

FUNDAMENTALS OF MOUNTAIN RESORT BASE VILLAGE DESIGN:  
A CRITICAL REVIEW OF EXISTING RESORT DEVELOPMENTS WITH  
RECOMMENDATIONS FOR FUTURE DEVELOPMENT PRACTICES

by

Bryan P. Harding

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF LANDSCAPE ARCHITECTURE

Approved:

---

Dave Bell  
Major Professor

---

John Nicholson  
Committee Member

---

Tamara Shapiro  
Committee Member

---

Byron R. Burnham  
Dean of Graduate Studies

UTAH STATE UNIVERSITY  
Logan, Utah

2006

UMI Number:FI Î GFÍ I

### INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI<sup>®</sup>

---

UMI Microform FI Î GFÍ I  
Copyright 2009 by ProQuest LLC  
All rights reserved. This microform edition is protected against  
unauthorized copying under Title 17, United States Code.

---

ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

Copyright © Bryan Harding 2006

All Rights Reserved

## ABSTRACT

Fundamentals of Mountain Resort Base Village Design: A Critical Review of  
Existing Resort Developments with Recommendations for Future Development  
Practices

by

Bryan P. Harding, Master of Landscape Architecture

Utah State University, 2006

Major Professor: David Bell

Department: Landscape Architecture and Environmental Planning

The North American ski industry has grown over the past century from a small, family-owned and -operated industry, to a multi-billion dollar industry dominated by corporate management organizations. The rise of corporate resort ownership has led to the trend of the construction base village developments at ski resorts around the country to attract guests, and therefore revenue, to their resorts. Though many base villages have been very successful in attracting skiers, examples of poor landscape architectural design practices abound in the industry. This study examines several design elements considered to be the “fundamental elements of designed space,” applies these elements to base village design throughout the country, critically examines their implementation in built examples, and presents suggestions and recommendations for future mountain resort base village design practices.

(111 pages)

## ACKNOWLEDGMENTS

The completion of this thesis will be a huge weight lifted off my shoulders, but in the end, it has proven to be the stepping stone I hoped it would, accelerating my career to the next level and helping me to break into the mountain resort planning industry. I am grateful to my thesis committee, Dave Bell, Tamara Shapiro, and John Nicholson, for their endless insight, advice, patience, and trust in me to complete this study. I owe special thanks to John Ellsworth for his attention to detail and willingness to go above and beyond the call of duty to help his students. Of course, I would never be where I am today without my family, who taught me to think big, never accept “no” for an answer, and to follow my dreams, no matter how far from home they may take me. Special thanks as well and a big treat are deserved by my dog Mosely, who, though she slept through most of this thesis, was always there to offer her support through two years of school far from home. Finally, I am indebted to the sport of skiing, a sport and passion that has changed my life since my first turn on snow in January of 1990.

Bryan P. Harding

## CONTENTS

v

	Page
ABSTRACT.....	iii
ACKNOWLEDGMENTS.....	iv
LIST OF FIGURES.....	vii
CHAPTER	
I. INTRODUCTION .....	1
The Early Years .....	1
Post War Boom.....	3
The Rise of the “Mega-Resort”.....	5
Declining Skier Numbers and Increased Competition.....	6
The Problem.....	10
II. LITERATURE REVIEW .....	14
III. METHODOLOGY – SPATIAL ANATOMY.....	18
Edges.....	19
Nodes .....	21
Landmarks.....	27
Gateways.....	29
Corridors .....	32
IV. METHODOLOGY – PATTERNS OF BASE VILLAGE DESIGN...36	
Central Node Concept.....	40
Terminus Node Concept .....	45
Urban Grid Concept.....	49
Circulation Node Concept.....	55
V. CONCLUSIONS AND RECOMMENDATIONS .....	61
Continuing Questions.....	62
Application for Base Village Designers .....	63
BIBLIOGRAPHY.....	65

APPENDICES .....	vi
APPENDICES .....	67
APPENDIX A. MOUNTAIN RESORT BASE VILLAGE DESIGN GUIDE .....	68
Overview.....	69
Spatial Anatomy.....	69
Spatial Organization and Sequence of Experience .....	80
Conceptual Patterns of Base Village Design .....	81
APPENDIX B. MAP OF NORTH AMERICAN SKI RESORT BASE VILLAGE DEVELOPMENTS .....	85
APPENDIX C. BASE VILLAGE MAPS OF RESORTS FEATURED IN THIS STUDY .....	87

## LIST OF FIGURES

Figure	Page
1. Beaver Creek, Colorado. Large buildings on all sides focus the village inward.....	20
2. Aspen Highlands, Colorado. Skier's and hiker's view of buildings sheltering the village from the ski slopes.....	20
3. Copper Mountain, Colorado. The edge between the plaza and ski slopes is clearly delineated by surface changes at Burning Stones Plaza .....	21
4. Snowbasin Resort, Utah. The edge between the plaza and slopes allows for easy visual and physical connections between the base and the slopes .....	21
5. Heavenly Village, Nevada. The plaza and gondola help to link the resort to the south side of Lake Tahoe .....	23
6. Copper Mountain, Colorado. The plaza forms a vital link between the village and the ski slopes .....	23
7. Copper Mountain, Colorado. The junction node formed by the shuttle terminal makes for a poor first and last impression of the resort.....	24
8. Copper Mountain, Colorado. The first glimpse of the relatively new base village should not be of broken asphalt, old bollards, and a parking garage entrance .....	24
9. Park City Mountain Resort, Utah. A small group warms their hands around a fire pit.....	25
10. Park City Mountain Resort, Utah. A crowd gathers each morning to buy lift tickets at the ticket window .....	25
11. Heavenly Resort, Nevada. A group of parents and children gather for an afternoon of skating at the ice rink in Heavenly Village.....	25
12. A diagram of the "Golden Mean," a useful tool for designing the proportions of nodes .....	25
13. Aspen Highlands, Colorado. The entry plaza at the base of the lift is a well-proportioned gathering node.....	26



14. Park City Mountain Resort, Utah. The Legacy Plaza fits the ideal of the Golden Mean with a ratio of 1:1.3.....	26
15. Aspen Highlands, Colorado. The main plaza in the village has a length to width ratio of 1:5.1.....	27
16. Aspen Highlands, Colorado. The dead end does not promote walking or exploring.....	27
17. Jackson Hole, Wyoming. The red tram forms a recognizable landmark against the white mountains and blue sky.....	28
18. Vail, Colorado. The clock tower forms the centerpiece of Vail's Swiss-style village .....	28
19. Zermatt, Switzerland. The Matterhorn dominates the skyline from every vantage point around the resort.....	28
20. Park City Mountain Resort, Utah. The narrow width of this stairway causes people to wait during heavy traffic flows.....	30
21. Aspen Highlands, Colorado. Had this gateway been wider, it would have encouraged circulation between the village and the ski slopes .....	30
22. The Canyons Resort, Utah. This arching gateway draws people from shade to sun and into the main village core .....	31
23. Telluride, Colorado. Gateways can be formed by constricting buildings before opening into a wider space .....	31
24. Park City Mountain Resort, Utah. This central corridor is lined on only one side with pedestrian-level retail activity .....	33
25. Park City Mountain Resort, Utah. The same corridor has no clear terminus point .....	33
26. Park City Mountain Resort, Utah. One entire side of the corridor is lined by the blank façade of condominium units located above the ground level.....	33
27. Copper Mountain, Colorado. Architectural and landscape elements help to bring the scale of the village down to the pedestrian level.....	34
28. Copper Mountain, Colorado. Corridors are aligned to take advantage of the best views back to the mountain.....	34

	ix
29. Copper Mountain, Colorado. Concept plan illustrating relationships of various elements of space .....	38
30. Park City Mountain Resort, Utah. Concept plan illustrating options for spatial organization .....	38
31. The Central Node Concept.....	40
32. The Terminus Node Concept .....	40
33. The Urban Grid Concept.....	40
34. The Circulation Node Concept .....	40
35. Resorts exhibiting the Central Node Concept. Crested Butte Mountain Resort, Colorado; The Canyons Resort, Utah; Breckenridge, Colorado; Copper Mountain, Colorado; Stowe, Vermont; Winter Park Resort, Colorado; and Northstar-at-Tahoe, California.....	42
36. Copper Mountain, Colorado. Burning Stones Plaza acts as the central node of the village and serves as the main gathering and entertainment space for resort guests.....	43
37. Copper Mountain, Colorado. The success of the main plaza has lured guests away from the secondary corridors and retail establishments throughout the village.....	43
38. Copper Mountain, Colorado. Secondary corridors remain cold and empty even on busy days .....	44
39. Copper Mountain, Colorado. Visitors are often drawn to the warmth of the sun-filled plaza (in the distance).....	44
40. Resorts exhibiting the Terminus Node Concept. Solitude Resort, Utah; Stratton Mountain, Vermont; Telluride Resort, Colorado; Snowmass, Colorado; Schweitzer Mountain, Idaho; Whistler-Blackcomb, British Columbia; Mont Tremblant, Quebec; and Keystone Resort, Colorado.....	46
41. Long, linear pedestrian pathways can be visually shortened by adding angles between 130 and 160 degrees .....	48
42. Resorts exhibiting the Urban Grid Concept. Aspen, Colorado; Park City Mountain Resort, Utah; and Vail, Colorado.....	50

43. Boston, Massachusetts. The highway through the city offers a direct connection between points, while the urban grid allows for exploration and discovery. Adapted from [www.mapquest.com](http://www.mapquest.com), accessed October 28, 2005..52
44. Aspen, Colorado. The grid of streets in Aspen is perfectly aligned to provide views of the ski resort around every turn.....53
45. Vail, Colorado. Vail Village designers aligned the pedestrian pathways to reveal glimpses of the ski trails from throughout the village.....53
46. Resorts designed around the Circulation Node Concept. Aspen Highlands, Colorado and Beaver Creek Resort, Colorado.....56
47. Beaver Creek, Colorado. The main gathering space is at the middle of the village, requiring guests to engage it on their way to the lifts .....57
48. Aspen Highlands, Colorado. Guest circulation patterns at the resort do not promote exploration of the village, thus revenue generation in areas farthest from the main flow of pedestrian traffic appear to be suffering .....58
49. Aspen Highlands and Beaver Creek, Colorado. Both resorts have walled off their inwardly focused villages from the ski slopes, blocking views of activities between the slopes and the villages .....59
50. Examples of nodes at ski resorts throughout the country .....71
51. Examples of pedestrian corridors at ski resorts throughout the country.....73
52. Examples of edges at ski resorts throughout the country .....75
53. Examples of gateways at ski resorts throughout the country.....77
54. Examples of landmarks at ski resorts throughout the country and Europe.....79
55. Central Node Concept diagram.....81
56. Urban Grid Concept diagram.....82
57. Circulation Node Concept diagram .....83
58. Terminus Node Concept diagram .....84
59. Map of existing and proposed ski resort base villages in North America .....86

60. Aspen, Colorado. City of Aspen map. Adapted from City of Aspen map at <http://www.aspensnowmass.com/intown/maps.cfm?map=Aspen> accessed November 2005.....89
61. Park City Mountain Resort, Utah. Base village map. Adapted from Park City Mountain Resort Village map at [http://www.parkcitymountain.com/winter/conditions/resort\\_maps/02\\_Resort\\_Base\\_Map/index.html](http://www.parkcitymountain.com/winter/conditions/resort_maps/02_Resort_Base_Map/index.html) accessed September 2005 .....90
62. Vail, Colorado. Vail Village map. Adapted from Vail Village map photographed on location April 2005 .....91
63. Beaver Creek Resort, Colorado. Beaver Creek Village map. Adapted from the Beaver Creek Village map at <http://beavercreek.snow.com/info/.asp> accessed October 2005.....93
64. Aspen Highlands, Colorado. Highlands Village map. Adapted from Highlands Village map photographed on location August 2005 .....94
65. Keystone Resort, Colorado. River Run Village map. Adapted from River Run Village map at <http://keystone.snow.com/info/villagelife.asp> accessed August 2005 .....96
66. Mont Tremblant, Quebec. Base village map. Adapted from Mont Tremblant Village map at [http://www.tremblant.ca/accommodations/maps/pedestrian\\_village-e.htm](http://www.tremblant.ca/accommodations/maps/pedestrian_village-e.htm) accessed July 2005 .....97
67. Schweitzer Mountain, Idaho. Base village map. Adapted from Schweitzer Mountain Village map at <http://www.schweitzer.com/content/main.php?id=119> accessed December 2004 .....98
68. Snowmass, Colorado. Snowmass Mall map. Adapted from Snowmass Mall map at <http://www.snowmass.com/sitepages/pid339.php> accessed October 2005.....99
69. Solitude Resort, Utah. Solitude Village map. Adapted from Solitude Village map at [http://www.skisolitude.com/downloads/Village\\_Map.pdf](http://www.skisolitude.com/downloads/Village_Map.pdf) accessed November 2004.....100
70. Stratton Mountain, Vermont. Stratton Village map. Adapted from Stratton Resort map at <http://www.stratton.com/mountain/resort-map.htm> accessed December 2005 .....101
71. Telluride, Colorado. Base village map. Adapted from Telluride Mountain Village map photographed on location July 2005 .....102

72. Whistler Blackcomb, British Columbia, Canada. Base village map. Adapted from Whistler Village at <http://www.whistlerblackcomb.com/map/whistlervillage/index.htm> accessed September 2005 .....103
73. Breckenridge, Colorado. Breckenridge Village Map. Adapted from Breckenridge Village map at <http://breckenridge.snow.com/info/winter/mtn.maps.village.asp> accessed November 2005 .....105
74. Copper Mountain, Colorado. Village at Copper. Adapted from village map photographed on location March 2005 .....106
75. Crested Butte Mountain Resort, Colorado. Crested Butte Base Area map. Adapted from the Crested Butte Base map at <http://www.skicb.com/page.php?pname=mountain/basemap> accessed October 2005.....107
76. Northstar-At-Tahoe Resort, California. Northstar Village map. Adapted from the Northstar Village map at <http://www.villageatnorthstar.com/Greatbear.aspx> accessed February 2005 .....108
77. Stowe Mountain Resort, Vermont. Spruce Peak Village Master Plan. Adapted from Stowe Spruce Peak Master Plan map at [http://www.sprucepeak-master\\_plan.com](http://www.sprucepeak-master_plan.com) accessed November 2005 .....109
78. The Canyons Resort. The Canyons Village map. Adapted from The Canyons map at <http://www.thecanyons.com/ntr/villagemaps.aspx> accessed December 2004 .....110
79. Winter Park Resort, Colorado. Winter Park Base Area Map. Adapted from Winter Park map at <http://www.skiwinterpark.com/village/maps/village-at-winter-park.htm> accessed October 2005 .....111

## CHAPTER I

### INTRODUCTION

#### *The Early Years*

Within the past 100 years, the sport of skiing has grown from relative obscurity to a multi-billion dollar worldwide industry. In the United States alone, almost 57 million skier visits were recorded by American ski resorts last season (Hawkes 2005). Though the 2004-2005 season was not the best on record, overall industry growth since its commercial birth in the United States has been staggering. With an estimated 10-13 million active skiers in the country, the sport of skiing has proven to be one of America's fastest growing sports (Edelstein 2003).

Interestingly, not a single "ski resort" as we would know it today even existed until 1929. The first "ski resort" in the United States was organized around the country's first ski school formed at Peckett's Inn in Franconia, NH. In an effort to generate winter business, the inn's owner hired Sig Buchmayr, an Austrian ski instructor, to teach skiing to out-of-state tourists vacationing at the inn (Bowen 1963). In the early days of American skiing, industry growth was slow. There were no ski lifts and no real downhill trails cut specifically for skiing. Slowly, the first ski-specific trails began to criss-cross the hills of New England and the west. In 1934, the first uphill lift in the country, a rope tow, was installed at a farm in Woodstock, Vermont, soon followed by the first overhead cable lift, a J-bar, built by the Dartmouth College Outing Club in Hanover, NH (Auran 1966). Railroads also gave a boost to the sport's growth by offering "ski trains" promoting easy access to the mountains for city dwellers. The existence of uphill lifts

coupled with railroad transportation for skiers soon created a new pattern not yet seen even in Europe, of the “weekend ski trip.”

In 1936, the idea using the ski train as a means for promoting the sport spurred the creation of a resort called Sun Valley in Idaho in 1936 (Auran 1966). Up to that point, the sport of skiing was already building itself a glamorous image, but W. Averell Harriman, president of the Union Pacific Railroad and Sun Valley’s founder, took this image of glamour to the extreme by creating the country’s first “destination resort.” Other ski areas at the time were offering a rope tow and perhaps a hotel room nearby, but Harriman combined strong marketing with the idea of creating the first ski resort “base village” by modeling Sun Valley’s infrastructure core after the alpine villages of Europe. His concept was to organize dining, lodging, retail, and entertainment establishments at the base of his resort to form the resort’s centerpiece core. He also made it a point to make Sun Valley the most technologically advanced resort in the country, building chairlifts, heated pools and private cottages while marketing an atmosphere of prestige only previously seen at country clubs and yachting organizations.

Though Sun Valley was a symbol of prestige and prominence in the ski industry, it was not the norm for the era. In the late 1930’s, building a ski area was as simple as installing a relatively inexpensive rope tow and waiting for snow, and ski areas quickly numbered into the hundreds throughout the country. At the same time, the sport’s first organized ski schools were beginning to create thousands of new skiers each year. American ski resorts were growing in size and number, gaining prominence with the famous European resorts, and even luring ski instructors and clients away from their

European counterparts. Within the short span of 20 years, the sport of skiing in America had evolved into a \$20 million industry.

### *Post-War Boom*

Like most industries throughout the world, the ski industry went almost dormant during the years of World War II. Many of the best ski instructors in the country had been recruited to be ski troops, and gas shortages shunted virtually all recreational travel. Following the war, however, the ski industry was jump-started again by two major byproducts of the war. First, vast surpluses of ski equipment were made available to the general public, making it possible to be fully equipped for a day of skiing, including high quality ski gear, a parka, and pants, for less than \$25. Additionally, thousands of highly trained skiers that had served as ski troops in Europe were returning to the United States, many of which soon became some of the most recognized names in ski instruction and ski resort development. Others turned their skills into profit by opening ski areas of their own. In total, the war led to the opening of 62 new ski resorts founded, operated or managed by returning war veterans (Auran 1966).

Following World War II, the ski industry saw numerous changes in the composition of its skier population. First, skier numbers were growing rapidly around the country as the sport's popularity rose quickly. The American public were also finding themselves with more free time for leisure and more income for expenditures. Prior to the war, it is estimated that there were only about 10,000 skiers in the United States. Following the war, skier numbers exceeded 500,000, as many as 200,000 of which were estimated to have tried skiing as part of their training for the war (Clifford



2002). This rapid growth had led the ski industry out of relative obscurity and into a position as a mainstream recreational pastime. The ski industry continued to grow at a rapid pace through the 1950's and enjoyed the benefits of the mainstream television coverage of the 1960 Olympics in Squaw Valley, California. The sport was growing so quickly by the 1960's that skier numbers jumped from 1.6 million in 1960 to 2.4 million by 1964.

With a new mainstream exposure, the demographic of the American skier had begun to change as well. Skiing was becoming less a sport just for the rugged outdoorsman, and more a sport for the middle to upper income population. Better ski technology, including easier turning skis, better boots, and safer bindings, made the sport less intimidating and more available to a greater array of athletic abilities. This new population demographic, in turn, also spurred changes in ski areas, as skiers became increasingly demanding of their ski area experience. Skiers now expected resorts to have amenities for lodging, entertainment and dining. Rapidly increasing skier numbers led to long lift lines at resorts, and as a result, higher-speed and higher-capacity lifts were developed to move people more quickly around the resort. This period also saw the introduction of mechanical grooming of slopes, in which the snow was packed to provide a more consistent snow surface, making for an easier, more consistent ski experience.

Each of these advances in ski area technology provided serious competitive advantages to the areas with financial ability to implement them. Many ski resorts were growing quickly in size and offered many new amenities. During the 1959-1960 ski season, there were actually more new lifts built in the United States than were in

existence just ten years prior. The early 1960's also represented the height of the number of ski resorts in the country, with over 1,000 ski areas operating (Bowen 1963).

### *The Rise of the "Mega-Resort"*

By the early 1960's there were already several large resorts in operation around the country, including resorts like Aspen, Winter Park, Stowe, and Squaw Valley. These resorts however, represented only a fraction of the total ski areas in the country. The ski industry at the time was still dominated by smaller, family-owned day-use ski areas. The sport of skiing had proven itself as a profitable business, and new resort developers set out to get in on the action at scales yet unseen in the ski industry.

A case study for this new scale of development is seen at Vail, Colorado. In 1963, Pete Seibert, founder of Vail, opened the resort after spending an unprecedented \$5 million dollars on construction costs to ready the resort for its opening. At the time, the \$5 million price tag was enough to buy virtually every ski area in existence prior to World War II (Seibert 2000). Vail had been built with the idea of creating an all-encompassing resort, catering to the demanding skier population with the best technology and most amenities of any resort to date. At the same time only 80 miles away, developer William Janss was at work on another mega-resort, Snowmass, Colorado. Like Seibert at Vail, Bill Janss had spent years before his resort opening in 1969 quietly buying lands and obtaining development permits.

Seibert and Janss are credited with taking an approach that would change the ski industry forever. Both developers saw the ski slopes not just as a recreational attraction, but more as an attraction and amenity that could be used to sell real estate, especially

condominiums. Condominiums, only seen on rare occasions to that point, were a relatively new concept that made second homes affordable for much of the skiing population for the first time. The concept of skiing as an attractor for real estate sales has governed the ski industry ever since.

By the beginning of the 1970's, the ski industry had grossed more than a billion dollars annually. With dollar signs in their eyes, corporate conglomerates took notice of the profit-making potential of the industry. As skier demands increased and resort technology improved, corporations had the advantage of significant financial capital that could be used to operate and expand resorts to make more money. Several corporations bought their way into the industry, including Rahlston-Purina who owned half of Keystone Resort in Colorado, Twentieth Century Fox who purchased the Aspen Skiing Corporation, and LTV Aerospace who purchased Steamboat Resort (Clifford 2002).

These corporations had the financial backing to build resorts and expand resorts at seemingly record paces. At the same time, family resorts, operating with only fractions of the capital of corporately owned resorts, fell behind in the technology, advancements, and amenities that were in demand by the skiing public. As the public flocked to the larger mega-resorts, family-owned resorts began to falter, eventually closing one by one over the next 25 years. By the early 1990's, the number of operating ski areas in the United States had dipped to just over 500, down from over 1000 only thirty years prior.

#### *Declining Skier Numbers and Increased Competition*

Today, there are about 33 million skiers in the United States. Of those 33 million skiers, it is estimated that approximately one third of that group actually skis at least one

day every year. Last year, this number equated to just less than 58 million skier days recorded in the United States (Hawkes 2005). Interestingly, for as large as the ski industry has gotten, skier days, or the count of one skier skiing one day at one resort, have been virtually stagnant during the past two decades.

Andy Daly, former president of Vail Resorts, said, “We’re competing against work, we’re competing against the local athletic club, and we’re competing against the internet” (Clifford 2002). Hal Clifford, former editor for the *Aspen Times* and *Ski Magazine*, notes that the stagnation in skier numbers can be attributed to two main factors, the aging of the baby boomer population and economic progress. He identifies the idea that a skier’s participation in the sport begins to decline at the age of 44. Mathematically, 10,600 baby boomer’s pass their 44<sup>th</sup> birthday each day, equating to an impending decline in skier numbers in the future (Clifford 2002).

Economic progress, once a driving factor behind Americans’ ability to have the leisure time and financial ability to ski, has also seemingly turned against the ski industry. Americans are wealthier than ever before, but studies have shown that they are working harder, with longer hours and less leisure time, to build that wealth. The leisure and recreation industry has also presented many more competitive options for people to pursue than they had 30 or 40 years ago.

Given these prospects, it would be easy to consider the ski industry as an industry in decline, however there is a positive light to consider, and many corporate resort ownership conglomerates already have. Though the baby boomer population may be aging and skiing less, the baby boomers now possess the wealth and the desire to stay connected to the mountains, often in the form of extended vacations or second home

ownership. Lift ticket sales may show signs of declining, but housing markets in the mountains are red-hot, and have proven to be one of the fastest growing facets of the real estate industry.

Likewise, with less leisure time to spend at resorts, skiers are looking to make the most of their resort experiences. Skiers have become ever more demanding of their ski resort experience, and with good reason. They are seeking resorts that are all-encompassing, a place where they can park the car and forget about it until they have to leave. They are seeking a resort with all their lodging, entertainment, retail, and dining needs right at their doorstep.

Corporate mountain resort operators have answered this request for more amenities and greater options with the advent of the base village development. For the purposes of this study, a mountain resort base village is considered to be a pedestrian-oriented development usually located at or creating the main core base area of a resort. It is comprised of a mixed-use development program including retail, dining, lodging, entertainment and real estate amenities in a compact, village form.

