



Bridgewater Channel Redevelopment Plan Lake Havasu City, Arizona

Written and Prepared by students in the Planning Degree Program
University of Arizona, Fall 2006



Acknowledgments

The Bridgewater Channel Redevelopment Plan was possible due to the partnership between the graduate students in the University of Arizona Planning Degree Program and the residents and staff of Lake Havasu City.

We would like to thank the Lake Havasu City Council for this opportunity.

We would also like to acknowledge our professor who provided support in this endeavor:

Dr. Barbara Becker

For more information about the contents of this report
Please contact the Planning Degree Program
University of Arizona

Authors:

Sara Bratcher
Kristen Clem
Andrew Hagemeyer
Michael Helfert
Cyrus Jackson
Dylan Parry
Andrew Schwarz
Evren Sonmez
Annie Wallace
Ben Zimmerman

Table of Contents

I. Background and Analysis	1
A. Introduction	2
B. Vision Statement	2
C. Goals and Objectives	2
D. Boundaries of Redevelopment Area	3
E. Existing Conditions	4
1. Physical Setting	4
2. Environmental and Cultural Resources	6
3. Historic Overview	8
4. Demographic Characteristics	9
5. Economic Characteristics	10
6. Regional Economy	12
7. Regional Tourism	20
F. Bridgewater Channel Area	24
II. Redevelopment Plan Objectives	32
A. Methodology	33
1. Public Meetings	33
2. Summary of Results	34
B. Current Plan Compliance	35
C. Summary of Proposed Action	36
1. Connectivity	42
2. Public Space	48
3. Parking	49
4. Dining and Retail	52
5. Design Elements	52
6. Interactive Public Art	55
7. Design Regulations and Suggestions	59
8. Bridgewater Channel Business Association	66
III. Redevelopment Strategies	68
A. Area 1: The English Village	69
1. Area Overview	69
2. Proposed Redevelopment Actions	73
B. Area 2: London Bridge Resort	86
1. Area Overview	86
2. Proposed Redevelopment Actions	87
C. Area 3: Executive 9-Hole Golf Course	91
1. Area Overview	91
2. Proposed Redevelopment Actions	92
D. Area 4: Undeveloped State Trust Land	102
1. Area Overview	102
2. Proposed Redevelopment Actions	102

E. Area 5: Undeveloped State Trust Land	107
1. Area Overview	107
2. Proposed Redevelopment Actions	108
F. Study Area 6: Proposed Bridge and Road Alignment Parcel	119
1. Area Overview	119
2. Proposed Redevelopment Actions	119
G. Area 7: London Bridge Beach	127
1. Area Overview	127
2. Proposed Redevelopment Actions	128
H. Area 8: Kingsview II and Adjacent Parcels	133
1. Area Overview	133
2. Proposed Redevelopment Actions	135
IV Conclusion	140
V Appendix	142
1. Employment Figures	143
2. Businesses Located Within the Channel Area	147
3. Analysis of Survey Results	149
4. Phasing	166
5. Parking	167
6. Family Area	172
VI: References	173

List of Figures

I. Background and Analysis

Figure I.1: Map of Bridgewater Channel Redevelopment Area	4
Figure I.2: Per Capita Income Comparisons	14
Figure I.3: Per Capita Effective Buying Income	15
Figure I.4: Retail Square Footage Per Capita	16
Figure I.5: Sales per Square Foot	17
Figure I.6: Goods Purchased Outside of Lake Havasu City	18
Figure I.7: Stores likely to do well in Lake Havasu City	20
Figure I.8: Map of Bridgewater Channel Study Areas	26

II. Redevelopment Plan Objectives

Figure II.1: Summary of Survey Responses	35
Figure II.2: Existing Land Use in Redevelopment Area	38
Figure II.3: Proposed Land Use in Redevelopment Area	39
Figure II.4: Existing Zoning in the Redevelopment Area	40
Figure II.5: Proposed Zoning in the Redevelopment Area	41
Figure II.6: Floating Walkway in Melbourne, Australia	45
Figure II.7: Floating Walkway in Brisbane, Australia	46
Figure II.8: Parking in Natural Shade	50
Figure II.9: Cantilevered Parking	50
Figure II.10: Solar Paneled Parking	51
Figure II.11: Tudor Style Building	54
Figure II.12: Mixed Use Buildings	54
Figure II.13: Examples of Interactive Art	58
Figure II.14: Tudor Style Façade	60
Figure II.15: Cross Gable	61
Figure II.16: Dorm Roofs	61
Figure II.17: Clay Roof Tiles	61
Figure II.18: Multi-Paned, Mullioned Windows	62
Figure II.19: Vertically-Planked and Arched Doorway	62
Figure II.20: Chimney with Multiple Pots	63
Figure II.21: Hanging Sign	63
Figure II.22: Tudor Style Light Fixtures	64
Figure II.23: English Themed Light Posts	65

III. Redevelopment Strategies

Figure III.1: Overview -Area 1	69
Figure III.2: Area 1	69
Figure III.3: English Village Main Gate View	71
Figure III.4: Pathways in Area 1	72
Figure III.5: Proposed Redevelopment of Area 1	75
Figure III.6: Location of Proposed Pathway Addition	76
Figure III.7: Current Conditions of English Village Entry	77
Figure III.8: Site of Proposed Outdoor Gathering Area	78

Figure III.9: Site of Proposed Buildings	81
Figure III.10: Proposed Location of Open Market	82
Figure III.11: Carousel	84
Figure III.12: Overview-Area 2	86
Figure III.13: Proposed Development Actions-Area 2	88
Figure III.14: Walkway and Shade	89
Figure III.15: Overview-Area 3	91
Figure III.16: Existing Pedestrian Walkways	92
Figure III.17: Proposed Redevelopment Actions-Area 3	93
Figure III.18: Desert Garden	94
Figure III.19: Existing Benches and Trashcans	95
Figure III.20: Multiple Seating Areas and Shaded Walkways	96
Figure III.21: Shaded Walkways	96
Figure III.22: Location of Proposed Walkway Alteration	96
Figure III.23: Shaded Areas	98
Figure III.24: Community Center	100
Figure III.25: Overview-Area 4	102
Figure III.26: Proposed Development Actions- Area 4	103
Figure III.27: Overview-Area 5	107
Figure III.28: Existing Land Conditions	107
Figure III.29: Remnants of Previous Structures	108
Figure III.30: Proposed Development Actions	110
Figure III.31: Examples of Casita Resorts	111
Figure III.32: Proposed Parking Enhancements	113
Figure III.33: Proposed Land Use	115
Figure III.34: Proposed Walkway Enhancements	116
Figure III.35: Existing and Proposed Land Use	117
Figure III.36: Overview-Area 6	119
Figure III.37: Proposed Development Action	121
Figure III.38: Caras Park Pavilion	124
Figure III.39: Second Bridge Visualization	125
Figure III.40: Overview-Area 7	127
Figure III.41: Planting of a Tree	128
Figure III.42: Proposed Development Actions	129
Figure III.43: Pedestrian Bridge	131
Figure III.44: Overview-Area 8	133
Figure III.45: Walkway, Current Conditions	134
Figure III.46: Fill Slopes Towards Walkway	134
Figure III.47: Proposed Development Actions	136
Figure III.48: Castle Themed Jungle Gyms	137
Figure III.49: Splash Features	137

V. Appendix

Figure V.1: Total Employment	143
Figure V.2: Employment by Sector	144
Figure V.3: Overall Survey Results	149

Figure V.4: Map of Study Areas	150
Figure V.5: Study Area 1, Weighted Results %	151
Figure V.6: Study Area 2, Weighted Results %	152
Figure V.7: Study Area 3, Weighted Results %	153
Figure V.8: Study Area 4, Weighted Results %	154
Figure V.9: Study Area 5, Weighted Results %	155
Figure V.10: Study Area 6, Weighted Results %	156
Figure V.11: Study Area 7, Weighted Results %	157
Figure V.12: Study Area 8, Weighted Results %	158
Figure V.13: Study Area 9, Weighted Results %	159
Figure V.14: Bridgewater Planning Area Community Involvement Questionnaire 2006	160
Figure V.15: Phasing Redevelopment Plan	166

List of Tables

I. Background and Analysis

Table I.1: Taxable Sales	10
Table I.2: Total New Building and Commercial Permits	11
Table I.3: K-12 School Enrollment	12
Table I.4: Leading Occupations in Mohave County	13
Table I.5: Study Area 1 Land Use Characteristics	27
Table I.6: Study Area 2 Land Use Characteristics	27
Table I.7: Study Area 3 Land Use Characteristics	28
Table I.8: Study Area 4 Land Use Characteristics	28
Table I.9: Study Area 5 Land Use Characteristics	29
Table I.10: Study Area 6 Land Use Characteristics	29
Table I.11: Study Area 7 Land Use Characteristics	30
Table I.12: Study Area 8 Land Use Characteristics	30

II. Redevelopment Plan Objectives

Table II.1: List of Public Meetings	33
-------------------------------------	----

III. Redevelopment Strategies

Table III.1: Resort Size	112
Table III.2: Resort Rental Rates	112
Table III.3: Large Parking Lot Northwest Corner	114
Table III.4: Small Parking Lot Southwest Corner	114
Table III.5: Height and Land Availability	115
Table III.6: Proposed Land Uses	120
Table III.7: Estimated Cost of Pedestrian Bridge	131
Table III.8: Current Zoning and Land Uses	135

V Appendix

Table V.1: Major Employers in Lake Havasu City, 2005	145
Table V.2 Industries with Excess Employment at least 100	146
Table V.3: Current Channel Area Business List	147
Table V.4: Construction Cost for Parking Lots	167
Table V.5: Minimum Parking Standards	168
Table V.6: Minimum Angle Parking Dimensions	168
Table V.7: Parking Requirements by Land Use	169
Table V.8: Minimum Loading Area Required	170
Table V.9: Recommended Parameters for Way-Finding	171

I. Background and Analysis

A. Introduction

The Bridgewater Channel in Lake Havasu City, Arizona is currently underperforming. Lake Havasu City has identified the Channel as a priority for redevelopment. The area has an enormous potential for regional tourism as well as local use. It is the City's goal to have a plan that facilitates tourism and regional recognition. In response to this, the Planning Degree Program at the University of Arizona has developed this redevelopment plan that provides specific redevelopment strategies for the Bridgewater Channel Area.

The purpose of this Redevelopment Plan is to direct development and spur economic growth in a manner that is consistent with, and which best supports, the visions of the Lake Havasu City residents while recognizing private ownership. This redevelopment plan provides strategies and goals for the Bridgewater Channel Area in accordance with the current Lake Havasu City General Plan and input from residents and landowners.

B. Vision Statement

Enhance and maintain the characteristics that give the area a unique identity by creating a great space that residents and tourists will enjoy.

C. Goals and Objectives

Goal: Increase activity that will generate economic development

Objective 1. Increase community visitation in the area, without detracting from the tourist market

Objective 2. Encourage mixed use development

Objective 3. Maintain environmental quality

Objective 4. Increase the length of stay of tourists

Objective 5. Get people out of their boats

Objective 6. Increase collaboration between business owners

Goal: Make the Bridgewater Channel Area a center for community life

- Objective 1. Facilitate connectivity
- Objective 2. Increase tourism in the area
- Objective 3. Greater walkability of the area
- Objective 4. Maintain environmental quality
- Objective 5. Increase/maintain/enhance access to public spaces
- Objective 6. Increase/maintain/enhance public spaces

Goal: Promote Bridgewater Channel Area as a regional destination

- Objective 1. Enhance existing and create new recreational opportunities
- Objective 2. Create a regional shopping area
- Objective 3. Create a unique identity for the Bridgewater Channel Area

D. Boundaries of Redevelopment Area:

The boundaries for this redevelopment area were predetermined by Lake Havasu City. The redevelopment plan consists of nine areas. The figure below shows the different redevelopment sections. On the mainland side of the Channel, Area 1 and 2 have been developed, whereas area eight is mostly vacant, private land. Area 3, the largest of the parcels on the mainland side is State Trust Land, currently being used as a golf course. On the island side of the Channel there is less development. Areas 4, 5, and 6 are completely vacant. Area 7 is the highly utilized London Bridge Beach Park and Lions Dog Park. Area 9 is the Bridgewater Channel itself and is not directly addressed in its own section; however suggested improvements to this Channel Area are included in discussions on the adjacent areas of land.

Figure I.1: Map of the Bridgewater Channel Redevelopment Area



Source: adapted from www.gis.mohave.co.az

E. Existing Conditions

The following section describes the existing conditions of Lake Havasu City’s physical, cultural, historical, environmental and economic setting. All components of this Redevelopment Plan have been designed and recommended based on the existing conditions of Lake Havasu City. The information provided in this section sets the stage for what is physically and economically possible as well as what is appropriate for the Bridgewater Channel Area and Lake Havasu City.

1. Physical Setting

Location

Lake Havasu City is located in the southwestern portion of Mohave County in northern Arizona. Mohave County is the second largest county within the State of Arizona with 13,479 square miles of land. The City falls within Townships 13 and 14, Ranges 19 and 20

West. It encompassed 42 square miles and its elevation ranges from 450 feet above sea level to 1,400 feet above sea level.¹

Climate

Lake Havasu City's climate is generally sunny and arid. The temperature ranges between 45 and 69 degrees Fahrenheit in the winter and between 82 and 120 degrees Fahrenheit in the summer. Reports on average annual precipitation vary between 2.67 to 4.21 inches.²

Topography

Lake Havasu City has a series of ridges and dry washes to the northeast and southeast. These washes and ridges were formed by drainage from the Mohave Mountains, which are located to the northeast.¹ The Sawtooth Range of the Sacramento Mountains is located in California, which lies west of the City.³ Lake Havasu and the Colorado River lie to the west, southwest and northwest of the City.

Land Use

The current land use in Lake Havasu City is comprised mainly of residential use, which accounts for 11,371 acres.⁴ Commercial and industrial are the next largest land uses in the City, which use 1,032 acres for commercial and 466 acres for industrial. Finally, the last common land use in Lake Havasu City is recreation and resort land uses which utilize 96 acres located primarily along the lake shoreline, on the island and at golf courses. Currently, there is undeveloped land located in the northern, eastern and Bridgewater Channel Area within the City.⁵

The Bridgewater Channel Area's land uses vary from residential to recreation, on both public and private lands. These separate uses are unified due to their connection to the water, and

¹ Lake Havasu City. *Water Conservation Plan*. 2004

² Havasu Magazine. 2006. <<http://havasumagazine.com/>> viewed: September 28, 2006.

¹ Lake Havasu City. *Water Conservation Plan*. 2004

³ McCord, Marc W. (2006). *Colorado River: Topock to Lake Havasu TP*. <<http://southwestpaddler.com/docs/coloradoaz5.html>> viewed: September 28, 2006.

⁴ Lake Havasu City. *Water Conservation Plan*. 2006

⁵ Lake Havasu City. *Water Conservation Plan*. 2006

the diversity of activities which form the Channel's unique identity. A variety of zoning districts are also present within the Bridgewater Channel Area. In addition to traditional zoning districts, there are two major regulation areas that, enacted through the Lake Havasu City comprehensive plan, providing protection and regulation of development in the Channel⁶.

Lake zone: "intended to accommodate water-dependent land uses"

Shore zone: "intended to accommodate water-front uses and structures that provide public access to the Bridgewater Channel. It is intended as a pedestrian corridor with landscaped areas and accessory structures to enhance visual quality⁷."

Bridgewater Channel land uses are described in greater detail in the following chapter.

2. Environmental and Cultural Resources

Vegetation

Lake Havasu City is located within the Lower Colorado River subdivision of the Sonoran Desertscrub biotic community. This is the largest subdivision of the Sonoran Desert. It has both the highest temperatures and the lowest precipitation of all of Arizona's subdivisions.⁸ Vegetation within the area is generally dominated by creosote bush (*Larrea tridentata*), triangle-leaf bursage (*Ambrosia deltoidea*), and brittlebush (*Encelia farinosa*). The desert floor in desert scrub communities contains several grass species that typically include Arizona cotton top (*Trichacne californica*), curly mesquite grass (*Hilaria belangeri*), fluff grass (*Tridens pulchella*), and three-awns (*Aristida* sp.).⁹ It is likely that these species occur within Lake Havasu City and are more abundant outside of the City's limits.

⁶ Lake Havasu City. *Comprehensive Plan*. 2004

⁷ Lake Havasu City. *Comprehensive Plan*. 2004

⁸ Brown, David E. (Ed.). 1994. Biotic Communities: Southwestern United States and Northwestern Mexico. University of Utah Press, Salt Lake City.

⁹ Brown (1994)

Wildlife

Wildlife common to this Lower Colorado River subdivision and the Lake Havasu City area is dominated by invertebrates with less common mammal and bird populations. Examples of species' whose habitat is supported within this subdivision include Desert Bighorn Sheep (*Ovis Canadensis melsoni*), Sonoran Pronghorn (*Antilocapra Americana sonorensis*), Coyote (*canis latrans*), Flat-tailed horned lizard (*Phrynosoma m'calli*), Sidewinder rattlesnake (*Crotalus cerastes*), and the Western Whiptail (*cnemidophorus tigris tigris*).¹⁰

According to Lake Havasu City's Water Conservation Plan (2006) there is a herd of desert bighorn sheep east of the City. There are also mule deer located in the same area. However, there is no evidence that any of the larger mammals occur within the City. Smaller invertebrates and birds likely do occur there.

There are two wildlife refuges, Bill Williams River National Wildlife Refuge and Havasu National Wildlife Refuge, in the area that offer habitat for many wildlife species.¹¹

Water Resources

Water Resources for the City include surface water from Lake Havasu used for irrigation, effluent from two wastewater treatment plants that is also used for irrigation, and groundwater pumped from below Lake Havasu that is used for drinking water.¹²

Cultural Resources

There have been twenty-two cultural resources surveys completed within or near Lake Havasu City. As a result of all these surveys, sites below an elevation of 1000 feet are considered of high cultural, archaeological and historical sensitivity.¹³ The Bridgewater Channel Area is located within this specified elevation. Therefore, care should be taken during the redevelopment process to identify culture, archeological and historical resources

¹⁰ Brown (1994)

¹¹ Lake Havasu City. <<http://www.lhcaz.gov/demographics.htm>> Accessed: September 28, 2006.

¹² Water (2006)

¹³ Water (2006)

that are located in the Channel Area. Appropriate identification and mitigation of existing resources should be taken.

3. Historic Overview

Prehistory

Previously, the environment was very different from the arid climate Lake Havasu City experiences today. Approximately 10,000 to 12,000 years ago it was wetter and warmer with more lush vegetation. During this time the Mohave Indians were the primary inhabitants of the area. The area offered habitat for large game animals which attracted these first human inhabitants. Historians have categorized periods during this time into four chronological stages; 1 Big Game Hunting, 2 Post Big Game Hunting/the San Dieguito Traditions, 3 The Amargosa Tradition and 4 Post Amargosa Tradition.¹⁴

Following the Mohave Indians, the area was explored and occupied by the Spanish during the 16th Century. During the 19th Century, there were Mexican outposts and American settlements following the Mexican-American War.¹⁵ Trapping for beavers also drew people to the area. Small fishing settlements grew along the river and later the lake.¹⁶

Lake Havasu City History

Parker Dam was completed in 1938 and Lake Havasu was formed. The name “Havasu,” which was given to the lake and the City, is a Mohave word meaning “blue water”.¹⁷ After Lake Havasu was formed, initial use of the area was by fishing settlements and the military. What is now Pittsburgh Island was, during WWII, Pittsburgh Peninsula and during that time used as an R & R destination for service men. The area was also used for test flights during this period.¹⁸

¹⁴ Water (2006)

¹⁵ Water (2006)

¹⁶ Holmes, Bobbi (2006). *Lake Havasu City History*. Havasu Magazine.
<http://havasumagazine.com/history_of_lake_havasu_City.htm> viewed: September 28, 2006.

¹⁷ LHC (2006)

¹⁸ Holmes (2006)

In 1963, Robert McCulloch purchased 26 square miles along Lake Havasu. In the late 1960s, Pittsburgh Peninsula became Pittsburgh Island when McCulloch dredged a Channel separating the peninsula from the mainland. McCulloch purchased the London Bridge, in England, and transported it to this area. This purchase was the catalyst for the Channel's creation. On October 10, 1971, the London Bridge (the largest antique ever purchased) was officially opened, after 33 years of construction.

Robert McCulloch's company, McCulloch Properties Incorporated, developed a master planned community that also officially opened in 1971. Lake Havasu City was incorporated in 1978.¹⁹ Initially the City's growth was caused by the manufacturing industry. Eventually manufacturing was replaced by the recreational and retirement industries as main influences on growth. Current growth continues to be primarily driven by recreation and retirement.²⁰

4. Demographic Characteristics

Population

According to the 2000 Census, Lake Havasu City has a population of 41,938 with a median age of 47.5 which is substantially higher than 35.3, the national median age, and 42.9, Mohave County's median age. The percentage of the residents who are 65 years and older (25.5%) was also above both the national figure (12.4%) and Mohave County's figure (20.5%). Between 2000 and 2005, Lake Havasu City experienced a 32% increase in population, 12% higher than the population increase within Mohave County. At present Lake Havasu City is the largest City in Mohave County with an estimated 2005 population of 55,338.²¹

Housing

The 2000 Census states that housing occupancy rate in Lake Havasu City (77.8%) was remarkably lower than the national rate of 91% and slightly below Mohave County's rate of

¹⁹ Water (2006) and Havasu (2006)

²⁰ Water (2006)

²¹ U.S. Census Bureau, "Fact Sheet - Mohave County, Arizona" and "Fact Sheet - Lake Havasu City, Arizona."

78.5%.²² These figures reflect the high proportion of seasonal residents who own secondary homes in Lake Havasu City

5. Economic Characteristics

Lake Havasu City and the surrounding region's economic characteristics reveal several opportunities for the Bridgewater Channel Area and its redevelopment process. The following sections describe these opportunities in greater detail.

Growth Indicators

Growth indicators identify the health of the economy and utilize different methods to understand if a community's economy is growing, stagnant or declining. Following are growth indicators that identify Lake Havasu City's economy is growing. These also identify opportunities to encourage growth.

Taxable Sales

Increase in taxable sales is one type of growth indicator. Taxable sales in Lake Havasu City have increased by approximately 65% between 2000 and 2005. The taxable sales figures between 2000 and 2005 show a consistently rising income for residents of Lake Havasu City (Table I.1).²³

Table I.1 – Taxable Sales

Year	Taxable Sales (\$)
2000	569,368,650
2001	637,720,550
2002	735,295,350
2003	828,662,150
2004	891,810,990
2005	938,544,266

Source: Lake Havasu City Business and Lifestyle Profile, 2005

²² U.S. Census Bureau, "Fact Sheet - Mohave County, Arizona," "Fact Sheet- Lake Havasu City, Arizona," and "Fact Sheet - United States."

²³ Lake Havasu City Partnership for Economic Development. *Lake Havasu City Business and Lifestyle Profile*, 2005.

Building Permit Issuance Number

The issuance of building permits is another type of growth indicator. The number of building permits issued in Lake Havasu City peaked in 2002. The number of new commercial permits has increased each year from 2000 to 2005 (Table I.2).²⁴ The consistent increase in the number of new commercial permits is a reflection of not only the growing population but also the growing economy.

Table I.2 – Total New Building and Commercial Permits

Year	New Building Permits	New Commercial Permits
2000	1,082	27
2001	1,309	39
2002	1,415	44
2003	1,243	56
2004	1,061	82
2005	377 (Jul-Nov)	11 (Jul-Nov)

Source: Lake Havasu City Business and Lifestyle Profile, 2005

K-12 School Enrollment Figures

A third growth indicator is K-12 school enrollment figures. Between 2000 and 2005, Lake Havasu City's K-12 public school enrollment peaked in 2003 and has since decreased slightly (Table I.3).²⁵ Since these figures do not include charter school enrollment numbers the actual growth rate may not be fully captured by this table. It is important to note that those under 18 years of age make up 19.4% of Lake Havasu City's population as opposed to the national figure of 25.7%. Since Lake Havasu City is a popular destination for senior citizens, K-12 public school enrollment may not be the most appropriate growth indicator for the City.²⁶

²⁴ Ibid.

²⁵ Lake Havasu City Partnership for Economic Development, "Lake Havasu City Business and Lifestyle Profile," 2005.

²⁶ U.S. Census Bureau, "Fact Sheet- Lake Havasu City, Arizona," and "Fact Sheet - United States."

Table I.3 - K-12 Public School Enrollment

Year	K-12 School Enrollment
2000	5,615
2001	6,200
2002	6,380
2003	6,580
2004	6,535
2005	6,530

Source: Lake Havasu City Business and Lifestyle Profile, 2005

6. Regional Economy

Mohave County's economy has experienced substantial growth due to the rapid population growth within the region. Mohave County grew by 40% between 1990 and 2000 and appears to be continuing in this pattern.

From 1970 through 2000 job growth in Mohave County outpaced job growth for the State of Arizona and that of the nation. This growth is more evident in certain industries than others. The leading industries, in terms of employment in 2003, were trade, transportation, utilities, government, and construction²⁷

As shown in Table I.4, the top 5 occupation types in Mohave County are office and administrative support occupations, construction, sales and related occupations, food preparation and serving, transportation and material moving occupations.

²⁷ "Mohave County Profile" Arizona Department of Commerce

Table I.4: Leading Occupations in Mohave County

Type of Occupation	Number of Jobs
Office and Administrative Support	8100
Construction	5670
Sales and Related Occupations	5240
Food Preparation and Serving	4840
Transportation and Material Moving	3680

Source: Mohave County, Arizona Department of Economic Security²⁸

The 2002 Economic Census states that retail trade is one of the biggest industries in Mohave County with 631 establishments. Health care and social assistance have the second highest number of establishments while accommodation and food services are third. Retail businesses have fallen behind the motor vehicle dealer and parts category, with gas stations coming in second as the biggest industries. Lake Havasu City has the potential to become more of a regional center as more growth comes to the region and by capitalizing on areas of the market in which they are losing possible revenue from.

Lake Havasu City Economy

Only 50.4 % of the Lake Havasu City residents are in the labor force, which is considerably lower than the national figure of 63.9%.²⁹ The Arizona Department of Economic Security reported Lake Havasu City's unemployment rate at 2.2%, which is also notably lower than the national rate of 5.4%.³⁰ These two figures reflect the smaller number of economically active residents in Lake Havasu City due to the high percentage of population in retirement.

Income and Employment

Both median household income and per capita income figures of Lake Havasu City residents were below national figures, yet above Mohave County figures.³¹ As shown in Figures I.2

²⁸ "Mohave County, Arizona Department of Economic Security. *Occupational Employment and hourly wage estimate*. 2005

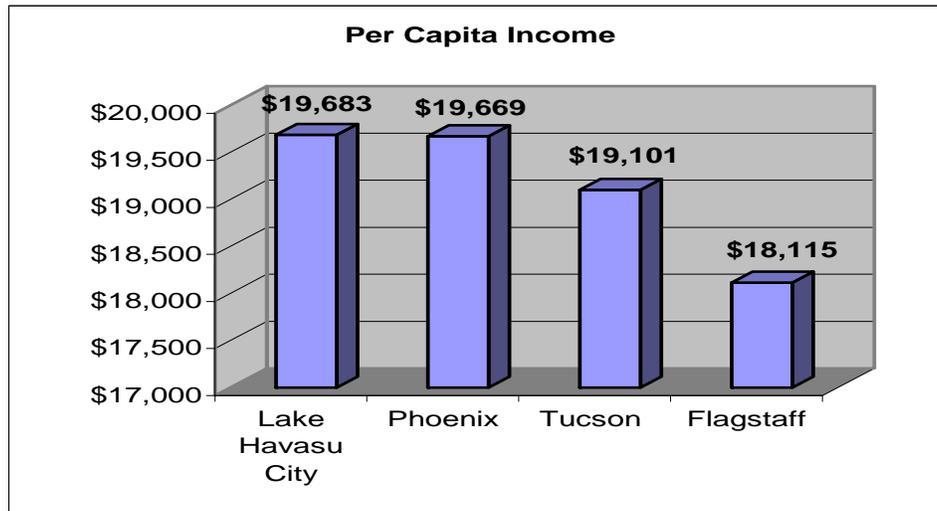
²⁹ U.S. Census Bureau, "Fact Sheet- Lake Havasu City, Arizona," and "Fact Sheet - United States."

³⁰ Arizona Department of Economic Security quoted in Arizona Department of Commerce, "Lake Havasu City Community Profile."

³¹ Ibid.

and I.3, Lake Havasu City has the highest per capita income and per capita effective buying income among some of the other major cities in the State of Arizona.³²

Figure I.2- Per Capita Income Comparisons

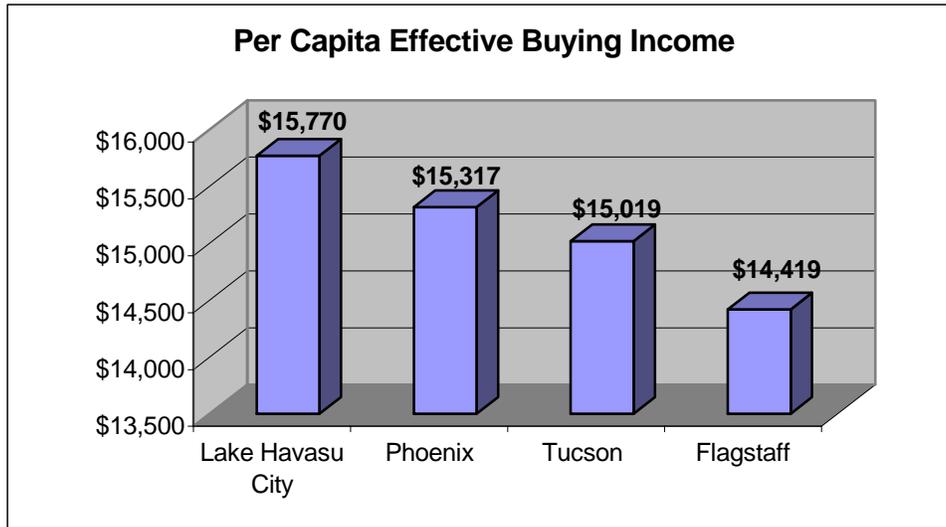


Source: Lake Havasu City Partnership for Economic Development Lake Havasu City Retail Market Analysis, 2002 (figures taken from Claritas, Inc. Survey of Buying Power, 2000)

Figures I.2 and I.3 reveal the high buying income of the residents located in the area. The presence of residents with relatively high effective buying incomes indicates a potential for additional businesses in the area. Data for figures I.2 and I.3 were collected in 2000 and is the latest data available.

³² Lake Havasu City Partnership for Economic Development, "Lake Havasu City Retail Market Analysis Report," 2002.

Figure I.3 - Per Capita Effective Buying Income



Source: Lake Havasu City Partnership for Economic Development. Lake Havasu City Retail Market Analysis, 2002 (figures taken from Claritas, Inc. Survey of Buying Power, 2000)

Per capita employment in Lake Havasu City is higher than four competing cities in the region, however this number is still below the statewide and national figures (Appendix 1). This lower per capita figure is influenced by the high population of retirees, number of residents commuting outside of the City to work and those who are self-employed.³³

In 2001, the retail trade provided the most employment, followed by accommodation and food services, health care and social assistance, construction, government and manufacturing (Appendix 1). Per capita employment was higher than both state and national averages in construction, retail, and accommodation and food services.³⁴ This excess employment in retail and accommodation and food services can be associated with Lake Havasu City's popularity as a tourist destination. Higher per capita employment in construction industries can be interpreted as an indicator of increasing demand for new homes, more business and office spaces. Per capita employment in health care and social assistance was higher in Lake Havasu City relative to the State of Arizona, which could be identified as a reflection of Lake Havasu City's status as a regional health care center and a retirement community.

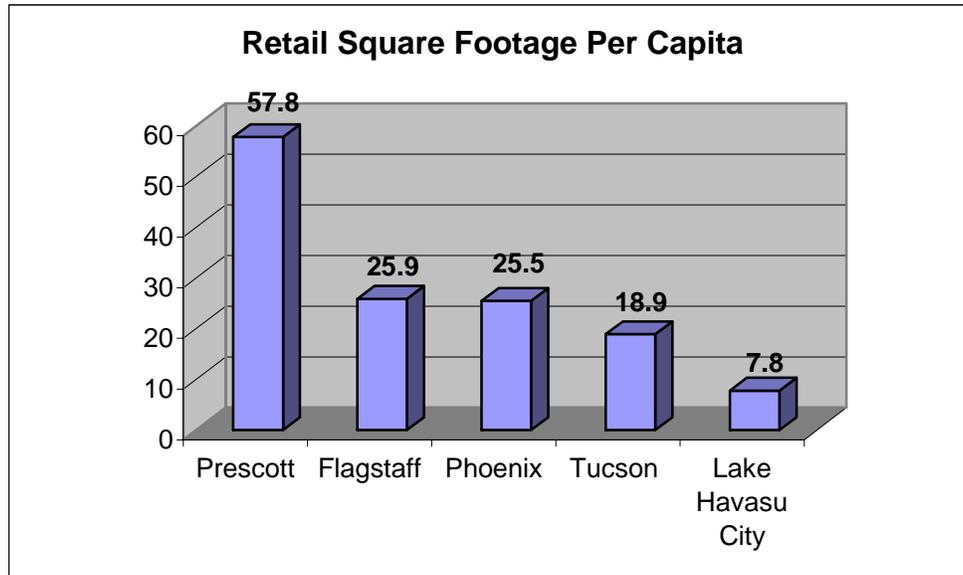
³³ Arizona Department of Commerce, *Economy of Lake Havasu City*. 2004.

³⁴ Arizona Department of Commerce, *Economy of Lake Havasu City*. 2004.

Tourism-based industries are a crucial component of Lake Havasu City’s economy because they constitute “export (basic) activities” which bring outside money into the community. In 2001, accommodation and food services ranked second after retail trade in terms of providing employment. Per capita employment was 62% higher than the national average in the accommodation sector and 22% higher in the food services sector.³⁵ These figures indicate the significance of tourism in Lake Havasu City. Additionally, part of retail trade qualifies as an export activity in tourist destinations, like Lake Havasu City, because it involves sales to tourists. A list of the major employers in Lake Havasu in 2005 can be found in Appendix A3.

Although retail industries provided the most employment in 2001, it was established that retail square footage per capita was significantly lower in Lake Havasu City compared to some of the other Arizona cities (Figure I.4).³⁶ Data for figure I.4 was collected in 2000 and is the latest data available.

Figure I.4 - Retail Square Footage Per Capita



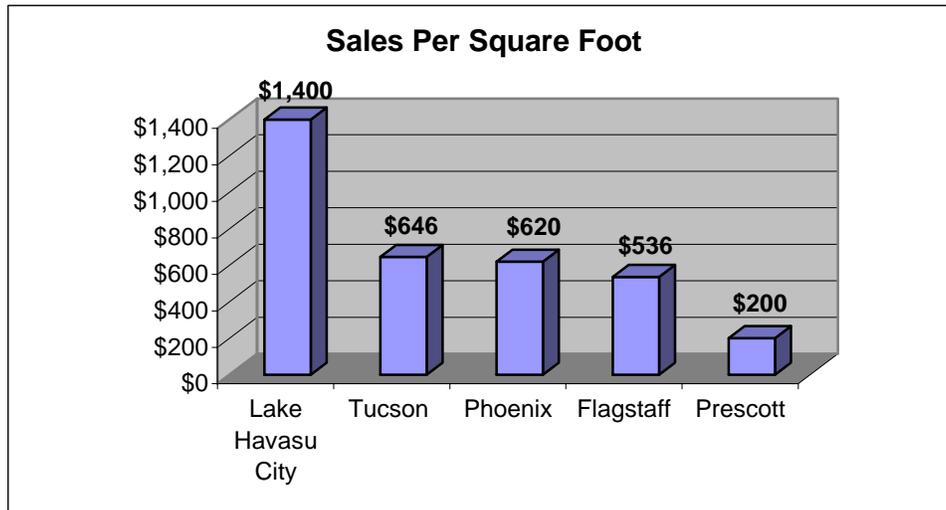
Source: Lake Havasu City Partnership for Economic Development. Lake Havasu City Retail Market Analysis, 2002 (Data provided by Claritas, Inc.)

