TOWN OF BRECKENRIDGE

TRANSPORTATION, PARKING AND URBAN DESIGN STUDY

FINAL REPORT

10.05.16

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EXISTING CONDITIONS REPORT

1 BACKGROUND

TRANSPORTATION AND PARKING IN BRECKENRIDGE

Breckenridge is a resort community in the Rocky Mountains, in Colorado 80 miles west of Denver. A year-round destination, it features one of North America's busiest ski areas – Breckenridge Ski Resort, owned by Vail Resorts – as well as popular winter and summertime activities and events including Ullr Fest and the Fourth of July. Unlike newer, purpose-built "ski villages," Breckenridge is a Victorian mining town that has largely preserved its historic character, enhancing its appeal for both tourists and residents. It attracts both "daytrippers" from the four-million population Front Range as well as longer-term visitors, and on winter weekends its population of approximately 5,000 can increase to more than 30,000.

Breckenridge is accessible via Colorado State Highway 9, which connects with Denver-bound Interstate 70 to the north and continues south towards Colorado Springs. Highway 9 was formerly routed along Main Street through the historic core of Breckenridge. However, a few years ago it was diverted to a bypass, Park Avenue. Park and Main intersect at a roundabout near the north end of Town and again at the south end of town; in between, Park roughly parallels Main one block to the west. Park serves as the primary vehicular route through town, while Main provides access to the pedestrianized downtown shopping district.

The ski area is just to the west of town and is accessible from the town core via the BreckConnect Gondola off of Park and the Quicksilver Lift at the Village at Breckenridge, just south of downtown. This access makes in-town parking lots and on-street parking attractive to skiers and ski area employees. There are large, Vail Resorts-owned parking lots at the Gondola base as well as Town-owned lots around the periphery of downtown, including the F Lot near the Village. There are also remote, satellite lots on Airport Road to the north and at the Stephen C. West Ice Arena (the "Ice Rink") to the south.

In addition to facilities for motorists, the town is served by local Free Ride and county Summit Stage buses, the Riverwalk pedestrian path along the Blue River, and the multiuse Upper Blue Recpath, which follows the river north from Breckenridge to Frisco. Many Breckenridge employees commute from other Summit County towns including Frisco, Silverthorne and Dillon, as well as Park County to the south.

This combination of thousands of visitors and commuters descending on the Town on busy days, mostly by automobile, results in severe traffic congestion on roads leading in and out of town during peak hours. Within town, this is exacerbated by motorists "circling" for parking and by residents and visitors using cars for short trips, due to a real or perceived lack of convenient alternatives. Additionally, the problem has grown worse over time as numbers of visitors have increased. The annual number of "gridlock days" as defined by the Town – days on which police

officers must be deployed to manually manage traffic – has increased from around 15 several years ago to about 25 today.

In November 2015, Breckenridge voters approved, by an 80-20 margin, a 4.5 percent admissions tax on the ski resort. The so-called "lift ticket tax" is projected to raise $3.5 million annually in revenues for transportation projects and programs starting in 2017. Town officials previously identified potential uses including increased transit service and construction of a parking garage on the existing F-Lot (see Figure 8, in the Transportation Recommendations Chapter 2). However, it is the purpose of this study to make recommendations on Breckenridge could increase close-in convenient parking and reduce traffic congestion, as well as determine the most impactful changes to transit.

TRAVEL MARKETS

Though Breckenridge has only 4,604 residents,[1] its daytime population during ski season can be 30,000 or more. This is due primarily to visitors, but also to employees who live in other, more affordable communities.

A 2014 survey conducted by the Town found that while solo driving is rare in Breckenridge (single-occupancy vehicle or SOV mode share of all trips was found to be just 17 percent in winter, and 10 percent in summer), most travel is done by car: 85 percent of winter survey respondents selected automobiles as their mode of travel, and 95 percent in summer. To develop a complete and accurate understanding of the transportation issues in Breckenridge, its distinct travel markets must first be understood. The four travel markets described in this analysis are residents, employees, "day" visitors, and "stay" visitors or longer-term guests. Following are descriptions of these user groups and their needs.

Residents

By definition, town residents take short trips within town. While the town is relatively compact, infrequent, unreliable or unavailable transit service, limited pedestrian facilities, free parking and snow and ice all combine to encourage the use of autos for short trips. However, even these short trips can be challenging during busy tourist seasons, as traffic congestion and limited parking make it difficult to complete errands such as going to the grocery store or post office and discourage discretionary trips, such as to dine out. Per United States Census Bureau Survey data from 2014, 43 percent of Breckenridge households own two cars, and 21 percent own three or more.

Employees

In addition to Breckenridge's approximately 4,600 residents, the Town estimates that there are about 4,900 employees during peak season. Many people work two jobs, so the actual number of employed individuals is somewhat smaller. Many local workers are also residents, including Vail Resorts employees housed in the Breckenridge Terrace complex on Airport Road. Nonetheless, a significant number of workers do not live in Breckenridge, commuting from nearby communities with more affordable housing options. Many also work late-night shifts at restaurants and bars, limiting their non-auto commute options.

[1] U.S. Census. 2010-2014 American Community Survey 5-Year Estimates. 2014.

According to U.S. Census data from 2014, 87 percent of Breckenridge workers live outside the town, and according to a 2014 survey conducted by the town, 83 percent of local employees drive to work. The Town reserves a total of 233 spaces for employees in various Town-owned lots, at costs ranging from free (for remote lots) to $350 (for the Lower Exchange Lot). Vail Resorts also reserves 200 spaces for its employees in the Gondola South lot (although they are required to park in the Airport Road satellite lot on the busiest days), in addition to spaces nearer the ski area, outside town.

Visitors

According to Vail Resorts staff, on the busiest days, about 20,000 skiers visit the ski area. Staff have also indicated that the peak daytime population of Breckenridge is greater than 30,000, suggesting that on the busiest days, there may be as many as 25,000 visitors and non-resident employees in town.

According to Vail Resorts staff, roughly 70 percent of visitors access Breckenridge via Highway 9 from the north (i.e., from I-70 and the Denver metropolitan area rather than Colorado Springs or points south). Most of them arrive by auto (private or rental), although some arrive via private shuttle, and visitors staying elsewhere in Summit County may arrive by bus or bike. According to the most recent Town travel survey conducted in 2014, average vehicle occupancy among visitors is 2.6, meaning that while most arrive by car, they do at least carpool, reducing the number of vehicles on the road.

Day Visitors

So-called “daytrippers” or non-overnight visitors to Breckenridge create additional strain on Highway 9 by arriving and departing on the same day, contributing to both morning and evening congestion. While data were unavailable on how many arrive by private auto, there is a lack of non-auto options available from points beyond Summit County: limited shuttle service is available from Downtown Denver, with most shuttles originating at Denver International Airport (DIA). As previously noted, most visitors carpool; in addition to family and friends sharing rides, there are limited ridematching services available for Front Range residents, and there are large park-and-ride lots along I-70 at the base of the foothills in Golden.

While day visitors may have a major impact on traffic into and out of town, few make trips within town -- at least beyond whatever amount of driving is necessary to locate a parking spot. A Town survey conducted in 2014 found that 68 percent of day visitors leave town at the end of the day rather than remaining into the evening to eat, drink or shop.

Stay Visitors

Overnight or multi-day visitors have a more limited impact on “ingress” and “egress” traffic into and out of town, partly because they arrive and depart on different days, but also because a substantial number arrive by modes other than private vehicle. 2014 Town survey responses collected in December found 15 percent of overnight visitors arriving by shuttle (in March this figure declined to 5 percent). Thirty-four percent of overnight visitors had rented cars.

Unlike day visitors, overnight visitors are likely to make several trips within town during their stay. There are trips from lodging to and from the ski area, of course, but the Town survey also found that 27 percent of overnight visitors planned to go out for dinner, while 24 percent planned to go out for drinks.

Summary

Long-distance auto trips to and from Breckenridge may be difficult to convert to non-auto trips; Front Range residents are likely to drive their own cars, while visitors from out of state are likely to drive or to fly to Denver, then rent a car, as shuttles are relatively expensive. However, employees commuting from outside Breckenridge might be incentivized to carpool, take transit or ride bikes, while converting short auto trips within Breckenridge by residents and overnight visitors to transit, walking or biking trips could substantially reduce both traffic congestion and demand for parking.

PREVIOUS PLANNING EFFORTS

The Town has been studying transportation issues more or less continuously for decades; previous studies resulted in construction of the Park bypass and the Gondola, among other improvements. The recurring themes of these studies have been efforts to reduce traffic congestion, ensure parking availability, and encourage travel by transit and other non-auto modes. Major efforts are described below.

F Lot Program Plan, 1997

The F Lot Program Plan proposed three concepts for redeveloping the parking lot along Park near the Village at Breck. Each scenario included a transit center, community theater, event space, 10,000 square feet of civic offices, and a parking structure. The major differences between the three concepts were the location of the transit center and parking structure, and the associated circulation for transit vehicles and private vehicles (separate and combined). Scenarios ranged from 490 to 1,300 parking spaces. The study concluded that between 0 and 750 spaces would require some transportation system mitigation, between 750 and 1,000 spaces would result in major deficiencies in the transportation system, and more than 1,000 spaces would result in consistent system breakdown, with mitigation unfeasible. Similar to the 2014 study described below, the study found that additional parking supply on this site would result in impacts on surrounding transportation systems.

Transportation, Circulation, & Main Street Reconstruction Plan, 2001

The 2001 Transportation, Circulation, and Main Street Reconstruction Plan developed a number of major transportation recommendations that have since been implemented, including:

- State Highway 9 redesignation from Main to Park
- Redesign of North Park and Main to allow a steady stream of ingress and egress traffic
- Redesign of South Park and Main to accommodate large volumes of pedestrian movement
- Construction of a “mountain people mover” (the Gondola)
- Addition of a traffic signal at Main and French streets
- Construction of a transit center near the Gondola lots
- Redesign of Main to enhance pedestrian circulation

The Plan also included several recommendations that have not been implemented, including:

- A "horizontal people mover": high-frequency bus service on Main in the short term, and in the long term, a gondola between the intermodal center and the Village as a supplement to bus service on Main
- Extension of the Riverwalk north to French and south under Park
- Restructing of the local transit system to integrate the separate Town and Ski Resort systems (since partly implemented, as described below)

Integrated Transportation Plan, 2004

The 2004 Integrated Transportation Plan reiterated the recommendations from the 2001 Transportation, Circulation, and Main Street Reconstruction Plan, some of which were already being implemented at the time of writing. The stated goal of the Integrated Transportation Plan was to create a destination resort that was non-auto dependent. The desired benefits were:

- Reduction of Vehicular Congestion on I-70, Highway 9, and in Breckenridge
- Reduction of noise and air pollution as well as energy consumption
- Reduction in demands for parking in Breckenridge
- Enhancement of quality of life for locals and visitors

Final Breckenridge Parking Study, 2004

This study, the most recent comprehensive study of parking needs in the town, made a number of recommendations:

- Re-parking should be prohibited
- Paid parking should be expanded to Main and other "close-in" spaces to eliminate employee use of these spaces and achieve a target availability rate of 40 percent
- Supply increases should be delayed until a comprehensive parking management program had been in place for some time
- The span of frequent transit service should be extended to both the early morning and late night in order to provide additional alternatives to driving
- Reserved employee parking should be provided in a limited number of lots
- Paid parking should be expanded to several Town lots that were then free
- Residential permits should be introduced (this has since occurred)

Day Skier Lot Redevelopment Traffic Impact Analysis, 2008

The Day Skier Lot Redevelopment Traffic Impact Analysis was conducted in order to evaluate the traffic impacts of the Gondola Lots Redevelopment Vision Plan, adopted the following year and described below. Gondola Lots redevelopment would include 12,000 square feet of commercial uses, 27 units of housing, and a 150-unit resort hotel complex. The study found that the project would generate approximately 1,900 vehicle trips per day with 185 new vehicle trips on the road network during the PM peak hour. North of Ski Hill Road, traffic volumes on Park would increase by as much as 960 vehicles per day, and volumes on French Street by more than 760 vehicles per day. Overall the anticipated short- and long-term roadway networks were found to be able to accommodate the increased traffic. Several recommendations were made:

- A traffic signal would be warranted at French and Park, between the Gold Rush and Gondola Lot parking lots, due to pedestrian volumes during the ski season.
- Turn lanes were recommended to be installed at Ski Hill Road, at the access point to the transit center, Watson Road, and at the Miners Lot parking area on resort property.
- Exclusive pedestrian walkways were recommended to be installed at various intersections in order to enhance pedestrian safety and efficiency.

Gondola Lots Redevelopment Vision Plan, 2009

The Gondola Lots Redevelopment Vision Plan was a collaborative effort between Vail Resorts Development Company (VRDC) and the Town of Breckenridge to create a vision for expansion of the downtown area west of North Main Street and surrounding the Gondola. The site is currently occupied by properties owned by the both VRDC and the Town. These properties are currently occupied by surface parking lots providing 1,200 skier parking spaces (the Gondola North and South Lots), additional Town parking, the Gondola base, the Breckenridge Station transit center, and the Blue River.

The redevelopment plan focuses primarily on elements of the proposed redevelopment, including a "grand hotel," townhomes, and a mixed-use building. However, several aspects of the plan address the experience for pedestrians and transit users:

- A north parking structure is strategically located to allow vehicles entering town from the north to park on-site, allowing occupants to become pedestrians prior to entry to the town core.
- The design of the site extends the existing street grid into the study area, including an extension of Wellington Street and a new Depot Street.
- The plan includes a Transit and Skier Services Building, designed to accommodate both waiting transit passengers as well as amenities including lockers. This would replace the existing, smaller structure.
- The mixed-use building would include ground-floor commercial space helping to create additional street life.

Integrated Transportation Feasibility Study, 2012

The Integrated Transportation Feasibility Study built on a recommendation from the 2004 Integrated Transportation Plan, to integrate the Town of Breckenridge and Breckenridge Ski Resort transit services. The study evaluated operating and performance characteristics of the existing system as well as rolling stock and the organizational structures of both Town and Ski Resort services. The study evaluated varying levels of integration on the basis of total cost, system effectiveness, service quality, net community value, and managerial control. The study found that integration is warranted both based on financial criteria and the values held by the Town of Breckenridge and Breckenridge Ski Resort. Some recommendations have since been implemented: notably, Town and Ski Resort services are integrated in marketing materials including maps. However, they remain largely separate operations.

F Lot Parking Structure Feasibility Study, 2014

The F Lot Parking Structure Feasibility study evaluated three options for constructing a parking structure on the 7.25 acre F Lot site. The site is owned by the Town and had been assessed for

various redevelopment opportunities over the year, including the 1997 Program Plan previously described.

The F Lot and adjoining Tiger Dredge Lot can currently accommodate 395 vehicles. Scenarios ranging from 500 to 2,000 additional parking spaces were evaluated for transportation impacts, and the study concluded that between 300 and 500 additional parking spaces could be added to the site (700 to 900 spaces total) without requiring expansion of adjacent Park. However, several potential impacts were identified, including extremely long queues exiting the F Lot access point and need for reconfiguration of the Village Road and 4 O'Clock Road intersections with Park. The following changes were recommended:

- A roundabout at Village Road
- A roundabout at 4 O'Clock Road
- A median on Park to limit F Lot access (would require relocation of Village Station)
- A pedestrian bridge over Park near Village Road
- If more than 500 spaces were added, both widening of Park and two-lane roundabouts were recommended

Parking and Transportation Task Force, 2015

Over the course of 2015, a citizens' task force was formed to develop new solutions to parking and other transportation issues. While the task force extensively studied and initially recommended an expansion of paid parking, based on Town Council direction, it ultimately recommended a series of changes, since implemented, to employee parking policies. The group also recommended more frequent and later transit service, a new "circulator" service on Main using historic replica "trolley" vehicles, and increased service to the east side of the Wellington neighborhood (French Gulch Road).

STAKEHOLDER PRIORITIES

Resident Priorities

Extensive outreach was conducted as part of this study. However, a number of transportation and urban design-related concerns commonly expressed by residents were articulated by Town staff early in this process, and helped guide the process:

- Preserving Breckenridge's historic "mountain town" character
- Ensuring a customer-friendly experience for visitors, residents and employees
- Providing support for downtown businesses
- Reducing traffic and increasing parking availability
- Providing frequent, reliable and accessible transit service

Additionally, Town staff and task force members developed the following project goals or themes:

- "Communication with Town" (in terms of a transparent, responsive process for recommendations development)
- "Improve Guest Experience"
- "Get People Out of Cars
- "Improve Wayfinding"

- "Return on Investment"

Vail Resorts Priorities

The Town of Breckenridge and Vail Resorts, a Broomfield-based company that owns and operates several ski resorts, have historically worked together on parking, transit and traffic issues. Early in this process, Vail Resorts staff identified the following priorities for in-town transportation improvements:

- A pedestrian bridge over Park at the Village at Breck, connecting skiers to parking at the F Lot
- Paid parking along Main
- Increased use of the intercept parking lots with improved transit into town
- An additional 200 to 300 parking spaces in town
- A new roundabout at the intersection of Park and Watson to facilitate traffic in and out of the Gondola Lots

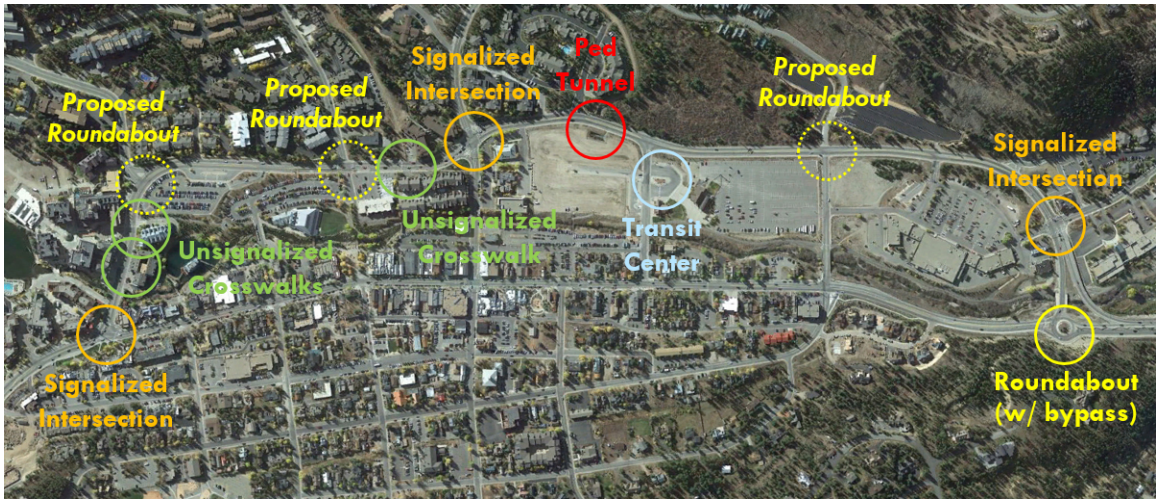
2 TRAFFIC

PARK AVENUE

This chapter focuses on the segment of Highway 9 in the town core, Park Avenue. While both Park and Main carry high volumes of traffic, Park is the designated bypass of downtown, providing primary access to the large parking lots at the base of the ski area. Both Town staff and residents have identified reducing traffic congestion on Park as a core goal of this project.