While responding to the desires of the skiing population, base villages also provide resort operators with new ways to attract skiers, and new ways to generate revenue. Though it may be hard to believe with lift tickets nearing the \$80 mark, most resorts make only a small profit on lift tickets after subtracting the rising costs of infrastructure, resort improvements, expansions, litigation, insurance, and other overhead from actual lift ticket revenue.

For resort owners, skiing is the magnet that brings guests to a resort, but base villages are the key to generating revenue from those same guests. Vail Resorts reflects this strategy in its financial reports:

“A key component of the Company’s business strategy has been to expand and enhance its core ski operations while at the same time increasing the scope, diversity and quality of the complementary activities and services offered to its skiing and non-skiing guests throughout the year...The Company’s business strategy is not only to increase skier days, but also to increase Resort Revenue per skier day by capturing a higher percentage of the total spending of its year round destination and day guests by continuing to expand the range and enhance the quality of activities and services offered by the Company.” (Clifford 2002, p. 7)

The section outlined in bold above perhaps defines the greatest advantage of base village development. Skiing draws visitors in, but guests spend the majority of their money at the base village. Without a base village, this money is lost elsewhere, to neighboring towns, or even neighboring resorts that have provided the services found in a base village. Ski resort development opponents have a valid argument when they note that mountain communities are dependent upon revenue generated by guests recreating at a local resort. They stay, dine, and buy goods in the communities near mountain resorts. Any revenue moved to the base village at the resort instead of the local community could be detrimental to the community. On the contrary though, without the nearby resort and its ability to compete and remain profitable, the surrounding communities would most likely be in far worse economic shape than if they were to lose some of their competitive advantage to the resort.

### *The Problem*

Mountain resorts, like many large businesses, compete on the basis of selling a particular product. Major ski resorts are constantly competing to provide “the best” grooming, “the fastest” lifts, or “the most” snowmaking. Naturally, resort marketing departments promote the amenities they have to offer, and the race to have the newest, most exciting, flashiest products to attract skiers is more intense than ever. Corporate resort ownership entities have proven that they know how to make money using these methods. Base villages are no exception, as mountain resorts advertise the lodging options, dining choices, and entertainment events that can be found in their villages.

Unfortunately, in many cases, these marketing campaigns cover up the not so glamorous flaws of their base villages as well. Many of these flaws are a result of poor design and planning practices that have led to less than desirable experiences for resort guests. Even with strong marketing, these design flaws taint guests’ opinions of their resort experience, and may hurt the resort’s revenue generation and overall success, not just in the short term, but in the future as well. For instance, a resort may have the fastest high speed quad lift, but when the process for a family lugging heavy ski equipment from the shuttle bus drop off to that lift becomes overly cumbersome because of poor signage, confusing design, steep steps, and an excessively long walk, those guests are not thinking about how fast the lift is. Instead they are focused on how long it took to get to the lift, how tired their kids are, and how miserable the first 15 minutes of their “fun” vacation has been.

Or, take for instance a resort with a shiny new base village at the core of its development. The resort has probably spent significant amounts of money on advertising

its new village to the public, and when guests choose to spend their hard-earned vacation money at the resort, they make their choice with high expectations of their resort experience. When those same guests arrive at the resort though, they struggle to find a parking spot, get corralled onto a shuttle bus, and are dropped off at a remote shuttle bus stop outside the new base village. Their first view of the resort's "brand new village" is a dilapidated bus drop-off area, a sea of broken pavement, and the blank façade of a parking garage in an area that wasn't upgraded with the rest of the new base village because it was cut out of the construction budget. The guests are hustled into the new village area by resort ambassadors, and while they may have a great day of skiing around the resort, they must leave via the same route in which they got the slopes.....past the parking garage, into the broken sea of pavement, and onto the bus at the dilapidated shuttle stop.

Examples like this are plenty throughout the ski industry. Corporate ownership organizations have shown that they know how to market their resorts, attract guests, and generate revenue. Unfortunately, they have also shown that they know very little about designing for people as opposed to simply designing for the dollar. There are a multitude of design flaws seen throughout the ski industry that affect guest experiences negatively, and thus potentially affect revenue generation and the ability of that resort to attract new guests and retain existing guests in such a highly competitive industry. In their attempts to save money on design, many resorts have potentially lost money through poorly designed spaces, confusing sequences of experience, and missed opportunities for revenue generation.



Furthermore, in the ski industry, base villages are not a new concept anymore.

In fact the idea was first pioneered at Vail in the 1960's. The novelty of the base village concept is beginning to wear off and in many cases, has become an expected amenity among top resorts (consider that 19 of the top 25 ski resorts in North America, according to the September 2005 issue of *Skiing Magazine* have completed or are undertaking base village developments). The novelty of quality design however, will never wear off, and has become a more sought-after aspect of the resort experience than ever before. This idea becomes even more important as the baby boomer generation, once the heart of the active skier population, is getting older, and looking to invest its hard earned dollars into second-home ownership.

The following chapters of this study will examine several base village developments throughout the United States, and will break the composition of the villages down into their simplest designed elements as defined by Kevin Lynch's elements of spatial anatomy – edges, landmarks, gateways, corridors, and nodes. At this simplest level, this study will explore various ways of approaching similar design challenges at several resorts, and make distinctions between which design approaches were successful, and which were met with much less success. The study will also examine how these elements of space work together to form a sequence of experience, or rather, study the way in which a guest would experience the resort as it is designed. Likewise, patterns of base village design have been identified, and will be evaluated for their advantages and disadvantages for use as overall village design concepts. The study will conclude with a summary analysis of successful and unsuccessful design elements

and implementation examples, as well as a list of recommendations for future design practices.

## CHAPTER II

### LITERATURE REVIEW

This study had three main research components; a review of the history, culture, and market-based trends of the ski industry in the United States, an examination of landscape architectural design of spaces, and an on-site observational component focusing on human responses to the designed spaces of base villages. Ski industry research, common standards of landscape architectural practice, and on-site observations were combined to make a determination of the success, or lack thereof of different types of designed spaces within a multitude of base village developments. Similarly, spatial patterns of base village design were identified and an evaluation of each pattern's advantages and disadvantages for implementation are presented. To achieve this level of analysis, several texts focusing on various topics relevant to this study's goal were consulted.

First, understanding how the ski industry arrived at the advent of the modern mountain resort base village is one of the keys to understanding the complex issues facing today's mountain resort designers and operators. With this in mind, many historical texts relating to the ski industry in the United States were reviewed. *Skiing the Americas* by John Jay, *America's Ski Book* by John Henry Auran, *Ski - Fifty Years in North America* by Richard Needham, and *The Book of American Skiing* by Ezra Bowen, provided detailed accounts of skiing's early years, from its rise prior to World War II, to its post-war boom extending to the mid-1960's. *The Ski Book* by Morten Lund, Bob

Gillen, and Michael Bartlett expanded on this history providing many independently written articles detailing the changes in the ski industry through the early 1980's.

Several contemporary books have also addressed changes in the ski industry over the past 30 years. *Downhill Slide*, by Hal Clifford, presented a critical look at modern mountain resort development, the issues driving it, and the effects of corporate ski area ownership on the industry as a whole, on community growth, and on the environment. *Ski Style*, by Annie Gilbert Coleman chronicled the history of the ski industry in America, including the events that have led to the rise of the ski industry as we know it today. Two detailed accounts of the history of individual ski resorts, *Vail, Triumph of a Dream* by Pete Seibert, and *Jackson Hole – On a Grand Scale* by David Gonzales, provided an in-depth look at the process of developing, operating, and maintaining a modern mountain resort in today's industry. *Design for Mountain Communities*, by Sherry Dorward, briefly reviewed current issues facing the ski industry, and then elaborated on design standards that have been and should be incorporated in the mountain resort planning process.. Finally, several periodical articles were consulted for their most recent impressions of the challenges facing the ski industry and base village development today.

Secondly, this study involved the landscape architectural planning elements of base village developments. For this component, several texts focusing on urban design, the most closely related design discipline to base village design, were consulted, and the basic elements that would be used to examine base villages were derived. Much of this master's thesis is based on Kevin Lynch's work, *Image of the City*, which was the first text to identify and study urban design in its simplest elements. Primarily, this study is modeled around his identification of the five key elements of urban design, which are

then used as a control for comparing base villages around the ski industry. In his work titled “The Sensation of Space,” Erno Goldfinger expanded on Lynch’s work by detailing how humans perceive the spatial environments in the world around them. Jay Appleton furthers work on the human perception of the space in his book, *The Experience of Landscape*.

This study then continues to look at these fundamental elements of design as they work together to form a cohesive development. Much information was gathered from Phillip Thiel’s works on sequence of experience, “A Sequence-Experience Notation,” and an article he published in AIA Journal entitled “Processional Architecture.” Finally, the human perception of space was studied through two primary works. First, Barrie Greenbie’s *Spaces* details how humans interact socially in man-made environments. The study of human interaction was furthered by the work of Stephen and Rachel Kaplan, environmental psychologists at the University of Michigan who studied human preferences for built form through their work entitled *Humanscape: Environments for People*.

The final component of this thesis study involved on-site observations made by the author at twelve base village developments throughout the United States. These developments included Heavenly Resort near Lake Tahoe, California, 3Snowbasin Resort, Park City Mountain Resort, Solitude Resort, and The Canyons Resort in Utah, and Aspen Highlands, Vail Resort, Beaver Creek Resort, Telluride Mountain Resort, Copper Mountain Resort, and Snowmass Resort in Colorado.

At each resort, the author observed the actions of resort guests as they passed through and around the various base village developments as part of their visits to the

resort. The author also studied the village developments as if he were a guest at the resort as well, following the movement patterns and observing the resort from the perspective of a guest. This method identified many successfully designed aspects of base villages, as well as many flawed aspects of the village. On-site observations were then compared to literature and maps produced by the resort to better understand in plan view how the resort was intended to operate. These conclusions were then compared to research gathered through literature. Furthermore, the plans of additional base villages from around North America were studied to identify common patterns of base village design that are seen throughout the ski industry.

Finally, this study concludes with recommendations based on observed and studied failures and successes of designed spaces within modern base village developments. Additionally, the advantages and disadvantages of the implementation of identified patterns of base village design are presented.

## CHAPTER III

## METHODOLOGY – SPATIAL ANATOMY

For the purpose of this study, mountain resort base villages have been modeled after studies of built urban environments conducted by well-known authors and theorists of landscape architecture and planning. While mountain resort base villages are often physically far removed from urban areas, many parallels can be drawn between the designed forms of urban environments and base villages.

The following analysis will utilize findings by author Kevin Lynch as the basis for examining the built and designed forms of base villages. It will categorize elements of base village design into paths, edges, nodes, and landmarks, four of the five “elements of the city image” defined by Lynch (Lynch 1960). Lynch’s fifth design element, the district, does not apply well to the smaller scale of base villages, and thus has been replaced for the purposes of this study by gateways, a term defined by University of Massachusetts professor Joseph S.R. Volpe (Volpe 1998).

A detailed summary and definition of each design element will be presented, followed by examples of how this design element has been implemented in actual ski resort base villages around the country. Both successful and unsuccessful examples of the implementation of each design element will be presented as it was experienced by resort guests, and also experienced and observed by the author. Descriptions of the success or failures will be provided, followed by recommendations for future design practices involving each element of designed space. To aid in the comprehension of the examples given, maps of each base village have been provided in the appendices section.

## *Edges*

Kevin Lynch defines edges as “linear elements that serve as the boundaries between two phases, [or] linear breaks in continuity.” In design, edges serve as important organizing features, or “lateral references,” sometimes serving as boundaries separating two spaces, and other times serving as linear elements joining or relating spaces. In some cases, edges are impenetrable (Figure 1), in others they are permeable to movement (Figure 2). Edges can be strong visual elements such as walls or buildings, or can be more discreet, such as changes in paving patterns.

My studies of base villages throughout the west have revealed a variety of edge types. Most frequently, the most obvious edge location, and perhaps the most important edge treatment occurs at the interface of the base village pedestrian core and the ski slopes. Base village designer and landscape architect, Eldon Beck, refers to this area as “the ski base joint” and notes its importance as an area of the village critical for “bringing the skier close to the village” and vice versa (Clifford 1997).

Beaver Creek Resort in Colorado (Figure 1) and Aspen Highlands in Colorado (Figure 2) have similar villages in that both villages are inwardly oriented, meaning that their villages are mostly walled off from the ski slopes and face in on themselves, rather than opening onto the ski slopes. Both villages have also implemented strong structural edges in the form of buildings to delineate the boundary between the ski slopes and the village. This approach makes a strong design statement, very clearly separating the interior core of the village and the larger context of the mountain. This can be successful in that it creates a more quaint village feel, focusing from within on the pedestrian core rather than on any potential distractions outside.





Figure 1. Beaver Creek, Colorado. Large buildings on all sides focus the village inward.



Figure 2. Aspen Highlands, Colorado. Skier's and hiker's view of buildings sheltering the village from the ski slopes.

Conversely though, from the view of the skier coming down the mountain, there are virtually no visual clues that a pedestrian village exists behind the wall of buildings facing onto the ski slopes. It is almost as if the pedestrian village turns a cold shoulder onto the mountain that supports its existence. In both cases above, there are also few visual connections from within the walls of the village to the enormous mountains and incredible views outside of the base village. Further, there are minimal circulatory clues to draw skiers into the retail cores of villages, especially as Aspen Highlands.

Several resorts treat this same edge location with a different approach. Rather than create a structural edge that is impervious to pedestrian movement, Copper Mountain Resort in Colorado (Figure 3) and Snowbasin Resort in Utah (Figure 4) have delineated this edge through surface changes that indicate a visual change between the edge of the slopes and the edge of the pedestrian village. This edge is very clear to the observer, but still allows free movement between the two districts.

This approach to the vital interface between the slopes and pedestrian village has many benefits over the structural edge approach taken at Beaver Creek and Aspen



Figure 3. Copper Mountain, Colorado. The edge between the plaza and ski slopes is clearly delineated by surface changes at Burning Stones Plaza.



Figure 4. Snowbasin Resort, Utah. The edge between the plaza and slopes allows for easy visual and physical connections between the base and the slopes.

Highlands. First, while the difference in surface type visually delineates the edge, it allows a visual connection linking the pedestrian village to the mountain. Similarly, it focuses attention on activity. Activity generates interest and adds vitality and energy to the village. Third, this approach helps to visually draw skiers into the village, giving retail and dining opportunities maximum exposure to visiting guests. Finally, this approach allows for unimpeded movement between the slopes and the village, further enhancing the resort's ability to draw skiers into the revenue generating opportunities of the village.

### *Nodes*

Nodes are generally known as places of social gathering, either “junctions of paths or concentrations of some characteristic” according to Kevin Lynch. In his studies, Lynch makes the distinction between “junction nodes” and the “thematic concentration node.” These two descriptions of nodes have a very valid place in the study of base villages. In the larger context, base villages are actually junction nodes and thematic

concentration nodes in themselves when compared to the larger context of the mountain environment. Base villages serve as daily social gathering places for the day skier, perhaps a week for the vacationer staying at lodging within village. They are the junction between skiers arriving in cars or buses and their destination on the slopes. They are the meeting places for the times when resort guests are not skiing, but rather shopping, relaxing, dining, or engaging in resort entertainment activities.

On a smaller scale, there are two key junction node points in most mountain resort base villages. The first is the significant point where transportation hubs interface with the entrance/exit to the village. The second is the interface of the ski slopes and the base village. Kevin Lynch notes that “because decisions must be made at junctions, people heighten their attention at such places and perceive nearby elements with more than normal clarity” (Lynch 1960). These points are also often the critical “first and last impression” points a guest encounters during a resort visit.

Some resort developments have capitalized on the use of junction nodes to their fullest capacity, while others have seemingly overlooked the importance of these spaces entirely. The new gondola plaza at Heavenly Resort near Lake Tahoe (Figure 5) is a great example of a junction node. It was constructed to connect resort guests coming from the South Lake Tahoe area to the mountain itself, which exists on the opposite side of the ridge from Route 50, the main thoroughfare around the south end of Lake Tahoe. Though only a hint of the ski area can be seen from the gondola plaza, the plaza and gondola themselves link visitors both visually and physically from Route 50 to the mountain. This key node is the gathering place for many skiers starting and ending their day. As part of the Heavenly Village complex, it has become the defining feature along



Figure 5. Heavenly Village, Nevada. The plaza and gondola help to link the resort to the south side of Lake Tahoe.



Figure 6. Copper Mountain, Colorado. The plaza forms a vital link between the village and the ski slopes.

Route 50 and has also become a major attraction with tourists for shopping, dining, and lodging.

Another example of a successful junction node can be found at Copper Mountain. Burning Stones Plaza (Figure 6), as it is known by the resort, is a highly successful space that extends the ski slopes into the village. The main junction between the village and the lifts, the plaza draws guests from the mountain into the main retail core of the village and surrounds them with an array of shopping and dining opportunities. Its circular plaza serves as a common meeting place for skiers on a daily basis, as well as an entertainment space for concerts and displays by commercial exhibitors such as Chevy Trucks and Powerbar.

Unfortunately, the ski industry is home to more unsuccessful examples of junction nodes as well. Ironically, for all the success the base village at Copper Mountain has had, the junction node that exists at the bus stop where people arrive at the village is perhaps one of the poorest in the industry (Figures 7 and 8). This is the place that

virtually every resort guest sees first and last during their visit to the resort. This large expanse of worn asphalt, rusting metal and rotting wooden bollards, and blank building facades (including a parking garage entrance) is the primary entrance and exit to the main village core seen above. The only success in this entry node is the visitors' glimpse of hope of new, modern, and interesting buildings and spaces at the end of the path leading from the bus stop into the village core. Though most likely and understandably a low priority on the construction budget compared to the main core of the new village, the shuttle bus depot is the point where first and last impressions of the village are made, potentially detracting greatly from the overall village experience.

Kevin Lynch also noted the importance of thematic concentration nodes. These nodes, most commonly seen in base villages as gathering points, are commonly the social centers of base villages. They exist on many scales, from small spaces organized around a fire pit (Figure 9), to a ticket plaza (Figure 10), to ice skating rinks (Figure 11), to the entire village core itself. The size of the node in this case is determined by the intended user group.



Figure 7. Copper Mountain, Colorado. The junction node formed by the shuttle terminal makes for a poor first and last impression of the resort.



Figure 8. Copper Mountain, Colorado. The first glimpse of the relatively new base village should not be of broken asphalt, old bollards, and a parking garage entrance.





Figure 9. Park City Mountain Resort, Utah. A small group warms their hands around a fire pit.



Figure 10. Park City Mountain Resort, Utah. A small crowd gathers each morning to buy lift tickets at the ticket window.



Figure 11. Heavenly Resort, Nevada. A group of parents and children gather for an afternoon of skating at the ice rink in Heavenly Village.

Proportion is the key element of the successful design of a concentration node. University of Massachusetts professor Joseph S.R. Volpe noted that “the social proportions of a place for meeting and conversation range in area from 1:1 to 1:1.6.” (Volpe 1998). This proportion is more commonly known among design professionals as the “Golden Mean” (Figure 12). This length to width proportion of space is understood as the general proportion within which a space feels comfortable to a user or an element of architecture is construed as aesthetically pleasing to an observer. It should be noted that the “Golden Mean” holds merit when applied to base villages as well.

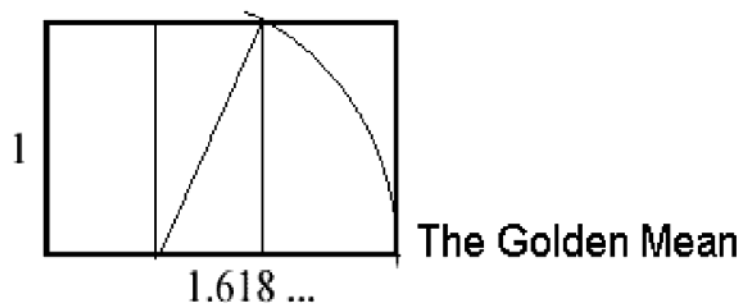


Figure 12. A diagram of the “Golden Mean,” a useful tool for designing the proportions of nodes.



Figure 13.. Aspen Highlands, Colorado. The entry plaza at the base of the lift is a well-proportioned gathering node.



Figure 14. Park City Mountain Resort, Utah. The Legacy Plaza fits the ideal of the Golden Mean well with a ratio of 1:1.3.

In Figure 13, the entry plaza Aspen Highlands (shaded in blue) is the center of activity after a day of skiing at the resort. Given its proximity to the ski slopes and to the Exhibition Lift, skiers frequently gather here to relax in the sun or have a drink. With a width to length ratio of 1 to 1:5, this space is well designed within the proportions of the Golden Mean. The Legacy Plaza at Park City Mountain Resort, shaded in red (Figure 14), serves as a gathering place for ski storage, exhibitions, and conversation over a cup of coffee. It has a width to length ratio of approximately 1 to 1.4.

On the contrary, Figures 15 and 16 represent a less successful space partially resulting from a poorly proportioned node. This space is the main plaza at Aspen Highlands, part of a village described by the 2005 *Ski Magazine* Top 50 Resort Rankings as “uninspired.” The main plaza is roughly rectangular and runs along an east to west axis. It is bounded on three sides by multi-story buildings (as noted in the edges section), and terminates on the fourth side as a dead-end that forms its eastern edge, a terminus that provides little visual interest to attract visitors to make the walk to the end of the

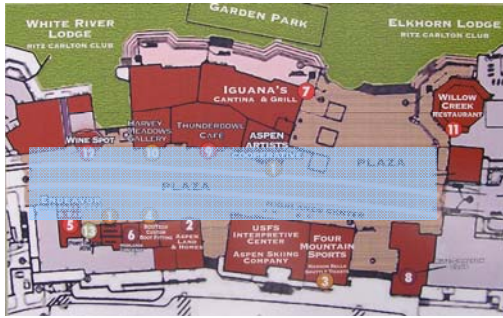


Figure 15. Aspen Highlands, Colorado. The main plaza in the village has a length to width ratio of 1:5.1.



Figure 16. Aspen Highlands, Colorado. The dead end does not promote walking or exploring.

village. The space is too wide to read as a path or corridor, yet too awkwardly narrow to feel like a node. In fact, its width to length proportions measure approximately 1 to 5.1! Given these odd dimensions, visitors regularly congregate in the entry plaza bordering the ski slopes (Figure 13), but rarely travel to the eastern, dead-end terminus of the plaza. Additionally, there is virtually no access back to the slopes from the east end of the plaza, providing even less incentive to walk to the end of the plaza. Unfortunately for Aspen Highlands, this design flaw has apparently taken its toll on the retail establishments in the village, as storefronts remain empty nearest the east end of the plaza while locals and the media alike criticize the village's lack of energy.

### *Landmarks*

Kevin Lynch defines landmarks as “point references considered to be external to the observer that are simple physical elements which may vary widely in scale.” It is human nature to rely on landmarks as guides to find our way through a larger landscape. Whether a distinct mountain peak, interesting architectural work, or even a sculpture, all landmarks share the traits of uniqueness and singularity. The most recognizable landmarks are identified by their clear forms, contrast with background elements, or



prominence in spatial location. Lynch notes that “figure-background contrast seems to be the principle feature” of a widely recognized landmark (Lynch 1960). Additionally, the placement of a landmark at the junction of two or more paths further strengthens a landmark’s visual impact on observers.

Landmarks also play a significant role in the development of iconic images of a particular place. For instance, many people could instantly associate the Statue of Liberty with New York City, or the Golden Gate Bridge with San Francisco. The same is true, on a more regional and industry-specific basis, with mountain resort landmarks. Within the ski industry, names of resorts like Jackson Hole, Vail, and Zermatt, Switzerland almost instantly evoke images of prominent landmarks in and around the resort - the Jackson Hole Tram (Figure 17), the clocktower in Vail’s Swiss-styled village (Figure 18), and the Matterhorn towering over the resort town of Zermatt, Switzerland (Figure 19).

As is evidenced by these examples, recognizable landmarks do not necessarily



Figure 17. Jackson Hole, Wyoming. The red tram forms a recognizable landmark against the white mountains and blue sky.



Figure 18. Vail, Colorado. The clock tower forms the centerpiece of Vail’s Swiss-style village.



Figure 19. Zermatt, Switzerland. The Matterhorn dominates the skyline from every vantage point around the resort.

need to be a part of the base village itself. Rather, it is more important that, regardless of the landmark's physical location, the design of the village celebrates the landmark. At Jackson Hole, the bright red tram moves in and out of the village, helping to connect the need to be a part of the base village itself. Rather it is more important that, regardless of village to the larger landscape of the ski mountain. The clock tower at Vail is the dominating architectural element of the base village and can be seen not just from the mountain and from throughout the village, but also by passersby on I-70. Finally, at Zermatt, Switzerland, views like those of the Matterhorn must be celebrated throughout the resort by providing for view corridors to make the visual connection between the resort and this well-known landmark possible.