³⁵ Arizona Department of Commerce, *Economy of Lake Havasu City*. 2004.

³⁶ Lake Havasu City Partnership for Economic Development, *Lake Havasu City Retail Market Analysis Report*, 2002.

While the square footage was low, sales per square foot in retail industries were much higher than all of the other Arizona cities in the comparison group. (Figure I.5).³⁷ Data for figure I.5 was collected in 2000 and is the latest data available.

Figure I.5 – Sales per Square Foot



Source: Lake Havasu City Partnership for Economic Development. Lake Havasu City Retail Market Analysis. 2002 (Data provided by Claritas, Inc.)

Therefore, in Lake Havasu City, sales is located within a concentrated area with a fewer number of stores. This indicates the potential for profitable new retailers in Lake Havasu City and more specifically in the Bridgewater Channel Area.

Manufacturing industries in Lake Havasu City also contribute to the local economy as export activities. Sales taxes collected from the manufacturing sector went up from \$95,937 in fiscal year 2000/01 to \$170,045 in fiscal year 2002/03³⁸, even though the number of manufacturing establishments remained around 87.³⁹ While this increase may be due to various factors such as escalating sales prices, it may also be partially affected by increased production in manufacturing industries. Lake Havasu City is home to a number of manufacturing industries including plastic products, boats, and dental laboratory equipment that provide employment

³⁷ Lake Havasu City Partnership for Economic Development, “Lake Havasu City Retail Market Analysis Report,” 2002.

³⁸ Arizona Department of Revenue, “Lake Havasu City Transaction Privilege Tax Collection by Sector,” pers. comm. with Karen Vanchieri.

³⁹ U.S. Census Bureau, “Zip Code Business Patterns.”

above the national average for these industries.⁴⁰ Lake Havasu City's marine industry, with a larger per capita employment than the national average, is a notable contributor to the local economy with higher employment rates and wages.⁴¹

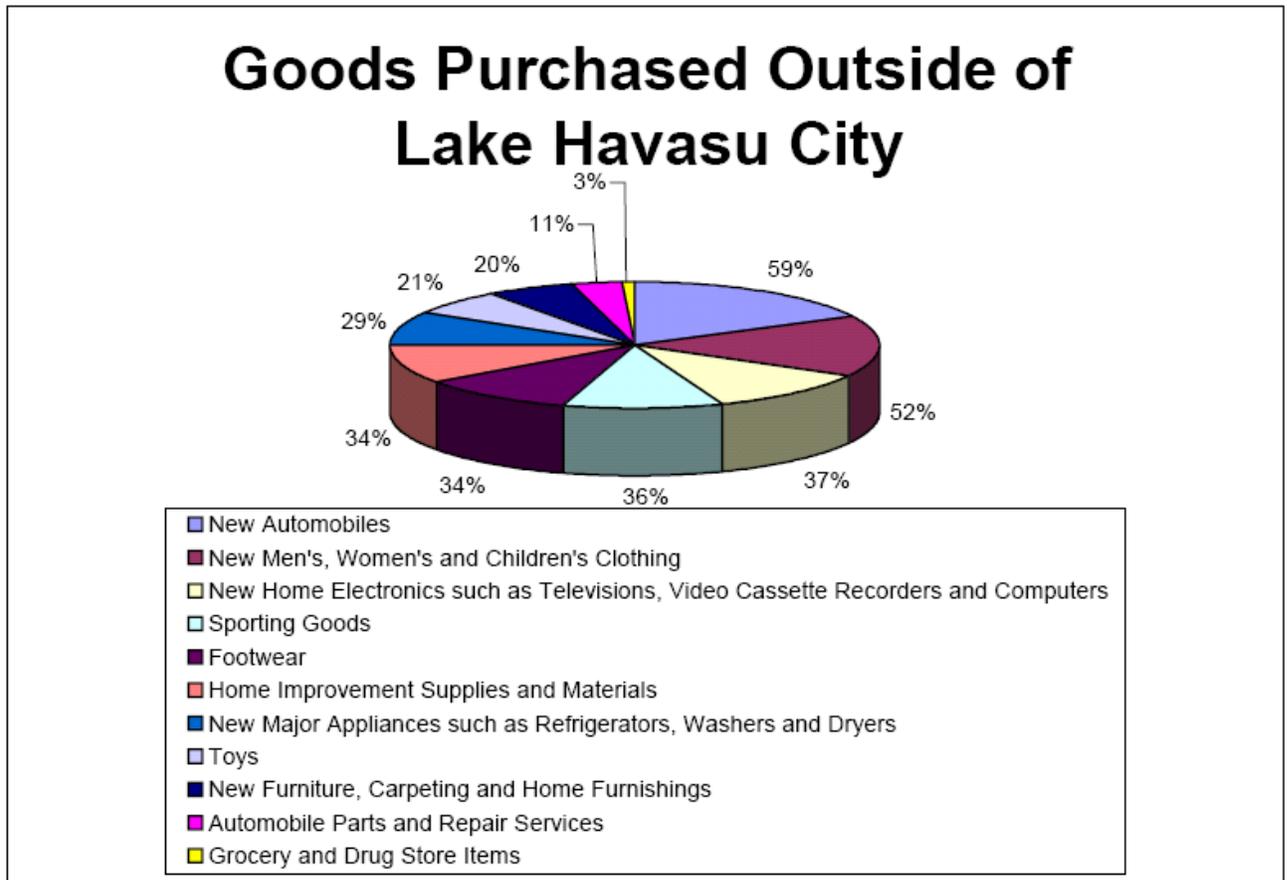
According to the Lake Havasu City Retail Shopping Study, a significant percentage of goods are purchased outside of Lake Havasu City, which results in a retail leakage from the City (Figure I.6).⁴² The following figure shows the percentages of specific goods purchased in other communities. While large businesses such as car dealerships, home electronic stores, and stores selling home improvement supplies are not suitable for the Bridgewater Channel Area, the list reveals that there is a significant gap in the retail industry, which could be addressed by the expansion of retail within the Channel Area. Stores selling clothing, sporting goods, footwear, and toys are examples of businesses that can potentially be profitable in the Bridgewater Area while not detracting from the sense of place and identity of the area. Sporting goods would be exceptionally suitable for the area since many visitors are attracted to the outdoor recreational opportunities.

⁴⁰ Arizona Department of Commerce, "Economy of Lake Havasu City." 2004.

⁴¹ Competitive Strategies Group, LLC, "An Economic Analysis of the Marine Industry in Lake Havasu City, Arizona," 2006.

⁴² Lake Havasu City Partnership for Economic Development, "Lake Havasu City Retail Market Analysis Report," 2002.

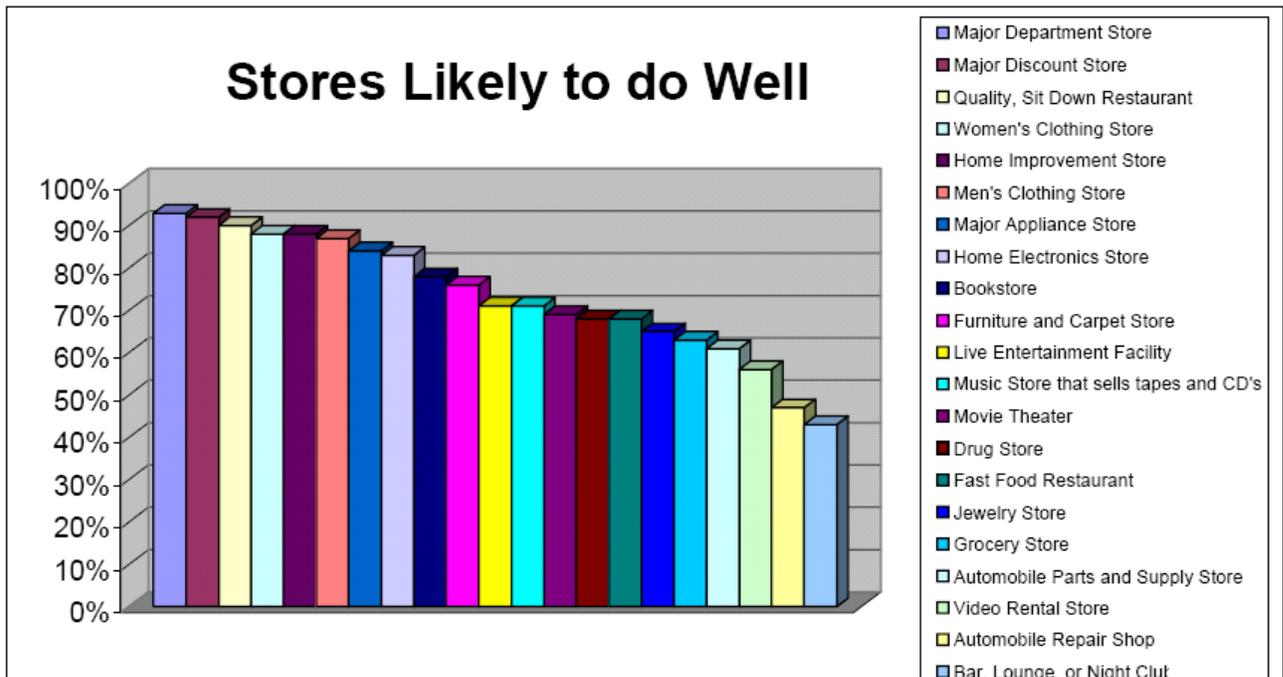
Figure I.6 – Goods Purchased Outside of Lake Havasu City



Source: Lake Havasu City Partnership for Economic Development, Lake Havasu City Retail Market Analysis, 2002 (Information taken from Lake Havasu City Retail Shopping Study – data presented by the Behavior Research Center, Inc.)

The Lake Havasu City Retail Shopping Study also provides a detailed list of the types of stores that are likely to do well in the City based on the responses gathered on a survey. For example, there is not adequate square footage in any given retail area to accommodate a major department store or major discount store. However, smaller versions could be very successful. While the survey addressed the City as a whole, many types of retail establishments, mentioned in Figure I.7, would likely be successful in the Channel as well.

Figure I.7 – Stores Likely To Do Well in Lake Havasu City



Source: Lake Havasu City Partnership for Economic Development, Lake Havasu City Retail Market Analysis, 2002 (Information taken from Lake Havasu City Retail Shopping Study- data presented by the Behavior Research Center, Inc.)

7. Tourism

Regional

The tourism industry is very important to the economy of Mohave County and to its individual communities because it serves as a major economic base. In 2005 Mohave County had 5,110 jobs directly related to travel spending.⁴³ Mohave County has seen the total amount of money spent by tourists increase every year from 1998 through 2005 and has the highest percent change of any of the counties in Arizona. According to an Arizona Office of Tourism Report. Mohave County is home to two of the top 50 tourist draws in the State, Lake Havasu, and London Bridge, both located in Lake Havasu City and, more specifically, the Bridgewater Channel Area.

Arizona's West Coast region is home to two of the top 25 natural attractions in Arizona, Lake Mead National Recreation Area and Lake Havasu State Park. The area is also home to

⁴³ Arizona Office of Tourism. *Tourism Facts*. 2005

the Havasu National Wildlife Refuge, which attracts different types of tourists depending on the time of year. In the winter it attracts seasonal residents from northern states who primarily engage in wildlife observation, fishing, hunting, and canoeing and in the summer months it attracts families from Southern California and Arizona who engage in water sports⁴⁴.

Tourism in Mohave County and Arizona's West Coast is focused on water. Mohave County is home to Lake Mohave, Lake Havasu, and 1000 miles of shoreline along the Colorado River. Even more water-based tourism is included in the West Coast region by the Arizona Office of Tourism as they extend to include Lake Mead, as well. The Arizona Office of Tourism divides the State of Arizona into 7 smaller regions. The West coast region extends from Yuma on the southern end past Bullhead City on the north.

In 2004, the Arizona Office of Tourism conducted a study of tourism in the different regions of Arizona. In their 2004 report they found that the top activities for tourists visiting Arizona's West Coast region were dining, sightseeing, and boating/sailing. Almost half of the visitors to this region are from Southern California. The tourists to this region of Arizona have some unique qualities that the other regions of Arizona did not share. Visitors to Arizona's West Coast Region average a higher income than those visitors to other regions in the State.⁴⁵ The West Coast Region is also an attraction to individuals looking for a weekend trip. Thirty nine percent of people indicated "weekend getaway" as their reason for traveling to the West Coast region, which is the highest of all regions.

Mohave County sits in close proximity to a number of large cities. The region, or communities within the region, can develop a broader tourism base that draws from these large markets. Las Vegas is 153 miles, Flagstaff is 200 miles, Phoenix is 200 miles, Los Angeles is 324 miles, San Diego 432 miles, and Salt Lake City is 586 miles from the Mohave County Seat⁴⁶. In 2002 the West Coast region accounted for 8% of Arizona's tourism. Recreation associated with Lake Havasu serves as a major draw from these areas,

⁴⁴ Field Report- Havasu National wildlife Refuge

⁴⁵ "Arizona 2005 Tourism Facts" Arizona Office of Tourism

⁴⁶ "Mohave County Profile" Arizona Department of Commerce.2004.

and as long as the region is able to protect its water resources, revenues from tourism will continue for this region.

Lake Havasu City

Lake Havasu City attracts over one million visitors each year.⁴⁷ According to the City's General Plan, outdoor activities are the major draw to the area. The City has taken several steps to enhance the recreational potential and draw to Lake Havasu City. Examples of these measures include the creation of the Parks and Recreation Department, Parks Maintenance Department, Art and Culture Commission and the creation and rehabilitation of parks and activity centers.⁴⁸

The largest draw to the City is the recreational activities offered by Lake Havasu and the Colorado River. These activities include boating, water sports, lake tours, swimming and fishing. There are eight public beaches in Lake Havasu City and numerous companies offering boat rentals, tours, fishing guides and mooring.⁴⁹

Additional outdoor recreation opportunities include the wildlife refuges, natural parks, rock climbing, mountain biking, shooting, archery and golfing.⁵⁰ The Bill Williams National Wildlife Refuge and Havasu National Wildlife Refuge are both managed by the US Fish and Wildlife Service and offer opportunities to see a variety of species native to the area in their natural habitat. Businesses supporting these recreational opportunities are located within Lake Havasu City or the Bridgewater Channel Area.⁵¹

Lake Havasu City's close proximity to the Chemehuevi Indian Tribe, located in California, on the western shore of Lake Havasu provides opportunities to recreate at a casino. This

⁴⁷ Lake Havasu City. *General Plan*. 2004.

⁴⁸ *ibid*

⁴⁹ *ibid*

⁵⁰ Lake Havasu Convention and Visitors Bureau. <<http://www.golakehasasu.com/recreation.html>> viewed September 28, 2006

⁵¹ *ibid*

casino can be accessed by a casino-owned and operated ferry from the Bridgewater Channel Area.⁵²

For community attractions, the City is actively marketing conventions and events to promote tourism. In 2006 there were 175 promoted events spread out over the course of the year, most occurring in the spring and fall. The City has 4 golf courses, 36 different hotels and resorts, and 122 restaurants. It offers several strip malls and walkable districts, and according to the Lake Havasu Convention and Visitors Bureau maintains a number of art galleries.⁵³ Lake Havasu City Visitors' Bureau estimates the London Bridge received 2.5 million visitors in 2005.

The majority of tourists visiting the City come from California, with Arizona and then Nevada providing the next largest groups. Overwhelmingly, these visitors come to the area repeatedly. The majority of the tourists that visit the area earn an annual income of more than \$60,000, and spent between \$150 and \$200 per day. These tourists were primarily coming to the area to recreate.⁵⁴

Lake Havasu City has two primary access modes, by road via US Highway 95 and by air via the Lake Havasu City Municipal Airport. The nearest train depot is in Needles, California, approximately 40 miles away. The City is serviced by a number of local bus and limousine companies, providing more than 1,000 bus trips annually, many of which are associated with casinos in Nevada. The City is also serviced by US Airways, which provides daily shuttle flights to both Phoenix and Las Vegas. The limited number of flights per day and flight destinations impacts the potential number of visitors to the City. Local car rentals are available through Avis, Enterprise, and Hertz.⁵⁵

⁵² Havasu Landing Resort and Casino. <<http://www.havasulanding.com>> viewed September 28, 2006.

⁵³ Lake Havasu Convention and Visitors Bureau, 2006

⁵⁴ Lake Havasu Convention and Visitors Bureau, 2006

⁵⁵ *ibid*

Importance of Water for Tourism

Mohave County contains 186 square miles of water, and the draw of that water in Arizona creates has helped to account for the past and continued growth of Lake Havasu City. Water recreation has been defined as the primary visitor attraction to the region. There is also an economic benefit to the region from lake usage.

F. Bridgewater Channel Area

The following sections describe specific characteristics, land uses and proposed plans that are specific to the Bridgewater Channel Area.

Characteristics of the Bridgewater Channel Area

Currently the Channel acts as a “main street” for boating. Boats come through the Channel Area and either park or cruise. There have been some ordinances passed to prevent idling in the Channel in hopes of improving water and air quality in the area. Public parks and walking paths along the shore are also popular places for recreation.

Siltation in the Channel from stormwater run-off and increased boat traffic is a concern. Access is restricted for larger boats due to sand bars, which are created by silt/stormwater runoff from nearby washes. There are two washes that run into the Channel, one located on State Land Trust property (study area 3) and also into City owned property, Rotary Park (also study area 3). Currently the U.S. Army Corp of Engineers maintains control of the Channel’s floor therefore any mitigation on this issue would need to be approved by this entity. No survey has been taken recently to test the extent of siltation, therefore there is no current information on the Channel's depth. Dredging should be addressed every 2 to 4 years, however it has been over 10 years since the Channel was dredged.

Parking and circulation is also of concern. Traffic counts indicate that the flow of traffic crossing onto the island is heavier than in the opposite direction (toward mainland). Flows

are greater on weekends, with flows on Friday having a 26% mean traffic increase compared to all other days.⁵⁶

Proposed Plans

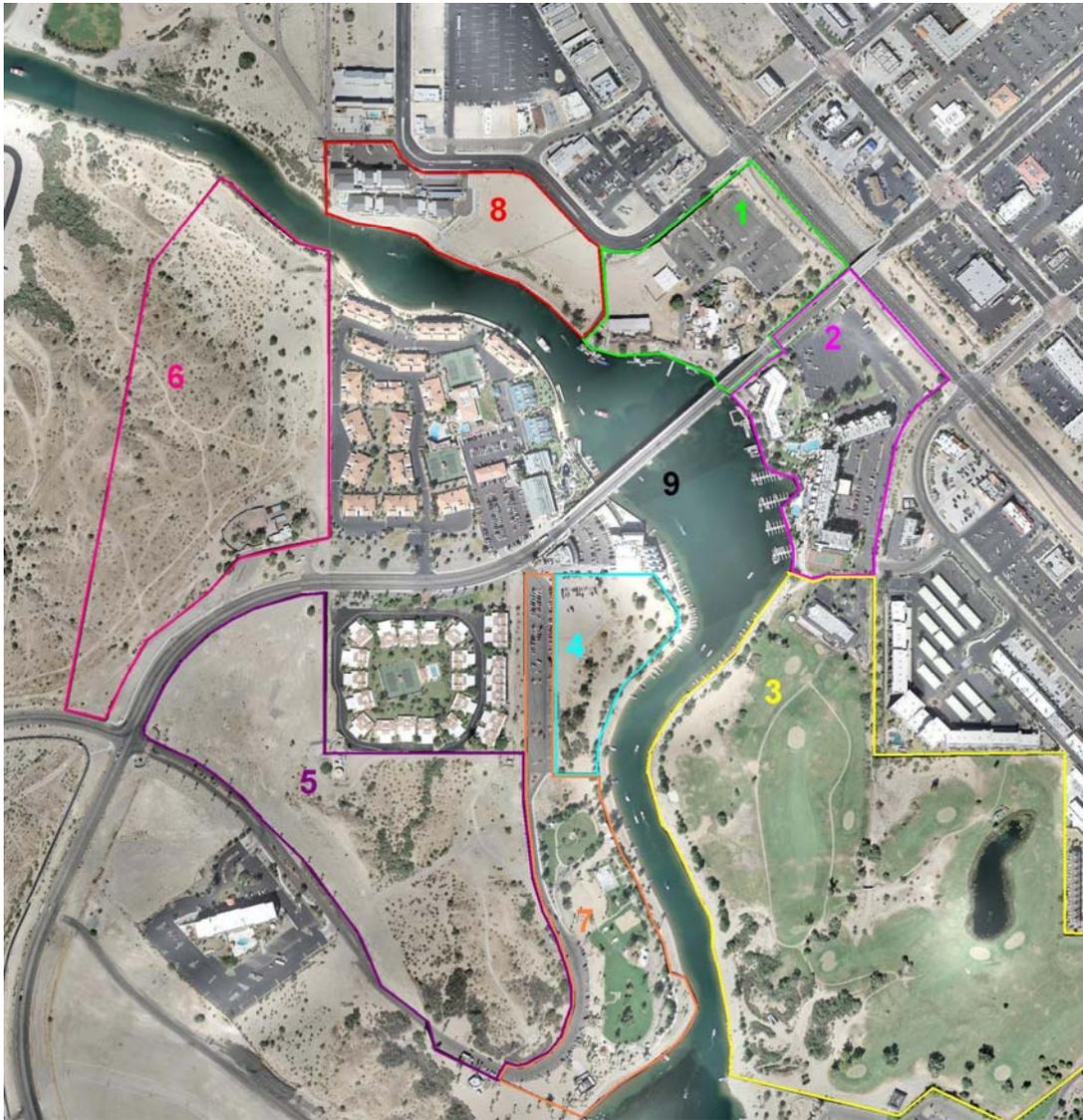
There is a plan to construct an additional bridge across the Channel. The current plans call for an alignment north of the London Bridge that would connect the western edge of Area 8 to the eastern edge of Area 6. The concepts presented in this plan are based on the proposed road alignment as of October, 2006. Changes in the alignment and the amount of land dedicated to the city will alter the public use and location of private ventures in Area 6.

⁵⁶ Lake Havasu City. *Traffic Study on London Bridge*. June 13, 2006 through June 19, 2006

Bridgewater Channel Study Areas' Current Land Use and Zoning

The land use around the Channel varies from commercial and hotel uses to vacant land and public, open space. There are eight study areas included in this plan. Figure I.8 shows the boundaries of the separate study areas and their specific location.

Figure I.8: Map of the Bridgewater Channel Study Areas



Source: adapted from www.gis.mohave.co.az Study Area 1

Study Area 1

The English Village, is located northwest of the London Bridge. Historically this area was one of the first developed sites around the bridge. Named for its medieval English architecture and style, the village has served as an attraction for tourists with its many shops, restaurants and entertainment. Currently, this approximately nine-acre parcel is mostly vacant, with only a few businesses in operation (Appendix 2). Table I.5 details the characteristics of this area. The buildings in this area are dilapidated and in need of repair or possible rebuilding.

Table I.5: Study Area 1 Land Use Characteristics

Parking	Present on North end of area
Walkways	Along Channel; From Parking Lot though village to Channel.
Land Use	Commercial
Zoning	C1, Commercial

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

Study Area 2

Study Area 2 is located just east of the English Village and the London Bridge. Currently, this area is home to multiple retail shops, dining, entertainment and a nine-acre, five-star waterfront resort. The London Bridge Resort contains conference rooms, spas, boutiques, dining as well as 112 suites.⁵⁷ Table I.6 describes the characteristics of this area.

Table I.6: Study Area 2 Land Use Characteristics

Parking	Hotel Parking available
Walkways	Along Channel, access to bridge.
Land Use	Commercial, hotel and meeting space
Zoning	C1 and H1, Commercial and Hotel

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

⁵⁷ Amenities. <Londonbridgeresort.com> viewed September, 27 2006

Study Area 3

Study Area 3 is covered by a 9-hole executive golf course owned by the Queen’s Bay Resort. Currently this land is leased from the State Land Trust. Table I.7 details the characteristics of this area.

Table I.7: Study Area 3 Land Use Characteristics

Parking	None
Walkways	Along Channel
Land Use	Golf Course
Zoning	A1, Agriculture Zone

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

Study Area 4

Study Area 4 is part of the Arizona State Land Trust and this property is currently vacant. Plans were submitted in the past for the construction of a restaurant, which was never built. There is natural vegetation here that lowers ground temperature and provides shade. Table I.8 details the characteristics of this area.

Table I.8: Study Area 4 Land Use Characteristics

Parking	None
Walkways	Along Channel
Land Use	Vacant
Zoning	A1, Agriculture Zone

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

Study Area 5

Study Area 5 State Trust Land, located southeast of the bridge and has no shore access. Currently this land is vacant. Table I.9 details the characteristics of this area.

Table I.9: Study Area 5 Land Use Characteristics

Parking	None
Walkways	Informal dirt pathways
Land Use	Vacant
Zoning	A1, Agriculture Zone

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

Study Area 6

Study Area 6 is a large, vacant parcel of State Trust Land located to the southwest of the London Bridge. This piece of land will be the site of a second bridge, which would help alleviate traffic on the current bridge. Table I.10 details the characteristics of this area.

Table I.10: Study Area 6 Land Use Characteristics

Parking	None
Walkways	None
Land Use	Vacant
Zoning	A1, Agriculture Zone

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006 Study Area 7

Study Area 7

Study Area 7 is broken up into two parts. The first area is located southeast of the Bridge. This area is called London Bridge Beach Park and contains Lion's Dog Park. Vegetation includes grassy areas and shade trees. Table I.11 details the characteristics of this area. The second area is Lake Havasu State Park, which is approximately 25-acres. The park contains a campground, beach, boat launch facility and recreational trails. This facility has a parking capacity of 400 cars and trailers. The Lake Havasu State Park portion of area 7 was

originally included in the redevelopment area. However, based on observed conditions in the park and input from the public no redevelopment actions have been proposed in this area.

Table I.11: Study Area 7 Land Use Characteristics

Parking	Along London Bridge Beach Rd. and lot North end of area.
Walkways	Along Channel, access to bridge.
Land Use	Public Park
Zoning	A1, Agriculture Zone

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

Study Area 8

Study Area 8 is located west of the English Village (Study Area 1) and east of Lake Havasu State Park. This study area contains two separate parcels of land, each under different ownership. The parcel furthest west is the Kingsview II development, a 50-unit condominium property with a restaurant on the west end. The second parcel, adjacent to the English Village, is currently vacant.

Table I.12: Study Area 8 Land Use Characteristics

Parking	Private parking for condominiums
Walkways	Along Channel
Land Use	Residential/Commercial and Vacant
Zoning	R4/PD_H1/PD

Source: Lake Havasu Zoning Map, 2006 & Site Visits Fall 2006

Conclusion

The characteristics of the eight study areas reveal a disconnect between the zoning, vacant land and active land uses. Many of the study areas have insufficient parking, undeveloped open space and unfinished walkways for pedestrians. The English Village, the focal point of the channel area, currently consists of dilapidated and empty buildings. The recommendations provided in this plan encourage realistic, economically viable zoning designation and land uses. These recommendations will create connectivity throughout the Bridgewater Channel Area and create investment, attract residents and visitors and encourage economic development.

II. Redevelopment Plan Objectives

A. Methodology

The Redevelopment Plan for the Bridgewater Channel Area in Lake Havasu City was designed in accordance with the redevelopment plan requirements set forth in Arizona Revised Statutes (ARS 36-1471).

1. Public Meetings

During the summer of 2006, a survey constructed by the Lake Havasu City Development Services Department was distributed to over 4,000 City residents. The survey was titled the Bridgewater Planning Area Community Involvement Questionnaire. Two hundred surveys were distributed at public meetings in March thru May of 2006. An additional 4,000 surveys were mailed out to residents in July to broaden participation. Twenty-seven percent of the surveys were answered and returned. This exceptional return rate represents the deep connection and interest of residents in the redevelopment plan.

Two public meetings were held by the Planning Degree Program students from the University of Arizona to present an analysis of survey results and to present initial recommendations developed from public surveys, comments, and additional research. A final meeting was held to present the final recommendations of the Bridgewater Redevelopment Plan on December 12th, 2006. Table II.1 details the dates scheduled for public meetings for Lake Havasu City residents and council members.

Table II.1: List of Public Meetings Conducted for the Bridgewater Channel Redevelopment Plan

Date	Location	Group	Attendance
September 19th	Lake Havasu City Hall	City Council Meeting	25
October 24th	Lake Havasu City Hall	Town Hall Meeting	48
December 12th	Lake Havasu City Hall	City Council Meeting	n/a

Source: University of Arizona Planning Students, Fall 2006

Figure II.1 shows that the first meeting was held on September 28th. The purpose of this meeting was to present research regarding demographic information as well as extensive analysis of the survey results completed by the Lake Havasu City residents in August 2006.

The second meeting was held on October 24th (Figure II.1). Exhibits of proposed redevelopment plans were prepared and displayed in a town hall/open house format. Residents and City officials who attended this meeting provided valuable information and opinions that significantly shaped the recommendations set forth in this plan.

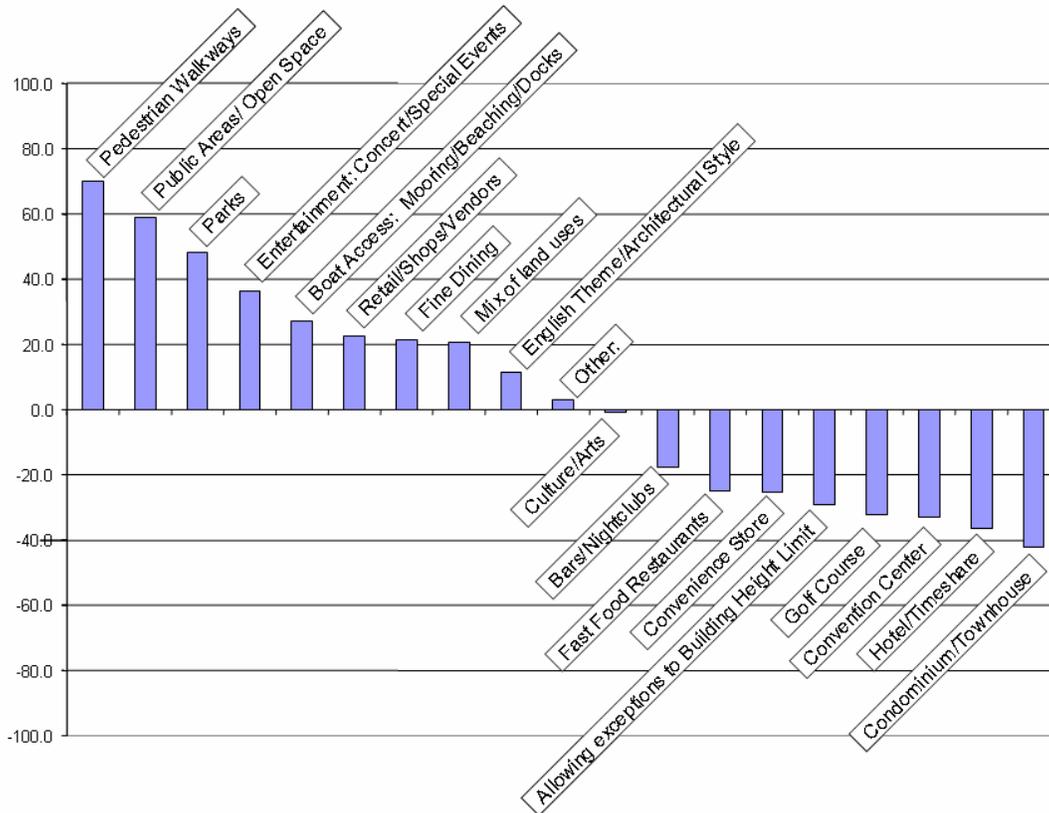
The demographics of survey respondents reflects the overall make-up of Lake Havasu City population as detailed by the 2000 U.S. Census.

- The majority of survey respondents are full-time residents followed by part-time residents.
- More than half of respondents are either retired or working in the private sector.
- 62 percent of the respondents were male and 38 percent female.

2. Summary of Results

Survey results suggest that pedestrian walkways, public areas, greater public access, and entertainment are all crucial factors in improving the Channel Area. It has also been asserted that there is a great demand for capital improvements and private enterprise in the Channel Area (Figure II.1). This feedback serves as a guidepost for enhancing the area. For more detail regarding survey responses for each specific area refer to Appendix 3.

Figure II.1: Summary of Survey Responses Ranked Most Important to Least Important.



Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

The summary (Figure II.1 provides an overview of survey responses, what respondents identified as important and what has been identified as less important. Pedestrian Walkways, public areas and open spaces and parks are the top 3 ranked most important components to address in the Redevelopment plan for the Bridgewater Channel Area. Condominiums, hotels and timeshares and convention center were identified as the least important.

B. Current Plan Compliance

The Bridgewater Channel Redevelopment Plan is in compliance with the visions presented in the Lake Havasu General Plan with the exception of one amendment. Residential development on the Island is not in accordance with the comprehensive plan. An

amendment to the Comprehensive Plan may be required if residential development is to occur. The current general plan was adopted by Council in August 2002, ratified by the voters in November 2002, and updated in December 2004. This Redevelopment Plan addresses overall concepts of the comprehensive plan, such as economic development, public amenities, as well as connectivity and accessibility through multi-modal transportation. Through the preservation and enhancement of natural and developed landscapes, as well as the addition of cultural and artistic amenities, the Bridgewater Channel Area will continue to thrive as a destination for both residents and tourists.

Connectivity and accessibility will be enhanced through pedestrian bridges and improved walkways. Pedestrian access and comfort are treated as the central theme, which will unite the Channel and provide for access to both public amenities and retail. Visions of the Channel as a regional destination for visitors and residents are specifically addressed through the addition of retail and public amenities in nearly every redevelopment area. Retail, paired with housing will serve to attract both residents and tourists while maintaining the Channel as the focal point of the City.

C. Summary of Proposed Action

This redevelopment plan has many specific concepts that are outlined in the specific sections of the plan. There are, however, many over-arching concepts that are outlined below. Such concepts include: public space, connectivity, parking, family attractions, dining and retail, art and design regulations and the creation of a Bridgewater Channel Business Association. Current, as well as proposed land use and zoning changes, are outlined in more detail in each individual section. However, Figures II.2 through II.5 show the entire Bridgewater Channel Area current and proposed zoning and land use conditions. The following figures show the overall concepts of increasing density and the mixing of land uses as well as the increase in public space and activities.