Park generally consists of one vehicle lane in each direction plus left-turn lanes at intersections and driveways, right-turn lanes at major intersections (Airport, Ski Hill and Village roads) and bike lanes. There are two through lanes (combined left and right turns) on the northbound approach to the North Main roundabout. Figure 1 shows controlled intersections and pedestrian crossings along Park. Intersection control consists of a combination of signalized locations and roundabouts.

Figure 1 - Park Avenue Controlled Intersections and Pedestrian Crossings



From north to south (or right to left):

- Park begins at a roundabout intersection with North Main, from which it runs west before turning south. The roundabout features two lanes for northbound movements onto Highway 9 from both Park and Main. However, it includes just one lane for southbound movements, onto Main. There is a “free” or “slip” right turn lane north of the roundabout for southbound movements onto Park.
- The intersection with Airport Road and the access lane to the City Market parking lot is signalized.

- The Town has proposed a roundabout at the currently uncontrolled intersection of Park and French, which provides access to both the Gold Rush and Gondola North Lots.
- The intersection with Watson, which provides access to the Gondola South Lot, is uncontrolled.
- There is a pedestrian tunnel at the base of the "Ski Back" ski run, leading to the Gondola South Lot.
- The intersection with Ski Hill Road, which provides access to Peaks 7 and 8, is signalized.
- There is an unsignalized crosswalk at the base of Four O'Clock Run.
- There are unsignalized crosswalks at Four O'Clock Road, where another roundabout is planned.
- The entrance to the Tiger Dredge and F Lot parking areas is uncontrolled.
- Another roundabout is planned at Village Road, which is currently uncontrolled (and where Park turns back to the east, toward Main).
- There are unsignalized crosswalks at the Village at Breck, leading to the River Recpath and F Lot, and approximately 200 feet to the east, midway between the Village crossing and Main.
- Park ends at a signalized intersection with South Main.

In addition to these interesections, there are a number of curb cuts providing access to private properties, primarily south of Watson.

TRAFFIC VOLUMES AND PATTERNS

On December 28, 2013, on Saturday of the week between Christmas and New Year's – one of the busiest days of the winter ski season -- the Town counted vehicles and pedestrians at seven intersections along Park. Volumes observed during the PM peak hour are shown in Figures 2 through 8.

Figure 2 - Park/Watson Peak Hour Traffic Counts

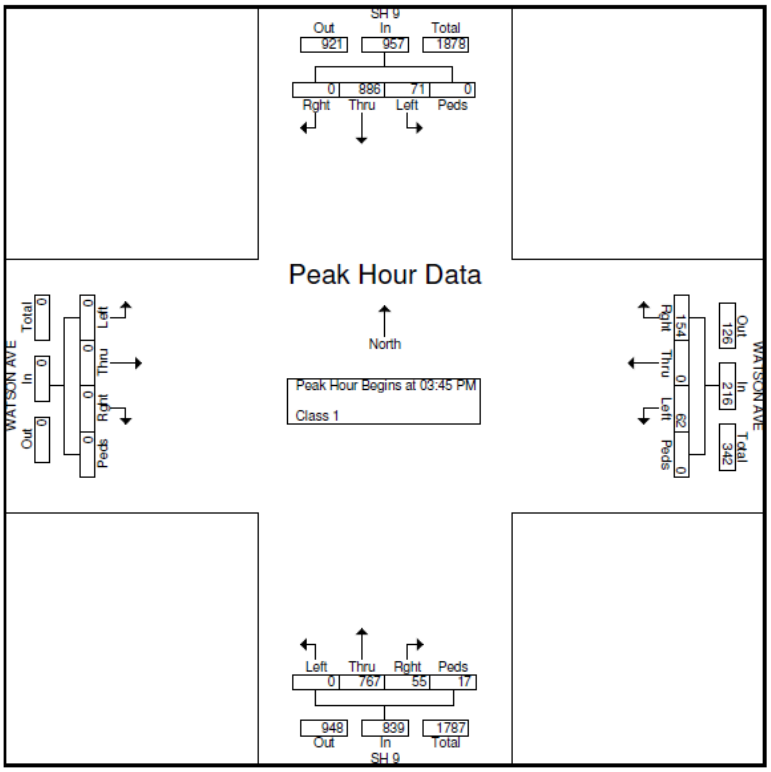


Figure 3 - Park/Ski Hill Rd Peak Hour Traffic Counts

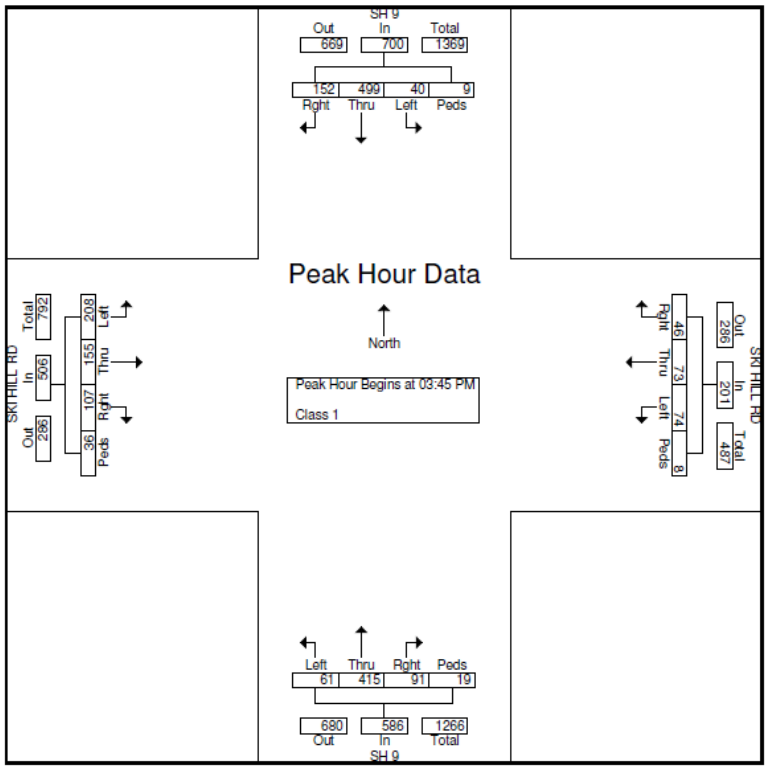


Figure 4 - Park/Four O'Clock Rd Peak Hour Traffic Counts

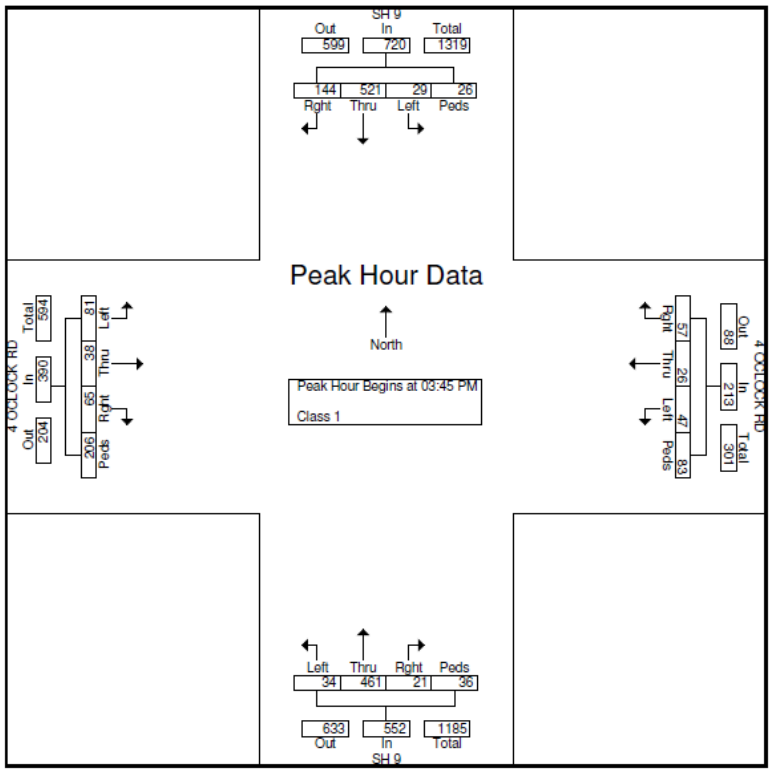


Figure 5 - Park/F Lot Entrance Peak Hour Traffic Counts

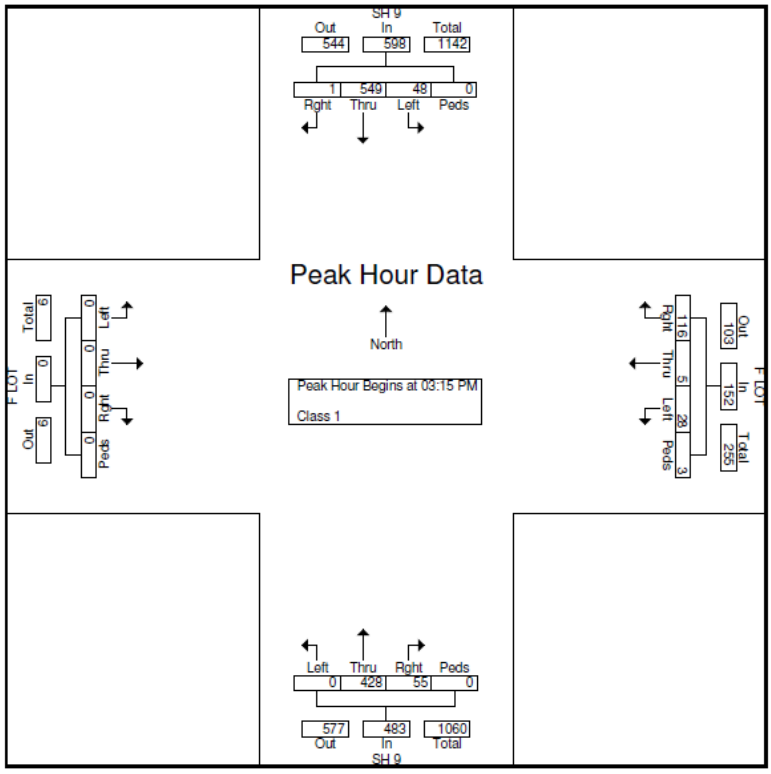


Figure 6 - Park/One Breckenridge Place Condominiums Hour Traffic Counts

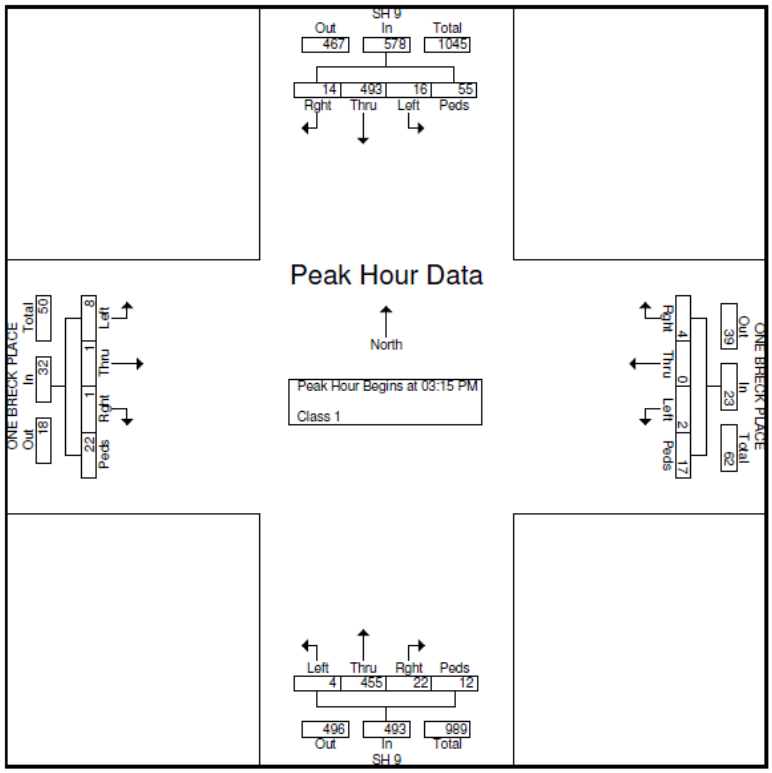


Figure 7 - Park/Village Rd Peak Hour Traffic Counts

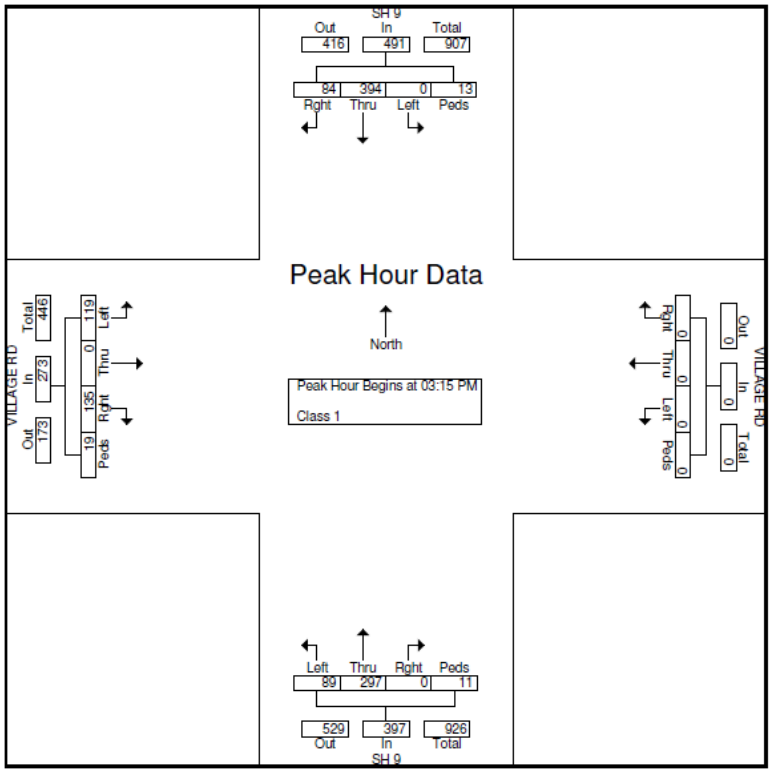
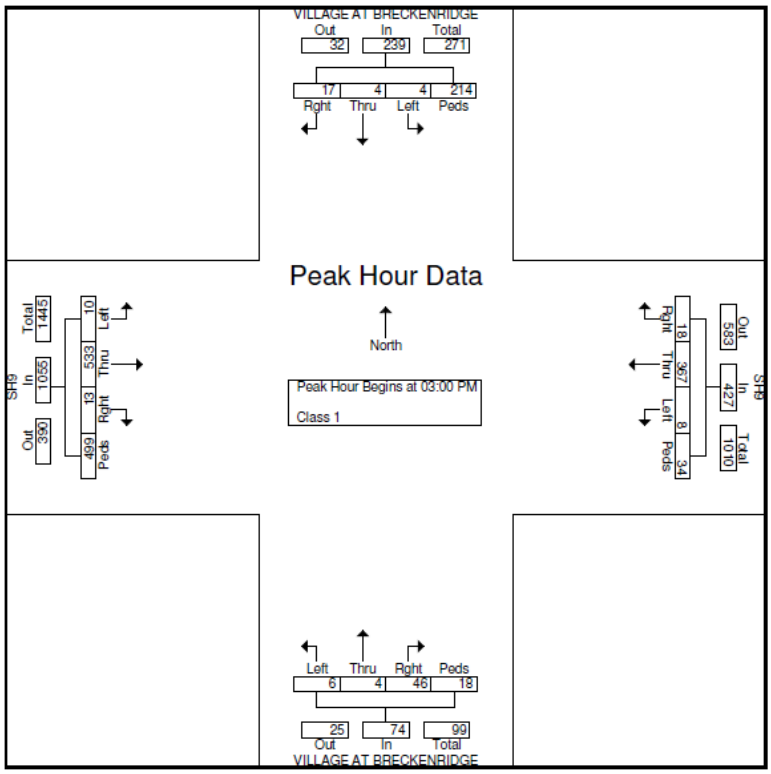


Figure 8 - Park/Village at Breckenridge Peak Hour Traffic Counts



A few key conclusions can be drawn about patterns of peak traffic congestion on Park:

- While both Vail Resorts and Town staff have indicated that most traffic continues to enter and exit Breckenridge from and to the north, peak traffic is heavy in both directions. It is heavier to the north – north of Watson Avenue, north of the Gondola Lots, a bidirectional total of 1,878 vehicles (921 northbound and 957 southbound) was observed – but two-way flows are relatively balanced at most intersections. South of the southernmost intersection observed, at the Village at Breck, there were 427 vehicles northbound and 563 southbound in the peak hour.
- Park is operating near capacity during peak periods – a fact borne out by the slow pace of traffic on Town-defined "gridlock days" during which traffic control officers are deployed. While actual roadway capacities vary depending on intersection spacing and configuration, control and other factors, the observed bidirectional total of 1,878 vehicles per hour north of Watson is close to capacity for a three-lane facility.
- There are lower but still notable volumes of traffic on cross streets making left turns onto Park – 206 eastbound to northbound at Ski Hill, a signalized intersection, but 81 and 119, respectively, attempting to turn across traffic at the unsignalized intersections of Four O'Clock and Village roads.
- Pedestrian volumes are high at the Village at Breck – a total of 232 people crossing the street in the peak hour. The data indicate that volumes are even higher at Four O'Clock Road – 289 pedestrian crossings per hour – although it is likely that the typical number at the Village crossing, which the town manually operates during peak periods using control officers, is higher.