### *Gateways*

Gateways delineate entries and exits, points of connection, and points of separation. They can also mark an entrance into, or exit out of a space or corridor. In the case of mountain resort base villages, gateways play an important role in the separation of spaces and the creation of experiences. Take for instance the act of leaving the car behind at a resort, or getting off the shuttle bus from town, and passing through a gateway into a quaint village of boutiques, fine dining experiences, and incredible mountain views.

Unfortunately, many gateways incorporated into base villages are not so pleasant. Instead, many gateways at resorts today are poorly designed and scaled, forming constriction points, creating confusion, and distracting guests from experiencing all the base village has to offer.

Park City Mountain Resort has an example of perhaps one of the most frustrating gateways in the industry. Though most likely not intended as a gateway, the dark, steep set of steps in Figure 20 is a part of the pedestrian link leading guests from shuttle buses to the heart of the resort. Observations conducted at Park City revealed many guests staring at the set of steps, wondering if the steep ascent could possibly be the correct way to access the village above. From the bottom of the steps, there is no view of the ski slopes, and no visual clues to the activity on the other side of the dark passageway. The staircase is also so narrow that guests were actually seen waiting at the top or bottom of steps because the steps could not accommodate the crowds coming off of or heading to the shuttle busses.

Similarly, an eastern link between the village and the slopes at Aspen Highlands represents another example of gateway so poorly underscaled that resort guests were observed stopping before they passed through the gateway, as if to wonder if the link to the other side was actually ever intended (Figure 21). In fact, this gateway is one of only

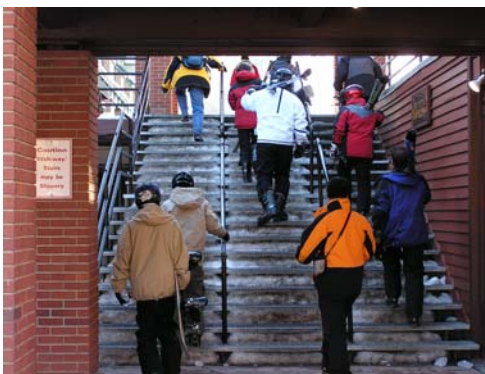


Figure 20. Park City Mountain Resort, Utah. The narrow width of this stairway causes people to wait during heavy traffic flows.



Figure 21. Aspen Highlands, Colorado. Had this gateway been wider, it would have encouraged circulation between the village and the ski slopes.



Figure 22. The Canyons Resort, Utah. This arching gateway draws people from shade to sun and into the main village core.



Figure 23. Telluride, Colorado. Gateways can be formed by constricting buildings before opening into a wider space.

two connections from the main core of the base village to the ski slopes, and perhaps one of the main reasons that retail establishments at the far end of the village are virtually non-existent. The gateway, which is also used for emergency vehicle access in the winter, is filled with obstacles and is so narrow, that it barely reads as actual connection point into the village. A wider gateway in this example would have been a great step toward bringing more skiers into Highlands Village by creating a circuitous pedestrian route through the village and back to the slopes. Instead, the narrow width between the buildings gives the impression of an unintended or impassable route, discouraging circulation between the village and the slopes.

More successful examples of gateways can be found at The Canyons Resort in Utah (Figure 22), and Telluride Ski Resort in Colorado (Figure 23). At The Canyons, designers implemented this archway to serve as a gateway leading from the city's bus drop-off point into the main core of the village. The dark confines of the gateway are contrasted by the bright open space on the other side, and frame the views of people and activities in the village core.

At Telluride, designers constricted a wide corridor with structures to frame the view of the main activity space in the village and added interest by using the gateway to frame an architectural element. Gateways such as this, that provide glimpses into another space, create a sense of mystery and discovery for what is going on around the next corner. The gateway at Telluride is further enhanced by a grade change, which is overcome by steps that are easily navigated in ski boots and a ramp providing for additional or handicapped access.

### *Corridors*

Corridors, or paths, are the “channels along which the observer customarily, occasionally, or potentially moves” (Lynch 1960). The pedestrian system organized along these corridors forms the “structure of the village” (Clifford 1997), helping to connect various points within the village, as well as helping to connect the village to the ski resort that surrounds it.

Corridors should be designed to facilitate the movement of people, and thus, must be designed for the pedestrian. It is important that corridors aid in navigation and provide a sense of directional security as people move through them. This can be accomplished by aligning corridors to take advantage of views. Additionally, corridors should also connect between well-established, and recognizable destination points. These destinations may range from large gathering nodes, to more intimate conversational spaces, to great views, or to an interesting building. These terminus points not only help to orient guests around the resort, but also help to attract attention to diverse areas of the village and to keep people moving throughout the village. Furthermore, corridors should

be linked to form circuitous networks throughout the village, avoiding dead-ends wherever possible.

It is important that corridors are scaled to the pedestrian as well. Even when a narrow corridor is lined by tall buildings, a pedestrian oriented streetscape can create a comfortable and interesting space. Moreover, corridors in base villages serve a vital role in providing retail exposure. As base village designer Eldon Beck said, “The most important level of the village is the pedestrian level. We do everything we can to keep people’s eyes down there. [This includes incorporating] hanging store signs, low streetlights, and small canopy trees” wherever possible (Clifford 1997, p. 189). Corridors have incredible potential to provide essential space for commercial development and “window shopping,” and must be used to their maximum potential.

The corridor in Figures 24, 25, and 26 fails to take full advantage of its retail exposure, potentially costing Park City Mountain Resort a sizable amount of revenue generation each season. Though one side of the corridor is lined with shops (Figure 24), the opposite side is lined with blank walls and locked doors that are part of the residential



Figure 24. Park City Mountain Resort, Utah. This central corridor is lined on only one side with pedestrian-level retail activity.

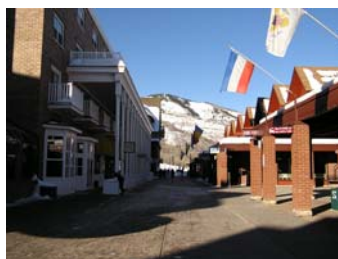


Figure 25. Park City Mountain Resort, Utah. The same corridor has no clear terminus point.



Figure 26. Park City Mountain Resort, Utah. One entire side of the corridor is lined by the blank façade of condominium units located above the ground level.



units above, missing an incredible opportunity for retail space that would otherwise have had significant exposure to resort guests (Figure 26).

The corridors at Copper Mountain appear to have been designed with the pedestrian in mind, and thus, do a much better job of capitalizing on their pedestrian exposure. Though the buildings bounding the corridors at Copper range in height up to six stories, their facades are broken up by interesting architectural elements that help to scale down the mass of the buildings. On the street level, pedestrian-scaled storefronts mixed with hanging signs, landscape elements, and hanging lights, help to attract attention away from the height of the buildings and down to the ground level.

It is also vital that corridors not only serve to link visitors throughout the village physically, but to link them to the larger context of the mountain landscape as well. Views of the ski resort from the base village serve as navigational aids to visitors within the village, and add drama to the structured spaces of the village. The corridors throughout the Village at Copper (Figure 27) help to provide a sense of security by not disorienting guests. Rather, they are aligned to take advantage of the best views of the



Figure 27. Copper Mountain, Colorado. Architectural and landscape elements help to bring the scale of the village down to the pedestrian level.



Figure 28. Copper Mountain, Colorado. Corridors are aligned to take advantage of the best views back to the mountain.

mountain, providing a constant wayfinding reference for the pedestrian (Figure 28).

This same orientation also helps to form a visual linkage connecting the village core within itself, and at the same time connecting the village core to the larger mountain environment surrounding it.



## CHAPTER IV

## METHODOLOGY – PATTERNS OF BASE VILLAGE DESIGN

The elements of space detailed in Chapter Three are, in Kevin Lynch's words, "simply the raw material of the environmental image. They must be patterned together to provide a satisfying form" (Lynch 1960). Individually, the elements of space have virtually no meaning, but patterned together, they give a legibility to the larger composition of a landscape. Humans are not born with an instinct for navigation or way-finding. Rather, humans rely on sensory clues gathered intuitively and sometimes subconsciously from the environment they are surrounded by. These clues are then mentally organized into a coherent pattern that supports our understanding of a space and our ability to move freely about an unfamiliar environment.

It is because of this natural human desire to make sense of an unfamiliar landscape or place that humans tend to prefer environments that are legible, or "make sense." Though we may not have an instinct for way-finding, humans do have an instinctive need to feel safe in the environment that surrounds them. Legibility of space acts as a reassurance that we not only know relatively where we are, but know how to get where we want to go or how to get back to where we came from.

Though a mountain resort base village is not necessarily a threatening environment where guests feel an overwhelming need for security in their surroundings, clearer legibility of the village spaces may help to reduce guest anxiety and improve the visitor experience. Many resort guests take vacations at ski resorts to escape the stress and anxiety caused by their daily surroundings, not to be further frustrated with a poorly

designed and confusing base village. The family of four wants to go to a village where they can drop off the car, or unload from the shuttle bus, get the children to day care easily, change into their ski gear with minimal effort, perhaps grab a quick cup of coffee, and get on the lifts as quickly as possible, rather than struggle to find their way through a maze of village buildings, and haul heavy ski equipment around while fruitlessly searching for the resort amenities they need to get them on their way.

When anxiety and frustration accompany a sense of disorientation that fully occupies the mind, first impressions of a resort can be devastating for the guest. Additionally, a guest that is preoccupied with wayfinding is not taking into account the other amenities of the resort, namely retail establishments or dining opportunities, both important revenue generating opportunities for resort operators. If a guest is preoccupied with trying to find his way through a village, he is not buying his morning coffee, or perhaps that new pair of goggles he had his eye on. Instead, he may be tired from carrying his gear extra distances at a high altitude, or frustrated that he is missing the first chair of the day.

Base village designers are tasked with the job of choreographing the guest's experience as he moves into, through, and out of the base village. The elements of space discussed in Chapter Three are the basic building blocks that form the larger overall structure of the base village design that dictates the visitor experience. Volpe (1998) perhaps best describes the experience created by the organization of spatial elements:

Each organizational archetype provides infinite possibilities of spatial experience, levels of meaning, and understanding. The designer is the choreographer of this sequence of experience. Consider the arrival space and entry – a beginning, leading up to a possible center, or a continued sequence, arriving at the center, or a sustained sequence,

a resting place, a possible climax – the middle; the coming away from the middle, and the departure space and exit – an end (p. 11).

The concept of a “sequence of experience” is extremely important in the design and planning of base villages. The spaces of base village must be organized to move people efficiently. For instance, a resort guest may arrive at an entrance node, move along a pathway to the center of the resort, cross the edge of the entrance node into the main village space, and even pass through a gateway framing the view of a resort landmark.

The possibilities of different spatial arrangements are virtually limitless, and base villages are no exception. Figures 29 and 30 show two very different examples of how the elements of spatial anatomy are designed to function together, creating a unified base village design and adding legibility to the overall experience of the village. On the left, the Village at Copper bring visitors from a number of different origin nodes, through a series of corridors and gateways, and into a main gathering node serving as both the retail

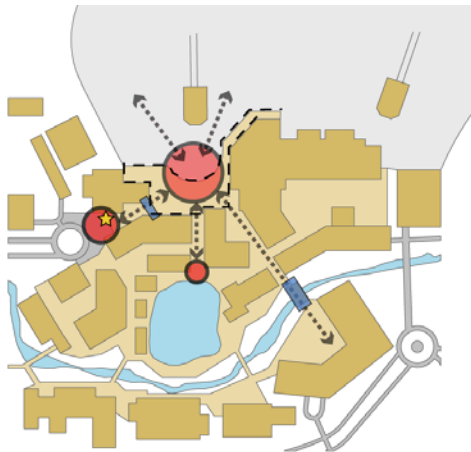


Figure 29. Copper Mountain, Colorado. Concept plan illustrating relationships of various elements of space

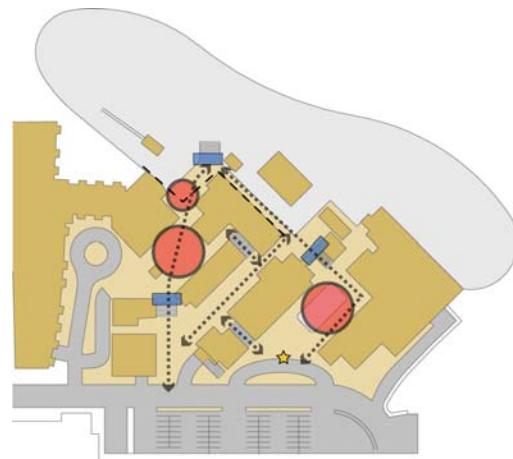


Figure 30. Park City Mountain Resort, Utah. Concept plan illustrating options for spatial organization

core of the resort and the interface between the slopes and the village. At Park City Mountain Resort, shown on the right, planners give guests a variety of corridors to follow through the village, each passing through a different node on the way to a similar destination point at the lifts.

Though there are a many differences seen between the base villages of North American ski resorts, mass void studies of the majority of these mountain resort base villages have revealed that, even given the almost infinite possibilities of spatial arrangements, there are patterns that have emerged in overall base village compositions that can be used to spatially categorize almost all of these villages. These patterns are perhaps attributed to the fact that, even though each mountain resort has its own unique set of site conditions, and target markets, each resort is seeking to accomplish the similar goal of attracting guests and generating revenue.

This study has identified four main design concept patterns that are seen often throughout the industry (Figures 31 through 34); the Central Node Concept, the Terminus Node Concept, the Urban Grid Concept, and the Circulation Code Concept. Each design concept has proven itself to be a viable option for spatial organization in one or more examples seen throughout successful mountain resorts in North America. Each concept holds merit as an effective means of moving guests around a resort, creating interesting gathering spaces, providing revenue generating opportunities, and satisfying the resorts' needs to offer amenities beyond the ski slopes.

By dissecting these design concepts, however, we find that on an individual basis, the implementation of these design schemes has been more successful in some places

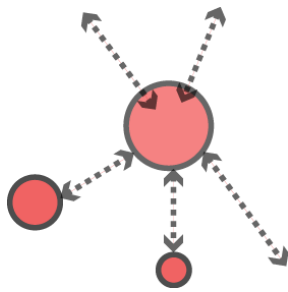


Figure 31. The Central Node Concept.

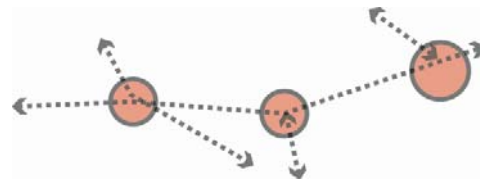


Figure 32. The Terminus Node Concept.

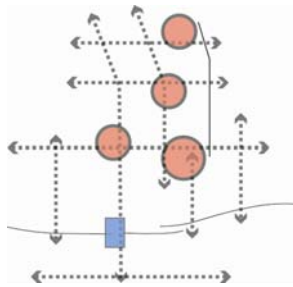


Figure 33. The Urban Grid Concept.

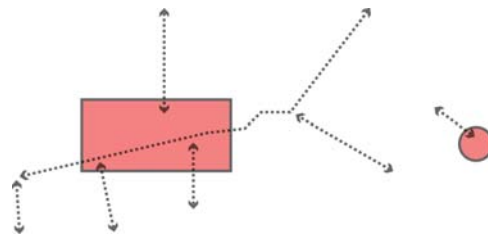


Figure 34. The Circulation Node Concept.

than in others. Likewise, looking at all base villages together, we see particular design concepts that offer an array of advantages and disadvantages over others.

The following section will summarize each design concept's main elements, and then dissect the design scheme into its individual elements as implemented by resorts around North America.

### *Central Node Concept*

The Central Node Concept is characterized by a system of corridors converging on a central gathering and entertainment space. The corridors often connect the main gathering space to transportation stops, parking areas, lodging properties, and often to other corridors lined with retail and dining establishments. In many cases, the central

gathering space is also the interface between the village and the slopes, creating a vital energy within the resort as guests in the village watch the activity on the slopes, and skiers on the mountain are drawn visually into the village by the activity below.

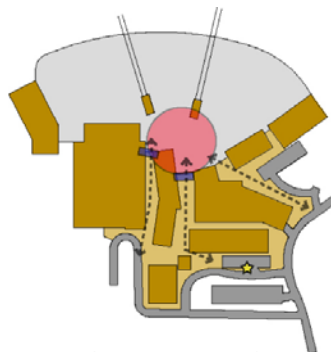
The central node often acts as the heart of the village, creating an identity not just for the village, but for the resort as a whole. It is also the center of activity within the village, forming core of retail and dining establishments, as well as a main entertainment space for exhibits and concerts.

The spider web-like layout of a village designed around the Central Node Concept is generally easy to navigate, as most corridors leading through this type of village terminate at the central node on one end, and at a unique destination on the other end, such as a hotel or transit stop. The outer corridors of “the web” often offer more quaint experiences, allowing visitors to explore the rest of the village away from the bustle of the main gathering space.

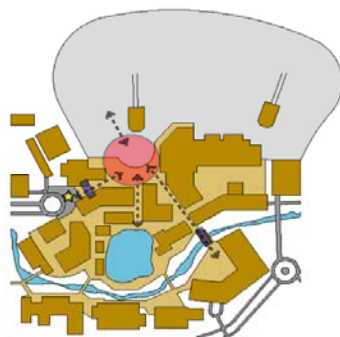
In some cases, it may be possible to for the Central Node Concept to become a victim of its own success. While this concept usually generates a great amount of activity and revenue in the main gathering and entertainment area, there are several examples around the industry where business and activity are all but non-existent along some of the secondary corridors. People have a natural tendency to want to be where other people are and to be a part of the activity. Since the heart of the activity within the base village is focused on the Central Node, there is often little incentive to explore the rest of the base village. The main gathering node in this case, acts as magnet, pulling people and activity toward the center of the village, but leaving few people to generate the same type of vitality throughout the rest of the village.



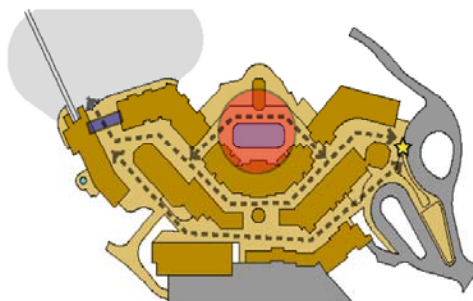
Breckenridge Village, Colorado



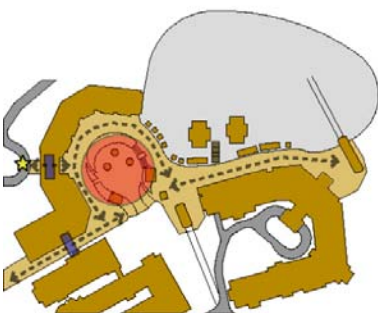
Crested Butte Mountain Resort, Colorado



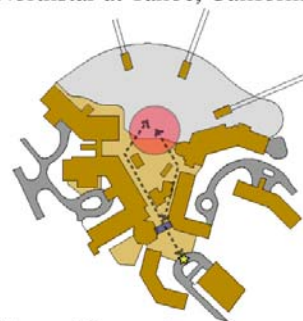
Copper Mountain, Colorado



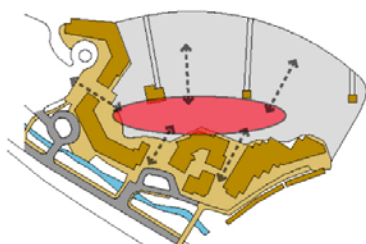
Northstar at Tahoe, California



The Canyons, Utah



Stowe, Vermont



Winter Park, Colorado

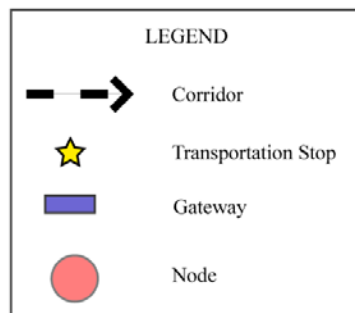


Figure 35. Resorts exhibiting the Central Node Concept. Crested Butte Mountain Resort, Colorado; The Canyons Resort, Utah; Breckenridge, Colorado; Copper Mountain, Colorado; Stowe, Vermont; Winter Park Resort, Colorado; and Northstar-at-Tahoe, California.



This is the case at Copper Mountain, where the central node, also known formally at Copper Mountain as “Burning Stones Plaza” (Figure 36), is the heart of the resort’s activity. Burning Stones Plaza’s circular form is lined with shops and restaurants that are the place to be and be seen during and after a day of skiing. The plaza is a great place to lounge in the bright Colorado sun while taking a break from the slopes. It is also the sight of many concerts and exhibits throughout the ski and summer seasons.

Extending from the plaza are several pedestrian corridors. One leads to the shuttle bus drop-off, another to a major condo and hotel development. The corridors are pleasantly scaled and nicely detailed, but at many times of the day, they are vacant. While the occasional guest or two will explore the rest of the village away from the central core, many resort guests only walk the corridors en route to lodging destinations or the shuttle bus stops. Otherwise, my observations at the resort yielded very few guests that were seen simply perusing the rest of village.

While much of the Village at Copper is a thriving place, there are pockets of the



Figure 36. Copper Mountain, Colorado. Burning Stones Plaza acts as the central node of the village and serves as the main gathering and entertainment space for resort guests.



Figure 37. Copper Mountain, Colorado. The success of the main plaza has lured guests away from the secondary corridors and retail establishments throughout the village.



village with empty storefronts and vacant pathways (Figure 38). Frequently, these locations are off the beaten path and away from central village core, attracting few visitors. While it is a human instinct to be where the action is, it is also a human instinct to seek a comfortable temperature level in our surrounding environment. Even on the coldest of days at Copper Mountain, guests can be found lounging in large chairs outside, and on many days, even eating outside at the Burning Stones Plaza. The plaza is oriented to the sun, and often shielded from cold winds by the village surrounding it on three sides.

The pedestrian corridors of Copper Mountain however, remain in the shadows much of the day, resulting in a temperature difference of several degrees. While the plaza is well sited to take full advantage of the sun, the corridors seem plagued by buildings that, while offering a comfortable human scale, block the majority of the sunlight that would otherwise help to warm the confines of their spaces. In addition to being away from the action in the main plaza, the lack of sun reaching the corridors creates even less incentive for guests to venture away from the warmth of the plaza to explore the rest of the village (Figure 39).



Figure 38. Copper Mountain, Colorado. Secondary corridors remain cold and empty even on busy days.



Figure 39. Copper Mountain, Colorado. Visitors are often drawn to the warmth of the sun-filled plaza (in the distance).

### *Terminus Node Concept*

The Terminus Node Concept (Figure 40) consists of a lengthy linear central corridor, usually leading from a transit node, that carries pedestrians through the main village core and terminates at a prominent gathering and entertainment node. Like the Central Node Concept, this primary node is often located at the interface between the ski slopes and the village. Eldon Beck, a well-known resort designer, likened base village design to the natural form of a creek where the “eddies create spaces out of the flow where people can pause, window shop, or have a cup of coffee – while leaving the center of the ‘stream’ open for walking” (Clifford 1997, p. 189). This idea has seen success especially in villages designed around the Terminus Node Concept. While its simplest form consists of one main corridor leading to one main gathering area, variations on this concept have been observed that offer a multitude of smaller nodes and secondary corridors along the travel path of the pedestrian.

While resort guests may foster some legitimate complaints about the distance required to walk from one end of the village to the other, or from a transit stop to the lifts, this approach to base village design appears to have some great advantages in the form of pedestrian exposure to revenue generating opportunities. Unlike the Central Node Concept, where pedestrians may chose not to walk through the entire base village, the Terminus Node Concept essentially forces pedestrians to experience the entire village by leading them through it along the main corridor. As mentioned, this approach often leads to rather long walks for skiers carrying heavy gear loads on their way to a day of skiing.