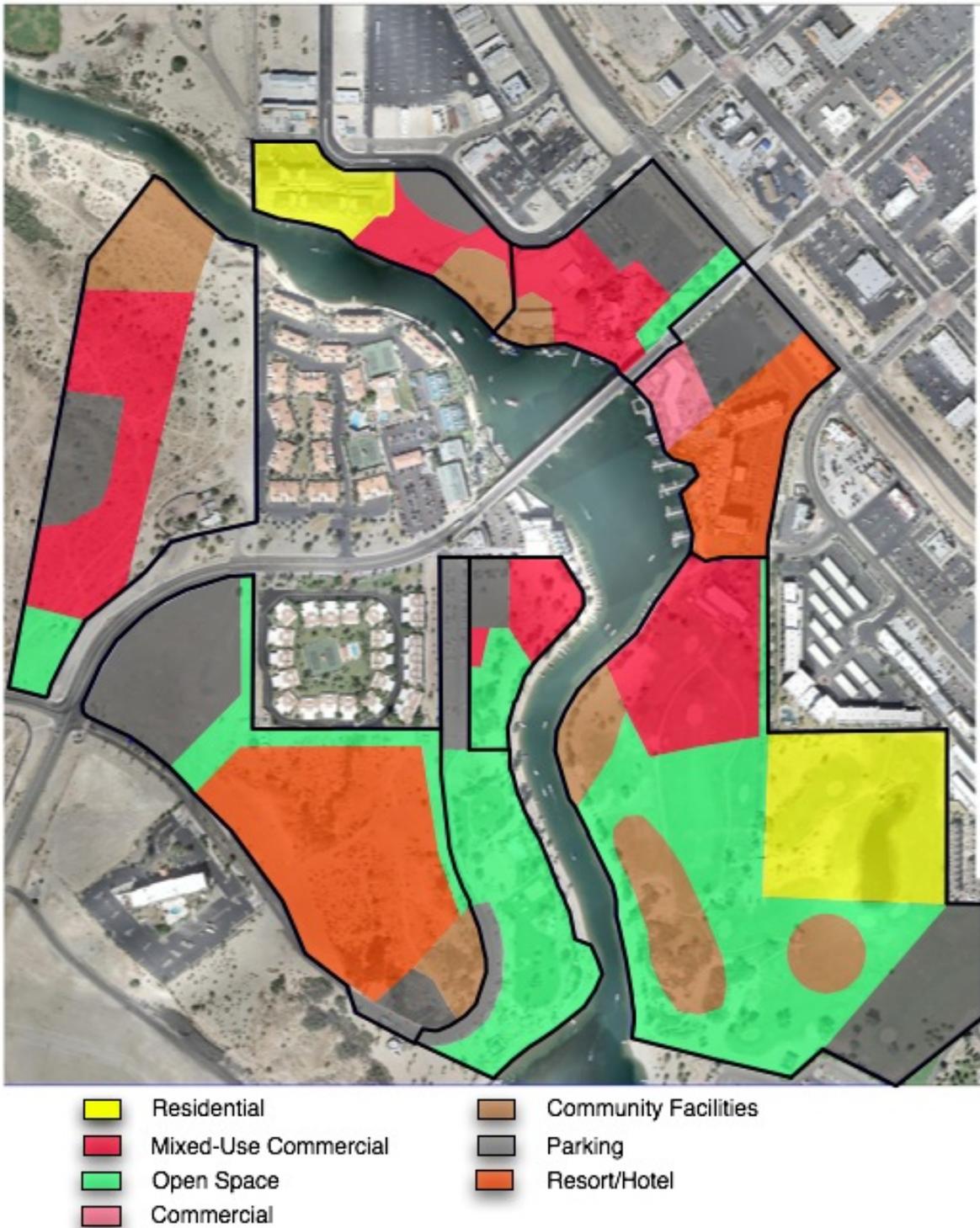
Time frames for development of these areas will depend on the growth of the retail market. Area 1, the English Village is one of the top priorities of the redevelopment plan, creating a sense of place and renewed identity to the Channel. Connectivity, another main focus of this plan, will serve to improve the overall experience for both residents and tourists in the Channel. Therefore, the rehabilitation and creation of new walkways within the Channel is also another key priority of the plan and exists within the first stage of the project. Appendix 4 has more information on phasing of this redevelopment plan.

Figure II.2: Existing Land Use in the Bridgewater Channel Redevelopment Area



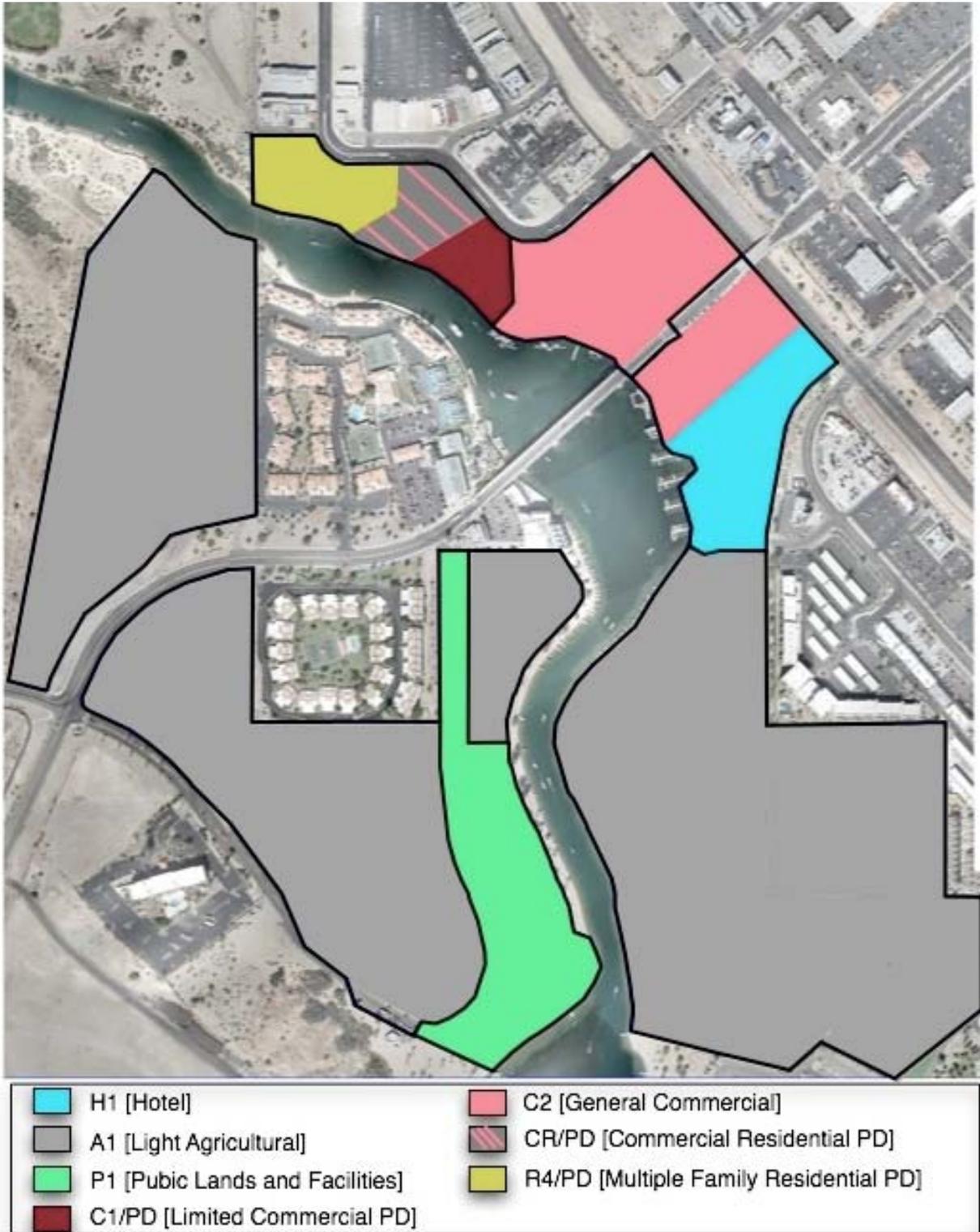
Source: Adapted from Lake Havasu City aerial photo

Figure II.3: Proposed Land Use in the Bridgewater Channel Redevelopment Area



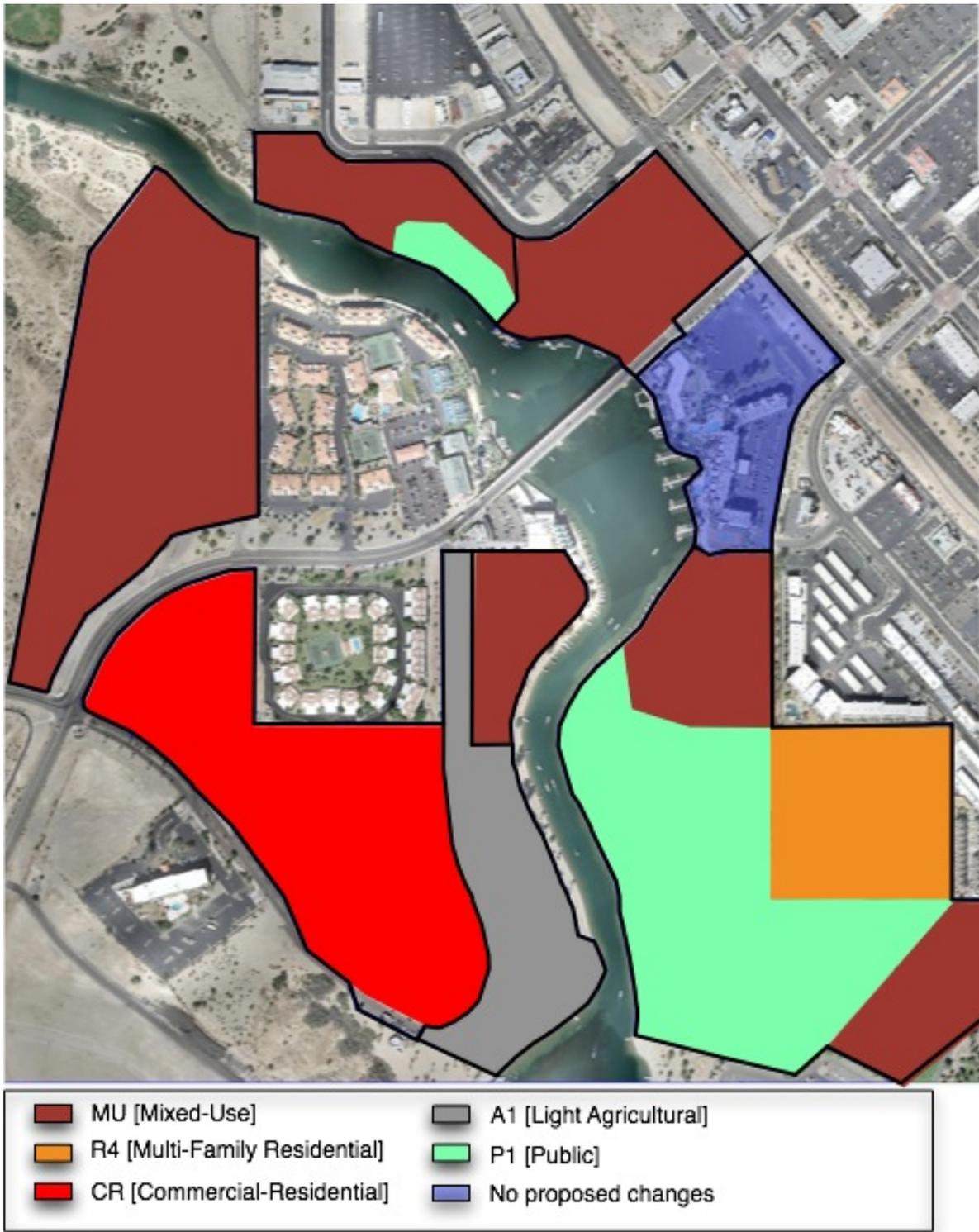
Source: Adapted from Lake Havasu City aerial photo

Figure II.4: Existing Zoning in the Bridgewater Channel Redevelopment Area



Source: Adapted from Lake Havasu City aerial photo

Figure II.5: Proposed Zoning in the Bridgewater Channel Redevelopment Area



Source: Adapted from Lake Havasu City aerial photo

1. Connectivity

Connectivity is the central theme in this redevelopment plan. Encouraging people to get out of their cars and boats and walk around the Bridgewater Channel is important for the livelihood of both the public using the space as well as the businesses located around the Channel. Walking is an excellent way to encourage healthy living. By enhancing the walkways around the Channel, the residents of Lake Havasu City will enjoy an expansive, scenic, and continuous route.⁵⁸

Improvements in the aesthetic appearance and accessibility of pedestrian walkways, facilities and amenities have been shown to increase the amount of pedestrian traffic on improved walkways.⁵⁹ Not only will improvements to the pedestrian facilities increase the amount of pedestrian traffic, but pedestrians will be able to enjoy public space and have access to both sides of the Channel. Connectivity, access, linkages to different land uses, separation from traffic as well as pedestrian-supportive land use patterns will all contribute to the success of the pedestrian walkways of the redevelopment plan. Successful walkways will increase tourist and resident pedestrian traffic. An increase in pedestrian traffic will increase spending and could directly contribute to the economic success of the Channel Area businesses. Improvements in connectivity include: walkway connections to existing pathways outside the Channel Area and the construction of pedestrian bridges. Design elements incorporated in the connectivity of the Channel Area include adequate lighting and lighting placement, benches, and walkway design.

Lighting can create a sense of security and comfort to a pedestrian. Lighting will give a sense of geographic placement and identity to the Channel Area. The London Bridge is a focal point of the Channel Area. Lighting must enhance the presence and appearance of the

⁵⁸ Bikewalk Organization. *Creating Walkable Communities: A guide for local governments*. <http://www.bikewalk.org/ncbw_pubs.php> Viewed November 8, 2006

⁵⁹ Am J Prev Med. 2004 Feb;26(2):119-25. Perceived environment attributes, residential location, and walking for particular purposes. Nancy Humpel PhD, Neville Owen PhD, Don Iverson PhD, Eva Leslie PhD and Adrian Bauman PhD & Vernez-Moudon, Anne, *Effects of Site Design on Pedestrian Travel in Mixed-Use Medium Density Environments*, University of Washington College of Urban Planning (Seattle, WA, 1996).

London Bridge, not detract from it. Along pedestrian walkways lighting must be used to allow pedestrians to identify where they are geographically. Lighting will also give a specific location a sense of identity separate from other areas in the vicinity of the Channel. The English Village is a major attraction within the Bridgewater Channel Area; therefore, English style lighting can be used more liberally around trees, shops, and the fountain to enhance the English Village theme. In less populated parts of the Channel Area light posts must be closely spaced to give the sidewalk space an “inhabitable,” well lit feel.⁶⁰ Photometric analysis must be done on existing light fixtures in order to analyze how many additional light posts should be added. In addition to light posts, smaller scale light fixtures could be added at the ground level of the walking paths as path lighting. A common design for light fixtures must be maintained in order to encourage the identity and connectivity of the area.⁶¹

Benches should also be utilized to create connectivity throughout the area. Where to place a bench and how many benches to have depends on the location and land use in the area. In the English Village and other highly populated areas around the Channel benches should be placed more frequently, out of the way of pedestrian traffic. Benches should be use more sparingly in less populated areas, such as the public park. “They should be set back at least 24 inches from the pedestrian walkway to allow space for people walking by, but not too far back so that they will not be used.”⁶²

Walkways, once enhanced, will help create the setting for a pleasant walking experience. With the addition of pedestrian bridges and floating walkways, thus connecting both sides of the Channel Area, people will enjoy walking around the entire Channel area rather than just having access to one side. Walkways with adequate lighting and seating will be accessible to all pedestrians. Safety, landscaping, continuity and social space must all be present in the enhanced walkways. Safety for pedestrians will be accomplished with placement of lighting

⁶⁰ *Lighting Use & Design*. Projects for Public Spaces. Viewed November 3 2006
http://www.pps.org/info/amenities_bb/streetlights#Why%20is%20lighting%20important?

⁶¹ *Lighting Use & Design*. Projects for Public Spaces. Viewed November 3 2006
http://www.pps.org/info/amenities_bb/streetlights#Why%20is%20lighting%20important

⁶² *Benches*. Projects for Public Spaces. Viewed November 3 2006 <
http://www.pps.org/info/amenities_bb/benches>

and the separation of walkways from vehicular traffic. Landscaping, explained in more detail later, will create desirable microclimates and be aesthetically pleasing to the pedestrian.⁶³

Creating a walkway with a width of five feet will allow universal accessibility as well as a wide space for strollers and couples to pass each other with ease.⁶⁴ Preferred sidewalk material of pedestrian design professionals is Portland cement concrete (PCC), which is easy to maintain and provides a smooth surface for universal accessibility. Special districts, such as the English Village, may consider special stamped paving to create a distinct sense of place.

Floating Walkway

The Bridgewater Channel Area currently has a number of excellent walking paths. Unfortunately, many of these walking paths dead end and are not interconnected. There is currently only one bridge across the Channel and people walking down to Rotary Community Park or Lake Havasu State Park must turn around and return to the London Bridge in order to cross the Channel. The connectivity of walkways is of great importance. In order to achieve this, a pedestrian only bridge should be built between Areas 3 and 7, a pedestrian crossing should be included in the design of the proposed second bridge, and a floating walkway should be constructed to allow continuous connection of the walkway along the Bridgewater Channel.

One significant impediment currently exists to fully connecting the Bridgewater Channel Redevelopment Area with a continuous walkway on both sides of the Channel. The Isle Condominium development on the island side of the Channel north of the London Bridge, currently owns the Channel frontage property and has gated off the area from public access. A floating walkway past this area would allow the public to pass through the area, establishing a continuously connected walkway throughout the Bridgewater Channel Area. A floating walkway eliminates the need to infringe on the private property of the current

⁶³ Bikewalk Organization. *Creating Walkable Communities: A guide for local governments*. <http://www.bikewalk.org/ncbw_pubs.php> Viewed November 8, 2006

⁶⁴ North Carolina State University. Center for Universal Design. Viewed November 4 2006. <http://www.design.ncsu.edu:8120/cud/pubs_p/pubs_p.htm>

owners, but achieves the goal of providing public access through the area. Figure II.6 is an example of a floating walkway.

Figure II.6: Floating Walkway in Melbourne, Australia



Source: Burchill VDM Pty Limited

The floating walkway would connect to the land and extend out into the Channel. Floating walkways make use of floating pontoons (or floats), beams, and pylons to provide access along a waterway.

Currently, the residents of the Isle Condominium development use the shoreline as a private area in which to moor their boats. One potential strategy for reestablishing public access through the area while maintaining boat mooring opportunities is to construct the floating walkway so that boats can be moored to it. The residents of the Isle Condominium development could even be given the exclusive rights to moor along the floating walkway. The walkway should also be constructed with a railing restricting members of the public from leaving the walkway and entering the adjacent private property. Locking gates in the railing would allow residents to pass from the walkway or boat mooring location into their secure property on the other side of the railing.

A floating walkway must be compliant with ADA Accessibility Guidelines.⁶⁵ For a complete set of guidelines, visit www.adaportal.org.

Aside, from ADA requirements, the dimensions of a floating walkway should be designed with freedom of movement and safety in mind. When Vine Associates designed the walkway for the Four Point Channel in Boston, they decided that 12 feet was a sufficient width to allow pedestrians to comfortably pass by one another⁶⁶ and in Portland the East Bank Esplanade was designed with 42-inch guardrails.⁶⁷ Figure II.7 shows a floating walkway in Brisbane, Australia.

Figure II.7: Floating Walkway in Brisbane, Australia



Source: Burchill VDM Pty Limited

Public Interest in a Continuously Connected Walkway

According to the weighted survey results 70% of those surveyed wanted to see more pedestrian walkways in the Channel Area. The development of a floating walkway would

⁶⁵ ADA Document Portal. “ADA Accessibility Guidelines (2002)” Received from <http://www.access-board.gov/adaag/html/adaag.htm> Accessed: November 13, 2006.

⁶⁶ City of Boston. “Fort Point Channel Watersheet Activation Plan (2002).” Received from <http://www.cityofboston.gov/bra/Planning/PlanningInitsIndividual.asp?action=ViewInit&InitID=23> Accessed: November 13, 2006.

⁶⁷ Fibre Composite Design and Development (FCDD). “Delivering Solutions (2006).” Received from <http://www.fcdd.com.au/Newsletters/Newsletters.htm> Accessed: November 13, 2006.

serve as a valuable asset in meeting this goal. The floating walkway will allow a complete circuit of connected walkways and bridges to be built allowing residents and tourists to use the area as a connected whole rather than several individual and disconnected areas. This connection will encourage them to spend money at shops along the way. Often individuals come to Lake Havasu City only to see the London Bridge. The addition of a floating walkway would provide them with an opportunity to spend more time in the Channel Area.

Vehicular and pedestrian bridges will increase connectivity and would be utilized when placed at the far ends of each side of the Channel to increase circulation. On the eastern end of the Bridgewater Channel a pedestrian bridge is recommended to connect areas 3 and 7. The bridge provides connectivity between the mainland and the island for pedestrians and bicyclists serving as a link between both sides of the Channel and creating a sense of the Bridgewater Channel Area being one cohesive place.

Funding

There are a few methods of funding for public walkways and fixture amenities. Local, private funding is always an option, through fundraising and private donations, such as donate-a-bench/tree programs. Private organizations, such as a business association can use their resources to fund public walkways that will benefit the Channel Area. Local governments can use property taxes, capital improvement funds, and impact fees as a method of obtaining walkways and transportation improvements. However the most common form of funding for pedestrian and bicycle improvements are Transportation Improvement (TE), and Transportation Enhancement Activity (TEA-21) funds. These funds could be used for streetscape improvements, sidewalks and crosswalks, pedestrian light fixtures, benches and landscaping, trails and pathways and bicycle parking facilities. Annually, each state is required to set aside ten percent of its allocated Surface Transportation Program funds. Total TEA-21 fund allocation for Arizona from fiscal year 1998 to 2004 was roughly 6.5 million dollars.⁶⁸

⁶⁸ Arizona Department of Transportation Enhancements Program. TEA funding. <http://www.enhancements.org/profile_search.asp> Viewed November 8, 2006
Bridgewater Channel Redevelopment Plan

2. Public Space

An essential element of this redevelopment plan is public space. The desire for additional public space was expressed in overwhelming numbers in the August 2006 survey. Public space can be open spaces such as walkways, squares, and gardens as well as public buildings such as amphitheatres and community centers. Public space and attractions will serve as the catalyst for the revival of the Channel Area. In some cities this catalyst could be public art, a community center, a public square or even a carousel⁶⁹. By enhancing the public space in the Bridgewater Channel Area, tourists and residents will spend more time enjoying the area, including retail and dining facilities.

Design is an important factor when considering public space and the comfort and interaction of the pedestrian with their surroundings. Walkways and open public spaces should be inviting and encourage people to stay. They should provide corridors for both walking and standing areas for people to visit and interact socially. These corridors should be a place where children can interact safely, out of the way of pedestrian traffic.⁷⁰ Landscaping, special paving and fixtures such as benches and lighting all serve to promote a sense of place. Public, pedestrian space should be a place for multiple uses to exist with both commercial and public space coexisting.⁷¹ Appropriate landscaping can be used to provide both shade and comfort to visitors as well as create a sustainable element for the Channel Area. Trees and vegetation are the earth's natural air conditioners; therefore, if used appropriately vegetation can provide both cooling shade as well as absorbing carbon dioxide. If sustainable landscaping design is implemented, energy costs, as well as outdoor water consumption, can be dramatically reduced.⁷² Some strategies for sustainable design include promoting use of native, low water consuming plant species as well as using landscape to provide pedestrians with climate protection.

⁶⁹Gratz, Roberta and Norman Mintz *Cities Back from the Edge, new life for downtown*, 1998

⁷⁰ Bikewalk Organization. *Creating Walkable Communities: A guide for local governments*. <http://www.bikewalk.org/ncbw_pubs.php> Viewed November 8, 2006

⁷¹ ibid

⁷² Sustainable Design. <<http://www.myflorida.com/fdi/edesign/news/9607/thesis/site.htm>> Viewed November 8, 2006.

Family Attractions

A number of the public spaces proposed for the Bridgewater Channel Area are intended to attract families to the Channel Area. Family attractions are intended to increase the number of families that visit the Channel Area and increase the amount of time that they spend there. Returning the carousel to the English Village, adding a family play area and small splash park, adding a sports area in London Bridge Park, and the placement of several interactive art pieces that can be climbed on will make the Bridgewater Channel Area an attractive and fun destination for people of all ages.

Many families already visit the Channel Area by boat or by walking along the walkway. These families come less frequently and stay for shorter periods of time because there are currently few activities in the Channel Area to interest younger children. Making the area more attractive to families is critical to achieving all of the goals of the redevelopment plan. A more family friendly Channel Area will attract family vacationers from all over the region. Families already boating and camping on Lake Havasu will be more likely to come into the Bridgewater Channel Area and spend more time and money.

3. Parking

Providing additional public parking facilities to the Channel Area will ease the competition for parking spaces on busy weekends such as Memorial Day and Labor Day. More public parking will improve access to various parts of the Channel Area, and will be necessary to accommodate new development taking place in the Channel Area.

To mitigate the discomfort of the area's high temperatures and to keep vehicles cool, shade structures will be necessary (Figures II.8, II.9 and II.10). Both natural shade structures such as trees, and man-made structures, such as cantilevers, are proposed in parking lots.

Figure II.8: Parking in Natural Shade



Source: Ripway Web Hosting

Costs for man-made parking shades vary in price by type and manufacturer. A quote from Apollo Sunguard Systems, Inc. priced cantilever shade structures at approximately \$10,000 per 325 square foot parking space.

Figure II.9: Cantilevered Parking



Source: Tricoshade

Another option, solar paneled parking equals to costs of \$18,300 for a 9 foot by 18-foot space.⁷³ Solar paneled parking structures are expensive but the energy can be stored for other uses such as lighting along the Channel.

Figure II.10- Solar Paneled Parking



Source: Eworld

The Redevelopment Plan proposes to build new parking facilities in Redevelopment Areas 3, 4, 5, 6, and 8.

- Study Area 3 requires parking facilities for the proposed mixed-use and desert garden areas;
- Study Area 4 requires parking facilities for the proposed mixed-use and amphitheatre areas;
- Study Area 5 will have an above grade parking structure that will serve as a central parking location for visitors to the Channel Area;
- Study Area 6 requires parking facilities for proposed public space, community pavilion, mixed-use, and neighborhood market areas;
- Study Area 8 requires parking facilities for proposed mixed-use, and play area

Appendix 5 has specific information on parking requirements and specifications.

⁷³ EV World, www.evworld.com. Viewed November 8, 2006.
Bridgewater Channel Redevelopment Plan

4. Dining and Retail

Additional dining and retail opportunities in the Bridgewater Channel Area will attract more people to the area and encourage people to spend more time in the Channel Area. Dining and retail are also important commercial activities that will generate tax revenues for the City and provide property owners with opportunities to develop their properties.

All goals for the Bridgewater Channel Area redevelopment involve making the Channel Area an economically and culturally vibrant area that will attract visitors and residents. There are currently only three full service restaurants and four fast food restaurants in the Channel Area. There are 11 retail stores, including strip stores and one neighborhood shopping center. Total existing restaurant square footage in the Channel Area is 29,662 square feet and Total retail square footage is 64,070 square feet. With these existing businesses, the Bridgewater Channel Area is well below its capacity to accommodate commercial activity in the retail and dining sectors. The 2.5 million annual visitors to Lake Havasu⁷⁴ and 55,338⁷⁵ local residents provide a ready customer base for these types of businesses.

The potential for retail and dining outlets in the Channel Area has not been realized because the Channel Area has, until now, not fully asserted itself as the hub of all tourism activity on Lake Havasu, nor has the Channel Area asserted itself as the center of community life. Adding dining and retail outlets alone will not achieve these goals. However, dining and retail outlets will complement the many public space improvements proposed in the area and create an important attraction for visitors and residents.

5. Design Elements

The design of retail and dining outlets in the Channel Area is an important element of the successful revitalization of the area. Encouraging development that is consistent with the redevelopment plan will facilitate the revitalization.

⁷⁴ Lake Havasu Convention and Visitor's Bureau

⁷⁵ U.S. Census Bureau, 2005 population estimate

Special attention should be given to the design of new commercial uses in the Channel Area. Providing an inviting experience for visitors is extremely important. Lake Havasu City should consider developing design standards for mixed-use developments in the Channel Area. This will ensure that the commercial spaces are pedestrian oriented and function to entice people out of their boats to patronize local businesses. Design standards could include:

- At least 75 percent of the net frontage of the building be designed for commercial uses in ground-floor spaces that open onto the Channel walkway
- Shade structures or awnings extend out 15 feet from face of building on the Channel side.
- Each ground-floor commercial space have:
 - a. A customer entrance that opens directly onto the Channel walkway;
 - b. A depth of not less than 24 feet;
 - c. A height of not less than 12 feet, measured from the finished floor to the bottom of the structural members of the ceiling
 - d. A front façade that meets the approval of the design review committee (may require consistency with English Theme in some areas.)

Figures II.11 and II.12 are examples of mixed use developments. In each of these examples the businesses are focused on attracting traffic from a pedestrian thoroughfare. Businesses have attractive façades, entrances on the thoroughfare and are built very close to the pedestrian walkway. Many of the businesses pictured have also placed shade awnings and tables in front of their businesses. This type of development fosters a vibrant atmosphere that will attract residents and tourists to the Channel Area.

Figure II.11: Tudor Style Buildings



Source: Driver Guide Tours

Figure II.12: Mixed-Use Buildings Line the Walkway along a Channel



Source: Webshots

Location Considerations

As shown in Figure II.3, mixed-use areas are located in nearly every parcel in the redevelopment area. Commercial uses are required to generate economic activity and provide essential services to Channel Area visitors. Ensuring that dining and retail uses are scattered throughout the Channel Area will encourage visitors to explore the entire area.

6. Interactive Public Art

Interactive art is a form of art that involves the spectator in some way. Some sculptures achieve this by letting the observer walk in, on, and around the piece. Adding 15-25 interactive public art pieces will help to create an environment in the Bridgewater Channel Area that is interesting and attractive to people of all ages. Children are attracted to this specific type of art because they can climb on it, touch it, and interact with it in a number of ways. For older residents and visitors, public art can add interesting waypoints along a walking path, provide iconic expressions of the area's identity, and if designed as seating elements can also provide functional seating.

Adding interactive public art to the Bridgewater Channel Area will work with and compliment several of the other overarching design concepts proposed for the area. As noted above, public art can function as seating along the public walkway. Art can help to draw people into public gathering spaces and provide landmarks for meeting in crowded areas. Public art pieces should maintain some consistent theme throughout the area. Artistic conceptions can be integrated with the English Theme to carry the theme through the entire area.

Public art has been shown to have significant economic and place making benefits to an area. The Travel Industry Association of America conducts a National Travel Survey each year. In 2001, a series of questions was added to identify the purpose and length of time trips are extended because of cultural activities or events. According to the results, two-thirds (65%) of American adult travelers say they included a cultural, arts, heritage, or historic activity or event while on a trip of 50 miles or more, one-way, in the past year. This equates to 92.7 million cultural travelers. Of the 92.7 million adult travelers who included a cultural event on their trip, 32% (29.6 million travelers) added extra time to their trip because of a cultural, arts, heritage, or historic activity or event.

Several cities throughout the world now have temporary public arts projects like Chicago's Cows on Parade. Cow's on Parade brought an estimated 2 million additional visitors to the

City during the three-month exhibition. The additional tourists generated an estimated \$500 million in revenues for area retail, hotel, and dining businesses⁷⁶. In Cincinnati, Ohio, approximately 968,000 people attended The Big Pig Gig in 2001, 462,000 of whom were out-of-towners. These tourists spent \$59.4 million in area stores, restaurants, hotels, and gas stations. This was a 500% return on the \$1.2 million direct cost of the event. Out-of-towners stayed an average of three days in Cincinnati, and spent \$130 per person⁷⁷.

Arts and cultural opportunities can be important factors in job growth for an area as well. In a past survey conducted by the Joint Legislative Committee on Cultural Affairs, 99% of the chief executive officers who were questioned stated that the availability of cultural activities in an area is an important consideration in choosing a new location. Few empirical studies exist that identify what it is about public art that is so important to a sense of place. However, anecdotal evidence suggests that public art is a critical element in any public space.

Public Art Design Elements and Location Considerations

Public art can include fountains, lighting, murals, mosaics, tent structures, banners, figurative and abstract sculpture, play sculpture, seating, and ornamental glass. The Bridgewater Channel draws residents and tourists to the area for a variety of activities. Art that is functional as well as elegant would attract even more visitors. Art pieces that provide seating and meeting places will serve as rest areas along the walking path for daily walkers and curious tourists. Families are especially drawn to the Channel Area so art pieces that provide structures for children to play on will provide an additional attraction and activity for families. Maintaining the public spaces in the Channel Area is an important objective of the redevelopment plan. Art pieces that focus attention on public gathering spaces will help achieve this goal and help to draw additional tourists and residents to the area.

⁷⁶ Project for Public Spaces, *How Art Economically Benefits Cities*.
http://www.pps.org/info/pub_art/art_impact (accessed 11/10/06).

⁷⁷ Project for Public Spaces, *How Art Economically Benefits Cities*.
http://www.pps.org/info/pub_art/art_impact (accessed 11/10/06).

The design and location of specific public art elements should be a public process. Engaging the creativity of community members and local artists will ensure that the theme of the public art embodies the unique characteristics of Lake Havasu City. The weather in Lake Havasu City should also be considered in the development of public art. Surfaces that do not heat up excessively in the sun should be used. Metal or mirrored surfaces should be avoided. The location of individual art pieces should also be considered. It is important to place pieces close to walkways and in public gathering areas to take advantage of the benefits that public art produces. A number of pieces should be placed within clear view of the English Village grand entrance to capture the attention and interest of tourists arriving by tour bus.

The Project for Public Spaces suggests six considerations for site selection of public art pieces:

- High levels of pedestrian traffic and the area should be part of the city's circulation paths;
- Easily visible and accessible to the public;
- Anchor and activate the site;
- Enhance the overall public environment and pedestrian streetscape experience;
- Help to create a place of congregation and activity; and
- Establish landmarks and neighborhood gateways.

Figure II.13 shows various examples of public art in other cities. All of the pieces are designed to engage the public; some are designed as benches or informal seating areas others are designed to be climbed.

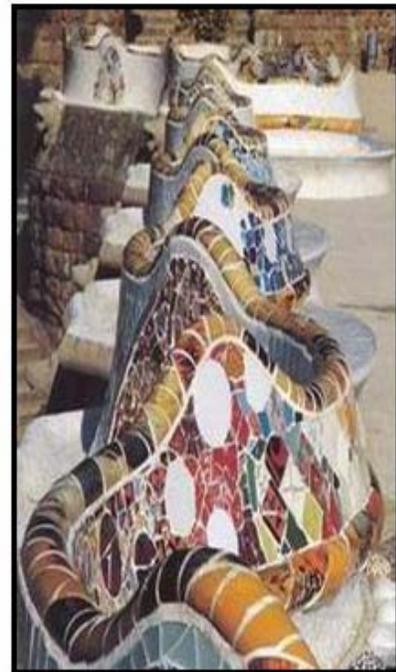
Figure II.13: Examples of Interactive Public Art



Source: Project for Public Spaces



Source: Galeria BorjaNet



Source: GTA Madrid

Funding For Public Art

Public art has been funded in a number of ways. Donations from private individuals and corporations are the most common strategies for funding public art. Allowing donors to place a placard under the piece can be a powerful technique to encourage donations. One of the activities of the proposed Bridgewater Channel Business Association should be to encourage private funding of public work. The Lake Havasu City Arts and Culture Commission should also take an active role in fund raising, developing design standards, as well as, working to develop a public art plan for the Bridgewater Channel Area.

Lake Havasu City Counsel should also consider a “percentage to the arts ordinance”. Percentage to the arts ordinances encumber public capital improvement projects with a budget percentage (usually .5%-2%) that goes directly to the funding of public art. This guarantees a yearly funding stream for public art in the Channel Area. A number of grants from national organizations can also be pursued to fund public art; the National Endowment for the Arts (NEA) and National Endowment for the Humanities (NEH) both have grants aimed at funding public art. Local revenue streams could also be used to fund public art.

Another option for the Lake Havasu City Council would be to provide development incentives to developers who fund public art as part of their development projects in the Channel Area. Additional floor-area ratio allowances or additional height allowances could be given to developers who contribute to public art.

7. Design Regulations and Suggestions

Tudor style architecture and accompanying English Theme elements will provide a unique charm to the Bridgewater Channel Area and draw visitors. Residents and tourists alike will enjoy the aesthetic appeal of the enhanced look. English themed design elements need to appear in Study Areas 1 and 2 to create the unique character identified with the London Bridge.