In addition to the Town counts, the Colorado Department of Transportation (CDOT) publishes Annual Average Daily Traffic (ADDT) volumes for state highways. Figure 9 shows year 2014 AADT on Highway 9 at screenlines moving from north to south. Note that the figures are average, and thus do not represent peak congestion. As part of the Town data collection effort, AADT was estimated for Park north and south of Village Road of 13,179 and 12,728, respectively. Note also that Highway 9 is a four-lane facility north of Park, and that the highway reverts to Main south of Park.

Figure 9 - Highway 9 AADT

Location	AADT
Hwy 9 S of Tiger Rd	22,000
Main N of Park	21,000
Park W of N Main	11,000
Park S of Watson	13,000
Park S of Ski Hill Rd	14,000
Park N of Village Rd	11,000
Park W of S Main	11,000
Main S of Park	13,000

PROBLEM LOCATIONS

Based on analysis of the data and interviews with Town staff, a number of additional conclusions may be drawn about traffic "hotspots" or "bottlenecks" along Park.

North Park and Main

On busy days, the roundabout – which was completed just a decade ago – must be manually managed to ensure traffic flow. This is due to high volumes, but also to site-specific geometry and design flaws: because there is no eastern leg and because southbound traffic headed for Park is diverted in advance of the roundabout, there is no westbound traffic within the roundabout to interrupt southbound flow. Additionally, there is inadequate deflection to slow southbound traffic headed for Main. For these reasons, southbound traffic will continue in a steady flow, without yielding to northbound traffic approaching from eastbound Park, unless temporarily blocked by a control officer.

Park and French (Gold Rush Lot Access)

The Gold Rush Lot, west of Park at French, serves as an overflow lot for the Gondola Lots. When it is opened, vehicles may access it from French –but because the intersection of Park and French is uncontrolled, the intersection must be manually managed. Additionally, pedestrians are not allowed to cross Park at this location; instead, Vail Resorts shuttles Lot users across the street using a pair of buses.

The Village Crossing

This is another location that must be managed manually on busy days – but in this case, due to pedestrian rather than vehicle volumes. An unsignalized crosswalk connects the Village and busy Quicksilver Lift to the F Lot, Tiger Dredge Lot and other destinations on the north side of the street. Officers generally hold traffic and let pedestrians cross while the signal is red and cars are stopped at nearby South Park and Main.

South Park and Main

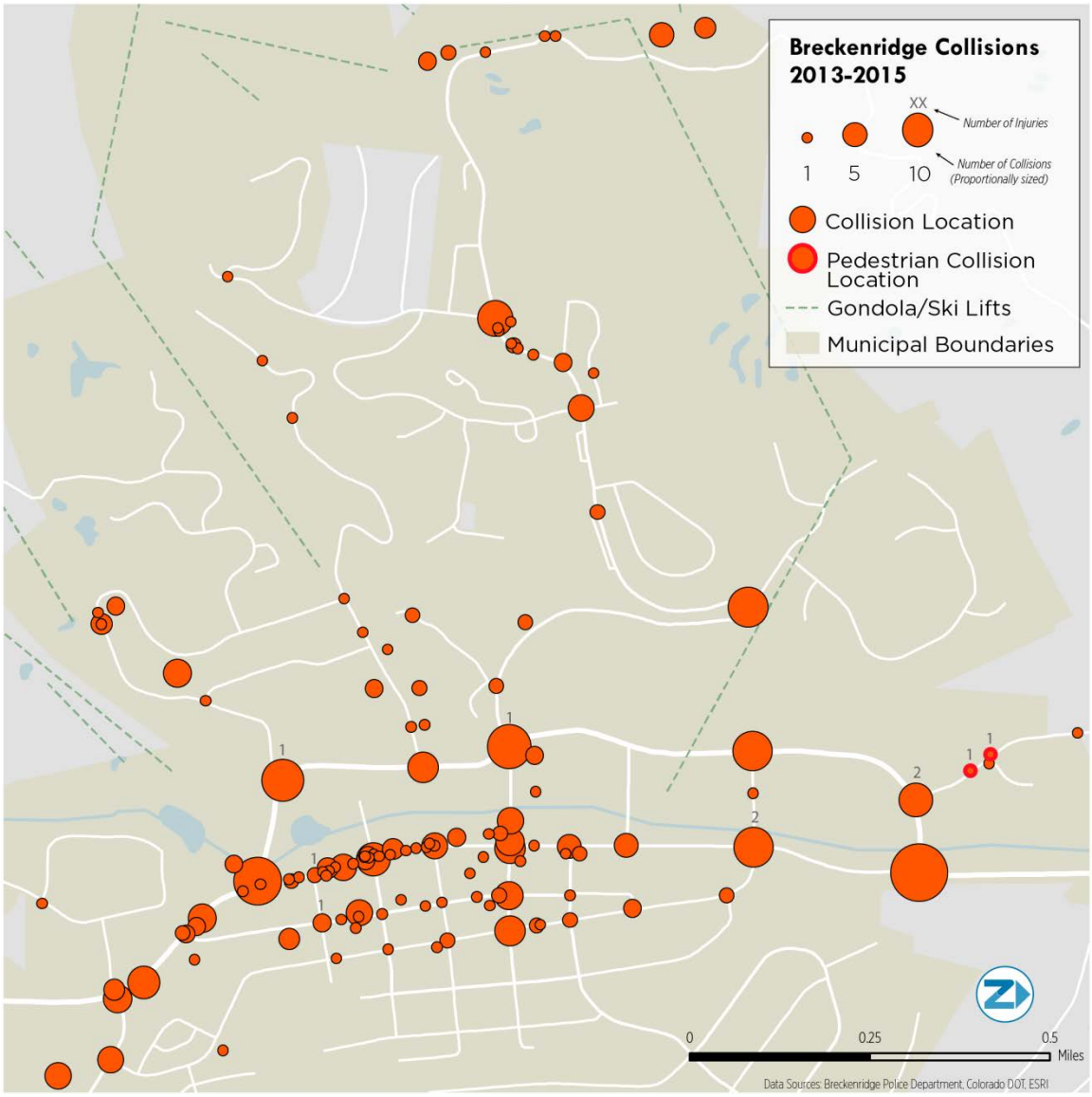
In conjunction with manual management of the nearby pedestrian crossing at the Village, the signal at this major intersection is manually operated during peak periods. Due to the unique three-legged configuration of the intersection, with crosswalks on all three side, up to 20 seconds of every 90-second signal cycle is set aside for an all-way pedestrian-only phase. Most of the remaining time is dedicated to through traffic on Highway 9. leaving little time for southbouund movements on Main. Additionally, the signal phase for that movement is actuated rather than fixed, and in winter, motorists unable to see lane striping may position their vehicles partly in the right-turn rather than the through lane, causing actuation to fail and further lengthening queues on Main.

COLLISIONS

Between 2013 and 2015, a total of 461 collisions were recorded in the town. Most of these were between vehicles; according to official data, only two involved pedestrians. One of these, however, was fatal.

Locations of collisions are illustrated in Figure 10. The locations with the highest numbers of collisions were the intersections of North Main and Park (29), and South Main and Park (20). Eight additional intersections were the site of 10 or more collisions. Of those 8 intersections, half were along Park. There were also a series of collisions at locations along Main between Washington and South Park.

Figure 10 - Traffic Collisions (2013-2015)



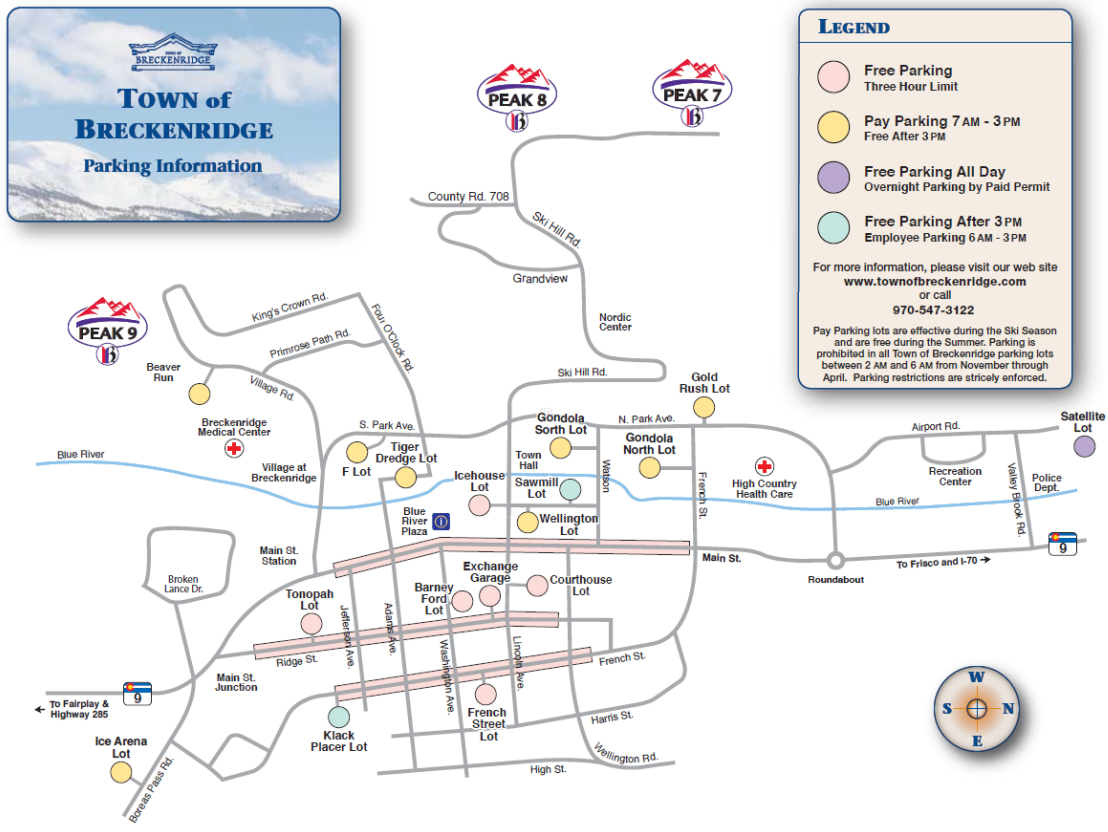
3 PARKING

SUPPLY

The Town of Breckenridge has total public parking supply, in addition to spaces in private driveways, lots and garages, of approximately 4,207 spaces[2]. About half of these spaces, 2,187, are owned and operated by the Town. Of these, 584 are curbside spaces on downtown streets, while 1,603 are in lots and garages. The remaining 2,020 spaces are in lots managed by Vail Resorts.

Locations of these spaces, as well as general information on winter rates and time limits, are shown in Figure 11.

Figure 11 - Public Parking Map



[2] Many of these spaces, including curbside spaces as well as spaces in unpaved lots, are unmarked, so supply is estimated.

In addition to Main, Ridge and French, limited curbside parking is available on Adams and Lincoln avenues downtown. Residents of select neighborhoods may also park on-street with a permit.

Numbers of spaces in each public parking lot are shown in Figure 12. Note that for unpaved lots with unmarked spaces, figures are estimates. Also note that some spaces are reserved for employees, including 200 spaces in the Gondola Lot on all but the busiest days.

Figure 12 - Numbers of Spaces in Off-Street Parking Lots

Lots[3]	Spaces
Vail Resorts	
Gondola Lots	1,000
Satellite Lot	500
Gold Rush	320
Beaver Run	200
Town	
Tiger Dredge	206
F Lot	189
Ice Rink	159
Exchange	97
East Sawmill	89
Klack Placer	73
Tonopah	60
Ice House	48
Wellington	46
Courthouse	45
French	34
Barney Ford	28

As Figure 12 indicates, much of the town's parking supply is in a few large lots: there are an estimated 1,000 spaces at the Gondola Lots on Park, another 320 at the Gold Rush Lot across the street (which opens only when the Gondola Lots are full), and another 395 at the F and Tiger Dredge Lots, also on Park. There are another 500 spaces, meanwhile, at the remote Satellite Lot on Airport Road to the north, and 159 at the Ice Rink Lot on Boreas Pass Road to the south.

Policies on rates and time limits vary widely. Lots near the ski area, as well as the Ice Rink Lot, charge daily rates as high as $20 in winter. However, Vail Resorts offers a $5 discount to vehicles with four or more occupants. Additionally, the lots are free after 3 p.m., and in spring, summer

[3] The Town also sometimes makes available another 105 spaces in parking lots on Harris Street, and there are additional overflow spaces in the Colorado Mountain College parking lot adjacent to the Satellite Lot.

and fall, while most remaining spaces are free at all times (a limited number are reserved until 3 p.m. for employees, who may use them with a permit, and overnight parking is available in the remote lots for $5).

Winter 2015-2016 rates in paid lots are shown in Figure 13.

Figure 13 - Winter 2015-16 Rates for Paid Lots

Lot	Daily		Hourly	
	Mon-Thu	Fri-Sun	Mon-Thu	Fri-Sun
Vail Resorts				
Beaver Run	$15	$20	-	-
Gondola Lots	$5	$12	-	-
Gold Rush	$5	$12	-	-
Town				
Wellington	$15	$15	$3	-
F Lot	$12	$12	$3	-
Tiger Dredge	$12	$12	$3	-
Ice Rink	$5	$15	$1	$3

In town, there is a three-hour time limit on free spaces, intended to encourage turnover and discourage employees of nearby businesses from occupying parking that might be used by customers. Skier parking is also prohibited on Main Street.

AVAILABILITY

The Town prepares an annual report on parking, including observed occupancy in winter. Figures 14 through 17 show typical and peak morning and afternoon occupancy in the 2014-2015 ski season. Note that circles representing parking lots are to scale, based on size.

Figure 14 - Average AM Parking Occupancy (Winter 2014-15)

On an average morning in winter, townwide occupancy is 79 percent. This figure is inflated somewhat, however, by the Gondola Lots and adjacent Sawmill Lot, which regularly fill to capacity (and even beyond estimated capacity, as shown by the figures above). The Satellite Lot is generally nearly full in the morning, as are most spaces on Main Street; however, there is some parking available in most lots, and there is generally plenty of parking on-street and in lots east of Main Street.

Figure 15 - Average PM Parking Occupancy (Winter 2014-15)

On winter evenings, townwide occupancy is slightly lower, at 76 percent. Just as in morning, there is typically some parking available in most lots, and plenty of available parking east of Main Street.

Figure 16 - Peak Day AM Parking Occupancy (December 31, 2014)

Analysis was conducted of Town-collected data for each day in order to assess "peak of peak" conditions. The busiest morning observed in winter 2014-2015 was found to be that of December 31, 2014. On this day, data were unavailable for Vail Resorts-owned lots; however, it can be safely assumed that the Gondola Lots were full in both morning and evening. Notably, even on the busiest morning, there was plenty of parking available on some blocks of Ridge and French, as well in lots off of French.

Figure 17 - Peak Day PM Parking Occupancy (January 31, 2015)

The afternoon of January 31, during the weekend of the Ice Sculpture Competition, was the busiest observed in winter 2014-2015. On this day, observed occupancy townwide was 107 percent of capacity, indicating that there is currently a supply shortage at the very busiest times. (Notably, however, both the Tiger Dredge and Barney Ford lots were closed during the competition.)

ENFORCEMENT

From May 2014 to April 2015, the Breckenridge Police Department issued 7,516 citations. Of these, about 35 percent (2,678) were issued for three-hour limit violations; this amount to an average of about 7.3 per day. Of the 7,516 citations issues, 1,183 were voided or were simply warnings.

PERMIT PROGRAMS

Employee Parking

As was described in the introductory section on travel markets, roughly seven out of eight Breckenridge employees commute from outside town, and about five of six drive to work. Additionally, many restaurant and bar shifts end late at night, when limited alternatives to driving are available, or are practical.

For these reasons, and to discourage employee use of parking spaces immediately adjacent to businesses, which are intended for use by customers, the Town attempts to provide a reasonable number of relatively convenient reserved spaces for employees in lots around the periphery of downtown, for a modest fee. This program has been adjusted repeatedly over the years, and was the subject of extensive Parking and Transportation Task Force deliberations over the course of 2015.

In addition employee parking permits, the town issues parking permits for residents and for other groups with special parking needs. These programs are described in Figure 18.