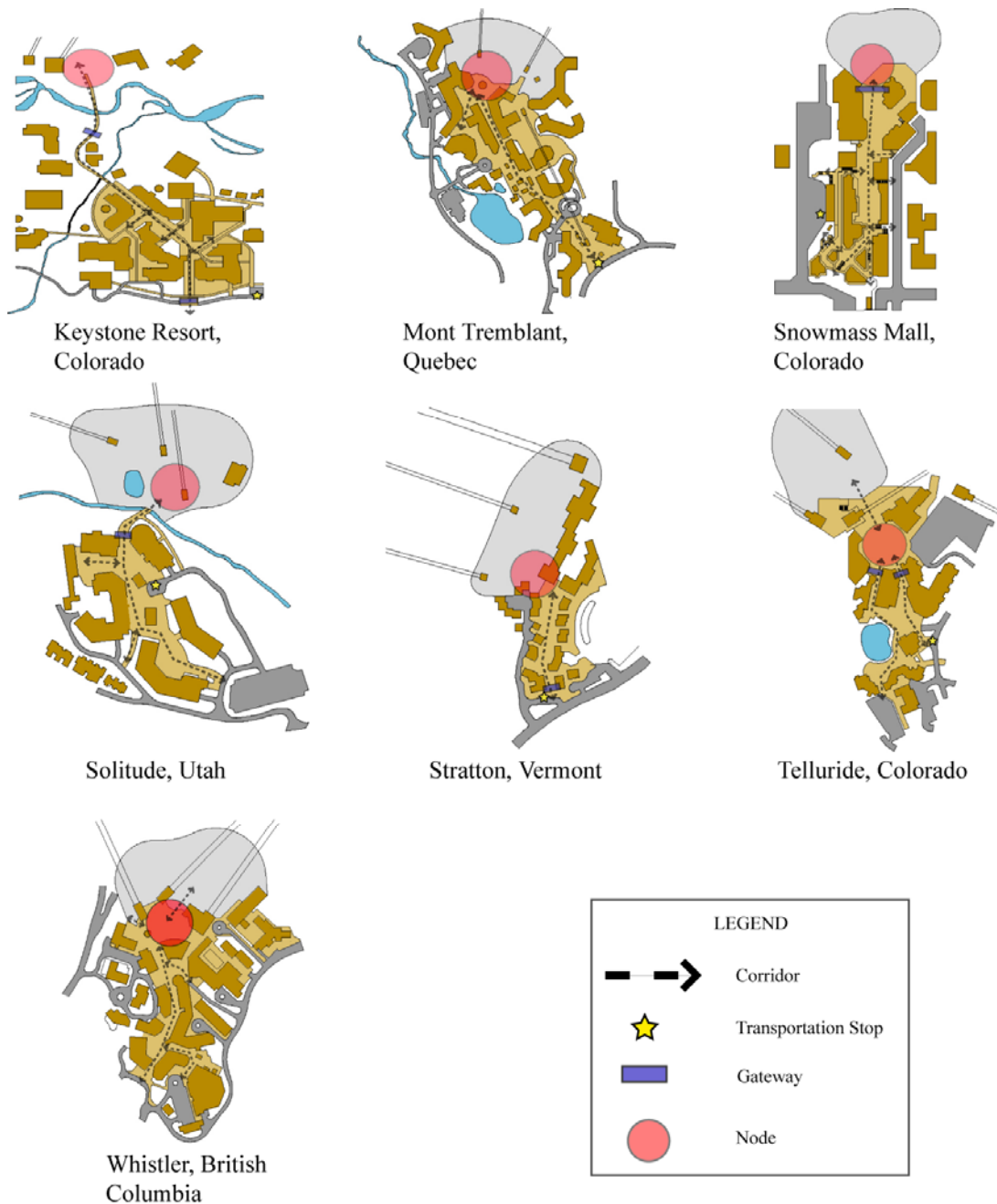


Figure 40. Resorts exhibiting the Terminus Node Concept. Solitude Resort, Utah; Stratton Mountain, Vermont; Telluride Resort, Colorado; Snowmass, Colorado; Schweitzer Mountain, Idaho; Whistler-Blackcomb, British Columbia; Mont Tremblant, Quebec; and Keystone Resort, Colorado.

The long and potentially tiring walking distance can be frustrating to guests, however, the linear corridor does provide a navigational advantage to the guest, providing essentially one way into the village, and one way out. This linear approach also offers a revenue generating advantage by giving retail and dining establishments “double exposure” to guests. In other words, as a guest passes through the village on his way to the lifts in the morning, he sees the retail and dining options that are available at the resort. Though he may not purchase anything at the time, he has been exposed to his options and on his way through the village at lunch, or perhaps at the end of the day, he is aware of the establishments that offer the amenities he may need or desire.

Resort designers have also found ways to mask the effect of the long linear corridors by adding curves and turns to the pedestrian route. With the exception of the Snowmass Mall at Snowmass Resort in Colorado, virtually every base village fitting the Terminus Node Concept utilizes a series of angles and turns throughout the main pedestrian corridor. These angles, though adding physical length over the option of simply providing a straight line connection between two points, visually break the overall distance of the corridor down into more manageable lengths (Figure 41).

Additionally, adding angles to the corridor aids in the idea promoted by Stephen and Rachel Kaplan of creating a “sense of mystery.” While a long, linear corridor with a visible terminus can be discouraging to the pedestrian by giving away the distance that must be covered to reach a desired destination, adding angles to the corridor promotes a desire to “see what is around the next corner” and encourages a sense of discovery.

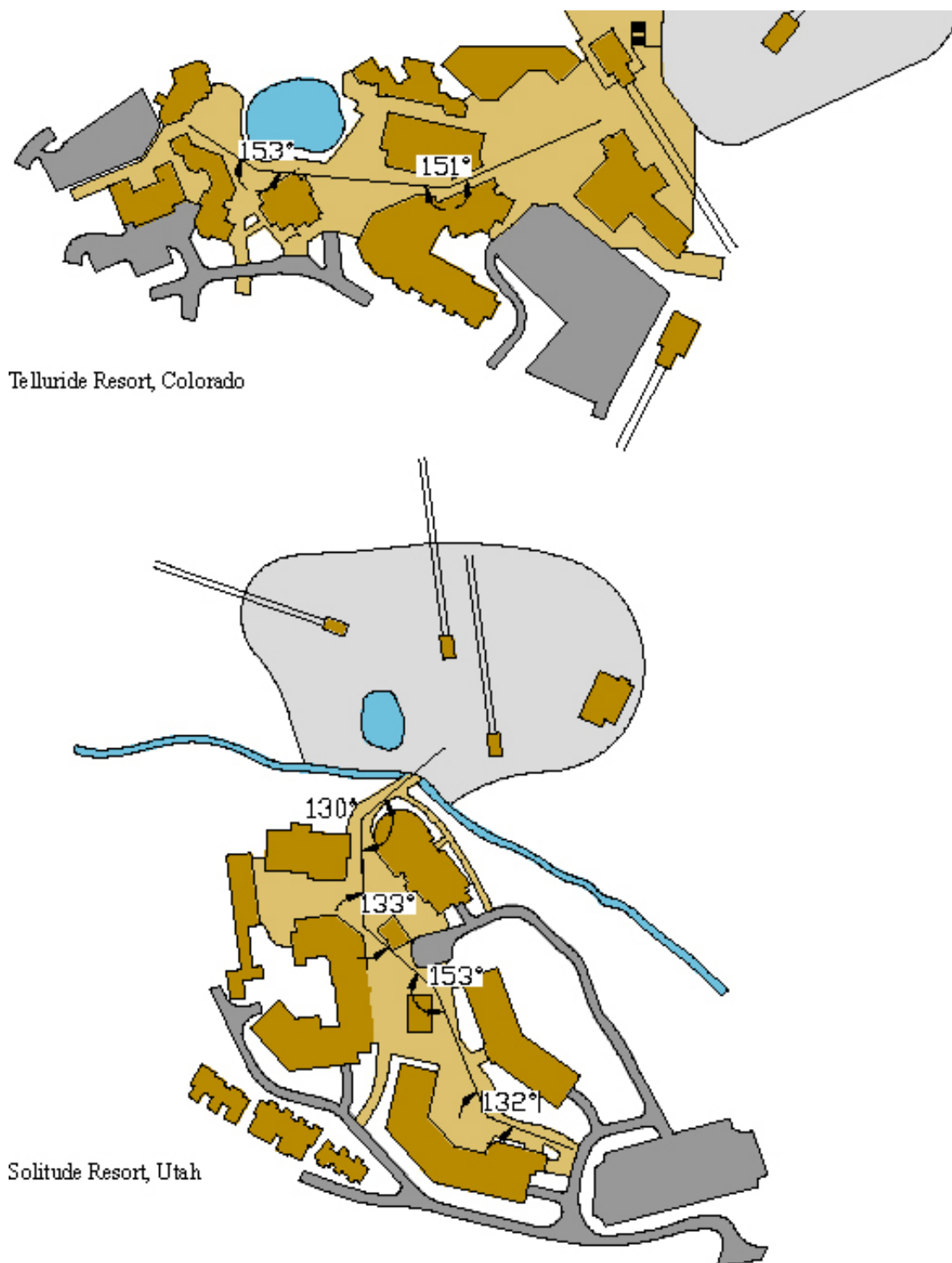


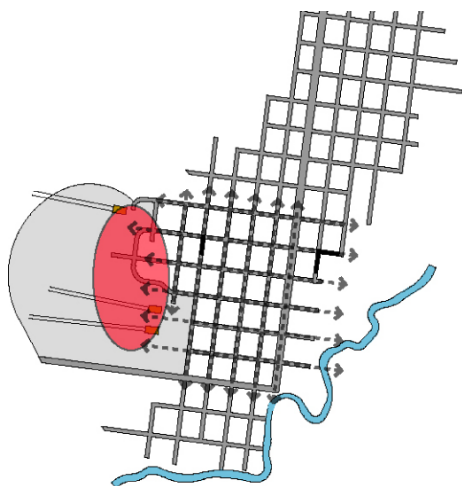
Figure 41. Long, linear pedestrian pathways can be visually shortened by adding angles between 130 and 160 degrees.

Interestingly, the angles designers have added to the otherwise linear corridors have been found to average between 130 and 160 degrees. It could be derived that angles sharper than 130 degrees (closer to a right angle) appear to the pedestrian to read as an edge, or a barrier to movement, rather than a continuation of the same pathway. Angles greater than 160 degrees on the other hand, are not visually bold enough to read as an intentional change in the linearity of the route.

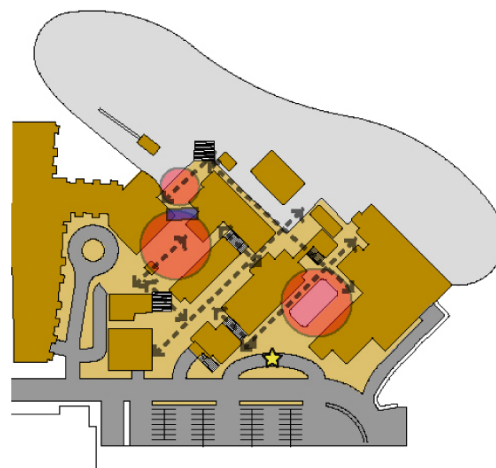
### *Urban Grid Concept*

Though usually located far from urban areas, ski resort base villages are often designed with several aspects of urban planning in mind. In many cases, base village designs have been derived from quaint European Villages, with pedestrian friendly streets and interesting, pedestrian-scaled paths and storefronts. In other cases, larger city forms have been borrowed upon for the design of the base village. Two resorts in particular, Park City Mountain Resort in Utah, and Vail, Colorado have utilized the urban grid as a basis for base village form. Aspen, Colorado is also a great example of the urban grid form seen at the base of a ski resort. It should be noted however, that Aspen evolved as a town as opposed to a planned village, but nonetheless Aspen provides a successful example of the grid form utilized at the base of a ski resort.

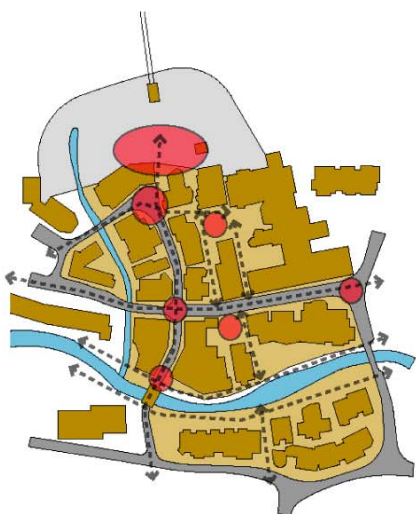
The form of the grid offers several functional and revenue generating advantages when incorporated into base villages. First, the grid is a familiar form for most North Americans, as it replicates town centers and urban cores around the country. Second, the form of the grid creates a multitude of opportunities for gathering nodes and different



Aspen, Colorado



Park City Mountain Resort, Utah



Vail, Colorado

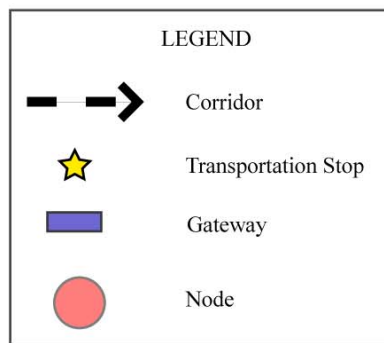


Figure 42. Resorts exhibiting the Urban Grid Concept. Aspen, Colorado; Park City Mountain Resort, Utah; and Vail, Colorado.

recognizable places that create iconic images for the resort. Third, the grid is a form that encourages exploration. Unlike the Central Node and Terminus Node Concepts, there are usually many options for destination points in an Urban Grid village and even more options of pedestrian routes to get there. General directional clues are often given, but the choices of routes are up to the pedestrian.

The grid, especially in Aspen, creates many “back alleys” and “side streets” for exploration by resort guests, thus keeping them in the village longer, and more than often, generating more revenue. The Urban Grid Concept also tends to lend itself to a more compact development, requiring a smaller overall village footprint than would the same length of corridors and nodes placed on end as in the Terminus and Central Node Concepts. This works especially well at Park City Mountain Resort, where a sprawling complex of ski trails funnels into a compact village core. The village is the only main access point to the upper mountain, and thus all resort facilities needed to be accommodated in a relatively tight space. The grid allowed for lodging, dining, and retail establishments in a compact core that may not have been feasible using the other, more space consuming design concepts.

As with each concept however, the Urban Grid Concept has its drawbacks that would perhaps encourage resort designers to carefully consider its use as a viable village design scheme. The Central Node and Terminus Node Concepts make for almost foolproof wayfinding through the majority of base villages. They usually offer a clear destination point with a clear and relatively direct means of getting from a starting point to the destination point. While the grid is a recognizable form that makes vehicular navigation easier, it does not necessarily make pedestrian navigation easier. The overall



concept of the grid is in fact, to connect starting and destination points as well, however, the means of getting from one point to another are not usually as clear as with other concepts. The differences in ease of navigation between the Central or Terminus Node Concepts and the Urban Grid Concept could be likened to the idea of taking a major highway from one side of a city to the other, versus attempting to navigate the same route via the maze of side streets in the city. Though the highway might not offer the same opportunities for exploration of the city's inner character, it is a much more direct route from starting point to destination point with few opportunities for getting lost.

With many options of paths to take to reach a destination, steps must be taken to provide resort guests with a method of reaching a destination point efficiently. To this end, orientation of the grid to provide visual wayfinding clues is one of the keys to aiding navigation through the village. Park City Mountain Resort is an example of a grid system whose orientation is deceiving and frustrating to resort guests attempting to find their way through the village. There is only one route through the village that makes an efficient connection from the parking area to the lifts. The alternate routes, and perhaps



Figure 43. Boston, Massachusetts. The highway through the city offers a direct connection between points, while the urban grid allows for exploration and discovery. Adapted from [www.mapquest.com](http://www.mapquest.com), accessed October 28, 2005.

the most likely routes when coming from the Park City Shuttle busses, are confusing and counter-intuitive. It is a natural tendency of guests to want to get from their cars or the local shuttle system to the chairlifts quickly and easily. It is also a natural human instinct to move in the visual direction of our destination point.

At Park City Mountain Resort, views of the ski trails from the village are not aligned with travel corridors. The guest naturally uses visual clues as a wayfinding device, and knows that he wants to travel in the direction of the ski trails. The grid however, is not oriented in this direction, and thus creates an awkward sense of direction as guests must travel in a direction away from their destination point before having the option to make a 90 degree turn through a maze of buildings en route to the lifts. While traveling this maze of corridors, views of the ski trails are blocked by buildings, thus eliminating the advantage of visual clues provided by mountain views.

Vail and Aspen handled the issue of grid orientation in a much more successful manner. The base of Aspen Ski Resort is actually an entire town that has evolved over a hundred years since Aspen's early mining days. Like many towns in the west, Aspen



Figure 44. Aspen, Colorado. The grid of streets in Aspen is perfectly aligned to provide views of the ski resort around every turn.



Figure 45. Vail, Colorado. Vail Village designers aligned the pedestrian pathways to reveal glimpses of the ski trails from throughout the village.

was built on a true grid, with a system of streets running perpendicular to one another east to west and north to south. Though this street system was laid out well before Ajax Mountain, now Aspen Mountain, became a ski resort, the town of Aspen has become one of the most interesting ski resort base areas anywhere. The grid of Aspen surrounds a main retail core, and draws people to and from the mountain on streets that are oriented to views from town directly to the mountain, and vice versa. Aspen Mountain rises abruptly from the edge of town and forms a dominating landmark visible from almost anywhere along the town's grid, providing an instant sense of direction no matter which way a person is traveling along the grid (Figure 44).

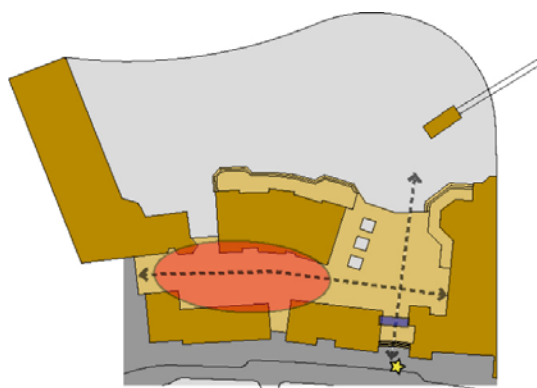
Vail, Colorado's base village utilizes a grid that was strictly designed for the pedestrian. Vail Village has a smaller scale than Aspen's vehicular grid system, with narrower corridors for pedestrians and lower buildings that allow sunlight onto the streets while framing views of the mountain. Like Aspen, the Vail grid is generally aligned to lead visitors and views directly to the ski trails on the mountain (Figure 45). Unlike Aspen, the grid is not perfectly perpendicular, but instead is designed with slight angles similar to those seen in the Terminus Node Concept. These angles visually break up the long, straight corridors leading through the village, and create a desire to explore more of the village around each corner. Both Vail and Aspen's grids are interspersed with smaller nodes, pedestrian malls, squares, fountains, and other attractors that allow for a sense of discovery while creating a more intimate scale among the larger context of their grid systems.

### *Circulation Node Concept*

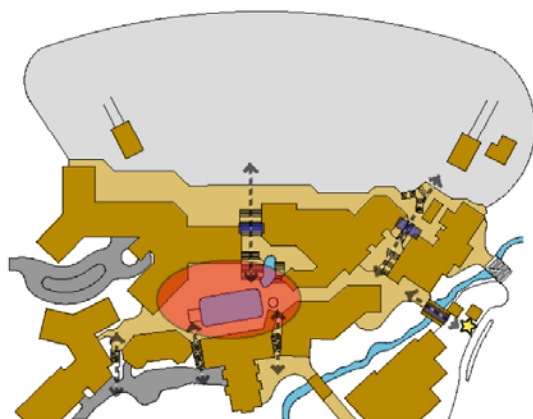
The Circulation Node Concept offers several similar aspects as some of the previous concepts, with several unique features as well. Like the Central and Terminus Node Concepts, the Circulation Node Concept is composed of a large, usually centrally located gathering and entertainment space that forms the main retail and entertainment core of the resort. Similar to the Urban Grid Concept, the Circulation Node Concept generally allows for pedestrian traffic crossing through and around the main spaces, usually with several options for traveling to and from destination points. Unlike the Central Node or Terminal Node Concepts however, the main gathering node is located in the middle of the base village, is usually surrounded on four sides by structures, and does not generally adjoin the ski slopes. Rather, a resort guest enters the main space from one end, and either crosses it or travels through it to reach the ski slopes on the other side.

Two prime examples of this concept can be found at Beaver Creek, Colorado, and Aspen Highlands, Colorado (Figure 46). As with preceding concepts, both resorts provide examples of successful and less successful implementation of this design concept.

At Beaver Creek (Figure 47), the main village gathering space is a mix of contemporary and European architectural styles. An ice skating rink bounded by a retail core forms the main village space, while lodging options and condominiums look down upon the village. The village is sited on a hillside, and visitors approach from the parking garage and bus stops downhill from the village, or from the west, at a level even with the village floor. The entrances to the village are tight, creating an interesting effect as the guest exits the tight corridors into the expansive village core. From the multiple entry



Aspen Highlands, Colorado



Beaver Creek, Colorado

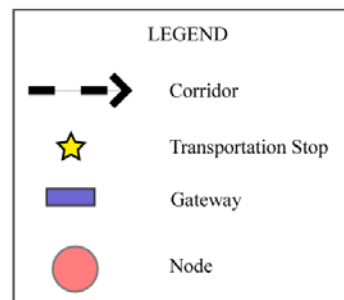


Figure 46. Resorts designed around the Circulation Node Concept. Aspen Highlands, Colorado and Beaver Creek Resort, Colorado.



Figure 47. Beaver Creek, Colorado. The main gathering space is at the middle of the village, requiring guests to engage it on their way to the lifts.

gateways into the village, the guest has a variety of options for continuing to the ski lifts on either side of the village core. Though hidden by buildings, the ski trails and lifts can be accessed via two large staircases or an escalator leading up hill from the village. Guests have the option of cutting straight through the village directly through the main village core, but it is important to note that no matter which way a guests chooses to move through the village, he must in fact, move *through* and engage the village.

By directing circulation through the main village core, the Beaver Creek Village inevitably generates a lot of activity in its center, which in turn helps to draw more people into the core of the village. To generate even more energy in the village core, an ice rink was located in the center of the village, and was surrounded by multiple dining options with heated outdoor patios and a variety of overlooks into the village. Each of these amenities provides opportunities for people watching and observation of the overall resort activity.

Though considered to follow the forms of the Circulation Node Concept, a very important difference in circulation patterns exists at Aspen Highlands. The village at Aspen Highlands, known as Highlands Village, has suffered from quite a bit of negative

press for its design, most recently in the 2005 *Ski Magazine* Resort Rankings, where critics described the village as “uninspiring.” There are several issues that could be attributed to the lack of interest and vitality in the village.

First, Highlands Village is challenged by the fact that the town of Aspen, perhaps the most exciting and diverse ski town in the country, is only a couple miles away. Nonetheless though, there appear to be several design flaws at Highlands Village that have caused the village to suffer from a lack of excitement, interest, and revenue. First, observations of guest movement patterns revealed an apparent flaw in circulation of pedestrians around the village (Figure 48).

There is primarily one main point of entry and one main point of exit into and out of the village. Those points are located at the far end of the main plaza in the village. As guests depart from the local shuttle stop, or arrive at the resort via the parking garage, a gateway directly in front of them frames a view of the main chairlift serving the base village. Even in the summer, guests have been observed entering the village from the bus

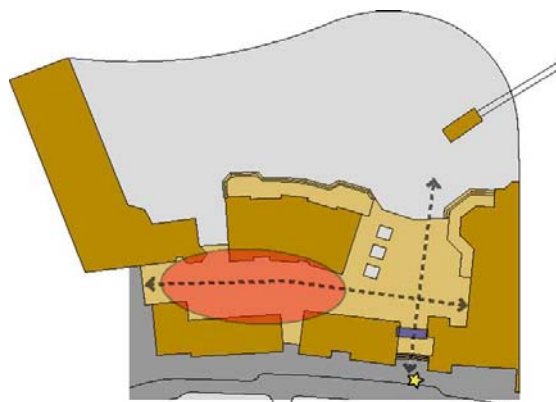


Figure 48. Aspen Highlands, Colorado. Guest circulation patterns at the resort do not promote exploration of the village, thus revenue generation in areas farthest from the main flow of pedestrian traffic appear to be suffering.



or their car, and walking straight toward the chairlift. This short connection is great from the point of view of an eager skier attempting to get to the lift, but from an operations perspective, this circulation route causes the majority of guests to bypass the rest of the village entirely.

Furthermore, the far end of the main plaza opposite the shuttle stop terminates in a dead end both visually and physically, with no slope access except a for an emergency vehicle staging area that is not considered to be a pedestrian route. In other words, the circulation pattern of Highlands Village is a dead-end route, as opposed to the circulation patterns of Beaver Creek, which require guests to pass through and engage the village from multiple points.



Figure 49. Aspen Highlands and Beaver Creek, Colorado. Both resorts have walled off their inwardly focused villages from the ski slopes, blocking views of activities between the slopes and the villages.



Another major critique of the Circulation Node Concept is the way villages have been visually, and in the case of Aspen Highlands, physically cut off from the ski slopes and the mountain that support them. In both examples, the village core is ringed by buildings ranging in height from three to seven stories. Given the width of the plazas at both resorts, there are no visual connections to the slopes from the interiors of the villages (Figure 49). In the case of Beaver Creek, all of the activity of the village is focused inward, and with a seemingly active village, this may work to the village's advantage. At Aspen Highlands however, where the village comprised of empty storefronts, quiet art galleries, and a hotel with no active village frontage, obstructing the village from the mountain is most certainly a disadvantage.

The energy created at resorts that have active village to ski slope interfaces, such as Snowbasin and Copper Mountain, is unmistakable. Not only are people in the village drawn to the activity on the ski slopes, but skiers on the slopes are drawn to the revenue generating activities of the village. In the case of both Aspen Highlands and Beaver Creek, it would be impossible to tell that there is even a village on the other side of the buildings facing the ski slopes if one did not know better.