English Architecture Themes in these Study Areas are also supported by the community. The weighted survey results revealed that 48.5% of those surveyed supported the English Theme in Study Area 1 and 47.8% supported it in Study Area 2.

In addition to the General Development Standards outlined in the Lake Havasu City Development Code, English themed areas should adhere to the following guidelines. A design review board should be created to oversee and approve plans for new construction in the English Village. The following discussions of façade, roof, windows, doors, chimney, signs, lighting and other design elements are suggestions to ensure the English theme is continued.

Façade

The façade of the buildings in English themed areas should use oak half-timbering filled with whitewashed plaster or herringbone brickwork. Oak corner posts should be inlaid on the edge of walls. To create shade and maintain English style second floors of buildings should be jettied and decorated with corbels.

Figure II.14: Tudor Style Façade



Source: Wikipedia

Roof

Roofs should be steeply pitched and make use of cross-gables, dormers, and limited eaves.

Roof tiles should be made of clay or other slate (Figures II.15, II.16 and II.7).

Figure II.15: Cross Gable



Source: United Communities

Figure II.16: Dormer Roofs



Source: Pbase

Figure II.17: Clay Roof Tiles



Source: ToyCollectors

Windows & Doors

Tall vertically oriented windows should appear on the lower and upper stories; especially on dormers (Figure II.18). Windows should be multi-paned and mullioned.

Doors should be made of vertical wood planks and arched at the top (Figure II.19).

Figure II.18: Multi-paned, Mullioned Windows



Source: BTinternet

Figure II.19: Vertically-planked and Arched Doorway



Source: Old House Web

Chimneys

Chimneys should be high and topped with multiple chimney pots (Figure II.20).

Figure II.20: Chimney with Multiple Pots



Source: Norman L Benoit & Son, LLC

Signs

Painted hanging signs should be used on the front of shop (Figure II.21). External lighting should be used to light signs. Neon lights should be prohibited.

Figure II.21: Hanging Sign



Source: Caledonian Blacksmiths

Lighting

Facades and entrances should be illuminated at night and use Tudor style light fixtures (Figure II.22).

Figure II.22: Tudor Style Light Fixtures



Source: Barbecues.com



Source: Shades of Light

Entryway

Entryways should be on the street side of buildings. First floor street-side walls should have windows.

Building Elevation

Buildings should not exceed two stories. Nearby buildings should not modulate by increments of more than 10 feet.

Street Furnishings

Street furnishings such as bicycle racks, trashcans, and streetlights should be consistent in their design (Figure II.23). Streetlights should be consistent with the English theme. Cafés should make use of outdoor eating and seating areas complete with chairs and tables.

Figure II.23: English Themed Light Post in Lake Havasu City & Proposed Outdoor Café Furnishings



Source: Kristen Clem



Source: Caroline Ogawa

Use

First floors should consist of pedestrian-oriented shops while upper floors could be utilized for other retail, office, or residential.

Pavement

The pavement, which makes up the walkway, should consist of cobblestone or imprinted concrete.

Service Areas

Areas used for servicing shops should be screened and away from walkways. Visualization of utilities, garbage/recycling, or outdoor storage should be concealed by walls or fences. Screening structures should be made of materials consistent with the building's architecture.

Location Considerations

Tudor themed architecture should be located in the Study Area 1, the English Village, to enhance the already present English theme. Study Area 2 is adjacent to the English Village and therefore should continue the theme.

8. Bridgewater Channel Business Association

The formation of a business association is recommended in order to achieve the development goals of the Bridgewater Redevelopment Plan. Through collaborative efforts, community groups, like business associations, are able to influence how redevelopment plans are implemented.⁷⁸ A business association for the Bridgewater Channel Area will have the ability to influence the success of redevelopment of the area, policies affecting the area, and local businesses located in the area.

A business association is a key component to achieving the goal of connectivity within the Bridgewater Channel Area. Bridgewater Channel Area businesses working collaboratively will allow for common themes, advertising and events that will bring visibility to the area, its attractions, and businesses. The business association should offer opportunities for member businesses to network with other businesses and business resources.⁷⁹

The association members should participate in collaborative advertising, which will allow for larger, more visible advertising campaigns that will attract visitors and residents to the Bridgewater Channel Area.⁸⁰ Collaborative efforts in marketing, events and policy issues will allow business owners to play a crucial role in how the Bridgewater Channel Area develops, is perceived, legislated and utilized.⁸¹ Finally, the association can implement

⁷⁸ Raco, Mike (2006). Business Associations and the Politics of Urban Renewal: The Case of the Lower Don Valley, Sheffield. Volume 34, Number 3 / March 1, 1997 Pgs: 383 – 402. Routledge, Part of the Taylor & Francis Group.

⁷⁹ Stratford Business and Civic Association <http://www.stratfordnj.org/buisness_association.htm> viewed: November 11, 2006

⁸⁰ Wye Business Association. <<http://www.wye.org/business/wba/index.htm>> viewed: November 11, 2006

⁸¹ Bembridge Business Association. <<http://www.bembridge.org/>> viewed November 11, 2006

community events and efforts to bring people to the Channel Area or visibility to certain issues that are affecting the Channel Area.⁸²

Incentives to join the association can include special offers for member businesses from member businesses.⁸³ Opportunities for advertising through the association network with other businesses and bringing visibility to one's own business are also incentives to participate in the association. A business association is able to fund the association through the implementation of membership dues,⁸⁴ fundraising events,⁸⁵ and project-specific grants.⁸⁶

Recommended Projects

The business association is an ideal implementation tool for several components of the Redevelopment Plan. Following are specific projects that this plan recommends the association implement and manage:

- Bridgewater Channel Area wireless internet
- Trash cleanup along Channel
- Coordinated community events
- Lobbying for Channel-specific improvements and changes
- Fundraising for walkway improvements throughout the Channel Area
- Pavilion events
- Open-air market facilitation.

Implementing projects, including those listed above, will allow the business association to influence the success of the Bridgewater Redevelopment process, how the Channel Area is used, and who is attracted to it. The business association's coordinated efforts will encourage business members' success and, ultimately, the success of the Bridgewater Channel Area and its redevelopment process.

⁸² Richmond Area Business Association <<http://www.richmondvermont.com/content/view/70/80/>> viewed: November 11, 2006

⁸³ Ogden Valley Business Association. <<http://www.ovba.org/>> viewed: November 11, 2006

⁸⁴ Ogden Valley Business Association. <<http://www.ovba.org/>> viewed: November

⁸⁵ Wye Business Association. <<http://www.wye.org/business/wba/index.htm>> viewed: November 11, 2006

⁸⁶ United States Small Business Administration.

<<http://www.sba.gov/services/financialassistance/grants/index.html>> viewed: November 11, 2006.

III. Redevelopment Strategies

A. Area 1: The English Village

1. Area Overview

Area 1 is bordered on the southeast by McCulloch Boulevard (the London Bridge), to the northeast by Highway 95, to the northwest by London Bridge Road and to the south by the Bridgewater Channel (Figure III.1 and III.2). This area is 7.53 acres, or approximately 328,000 square feet. There is a gentle slope from north to south over the majority of the area. However, McCulloch Boulevard creates a steeper northwest-facing slope on the southeasterly edge.

Figure III.1: Overview- Area 1



Figure III.2: Area 1



Source: Andrew Hagemeyer, November 2006

Area 1, also referred to as the English Village, was constructed in 1971 to coincide with the grand opening of the London Bridge. Designed by Disneyland-designer C.J.Wood, the English Village was once an important landmark to the people of Lake Havasu City but years of neglect now leave the area in a state of decay⁸⁷. Covering roughly half the expanse of Area 1, the Village is comprised of one and two-story buildings that house shops, restaurants, a theater, and businesses that offer tours of Lake Havasu. Shops in Tudor-style architecture line a landscaped pathway, as it makes its way past statues and a large fountain towards the Bridgewater Channel. This theme is mimicked by other developments throughout Lake Havasu City.

Currently there are four large structures on the property, as well as a number of smaller buildings. Some of these structures are occupied but most are vacant. Current uses in the village include a restaurant/bar, a visitor's center, offices for tour guide services, and an office for a European style Gondola ride. Many of the structures are in a state of decay, ranging from cosmetic blemishes to more serious structural deficiencies like unstable walls and deteriorating roofs.

North of the Village are two parking lots that cover approximately 112,000 square feet. These parking areas serve both the English Village and Channel Area. The larger lot borders McCulloch Boulevard, the smaller lot sits east of London Bridge Road. The two parking lots lack landscaping and adequate shade. During summer months the lack of shade creates excessively high temperatures at the surface making parking and pedestrian use uninviting.

The grand entrance, situated to the south of the large parking lot, is lined with flagpoles, a visitor's center, and a set of English statues. To the west of the entrance is a visitor's center and a gated square with a small memorial to the friendship between the United States and Great Britain. This area is shaded by vegetation and a few larger trees. Two English statues sit just past the entrance (Figure III.3). These statues are replicas of statues in London that mark ancient boundaries to the City. The replica statues in the English Village bare a plaque

⁸⁷ Holmes, Bobbi (nd). Lake Havasu City History. Havaus Magazine. Accessed October 15th, 2006 from, http://havasumagazine.com/history_of_lake_havasu_city.htm

explaining their relationship to the statues in London, and declare the land behind them as the City of London's.

Figure III.3: English Village from Main Gate Looking South.



Source: Dylan Parry

Past the entrance is a circular fountain with statues that are designed to shoot water at a centerpiece. The fountain is not currently operating and in disrepair. On the east is an English style double-decker bus that at one time housed a business. The bus is now dilapidated, creating both an eyesore and safety hazard to visitors entering through the grand entrance.

Connectivity and ease of circulation is vital in the English Village. Currently, there are five pathways in Area 1 (Figure III.4). One pathway connects the grand entrance to the Channel Area. This pathway serves as a central access point for both the businesses located inside the English Village, as well as the entire Channel Area. Along the Channel, a large pathway exists and serves as a connection from retail in Area 2 to Area 8. Along this pathway there are sporadic trees, many of which hinder pedestrian travel. A stone stairway, located along the northwest side of McCulloch Boulevard, allows pedestrian traffic to flow between the Channel pathway and the London Bridge. This is the only developed access from the Bridge to the English Village. A second path located behind the retail in the English Village, acts as a business access. This path is paved by blacktop and connects the parking area to the

backside of village businesses in the center of the lot. Although it connects with the Channel pathway, it is not intended for pedestrian use. A third pathway, connecting London Bridge Road and the Channel pathway, serves as private access for businesses along the far western side of Area 1. A multi-use pathway parallels Highway 95 connecting London Bridge Road to McCulloch Boulevard and allows access from the rest of the community to the English Village.

Figure III.4: Pathways in Area 1 (in red)



Source: Andrew Hagemeyer, November 2006

A number of trees scattered throughout the English Village provide shade along walkways. Near the parking lot many of the trees have either died or are unhealthy from what appears to be a lack of irrigation. Along the Channel, the few trees present appear to be healthier; however, as stated above, the low branches hinder the movement of pedestrian traffic.

There is a large section of vacant land located in the western portion of Area 1. The area borders Area 8, the Channel to the south, and the parking area and London Bridge Road to the north. This area is currently undeveloped and has a north-to-south slope towards the Channel. This vacant area is approximately one acre. At the southwest corner of Area 1 there is a small triangular parcel that contains a small kiosk and dock. According to Mohave County parcel records, this parcel extends all the way down to the seawall. Despite this apparent lack of public right of way, the public walkway currently cuts through this parcel and there is no impediment to public access through the area. The uses on this parcel are consistent with the redevelopment activities and should not impede successful implementation of the plan.

The majority of Area 1, except for the small triangular shaped parcel at the southwestern end, belongs to a single owner. However, much of the area is used as public space. The entire village is zoned C1. The area along the Channel to 35 feet inland is part of the Bridgewater Channel Overlay Zone. This zone controls uses in the Channel Area. Survey responses and public meetings identified necessary and requested improvements for Area 1. The following section outlines proposed improvements specific to Area 1. These recommendations have been formed in response to the survey results and comments at public meetings. For detailed information on survey results for Area 1 refer to Appendix 3.

2. Proposed Redevelopment Actions

The English Village is the keystone to the redevelopment of the Bridgewater Channel Area. Once an attraction and community gathering area, the English Village has lost the luster that appeals to Lake Havasu residents and tourists alike. Regaining the English Village's former prestige is vital to the success of redevelopment of the area, as well as, that of the Bridgewater Channel Area. Creating an atmosphere in the English Village that will attract residents and entice tourists to stay longer will benefit businesses in the English Village and the entire Channel Area.

To achieve the goal of attracting residents and drawing in and retaining tourists, development should increase retail and dining opportunities while creating new public spaces and encouraging attractions that draw people to the English Village.

The English Village area should be rezoned from C1, commercial zone to Mixed Use (MU). The Mixed-Use zone is consistent with existing uses in the area and allows the additional development of retail, dining and service businesses with residential or office units on upper floors. Additional restrictions to this area will require the ground-level floors to consist of commercial uses and the entrance of the businesses to face the Channel or other major walkway. We suggest the City allow increased densities in exchange for title of the land underneath the London Bridge and to offset the cost of creating public attractions.

A visualization map of the proposed redevelopment actions is shown in Figure III.5. The actual square footage of proposed retail, dining, residential, and office spaces will need to be determined through a market feasibility study.

Figure III.5: Proposed Development Actions for Area 1



Legend

	Lighting		Natural Shade/ Landscaping
	Walkway		Public Art
	Benches		

Proposed Modifications and Enhancements to the English Village

- Walkways enhancement and additions
- Enhancement of the Grand Entrance
- Creation of a small outdoor public gathering space
- Increase shade for pedestrian (customer) comfort
- Enhancement of existing retail and dining
- Creation of opportunities for new retail and dining
- Promotion of sidewalk cafes
- Establishment of an open air market
- Improvements to the visitors center
- Retention of English theme
- Return the Carousel to the English Village
- Improvements to parking area
- Improvements to landscaping
- Additional public art

Walkway Enhancement and Additions

In order to create more inviting conditions for visitors to the English Village, a number of improvements should be made to the existing 1,600 feet of walkways. The proposed new walkway is 160 feet long and will serve as a connection point from the central public space around the fountain up the hill to the east and meeting with McCulloch Boulevard, where the stairway reaches road level (Figure III.6). This walkway will serve as a universal point of access for pedestrians traveling on McCulloch Blvd to enter the English Village.

Figure III.6: Location of Proposed Pathway Addition



Source: Andrew Hagemeyer

Enhancement of the Grand Entrance

The grand entrance, to remain located in the northwest portion of the English Village, will serve as the central entrance point for tourists to the English Village, as well as the Channel Area. This entrance should be visible from Highway 95, a major north-south corridor. With increased visibility and attractive marketing, the entrance to the English Village will attract the attention of travelers and tourists, and make them wonder what is on the other side. The entrance will also create a first impression for visitors to the village (Figure III.7).

Figure III.7: Current conditions of Grand Entrance to English Village (facing south looking into the English Village)



Source: Dylan Parry

Small Outdoor Gathering Area

A small outdoor gathering area is proposed around the fountain and to the northeast, ending at approximately McCulloch Blvd (Figure III.8). This area would serve as public gathering space and once remodeled, will provide a small, natural amphitheater to be used for small events.

Figure III.8: Site of Proposed Outdoor Gathering Area



Source: Dylan Parry

The fountain should provide the focal point for this small public area. In order for this area to be attractive, the fountain must be restored. There are three abandoned buildings that will need to be removed, one of which is the double-decker bus. The second is a medium-sized building directly to the south of the bus. The third building is about 15 feet to the east of the fountain. Terracing should be done on the north-facing hill off of McCulloch Blvd that slopes towards the fountain to create more public space. The terracing will be re-sodded with grass and serve as a platform for people to sit and enjoy public events, such as plays or live music. This area will remain in private ownership and serve as both a gathering space and attraction for consumers into the retail space of the English Village. The affected area will be no more than three tenths of an acre. The creation of this small public space is one of many strategies to attract residents and visitors of Lake Havasu to the English Village.

Increased Shade

Shade in Lake Havasu City serves a very important role in facilitating the comfort of pedestrian traffic during high summer temperatures. Business in the English Village will only be accessible by pedestrian modes. All parking will be off site, and therefore pedestrian comfort is very important to the success of retail in this area. Currently there is a lack of shade in the Village. Shade can be provided by either vegetation or man-made structures. By increasing the amount of shade available along walkways, in front of businesses, and in public spaces, an increase in pedestrian traffic can be expected. The preferred type of shading for walkways and public spaces in the English Village will be vegetation; however, in some instances man-made shade may be superior. Either human-made or vegetative shade is acceptable in front of business.

Creating More Opportunities for Retail and Dining

Rehabilitation or reconstruction of the existing buildings in the English Village is necessary to create more retail and dining space. There are four buildings in the English Village. It is proposed that two of the four buildings will be torn down and replaced with new structures. Of the remaining two buildings, one will not be altered. The other one will either be remodeled or torn down and replaced with a new structure. Refer to the following pages for a building by building analysis.

Building One

Building one is the one-story building directly adjacent to the London Bridge (Figure III.9). This building is in disrepair, and will need to be remodeled or demolished. Because of its close proximity to the London Bridge; this structure should not be more than one-story high and have a minimum set back of 50 feet as to not obscure views of the Bridge.

Building Two

This building is at the center of the English Village (Figure III.9). It was constructed in haste for the grand opening ceremony of the Bridge. Much of this building is empty. The structure is in a state of disrepair and due to its size and shape, opportunities for reuse are limited. This structure should be demolished and a new structure should be built.

Building Three

Building three is the abandoned building along the Channel near Area 8 (Figure III.9). This building is falling down and needs to be demolished. It is important to the vitality of the Channel Area that this location contains stores along the Channel pathway to create continuity between Area 8 and the heart of the English Village. A new structure should be built to allow increased retail, dining, office space and residential. This area will benefit from increased pedestrian traffic as the pathway between Area 6 and Area 3 is completed in later stages of the redevelopment plan.

Building Four

Building four is a storage facility near the parking lot (Figure III.9). There are no proposed changes to building four.

Figure III.9: Site of Proposed Buildings.



Source: Andrew Hagemeier, November 2006

Open Air Market

An open-air market used for art fairs, craft shows, farmers' markets and other activities is proposed to be placed under the London Bridge (Figure III.10). Locating the market under the London Bridge will take advantage of existing shade and accessibility to the rest of the Channel Area. The market should be temporary construction such as tents. A temporary market would require less initial investment than a permanent market, and could be taken down and stored during times of peak pedestrian traffic, to minimize congestion. Depending

on demand, the market/fairs will hold up to ten tents, covering 2,800 square feet. These tents should not exceed 10 x 10 feet in size and have no electricity or running water. Electricity may be installed in the future if the market is successful and vendor demand for power is sufficient. If successful, the market/fairs can double in size into Area 2, east of the bridge. The market/fairs should initially be operated by the Lake Havasu City Parks and Recreation Department, but could be taken over by the Bridgewater Channel Business Association when established. Frequency of events will vary from weekly, monthly or annually depending on success and interest.

Figure III.10: Proposed Location of Open Market.



Source: Dylan Perry

Public markets have the ability to become centers of entire districts where a variety of retail, entertainment and social interaction takes place. They can become a place where people want to reside and spend time. Public markets create an attractive public space that will bring diverse groups of people together. That will help achieve the critical mass of activity that enhances an entire area⁸⁸. Attracting local residents is one of the keys to success for the redevelopment plan, and a public market that establishes frequent events along the Channel in the English Village will do that.

⁸⁸ Project for Public Spaces (2006). Our Approach to Markets. Accessed October 23, 2006, From http://www.pps.org/markets/info/markets_program
Bridgewater Channel Redevelopment Plan

A key element to the establishment of the public market is the acquisition by Lake Havasu City of the property under the London Bridge. It is proposed this small area will be acquired through negotiations with the owner of the English Village by allowing more intensive development in the English Village than is currently allowed in the existing zoning.

Promoting Sidewalk Cafes

The Channel and associated activity are some of the major reasons people are drawn to Lake Havasu. Restaurants and cafes along the Channel will benefit from having outdoor seating, taking advantage of the draw and excitement the Channel provides. Orientation of these facilities should face the Channel. The MU zoning should provide outdoor seating for restaurants and cafes as a permitted use for the English Village. Providing adequate shade for these establishments will be crucial to their success. Shade will be emphasized in walkways where outdoor establishments will most likely occur.

Visitors Center

The existing visitor's center is located within the English Village. Funding will should be provided to repair the facility, and upgrade information available to tourists. The size and location of this facility does not need to be altered.

English Theme

Survey results indicate that Lake Havasu City residents value the English theme and found it to be an important element to preserve and enhance. It is proposed that any new buildings maintain an English-style theme to maintain the identity of the area.

The Carousel

The carousel, once located in the English Village, can now be found at the Aquatic Center located at 100 Park Avenue, Lake Havasu, Arizona. The carousel was originally set up under the bridge near the English Village. It is an antique wooden 1920's Herschell-Spillman, 36-foot diameter carousel, with 20 animals and 2 chariots. It is proposed that the carousel be returned to the English Village, this time on the opposite side of the London Bridge near the border of Area 8.

The State of Arizona currently owns the carousel. The estimated value of the carousel is \$400,000, with the cost of moving the carousel estimated at \$30,000. The carousel is in need of some repair to extend its life and allow for increased ridership. This would best be done during transport, at an estimated cost of \$50,000. The carousel would also need to be enclosed in a structure.⁸⁹

There are a number of strategies to bring the carousel back to the English Village. One option would be for the State of Arizona to donate the Carousel to Lake Havasu City. The City would then pay for transport and repair, and a community fund-raising effort would cover the cost to build a structure to house the carousel. A second option would involve the same city investment, as stated above, except the State would maintain ownership of the Carousel. A third option would be for the developer of the English Village to purchase the carousel, and the City to pay for the repair and transport. In exchange for this public attraction to be housed in the English Village, the City would allow the developer to build with greater intensity than allowed by zoning on the site.

Figure III.11: A Carousel and its Associated Housing



Source: University of Montana

The carousel has the opportunity to attract large numbers of people into the English Village. While it may appear to be an unlikely catalyst for the attraction of visitors, this concept of a

⁸⁹ These estimates were received from a personal interview with Daniel Horenberger of Brass Ring Entertainment who sold the Carousel to Robert McCulloch, October 2006
Bridgewater Channel Redevelopment Plan

carousel as the center of community life and social interaction has proven successful in other communities⁹⁰. This is the only attraction in the area that will be open to the public. It will serve as a feature to draw tourists' away from the London Bridge, past the majority of storefronts in the Village, to the Carousel. In conjunction with the family area in Area 8, the Carousel will attract families from the community and tourists to the English Village. Carousel rider ship was estimated to be approximately 1,000 people per month when it was in a working condition at its current location⁹¹. This is far below the carousel's capacity. Bringing it back to the English Village will greatly increase its visibility and provide nearby businesses with a marketing opportunity.

Parking Improvements

All of the approximately 120,000 sq feet of parking should undergo improvements to increase beauty and shade. More parking should be added in the vacant area near London Bridge road depending upon the size, density and use of future structures.

Landscaping and Public Art Enhancements

Landscaping and public art enhancements should be used to improve the visual character of English village entrances. Landscaping improvements along the northern edge of the English Village between the Village and the Parking lot should cover an estimated 2,100 sq ft. These improvements will serve as a visual buffer between the Village and the parking lot, as well as provide shade on the walkways into the Village from the parking lot. Public art at the entrance to the English Village, where the Channel walkway enters Area 1 from Area 8, should cover approximately 100 to 200 square feet and serves as an entrance to the English Village. Public art should be placed near the junction of the path that serves as the boundary of Area 1 and Area 8 and the London Bridge Rd. This art will be approximately 100 square feet and serve as another entrance to the English Village.

⁹⁰ Gratz, Roberta. Cities Back from the Edge.1998: 15.

⁹¹ These estimates were received from a personal interview with Daniel Horenberger of Brass Ring Entertainment who sold the Carousel to Robert McCulloch, October 2006

B. Area 2: London Bridge Resort

1. Area Overview

Area 2 touches the south side of the London Bridge on the mainland side of the Bridgewater Channel (Figure III.12). The site boundaries include the Bridgewater Channel to the west, London Bridge to the north, McCulloch Avenue to the east and the Queens Bay Golf Course to the south.

Figure III.12: Overview-Area 2



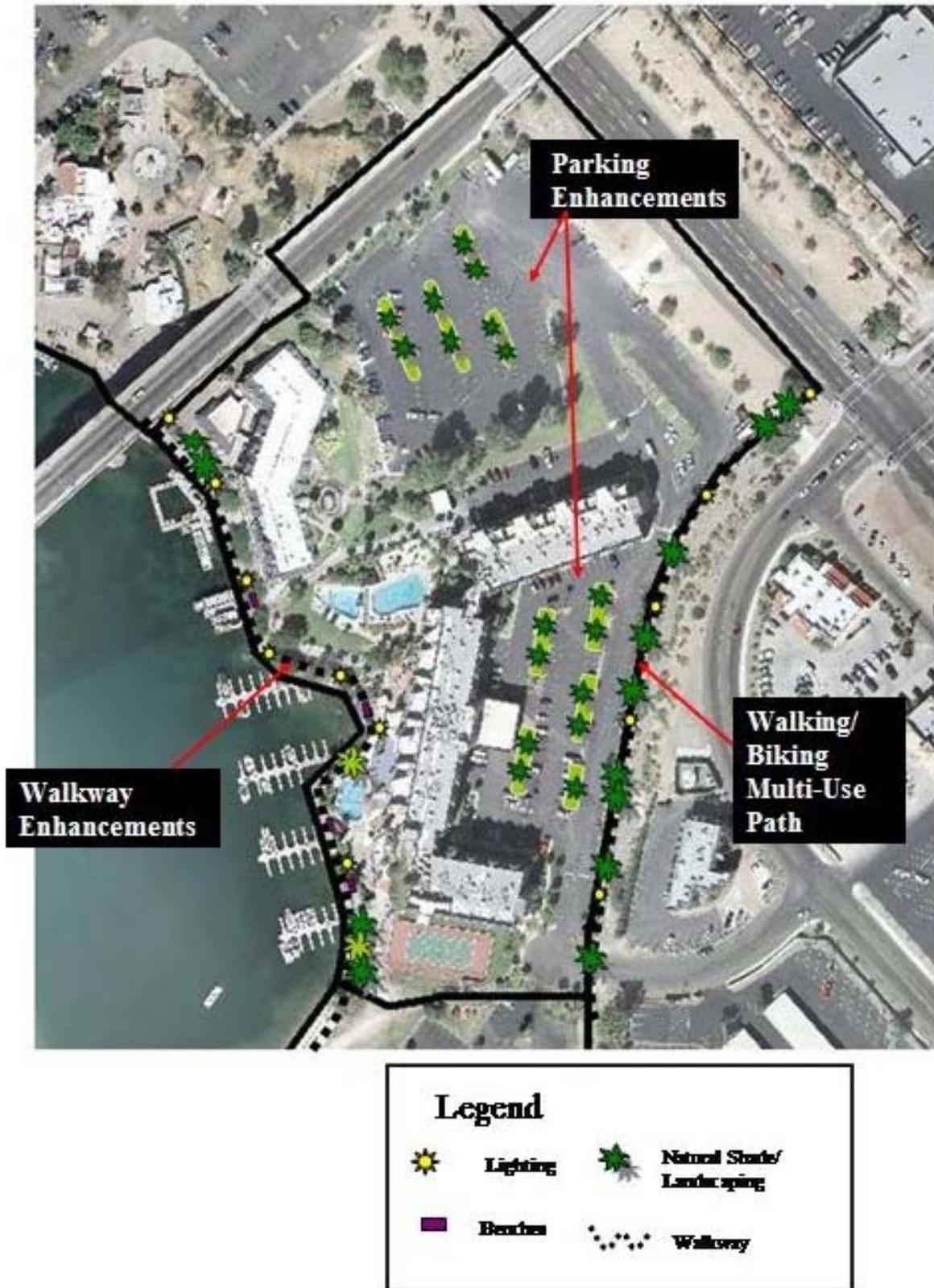
Currently the site is zoned as Commercial and Hotel. The London Bridge Resort and Timeshares are located on the property along with parking for this facility and a building used for retail and office space. The western edge of the site touches the Bridgewater Channel and is lined with an already established and landscaped walkway connecting Area 2 to Area 1 to the north and Area 3 to the south. The entire area is privately owned and the landowners are currently redesigning the commercial, retail and office space portion of this site.

Area 2 has established walkways, parking, resort and commercial buildings. Increased open space for public gathering and activities is a recommended addition for this Area. The recommendations for Area 2 were formed in response to survey responses and comments at public meetings. For detailed information on survey results specific to Area 2 refer to Appendix 3.

2. Proposed Redevelopment Actions

1. Maintain Current Zoning
2. Enhance Components of Existing Walkways
3. Setback Requirement from London Bridge
4. Connect walk/bike path along AZ 95 to Channel walkway (Figure III.13)
5. Improve parking area

Figure III.13: Proposed Development Actions for Area 2



Maintain Current Zoning and Overall Land Uses

The current zoning for Area 2 is Commercial and Hotel. The comments from the public received from surveys and during the open house revealed a desire to maintain the current land uses. Therefore zoning and existing land-uses should not change.

Enhance Components of Existing Walkways

A main focus for this Redevelopment Plan is to create connectivity throughout the Bridgewater Channel Area. The major tool to achieve this connectivity is increasing, maintaining, and enhancing the walkways along the Channel and throughout the Redevelopment Area. Figure III.14 shows the already established walkway in Area 2, as well as shade and seating.

Figure III.14: Walkway and Shade vs. Shade, Walkway, Shade and Seating



Source: Evren Sonmez

Maintaining the current shade, seating areas, and lighting is recommended. Including English theme banners and art that is repeated throughout the Bridgewater Area is also recommended. This will allow continued connectivity along the walkways within the Redevelopment Area.

Setback Requirement from London Bridge

A 50 ft. setback from the London Bridge in this area will allow for increased access to the Channel Area. These requirements will increase space for public gathering, activities and

events. Finally, these setback requirements will allow for more visibility of the Channel from the eastern side of the London Bridge.

Connect Existing Walk/Bike Path along AZ 95 to Channel Path

Connecting the existing walk/bike path along AZ 95 to the Bridgewater Channel path was requested at the public open house on October 24. This will enhance the connectivity of the Channel Area and extend this connectivity to the entire City. The City holds an easement along the wash that borders the entire south side of Area 2 and runs through Area 3.⁹² It is recommended that the pathway be connected to the AZ 95 by an additional pathway that will run along this wash on the south side of Area 2 through Area 3, and ultimately, to the Bridgewater Channel pathway.

Methods for Implementation

The current landowners of Area 2 are taking steps to redevelop their property. Before any change occurs, an effort should be made ensure that there is adherence to the recommended 50 foot setback from the Bridge. Compliance with design guidelines within the development plan will create complimentary design unity within the English Village. Recommendations for Area 2 should be implemented during Phase 1.

⁹² Schmeling, Stuart (2006). Comments by Lake Havasu City Planning Division Manager at the Public Open House. October 24, 2006.

Area 3-Executive 9-Hole Golf Course

1. Area Overview

Study Area 3 encompasses 53 acres and is currently home to a 9-hole executive golf course owned by the London Bridge Resort (Figure III.15). The area is currently State Trust leased land and is zoned A-1, agricultural. Alternative development opportunities exist for the near future since the current lease is due in 2013.

The golf course covering the area is advertised as “suitable for beginners”; however, it is not a prime golfing destination in Lake Havasu City which has a number of other courses including one that hosts an annual Pro-Am tournament. The only built structure in the area is the clubhouse located at the north end of the area.

There is a paved pedestrian walkway in the area which runs along the Channel and a cement stage is situated on the west side near the Channel. Additionally, there are unpaved pathways within the golf course for pedestrians and golf carts as well as a small bridge that takes the pathway over the wash. There is also a pond located at the east side of the study area.

Figure III.15: Overview-Area 3



Figures III.16: Existing Pedestrian Walkways



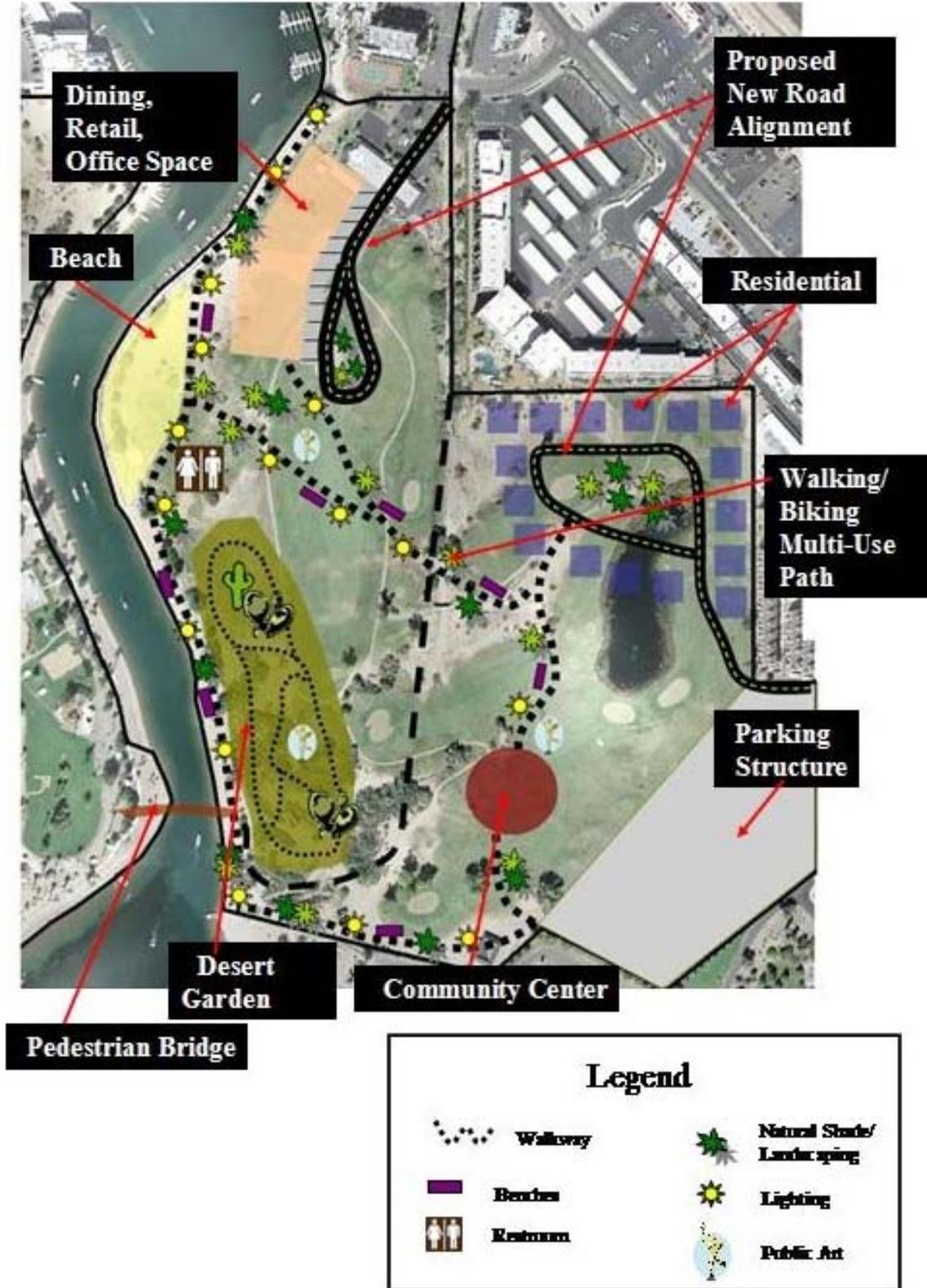
Source: Evren Sonmez

Recommendations for Area 3 were created in response to survey results and comments at public meetings. For detailed information on specific survey results for Area 3 refer to Appendix 3.