Figure 18 - Winter 2015-16 Permit Programs

Permit	Purpose	Parking Locations	Cost
Employee Permits			
South Employee	Employees of businesses south of Washington St.	Tiger Dredge, Klack Placer, French St, French St Lot, Ice Rink, Satellite	$50
North Employee	Employees of businesses north of Washington St.	Tiger Dredge, East Sawmill, 100 N. Ridge St, French St, French St Lot, Ice Rink, Satellite, Wellington (M-Th only)	$50
Lower Exchange Business	All parking district employees. Only 20 available.	Lower Exchange Lot	$350
Courthouse Lot	All parking district employees. Only 25 available.	Courthouse Lot and North Employee Permit locations.	$150
Ice Rink/Satellite	All employees (includes non-parking district employees).	Ice Rink and Satellite Lot for employees living south and north of town respectively.	Free
Late Night Employee	Employees working 2 a.m. – 6 a.m.	Valid in all Town lots and on Main St.	$25
Klack Placer Lot	Employees outside of parking district (downtown). Limited supply.	Klack Placer, Ice Rink, Satellite	$50

Permit	Purpose	Parking Locations	Cost
Tiger Dredge Lot	Employees outside of parking district (downtown). Limited supply.	Tiger Dredge, Ice Rink, Satellite	$50
Residential Permits			
Residential East	Residents of E. Main, Ridge, French, High & Harris	Overnight parking at Klack Placer and French Lots. Overnight parking in excess of 3 hours on French St.	$25
Residential West	Residents of W. Main	East Sawmill Lot.	$25
Temporary Guest	Guest parking for 4 hours. Max 5 guests.	Designated Town Streets	Free
Other			
Ice Rink Day Use	Residents of designated area of Breckenridge and Unincorporated Summit County.	Dedicated Ice Rink Pay Area	$75 for first vehicle. $25 for second.
Delivery Zone	Vendors delivering goods.	Designated delivery zones	$25
Construction	Contractors with approved construction permits.	--	$5 per vehicle in core business district. Free otherwise.
Patron Pass	Bar and restaurant patrons.	Town lots and streets 2 a.m. – 6 a.m. Vehicle must be moved by 11 a.m.	Free

4 TRANSIT

Public transit service in the Town is provided by:

- The Town, operating as Breckenridge Free Ride
- Vail Resorts
- The County, operating as Summit Stage
- private van operators including hotel, airport and other shuttles

Some Vail Resorts service is branded as Free Ride service. Additionally, Free Ride maps and schedules include a winter-only route operated by Vail Resorts and branded as Breckenridge Ski Resort service (the Red Route).

SERVICE

Town Service (Free Ride/Breckenridge Ski Resort)

All Town and Vail Resorts-operated service is fare-free.

All Town and Vail Resorts in-town routes serve Breckenridge Station, the Town's transit center, which is located on Watson between Main and Park, between the Gondola North and South Lots adjacent to the Gondola base. Most routes arrive at the station shortly before and depart at 15 and/or 45 minutes after the hour, enabling timed transfers to Summit Stage Main Line departures for Frisco (see next section).

Free Ride vehicles are standard 35-foot motor coaches, while Vail operates a combination of coaches and reconfigured school-type buses.

The current fully allocated cost to the Town per hour of revenue service operated is approximately $76.

The Town and Vail Resorts have discussed further integration of their operations consistent with the recommendations of a 2012 study, but Vail Resorts has been hesitant to do so, officially out of concern about maintaining flexibility to redeploy its vehicles as necessary, for example to the Black Route when the Gondola goes out of operation (as it typically does one or two times per year, either for mechanical reasons or due to high wind).

In winter, the Town and Vail Resorts operate additional routes as well as additional service on year-round routes.

Winter Service

Figure 19 shows the Winter 2015-16 configuration of Free Ride service, including service operated by Vail Resorts and branded as Free Ride service, and one route that is operated by Vail Resorts

and branded as Breckenridge Ski Resort service (the Red Route). Note that the Black Route, designated in the map legend as a single route, is actually separate daytime and evening routes. The evening-only segment of its alignment is indicated on the map using black dots.

Figure 19 - Winter 2015-16 Free Ride Map

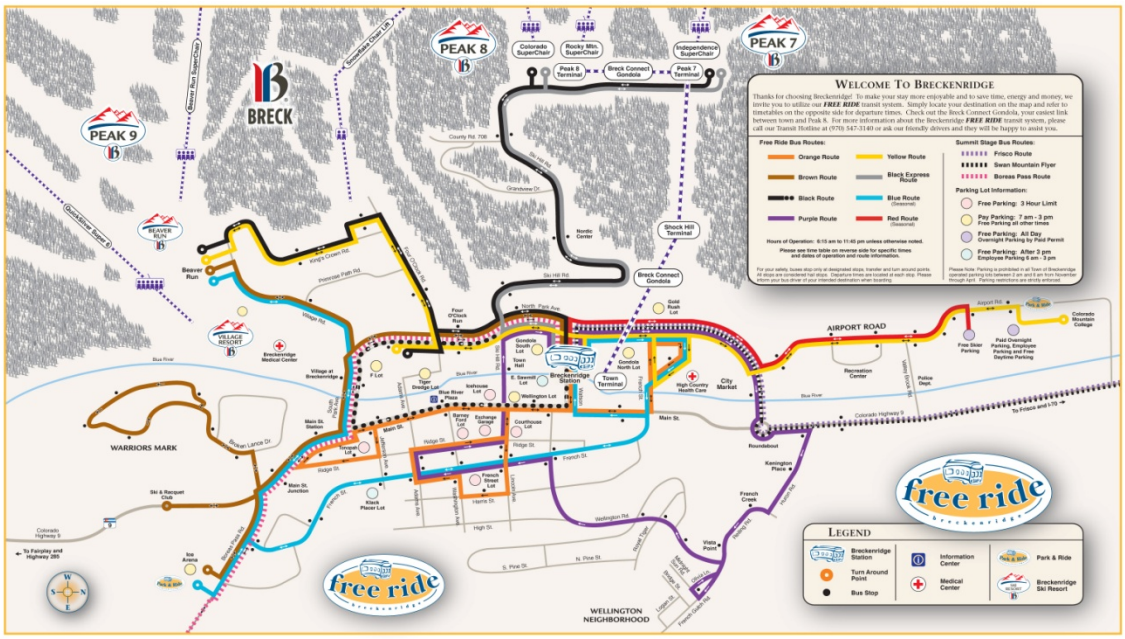


Figure 20 shows major characteristics of each Free Ride winter route. As the figure indicates, Vail Resorts service operates only during the daytime. The Black and Blue routes are branded as Free Ride service, while the Red Route is branded as Breckenridge Ski Resort service.

Figure 20 - Town Route Characteristics (Winter)

Route	Alignment	Span	Headway	Operator	Buses in Service
Day and Evening Routes					
Yellow[4]	CMC[5]-Airport Rd-Breck Stn-Beaver Run	6:15am-11:45pm	15	Town	3
Brown	Breck Stn-Beaver Run-Warriors Mark	6:15am-11:45pm	15-30	Town	1-2
Orange	Library-Main St-Breck Stn-City Market	8:15am-5:15pm	30	Town	1
Purple	Breck Stn-Wellington-Library loop	6:15am-11:45pm	30	Town	1
Day-Only Routes					
Red	Satellite Lot-Airport Rd-Breck Stn	8am-5pm	~10[6]	VR	?
Black (Daytime)	Peaks 7/8-Ski Hill Rd-Breck Stn-Beaver Run	8:05am-5:20pm	15	VR	3
Black (Express)	Peaks 7/8-Ski Hill Rd-Breck Stn	6:30-8:50am 5:15-7:15pm	30	VR (AM) Town (PM)	1

[4] In schedules, the Yellow Route is divided into "Northside" and "Southside" routes. However, it is shown on maps as a single route.

[5] Colorado Mountain College is served on weekdays only.

[6] The Red Route does not operate on a fixed schedule. Instead, buses proceed to the next step as soon as they are ready. The resulting headways are approximately 10 minutes.

Blue	French St-Ice Arena-Village-Breck Stn	8am-5pm	20	VR	2
Evening-Only Routes					
Black (Evening)	Peaks 7/8-Village-Main St-Breck Stn	7:15-11:45pm	30	Town	1

The Town currently operates six buses in regularly scheduled service in winter – three on the Yellow Route, one each on the Brown and Purple Routes, and one that operates on the Orange Route by day, the Black (Express) Route in the early evening, and the Black (Evening) route at night. In addition, a seventh bus is used to provide additional capacity where needed, including on the Brown and Yellow routes in the morning. The Town has five spares, for a total fleet of 12 vehicles.

Spring/Summer/Fall Service

Figure 21 shows the Spring/Summer/Fall 2015 configuration of Free Ride service.

Figure 21 - Spring/Summer/Fall 2015 Free Ride Map

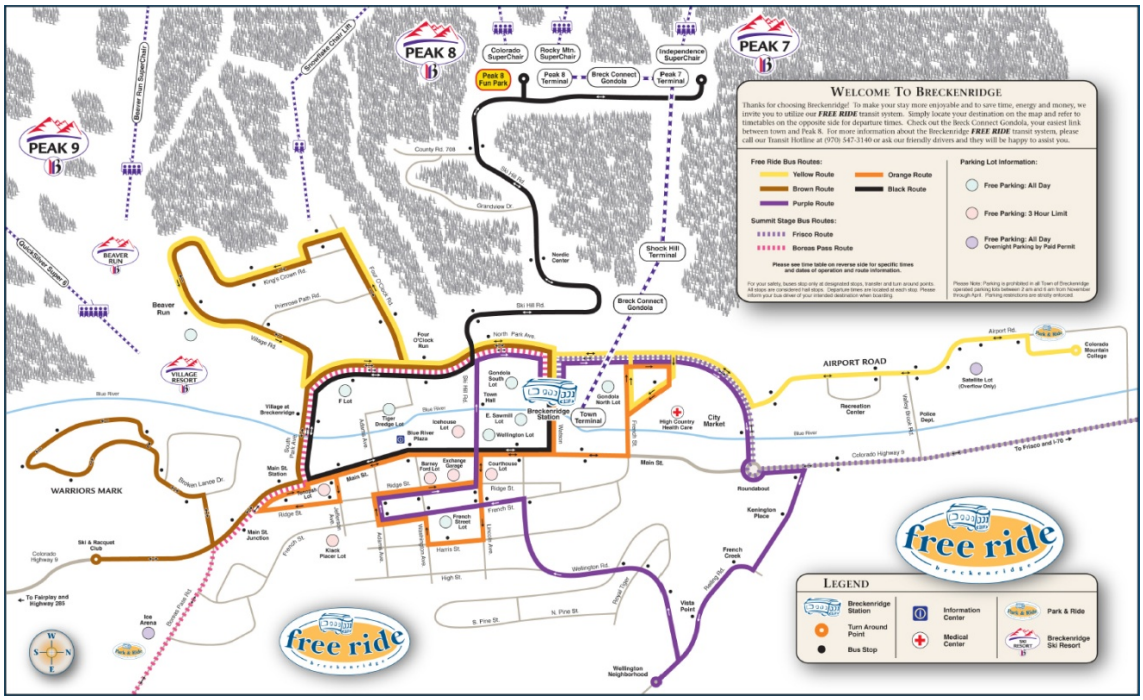


Figure 22 shows major characteristics of each Free Ride spring/summer/fall route.

Figure 22 - Town Route Characteristics (Spring/Summer/Fall)

Route	Alignment	Span	Headway	Operator
Purple	Breck Stn-Wellington-Library loop	6:15am-11:15pm	30	Town
Black	Peaks 7/8-Village-Main St-Breck Stn	6:15am-11:15pm	60	Town
Yellow	CMC-Airport Rd-Breck Stn-Beaver Run	6:15am-11:15pm	30-60[7]	Town
Brown	Breck Stn-Beaver Run-Warriors Mark	6:45am-10:45pm	60	Town
Orange	Library-Main St-Breck Stn-City Market	6:45am-10:45pm	60	Town

[7] The Yellow Route operates every 60 minutes in the spring and fall and every 30 minutes in the summer.

In the spring, summer and fall, the Town operates three buses, and is able to provide service on five routes by interlining service.

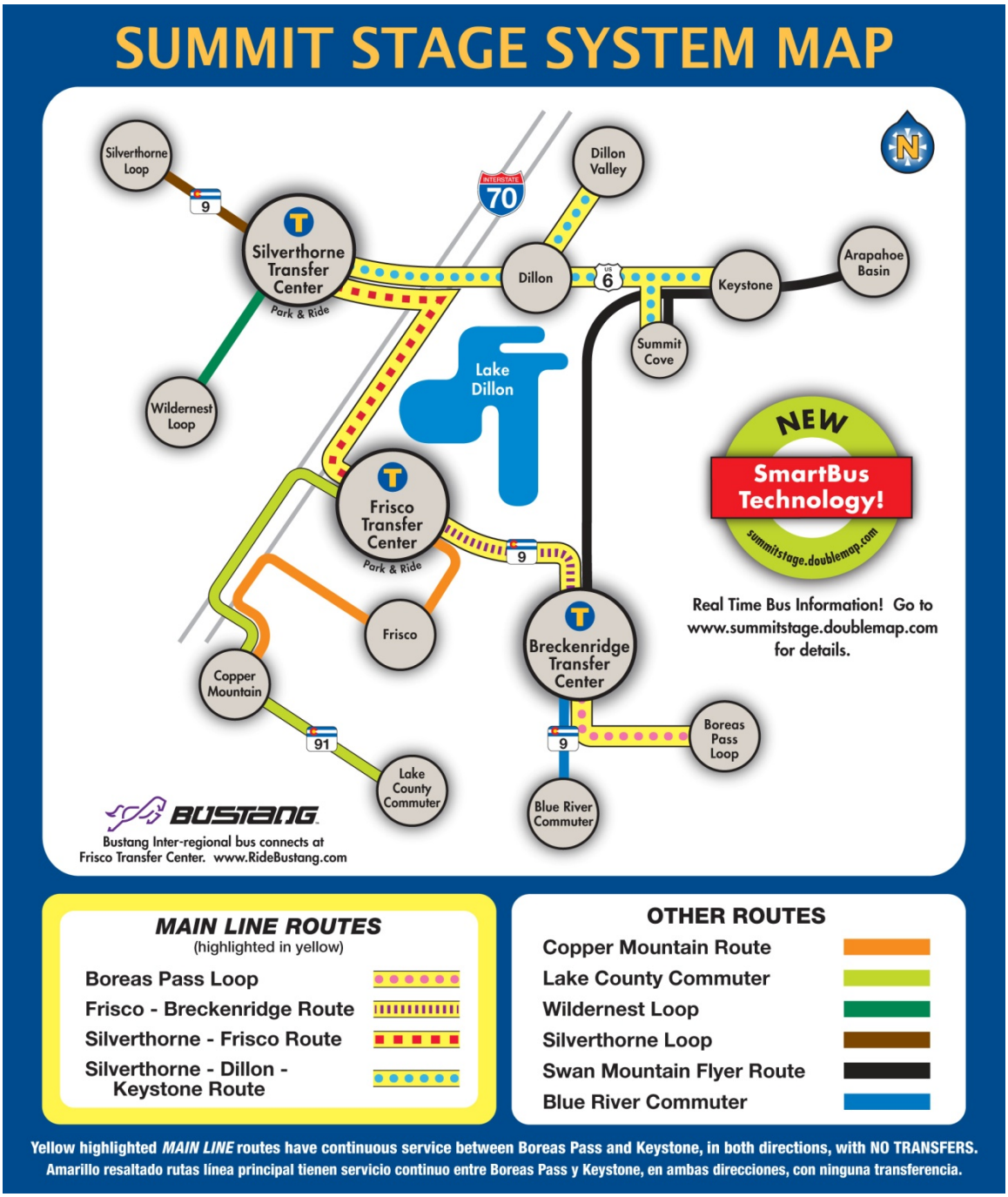
Summit Stage

Summit County also operates additional service in winter. It is the wintertime configuration of Summit Stage service that is described in this section.

As with Breckenridge Free Ride service, all Summit Stage service is free.

Figure 23 is a diagrammatic representation of Summit Stage routes.

Figure 23 - Summit Stage Diagram



Summit Stage operates ten routes, four of which serve Breckenridge. Four of the ten routes, including two of the four serving Breckenridge, are interlined to form what is sometimes described as a single route, the "Main Line." Three of the four routes serving Breckenridge are shown in Figure 24, the Free Ride system map (the Blue River Commuter Route is not shown), and all of the routes are shown in the table in Figure 25.