## CHAPTER V

## CONCLUSIONS AND RECOMMENDATIONS

“Visitors want an experience that is not typical of their daily lives. They want a place that is different and memorable. If we bring to the mountains the trappings of an urban or suburban area, I think we’ve really blown it.”

- Eldon Beck (Clifford 1997, p. 189)

As designers, we frequently study existing built work and historical examples of designed space to seek answers to present and future design challenges. While many design disciplines, such as urban planning, parks and open space design, garden design, and architecture have centuries of examples to study and learn from, ski resort base village design is relatively new by comparison. We are just now beginning to comprehend the results of base villages that were designed 20 to 30 years ago. The greatest boom in base village construction however, has occurred in the last 10 to 15 years.

This study was aimed at the goal of understanding the implications of base village designs not only for resort operators, but for the people visiting these resorts. Further, this study is intended as a reference and a guide for future base village designs. The following is intended as a summary of the observations and analysis conducted at base villages throughout the country over the past two years. It presents design challenges and opportunities organized by basic design elements and by observed patterns. It also presents advantages and disadvantages of the implementation of various design strategies, with recommendations for future design practices.

### *Continuing Questions*

As a landscape architect, I have chosen to focus this study primarily on the aspects of base village design pertaining to designed space. There are of course a multitude of other success factors that must be considered when defining a base village as “successful” or “unsuccessful.” For the purposes of this study, the success factors for each base village were derived from observations of the patterns of guests throughout the resort and by the visual clues such as empty storefronts, confused guests, or empty spaces.

It is important to note that this study is not based upon economic data of revenue generation of the ski resorts studied. It would be ideal to determine if an actual economic correlation existed between revenue generation and the designation of successful or unsuccessful base villages as determined by the design factors examined by this study.

Though the designer is the main factor responsible for the arrangement and creation of designed space, there may also have been many outside factors driving the design itself. These outside factors include the demands of the market the resort is serving, the requirements of the client, existing site conditions, and the ability of both clients and designers to gauge the demands of potential users. At Aspen Highlands, design professionals have noted that the base village planners perhaps misjudged their target market in a move that backfired for the resort. While seeking to provide amenities for high end clientele, they seemed to overlook the value of Aspen Highlands as a “locals mountain” that was a favorite of the residents of the Aspen area that were not necessarily the wealthy clientele the resort had hoped to attract. Program elements designed into the village did not deter locals from skiing at Aspen Highlands, but did not help to attract

their dollars to the resort, as many have chosen to spend their après ski money in the nearby town of Aspen instead of dull, high-end, and lifeless Highlands Village.

### *Application for Base Village Designers*

As designers we are constantly challenged with creating works that balance the economic needs of our clients with ability to meet the needs of the potential user groups of our work. We would all like to say that we design for people, but all too often budgets and economic demands become the guiding force of our work, overtaking our desires and good intentions to make quality spaces and design quality places. Eldon Beck notes that “What landscape architects often suffer from is an inability to show that their work adds value to a project, because the pressure is always in the opposite direction, to max it out” (Clifford 1997).

Our clients’ goals for efficiency and maximum return are understandable and real constraints that we must work within. Without a profitable client, we as designers, would most likely be seeking work in other professions. It is my clear belief however, that our need to create economically viable designs should not, and cannot overrule our responsibility to create places for people, not for the dollar. Further, it is my belief that quality places designed for people, will be places that create a legacy for the future, and a generator of revenue for the client for years to come.

As a skier as well, I believe that we partake in the sport of skiing to get away from our everyday lives, to seek a freedom and excitement the constraints of our everyday routines does not provide. We are constantly surrounded by built works that were constructed for profit, but poorly designed for people. We do not however, spend hard

earned dollars on vacations to be surrounded by the same type of disillusioned environment.

It is my opinion that a well designed space can be a cost effective space as well. This goal of this study was to seek out the fundamentals of well designed base villages, as well as those aspects of base villages that have proven to be less successful, to prove that economic and budget constraints should not stand in the way of well designed spaces. Rather, designing spaces according to basic design principles grounded in design for people over money, are the key to successful base villages.

## BIBLIOGRAPHY

- Appleton, J. 1975. *The Experience of Landscape*. New York: Van Nostrand Reinhold.
- Auran, H. 1966. *America's Ski Book*. New York: Charles Scribner's Sons.
- Bowen, E. 1963. *The Book of American Skiing*. Philadelphia: J.B. Lippincott Company.
- Clifford, H. 2002. *Downhill Slide*. San Francisco: Sierra Club Books.
- Clifford, H. 1997. Village person. *Ski Magazine* 62(3):189-191.
- Coleman, A.G. 2004. *Ski Style: Sport and Culture in the Rockies*. Lawrence: University Press of Kansas.
- Dorward, S. 1990. *Design for Mountain Communities – A Landscape and Architectural Guide*. New York: Van Nostrand Reinhold.
- Edelstein, A. 2003. White stuff turns to green: Vermont ski industry optimistic. *Vermont Business Journal* 31(2):23-30.
- Goldfinger, E. 1941. The sensation of space. *The Architecture Review* 90(539):129-131.
- Gonzales, D. 2001. *Jackson Hole – On a Grand Scale*. Boulder: Mountain Sports Press.
- Greenbie, B. 1981. *Spaces: Dimensions of the Human Environment*. New Haven: Yale University Press.
- Hawkes, T. 2005. U.S. Ski Areas Post Fourth Best Season on Record.  
<http://www.nsaa.org/nsaa/press/2005/kottke-05.asp>.
- Jay, J. 1947. *Skiing the Americas*. New York: The MacMillan Company.
- Kaplan, S., and R. Kaplan. 1978. *Humanscape: Environments for People*. North Scituate: Duxbury.
- Lund, M., B. Gullen, and M. Bartlett. 1982. *The Ski Book*. New York: Arbor House.
- Lynch, K. 1960. *Image of the City*. Cambridge: MIT Press.
- Needham, R. 1987. *Ski – Fifty Years in North America*. New York: Harry N. Abrams, Inc.
- Seibert, P. 2000. *Vail – Triumph of a Dream*. Boulder: Mountain Sports Press.

Theil, P. 1961. A sequence-experience notation. *Town Planning Review* 32(1):33-52.

Theil, P. 1964. Processional architecture. *AIA Journal* 18(5): 23-26.

Volpe, J. 1998. *Introduction to Environmental Design – Course Reader*. Amherst: University of Massachusetts.

APPENDICES



Appendix A. Mountain Resort Base Village Design Guide

## MOUNTAIN RESORT BASE VILLAGE DESIGN GUIDE

### *Overview*

The following text is intended as a summary of the results of this thesis study. It is the goal of this summary to provide a reference for future base village design practices. The guide will give a brief review of topics covered by this thesis, followed by a synopsis of the advantages and disadvantages of the implementation of various design strategies covered in this study. Each section will also include a listing of resorts exhibiting the characteristics that have been discussed.

### *Spatial Anatomy*

Kevin Lynch identified four main elements of spatial design. They include nodes, landmarks, corridors, and edges. Further, University of Massachusetts professor Joseph S.R. Volpe identified the gateway as another fundamental design element. Those these elements of design were originally intended to be used in the study of urban areas, many of the elements of urban planning and design also correspond to design and planning strategies for mountain resort base villages. Thus, these five design elements have been utilized in this study to dissect several base villages in the North American ski industry to better understand how they function for and are comprehended by resort guests.

## ***NODES***

**Definition:** Nodes are places for congregating, gathering, entertaining, socializing, and other human activities.

### **Types of Nodes:**

***Junction Nodes*** – Junction nodes are found at the intersections of two or more paths, or at the interface between different districts.

Base village examples:

- Interface between ski slopes and the village
- Transportation hubs

***Thematic Concentration Nodes*** – Gathering spaces defined by the uniformity of their purposes, intended uses, or aesthetic appearance.

Base village examples:

- Fire pits
- Ticket windows
- Amphitheaters
- Skating ponds/ rinks
- Central entertainment plazas

### **Base village design considerations:**

- Junction nodes are often located in areas that are critical to first and last impressions of the resort.
- Humans heighten their attention when coming to the junction of two paths, making detailing and retail exposure especially important in these areas.
- The dimensions of the social activity taking place should determine the size of the gathering node.
- Proportion is the key to designing nodes that are comfortable for human use.
- The best nodes are generally scaled by the “Golden Mean,” at a length to width ratio of 1:1 to 1:1.6.
- Junction nodes are especially critical as they are often the “first and last impression” points a guest has at the resort.
- People like to watch other people!
- Nodes attract people, and are key locations for retail and dining establishments.

### **Common base village design flaws:**

- Poorly proportioned spaces
- Missing the opportunity to make a great first and/or last impression.
- Not taking advantage of or allowing for solar exposure.



Beaver Creek Resort, Colorado



Heavenly Resort, California/ Nevada



Copper Mountain, Colorado



Telluride, Colorado



Park City Mountain Resort, Utah



Park City Mountain Resort, Utah



Park City Mountain Resort, Utah

Figure 50. Examples of nodes at ski resorts throughout the country.

## ***CORRIDORS***

**Definition:** Corridors are channels along which the observer customarily, occasionally, or potentially moves. Corridors connect nodes and spaces and aid in circulation and navigation.

### **Types of Corridors:**

*Physical Corridors* – Connect resort guests to gathering or destination points throughout the village, usually via pedestrian pathways,

*Visual Corridors* – Visually connect the village to the larger mountain environment that supports it.

### **Base village design considerations:**

- Corridors can be designed on a variety of scales from wide pedestrian boulevards to narrow back alleys.
- Like nodes, the widths of corridors should respond to its intended use.
- Corridors should never terminate in empty spaces or dead ends, but rather with connections to other corridors or nodes, to important views, or important buildings.
- Base village corridors must be scaled to the pedestrian. It is essential that tall buildings be brought down to a human scale. This can be accomplished by:
  - Architecturally breaking up large or blank building facades
  - Creating pedestrian level storefronts
  - Adding elements to the pedestrian level such as planting, lighting, and hanging signs
- Corridors are prime retail locations as people stroll by “window shopping.”
- Corridors should never be lined with a blank façade.
- Corridors aid in direction and navigation. Corridors should form circuitous networks and be aligned to take advantage of views.
- Draw people to a point of interest.
- Connect people and the base village to the larger mountain environment.
- Corridors should be designed to keep people moving throughout the village. This goal can be strengthened by aligning corridors to terminate in views or nodes that can help to draw people through the corridor and into the next space.
- Adding angles to long corridors helps to visually shorten walking distances and create a desire to discover what lies around the next corner.

### **Common base village design flaws:**

- “Corridors to nowhere ending with dead ends or empty spaces.
- Missed retail opportunities created by blank and empty facades.
- Confusing circulation patterns.
- Disorienting guests by not aligning corridors to provide views.
- Not focusing on the pedestrian.





Park City Mountain Resort, Utah



The Canyons, Utah



Vail, Colorado



Copper Mountain, Colorado



Copper Mountain, Colorado



Vail, Colorado



Beaver Creek Resort, Colorado

Figure 51. Examples of pedestrian corridors at ski resorts throughout the country.

## ***EDGES***

**Definition:** Linear elements that serve as the boundaries between two phases, linear breaks in continuity.

### **Types of Edges:**

***Physical Edge*** - Physical edges are structural or natural barriers to movement and visual connectivity. They define a space by creating vertical walls, often limiting movement from one side to the other. Physical edges are often visual edges as well.

***Visual Edge*** - Visual edges define a space visually, but not necessarily physically. They often take the form of paving surface changes or changes in character. They do not restrict movement from one side to another.

### **Base village design considerations:**

- Edges are important organizing features, or “lateral references”
- Edges can serve as boundaries separating two spaces.
- Edges can also serve as linear elements joining or relating spaces.
- Can be impenetrable or permeable to movement.
- Can be strong visual elements such as walls, or can be more discreet, such as changes in paving patterns.
- Edges can be softened and brought down to a human level by “layering” design elements leading up to the edge.

### **Common base village design flaws:**

- Often, edges in the form of buildings visually and physically separate the ski slopes from the village.
- Important village spaces, such as retail cores, are hidden from view.
- Edges become impediments to movement, leading to long walks and frustrated guests.
- Edges become impediments to views, prohibiting the view from becoming a navigational aid for pedestrians and disconnecting the village from the mountain that supports it.
- Edges prohibit views into important spaces and discourage exploration of vital parts of the village, thus potentially limiting revenue generation.



Aspen Highlands, Colorado



Park City Mountain Resort, Utah



Telluride, Colorado



Copper Mountain, Colorado



Heavenly Resort, California/ Nevada



Snowbasin Resort, Utah



Copper Mountain, Colorado

Figure 52. Examples of edges at ski resorts throughout the country.



## **GATEWAYS**

**Definition:** Gateways are visual and physical elements that delineate entries and exits into spaces and separate different districts, areas, environments, and spatial characters.

### **Base village design considerations:**

- Gateways may take the visual form of level changes, scale changes, or architectural character changes.
- Gateways can be physical structures that people pass through, over or under, such as covered bridges, bridges, archways, buildings, etc.
- Some of the most effective gateways occur where space is compressed just prior to opening into a bigger space.
- Gateways are also effective when placing the visitor in the shadows looking into the light beyond.
- Gateways work best when the destination point on either side is visible from the other side.

### **Common base village design flaws:**

- Underscaled gateways that make navigation difficult for skiers wielding bulky ski gear.
- Underscaled gateways that are too small to read as a viable connection between two points, or that do not promote circulation.
- Gateways that do not allow for visual connections to the other end of their travelways.
- Gateways that are difficult to navigate due to steep inclines, poorly designed steps, etc.



Beaver Creek Resort, Colorado



Beaver Creek Resort, Colorado



Beaver Creek Resort, Colorado



Heavenly Resort, California / Nevada



Vail, Colorado



Telluride, Colorado



Park City Mountain Resort, Utah



The Canyons, Utah

Figure 53. Examples of gateways at ski resorts throughout the country.

## *LANDMARKS*

**Definition:** Landmarks are “point references considered to be external to the observer.” Landmarks are object, places, or structures that are uniquely identified from their surrounding contexts by their singularity of form, use, scale or contrast with background elements.

### **Base Village Design Considerations**

- Serve as orientation and navigation aids by providing points of reference.
- Help to unify and sometimes even define architectural styling.
- Help to create an unified resort identity.
- May take the form of architectural structures, sculptures, and unique natural features.
- Must be visually prominent.
- Can create an iconic image for an entire resort.
- Should create contrast with surroundings.
- Landmarks can be part of the village, such as the clocktower at Vail, part of the resort, such as the red tram at Jackson Hole, or part of the surrounding landscape, such as the Matterhorn near Zermatt, Switzerland. No matter where the landmark is located however, the base village must be designed to celebrate the landmark, providing views of it and ways to interact with it.
- The best landmarks have deeper meanings than a simply man-made symbol designed to attract attention. For instance, the tram at Jackson Hole has carried skiers up one of the most legendary ski mountains in the country for several decades. On the contrary, the statue in the middle of the plaza at The Canyons is an obscure Petroglyph-like symbol that seems only tacky and out of place, with virtually no deeper meaning to the resort.

### **Common Base Village Design Flaws**

- Too often, base villages are not well connected, either physically or visually, with nearby landmarks.
- Often, objects are not visually prominent enough, nor to they have enough contrast with their surroundings to read as a landmark to observers.
- Though there is a need for landmarks to contrast with their surroundings, there is a fine line that is drawn between an interesting, recognizable landmark and an obscure, manufactured symbol with little deeper meaning or character.



Snowmass, Colorado



Vail, Colorado



Jackson Hole, Wyoming



Zermatt, Switzerland



Keystone Resort, Colorado



Heavenly Resort, Nevada

Figure 54. Examples of landmarks at ski resorts throughout the country and Europe.



*Spatial Organization and Sequence of Experience*

These elements are simply the raw material of a base village.  
“They must be patterned together to provide a satisfying form.”  
- Kevin Lynch 1960, p. 82

The elements of space defined in the previous section, nodes, corridors, edges, gateways, and landmarks, are simply the building blocks of a larger composition.

Individually, these spatial elements have little meaning, however, when designed to work in coordination with one another, these spatial elements provide a legibility of form that gives meaning to spaces and places designed for humans.

It is a natural instinct of humans to seek legibility in their surroundings to provide a means of wayfinding and an understanding of space (Lynch 1960). Base villages are no exception to this need for legibility. This study has revealed four primary patterns of spatial arrangement that pertain to the majority of base village developments around North America. Each pattern, though incorporating the same elements of space, offers different options for spatial arrangement, overall function, and legibility. Additionally, each pattern has its own inherent advantages and disadvantages as they pertain to visitor response, operational feasibility, and revenue generation.

A brief overview of each pattern is presented, followed by its implications for use in existing and future base village developments. Additionally, Appendix B exhibits the locations of existing and currently proposed base villages throughout North America. Appendix C details each existing base village in North America, classifying them by design concept type and presenting a concept diagram for each village development.

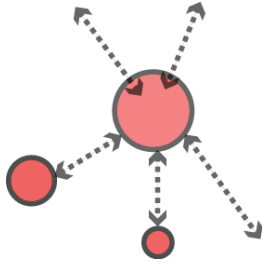
**Central Node Concept**

Figure 55. Central Node Concept diagram.

**Concept**

**Summary:** The Central Node Concept is characterized by a system of corridors converging on a central gathering and entertainment space. The corridors often connect the main gathering space to transportation stops, parking areas, lodging properties, and other nodes. The central gathering space is often the interface between the village and the slopes, creating a space with enormous energy and activity. The central node often acts as the heart of the village, creating an identity not just for the village, but for the resort as a whole. It is also the center of activity within the village, forming core of retail and dining establishments, as well as a main entertainment space for exhibits and concerts.

**Design Advantages:**

- Spider web-like design is easy to navigate if all corridors meet at a central node
- Creates a vital, energetic center of activity.
- Central core is often the retail heart of the village, creating the most pedestrian exposure and generating the highest lease values.
- Creates a variety of experiences, from the high-energy core to more quaint alleys and secondary nodes.

**Design Disadvantages:**

- In some instances, the energy of the central core attracts people away from secondary nodes and corridors.
- With several corridors to explore, revenue generating opportunities may be missed by not requiring pedestrians to pass through a given corridor (unlike the Terminus Node Concept).

**Representative Resort Base Villages:**

Breckenridge, Colorado, Copper Mountain, Colorado, Crested Butte, Colorado, Northstar-at-Tahoe, California, Stowe, Vermont, The Canyons, Utah, Winter Park Resort, Colorado

## Urban Grid Concept

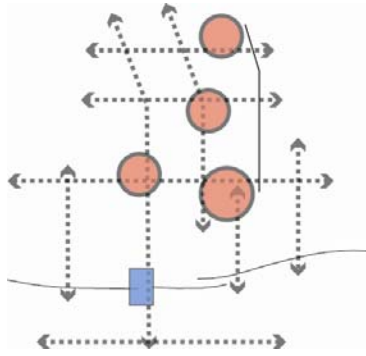


Figure 56. Urban Grid Concept diagram.

### Concept

**Summary:** The Urban Grid Concept is comprised of a multitude of perpendicular, or roughly perpendicular corridors forming the pedestrian network of the base village. Many of the corridors have a common terminus at the base of the ski slopes, however, along the grid system are located numerous secondary nodes, similar to the urban fabric of a small town or city.

### Design Advantages:

- The grid is an easily recognizable and navigable form.
- The layout of the grid offers extensive space for development of a unique character and a multitude of revenue generating opportunities.
- The grid is a compact form, and takes up less room than a comparable village with all the corridors aligned end to end.
- If aligned correctly, the grid offers many opportunities for visual connections from the village to the mountain.
- The grid allows for exploration of back alleys and side streets, keeping people in the village longer and raising the possibility for revenue generation.

### Design Disadvantages:

- The grid can be potentially confusing and frustrating if direct, efficient connections are not made between major nodes.
- The multitude of pedestrian options makes it more difficult to control the pedestrian experience and revenue generating program.
- Nodes throughout the grid network necessitate a hierarchy of experience. Without a clear hierarchy, nodes may work as magnets, each pulling in their own direction without creating an identifiable center of activity within the village.

### Representative Resort Base Villages:

Aspen, Colorado (City of Aspen), Park City Mountain Resort, Utah, Vail, Colorado

## Circulation Node Concept

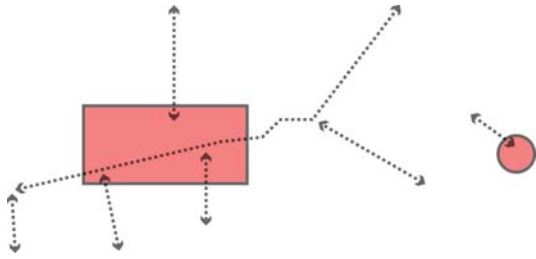


Figure 57. Circulation Node Concept diagram.

### Concept

**Summary:** The Circulation Node Concept is usually composed of a large, centrally located gathering and entertainment space that forms the retail and entertainment core of the resort. The main gathering space is often surrounded on four sides by buildings, giving the village and inwardly focused character. Given its central location, all pedestrian circulation is routed directly through the main node, potentially generating a space with high energy and revenue generating opportunities.

### Design Advantages:

- Guests circulation is purposely routed directly through the retail core of the resort, creating almost foolproof retail exposure.
- The inward focused core of the village can become a space with great energy and vitality.

### Design Disadvantages:

- The central core of a village designed around this concept is often surrounded on four sides by buildings, creating the chance that the village will feel disconnected from the larger mountain environment.
- Buildings on four sides of the village often do not allow for adequate solar exposure for the main village space.
- This concept does not capitalize on the creation of a “sense of mystery” as the majority of the elements of the village are located in one central place.
- It is essential to create multiple points of attraction within the village core to keep people moving throughout the resort. If the central core visually reveals all its secrets at once, pedestrians are not as likely to explore, thus not as likely to engage additional revenue generating opportunities.

### Representative Resort Base Villages:

Aspen Highlands, Colorado, Beaver Creek Resort, Colorado



## Terminus Node Concept

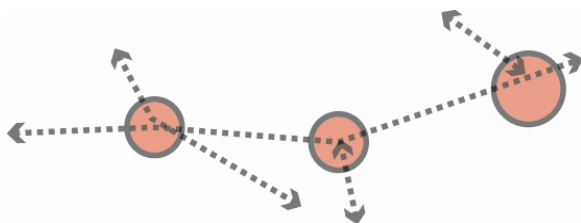


Figure 58. Terminus Node Concept diagram.

### Concept

**Summary:** The Terminus Node Concept consists of a lengthy linear central corridor, usually leading from a transit node, that carries pedestrians through the main village core and terminates at a prominent gathering and entertainment node. This primary node is often located at the interface between the ski slopes and the village. This concept has been likened to natural form of a creek with “eddies” out of the main traffic flow that offer opportunities for conversation and window shopping. While its simplest form consists of one main corridor leading to one main gathering area, variations on this concept have been observed that offer a multitude of smaller nodes and secondary corridors along the travel path of the pedestrian.

### Design Advantages:

- Maximum revenue exposure is created by two-way pedestrian circulation routed directly through the heart of the village, offering “double-exposure” as pedestrians pass by on their way to the slopes, and on their way back out of the village.
- This concept is exceptionally easy to navigate.
- Angles and bends added to the linear pedestrian circulation route promote exploration and offer a sense of discovery around each corner.

### Design Disadvantages:

- This concept usually requires the longest walk of any concept from origin point to destination point.
- The linear pedestrian network does not encourage exploration of secondary corridors.