2. Proposed Redevelopment Actions

The State Trust Land lease for Area 3 expires in 2013. The area will likely be available for redevelopment at that time. When Area 3 becomes available for redevelopment, Lake Havasu City should encourage redevelopment that incorporates a wide range of land uses. Area 3 is a large parcel that can accommodate uses that balance the aspirations of the community with the needs of potential lessees or owners. The plan designates certain portions of the area for profit making land uses such as retail, dining, office space, and housing while setting aside other portions for open space as well as community activities and special events (Figure III.17). The following section provides an overview for each individual redevelopment concept proposed for this area along with recommendations for relevant zoning changes. A visualization map of the proposed redevelopment actions is shown in Figure III.17. The actual square footage of proposed retail, dining, residential, and office spaces will need to be determined through a market feasibility study specific to this area.

Figure III.17: Proposed Development Actions for Area 3



Desert Garden

A desert garden in this area would be an attraction for both the visitors and the residents of Lake Havasu City (Figure III.18). The garden would also provide a venue for small-scale community events such as public gatherings, community potlucks, local art shows and music events

Figure III.18: Desert Garden



Source: LAokay

Establishing a desert garden is a sustainable way to preserve open space through the use of native drought-tolerant plants. Setting up a sophisticated desert garden with high-end plants can be a very costly endeavor. Communities with such gardens (for example; Tucson Botanical Gardens) tend to have a population base that supports continued maintenance and re-planting. Since Lake Havasu City is a smaller community, a small garden featuring native plants that require less maintenance and fewer re-plantings is recommended.

The garden should be approximately 2 acres in size and have a display of native plants with signs indicating the different species. Unlike the current golf course which takes its water from a well, reclaimed water can be used for irrigating the garden. Donations can be accepted or a small admission fee can be charged. There should be a shaded open area for

community gatherings within the garden and a gift shop selling souvenirs. Some of the maintenance costs could be offset by donations, gift shop sales, and potential admission and membership fees. A rezoning to P-1 (Public Lands and Facilities) is recommended for the desert garden, yet a small portion of the land can be rezoned to a restrictive commercial use (such as C-1) in order to allow for a gift shop.

Walkway Enhancement

There is an existing pedestrian walkway that runs along the Channel in Study Area 3. However, the walkway needs enhancement in order to make it more pleasant and inviting for pedestrians. Even though the pavement is in good shape, there are things that require replacement. The existing benches are uninviting for anyone to sit on and the trashcans are visually unappealing (Figure III.19).

Figure III.19: Existing Benches and Trashcans



Source: Evren Sonmez

New benches should be installed along the walkways and larger seating areas should be provided for large groups. Improving the landscaping, utilizing man-made shade structures where canopy trees are absent, and providing adequate lighting are other key strategies to make the walkways more attractive (Figures III.20 and III.21).

Figure III.20: Multiple Seating Areas



Source: Comox Valley Harbour Authority

Figure III.21: Shaded Walkway



Project for Public Spaces

The walkway in Study Area 3 should be modified as shown in Figure III.22 to make room for a small beach area along the Channel. The walkway should be curved inland roughly 30 feet to create a beach area between the Channel and walkway. The beach would provide a social gathering spot on the mainland side of the Channel. Creating a small beach area (approximately 1 acre) is another site improvement proposed for Study Area 3. The beach area would provide seating and shade structures to ensure the comfort of the users. A small establishment or vending carts selling food and drinks would complement public use of the proposed beach area and add to the economic value of the area

Figure III.22: Location of the Proposed Walkway Alteration



Source: Evren Sonmez

Building a public restroom facility along the walkway, close to the proposed beach location, will be necessary to accommodate increased public use in the area as a result of the improvements. The bathroom facilities would be accessible to both boaters parked in the Channel and pedestrians utilizing the walkways, desert garden, and nearby shops. Public restrooms will attract boaters onto the land and will increase pedestrian activity in the area and ultimately bring customers to nearby businesses.

Besides enhancing the existing walkways, new walkways are also proposed within Study Area 3. The total length of suggested additional walkways is approximately 3,100 feet. A multi-use walkway/bikeway (approximately 1,500 feet) should be built that would run along the boundary of Study Area 2 and 3 and connect to the proposed pedestrian bridge through Area 3. Anticipated walkways and bikeways reflect the community aspirations as put forward in the survey and follow the guidelines of the General Plan, which encourages pedestrian facilities and bicycling as “an integral part of development projects”⁹³

The final recommendation is constructing a pedestrian bridge connecting Study Areas 3 and 7 over the Channel. Currently, the pedestrians walking southward along the walkway must turn around and go back to the London Bridge if they want to get to the other side of the Channel. The proposed bridge would improve and increase pedestrian activity in the area by creating a circular walking path around the Channel.

⁹³ Lake Havasu City, “Lake Havasu City General Plan,” 2001, p.59.
Bridgewater Channel Redevelopment Plan

Beach

Figure III.23: Shaded Areas



Source: Golturkbuku.com



Source: Flickr

Currently, there are no beaches located on the mainland side of the Channel within the redevelopment areas covered by this plan. As a result, most boaters spend time in their boats parked in the Channel. Similarly, the area lacks a shaded beach with seating where the residents of Lake Havasu City can relax and enjoy the pleasant winter weather. In this respect, a small beach would serve as an enjoyable public area for the residents of the City especially on less crowded days while creating an opportunity to attract visitors to the shore. Establishing a beach area would also be in line with the principles of the General Plan as it calls for additional public access to relieve the overcrowding in the existing beaches.⁹⁴

The beach can be established through rezoning the area to P-1 (Public Lands and Facilities); however, in order to allow for a small food services establishment, a portion of the land should be rezoned to a restrictive commercial zone such as C-1.

Dining, Retail, Residential and Office Space

Building a mixed-use establishment (approximately 20,000 square feet) including dining, retail, residential and office space will add to the commercial viability and productivity of the area and complement the other public uses in the area. The mixed-use establishment is

⁹⁴ Lake Havasu City, "Lake Havasu City General Plan," 2001.
Bridgewater Channel Redevelopment Plan

strategically located on the north end of the area for a number of reasons. First of all, the building can be served by an access road with angled parking on the side without further interfering with the rest of the area designated for residential uses, public areas and open space. Secondly, it would provide continuity with Study Area 2 to the north which also has development along the Channel. Finally, due to its close proximity to the Channel it would be an appropriate location for businesses oriented towards the walkway such as restaurants and cafes with outdoor seating, and hence improve the interaction between public and private spaces. The area which will accommodate dining, retail, residential and office space should be rezoned MU (Mixed Use district) in order to allow for a variety of uses within the same structure.

Housing

Housing is another land use element included in the redevelopment plan. Residents living in the area will create a stable customer base for the proposed commercial uses in Study Areas 3, 1, and 8. A housing development in this area would not only place residents within walking distance of dining, retail, and other commercial activities, thus encouraging pedestrian activity, but it would also provide close proximity to recreational opportunities along the Channel. It would also be in accordance with the General Plan which emphasizes “the provision of a mix of housing types, community, and recreational facilities as well as shopping opportunities within a well-defined area.”⁹⁵

The vision for the housing development is that it would be clustered in the eastern portion of the area abutting the existing Queens Bay Condominiums. Approximately 7 acres of land should be designated for housing. The development should be a mix of condominiums and town homes and the area should be rezoned as R-4 to match the densities of the existing housing development to the east of Area 3.

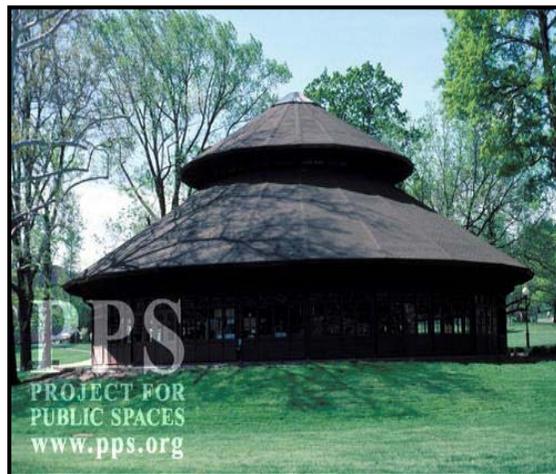
Community Center

A 15,000-20,000 square-foot community center to be used as a multi-purpose public space would attract Lake Havasu residents to the Bridgewater Channel Area. The center should

⁹⁵ Lake Havasu City, “Lake Havasu City General Plan,” 2001, p.22.
Bridgewater Channel Redevelopment Plan

have a gym for sports activities and fitness classes; a kitchen big enough to be used for receptions and cooking classes; a multi-purpose room which can accommodate receptions, meetings, and a variety of special events (holiday sales, bingo nights, dance nights, community potlucks etc); a computer room; a library; an indoor play area for children; a café; and, a number of smaller rooms for classes, workshops, and meetings. The center can focus primarily on events and activities geared towards senior citizens considering the age composition of the population, yet it should also have programs addressing other members of the community including children and youth. Rental space can be made available to offset a portion of the operating costs. A rezoning to P-1 (Public Lands and Facilities) is recommended for the area where the proposed community center would be located.

Figure III.24: Community Center Example



Source: Project For Public Spaces

The cost of the community center varies depending on a number of factors such as the size of the building, the building materials chosen, and the facilities to be located inside. The funding can combine tax dollars, donations, and grants, and can be gathered through public/private partnerships.

Parking Structure

The land uses proposed by this plan would require increasing the parking capacity in Study Area 3. In this respect, building a parking garage is recommended which would be a more

efficient use of the land compared to a surface parking lot. The parking structure should be big enough to accommodate the total number of required parking spaces for the proposed land uses in the area and limited overflow spaces. The parking requirements would depend on the size of the proposed facilities and especially the choice of the types of services to be located in the community center.

The cost of parking structures vary depending on the specifications of the building, yet \$15,000-20,000 per parking space is a reasonable estimate based on the costs of recently built parking garages. Public/private partnerships should be considered to pay for the proposed parking structure. The zoning recommendation is MU in order to allow for office space or commercial uses on the ground floor of the garage. A mixed-use parking structure can potentially be a good space for a larger retailer to locate such as a sporting goods store.

Public Art

In Study Area 3, the desert garden, the landscaped areas along or in between the proposed walkways, and the outdoor spaces of the community center are the best sites for public art since these locations would maximize their visibility.

Public Actions for Implementation

The principle method recommended for locating public uses in Study Area 3 which is/will be leased by a private party is a TDR (transfer of development rights) program through which the private party would sell his/her development credits to another land owner in areas where the City would like to see higher levels/densities of development.

Phasing

Development of Study Area 3 falls within the time frame of the second phase of this development plan (2010 through 2015) because the land does not become available until 2013.

D. Area 4- Undeveloped State Trust Land

1. Area Overview

Area 4 is a 5.17 acre piece of vacant land that lies to the south of London Bridge on the island side of the Channel (Figure III.25). The area is bounded by the Agave Inn to the north, London Bridge Park to the south, the Channel to the east and London Bridge Beach Drive to the west. The parcel is currently under a fifty-year lease from the Arizona State Land Department which is set to expire on January 31, 2015. Redevelopment of this area would not begin until after the existing lease expires.

Figure III.25: Overview-Area 4



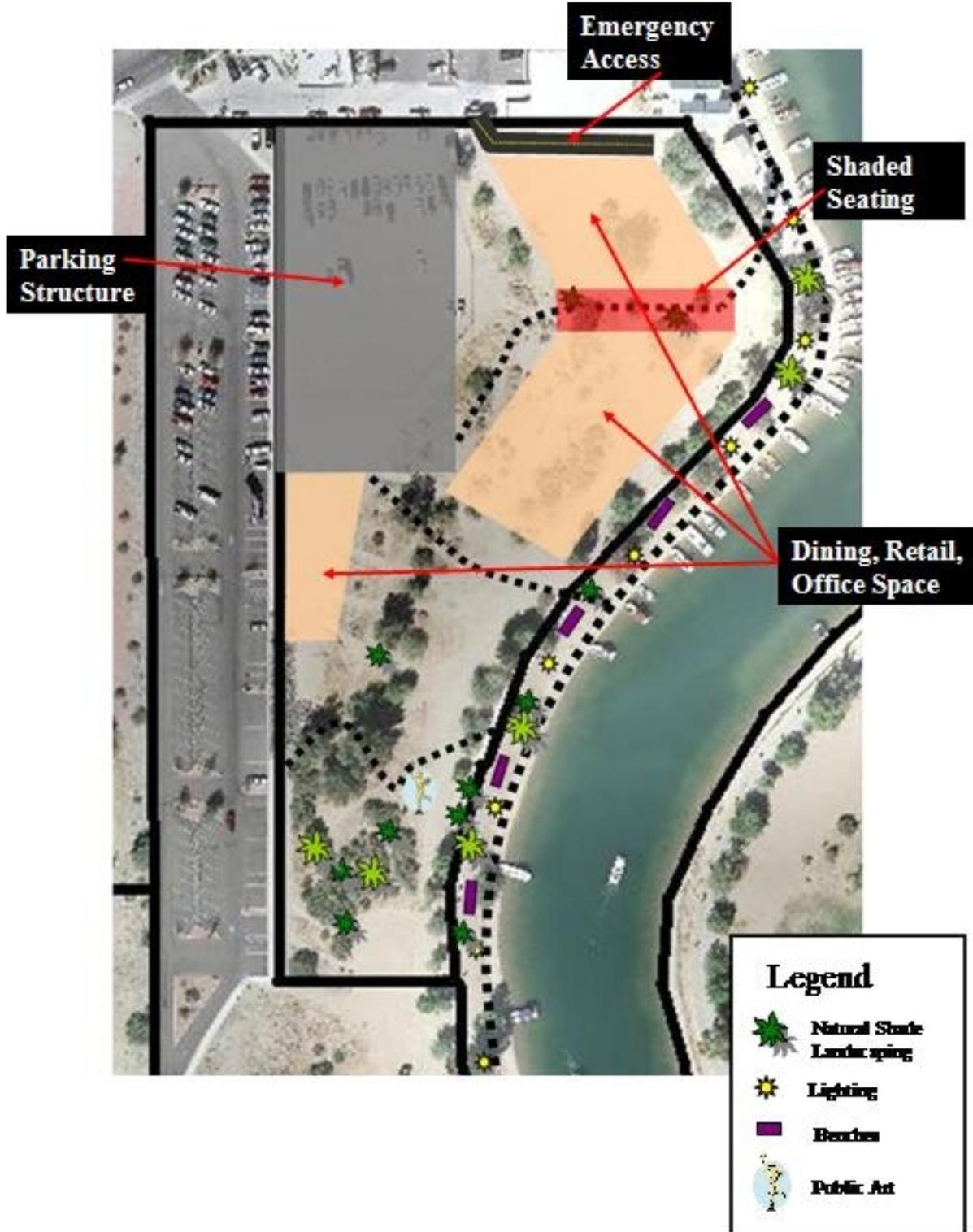
The existing zoning in Area 4 is A1 (agricultural). The existing land use is undeveloped open space. While there is no official use, there is a dirt lot that is accessible from the north that is used for parking.

The recommendations for Area 4 are based on survey responses and comments made at public meetings. For detailed information on Area 4 survey results please refer to Appendix 3.

2. Proposed Development Actions

A visualization map of the proposed redevelopment actions is shown in Figure III.26. The actual square footage of proposed retail, dining, residential, and office spaces will need to be determined through a market feasibility study.

Figure III.26: Proposed Development Actions for Area 4



Walkway Improvements

In the Bridgewater Channel Area, improvements to the public walkway, such as enhanced landscaping and the addition of more lights and benches, is an important first step to the redevelopment process. Area 4's location between a heavily developed commercial area and popular city park means that the area should act as a transitional zone. In this sense the development should be concentrated on the northern portion of the lot, and the southern portion should be left as undeveloped open space.

Zoning Changes to facilitate Redevelopment

A mix of uses, with retail or restaurant space on the ground floor and office, residential or hotel space on the second and third floors will provide a mix of public and private spaces that add life and vitality to the Channel Area. The northern portion of Area 4 should be rezoned MU (Mixed Use district). MU zoning allows a variety of retail, dining, service uses as well as residential space. Lot coverage is determined by Planning Department approval. The MU zoning height limit of 30 feet will protect views of the London Bridge, while allowing for an intensity of use that is economically viable.

Parking Structure

New development in the Bridgewater Channel Area associated with this redevelopment plan will place new demands on already stressed parking facilities. Since this area is in a central location along the Channel it is an excellent candidate for construction of a public parking structure. The private lease on this land will expire in 2015, at which point a new lease agreement will need to be negotiated with the State Land Department. This will likely be a lease to a private interest. The City could enter a public-private partnership with the developer who leases the land to build the parking structure. The structure should have parking that could be entered from street side and provide pedestrian routes to the Channel walkways and shopping and commercial areas. One way this can be accomplished will be for the City to pay for the cost of constructing the parking, and the developer would pay for the construction of the commercial space. In exchange for use of the land, the City would waive parking requirements for the commercial development.

The northwest section of area 4 is a good location for a parking garage for two reasons. First, this section has street access. Second, the topography means that a recessed parking structure here would be entered at the grade of street level, but exited on foot at the Channel level. The embankment here is fifteen feet high⁹⁶. A three-story garage would be half below grade and half above grade, protecting view sheds and creating cool shaded parking.

The cost for such a project is difficult to estimate, and working with the topography of the area would certainly add to the cost. As a point of comparison, the City of Tucson recently completed the Pennington Street Garage, which provides 750 parking spaces and 12,000 square feet of retail at street level. There is also a 65kW direct current solar panel array on the top level of the building. This is an above ground garage that is a total of 258,000 square feet. The cost for the parking alone was \$36 per square foot. The total project cost \$45 per square foot. These costs are construction costs alone, and do not include the price of land. Part of the construction cost was the solar cell array which cost \$420,000⁹⁷. The structure proposed in the Channel Area is partially below grade which will add about 60% to construction costs⁹⁸. Adding an additional 10% for increase in the cost of construction materials since the Pennington Street Garage was completed, means that a new parking facility would cost an estimated \$60-\$65 per square foot. A 145 foot or 290 foot structure would fit in the section of property. An estimate for the cost of construction of the proposed garage in today's dollars is between \$7.5 million and \$8.2million dollars, and would produce an estimated 400 parking spaces.

Currently there are approximately 2,100⁹⁹ parking spaces associated with the businesses and public areas in the Bridgewater Channel Redevelopment Area. This proposed parking structure will increase the supply of parking spaces an estimated 20%. Highest demands are placed on the parking facilities during holidays and large community events. Over building the system will mean that for most of the year the excess parking space will be wasted space. Under building will place undue stress on the areas surrounding the Channel during peak

⁹⁶ Lake Havasu City GIS files 2006

⁹⁷ Chris Leighton, City of Tucson Parkwise Director , 2006

⁹⁸ Rosenthal, Robert "Cost-effective facility parking strategies – outpatient healthcare facilities". *Healthcare financial Management*, Nov. 1995

⁹⁹ UA Planning estimate based on square footage estimates

demand periods, as well as deter some residents from frequenting the Channel Area on a regular basis. The specific number of spaces needed should be determined by a demand study based in part by square footage of added retail and dining. At this time there is an existing demand for increased parking.

Mixed-use Commercial Development

Between the parking garage and the Channel is an ideal spot for the construction of new mixed-use commercial space. This area should be rezoned MU (Mixed-Use), which typically allows residential. However, the General Plan excludes any residential development on the island. Therefore mixed-use within Area 4 will include only retail, dining and office space.

The mixed-use development will complement the existing retail space on the site to the north, and create a retail corridor along the Channel. A shaded walkway with seating provides access from the parking structure to the Channel itself. A two or three story mixed-use structure, with approximately 42,000 square feet per floor should be built in Area 4. First floor retail and restaurant space and the second floor office or residential space should be encouraged. The elevated section of land directly south of the proposed parking structure provides additional commercial space.

The southern portion of Area 4 has well developed trees that provide shade and add to soil stability. Removing the invasive tamarisk in this section, adding some additional trees, and leaving the rest of existing vegetation will create a pleasant open area for walkers. This will also complement the Lions Dog Park and London Bridge Park to the south.

E. Area 5: Undeveloped State Trust Land

1. Area Overview

Area 5 is located on the island side of the Bridgewater Channel (Figure III.27). The parcel has no Channel frontage and lies at the southern end of the redevelopment area. The property is bordered by McCulloch Boulevard North to the north and Beachcomber Boulevard to the east, south and west. Area 5 is adjacent to London Bridge Beach Park.

Figure III.27: Overview-Area 5



Area 5 is held in trust by the State Land Department and is leased by a private property owner. State Trust Land is leased until 2015. If development were to occur prior to the lease renewal date, all structures present on the land would become property of the State of Arizona. Any development occurring prior to the 2015 lease renewal date must abide by the land use development restrictions within the

Figure III.28: Existing Land Conditions

lease. It is for these reasons that it is proposed that State Trust Land be developed post 2015 as to create land-uses which most effectively compliment the needs of both Lake Havasu City residents and developers. Figure III.28 shows the existing land features. The entire area is currently zoned A-1 (agricultural). A small, approximately 60,000 square-foot, parking lot designated for the public park is located between



Source: Kristen Clem

London Bridge Beach Park and Area 5. At present, one residential development exists, located northeast of the site. This residential development consists of twenty-three, two-story multifamily units. The proposed land uses in Area 5 take the existing residential use into consideration and attempt to minimize the impact of new development on the view sheds of current residents.

At the far south end of Area 5 some remnants exist of structures previously constructed on the parcel. Figure III.29 shows what remains of these structures including a staircase and concrete slab. The staircase is in fair condition and is currently useable but should be upgraded to accommodate more intense use associated with increased development and the lookout point.

Figure III.29: Remnants of Previous Structures in Area 5



Source: Kristen Clem

The Area 5 land use proposals incorporate recommendations and comments made by the public through surveys and public meetings. For detailed information regarding specific survey results for Area 5 refer to Appendix 3.

2. Proposed Redevelopment Actions

Because of Area 5's location and size, it is an ideal site for a large resort. Within the redevelopment actions of this area, it is proposed that 17.9 acres are to be developed for commercial-residential. The total development would compose 43% of the site land coverage, leaving corridors open for trail, open space and view sheds for current residential development, and staying well below the 60% density maximum¹⁰⁰. The land coverage includes development of a low-density resort with timeshares, as well as, enhancements and additional pedestrian walkways and natural landscaping.

¹⁰⁰ Lake Havasu City Code. Chapter 14.48.50

A visualization map of the proposed redevelopment actions is shown in Figure III.30. The actual square footage of proposed retail, dining, residential, and office spaces will need to be determined through a market feasibility study.

Figure III.30: Proposed Development Actions for Area 5



Legend

 Benches	 Lighting
 Walkway	 Natural Shade/ Landscape

Lookout Point

Casita Resort/Timeshares

The project encompassing the largest amount of land within Area 5 is a Casita Resort/Timeshare development. Typical casita resorts consist of a main house and casita's, small-detached hospitality units, surrounding a shared central courtyard. The main house typically features an upscale restaurant as well.

Within the redevelopment area, twelve hotels are operating with a total of 810 rooms. Information gathered through interviews with city staff and residents has alluded to the fact that during busy tourist times there are not enough hotel rooms. Currently, Lake Havasu City has approximately 250 timeshares located in the Channel Area; however, only 30 units have been constructed since 2000. This is a drastic departure from the period between 1990 and 2000 when 150 units were constructed. Projected increases of tourism, both regionally and locally, justify additional hospitality development in the Bridgewater Channel Area. A resort featuring casitas instead of traditional hotel rooms would attract another type of visitor, adding to the diversity of tourists that are attracted to the area. Figure III.31 shows examples of a casita resort and a casita courtyard.

Figure III.31: Examples of Casita Resorts



Source: Wigwam Resort



Source: LAOkay

Price/Size Estimations

Listed below in Tables III.1 and III.2 is the average resort size in square feet and the average rental rates of casita resorts. The averages were calculated in reference to other casita resorts within the State of Arizona in order to make the averages as applicable to Lake Havasu City as possible.

Table III.1: Resort Size

Entire Resort	12.3 acres of land
Main House	Average 5,000 square feet
Courtyard	Average 7,299 square feet
Casitas (56)	Average 900 square feet

Sources: The Enchantment Resort, Sedona, Arizona. www.enchantmentresort.com
Royal Palms Hotel, Phoenix, Arizona. www.royalpalmsshotel.com

Table III.2: Resort Rental Rates per Day

One bedroom casita suite	\$640-\$900
Two bedroom casita suite	\$960-\$1350
Casita Studio	\$320-\$450
Casita Bedroom	\$295-\$425

Sources: The Enchantment Resort, Sedona, Arizona. www.enchantmentresort.com
Royal Palms Hotel, Phoenix, Arizona. www.royalpalmsshotel.com

The proposed land use of low-density resort should be a later phased project, based on the demands of the tourism market. However, with the assumption of success through actions of the redevelopment plan, demand for a resort/timeshare project will increase with increases in tourism.

Additional Parking

Currently, parking is a main concern throughout the Channel Area and with the anticipated growth of population and increase in tourism, additional parking is a necessity. Due to this growing concern, parking is proposed throughout Area 5 to alleviate current parking

demands as well as planning for future demands of the site. One large parking lot would be located at the northwest corner of the parcel, directly across from Area 6. This parking would assist with over-flow parking in the Area 6 region as well as accommodate the resort parking. The lot should be adjacent to the walking path, which would take people through Area 5 and connect to London Bridge Beach Park and the Channel Area. A small parking lot is also proposed at the southwestern corner of Area 5. This area would be connected to a public lookout area and would accommodate handicap parking associated with the public lookout.

Implementation Strategies

The parking lot could be developed by the City with public funding or it could be a requirement of the private developer on the parcel. Figure III.32 shows an example of naturally shaded parking which could be constructed in the recommended area of the parcel according to the redevelopment map.

Figure III.32: Proposed Parking Enhancements



Source: Urban Forestry South

Size Estimations

Tables III.3 and III.4 gives data on the amount of available land for parking within Area 5 in addition to how many spaces would be available. Table III.3 represents the large parking lot recommended to be located at the northwest corner of the parcel, while Table III.4 corresponds with the smaller parking lot to be located in the southern corner near the lookout point.

Table III.3: Large Parking Lot at Northwest Corner of Parcel

Entire Parking Lot	Use 4.7 acres of land
Individual Parking Spaces (630)	325 square feet per parking space

Source: Chris Leighton, Parking Manager, City of Tucson.

Table III.4: Small Parking Lot at Southwest Corner of Parcel (bordering Beachcomber Blvd)

Entire Parking Lot	Use 0.07 acres of land
Individual Parking Spaces (8)	325 square feet per parking space

Source: Chris Leighton, Parking Manager, City of Tucson.

Duration

The current lease and development agreement will not expire until 2015, making the development of parking lots a later phased project, allotting for the additional residents and tourists to determine future need.

Lookout Point Structure

A public lookout point is proposed at the southern most point of the parcel. The lookout point would consist of open space with a shade structure and possible public interactive art, such as a sundial. The location of the structure was determined based upon the view shed of the point for the public to enjoy, while also keeping the view shed open for existing residential development located to the north. The lookout point will provide a view of both the entire Channel Area as well as Lake Havasu. This structure and public art would be a way to incorporate the continual English theme of the area by having aspects of English architecture in the design of the lookout structure. The lookout point would contribute to the connectivity of the entire Channel Area by directly connecting to the proposed and existing

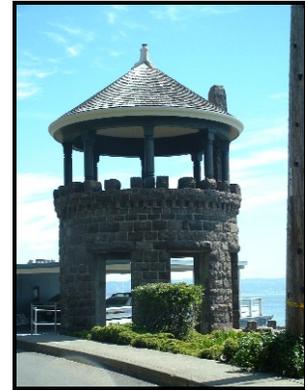
walking paths as well as the parking lot located as part of London Bridge Beach Park. Additional handicapped parking has also been proposed adjacent to the structure.

This would be a public project and use City funds to finance. Although a large amount of land has been designated for the lookout point, the structure itself could vary in size to fit the budget of the City while still providing the ultimate purpose of providing an elevated view of the Lake Havasu and the Channel Area. Potential design of the area is shown in Figure III.33

Figure III.33: Proposed Land Use



Source: Meer.net



Source: Findrentals.com

A break down of the available land and height restrictions are given in Table 111.5 with regards to a lookout point structure.

Table III.5: Height and Land Availability

Total available land	0.7 acres
Height Restrictions	30 feet

Source: Lake Havasu City Land Use Code

Duration

This site would not be available for development until 2015, making the development of the lookout structure a later phased project. This would allow Lake Havasu City the time to budget such a structure within the capital improvement budget.

Public Walkways

A public walkway is proposed throughout the Area 5. This walkway would allow public access to Area 5's property and would serve to connect the parcel to the Channel Area and amenities provided in Area 6. The walkway is proposed along the eastern side of the parcel, bordering the existing residential development and ending at the lookout point on the southernmost end of the parcel. From the lookout point, the proposed walkway would lead down a set of stairs and towards to the Channel via London Bridge Beach Park.

Figure III.34 shows an example of an improved walkway with several enhancements which could be made as part of the Channel Area redevelopment. Within the proposed figure, the sidewalk is wider and there is abundant lighting and landscaping.

Figure III.34: Proposed Walkway Enhancements



Source: Quad City Region

Size Estimations

The walkway should start at the northeastern corner of the parcel and end at the southeastern corner. This requires 2,380 additional feet of walkways. In addition to the walkway width

of 6 feet for universal access, benches and lights should be placed along the pathway increasing the width by approximately 35 feet.

Vegetative Wall

Presently there exists a dirt track at the edge of the residential development (Figure III.35). With the addition of a resort/timeshare development and the public walkway, which runs along the eastern edge of the parcel, a vegetative wall should be constructed to buffer impacts on the existing residential development (Figure III.35). Due to the increase in use throughout the parcel, the privacy of those currently residing in the northeast corner needs to be addressed. By creating a vegetative wall privacy will not only be created on both sides, but it will also serve as a sound barrier for the resort and residents. The wall will also give a nice natural vegetative look along the walkway. This could be a requirement placed upon the developer of the casita resort/timeshare development.

Figure III.35: Existing and Proposed Land Use



Source: Kristen Clem



Source: Stockphoto

Size Estimations

The vegetative wall would encompass the western and southern property boundaries of the residential development equaling 1,223 square feet.

Zoning Recommendations for Entire Area

The entire parcel of land would need to be rezoned from the current A-1, Agricultural Zone to C-R, a Commercial Residential Zone. The current A-1 zoning allows uses such as crop and tree farming, aviaries, accessory agricultural buildings and animal hospitals.¹⁰¹ By rezoning the area to C-R, low height motels and hotels will be permitted in the area with height restrictions being set at 2 stories or 30 feet.¹⁰² This change in zoning will allow additional land uses, but will also protect density and view corridors throughout the Channel Area.

The rezoning and classifying of this area to resort-related also corresponds to the specifications within the City's General Plan. The approximate size and quantity of casita structures also takes into account the required 10-foot diameter setback for each structure.

¹⁰¹ Lake Havasu City Code, Chapter 14.36

¹⁰² Lake Havasu City Code, Chapter 14.36

F. Study Area 6: Parcel Created by Proposed Bridge and Road Alignment

Figure III.36: Overview-Area 6

1. Area Overview

Area 6 consists of a vacant 13.5-acre portion of land (Figure III.36). The Channel to the north, vacant land to the west, McCulloch Boulevard North and a residential development to the east and Beachcomber Boulevard to the south bind the parcel.



The land is currently zoned A-1 (Agricultural) and is held in trust by the State of Arizona. State Trust Land is leased until 2015. If development were to occur prior to the lease renewal date, all structures present on the land would become property of the State of Arizona. Any development occurring prior to the 2015 lease renewal date must abide by the land use development restrictions within the lease. It is for these reasons that it is proposed that State Trust Land be developed post 2015 as to create land-uses which most effectively compliment the needs of both Lake Havasu City residents and developers.

Recommendations for Area 6 within this Redevelopment Plan were crafted in response to survey results and comments made at public meetings. For more detail of the survey results specific to Area 6 refer to Appendix 3. Realignment of the proposed bridge would change the location of public and private uses.

2. Proposed Redevelopment Actions

According to the survey results public space, pedestrian walkways, mix of land uses, and entertainment were important to this area. Area 6 should be divided into several different use areas and rezoned for these specific uses as shown in Table III.6 and Figure III.37.

Table III.6: Proposed Land Uses:

Land Use	Square Feet
Parking Lot	109,250
Mixed-Use Buildings	159,000
Neighborhood Market	29,300
Community Pavilion	84,000
Right of Way	200
Utility Easement	50

Source: Based on aerial photography from Lake Havasu City 2006

A visualization map of the proposed redevelopment actions is shown in Figure III.37. The actual square footage of proposed retail, dining, residential, and office spaces will need to be determined through a market feasibility study.

Figure III.37: Proposed Development Action for Area 6



Parking

Throughout the public input process concerns revolving around the lack of sufficient parking arose. In response to these concerns a large parking lot should be constructed on the western side of Area 6. This parking would accommodate retail structures within Area 6, in addition to parking for the pedestrian walkways and overflow parking for the community pavilion.

Implementation Strategies

Funding for the parking lot should be developed through a public-private partnership in conjunction with private development activities on the parcel. The share of funding required by the City and the developers would need to be established prior to construction.

Size Estimations

Based upon the size of all proposed elements within Area 6, a 110,000 square foot parking lot should be constructed. A total of 338 parking spaces could be developed, as each space requires 325 square feet.¹⁰³

Mixed-Use Development

A development consisting of a mix of uses including dining, retail and commercial space should be constructed adjacent to the proposed new road. This area should be rezoned MU (Mixed-Use), which typically allows residential. However, the General Plan excludes any residential development on the island. Therefore mixed-use within Area 6 will include only retail, dining and office space.

The addition of restaurants and commercial space was expressed in public input. Due to the amount of available space and the location of Area 6 in reference to the Channel Area it would be an effective use of vacant land. The development would provide additional economic opportunities while catering to residents and tourists.

¹⁰³ City of Tucson Parking Manager, Chris Leighton, Personal Interview November 2006.

Size Estimations

A footprint area of 53,000 square feet should be developed as a mix of retail, dining, and commercial space. A Mixed Use zoning allows for structures to be limited at 30 feet in height, therefore 159,000 square feet will be available for mixed use development.

Neighborhood Market

Lake Havasu City is currently undergoing tremendous growth. This growth is occurring throughout the City and more specifically on Pittsburg Island. With tremendous growth comes a need for improvements such as infrastructure and availability of retail for both tourists and residents of the area. The strategic placement of retail on the island side of the Channel will reduce traffic across the bridge and therefore help to alleviate the current traffic congestion.

Area 6 is a prime location for the expansion of retail and services for use by both residents of the island and tourists visiting the area. A neighborhood market will provide an excellent scale of services catering specifically to the residents of the island, which could serve the tourist community as well. This residentially scaled neighborhood market would maintain the low-intensity identity of the island, while providing opportunity for service sector jobs and social interaction.

Community Pavilion

The construction of a community pavilion will provide a space for large community gatherings and activities. This type of facility in the Bridgewater Channel Area will benefit businesses, the community, and will add to the overall atmosphere within the Channel Area. The community pavilion should be constructed in the northern portion of Area 6, to the west of the proposed bridge. The close proximity to the second bridge provides easy access, while also being connected to the pedestrian walkways throughout the Channel Area. The pavilion should be constructed adjacent to mixed-use development providing a variety of services for visitors (restaurants and retail). The pavilion will also be located near the family activities in Area 8, allowing residents and visitors to benefit from a variety of local amenities. The Pavilion should be a permanent steel structure with a canopy, accompanied by an events ring

that should use the natural northern slope for terraced grass seating. Additional structures could also provide shade for the seating area. In this configuration, the events ring serves as a stage. The layout of the pavilion and associated structures should form a triangle. The terraced seating will face north towards the Channel, the events ring will lie directly north of the seating adjacent to the Channel and the pavilion to the west of the seating and events ring. The area should be grass covered in seating areas and paved with landscaping in all other areas encompassing the pavilion. Below is a list of pavilion type events, which could be held in Lake Havasu City.