Figure 24 - Winter 2015-16 Free Ride Map (Including Summit Stage Routes)

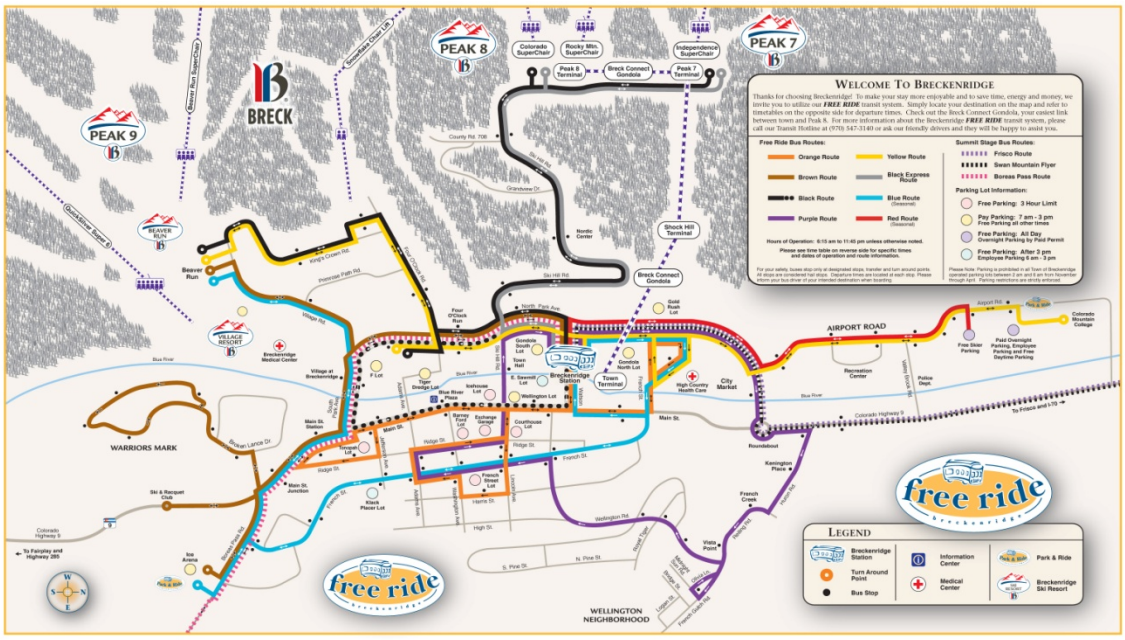


Figure 25 - Summit Stage Route Characteristics (Winter)

Route	Alignment	Span	Headway
Main Line (Frisco-Breckenridge & Boreas Pass Loop Routes)	Keystone-Dillon-Silverthorne-Frisco-Breckenridge-Boreas Pass	6am-1:37am	30-60[8]
Swan Mountain Flyer	Arapahoe Basin-Keystone-Breckenridge	7am-9:11pm	60
Blue River Commuter	Breckenridge-Quandary	6:35-8:39am 4-6:44pm	90-130 (2 AM, 2 PM round trips)

Most Breckenridge Free Ride routes arrive at Breckenridge station shortly before and depart at 15 and/or 45 minutes after the hour, enabling timed transfers to Main Line departures for Frisco (see next section). Main Line buses continue from Frisco east to Silverthorne, Dillon and Keystone, and they continue south from Breckenridge to Boreas Pass.

Other Services

Finally, there is additional transit service both within and to and from Breckenridge, including:

- Vail Resorts service other than that previously described, serving its residential and hotel properties in addition to the ski resort itself.
- Hotel shuttles.
- Denver International Airport shuttle service provided by private operators including Colorado Mountain Express, Summit Express, Fresh Tracks Transportation, Peak 1 Express, and others. Most of this service is scheduled, typically hourly, and is door-to-door. One-way fares range from $49 to $77 for regular service, sometimes varying

[8] The Main Line operates every 30 minutes until approximately 7 p.m. and hourly thereafter.

depending on number of passengers. There are also more expensive charter services available.

- Shuttle service from Downtown Denver and from the Dinosaur park-and-ride lots at I-70 & C-470 near Golden, provided by Colorado Mountain Express. This service consists of three daily round trips, with one-way fares starting at $49.
- Membership-based shuttle services such as Boulder's Higher Ground Ski Club.

PASSENGER SURVEY

Free Ride conducts regular surveys of its passengers, most recently on March 28, 2014, during ski season. The systemwide response rate was just over 10 percent, with route-level response rates ranging from approximately 5 percent (on the Yellow Route) to 23 percent (on the combined Orange and Black Evening routes). The survey found that:

- Approximately 31 percent of respondents were visitors, with nearly all remaining either year-round or seasonal residents.
- Approximately 33 percent had annual household income of less than $25,000, while 41 percent had income greater than $55,000.
- Sixty percent had a vehicle available for their trip.
- Homes, hotels, the ski resort and work accounted for 87 percent of origins and destinations on that day, with restaurants accounting for just 2 percent. However, when asked for "frequent destinations," 26 percent identified Main Street and 20 percent a grocery store.
- Among reasons for taking transit, convenience accounted for 33 percent of responses, cost 17 percent and parking-related issues 16 percent of responses.
- A narrow majority (51 percent) reported riding five or more days per week, and another 35 percent said they rode between one and four times per week.
- When asked how they first learned of the service, 47 percent said they had seen a bus or bus stop sign and 27 percent said they had heard about it from a friend or coworker. Just 9 percent had learned about it from a map, guide or advertising.
- Thirty-nine percent had used the Free Ride website, but just 3 percent followed the Free Ride Twitter account for service alerts.
- On a scale of 1 to 10, 98 percent of respondents rated their level of satisfaction with the service "7" or higher.
- When asked if there were destinations within Breckenridge that Free Ride does not serve that they would like to have service available to, 79 percent answered "no."

PERFORMANCE

Analysis was conducted of Free Ride Town routes ridership based on counts collected by the Town in July and December 2015. Average December Saturday and Sunday numbers of boardings on each route are shown in Figure 26, along with numbers of revenue service hours operated per day (calculated based on schedules) and resulting average numbers of boardings per hour of revenue service.

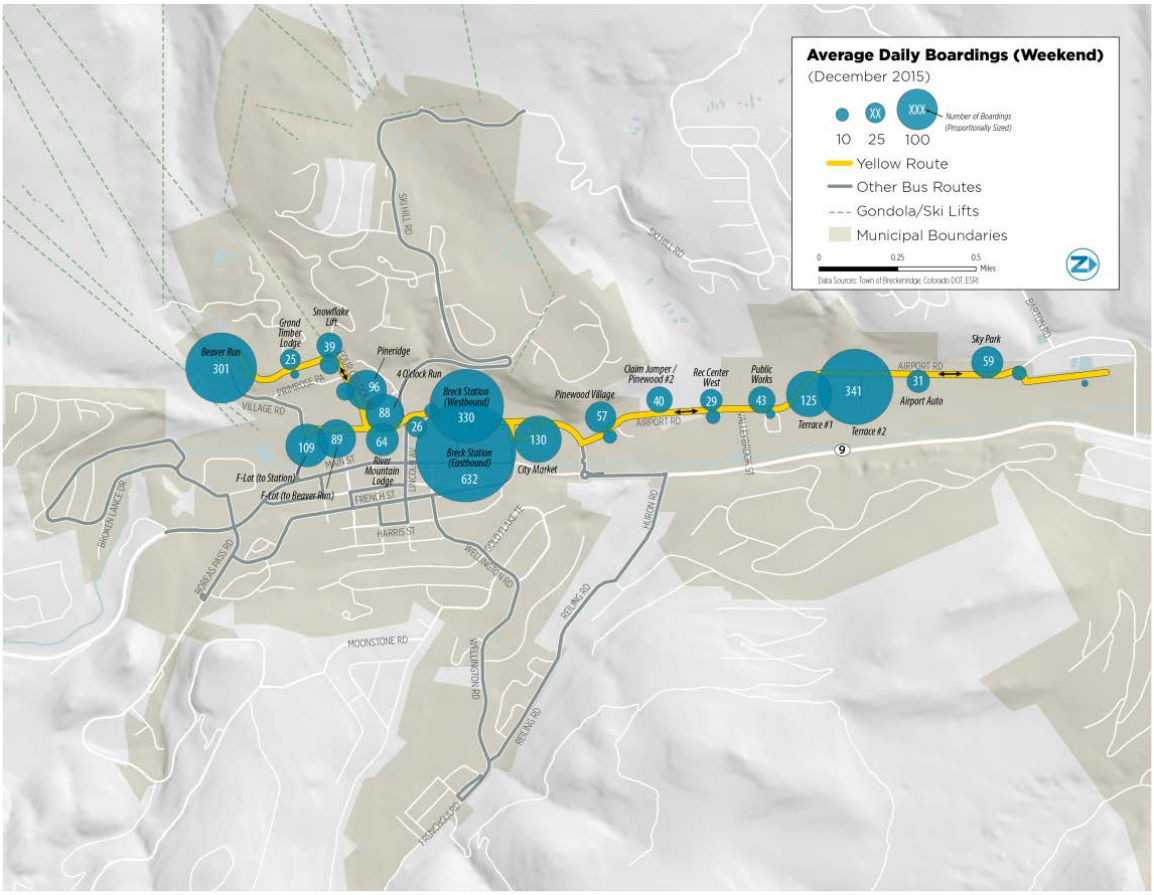
Figure 26 - Average Weekend Boardings, December 15

Route	Boardings	Hours	Boardings/Hour
Yellow	2,731	51.35	53.2
Brown	1,270	17.37	73.1
Purple	459	17.33	26.5
Black Express (PM)	104	1.82	57.1
Black Evening	96	4.37	22.0
Orange	71	8.85	8.0

As Figure 26 indicates, both ridership and productivity varies widely, from 2,731 daily boardings on the Yellow Route to just 71 on the Orange Route, and from 73.1 passengers per hour on the Brown Route to just eight on the Orange Route.

Weekend average numbers of boardings at each stop on each route are shown in Figures 27 through 36.

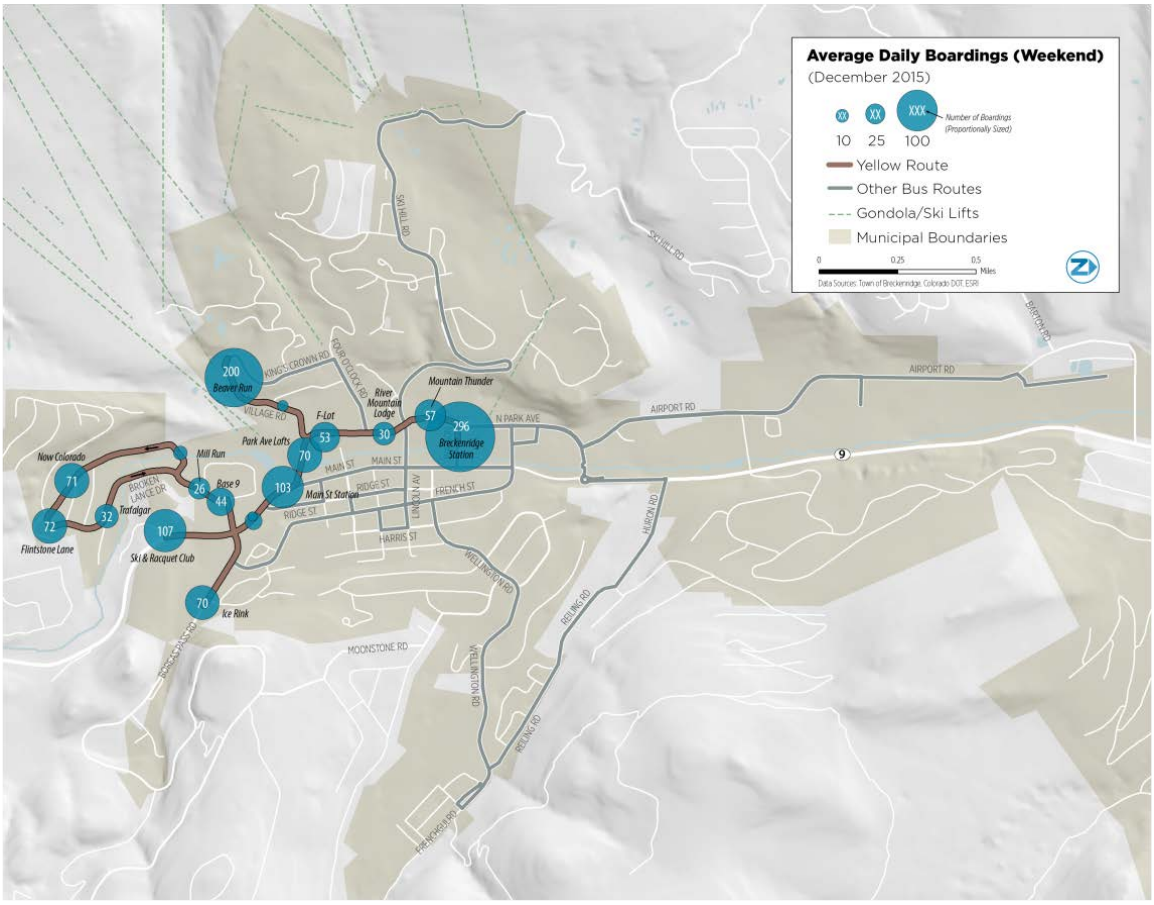
Figure 27 - Average Weekend Boardings: Yellow Route, December 2015



The Yellow Route is the busiest Town route in the Free Ride system, and in line with this, a number of its stops are very busy, including Breckenridge Station (962 boardings per day), Breck

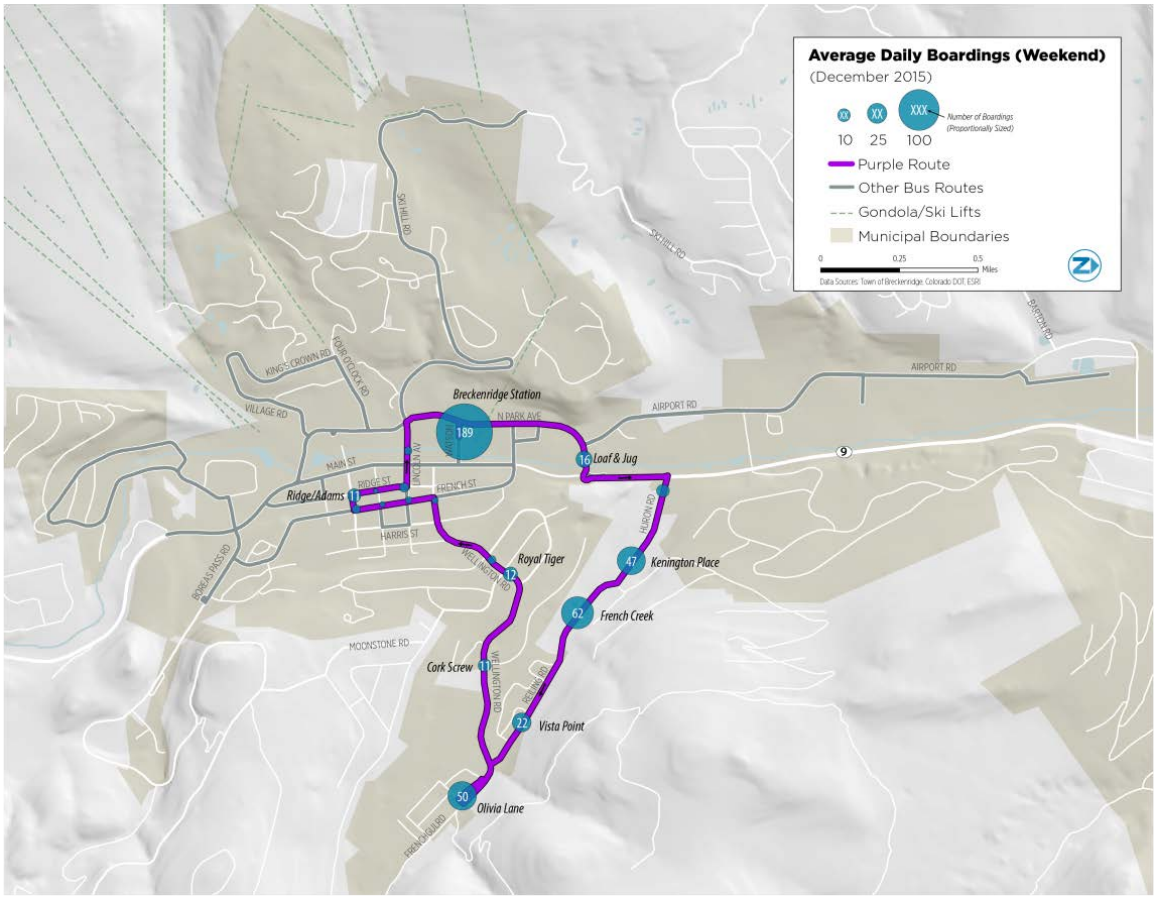
Terrace #2 (341), Beaver Run (301), City Market (130), Breck Terrace #1 (125) the F Lot stop for riders bound for Beaver Run (109), Pineridge (96), the F Lot stop bound for Breckenridge Station (89) and 4 O'Clock Run (88).

Figure 28 - Average Weekend Boardings: Brown Route, December 2015



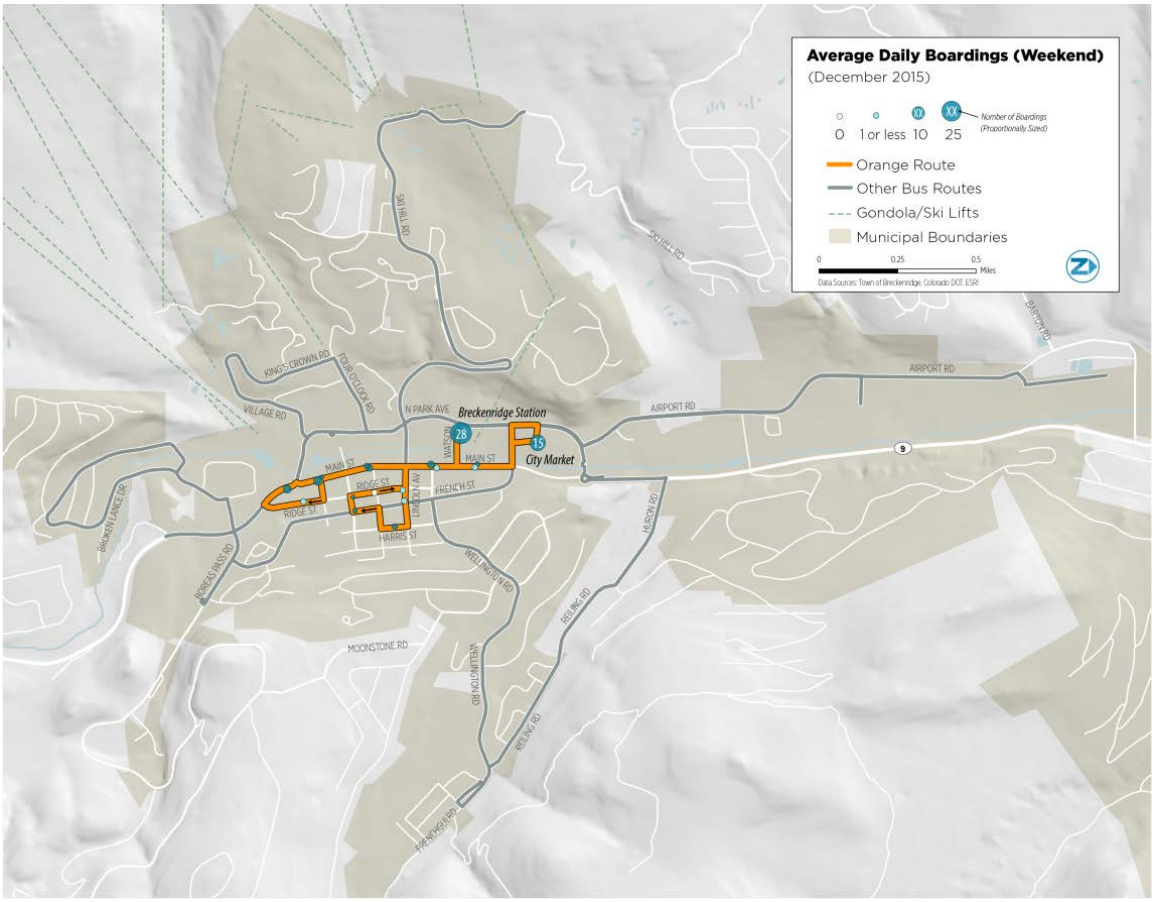
The Brown Route has the second-highest ridership among Free Ride Town routes, and it is the most productive. As with other routes, its busiest stop is Breckenridge Station (296 boardings per day) but Beaver Run (200), the Ski & Racquet Club (107), Main Street Station (103), Flintstone Lane (72), Now Colorado (71), the Ice Rink (70) and the Park Lofts (70) are also busy stops.