### Representative Resort Base Villages:

Keystone Resort, Colorado, Mont Tremblant Resort, Quebec, Canada, Schweitzer Mountain, Idaho, Snowmass, Colorado, Stratton Mountain, Vermont, Telluride Mountain Resort, Colorado, Whistler-Blackcomb, Colorado

Appendix B. Map of North American Ski Resort Base Village Developments

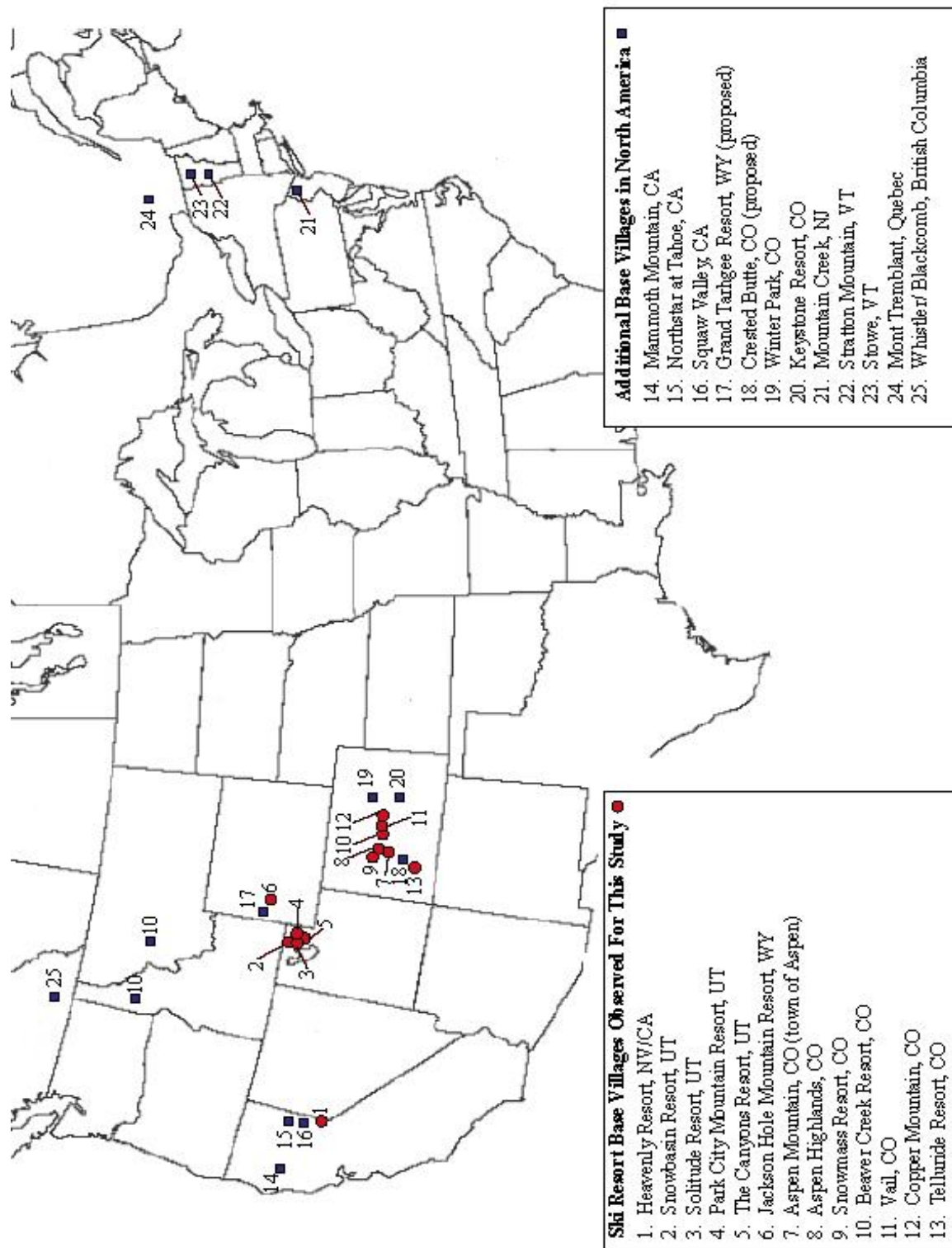


Figure 59. Map of existing and proposed ski resort base villages in North America.

Appendix C. Base Village Maps of Resorts Featured in this Study

Urban Grid Concept Resorts

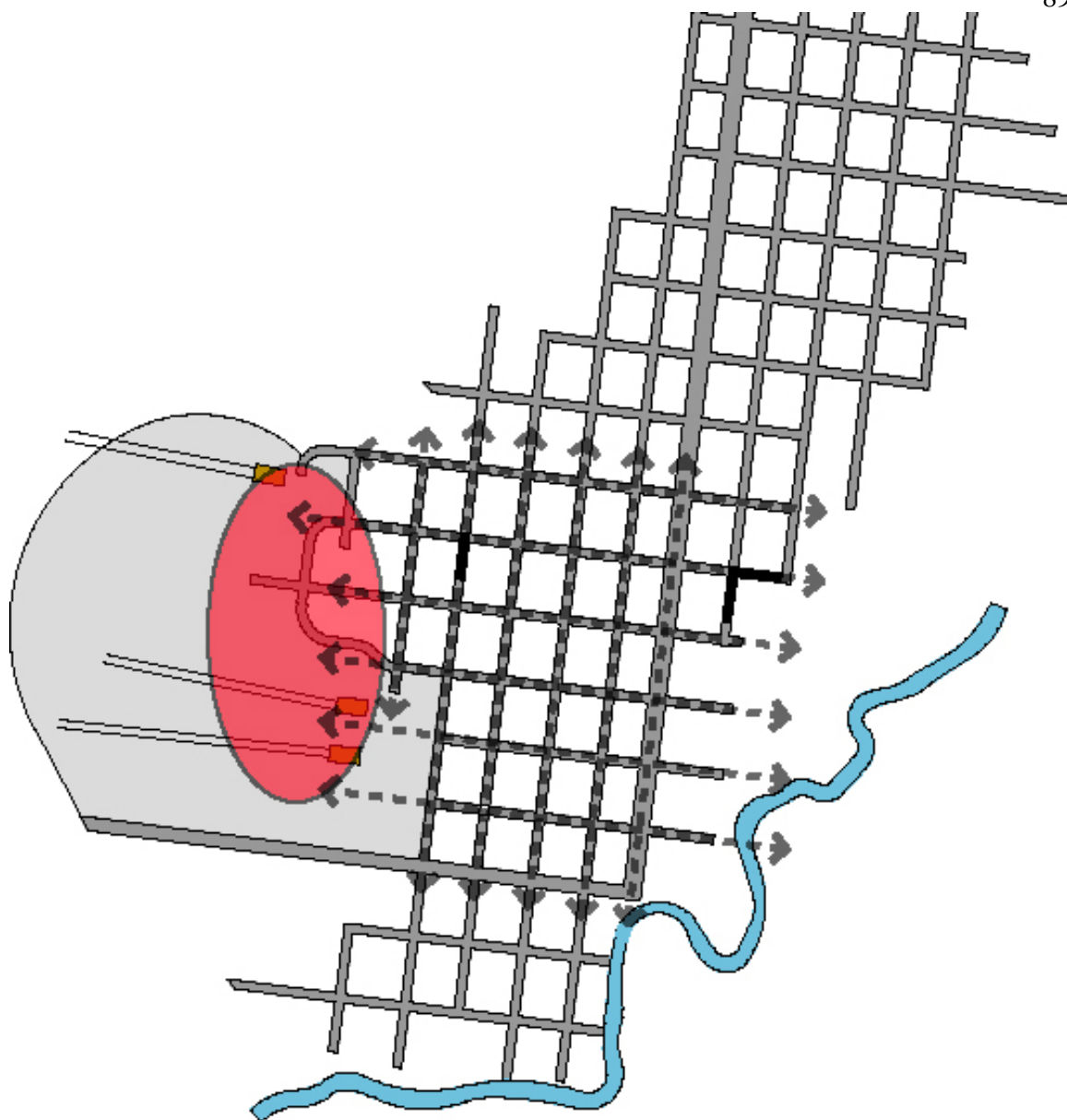


Figure 60. Aspen, Colorado. City of Aspen map. Adapted from City of Aspen map at <http://www.aspensnowmass.com/intown/maps.cfm?map=Aspen> accessed November 2005.

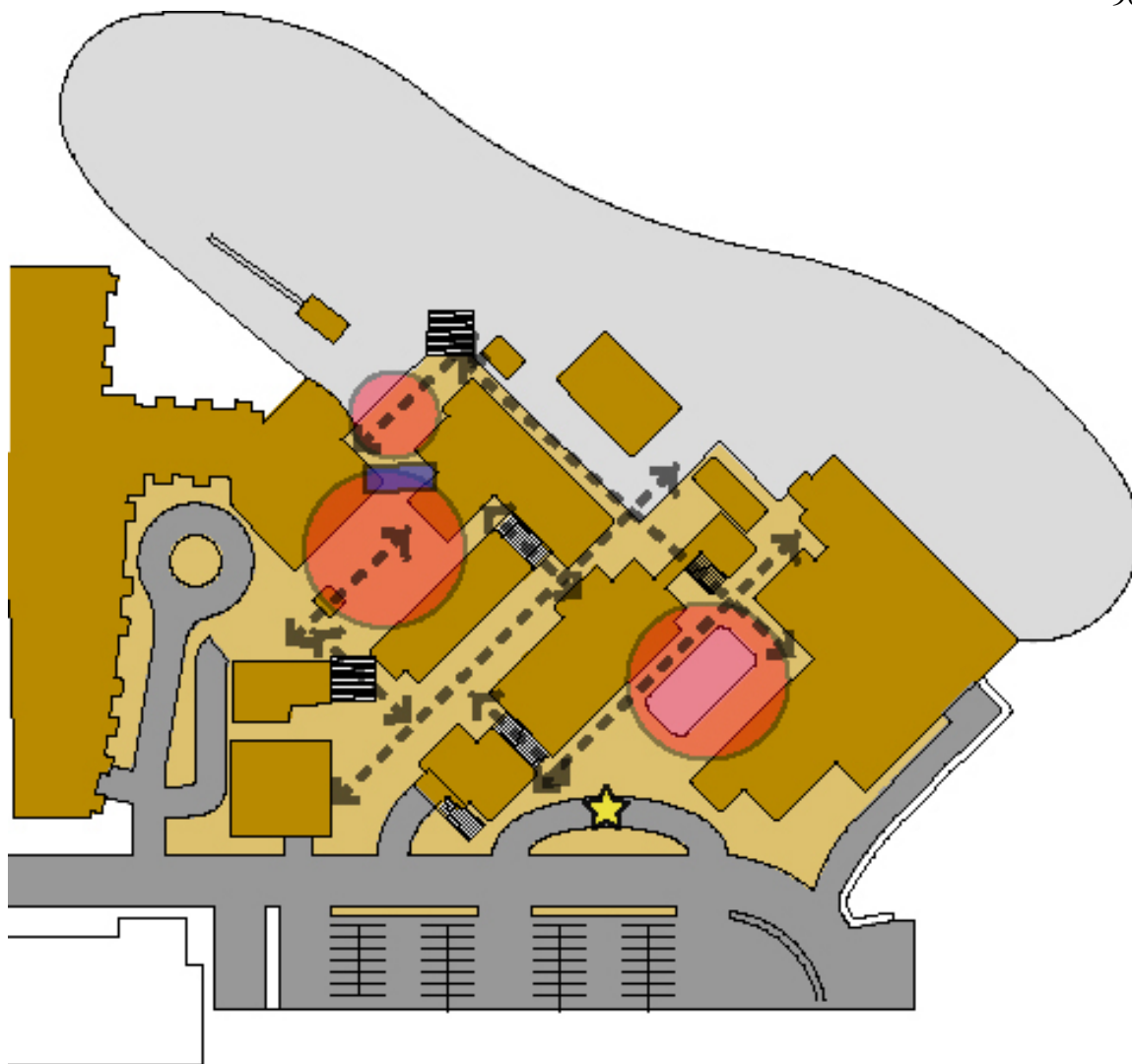


Figure 61. Park City Mountain Resort, Utah. Base village map. Adapted from Park City Mountain Resort Village map at [http://www.parkcitymountain.com/winter/conditions/resort\\_maps/02\\_Resort\\_Base\\_Map/index.html](http://www.parkcitymountain.com/winter/conditions/resort_maps/02_Resort_Base_Map/index.html) accessed September 2005.

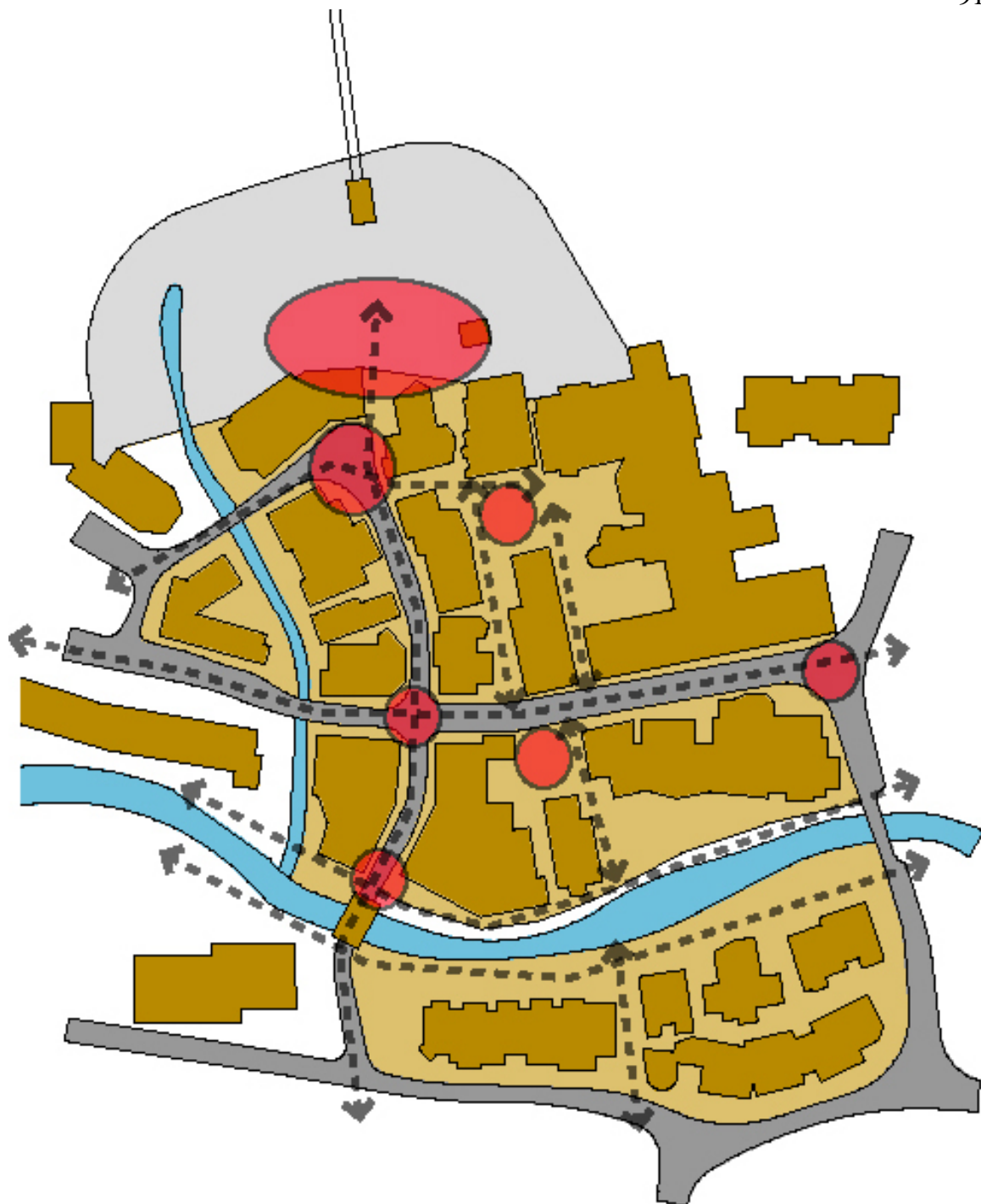


Figure 62. Vail, Colorado. Vail Village map. Adapted from Vail Village map photographed on location April 2005.



Circulation Node Concept Resorts

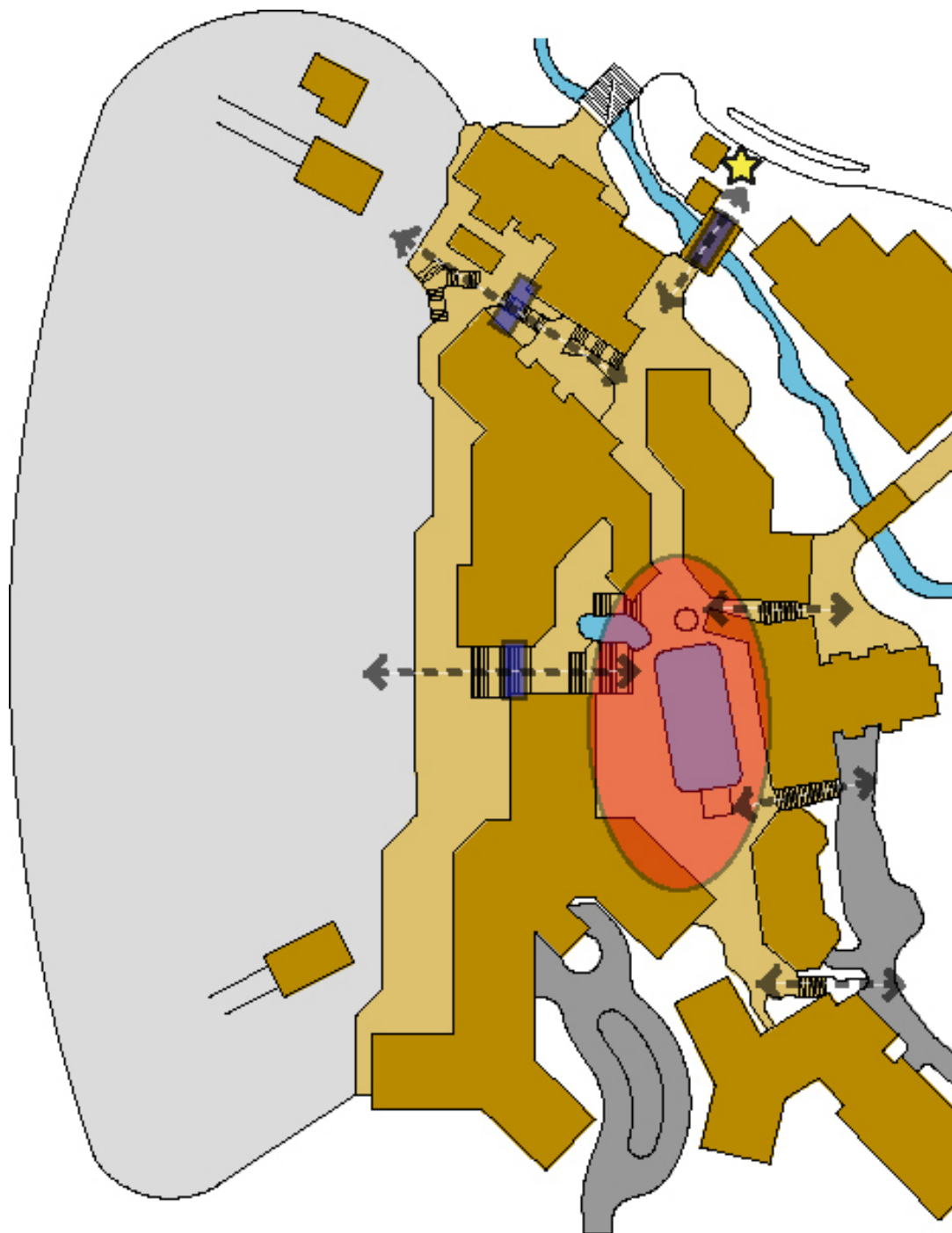


Figure 63. Beaver Creek Resort, Colorado. Beaver Creek Village map. Adapted from the Beaver Creek Village map at <http://beavercreek.snow.com/info/.asp> accessed October 2005.

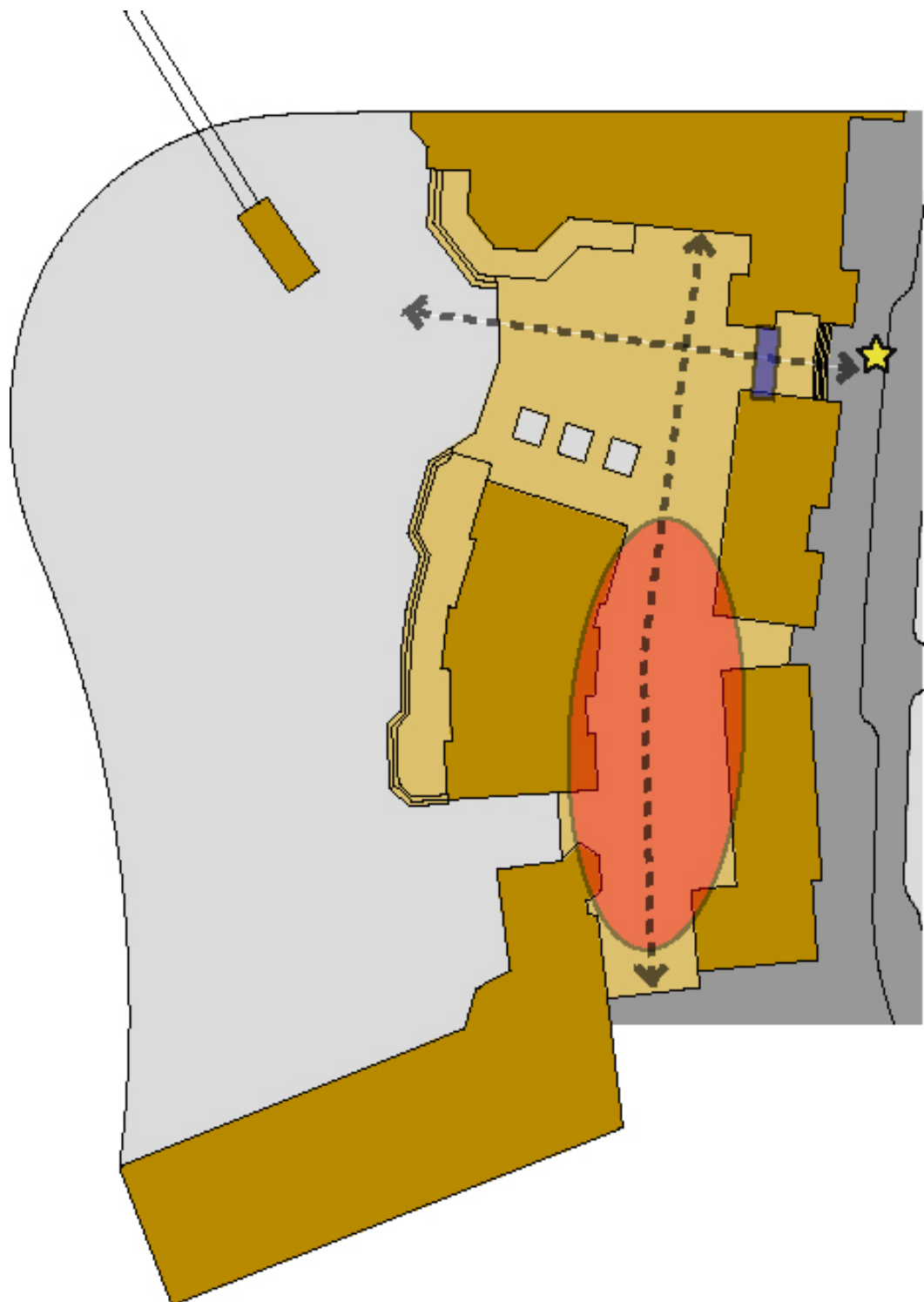


Figure 64. Aspen Highlands, Colorado. Highlands Village map. Adapted from Highlands Village map photographed on location August 2005.

Terminus Node Concept Resorts



Figure 65. Keystone Resort, Colorado. River Run Village map. Adapted from River Run Village map at <http://keystone.snow.com/info/villagelife.asp> accessed August 2005.



Figure 66. Mont Tremblant, Quebec. Base village map. Adapted from Mont Tremblant Village map at [http://www.tremblant.ca/accommodations/maps/pedestrian\\_village-e.htm](http://www.tremblant.ca/accommodations/maps/pedestrian_village-e.htm) accessed July 2005.