- Concerts
- Festivals
- Weddings
- Reunions
- Fundraisers
- Arts and Craft Shows
- Services and Gatherings

A similar pavilion in a community roughly the same size as Lake Havasu City holds 75 events per year, attracting over 120,000 people¹⁰⁴ and cost less than one million dollars¹⁰⁵ (Figure III.38) to construct.

Figure III.38: Caras Park Pavilion



Source: City of Missoula

¹⁰⁴ This information was communicated in an interview with Lynda McCarthy of the Missoula Downtown Association. The Missoula Downtown Associations helped create and manages the Caras Park Pavilion in downtown Missoula, Montana

¹⁰⁵ The Caras Park Pavilion was built in 1997. The cost associated with building a pavilion in 2015 will be higher.

Size Estimations

The main canopy should cover approximately 7,800 square feet to accommodate approximately 3,000 people under the main shaded area. The whole area should cover approximately 1.5 to 2 acres.

Proposed Bridge/Right-of-Way

The City of Lake Havasu has proposed a 600ft second bridge connecting Area 6 to the mainland. This bridge should increase the connectivity throughout the Channel Area, while promoting additional businesses and public structures, by alleviating traffic congestion encountered by having a single bridge for Island vehicle traffic. Figure III.39 provides a conceptual image of the second bridge.

Figure III.39: Second Bridge Visualization



Source: Lake Havasu City Public Works Department

Land should be set aside for a 200 foot right of way with a road connecting to the second bridge, and a 50 foot utility easement which will have a pedestrian walkways and bike paths running through it. The utility easement should be divided into two 25-foot sections, with

one section on each side of the right-of-way. The right of way itself should be approximately 0.3 miles long and have inroads into the proposed parking lot.

Duration

Construction of the second bridge should be complete by 2012. Construction of other proposed land uses in Area 6 should not take place until 2015 when the land will be available for lease.

Zoning Recommendations for Entire Area

The entire parcel of land, which encompasses Area 6, should be rezoned from the current A-1, Agricultural Zone, to M-U, Mixed Use District. By rezoning the area to M-U, it will allow a variety of retail, dining, and service uses. The M-U height limitations of 30 feet (3 levels) will protect view sheds within the island, while incorporating a building intensity that is economically viable for the area.

G. Area 7- London Bridge Beach

1. Area Overview

Area 7 is a developed public park in the heart of the Bridgewater Channel Redevelopment Area (Figure III.40). London Bridge Beach is a 17.31-acre park located at the southernmost end of the Channel, on Pittsburgh Island. The zoning for Area 7 is A1 (agricultural).

The London Bridge Beach Community Park is currently intensively developed, with a public park and an enclosed dog park. Structures include two bathroom buildings and shade structures for picnic areas. There is an active effort to plant trees along the water's edge (Figure III.41), creating a pleasant walking environment for the many pedestrians, and an interesting landscape for the numerous dogs that frequent Lion's Dog Park. The parcel has a long beach area both along the Channel and along the mouth of the Channel in the lake. The embankments along the edge of the Channel are sandy beach, without much slope. Park benches dot the beaches at frequent intervals. There are various activity areas, including a sandy area for volleyball or horseshoes, a concrete basketball court, and grassy space suitable for aiming croquet balls, or tossing Frisbees. At the southernmost end of the southern parcel, the beach area has a designated swimming area.

The survey results related to this site were very clear. Not many improvements were requested beyond what the City's Park Management staff is already engaged in doing (Figure III.41). The recommendations offered by this Redevelopment Plan for Area 7 have been created in response to survey responses, comments at public meetings and conversations with City officials. For more detail on survey results specific to Area 7 refer to Appendix 3.

Figure III.40: Area 7



Figure III.41: Park Management Staff Planting a Tree beside the Channel



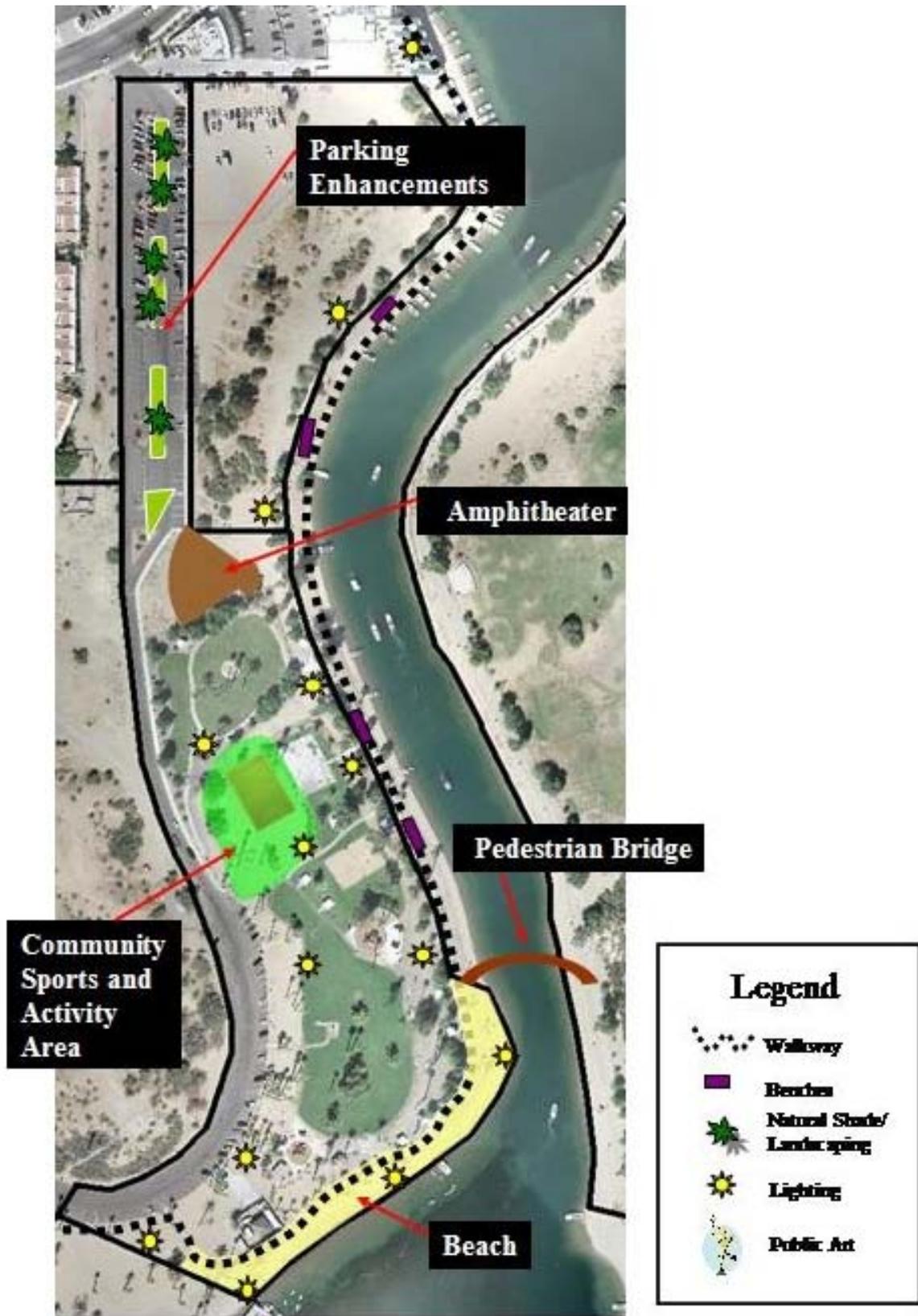
Source: Kristen Clem

2. Proposed Redevelopment Actions

Proposing improvements to the land use of this parcel is difficult, simply because Area 7 is already well developed. It may be possible to squeeze in a public amphitheater at the northern edge of the southern parcel, however in practical terms; such a use may end up overlapping onto Area 4. Such a public arena could make natural use of the slope leading from the parking lot to the park as a seating area, but would have to be designed specifically to minimize the potential impact of the crowds that could gather.

Some other potential improvement could be implemented at the discretion of the Park Management staff. For instance, there is room for another basketball court located next to the current one and a dedicated bocce ball court could be delineated along the parking area. As the Bridgewater Channel Area starts attracting more people with the implementation of this redevelopment plan, it is likely that there will be additional need for outdoor sports and recreational facilities. Area 7 would be a suitable location for such facilities since it would provide a focal area for sports activities. Additionally, the park is an excellent place to display public art themed to connect the park to the other areas of the Channel Area. Refer to Figure III.42 for the proposed development actions for this area.

Figure III.42: Proposed Development Actions of Area 7



Pedestrian Bridge

A proposed improvement to Area 7 is to increase the pedestrian circulation by adding a bridge crossing the Channel near the southern end of the Area 7, connecting to Area 3. The positive effects on circulation are discussed throughout the Bridgewater Channel Redevelopment Plan as an important part of the attempt to increase pedestrian traffic throughout the Channel Area. Such a connecting link would create parking alternatives to island parking, subsequently mitigating traffic across London Bridge during high volume periods. Additionally, it would improve recreational access. Finally it would allow emergency personnel to access both sides of the Channel, potentially reducing the costs of maintaining two separate groups of emergency staff.

There are essentially three alternatives available to facilitate pedestrian traffic across the Channel: a tunnel, a ferry, and a bridge. While a tunnel would provide the easiest transition from one side of the Channel to the other, it would necessitate an enormous engineering effort to design and construct, would be cost prohibitive, would have substantial environmental impact, and would be bureaucratically complicated, requiring input and agreement among local, state, and federal agencies and authorities. On the other hand, a ferry would require the least amount of initial outlay by the City, but it would slow boat traffic in the Channel during peak traffic periods, would not meet the needs of emergency personnel answering urgent calls for assistance, would require additional staff and funding to operate and maintain the ferry, and it would not fulfill the need for pedestrian circulation when the ferry closed down. Because of these considerations, a pedestrian bridge is considered the most viable option to connect the two sides of the Channel.

A simple single span metal truss bridge would best address the needs for better pedestrian circulation around the Channel Area. The design considerations for such a bridge are significant. It would need to match the minimum air-draft of London Bridge, 32.5 feet, to be high enough to allow boat traffic through the Channel.¹⁰⁶ The minimum horizontal requirements would approximate the width of the Channel. Because the bridge would be so prominent, it could be designed with the English architectural theme in mind (Figure III.43).

¹⁰⁶ Bridge Administrator, United States Coast Guard, 11th District, October, 2006

Figure III.43: Pedestrian Bridge (Iron Bridge, UK)



Source: Wikipedia

The cost estimates for a pedestrian bridge were initially estimated to be between \$300 and \$600 per square foot for a simple single span metal truss bridge.¹⁰⁷ The bridge is expected to be approximately 120 feet long allowing for some overlap on either side of the Channel, and 8 to 12 feet wide, allowing several people to walk abreast. This results in a cost estimate of between \$288,000 and \$864,000 (Table III.7).

Table III.7: Estimated Costs of a Pedestrian Bridge

Costs per Square foot	8 ft. wide, 960 sq. ft.	12 ft. wide, 1440 sq. ft.
\$300	\$288,000	\$432,000
\$400	\$384,000	\$576,000
\$500	\$480,000	\$720,000
\$600	\$576,000	\$864,000

Source: Jerry Cannon, Cannon Transystems, September, 2006

Area 7 requires no zoning changes for these improvements to occur. The permitted uses would not change according to this redevelopment plan. General park improvements should be determined by the park management staff. The most significant proposed improvement to

¹⁰⁷ Jerry Cannon, Cannon Transystems, September, 2006

this area is a new pedestrian bridge. Funding options are available as discussed elsewhere in the redevelopment plan, and are determined primarily by the proposed use of the bridge. It is expected that this improvement will begin concurrent with other Channel Area walkway improvements.

Sports Field

London Bridge Beach Park has a basketball court and beach volleyball court. There is a sandy area just west of the basketball court which should be used for another sports facility to complement the existing park amenities. This could be a horseshoe pit, bocce ball court, or another basketball or volleyball court.

Amphitheater

A small community amphitheater would be a great addition to the London Bridge Beach Park. This amphitheater would seat around 100 people and would be used for plays or musical performances. The theater could easily conform to the natural slope of the landscape. Shading would be necessary to protect spectators and performers from the heat. A comparably sized project in Tucson, Arizona, has an estimated cost of between \$330,000 and \$360,000¹⁰⁸

¹⁰⁸ SAGE Landscape Architecture and Environment Inc. Ironhorse Neighborhood: 10th St. Park Concept A & B, Cost Estimate. 11/9/2006

H. Area 8- Kingsview II and Adjacent Parcels

1. Area Overview

Area 8 is bound by the Channel to the south, London Bridge Road to the north, the English Village to the east, and Lake Havasu State Park to the west (Figure III.44). The area contains two parcels, one of which is developed and one that is currently vacant. Both parcels are privately owned. A City owned easement runs along the Channel down the entire length of the area. Table III.8 shows the current zoning and land uses in Area 8.

Figure III.44: Overview-Area 8



Table III.8: Area 8 Current Zoning and Land Uses

Parcel	Zoning	Current Uses
107-79-051 2-A	R-4/PD	50 Unit Condominium complex and restaurant
107-77-002B 2-B	CR/PD	Vacant

Source: Mohave County

The existing land uses in Area 8 are entirely consistent with the proposed redevelopment activities. The City already owns an easement along the Channel that will ensure public access through the area as shown in Figure III.45. The condominium development at the west end of the area is well maintained and does not pose any barriers to the successful implementation of the redevelopment plan.

Figure III.45: Area 8 Walkway (current conditions)



Source: Dylan Parry

The balance of Area 8 is a vacant parcel. It appears that several tons of fill have been placed on this parcel in an attempt to fill in the slope from the road (London Bridge Road) level down toward the Channel. The road is approximately 15-20 feet higher than the level of the walkway. The fill has been used to create a terrace at road level extending toward the Channel. A steep slope from the top of the terrace down to the level of the walkway ends about 30 feet from the walkway as shown in Figure III.46.

Figure III.46: Area 8 Fill Sloping toward Walkway



Source: Dylan Parry, Oct. 2006

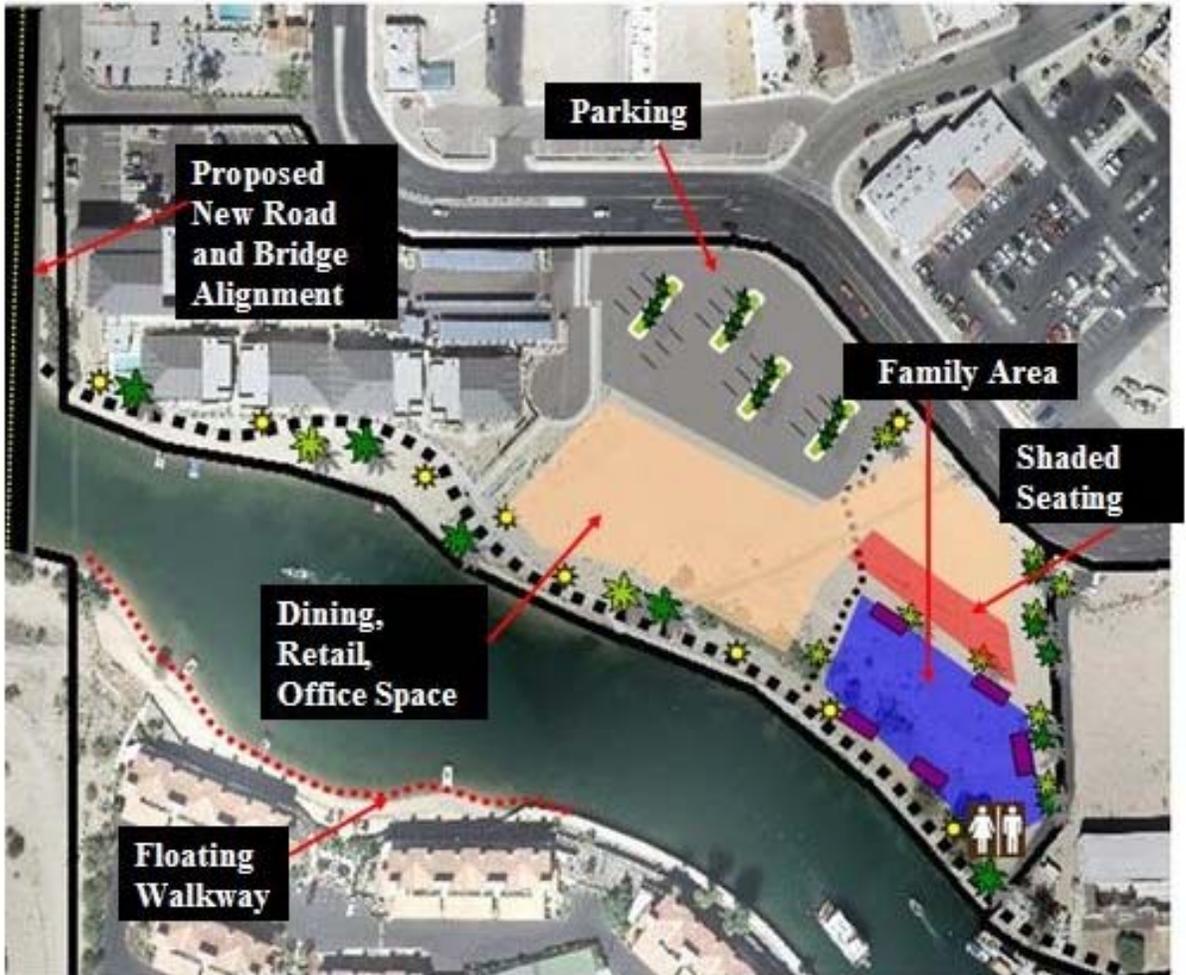
The following redevelopment actions have been created in response to survey results and comments made at public meetings. For more information regarding survey results specific to Area 8 refer to Appendix 3.

2. Proposed Redevelopment Actions

Area 8 is a critical area for the redevelopment of the Channel Area. Area 8 connects the proposed revitalized grand entrance to the English Village to the already popular Lake Havasu State Park and Windsor Beach. The proposed redevelopment actions in Area 8 will include a large family area and public restroom at the currently undeveloped eastern portion of Area 8 and a retail/dining area with hotel, residential or office units above on the balance of the undeveloped property. The family area should contain English theme jungle gyms, play structures, and a splash area where children can play and get wet in a safe environment. Next to the family area retail and/or dining establishments would provide additional commercial activity in the area. Figure III.47 shows the proposed development actions.

A visualization map of the proposed redevelopment actions is shown in Figure III.47. The actual square footage of proposed retail, dining, residential, and office spaces will need to be determined through a market feasibility study

Figure III.47: Proposed Development Actions for Area 8



Legend

 Walkway	 Restroom
 Benches	 Natural Shade/ Landscaping
	 Lighting

The proposed family area would cover approximately 0.5 acres of the 6.3-acre area. The area should be English themed so that it connects with the adjacent English Village. Jungle gyms modeled after English landmarks like the Tower Bridge, Big Ben, and Buckingham Palace should be considered. English iconography should be used in other features as well, such as lions, castles, and knights. The splash park should not have any areas of standing water that can pose health hazards. Splash park features should have small water falls, squirting pulses of water, and other small features where children can get wet during hot summer days. Figure III.48 shows examples of themed jungle gyms. Figure III.49 shows examples of splash features that could be used in the proposed family area.

Figure III.48: Castle Themed Jungle Gyms



Source: Leathers and Associates

Figure III.49: Example of Splash Features



Source: Tucson Jewish Community Center



Source: Myrtle Beach Vacation Condos

The balance of Area 8 should be left as private property. The zoning for this area should be changed from the current R-4 to MU (Mixed Use District). The MU zoning will give the land owner greater flexibility to develop the parcel adjacent to the family area. Development plans for this area should encourage the use of ground level space for retail and dining uses while upper level space could be used for office, residential, hotel or a combination of these uses. Retail and dining uses that are specifically aimed at families with younger children should be encouraged in this area. These types of businesses will act to attract additional visitors to the area and compliment the family attractions in the area. A dining establishment that had outdoor shaded seating facing the family area would be particularly desirable because it would provide family members with a place to relax, eat, and drink while observing their children playing in the family area. English theme design standards should be applied to all new construction in Area 8.

As with all areas of the redevelopment plan connectivity and walkway improvements are essential. Area 8 already has a well-constructed walkway and seawall. Additional plantings of trees to provide natural shade should be considered especially in the area immediately adjacent to the proposed family area. Benches and additional lights should also be considered as the redevelopment process proceeds. When the second bridge is completed, the pedestrian walkway passing through Area 8 should be connected to a pedestrian access across the Channel. This connection will help to complete a continuous walking loop around the Bridgewater Channel Area.

Implementation

Implementation of the proposed actions for Area 8 could be achieved through a number of collaborative strategies. The parcel at the west end of the area is fully developed and also doesn't require any changes. The parcel in the middle which is currently vacant is the only parcel that has large proposed changes. Most substantial is the use of private property for a public family area and public restrooms. The proposed public use will potentially contribute to the economic value of the currently vacant property. In addition, other improvements in the Channel Area, especially the redevelopment of the English Village, will increase visitation of the Channel Area and therefore increase the potential for commercial activity in

Area 8. Possible strategies for acquiring the family area property from the property owner include persuading the owner to gift the property to the City or making an agreement between the owner and the City to build a public parking lot that would accommodate the parking needs of private development on the parcel as well as parking for the family area in exchange for the land to build the family area. The City could also purchase land from the owner. Additional resources for planning and designing the family area can be found in Appendix 6.

Phasing

The proposed development in Area 8 should be done in the second phase of redevelopment (2010-2015). In order for the improvements proposed for Area 8 to be successful the redevelopment of the English Village should be well underway. Since the private commercial and public family areas will have a synergistic effect on one and other, the two endeavors should be constructed at roughly the same time.

IV. Conclusion

Conclusion

In response to Lake Havasu City's identified need, the purpose of this Redevelopment Plan is to direct development and spur economic growth in the Bridgewater Channel Area. This plan has been developed through ongoing communication with Lake Havasu City officials, residents, and business owners. Comments, recommendations and requests made by stakeholders have directly shaped the concepts and recommendations set forth in this document.

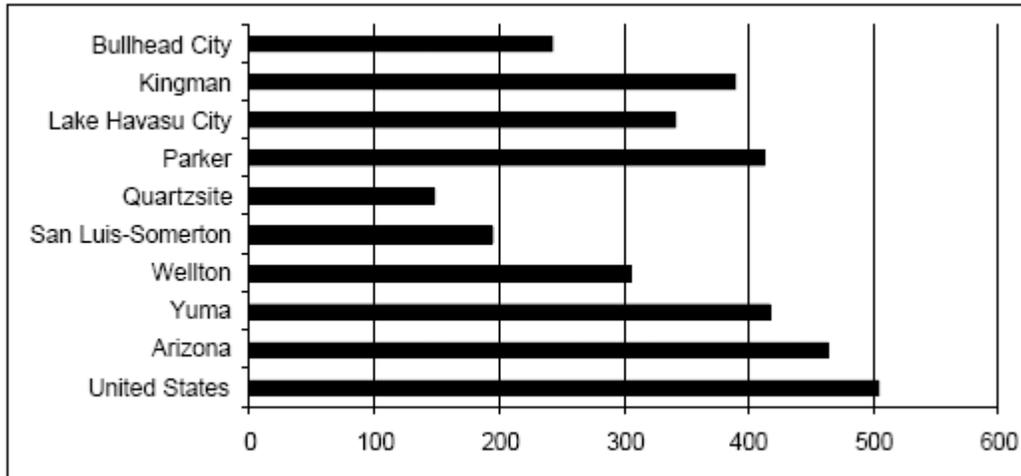
The goal of this plan is to facilitate residents' requests to create a sense of place and unique identity for the Channel Area that can be enjoyed by visitors and residents alike. Through collaborative efforts between businesses and the community the concepts within this plan will be successfully implemented. Connectivity throughout the Channel Area is important to create the sense of place, access and unique identity of the area. Providing attractions and public space that will attract a variety of people (families, age groups, etc) will expand who utilizes the area and, ultimately, its businesses.

The Bridgewater Channel Area is currently underperforming. This redevelopment plan offers a roadmap for Lake Havasu City residents, officials and businesses to follow that will enhance the area and its level of economic performance.

V. Appendix

Appendix 1: Employment Figures

Figure V.1: Total Employment per 1,000 Residents



Source: Arizona Department of Commerce, Economy of Lake Havasu City – June 2004 (Estimated from U.S. Department of Commerce, Census Bureau, Zip Business Patterns 2001 and 2000 census, and estimates of agriculture and government employment.)

Figure V.2: – Employment by Sector, 2001

Sector	Number of		Relative to Nation		Relative to Arizona	
	Establishments	Employment	Location Quotient	Excess Employment	Location Quotient	Excess Employment
TOTAL	1,468	15,259	0.68	0	0.74	0
AGRICULTURE	3	10	0.02	0	0.03	0
GOVERNMENT	7	1,775	0.48	0	0.51	0
TOTAL, NONAGRICULTURE PRIVATE SECTOR	1,458	13,474	0.74	0	0.80	0
Mining	0	0	0.00	0	0.00	0
Utilities	3	45	0.43	0	0.51	0
Construction	287	1,815	1.76	783	1.24	347
Manufacturing	91	1,415	0.56	0	0.84	0
Wholesale Trade	48	230	0.24	0	0.30	0
Retail Trade	237	2,730	1.15	364	1.18	413
Transportation and Warehousing	35	297	0.50	0	0.46	0
Information	17	228	0.38	0	0.45	0
Finance and Insurance	60	444	0.45	0	0.45	0
Real Estate and Rental and Leasing	75	284	0.89	0	0.78	0
Professional, Scientific and Technical Services	85	349	0.31	0	0.34	0
Management of Companies and Enterprises	0	0	0.00	0	0.00	0
Administrative, Support, Waste Management, Remediation Services	82	645	0.45	0	0.39	0
Educational Services	5	76	0.18	0	0.32	0
Health Care and Social Assistance	113	1,860	0.81	0	1.07	114
Arts, Entertainment and Recreation	21	232	0.82	0	0.76	0
Accommodation and Food Services	129	2,043	1.29	458	1.14	250
Other Services (except public administration)	137	749	0.88	0	1.06	45
Auxiliaries (except corporate, subsidiary and regional management)	1	2	0.01	0	0.01	0
Unclassified Establishments	32	33	1.96	16	2.30	19

Source: Arizona Department of Commerce, Economy of Lake Havasu City – June 2004 (Non-agriculture private sector estimated from U.S. Department of Commerce, Census Bureau, Zip Business Patterns 2001.

Agricultural production employees, most government employees, railroad employees, self-employed individuals and employees of private households are not included in this data source. Government employment estimated from government agencies and local sources and may understate actual figures. The concept of establishment for government and agriculture differs from that used for the non-agriculture private sector.)

Table V.1- Major Employers in Lake Havasu City, 2005

EMPLOYER	SECTOR	EMPLOYMENT
Havasu Regional Medical	Hospital	695
Lake Havasu City	Government	612
Lake Havasu School District	Education	530
Sterilite Corporation	Manufacturing	425
London Bridge Resort	Hotel	315
Wal-Mart	Retail	259
Mission Industries	Linen Service	200
Mohave Community College	Education	183
Bradley Chevrolet & Ford	Retail	160
Home Depot	Retail	150
K-Mart	Retail	145
Bashas Grocery Store	Retail	138
Nautical Inn	Hotel	106
First Advantage Transportation	Call Center	104
Food City	Retail	102
Coldwell Banker Realty	Real Estate	100

Source: Lake Havasu City Partnership for Economic Development, 2005

Table V.2 shows industries with excess employment of at least 100 relative to either national or statewide averages. Entries in bold with a white background have a high percentage of sales to non-residents and therefore considered export (basic) activities. Entries not in bold with a white background sell a moderate proportion of their goods and services to outside customers and therefore regarded as partially basic. Full service restaurants, gasoline stations with convenience stores, travel agencies and department stores are regarded as partially basic because some of the goods and services are sold to tourists and seasonal residents. Construction sector is also considered partially basic due to the fact that a portion of it serves “seasonal residents and in-migrating retirees, both of which are unusually numerous in Lake Havasu City.”¹¹⁰ Ambulance services, which is the only entry highlighted in grey, serve local residents for the most part and therefore considered non-basic.¹¹¹

¹¹⁰ Arizona Department of Commerce, “Economy of Lake Havasu City.” 2004, p.6.

¹¹¹ Arizona Department of Commerce, “Economy of Lake Havasu City.” 2004.

Table V.2: Industries with Excess Employment of at least 100

Industry	Number of Establishments	Employment	Relative to Nation		Relative to Arizona	
			Location Quotient	Excess Employment	Location Quotient	Excess Employment
Drywall, acoustical & insulation contractors	21	383	8.01	335	2.44	226
Full-service restaurants	54	924	1.47	294	1.28	205
All other plastics product manufacturing	2	333	4.18	254	7.07	286
Hotels (except casino hotels) & motels	22	408	1.86	189	1.18	63
Department stores	3	447	1.63	172	1.56	160
Boat building	5	157	19.61	149	29.77	152
Travel agencies	7	170	5.87	141	2.47	101
Gasoline stations with convenience stores	18	244	2.34	140	2.21	133
Single-family housing construction	61	242	2.3	137	1.6	91
Concrete contractors	23	184	3.92	137	1.73	78
Linen supply	1	143	15.87	134	13.7	132
Dental laboratories equipment & supplies manufacturing	3	140	19.49	133	18.04	133
Ambulance services	1	148	9.12	131	6.49	125

Source: Arizona Department of Commerce, Economy of Lake Havasu City – June 2004 (Estimated from U.S. Department of Commerce, Census Bureau, Zip Business Patterns 2001. Agricultural production employees, most government employees, railroad employees, self-employed individuals and employees of private households are not included in this data source.)

Appendix 2: Businesses Located within the Channel Area

Table V.3: Current Channel Area Business List

Channel Area businesses							
Control Number	Business Name	Address	Area	Zone	Type	Comments	Phone
2015	Village Gifts & Souvenirs	109 English Village	NE	1	Retail		
2563	Loondon Bridge Hat Company	110 English Village	NE	1	Retail		
12596	J's Cigar Shop	201 English Village	NE	1	Retail		
5993	Bridgewater Casual wear & Gift	204 English Village	NE	1	Retail		
12980	Games Gone Wild	208 English Village	NE	1	Entertainment	Amusement	
13592	LA Styles	208 English Village	NE	1	Retail	clothing	
5547	London Bridge Candy Emporium	209 English Village	NE	1	Retail		
13765	Angela's Lambs LLC	209 English Village	NE	1	reatil	Clothing	
5374	Pap Leons' Pizza Inc	304 English Village	NE	1	Restaurant		
1934	London Bridge Day Spa	315 English Village	NE	1	Spa		
12805	Outback Offroad Adventures Inc	403 English Village	NE	1	Recreation		
13388	Read Homes Havasu City LLC	422 English Village	NE	1	Reatly		
1583	Havasu Landing Resort	501 English Village	NE	1	Recreation	Tours	
3608	Bluewater Charters	501 English Village	NE	1	Recreation	Tours	
6952	Vessel Assist Lake Havasu	501 English Village	NE	1			
13519	Action Adventure Rental Inc	501 English Village	NE	1	Rental	Boats	
4781	Adventure Center Inc	507 English village	NE	1	Rental	PWC	
	London Bridge Gondola	English Village	NE	1	Entertainment		928-486-1891
	Kon-Tiki Tour Boat	English Village	NE	1	Entertainment		928-453-6777, 928-855-0888
	Lakeview Bar & Grill (LBR)	2400 Clubhouse Dr.	SE	2	Restaurant		928-885-1575
	Martinin Bay (LBR)	1477 Queens Bay	SE	2	Restaurant		928-885-0888
	Ha-Ha Club (LBR)	1477 Queens Bay	SE	2	Entertainment		928-855-0888
	Kokomo's (LBR)	1477 Queens Bay	SE	2	Restaurant		928-855-0888 ext. 4342
	Bridgewater Links Golf Course	1477 Queens Bay	SE	3	Golf course		928-855-4777
	All Seasons Watersports	London Bridge Beach, or Thompsons Bay	On Water	9	Rental		928-854-2009
	Dixie Bell River Party Boat		On Water	9	Entertainment	riverboat tours	
	Cha-Bones	112 London Bridge Rd.	NE	N/A	Restaurant		928-854-5554
7900	Channel Wear	1425 N. McCulloch BLVD	NW	N/A	Retail	Clothing	

Channel Area businesses (continued)

Control Number	Business Name	Address	Area	Zone	Type	Comments	Phone
12416	Taylor Gift Baskets & Vineyard	1425 N. McCulloch BLVD	NW	N/A	Retail		
4607	Penay's Fashions	1425 N. McCulloch BLVD	NW	N/A	Retail		
2586	Shugrue's Restaurant	1425 N. McCulloch BLVD	NW	N/A	Restaurant		
1974	Island Gifts & Souvenirs	1425 N. McCulloch BLVD	NW	N/A	Retail		
2766	Makai Café	1425 N. McCulloch BLVD	NW	N/A	Restaurant		
11519	Barley Bros Brewery & Grill	1425 N. McCulloch BLVD	NW	N/A	Restaurant		
1978	Penay's Footwear	1425 N. McCulloch BLVD	NW	N/A	Retail		
13282	A Brush With a Rose	1425 N. McCulloch BLVD	NW	N/A	Retail	Gift Shop	
7167	Agave Inn, The	1420 N. McCulloch BLVD 200	SW	N/A	Hotel		
10632	Prudential River City Prop	1420 N. McCulloch BLVD 201	SW	N/A	Realty		
9259	Kelly's Coffee & Fudge Factory	1420 N. McCulloch BLVD 124	SW	N/A	Restaurant		
7713	Wild Wear	1420 N. McCulloch BLVD 106	SW	N/A	Retail	Clothing	
9794	Channel Islnad Mini-Mart	1420 N. McCulloch BLVRD 110	SW	N/A	Conveince Store		
7148	Javalina Cantina	1420 N. McCulloch BLVD 126	SW	N/A	Restaurant		

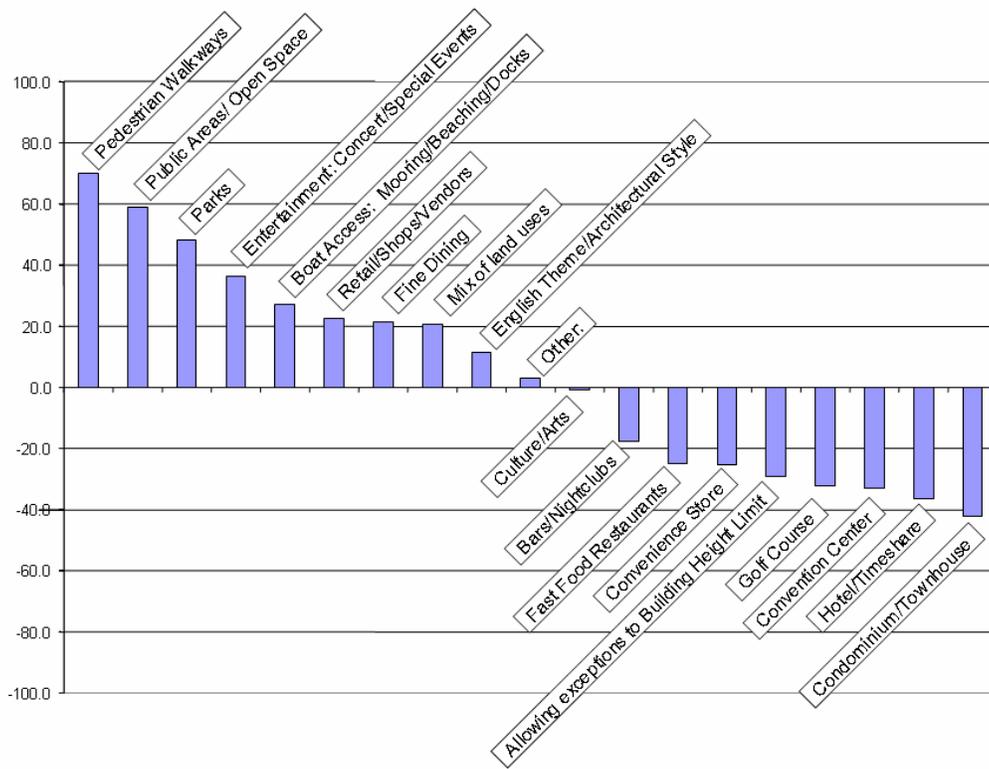
Source: Taken from the 2006 Lake Havasu City License file changes and the Lake Havasu City phone book

Appendix 3: Analysis of Survey Results

Survey responses were compiled and entered into a database, from which trends and preferences were identified. The survey showed that the majority of respondents, from all demographic groups, visited the English Village less than 12 times per year. The Channel and surrounding public spaces were visited on a weekly or monthly basis. Besides the English Village and the Channel, the most frequently visited attraction in the Bridgewater Channel Area was Rotary Park. The golf course was the least frequently visited area in the survey.