Figure 29 - Average Weekend Boardings: Purple Route, December 2015



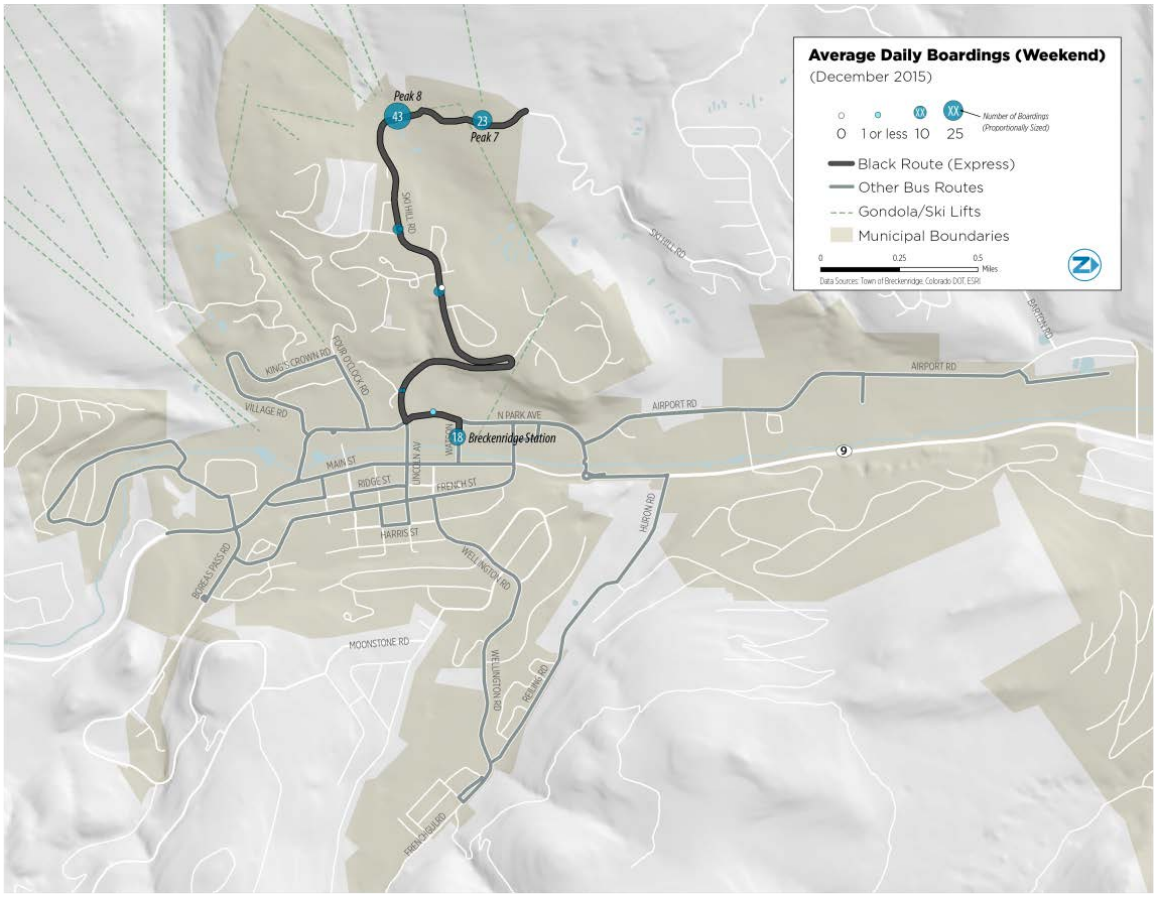
The Purple Route's busiest stop is Breckenridge Station (189 boardings per day) followed by French Creek (62), Olivia Lane (50) and Kensington Place (47).

Figure 30 - Average Weekend Boardings: Orange Route, December 2015



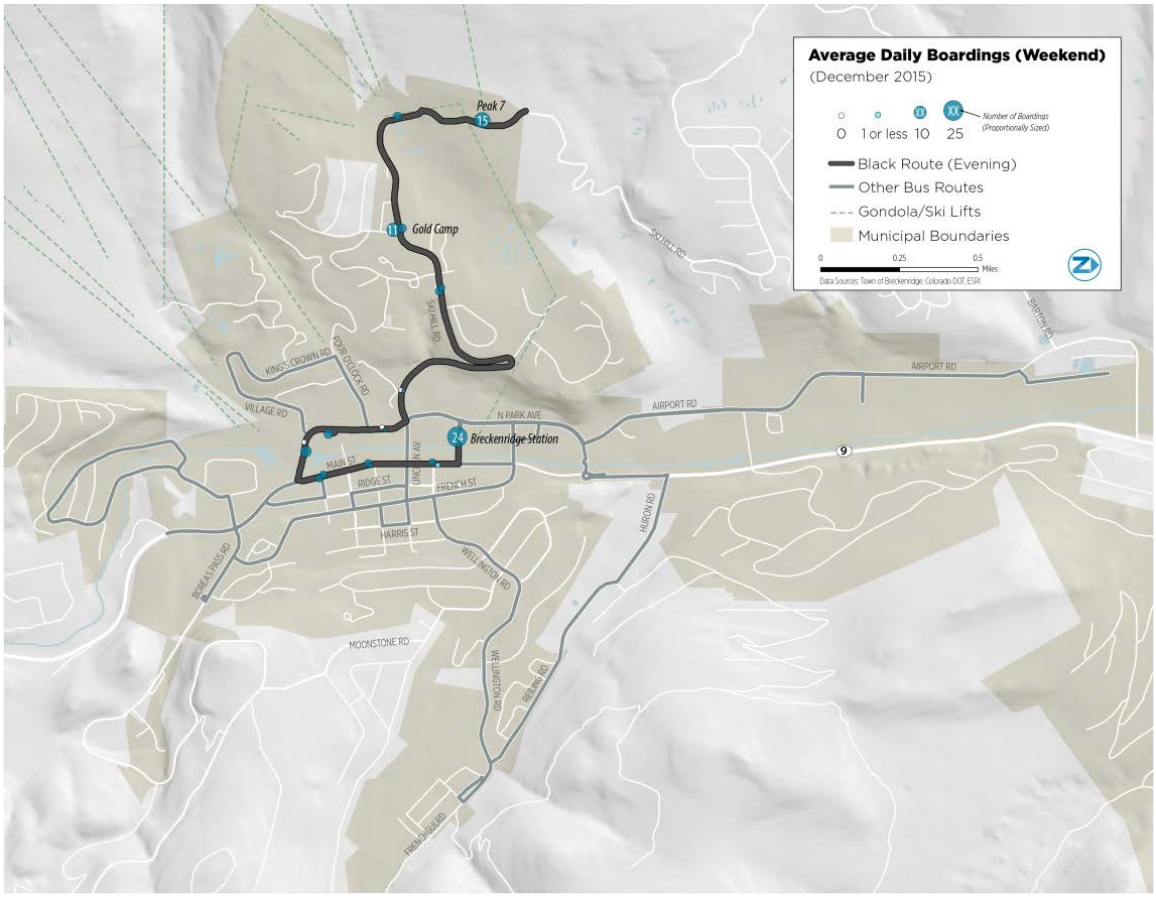
The Orange Route is the lowest-ridership and least-productive Town route. Only its stops at Breckenridge Station (28 boardings per day) and City Market (15) are used by more than a few riders a day.

Figure 31 - Average Weekend Boardings: Black Express Route (Afternoon), December 2015



The Town operates the Black Express Route for two hours in the late afternoon and early evening. During this time, it is very productive. Its busiest stops are Peak 8 (43 boardings per day), Peak 7 (23) and Breckenridge Station (18).

Figure 32 - Average Weekend Boardings: Black Evening Route, December 2015



The busiest stops on the Black Evening Route are Breckenridge Station (24 boardings per day), Peak 7 (15) and Gold Camp (11).

In spring, summer and fall, Free Ride routes are interlined to reduce the number of vehicles required to operate the service. Figures 33 through 36, then, show boardings not on routes but on buses.

