances noted above, and for successful implementation we recommend the Hampton Beach Chamber of Commerce with the support of the New Hampshire Office of State Planning undertake the following steps.

- The Chamber should work closely with the Hampton Precinct and Board of Selectmen to review the findings and assumptions in this analysis and encourage the Selectmen to initiate three actions:

  - establish an enterprise fund for collection and administration of all Town parking lots. Whether or not the garage is developed by the Town at this time, establishment of an enterprise fund will provide the Town with flexibility over the longer term to expand on-grade parking facilities or develop a garage.

  - increase parking rates to the "moderate" level of $5.00 daily on weekdays and $7.00 on weekends at a garage, and $3.00, and $5.00 respectively at other lots. This increase should be linked to an implementation plan for improved parking facilities, either publicly or privately developed.

  - establish a capital investment program for the Town to finalize designs and construction plans for the garage. A construction schedule should be established providing for a minimum disruption during peak season.

- If the Town choses not to implement a capital investment program at its sight at this time, the Chamber and Precinct should work with the Town to initiate the following:

  - monitor interest rates until they decline sufficiently to reduce the required allocation of other parking revenues. There is considerable risk here, due to the fact that interest rates could remain at the assumed levels over the long term. In addition, if the investment is delayed, construction costs are also likely to escalate.

  - monitor the status of major lots which are not the full responsibility of the Town -- namely the Casino Lot (privately owned) and Church Street Lot (which is only leased by the Town). If either of these parking lots is removed from the parking inventory, this will add considerable disruption to traffic and parking in the Precinct and the Town might reconsider capital investment at such time.

- In the meantime, the Chamber and Precinct should work closely with interested private development groups to consider a feasible private investment program to build the garage. In order to make the garage financially viable for a private investor, one of at least two steps will be required:

  - the Chamber and Precinct will have to work with the Town to provide an appropriate incentive to the developer equivalent to about $380,000. Under one option, the Town could provide the developer a full tax abatement for 30 years, after which the up-front investment shortfall would be only $70,000. The Town could provide $70,000 in the form of an investment incentive, funded in the first year by additional revenues provided by increased Town parking rates. While the Town would lose control of the garage under this development, the Town could sign certain agreements with the developer providing for the long term availability of the lot and establishment of equitable rates.

  - the developer will undertake the parking garage development as a multi-use facility in combination with retail or other facilities. In addition, the developer could consider promoting use of the garage during the off-season for boat storage or other uses to generate supplemental revenues.

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