Overall, public access and public spaces garnered the most support from survey respondents. Specific elements identified in the survey in reference to public access and open space included pedestrian walkways, public areas/open space, parks, boat access, and entertainment and special events (Figure V.3).

Figure V.3: Overall Survey Results



Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Specific Study Area Survey Results

Survey results for each study area varied slightly from the overall trends. The important differences and similarities for each study area are highlighted below. Figure V.4 shows the nine study areas. This map was included with the surveys.

Figure V.4: Map of Study Areas



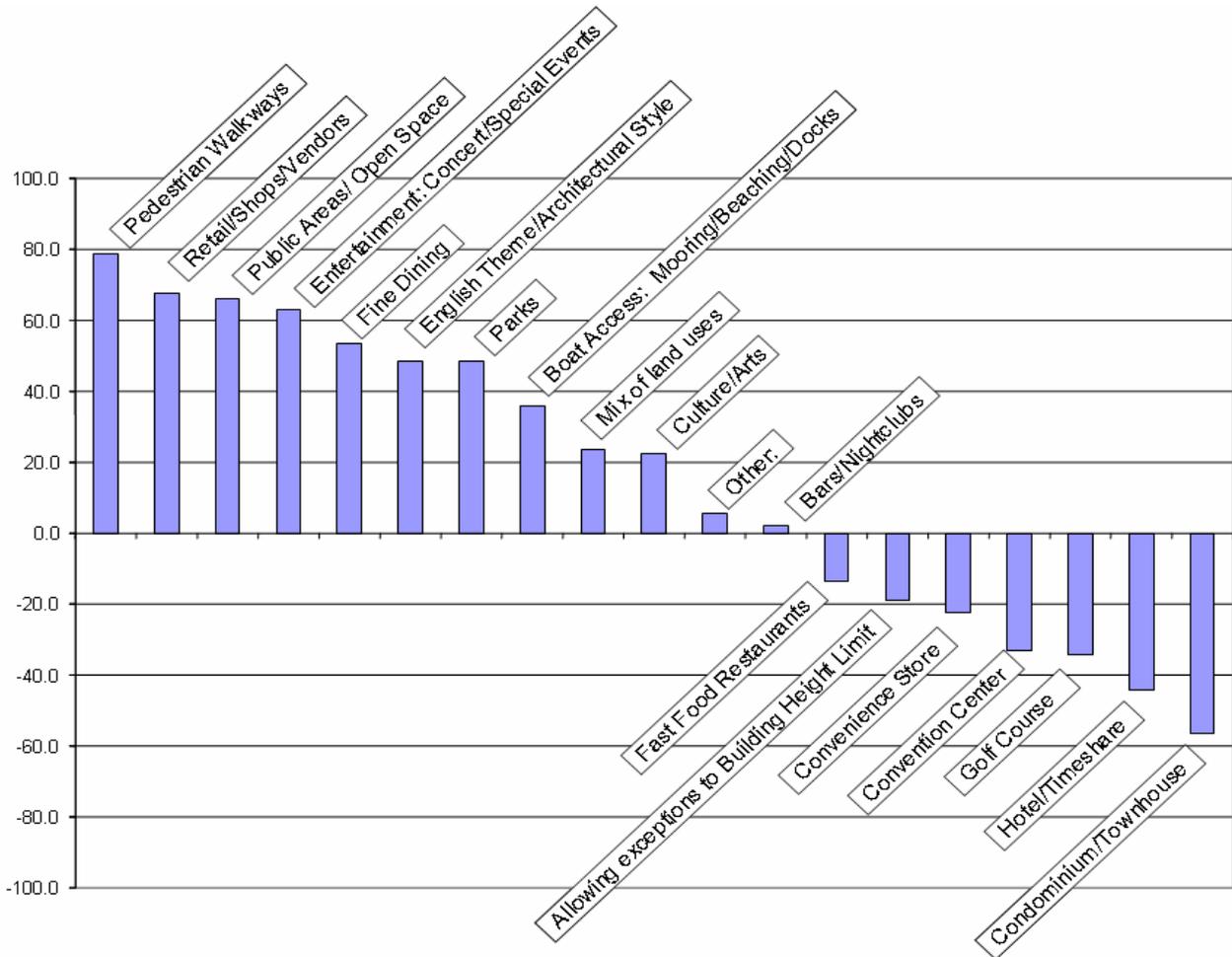
Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Areas 1 and 2

The responses for Area 1 and Area 2 were very similar (Figures V.5 and V.6). Retail shopping, fine dining and the English theme were important for these areas. Public boat access on the other hand, was not as important in these areas as it was in the other areas.

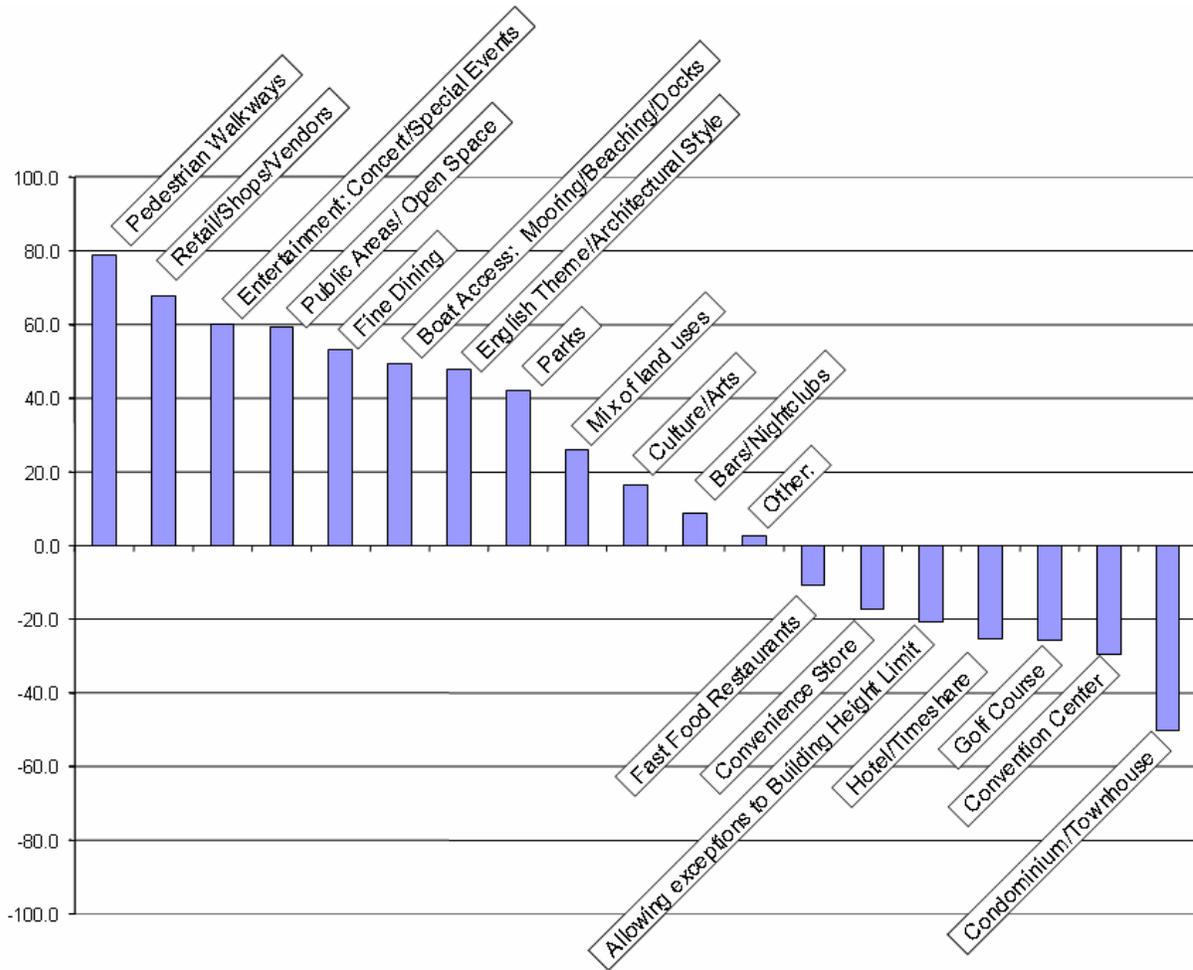
Study Area 2 results exhibited less desire for public space, entertainment, and fine dining than Study Area 1. However, the differences were subtle and can be accounted for by the fact that these things already exist in Study Area 2.

Figure V.5: Study Area 1 Weighted Results (%)



Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Figure V.6: Weighted Study Area 2 Results (%)

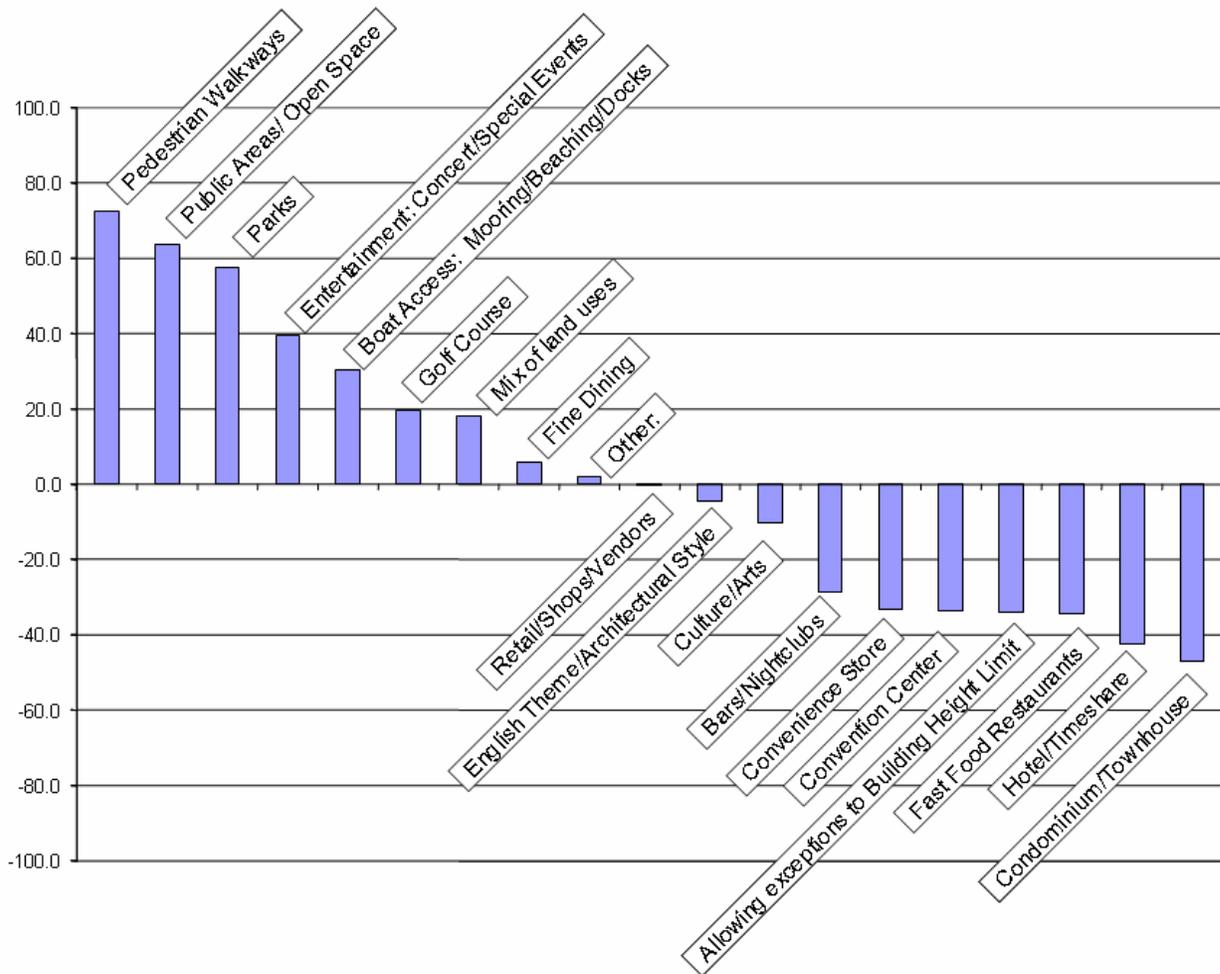


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 3

Resort Public space, public access remain and entertainment/special events are were identified as the most desirable for Study Area 3. A golf course and mix of land uses received more support for this study area than others. Also, fine dining received slightly positive support. The same elements that did not receive support overall received the least support in this study area (Figure V.7).

Figure V.7: Weighted Study Area 3 Results (%)

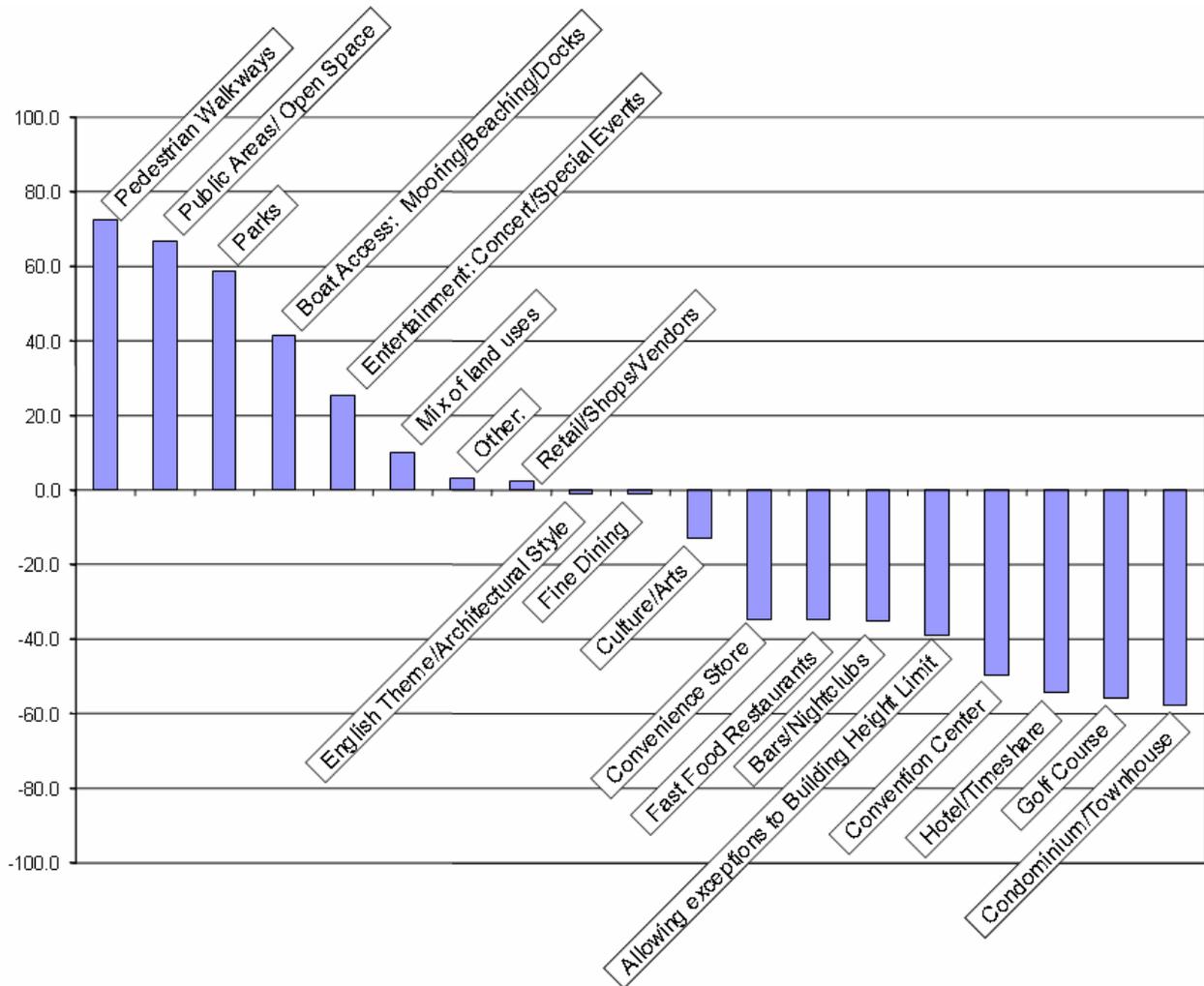


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 4

In this study area 4 there was only support for the public access and public space elements. Also, condos, hotel/timeshares, townhouses received less support in this area than in any other study area (Figure V.8).

Figure V.8: Weighted Study Area 4 Results (%)

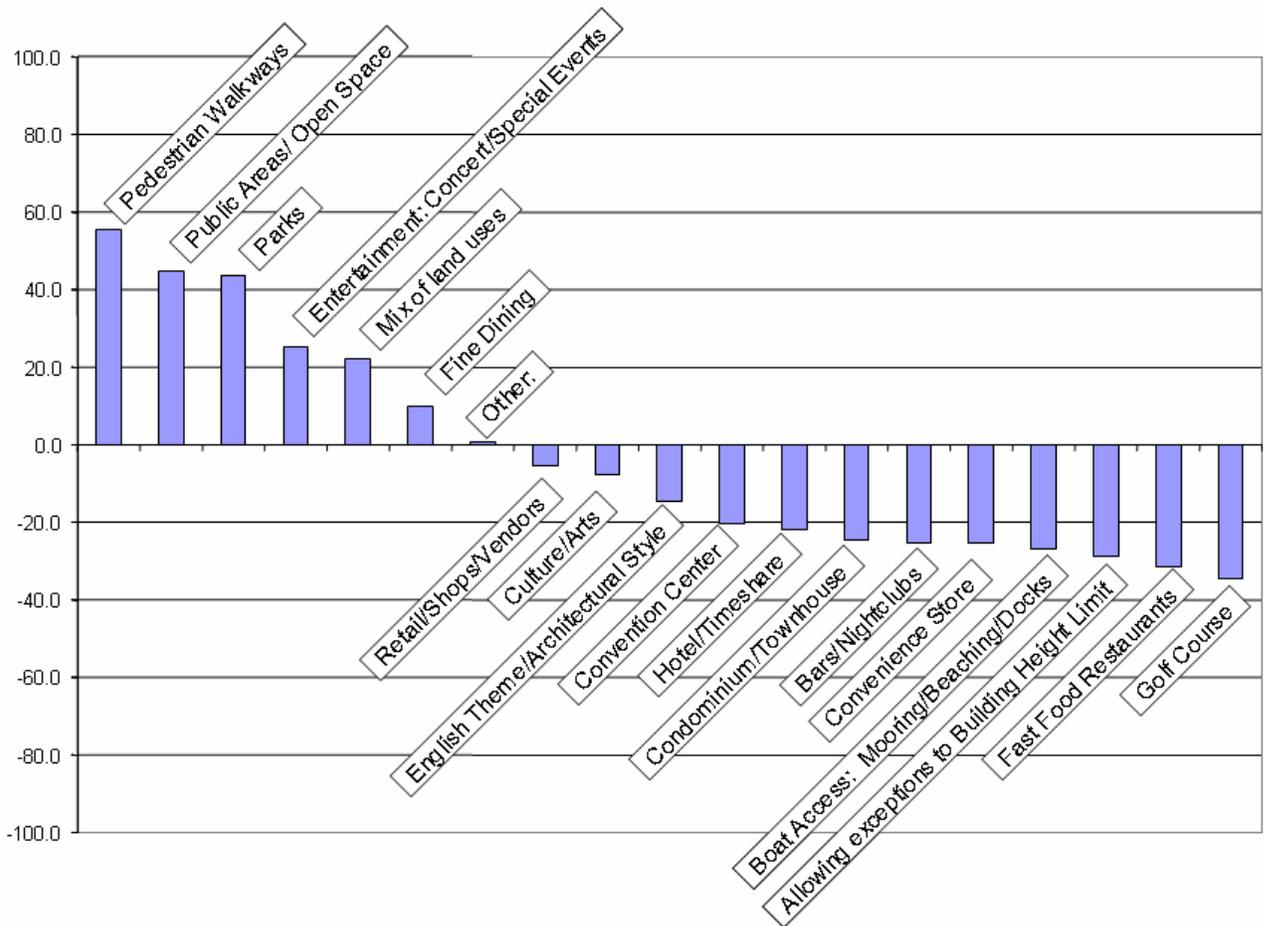


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 5

Survey respondents identified public space and public access as the most important issues. Mixed land use and fine dining also received marginal support in this study area (Figure V.9).

Figure V.9: Weighted Study Area 5 Results (%)

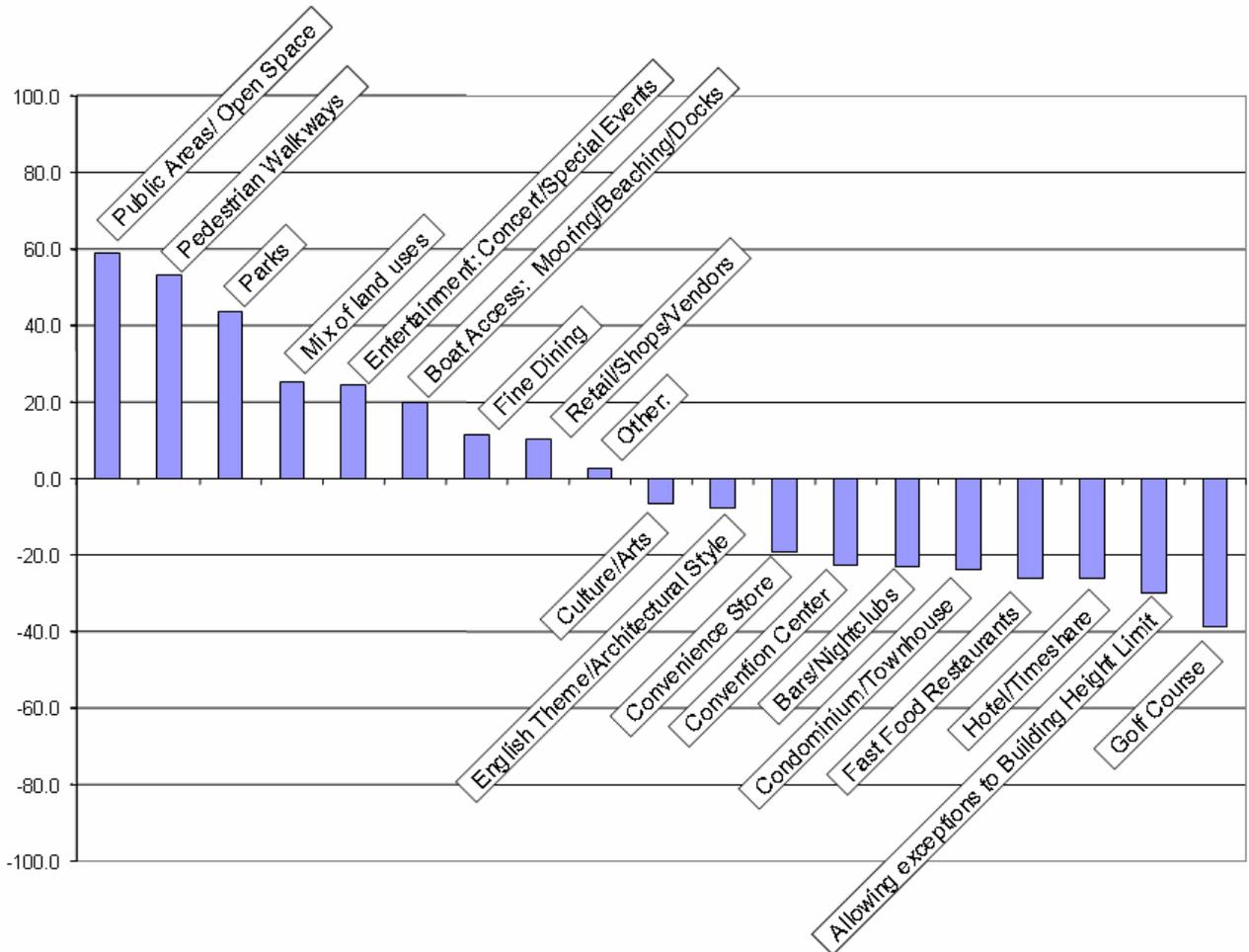


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 6

Responses revealed a strong support for mixed land use, fine dining and retail in Study Area 6. Also, there was support for more boat access and mooring (Figure V.10).

Figure V.10: Weighted Study Area 6 Results (%)

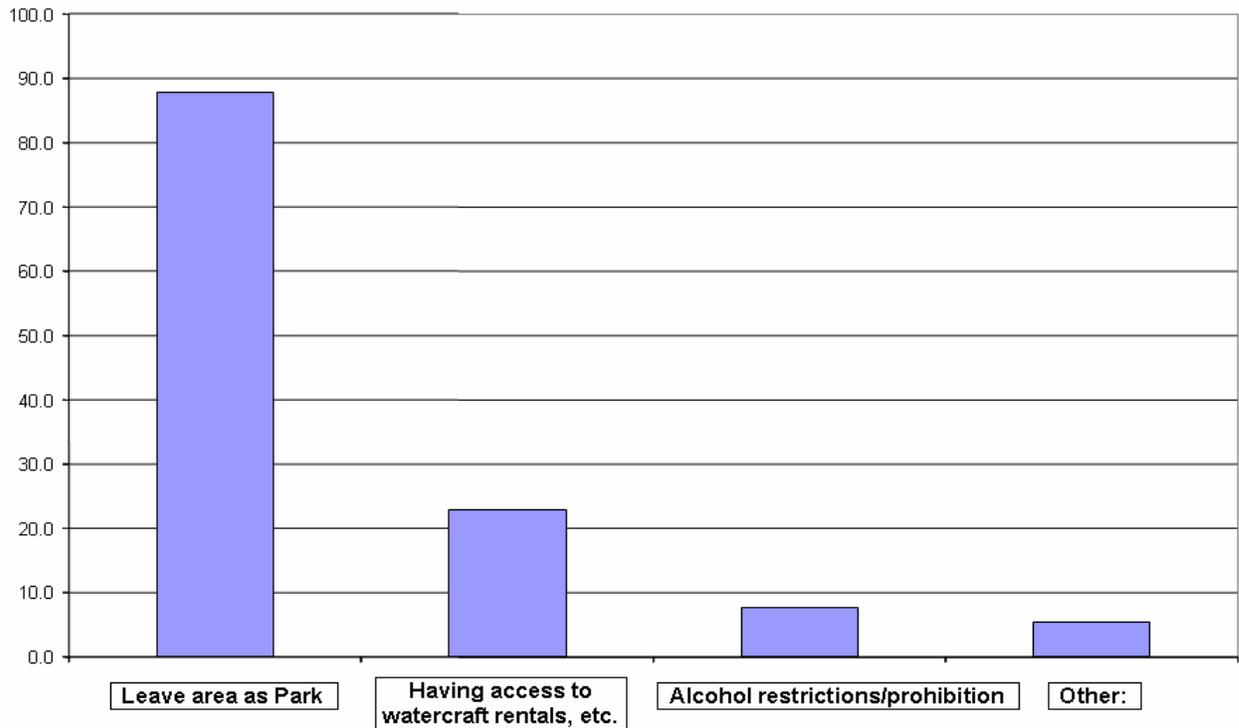


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 7

The public overwhelmingly supported leaving the existing parks in this study area 7 (Figure V.11).

Figure V.11: Weighted Study Area 7 Results (%)

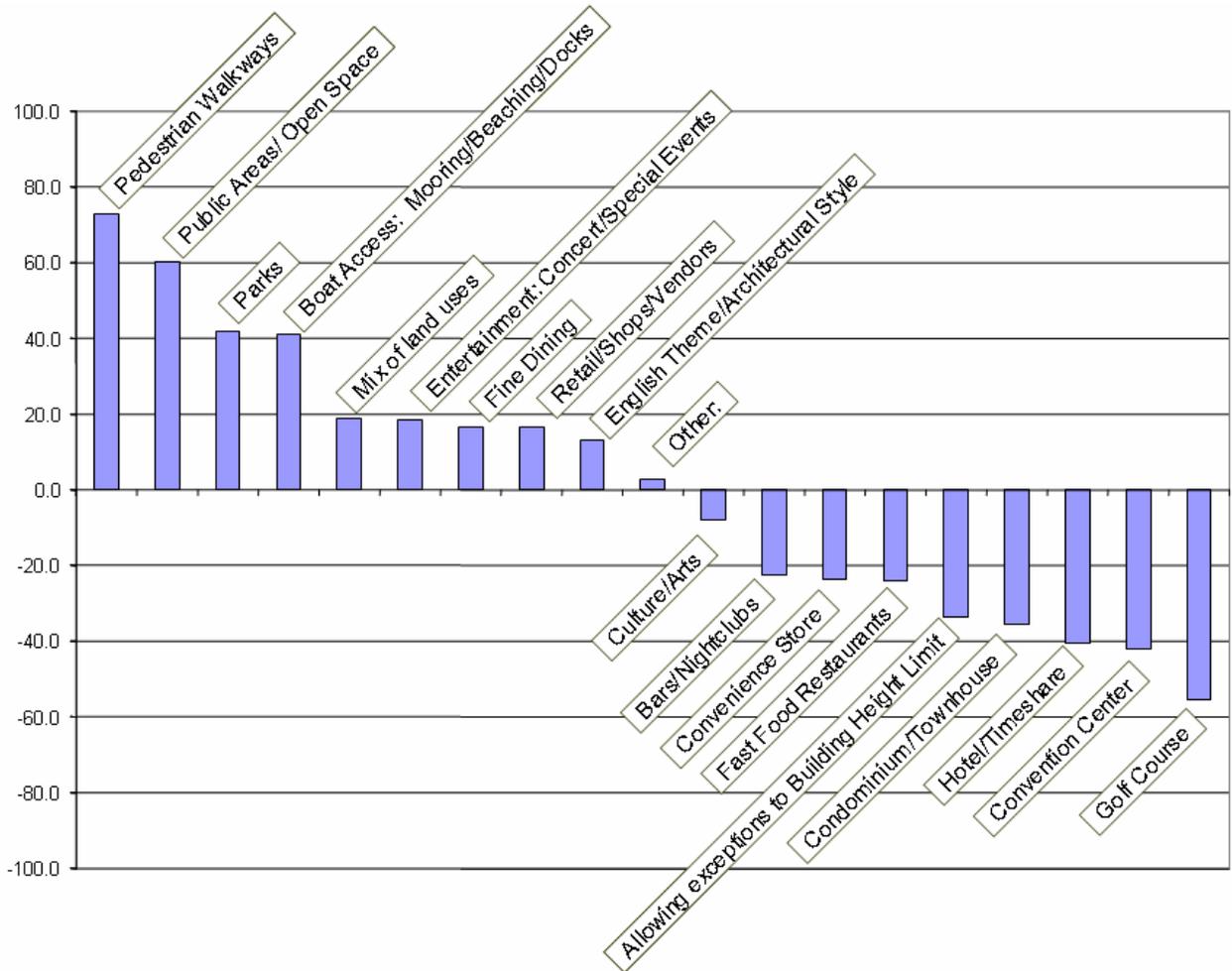


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 8

Once again, survey responses revealed support for public space and public access elements. There was also marginal support for fine dining, retail, mix of land uses and English theme/architecture (Figure V.12).

Figure V.12: Weighted Study Area 8 Results (%)

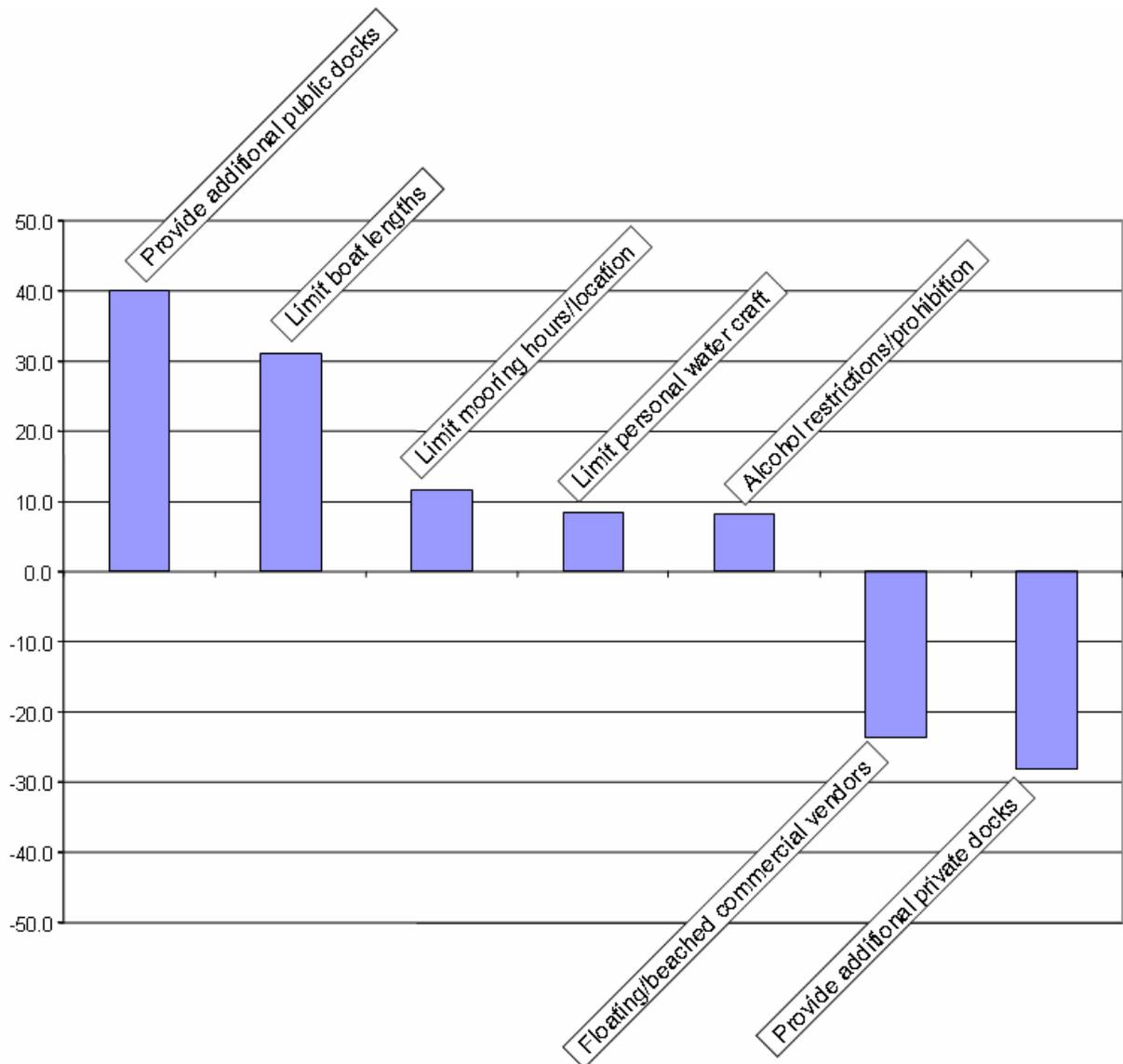


Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Study Area 9

Respondents supported public docks and limiting boat length. Limiting mooring hours/locations, personal watercraft, and alcohol use also received marginal support (Figure V.13).