Figure 33 - Average Weekend Boardings: Interlined Yellow/Purple Route, July 2015

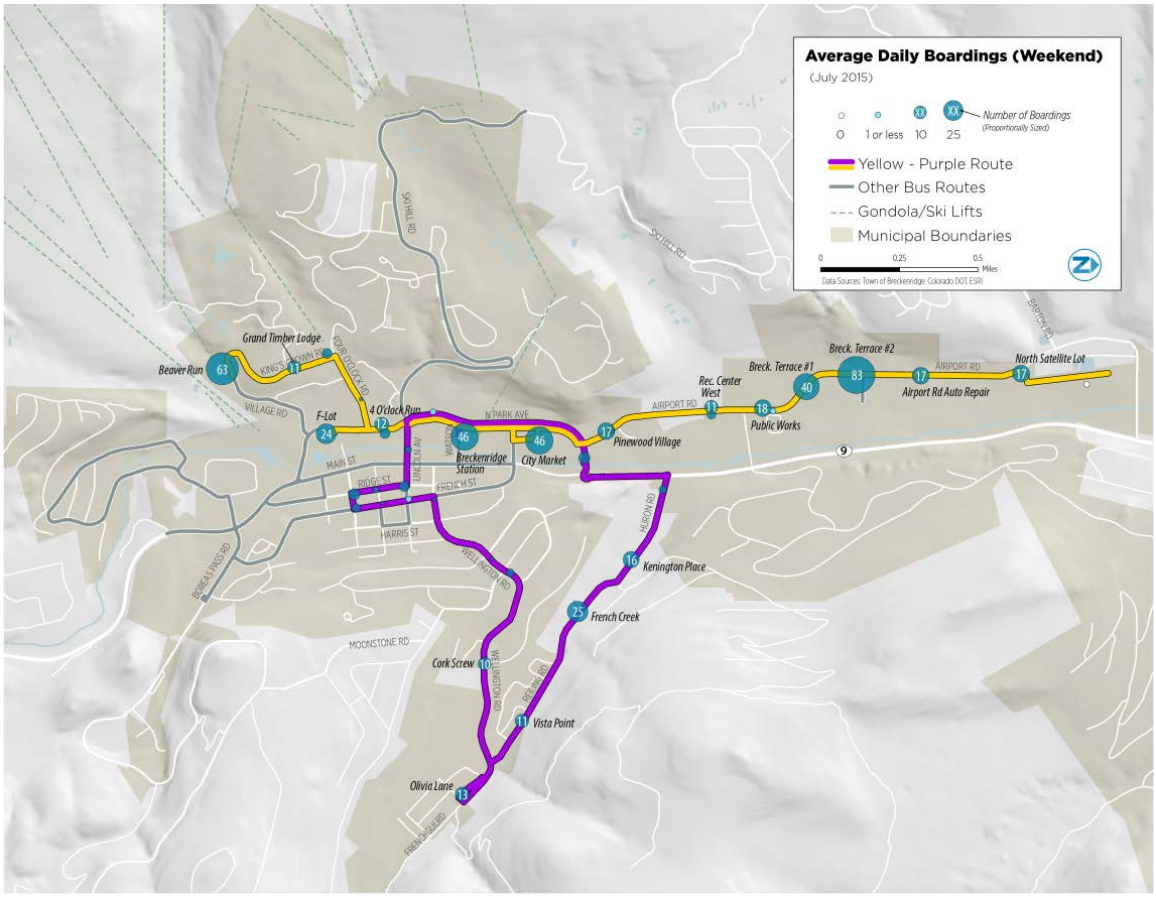


Figure 34 - Average Weekend Boardings: Interlined Yellow/Black Route, July 2015

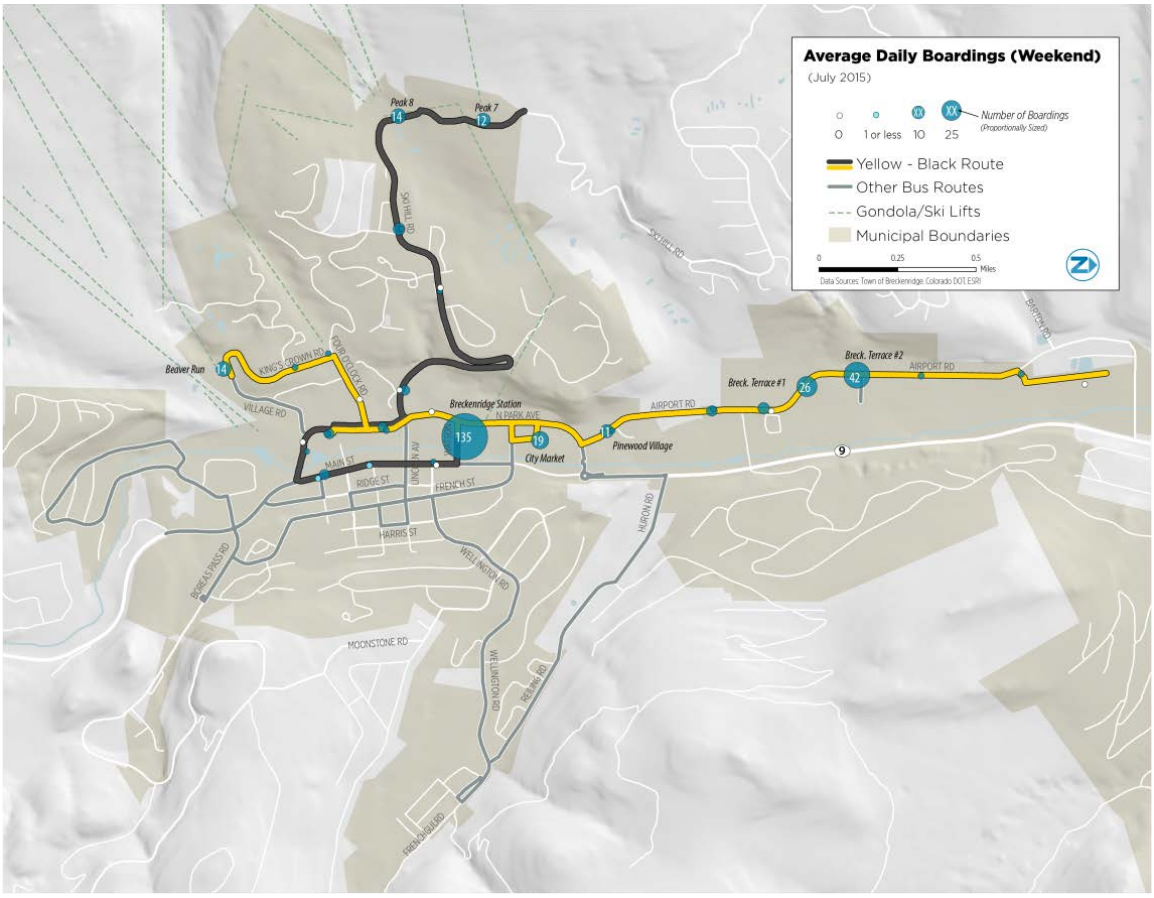


Figure 35 - Average Weekend Boardings: Interlined Yellow/Orange Route, July 2015

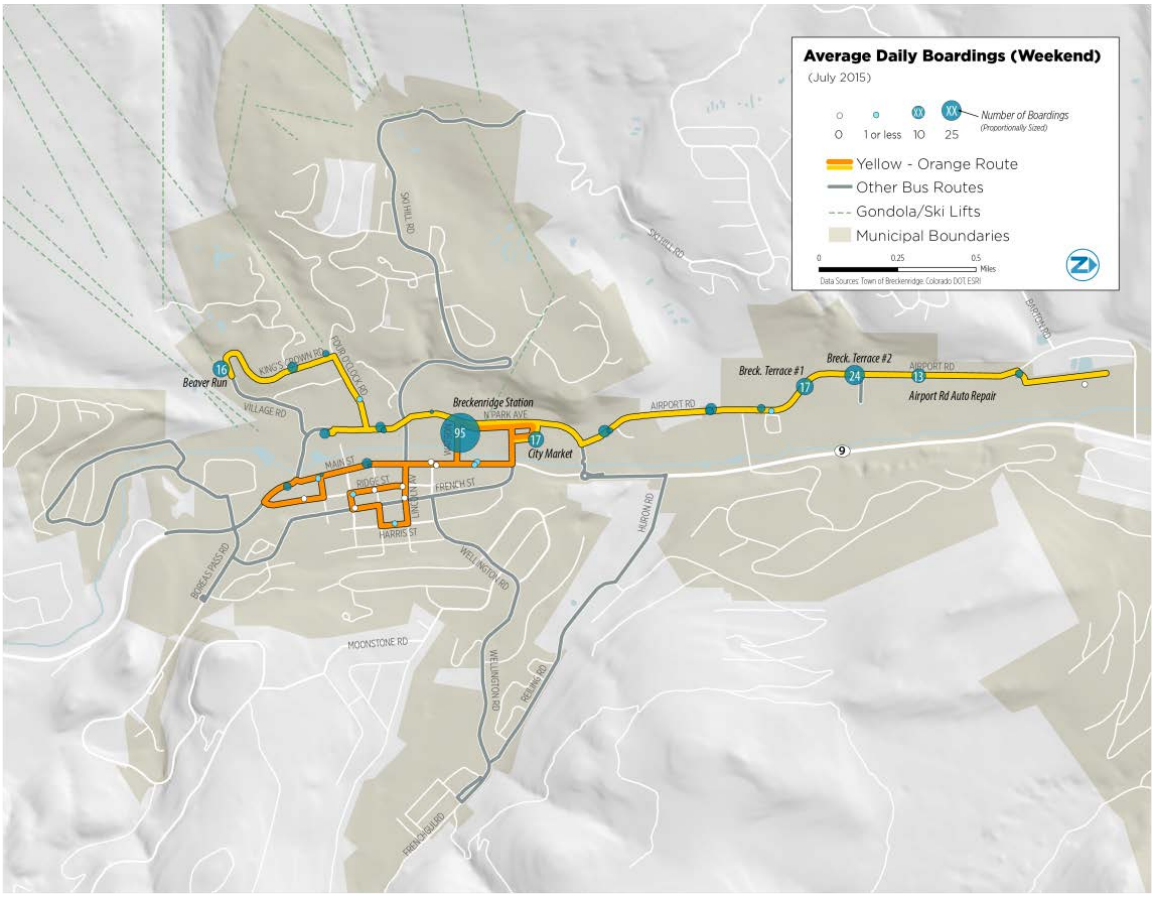
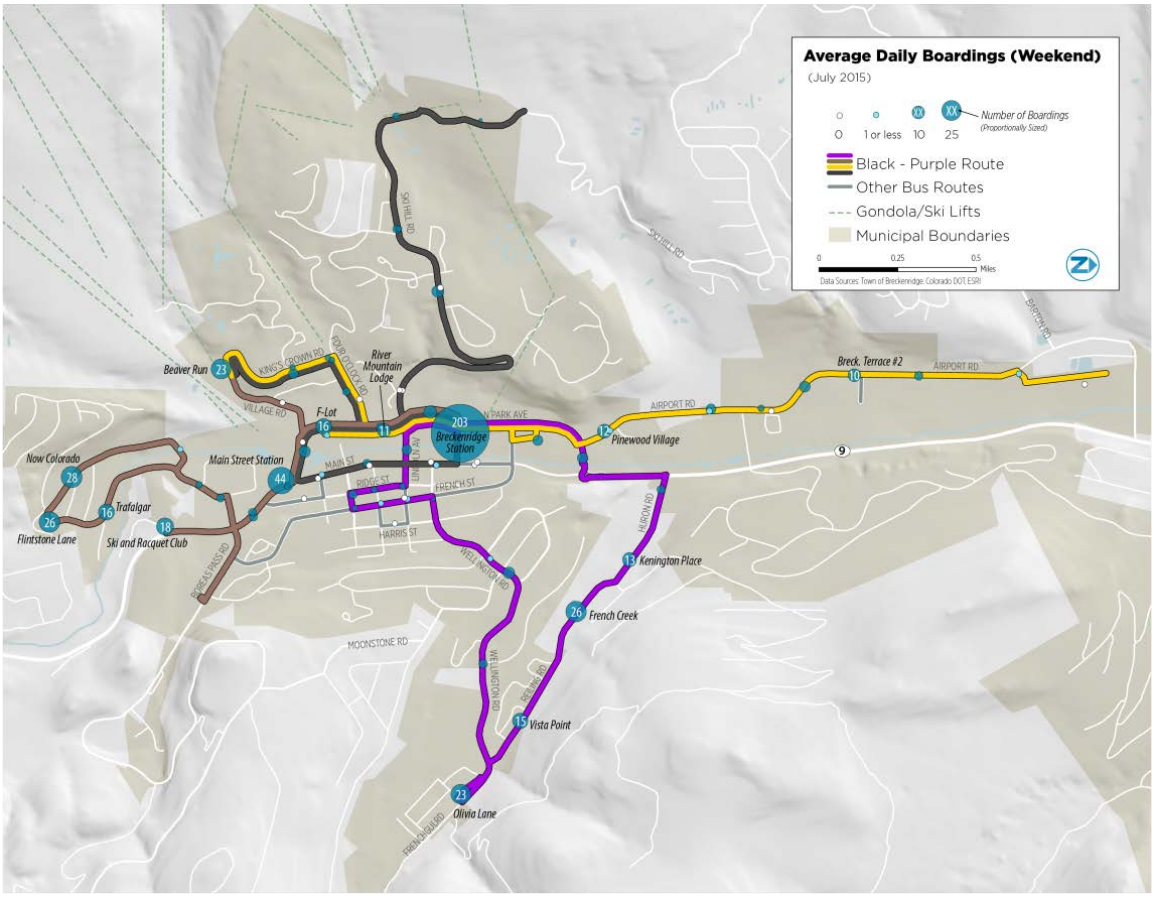


Figure 36 - Average Weekend Boardings: Interlined Yellow/Black/Purple/Brown Route, July 2015



As figures 27 through 36 indicate, while there is less ridership in summer than in winter, patterns of ridership are similar: Breckenridge Station is the busiest stop in the system, by far, while a number of stops along the Yellow Route and, to a lesser extent the Brown and Purple routes, are relatively busy. There is little ridership on the Black Route during the off-season, and there remains very little ridership on the Orange Route.

Finally, on-time performance or schedule adherence on weekends in December 2015 is shown in Figure 37, based on a standard of arrivals no more than one minute earlier than scheduled or five minutes later than scheduled. As the figure indicates, on-time performance for each route ranges from 67 to 93 percent. Notably, the Brown Route was found to be late 32 percent of the time.

Figure 37 - Average Weekend On-Time Performance

Route	% On-Time	% Early	% Late
Yellow	85%	2%	14%
Brown	67%	0%	32%
Purple	84%	5%	10%
Black Express (PM)	93%	3%	3%
Black Evening	77%	1%	21%
Orange	78%	1%	20%

5 PEDESTRIANS AND CYCLISTS

NON-MOTORIZED NETWORK

In the town core of Breckenridge, on the floor of the Blue River Valley, there is a relatively well-connected grid of streets, alleys and off-street pedestrian and bicycle paths providing relatively direct pathways for pedestrians and cyclists. East-west connectivity west of Main Street is limited somewhat by the Blue River and by parking lots, and for cyclists, the utility of the network is limited by a lack of dedicated space on most east-west streets, or north-south east of Main.

Outside of the town core, the street network becomes discontinuous, the terrain becomes steep, and there are no sidewalks in many locations.

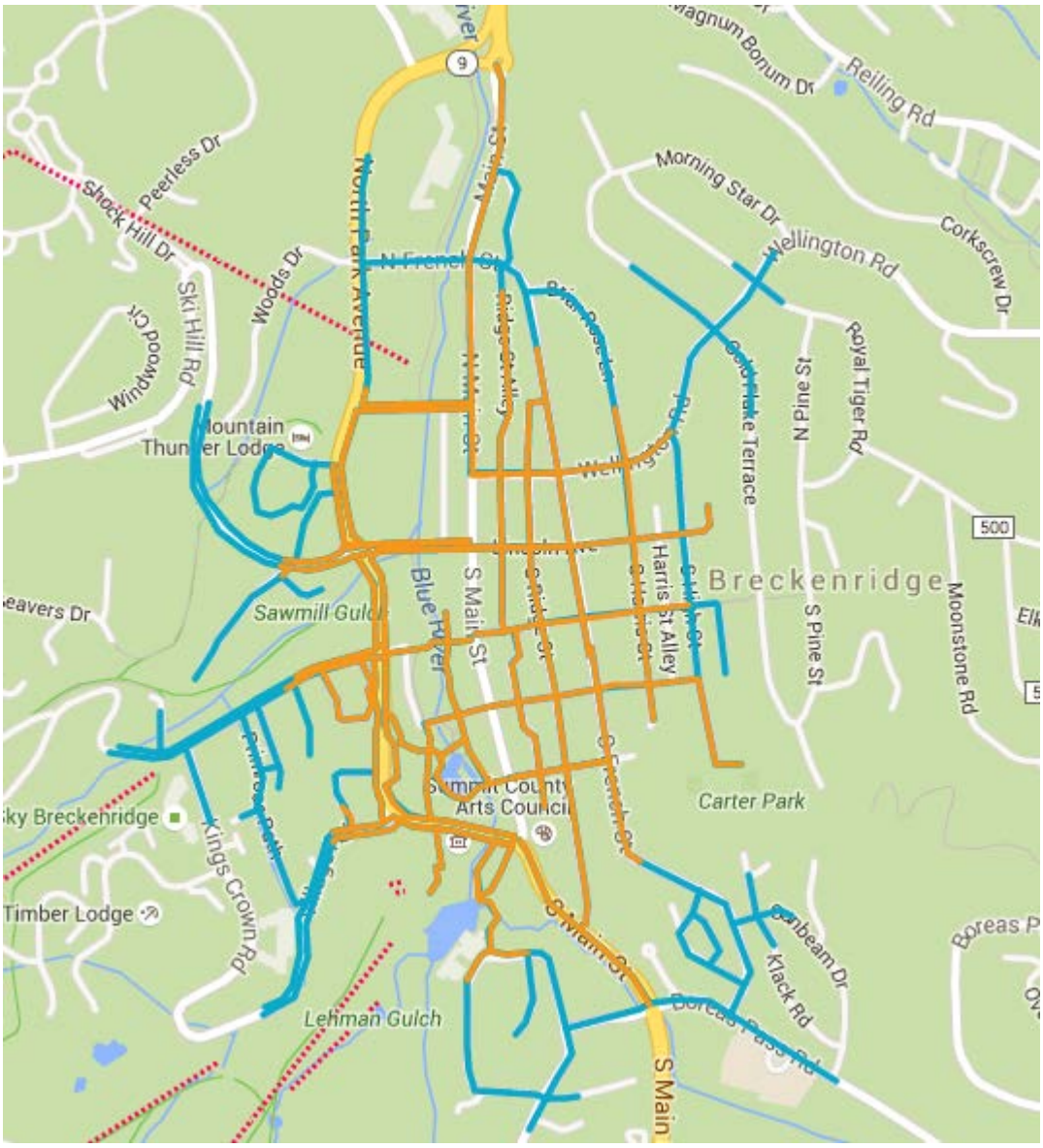
PEDESTRIAN ENVIRONMENT

The primary pedestrian corridor in Breckenridge is Main, a street designed to feature wide sidewalks and marked crosswalks at frequent intervals, both at intersections and mid-block between them, with safety measures including "bulb-out" sidewalk extensions shortening crossing distances and high-visibility warning signs for motorists at unsignalized crossings. Main Street also features attractive storefronts and landscaping, pedestrian-scaled lighting, and parked cars and bicycle lanes providing a buffer between the sidewalk and traffic. It is, by any measure, a high-quality environment for walking.

There is also an off-street pedestrian path, the Riverwalk, running north-south along the east bank of the Blue River between Jefferson and Washington avenues. The path is connected to Main, just to the east, by Jefferson, Adams and the Blue River Plaza at Main and Washington. In this segment, the Upper Blue Recpath bicycle and pedestrian path is along the west bank of the river, and the Breckenridge Alpine Garden and Riverwalk Center are between them. This, too, is a high-quality pedestrian environment.

Elsewhere in the town, pedestrian conditions are mixed. Notably, sidewalks are narrow or missing on one or both sides on many streets, particularly outside of the town core. They are also often covered in snow and ice during winter, which is particularly problematic on the steeper streets outside the town core. Figure 38 shows pedestrian pathways within a quarter-mile (orange) and half-mile (blue) of the central segment of Main Street. While these distances represent relatively short walks – five and ten minutes, respectively, at a typical walking speed for an able-bodied adult of three miles per hour – their utility is limited by the quality of pedestrian facilities.

Figure 38 - Five- and Ten-Minute Walksheds from Main Street



One key pedestrian connection that is limited in its attractiveness and usefulness by a lower-quality pedestrian environment is between the Gondola Lots and Main. This connection is important, as the Gondola Lots and adjacent Gold Rush Lot contain approximately 1,320 parking spaces, while Main is the town's primary retail corridor. The distance between them is relatively short – about 330 feet at their closest points – but neither of the two existing pathways is especially inviting. One, along Watson, features sidewalks, but they are relatively narrow and flanked by unappealing parking lots and backs of buildings. The other, from the Gondola South Lot, is via a metal staircase, bridge over the Blue River, then through the East Sawmill and Wellington Lots. This path is shown in Figure 39.

Figure 39 - Pedestrian Path to Main Street from Gondola South Lot

Another notably problematic location for pedestrians is along Park. Where there are active land uses on both sides of the street, there are sidewalks, although these sidewalks are relatively narrow and can be covered in snow and ice in winter. More problematic are the limited opportunities to cross Park, a busy state highway. As Figure 40 shows, pedestrians cannot cross:

- at Woods Drive, between the Gold Rush Lot and Gondola base; as previously noted, Vail Resorts dedicates two buses exclusively to carrying people across the street when the lot is open
- at the Mountain Thunder Lodge entrance (although crossings can be made just south, at Ski Hill)
- between the Cimarron Hotel entrance and F Lot bus stop across the street
- at Village Road

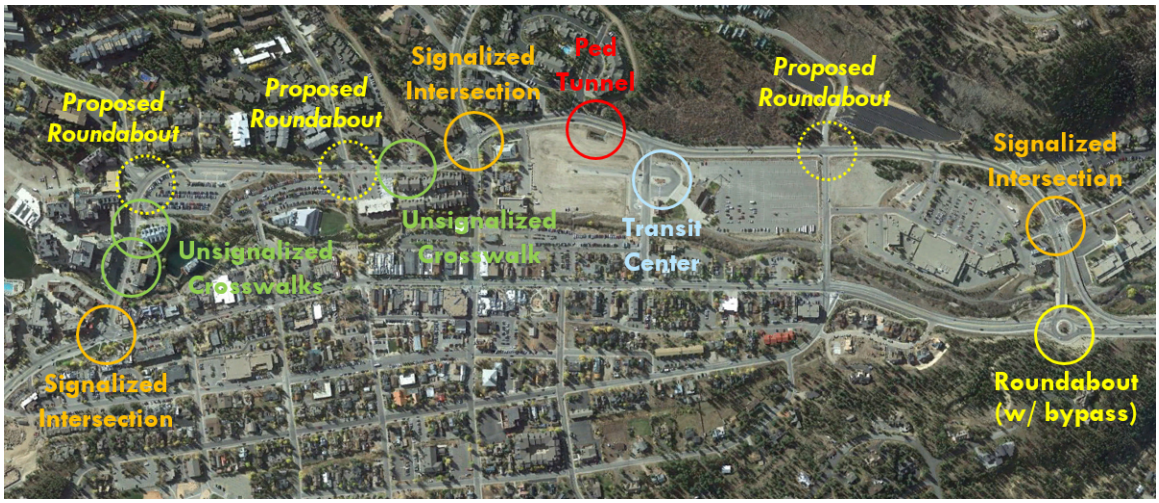
Additionally, crosswalks are unprotected at:

- Four O'Clock Run
- Four O'Clock Road
- The Village at Breckenridge
- the crossing mid-way between the Village and Main

As was previously noted, control officers are deployed to the Village crossing during busy times. As was shown in Figure 38, much of the residential "bed base" west of Park is within a 10-minute

walk of Main Street via the most direct pathways. However, much of Park serves as a barrier to walking.

Figure 40 - Park Avenue Controlled Intersections and Pedestrian Crossings



FACILITIES FOR CYCLISTS

There are three primary bike routes in Breckenridge providing dedicated space for cyclists, each of them running north-south through the town and roughly paralleling one another just a few hundred feet apart. From east to west, they are:

- Main between French and South Park, which features Class II on-street bike lanes between traffic lanes and vehicles parked along the curbside
- the Upper Blue Recpath, a Class I off-street multi-use path extending north to Frisco, where it connects to the Dillon Reservoir Recpath and the towns of Dillon and Silverthorne
- Park, which features Class II on-street bike lanes adjacent to the curb

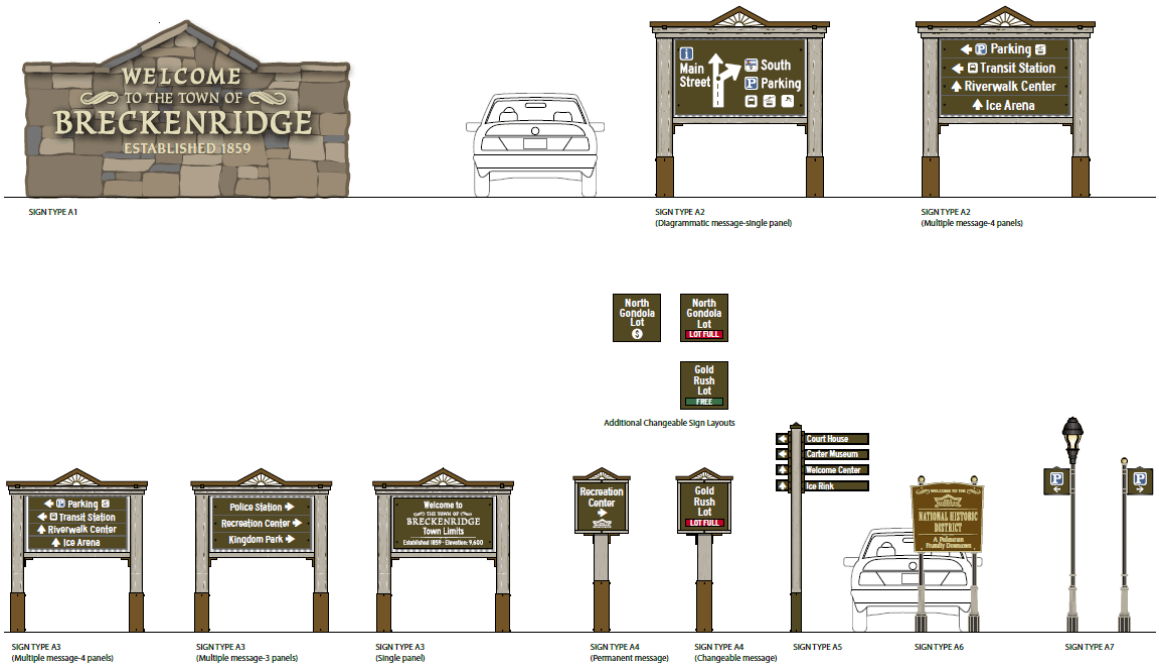
There is also a short segment of Watson, between Main and Park, with Class II bike lanes along the curbs providing an east-west connection between the Breckenridge Station transit center and the north-south routes.