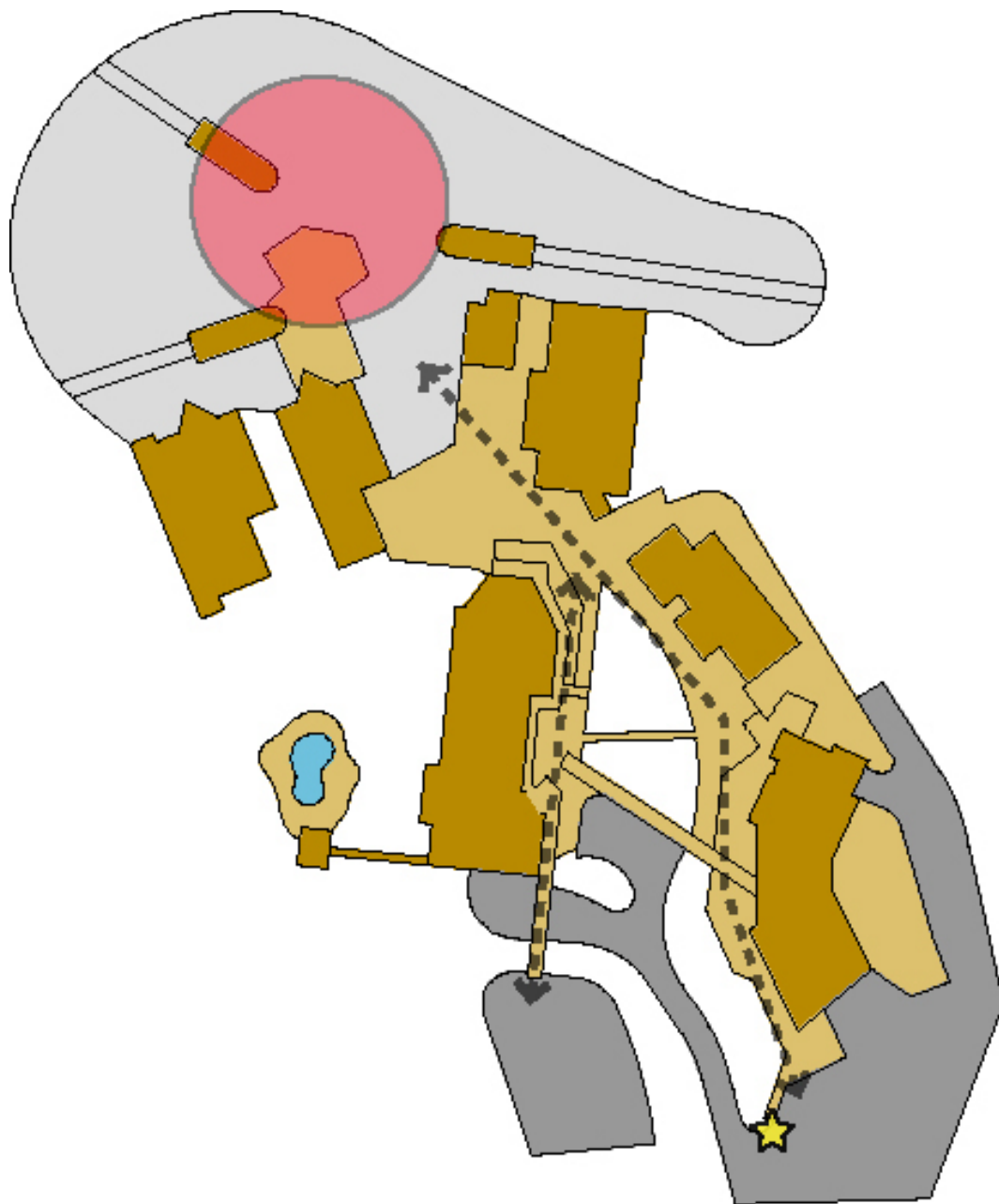


Figure 67. Schweitzer Mountain, Idaho. Base village map. Adapted from Schweitzer Mountain Village map at [http://www.schweitzer.com/content\\_main.php?id=119](http://www.schweitzer.com/content_main.php?id=119) accessed December 2004.



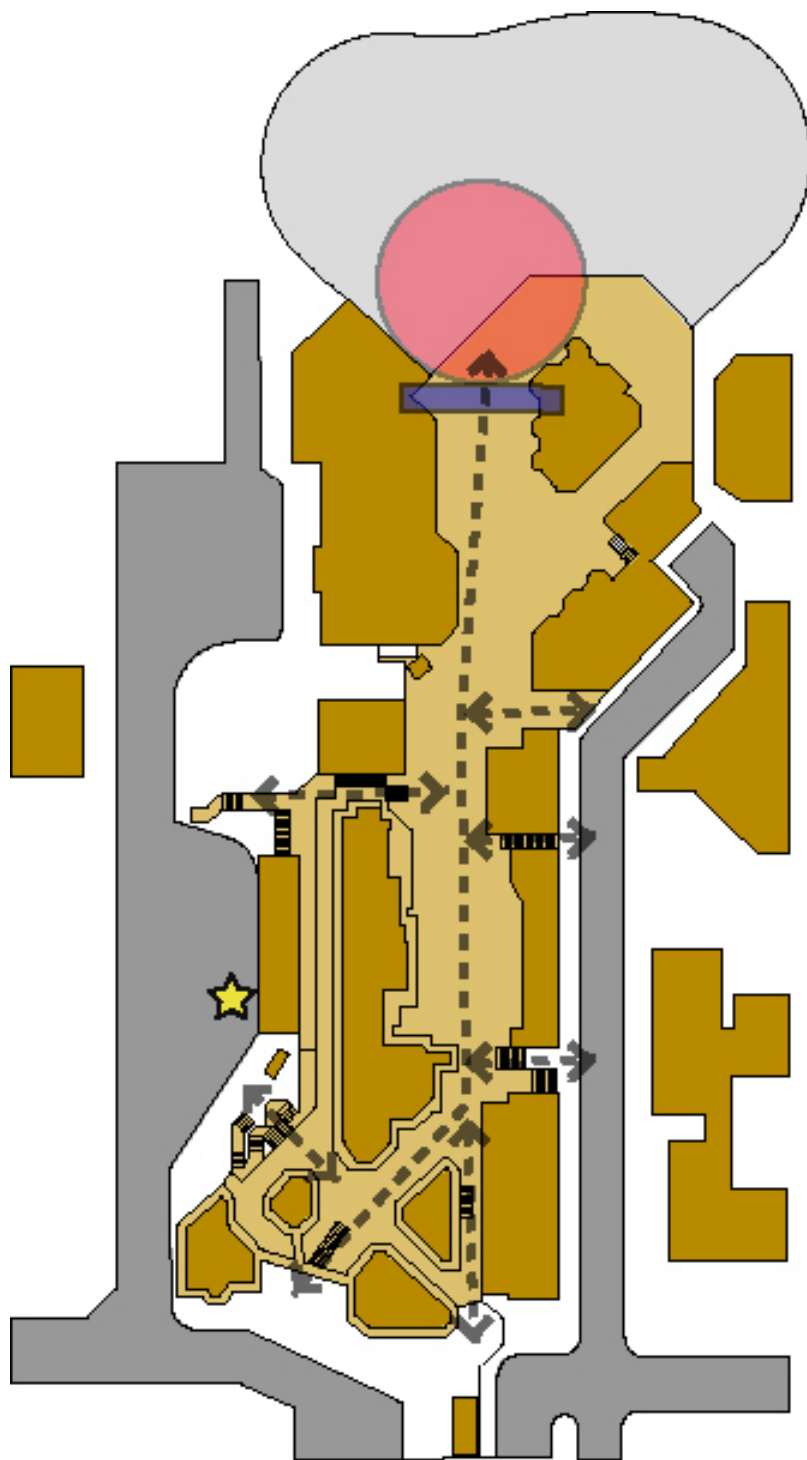


Figure 68. Snowmass, Colorado. Snowmass Mall map. Adapted from Snowmass Mall map at <http://www.snowmass.com/sitepages/pid339.php> accessed October 2005.

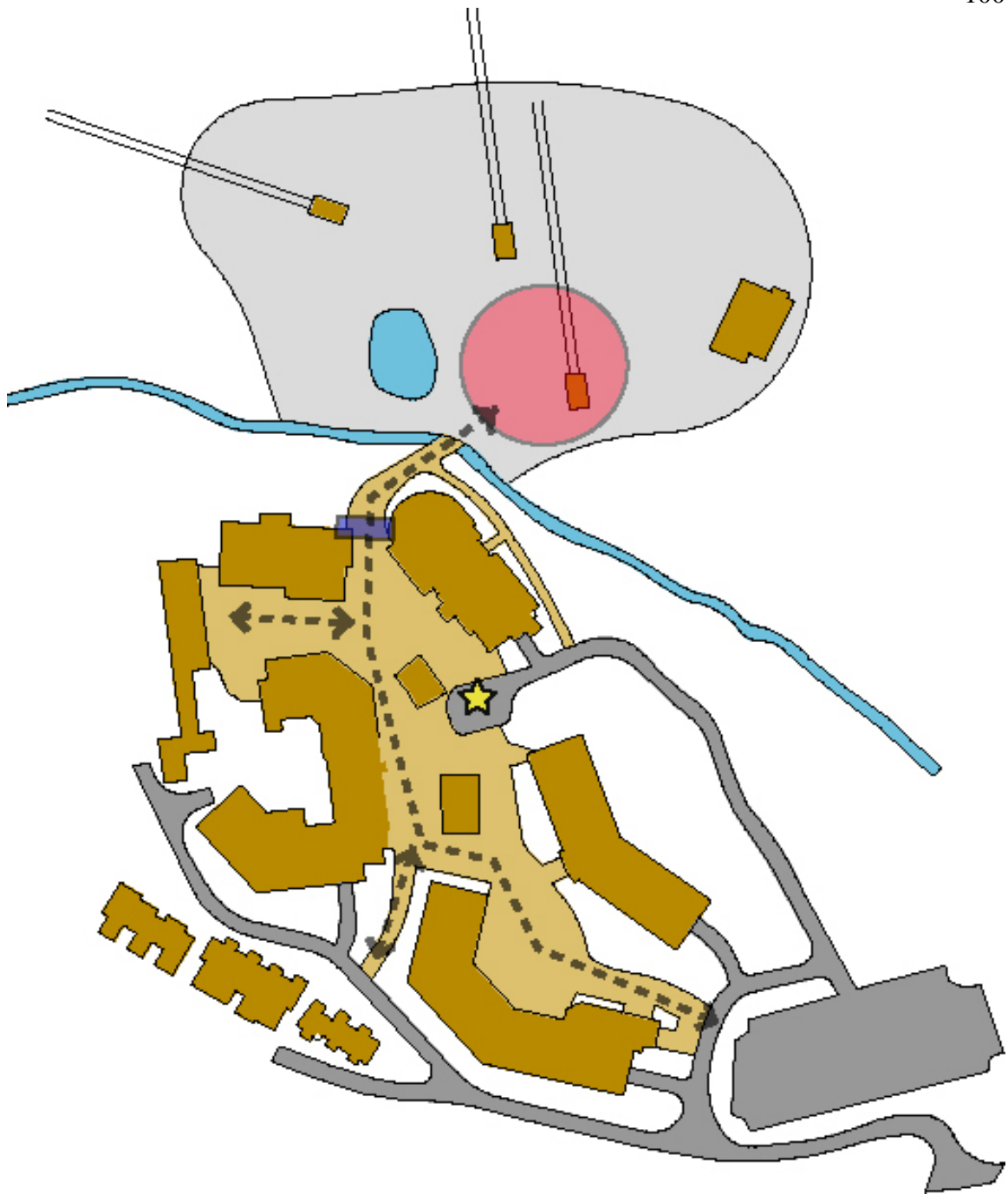


Figure 69. Solitude Resort, Utah. Solitude Village map. Adapted from Solitude Village map at [http://www.skisolitude.com/downloads/Village\\_Map.pdf](http://www.skisolitude.com/downloads/Village_Map.pdf) accessed November 2004.

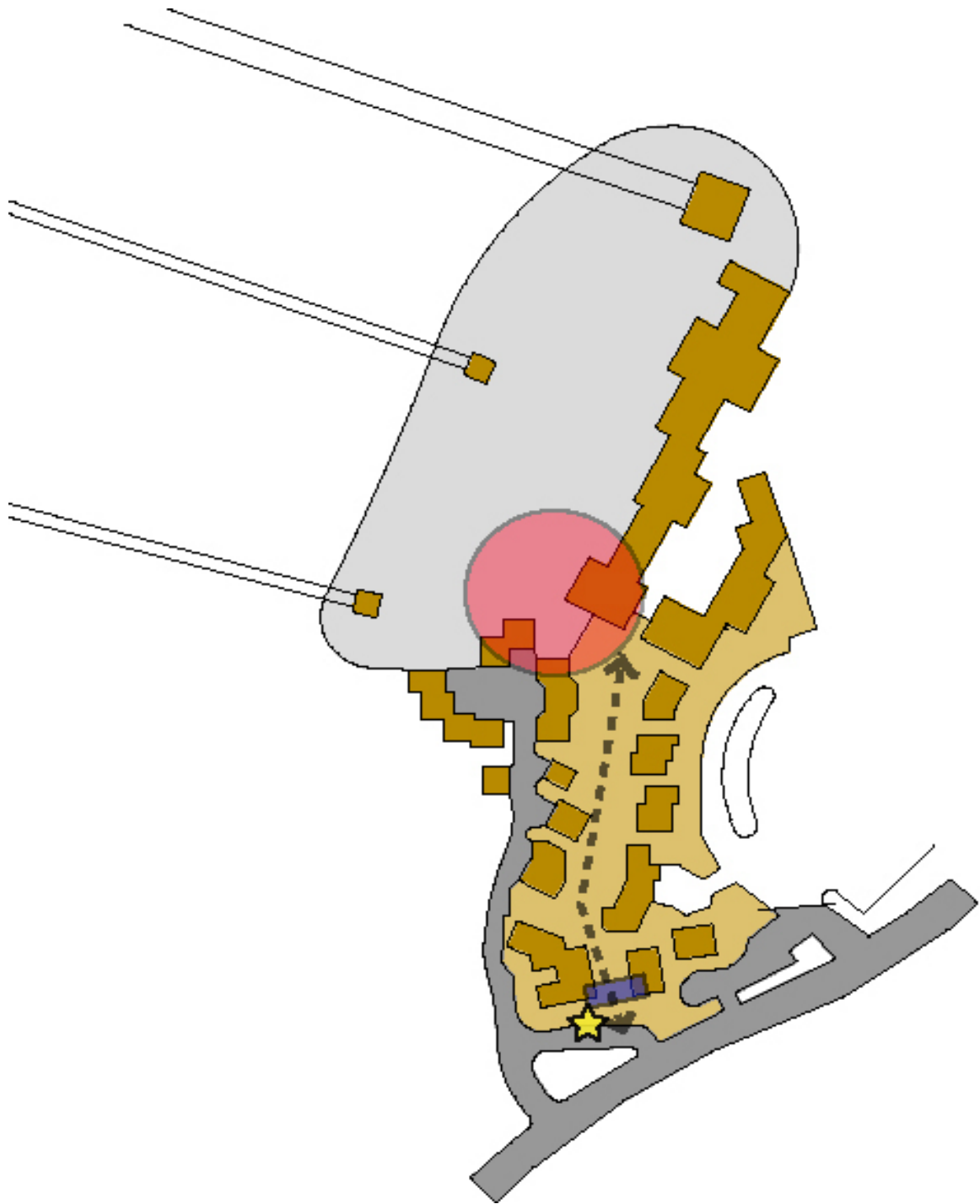


Figure 70. Stratton Mountain, Vermont. Stratton Village map. Adapted from Stratton Resort map at <http://www.stratton.com/mountain/trailmaps/resort-map.htm> accessed December 2005.

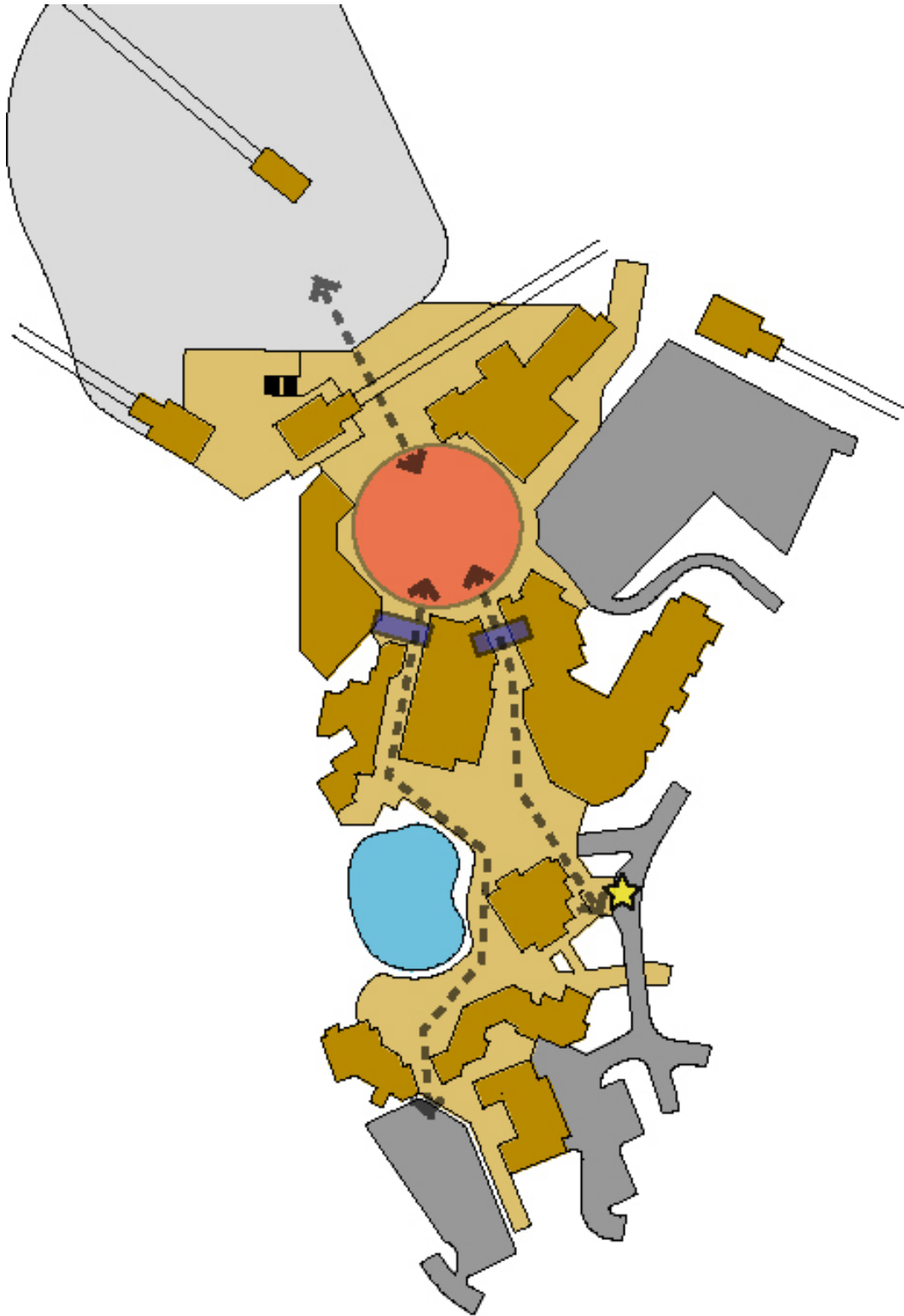


Figure 71. Telluride, Colorado. Base village map. Adapted from Telluride Mountain Village map photographed on location July 2005.

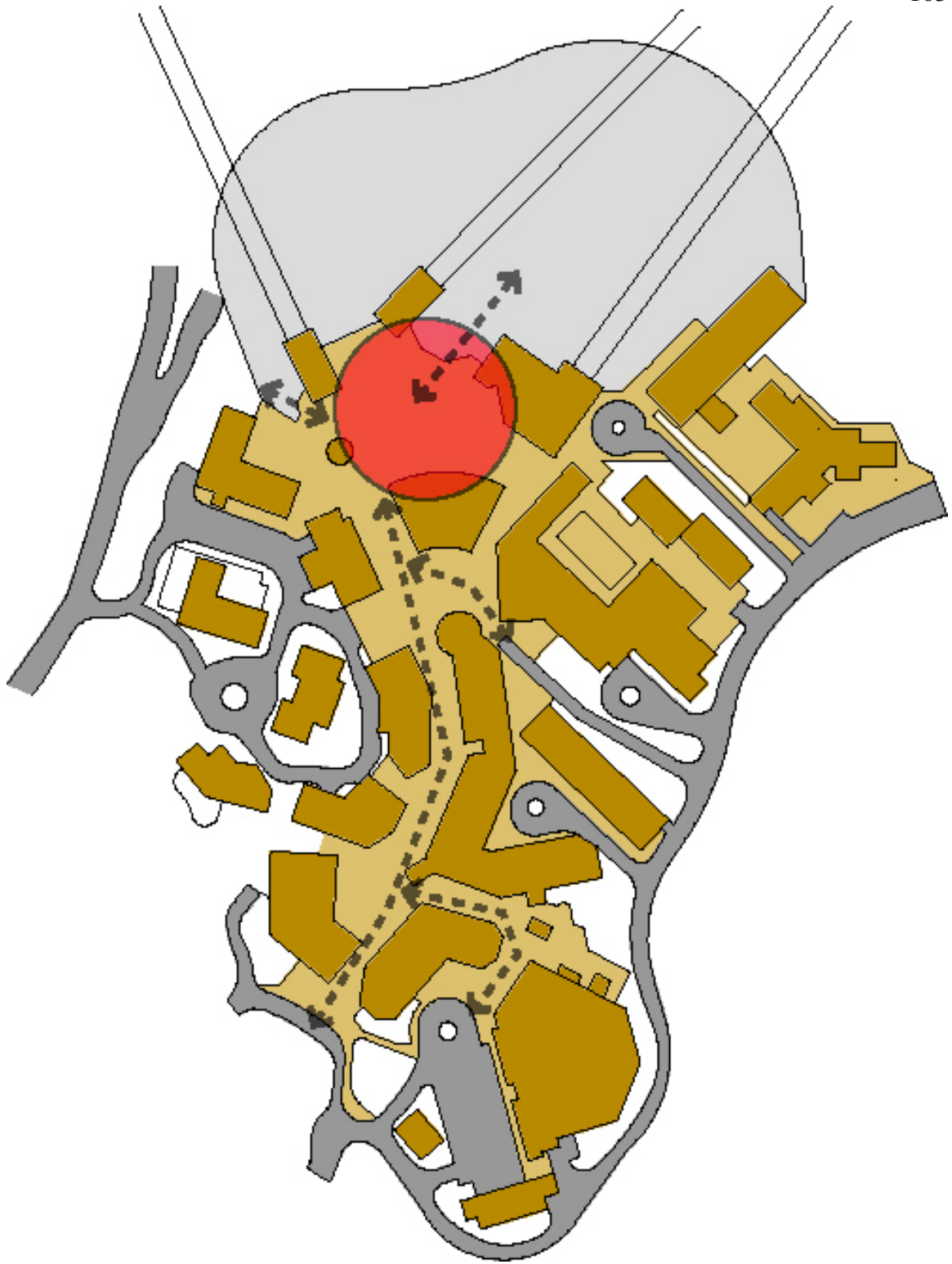


Figure 72. Whistler Blackcomb, British Columbia, Canada. Base village map. Adapted from Whistler Village at <http://www.whistlerblackcomb.com/map/whistlervillage/index.htm> accessed September 2005.

Central Node Concept Resorts

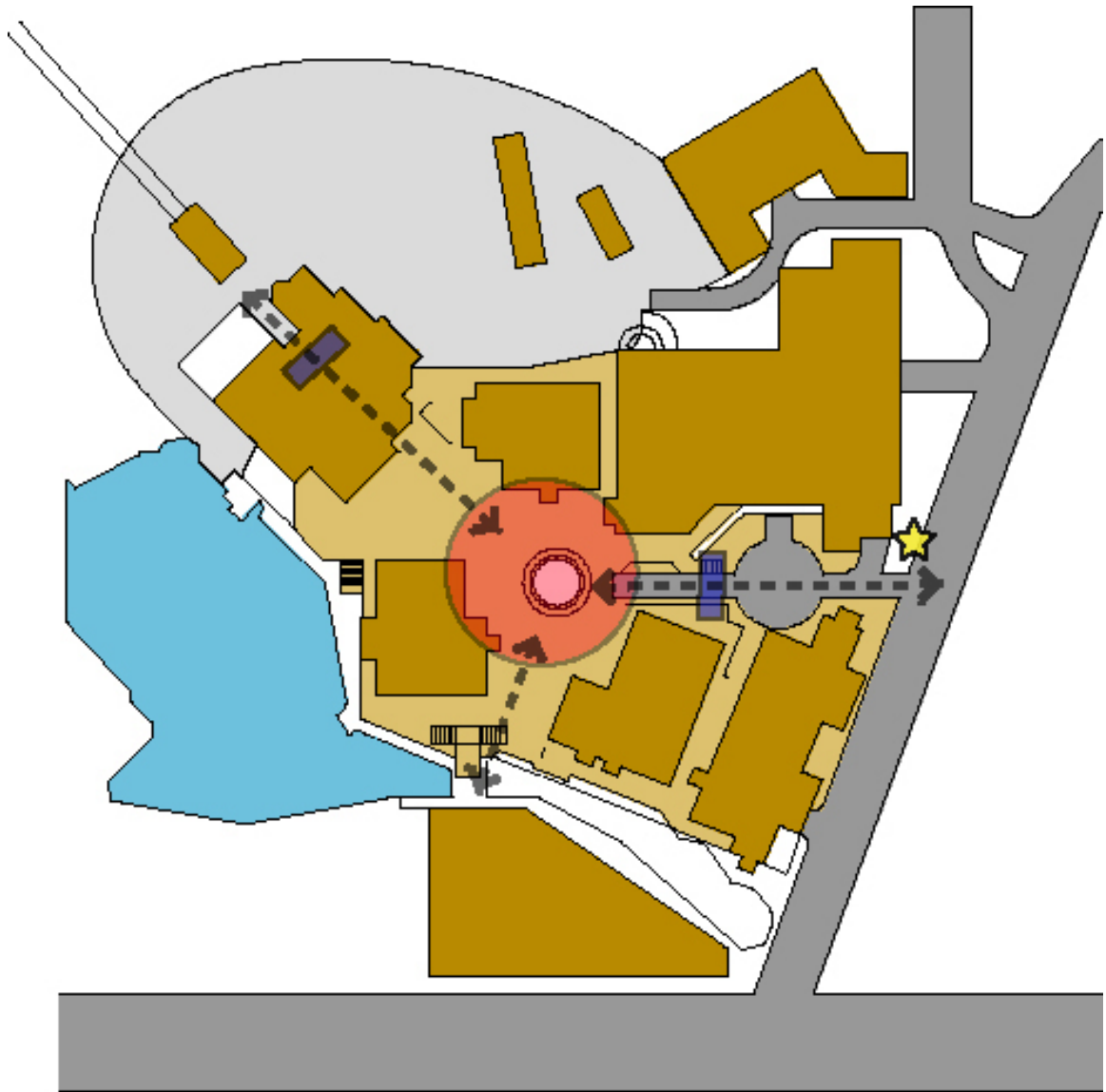


Figure 73. Breckenridge, Colorado. Breckenridge Village Map. Adapted from Breckenridge Village map at <http://breckenridge.snow.com/info/winter/mtn.maps.village.asp> accessed November 2005.