Figure V.13: Weighted Study Area 9 Results (%)



Source: Bridgewater Planning Area Community Involvement Questionnaire 2006

Figure V.14: Bridgewater Planning Area Community Involvement Questionnaire 2006

152
Name: _____ **Sample** _____ (optional)

**Bridgewater Channel Planning Area
Community Involvement Program Questionnaire**

1. **What best describes your primary role related to this survey?**

- Interested full-time resident
- Interested part-time resident
- Interested non-resident
- Business owner
- Elected official
- Developer
- Advocacy group member

2. **What best describes your employment status?**

- City/Government employee
- Private sector employee
- Unemployed
- Semi-retired
- Retired
- Student

3. **What is your age range?**

- Under 18
- 18 – 25
- 26 – 35
- 36 – 50
- 51 – 75
- Over 75

4. **How long have you been acquainted with Lake Havasu City?**

- Less than 5 years
- 5 – 10 years
- 11 – 15 years
- 16 – 25 years
- Over 25 years

5. **If applicable, how long have you been a full-time resident of Lake Havasu City?**

- Less than 5 years
- 5 – 10 years
- 11 – 15 years
- 16 – 25 years
- Over 25 years

6. **Are you male or female?**

- Male
- Female

7. **On average, how often have you visited the English Village in the last five years?**

- Never
- Daily
- Weekly
- Monthly
- Fewer than 12 visits per year
- Other _____

8. **On average, how often have you visited other public areas in the Bridgewater Channel in the last five years?**

- Never
- Daily
- Weekly
- Monthly
- Fewer than 12 visits per year
- Other _____

9. **What is your primary mode of transportation to reach the English Village?**

- Public transit/taxi
- Private vehicle
- On foot/bicycle
- Boat/watercraft
- Other _____

10. **What is your primary mode of transportation to reach other public areas in the Bridgewater Channel?**

- Public transit/taxi
- Private vehicle
- On foot/bicycle
- Boat/watercraft
- Other _____

11. **Other than the English Village, what areas of the Bridgewater Channel do you use most frequently?**

- Rotary Community Park
- Golf Course
- North Channel Beaches
- South Channel Beaches/swim areas
- London Bridge Beach Park (formerly State Beach)
- Lions' Dog Park
- Walking paths
- Other _____

Figure V.14: Bridgewater Planning Area Community Involvement Questionnaire 2006

Please refer to the accompanying map as you respond to the following.

Rate the importance of each of following issues as they relate to:

STUDY AREA 1		Unimportant	Somewhat Unimportant	Somewhat Important	Important
ENGLISH VILLAGE NORTH OF BRIDGE (APPROX. 9.5 ACRES)					
a) English Theme / Architectural Style					
b) Condominium / Townhouse					
c) Culture / Arts					
d) Boat Access: Mooring/Beaching/Docks					
e) Retail / Shops / Vendors					
f) Hotel / Timeshare					
g) Convention Center					
h) Public Areas / Open Space					
i) Mix of land uses					
j) Allowing exceptions to Building Height Limits					
k) Bars / Nightclubs					
l) Fine Dining					
m) Fast Food Restaurants					
n) Convenience Store					
o) Golf Course					
p) Pedestrian Walkways					
q) Entertainment: Concert / Special Events					
r) Parks					
s) Other:					

TABLE 1

STUDY AREA 2		Unimportant	Somewhat Unimportant	Somewhat Important	Important
ENGLISH VILLAGE/LONDON BRIDGE RESORT (APPROX. 9.12 ACRES)					
a) English Theme / Architectural Style					
b) Condominium / Townhouse					
c) Culture / Arts					
d) Boat Access: Mooring/Beaching/Docks					
e) Retail / Shops / Vendors					
f) Hotel / Timeshare					
g) Convention Center					
h) Public Areas / Open Space					
i) Mix of land uses					
j) Allowing exceptions to Building Height Limits					
k) Bars / Nightclubs					
l) Fine Dining					
m) Fast Food Restaurants					
n) Convenience Store					
o) Golf Course					
p) Pedestrian Walkways					
q) Entertainment: Concert / Special Events					
r) Parks					
s) Other:					

TABLE 2

Figure V.14: Bridgewater Planning Area Community Involvement Questionnaire 2006

STUDY AREA 3		Unimportant	Somewhat Unimportant	Somewhat Important	Important
EXECUTIVE 9-HOLE GOLF COURSE (APPROX. 50 ACRES)					
a)	English Theme / Architectural Style				
b)	Condominium / Townhouse				
c)	Culture / Arts				
d)	Boat Access: Mooring/Beaching/Docks				
e)	Retail / Shops / Vendors				
f)	Hotel / Timeshare				
g)	Convention Center				
h)	Public Areas / Open Space				
i)	Mix of land uses				
j)	Allowing exceptions to Building Height Limits				
k)	Bars / Nightclubs				
l)	Fine Dining				
m)	Fast Food Restaurants				
n)	Convenience Store				
o)	Golf Course				
p)	Pedestrian Walkways				
q)	Entertainment: Concert / Special Events				
r)	Parks				
s)	Other:				

TABLE 3

STUDY AREA 4		Unimportant	Somewhat Unimportant	Somewhat Important	Important
UNDEVELOPED STATE LEASE LAND (APPROX. 5 ACRES)					
a)	English Theme / Architectural Style				
b)	Condominium / Townhouse				
c)	Culture / Arts				
d)	Boat Access: Mooring/Beaching/Docks				
e)	Retail / Shops / Vendors				
f)	Hotel / Timeshare				
g)	Convention Center				
h)	Public Areas / Open Space				
i)	Mix of land uses				
j)	Allowing exceptions to Building Height Limits				
k)	Bars / Nightclubs				
l)	Fine Dining				
m)	Fast Food Restaurants				
n)	Convenience Store				
o)	Golf Course				
p)	Pedestrian Walkways				
q)	Entertainment: Concert / Special Events				
r)	Parks				
s)	Other:				

TABLE 4

Figure V.14: Bridgewater Planning Area Community Involvement Questionnaire 2006

STUDY AREA 5
UNDEVELOPED STATE LEASE LAND (APPROX. 24 ACRES)

	Unimportant	Somewhat Unimportant	Somewhat Important	Important
a) English Theme / Architectural Style				
b) Condominium / Townhouse				
c) Culture / Arts				
d) Boat Access: Mooring/Beaching/Docks				
e) Retail / Shops / Vendors				
f) Hotel / Timeshare				
g) Convention Center				
h) Public Areas / Open Space				
i) Mix of land uses				
j) Allowing exceptions to Building Height Limits				
k) Bars / Nightclubs				
l) Fine Dining				
m) Fast Food Restaurants				
n) Convenience Store				
o) Golf Course				
p) Pedestrian Walkways				
q) Entertainment: Concert / Special Events				
r) Parks				
s) Other:				

TABLE 5

STUDY AREA 6
PARCEL CREATED BY NEW ROAD/BRIDGE (APPROX. 13.5 ACRES)

	Unimportant	Somewhat Unimportant	Somewhat Important	Important
a) English Theme / Architectural Style				
b) Condominium / Townhouse				
c) Culture / Arts				
d) Boat Access: Mooring / Beaching / Docks				
e) Retail / Shops / Vendors				
f) Hotel / Timeshare				
g) Convention Center				
h) Public Areas / Open Space				
i) Mix of land uses				
j) Allowing exceptions to Building Height Limits				
k) Bars / Nightclubs				
l) Fine Dining				
m) Fast Food Restaurants				
n) Convenience Store				
o) Golf Course				
p) Pedestrian Walkways				
q) Entertainment: Concert / Special Events				
r) Parks				
s) Other:				

TABLE 6

Figure V.14: Bridgewater Planning Area Community Involvement Questionnaire 2006

STUDY AREA 7 (Two Areas)

DEVELOPED PARKS – LONDON BRIDGE BEACH & WINDSOR BEACH

	Unimportant	Somewhat Unimportant	Somewhat Important	Important
a) Leave area as Park				
b) Having access to watercraft rentals, etc.				
c) Alcohol restrictions / prohibition				
d) Other:				

TABLE 7

STUDY AREA 8

KINGSVIEW II PROJECT NORTH OF VILLAGE (APPROX. 6.3 ACRES)

	Unimportant	Somewhat Unimportant	Somewhat Important	Important
a) English Theme / Architectural Style				
b) Condominium / Townhouse				
c) Culture / Arts				
d) Boat Access: Mooring / Beaching / Docks				
e) Retail / Shops / Vendors				
f) Hotel / Timeshare				
g) Convention Center				
h) Public Areas / Open Space				
i) Mix of land uses				
j) Allowing exceptions to Building Height Limits				
k) Bars / Nightclubs				
l) Fine Dining				
m) Fast Food Restaurants				
n) Convenience Store				
o) Golf Course				
p) Pedestrian Walkways				
q) Entertainment: Concert / Special Events				
r) Parks				
s) Other:				

TABLE 8

STUDY AREA 9

BRIDGEWATER CHANNEL WATERWAY (APPROX. 1 MILE)

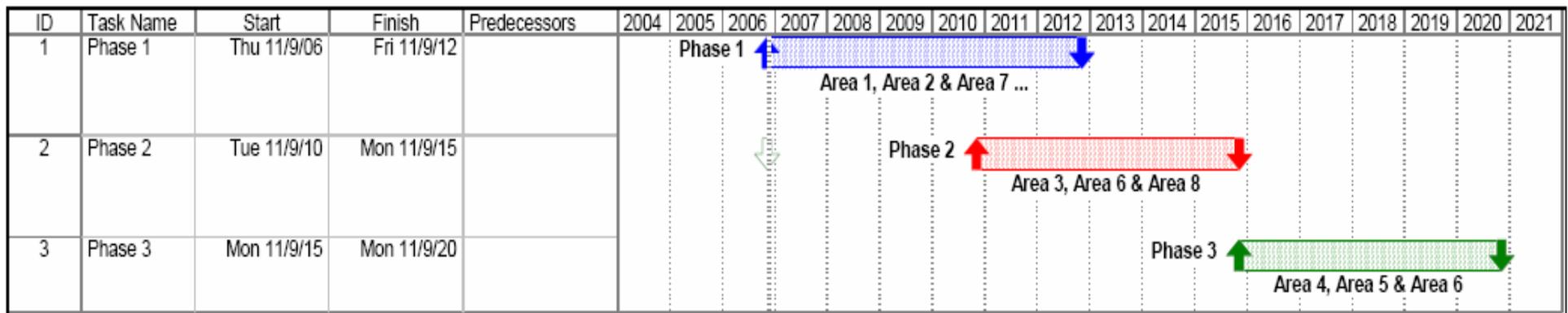
	Unimportant	Somewhat Unimportant	Somewhat Important	Important
a) Limit boat lengths				
b) Provide additional public docks				
c) Provide additional private docks				
d) Limit personal water craft				
e) Limit mooring hours / location				
f) Floating / beached commercial vendors				
g) Alcohol restrictions / prohibition				

TABLE 9

Appendix 4: Phasing

The Phasing for this redevelopment plan will depend upon market conditions and private property owners. The success of phase 1, the English Village (added retail and community space) will determine the pace of the entire redevelopment area. Connectivity, the overall concept of this redevelopment plan, can be addressed at any time (walkway enhancements and additions). Please refer to Figure V.15 below for a broad concept of phasing in this redevelopment plan. There are three main phases, In Phase 1, the English Village, London Bridge Resort Area and the London Bridge Beach Park concepts will be addressed. In Phase 2, Area 3, the location of the current gold course, Area 6 (vacant state trust land) and area 8 (currently owned by private property owner) will be addressed. Due to the State Land’s current lease on properties 3, 5 and 6 there is an instant limitation on this land, therefore it has a later phasing date. Therefore Phase 3 will include both state lands, area 5 and 6, as well as area 4.

Figure V.15: Phasing of Redevelopment Plan



Appendix 5: Parking

Parking Costs

The cost of developing a parking lot is affected by project cost and efficiency. Project Cost is the total cost of developing a parking lot; in addition to construction costs it includes soft costs such as design fees, surveys, geotechnical testing, feasibility studies, land acquisition, and construction materials.¹¹² Efficiency is the size of the space measured in square feet or square meters. The size of a parking space can range from 250-400 square feet. Most designs since 2000 use 300-325 square foot spaces.¹¹³ Labor costs and construction practices differ by location resulting in variable prices. Also, the type of structure influences price.¹¹⁴ Using a 325 square foot space as an example, Table V.4 shows a range of potential construction costs.

Table V.4: Construction Costs for Parking Lots

Cost/Sq. Ft	325 Sq.Ft Space
Surface Lot	
\$5.00	\$1,625
\$7.50	\$2,438
\$10.00	\$3,250
Above Grade Structures	
\$20.00	\$6,500
\$22.50	\$7,313
\$25.00	\$8,125
\$27.50	\$8,938
\$30.00	\$9,750
\$32.50	\$10,563
\$35.00	\$11,375
\$40.00	\$13,000
Below Grade Structures	
\$50.00	\$16,250
\$60.00	\$19,500
\$70.00	\$22,750
\$80.00	\$26,000
\$90.00	\$29,250
\$100.00	\$32,500

Source: Chrest et al. 2001, p. 21

¹¹² Chrest et al., 2001, p.18

¹¹³ Chrest et al., 2001, p.21

¹¹⁴ Chrest et al., 2001, p.21

Table 5.1 was published in 2001. Chris Leighton of the Tucson Department of Transportation reported that the cost of an above grade structure costs \$36 per square foot multiplied by 10%. According to this estimate the cost per 325 square foot parking space would be \$12,870.

Minimum Parking Standards

The minimum parking requirements vary on whether the area is zoned residential or commercial. Table V.5 shows the minimum standards for parking spaces based on Lake Havasu City Development Code 2004.

Table V.5: Minimum Parking Standards

Residential		
Uncovered	Covered	Recreational
9'X20'(180 square feet)	10'X20'(200 square feet)	12'X40'(480 square feet)
Commercial and Employment Uses		
Standard	Recreational	
9'X20'(180 square feet)	12'X40'(480 square feet)	

Source: Adapted from 14.36.020 and 14.36.030 of Lake Havasu City Development Code

Minimum Dimensions for Parking Layouts

According to Lake Havasu City Development Code, 90 Degree Parking must have a minimum stall depth of 20 feet and a minimum aisle width of 24 feet.

For angle parking the minimum Stall depths and aisle widths vary depending on the measure of the angle and whether or not the parking is one-way or two-way.

Table V.6: Minimum Angle Parking Dimensions

L	A	B	C	A	B	C	D	E	F	G	H
Angle of Parking	Depth of Stall	Aisle Width	Width of Area	Depth of Stall	Aisle Width	Width of Area	Curb Length	Width of Stall	Length of Stripe		Depth of Overhang
30"	17'10"	12'0"	47'8"	13'11"	18'0"	45' 10"	17' 4"	9' 0"	35' 0"	4' 6"	3' 11"
45'	20'6"	13'0"	54'0"	17'4"	18'0"	52' 8"	12' 9"	9' 0"	29' 0"	6' 4"	3' 2"
60'	21'10"	18'0"	61'8"	19'7"	18'0"	57' 2"	10' 5"	9' 0"	25' 2"	7' 9"	2' 3"

Source: 14.36.050 of Lake Havasu City Development Code

Parking Requirements by Land Use

Below is a shortened list showing only parking requirements for potential land uses in the development plan (Table V.7). For the complete list of parking requirements by land use see 14.36.30 of the Lake Havasu City Development Code.

Table V.7: Parking Requirements by Land Use

Outdoor recreation facilities	Determined by Conditional Use Permit
Places of assembly, auditoriums, performance theaters, meeting halls, and membership organizations.	1 space for each 3 fixed seats, and 28.5 spaces for each 1,000 sq.ft. of gross assembly or viewing area, plus accessory uses (e.g. bar, restaurant).
Multi-family dwelling, condominiums, and other attached dwellings.	Efficiency units - 1 space per unit One bedroom - 1.5 spaces per unit. Two bedrooms or more - 2 spaces per unit. A minimum of one space shall be in a garage or carport. Guest parking shall be provided at the rat
Convenience stores	4 spaces for each 1,000 sq.ft. of gross floor area.
Restaurants, cafes, cafeterias, nightclubs, taverns, lounges, or similar establishments for the consumption of food and beverages on the premises.	20 spaces for each 1,000 sq.ft. of gross floor area for patrons, plus 3 spaces for each 1,000 sq.ft. of service area, plus 10 spaces for each 1,000 sq.ft. of gross outdoor dining, area.
Appliance, furniture, and bulk goods stores, including warehouse retail	2 spaces for each 1,000 sq.ft. of gross floor area and 1 space for each company owned vehicle, plus 1 space for each 1,000 sq. ft. of outdoor display area.
General merchandise (Retail)	4 spaces for each 1,000 sq.ft. of gross sales area, plus 1.6 spaces for each 1,000 sq.ft. of storage area, and 1 space for each company owned vehicle, plus 1 space for each 1,000 sq. ft. of outdoor display area.
Shopping centers and mixed use projects	Refer to Subsection 14.36.030.C (Reduction of Parking Requirements for Shared Uses).
Hotels and motels	1 space for each guest room without a kitchen and 1.5 spaces for each guest room with a kitchen, plus 2 spaces for the resident manager, one space for each 5 guest rooms for employees, and any spaces required for accessory uses. 10 percent of the guest sp
Offices, administrative, corporate	4 spaces for each 1,000 sq.ft. of gross floor area.

Source: Adapted from 14.36.30 of the Lake Havasu City Development Code

Reduction of parking requirements for shared uses

Many of the land uses taking place within the Bridgewater Channel Redevelopment Plan shall be classified as Shopping Centers or Mixed Use. These types of land use will use shared parking. Section 14.36.30C of the Lake Havasu City Development Code States the following:

Where six or more nonresidential uses are developed as part of a unified commercial center, with a minimum of 100,000 square feet of gross building area, a maximum reduction of 15% from the required number of off-street parking spaces should be allowed.

Where the request for reduction of off-street parking for shared uses is greater than 15 percent and the total building area within the commercial center is greater than 200,000 square feet, a parking study, prepared by a qualified traffic engineer, must be provided. The parking study should provide clear evidence in support of the requested parking space reduction to ensure that a sufficient amount of parking will be available to serve the patrons of the center.

Minimum Off-Street Loading Area Requirements

In addition to parking, commercial industrial, hotel, institutional, and public loading areas have the minimum requirements listed in Table V.8.

Table V.8: Minimum Loading Area Requirements

Required Loading Area Size	Building Size
250 square feet	5,000 to 20,000 square feet of gross floor area
500 square feet	20,000 to 50,000 square feet of gross floor area
750 square feet	Greater than 50,000 square feet of gross floor area

Source: 14.36.090 of Lake Havasu City Development Code

Walking Distance

Table V.9 below illustrates the level of service (LOS) for parking structures and their distances from destinations. The higher the LOS (a LOS of A is better than a LOS of B) the easier it is for a pedestrian to find his/her way to the destination point. In addition, factors such as climate controls and coverings can impact LOS.

Table V.9: Recommended Parameters for Way Finding

Minimum walking distance	LOS D	LOS C	LOS B	LOS A
Within Parking Facilities				
Surface Lot	1400'	1050'	700'	350'
Structure	1200'	900'	600'	300'
From Parking to Destination				
Climate Controlled	5200'	3800'	2400'	1000'
Outdoors, covered	2000'	1500'	1000'	500'
Outdoors, uncovered	1600'	1200'	800'	400'

Source: Adapted from Chrest et al., 2002, p. 45

Appendix 6: Family Area

Additional Resources

The Whole Building Design Guide provides a wealth of information on design, safety, accessibility, cost, and community involvement in play areas for children of all ages.

<http://www.wbdg.org/design/playground.php>

The United States Access Board has produced Accessibility Guidelines for the construction and management of play areas. This resource should be consulted for safety and accessibility considerations in the design of the Family Area.

<http://www.access-board.gov/play/guide/intro.htm>

White Hutchinson (among others) provide consulting services for the feasibility, design including size, type, location and costing, and construction of play areas.

<http://www.whitehutchinson.com>

The Access Board has presented the following formula for the estimation of playground costs. The formula is based on the base cost of the playground equipment to be installed.

Cost of playground equipment (x) + Cost of installation (.30x) + Cost of surfacing (.12x) + Cost of design fees, grading, landscaping, and other expenses (.10x) = Total project cost or budget

VI. References

References

- ADA Document Portal. "ADA Accessibility Guidelines (2002)"
<http://www.accessboard.gov/adaag/html/adaag.htm> (accessed November 13, 2006).
- Am J Prev Med. 2004 Feb;26(2):119-25. Perceived environment attributes, residential location, and walking for particular purposes. Nancy Humpel PhD, Neville Owen PhD, Don Iverson PhD, Eva Leslie PhD and Adrian Bauman PhD
- Arizona Department of Commerce. "Economy of Lake Havasu City." 2004.
<http://www.azcommerce.com/doclib/PROP/Originals/Community%20Economic%20Analysis/North%20River/Lake%20Havasu%20City/Lake%20Havasu%20City.pdf#search=%22economy%20of%20lake%20havasu%20city%22> (accessed September 21, 2006).
- Arizona Department of Commerce. "Lake Havasu City Community Profile."
<http://www.azcommerce.com/doclib/COMMUNE/lake%20havasu%20city.pdf> (accessed September 21, 2006).
- Arizona Department of Revenue. "Lake Havasu City Transaction Privilege Tax Collection by Sector." (Personal communication with Karen Vanchieri, September 26, 2006.)
- Arizona Department of Transportation Enhancements Program. TEA funding.
<http://www.enhancements.org/profile_search.asp> (accessed November 8, 2006).
- Bikewalk Organization. *Creating Walkable Communities: A guide for local governments*.
<http://www.bikewalk.org/ncbw_pubs.php> (accessed November 8, 2006).
- Brown, David E. (Ed.). 1994. Biotic Communities: Southwestern United States and Northwestern Mexico. University of Utah Press, Salt Lake City.
- Chrest, Anthony P., Smith, Mary S., Bhuyan, Sam, Monahan, Donald R., Iqbal, Mohammad, eds. 2001. *Parking Structures: Planning, Design, Construction & Repair*. Norwell, Massachusetts.: Kluwer Academic Publishers
- City of Boston. "Fort Point Channel Watersheet Activation Plan (2002)." Received from
<http://www.cityofboston.gov/bra/Planning/PlanningInitsIndividual.asp?action=ViewInit&InitID=23> (accessed November 13, 2006).
- Competitive Strategies Group, LLC. "An Economic Analysis of the Marine Industry in Lake Havasu City, Arizona." 2006.
- Fibre Composite Design and Development (FCDD). "Delivering Solutions (2006)."
Received from <http://www.fcdd.com.au/Newsletters/Newsletters.htm> (accessed November 13, 2006).

- Gratz, Roberta and Norman Mintz *Cities Back from the Edge, new life for downtown*, 1998
- Havasu Landing Resort and Casino (HL) (2006). Received from:
<http://www.havasulanding.com/> (accessed September 28, 2006).
- Havasu Magazine (Havasu) (2006). Received from: <http://havasumagazine.com/>
(accessed September 28, 2006).
- Holmes, Bobbi (2006). *Lake Havasu City History*. Havasu Magazine. Received from:
http://havasumagazine.com/history_of_lake_havasu_City.htm (accessed September 28, 2006).
- Lake Havasu City (2006). Received from: <http://www.lhcaz.gov/demographics.htm>
(accessed September 28, 2006).
- Lake Havasu Convention and Vistors Bureau (2006). Received from:
<http://www.golakehavasu.com/recreation.html> (accessed September 28, 2006).
- Lake Havasu City. "Lake Havasu City General Plan." 2001.
<http://www.lhcaz.gov/dsd/genplan.pdf> (accessed September 21, 2006).
- Lake Havasu City General Plan (General) (2004). Lake Havasu City General Plan.
Council Adoption August 20, 2002. Voter Ratification: November 5, 2002. Revised:
December 22, 2004.
- Lake Havasu City Partnership for Economic Development. "Lake Havasu City Business
and Lifestyle Profile." 2005. http://www.lakehavasu.org/files/lhc_community_profile.pdf (accessed September 21, 2006).
- Lake Havasu City Partnership for Economic Development. "Lake Havasu City Retail Market
Analysis Report." 2002.
http://www.lakehavasu.org/files/report_retail_market_analysis.pdf (accessed
September 21, 2006).
- Lake Havasu City Water Conservation Plan (2006). Water Conservation Plan:
Lake Havasu City, Arizona. Initial Writing November 28, 2005. Revised from BOR
Review, March 2006.
- McCord, Marc W. (2006). *Colorado River: Topock to Lake Havasu TP*. Received from:
<http://southwestpaddler.com/docs/coloradoaz5.html> (accessed September 28, 2006).
- Mohave County. "Mohave County Interactive Map Viewer." <http://gis.co.mohave.az.us/>
(accessed November 15, 2006).

North Carolina State University. Center for Universal Design. Viewed November 4 2006.
http://www.design.ncsu.edu:8120/cud/pubs_p/pubs_p.htm

Portland Development Commission. "Central Eastside: Eastbank Esplanade (2001)."
Received from http://www.portlanddev.org/ura/central_eastside/eastbank.asp
(accessed November 13, 2006).

Projects for Public Spaces. *Lighting Use & Design* Viewed November 3 2006
http://www.pps.org/info/amenities_bb/streetlights#Why%20is%20lighting%20important?

Projects for Public Spaces. *Benches*. Viewed November 3 2006 <
http://www.pps.org/info/amenities_bb/benches>

Sustainable Design. <<http://www.myflorida.com/fdi/edesign/news/9607/thesis/site.htm>
(accessed November 8, 2006).

U.S. Census Bureau. "Fact Sheet- Mohave County, Arizona."
http://factfinder.census.gov/home/saff/main.html?_lang=en (accessed September 21, 2006).

U.S. Census Bureau. "Fact Sheet- Lake Havasu City, Arizona."
http://factfinder.census.gov/home/saff/main.html?_lang=en (accessed September 21, 2006).

U.S. Census Bureau. "Fact Sheet- United States."
http://factfinder.census.gov/home/saff/main.html?_lang=en (accessed September 21, 2006).

U.S. Census Bureau. "Zip Code Business Patterns." Received from:
<http://censtats.census.gov/cbpnaic/cbpnaic.shtml> (accessed September 26, 2006).

Vernez-Moudon, Anne, *Effects of Site Design on Pedestrian Travel in Mixed-Use Medium Density Environments*, University of Washington College of Urban Planning (Seattle, WA, 1996).

Wahoo Docks. "Wahoo Docks Specifications (2004)." Received from
<http://www.wahoodocks.com/specs.htm> (accessed November 13, 2006).

Figure References

II. Redevelopment Plan Objectives

Figure II.6

Burchill VDM Pty Limited. "Melbourne City Link Floating Walkway/Cycleway." [Online image]. <http://www.burchillpartners.com.au/m-melb.jpg> (accessed November 25, 2006).

Figure II.7

Burchill VDM Pty Limited. "Brisbane River Floating Walkway." [Online image]. <http://www.burchillpartners.com.au/m-bcc.jpg> (accessed November 25, 2006).

Figure II.8

Kame. "LittleL Columbia." Ripway Web Hosting. [Online image]. http://h1.ripway.com/Kame/photos/LittleL_Columbia.jpg (accessed November 16, 2006).

Figure II.9

Trico USA Inc. "Shade-Structures-Parking." [Online image]. <http://www.tricoshade.com/images/apps/shade-structures-parking.jpg> (accessed November 16, 2006).

Figure II.10

Killough, Stephen. "Solar Paneled Parking." EVWorld.com. [Online image]. <http://www.evworld.com/view.cfm?section=article&storyid=856> (accessed November 16, 2006).

Figure II.11

Bob and Jenny's Bed and Breakfast in Italy. "Street Café in Corso Palladio." [Online image]. <http://www.bed-breakfast-italy.com/street-cafe.htm> (accessed November 25, 2006).

Driver Guide Tours. "Mixed-use Building." [Online image].

<http://www.driverguidetours.com/> (accessed November 25, 2006).

Figure II.12

Worldtripper. "France/Alsace." Webshots. [Online image]. <http://community.webshots.com/album/87786124nEuGSL> (accessed November 25, 2006).

Figure II.13

Project for Public Spaces. "Interactive Sculpture in Jardin des Tuileries, Paris." [Online image]. http://www.pps.org/info/pub_art/pubart_design (accessed November 25, 2006).

Project for Public Spaces. “A Resting Traveler on Commonwealth Avenue, Boston.” [Online image]. http://www.pps.org/info/pub_art/pubart_design (accessed November 25, 2006).

Borja and Mike. “Lizard.” [Online image].Galeria BorjaNet
<http://gallery.casa-sotomayor.net/album73?page=3> (accessed November 25, 2006).

GTA Madrid. “Parc Guell” [Online image].
<http://www.gtahotel.com/kankojoho/barcelona.htm> (accessed November 25, 2006).

Figure II.14

Wikipedia. “Double Jettied Building.” [Online image].
<http://upload.wikimedia.org/wikipedia/commons/f/f4/DoubleJettiedBuilding.jpg>
(accessed November 16, 2006).

Figure II.15

United Communities. “Tudorlg.” [Online image]
http://www.unitedcommunities.com/media/images/tudor_lg.jpg (accessed
November 16, 2006).

Figure II.16

Pbase.com. “Roof.” [Online image].
<http://ct.pbase.com/t1/10/501210/4/62712722.ZmYnwAy2.jpg> (accessed November
16, 2006).

Figure II.17

Toys and Models for Collectors. “Clay Roof Tiles.” [Online image].
http://www.toycollectors.fsnet.co.uk/bin/trooftiles_30.jpg (accessed November 16,
2006).

Figure II.18

Hall, Richard. “Mock Tudor House Window.” BTinternet.com. [Online image].
<http://www.btinternet.com/~familyhall/grindham/cu01.htm> (accessed November 16,
2006).

Figure II.19

Old House Web Publishing. “Arched Doorway.” [Online image].
<http://images.oldhouseweb.com/stories/bitmaps/2006/14365/large.jpg> (accessed
November 16, 2006).

Figure II.20

Norman L. Benoit & Son. “Chimney3.” Norman L Benoit & Son, LLC Masonry Contractors
[Online image] <http://www.nlbenoit.com/images/chimney3.JPG> (accessed November
16, 2006).

Figure II.21

Caledonian Blacksmiths. "Hanging Sign." [Online image]
<http://www.caledonianblacksmiths.com/images/gallery/hanging%20sign.jpg>
(accessed November 16, 2006).

Figure II.22

Décor Products, Inc. "Light Fixture." Barbecues.com [Online image]
<http://www.barbecues.com/assets/images/product/91287BNI0.JPG> (accessed
November 16, 2006).

Shades of Light. "Light Fixture." [Online image].
<http://www.shades-of-light.com/images/location/ol06009.gif> (accessed November 16,
2006).

Figure II.23

Ogawa, Caroline. "Outdoor Café." [Online image].
<http://www.carolineogawa.com/images/gallery/200512/lg/outdoorcafe.jpg> (accessed
November 16, 2006).

III. Redevelopment Strategies

Figure III.11

University of Montana. "Carousel." [Online image].
http://www.umt.edu/images/photolib/305_photo.jpg (accessed November 28, 2006).

Figure III.18

LAOkay. "Desert Garden." [Online image]
<http://www.laokay.com/Lathumb/Laphoto/Huntington60.jpg> (accessed November
25, 2006).

Figure III.20

Comox Valle Harbour Authority. "Walkway-Bench." [Online image]
<http://www.comoxfishermanswharf.com/images-nov02/walkway-bench.jpg> (accessed
November 25, 2006).

Figure III.21

Project for Public Spaces. "Arbor Denver Botanic Gdns2." [Online image].
http://www.pps.org/imagedb/image?image_id=24765&n_per_page=90&order_by=&this_level_only_p=0&show_approval_p=t&gallery_id=944&return_url=/imagedb/category?gallery_id=944 (accessed November 28, 2006).

Figure III.23

Golturkbuku.com. "Macakizi Beach." [Online image]
http://www.golturkbuku.com/images/beach_cub/macakizi/buyuk/CIMG1625.jpg
(accessed November 25, 2006).

The CemOne. "Turkey 2006 IMG_3749." Flickr. [Online image]
<http://www.flickr.com/photos/marifet/249053286/in/set-72157594293793371/>
(accessed November 25, 2006).

Figure III.24

Davies, Steve. "Shady Carousel." Project for Public Spaces. [Online image].
http://www.pps.org/imagedb/image?image_id=26397&image_id=26397 (accessed
November 25, 2006).

Figure III.31

The Wigwam Golf Resort and Spa. "The Wigwam Resort." [Online image].
<http://www.wigwamresort.com/templates/index.php> (accessed November 25, 2006).

LAOkay. "Courtyard." [Online image].

<http://www.laokay.com/lathumb/laphoto/Homestead051.jpg> (accessed November 29,
2006).

Figure III.32

Urban Forestry South. "Shaded Parking Lot." [Online image].
[http://www.urbanforestrysouth.org/Resources/Images/Image.2004-05_27.5208/
image_moderate](http://www.urbanforestrysouth.org/Resources/Images/Image.2004-05_27.5208/image_moderate) (accessed November 25, 2006).

Figure III.33

Clayton, Rebecca. "Droop Mountain Battlefield State Park." Meer.net [Online image].
<http://www.meer.net/~rclayton/images/tower2.jpg> (accessed November 30, 2006).

Findrentals.com. "Castle Tower." [Online image].

<http://www.findrentals.com/php/9884/INT%20castle%20tower.jpg> (accessed
November 30, 2006).

Figure III.34

Quad City Region. "Walkway." [Online image]
<http://www.quadcities.org/images/Moline%20Walkway.jpg> (accessed November 25,
2006).

Figure III.35

Bsinderson. "Yellow Algae Stone Wall." Istock.com. [Online image].
[http://www.istockphoto.com/file_closeup/where/scenics/rural_scenics/163437_yello
w_ al gae_stone_wall.php?id=163437](http://www.istockphoto.com/file_closeup/where/scenics/rural_scenics/163437_yellow_ algae_stone_wall.php?id=163437) (accessed November 28, 2006).

Figure III.38

City of Missoula, Montana. "Caras Park Pavillion." [Online image].
<http://www.ci.missoula.mt.us/mra/images/caras2.jpg> (accessed November 25, 2006).

Figure III.39

Lake Havasu City Public Works Department. “Second Bridge Visualization.” (personal communication with Mark Clark, Lake Havasu City Assistant Public Works Director).

Figure III.43

The Singing Badger. “The Iron Bridge.” [Online image] Wikipedia.
http://en.wikipedia.org/wiki/Image:Iron_Bridge.JPG (accessed November 25, 2006).

Figure III.48

Leathers and Associates. “Dragon Hollow.” [Online image].
www.leathersassociates.com/profiles/missoula3.jpg (accessed November 28, 2006).

Leathers and Associates. “Baxford, MA.” [Online image].
http://www.leathersassociates.com/photo_frame.htm (accessed November 28, 2006).

Figure III.49

Tucson Jewish Community Center. “The TCC- A Place to Play.” [Online image].
http://www.tucsonjcc.org/Sports_Fitness_Wellness/ (accessed November 25, 2006).

Myrtle Beach Vacation Condos. “Water Park.” [Online image].
http://www.kingstonvacation.com/Images/Copy_of_WaterPark_Closeup.jpg
(accessed November 28, 2006).