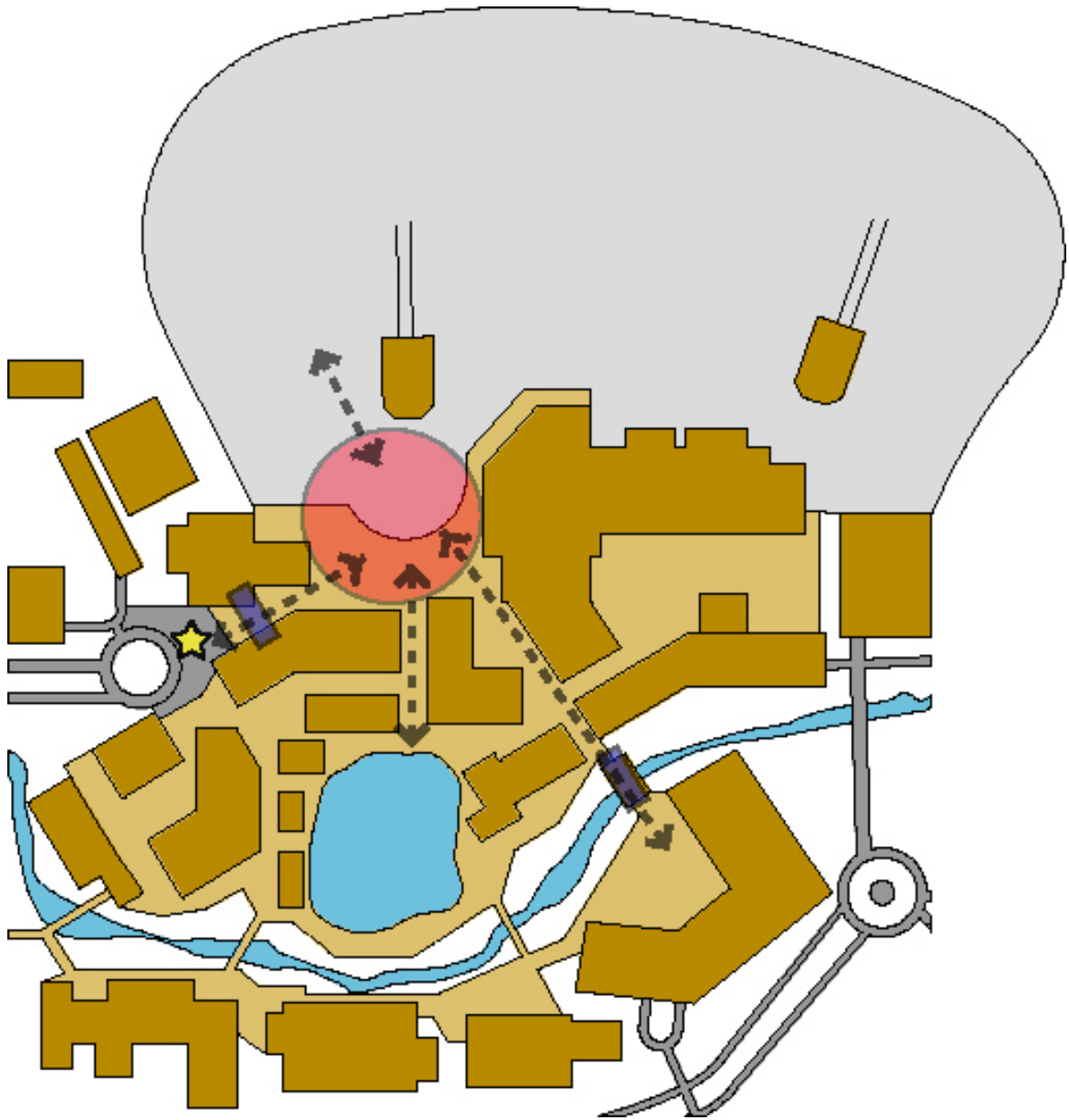


Figure 74. Copper Mountain, Colorado. Village at Copper. Adapted from village map photographed on location March 2005.



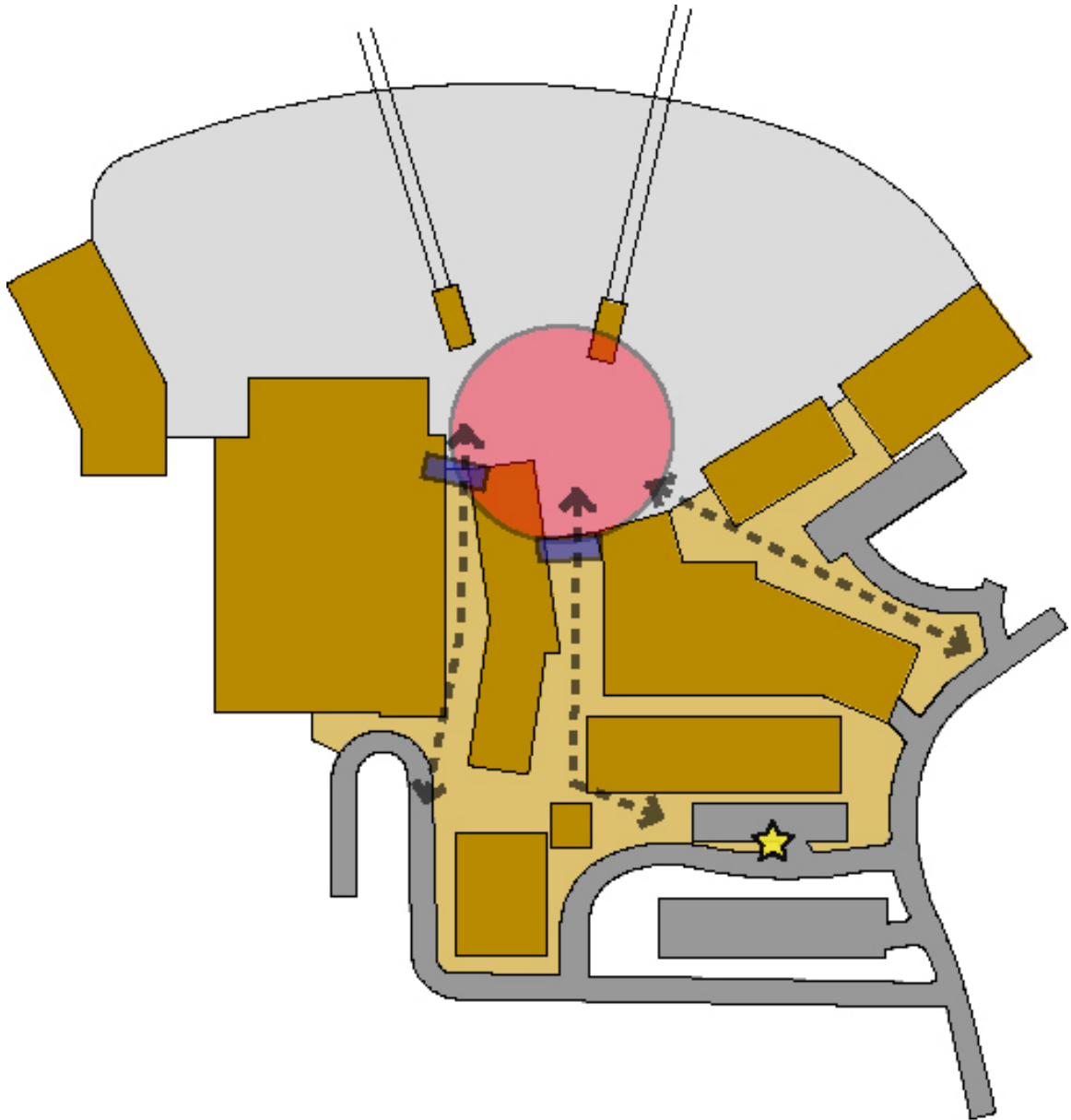


Figure 75. Crested Butte Mountain Resort, Colorado. Crested Butte Base Area map. Adapted from the Crested Butte Base map at <http://www.skicb.com/page.php?pname=mountain/basemap> accessed October 2005.

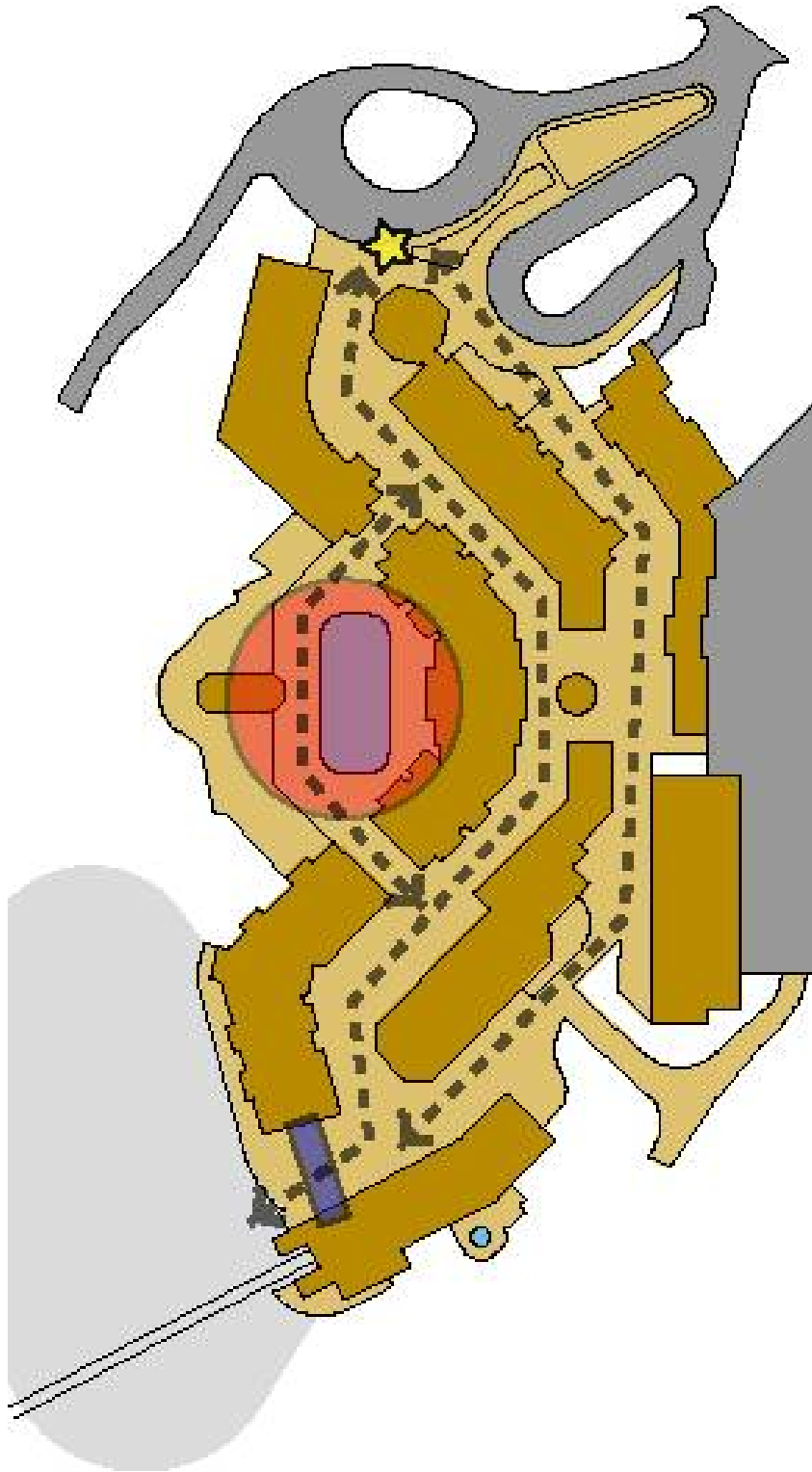


Figure 76. Northstar-At-Tahoe Resort, California. Northstar Village map. Adapted from the Northstar Village map at <http://www.villageatnorthstar.com/Greatbear.aspx> accessed February 2005.

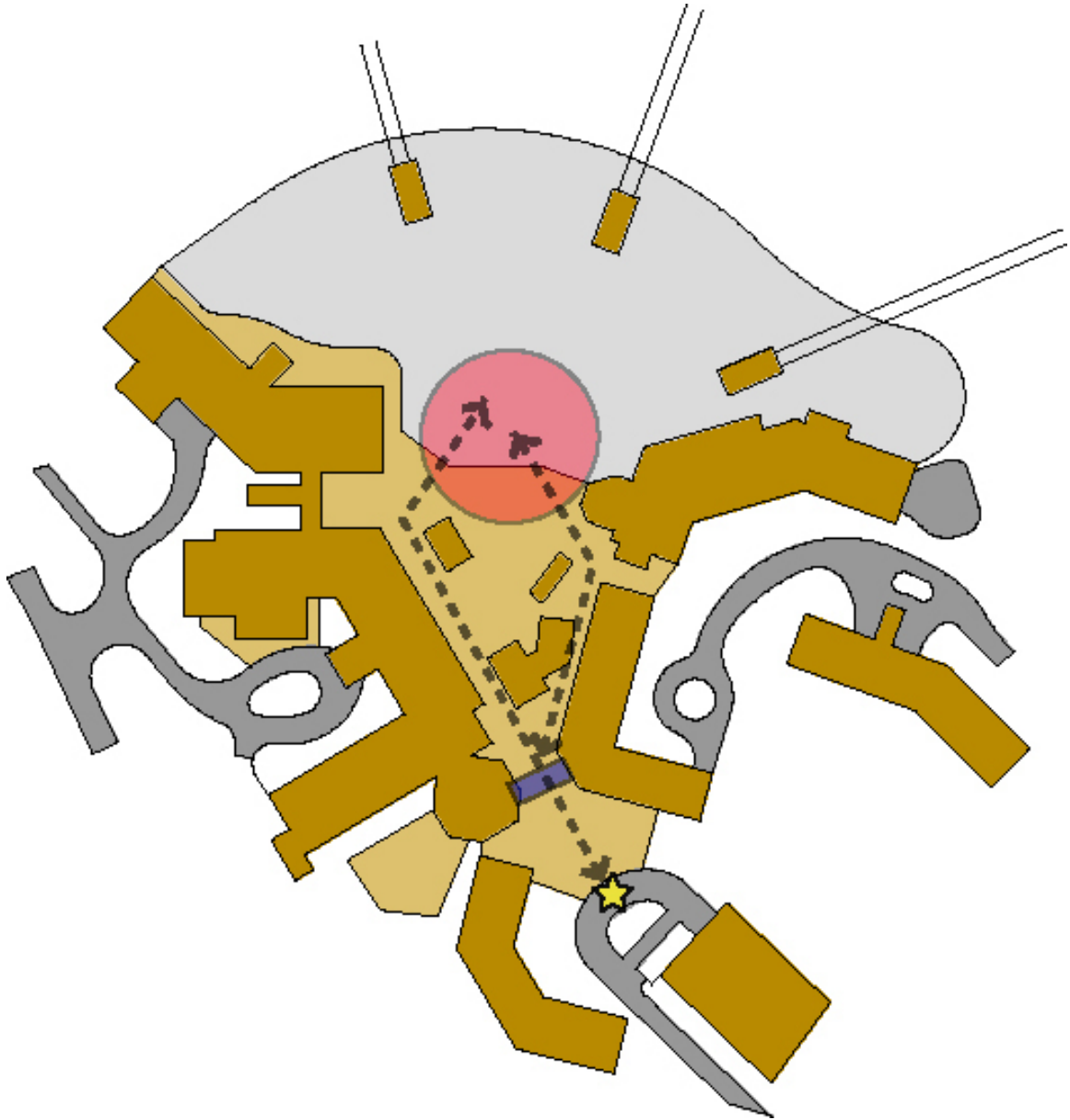


Figure 77. Stowe Mountain Resort, Vermont. Spruce Peak Village Master Plan. Adapted from Stowe Spruce Peak Master Plan map at [http://www.sprucepeak-master\\_plan.com](http://www.sprucepeak-master_plan.com) accessed November 2005.

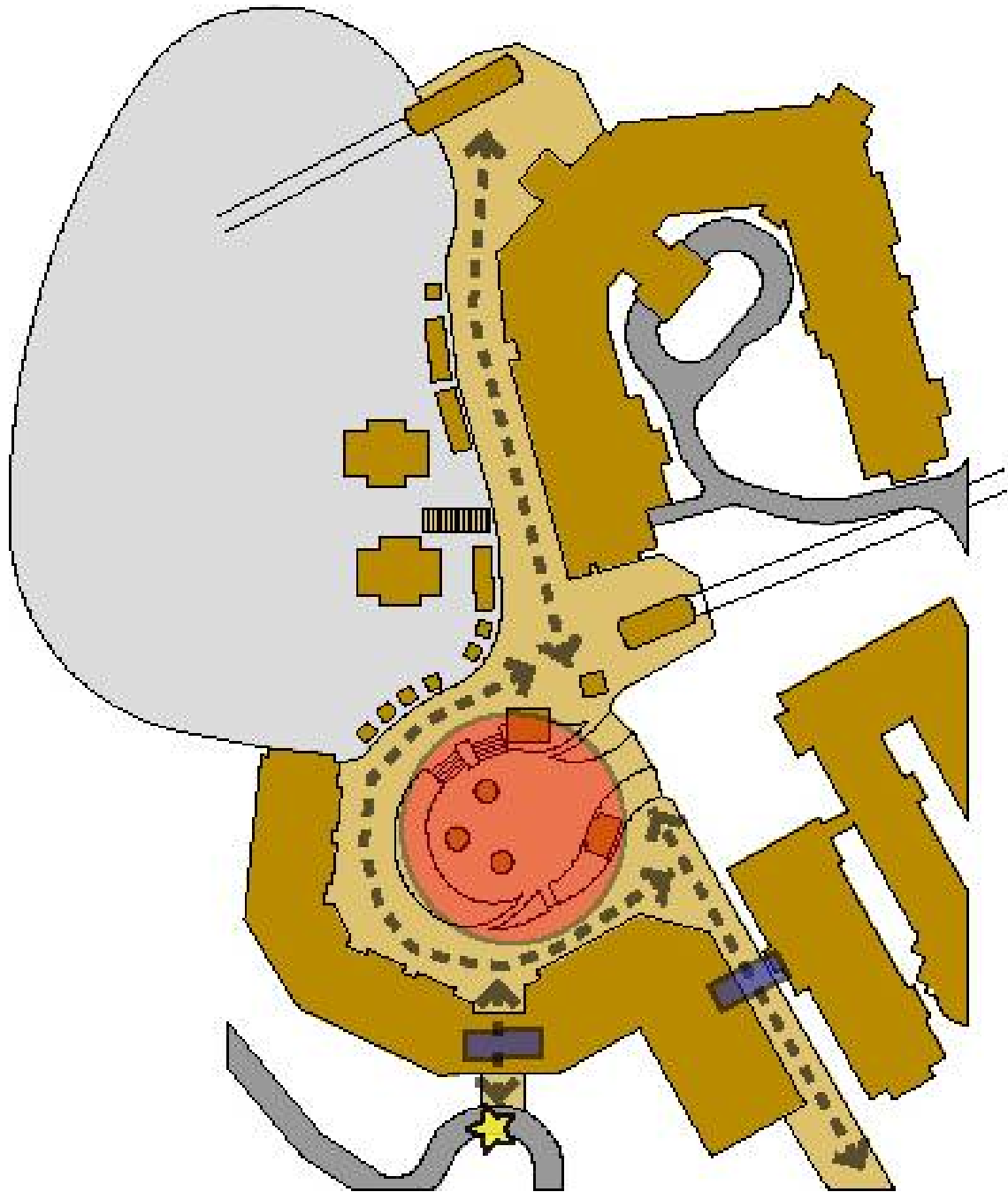


Figure 78. The Canyons Resort. The Canyons Village map. Adapted from The Canyons map at <http://www.thecanyons.com/ntr/villagemaps.aspx> accessed December 2004.

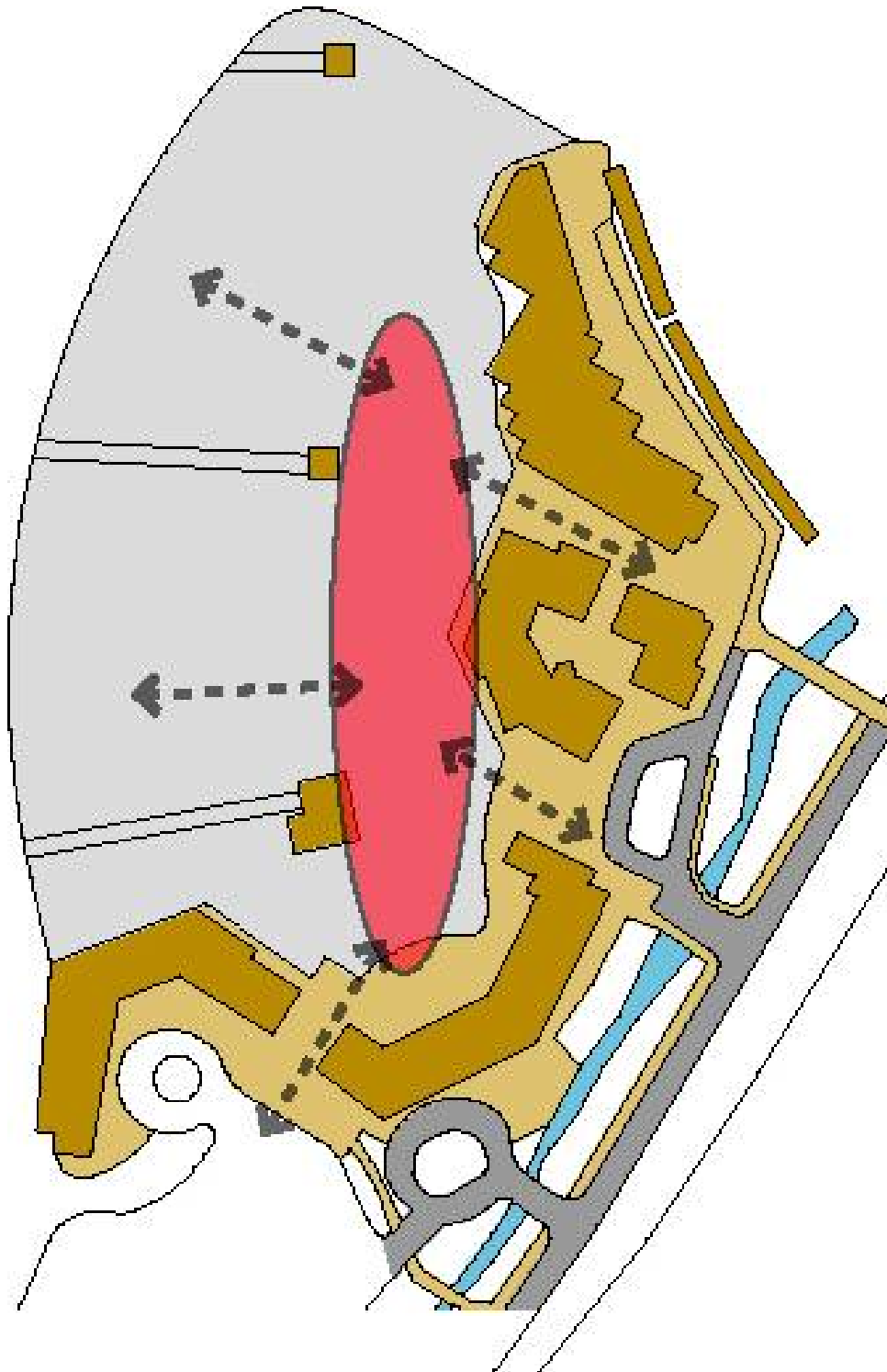


Figure 79. Winter Park Resort, Colorado. Winter Park Base Area Map. Adapted from Winter Park Plan map at <http://www.skiwinterpark.com/village/maps/village-at-winter-park.htm> accessed October 2005.