Notably, there is a one-block gap in the Recpath between Ski Hill and Watson, adjacent to the Gondola South Lot. In this segment, the most direct route for cyclists using the path is via the alley providing access to the East Sawmill Lot, to the east, which features Class III “sharrow” stencil pavement markings designating a space that is to be shared by motorists and cyclists. Completion of the path is planned as part of redevelopment of the Gondola Lots. However, that project has been delayed, and there is currently no timeline for completion.

6 WAYFINDING

In addition to standard street and highway signs, the Town provides supplemental "wayfinding" signage designed to help motorists, pedestrians and cyclists navigate to key destinations. Examples of these signs are shown in Figure 41. There are also town maps on sidewalks downtown.

Figure 41 - Wayfinding Signage



Notably, there is a sign along southbound Highway 9 just north of the North Main/Park roundabout – the "Sign Type A2" sign to the left in Figure 41 – directing motorists approaching town to park in the lots along Park. The sign, however, is relatively small, and may not be legible to many passing motorists. Additionally, the town does not provide any digital signage providing real-time information on parking availability at different locations. There is a digital display on Highway 9 to the north; however, it directs motorists to a website providing information on I-70 travel conditions.

TOWN OF BRECKENRIDGE

TRANSPORTATION, PARKING AND URBAN DESIGN STUDY

TRANSPORTATION RECOMMENDATIONS

1 INTRODUCTION

This document describes the Breckenridge Transportation, Parking and Urban Design Study recommendations developed by Nelson\Nygaard and DTJ Design in collaboration with the Town Council, residents and staff. This document is designed to provide a set of proposed solutions for the Town of Breckenridge to mitigate existing traffic congestion, parking, and urban design challenges. While each challenge is unique, the are intimately tied together and ultimately impact, and compound upon each other to great effect. Therefore, the following proposed recommendations are designed to address each topic separately with a shared goal of reducing their overall impact on the Town, its residence, and its many annual visitors. Through a series of community and staff work sessions, an established set of goals has been defined to help direct our list of recommendations outlined in this document including:

1. *Improved Guest Experience*
2. *Reduced Traffic Congestion*
3. *Increased Access to Downtown Businesses*

Description of the recommendations is organized into the following chapters and sections:

- **Parking**
  - Town-Wide Pricing Program
  - Parking Information
  - Future Capacity Expansion
- **Traffic**
  - Park Avenue Roundabouts
- **Public Transit**
  - Passenger Information and Amenities
  - Free Ride Route Reconfiguration
  - Transit Center Reconfiguration
  - Transit Priority Treatments
  - Gondola Expansion
- **Active Transportation & Urban Design**
  - Enhanced Blue River Corridor
  - Enhanced Pedestrian Access to Downtown
  - Wellington Lot Park
  - Bikeshare system
  - Bike Parking Expansion
- **Other Recommendations**
  - Gondola Visitor Center
  - Smartphone App
  - Lyft Partnership
- **Implementation**

The Implementation chapter includes a summary list of recommendations along with guidance on implementation.

An appendix has also been included describing results of a peer review of parking policies in Western resort communities.

Some analysis conducted in support of recommendations development is included in this report. Additional analysis will be included in the project final report.

2 PARKING

The following parking-related recommendations should also be understood to be *traffic*-related recommendations, as solving Breckenridge's parking problem will go a long way toward addressing its traffic congestion issues. These parking recommendations are designed to:

- Reduce rates of "circling," or driving around in search of a parking space
- Discourage attempts to drive out of town during the evening rush hour/encourage remaining in town to dine at local restaurants
- Encourage long-term parkers to use intercept lots outside the town core rather than close-in spaces that should be reserved for short-term use

Additionally, the parking recommendations are designed to achieve the following non-traffic-related goals:

- Ensure a few spaces are available at all times of day, year-round, on every block and in every parking lot, to ensure "close-in, convenient parking" at all times.
- Focus on the customer, making the parking system easy to understand and use from beginning to end (figuring out where to park, getting there, parking, paying)
- Minimize the need for enforcement, by making it easy for parkers to follow the rules
- Use the latest technology for parking payment, enforcement and wayfinding
- Dedicate any net revenue toward transportation and public realm improvements
- Ensure the system works as well in the snow as in summer

TOWN-WIDE PRICING PROGRAM

The Town Council should direct the Police Department to develop a program for charging fees for use of most public parking spaces, including those that are currently free. This program would include both on-street spaces as well as spaces in Town-owned lots. Recommendations for major elements of the program are described below.

Locations, Hours and Rates

Rates should be set at the *lowest* level necessary to achieve an availability target of approximately 15 percent, or one to two spaces on each block face (in some cases, this will mean no charge). This may vary by location, time of day, day of the week and season. Availability should also be monitored and rates adjusted on a regular basis. Hours of operation should begin as early and end as late as necessary to ensure 15 percent availability at all times.

Analysis

In order to recommend initial rates for spaces that are currently free, peer review was conducted. Among resort communities in the Intermountain West that charge for on-street parking:

- Aspen charges escalating rates of $2 for the first hour, $5 for the second hour, $9 for the third hour, and $14 for the fourth.
- Telluride charges a flat rate of $1 per hour.
- Park City, Utah charges $1.50 per hour.
- Taos, New Mexico charges 50 cents an hour.

The Town's most recent Parking Summary Report (May 2014 through April 2015) was also reviewed. That report indicated that during periods of observation (including Mondays, Wednesdays, Fridays and Saturdays from November 24, 2014 through March 2015), average availability was below 15 percent (85 percent occupancy) on the following blocks where parking is currently free:

- Along South Main Street and on the 100 block of North Main Street
- In the afternoon on the 100, 200, 400 and 500 blocks of South Ridge Street, and in the morning on North Ridge Street
- On Adams Avenue
- In the afternoon on the 200 block of North French Street

Average availability was also below 15 percent in the following free lots:

- Ice House
- Tonopah (in the afternoon)
- French Street (in the morning)

Availability during peak periods was also reviewed. Observed availability both on-street and in public lots on the afternoon of the busiest day of the Winter 2014-2015 season, January 31, 2015, is shown in Figure 1 (note that data for some locations were missing).

Figure 1 - Peak Parking Occupancy

The parking payment equipment described in the following section should be capable of automatically adjusting rates at predetermined times. This will allow the Town to adjust rates as necessary to achieve 15 percent availability at all times.

Recommendations for Existing Free Spaces

Initially, we recommend that winter day rates in parking spaces that are currently free be set as described in the following sections. Again, availability should be monitored and rates, hours and locations where a fee is charged should be adjusted on a regular basis. Additional rate "tiers" may also prove necessary during periods of very low or very high demand.

Because no data were available on existing evening or off-season occupancy, no recommendations are made for those times. The Town should conduct observation to determine whether rates should be charged at those times, and exactly what hour rates should be in effect. Ideally, observation of off-season availability should occur this summer and fall, prior to the Summer 2017 season, and should include both "average" weekdays as well as peak event weekends. The goal would be to determine when and where charging for parking is needed based on occupancy and hours of operation for nearby businesses.

Locations

Generally speaking, rates should be charged only on streets and in current free lots where pre-existing average (winter day, including both weekdays and weekends) availability in either the morning or afternoon is below 15 percent, although for purposes of simplicity, a few adjacent blocks are recommended for inclusion. The following locations are recommended:

- Main Street
- Ridge Street
- Adams Avenue (west of French)
- Lincoln Avenue (west of French)
- Ice House Lot
- Tonopah Lot
- French Street Lot

Hours

Rates should reflect hours of operation for local businesses, including the ski resort, and should remain in effect later than 3 p.m., the current cutoff for charging in paid lots. Because no evening data were available, an initial period when rates would be in effect of 8 a.m. to 8 p.m. was assumed. However, this may be adjusted following implementation based on observed evening occupancy.

Rates

Higher rates should be charged where and when demand is higher. This means that higher rates should be charged:

- On Fridays, Saturdays, Sundays and holidays
- In the afternoon
- At the highest-demand locations

Reflecting the above and based on the peer and local analysis previously described, a two-tiered rate structure is recommended. The rate structure would be escalating, with the hourly rate increasing based on length of stay up to a maximum rate (there would be no time limits, as further described in the following section).

Recommended rates are shown in Figures 2, 3.1 and 3.2. "Peak" rates would apply only on Fridays, Saturdays, Sunday and holidays. Because the rate structure would be escalating, based on duration of stay, average rates would be higher in the afternoon than in the morning. Higher rates would be charged in the downtown core, on Main Street, and the first hour in off-street lots would be free.

Figure 2 - Recommended Off-Peak Parking Rates

Hours	Main St	Ridge, Adams & Lincoln	Ice House, Tonopah & French Lots
First Hour	$0.25	$0.25	Free
Second Hour	$0.50	$0.25	$0.25
Third Hour	$0.75	$0.25	$0.25
Fourth Hour and Every Hour Thereafter	$1.50	$1.00	$1.00

Figure 3.1 - Recommended Peak Parking Rates

Hours	Main St	Ridge, Adams & Lincoln	Ice House, Tonopah & French Lots
First Hour	$0.50	$0.25	Free
Second Hour	$1	$0.50	$0.50
Third Hour	$1.50	$1	$1
Fourth Hour and Every Hour Thereafter	$3	$2	$2

Figure 3.2 - Recommended Peak Parking Rate Alternative

Hours	Main St	Ridge, Adams & Lincoln	Ice House, Tonopah & French Lots
First Hour	Free	$0.25	Free
Second Hour	$3	$0.50	$0.50
Third Hour	$12	$1	$1
Fourth Hour and Every Hour Thereafter	$12	$2	$2

Assuming that rates were in effect 12 hours a day, the maximum off-peak daily rate (on Main Street) would be $20, equivalent to the current peak daily rate for the most expensive public lot (Beaver Run). The maximum peak daily rate, meanwhile, would be $30, further serving to discourage all-day parking by employees or others without requiring time limits.

Time Limits

Because the rate structure would be escalating and because a remote payment option would be offered (see following section), the existing time limit of three hours could be eliminated, with a few possible exceptions where turnover is exceptionally important (such as the Post Office on Ridge Street, where a 30-minute time limit might be enforced) or where spaces would remain free (French, Harris and High streets). As long as they have paid for the time, those who choose to remain in parking spaces longer than three hours should not be ticketed, eliminating the anxiety associated with time limits and helping to ensure that the paid parking system is perceived as customer-friendly. However, those who remain longer than three hours should be charged a higher rate, in order to discourage long-term parking in short-term spaces.

Additional recommendations on paid parking equipment, enforcement, and use of discounts, validation and permits can be found below.

Recommendations for Existing Paid Spaces

For purposes of consistency, simplicity, legibility and flexibility to manage the existing parking supply holistically and effectively, we recommend that all Town-owned parking lots, including existing paid lots, charge by the hour rather than on a daily basis. This would require users of existing paid lots to pay upon exit, rather than on entry. This is further addressed in the following section on Payment and Enforcement Technology.

Rates for existing paid in-town lots should be set consistent with those recommended for existing free spaces. However, peak maximum daily rates in existing in-town long-term lots should be set at a level lower than the recommended peak maximum daily rate for high-demand on-street and town core off-street spaces of $30. If the recommended rate structure for currently free spaces were adopted, those exiting before 3 p.m. would pay a maximum of $15, the current peak rate for the Vail Resorts-owned Gondola Lots, as well as the Town-owned Wellington and Ice Rink lots. The Town might set this as the maximum daily rate.

Additionally, and importantly, major discounts should be offered to those exiting outside of the afternoon peak period, in order to reduce traffic congestion. Under the recommended rate structure, those staying a shorter time (up to eight hours) would pay a lower rate. However, users of long-term lots should also be incentivized to stay longer – specifically, to remain for après-ski activity, specifically patronizing downtown restaurants and bars. For this reason, deep discounts should be offered for late exits (say, after 7 p.m.) – perhaps even free parking. (Parking should continue to be free for evening-shift employees parking in Town lots after 3 p.m.)

Payment and Enforcement Technology

This section describes recommended payment and enforcement methods and equipment for all Town-owned parking spaces, both on- and off-street, and including both those that are currently free as well as those that are now paid. The recommendations are designed to provide a basis for definition of the desired performance specifications (“specs”) to be included in a future Request for Proposals or RFP sent to potential vendors.

On-Street Payment Technology

Many Breckenridge residents have expressed a belief that conventional parking meters at individual spaces would be inconsistent with the town’s historic, small town character, while consolidated pay-by-space “pay stations” can be difficult to use in snowy conditions, as space

numbers may be obscured. Additionally, multi-space pay-and-display machines require motorists to walk back to their cars to display their parking receipts, making the stations less convenient than traditional meters.

For on-street spaces, we recommend a combination of two payment technologies that together should be able to provide the right balance of customer convenience, weather readiness, and flexibility:

- *Pay-by-license plate.* Pay-by-license-plate machines are much like pay-and-display, but users enter their license plate numbers with their payments, eliminating the need to walk back to their cars. These pay stations may also offer motorists the option of entering their phone numbers in order to receive a text message alerting them that their time is about to expire.
- *Pay-by-phone.* A number of parking payment vendors now allow motorists to download a smartphone app and enter their license plate and credit card information. With such an app, motorists can either buy a specific amount of time or simply "start the meter running," then turn it off when they return to the car. With the latter option, motorists do not have to guess how long they will remain parked, and pay for only as much time as they need. With the former option, motorists can ask to be alerted when their time is nearly expired, and opt to either return to their cars or buy more time using their phones.

Enforcement Technology

Both of the above payment technologies would require the use of existing, and potentially additional automated license plate readers, operated by the Police Department and linked to a real-time payment database.

Off-Street Payment Technology

In the small lots off of Main Street, the same pay-by-license-plate stations should be used as those on-street.

In the larger lots, "pay-on-foot" stations would likely be the best option. However, users should pay upon exit rather than entry, as they currently do (see following section). Under this system, gates would restrict access. On entry, motorists could either insert their credit cards or push a button to receive a ticket. To exit, credit card users could simply re-enter their cards, while those who took a ticket upon entry would need to visit a pay station before returning to their cars.

This system would require a sufficiently large number of entry gates to ensure that cars did not queue onto adjacent streets and block traffic. If properly deployed, parking lot gates can be used to "meter" or manage traffic exiting the parking lots, ensuring a "steady stream" of cars exiting onto Park and Main in an orderly fashion rather than a simultaneous "surge" of cars.

Availability Data

All payment technology procured by the Town should be capable of providing, in easily accessible format, data on usage for use in digital distribution of real-time availability information (see later section, Parking Information). This information could also be factored into regular (potentially quarterly or seasonal) adjustments by the Town to rates, hours when rates are in effect and locations where rates are in effect. However, it should be understood that paid spaces are not the same as occupied spaces, as some spaces may be occupied and unpaid (due to violations) while

others may be unoccupied but paid (due to overpayment). For this reason, real-time data on usage should be understood to be an *estimate* of occupied spaces.

Discounts, Validation and Permits

We recommend that all Town-owned parking be priced by the hour, and that no daily, monthly or annual permits be provided. By eliminating monthly permits, even for employees, the town can provide an incentive for commuters to try transit, walking, or biking, even if only once a month.

Discounts and Validation

We recommend that the Town consider special discounts in its parking program in order to meet downtown economic development, traffic management, and other goals:

- *"Après-ski" discounts*. As previously described, a special discount should be offered to long-term parkers who depart after the afternoon peak period. It may even be reasonable to offer free all-day Saturday and Sunday parking to those who stay late, as most will choose to have dinner or otherwise spend money in local businesses while waiting.
- *Parking validation*. Just as businesses often offer validation for private parking, there is no reason that the Town cannot accept validation for public spaces – if, that is, the city's preferred technology vendor can accommodate them, as it should. Some employers may find that their business model requires free customer parking; these employers would be able to take part in a Town program under which they would be required to reimburse the Town in part or in full for validated parking. (Both the Town and businesses should recognize, however, that this practice would effectively be reflected in higher cost of goods and services for all customers of participating businesses, as business owners would likely pass along part or all of the costs of this program.)
- *Resident discounts.* During peak times, it is reasonable to offer full-time residents a discount off the price of parking, in order to encourage locals to support downtown businesses year-round. Locals could register their license plates with the town, and receive, say, a 50 percent discount off of peak parking when using their pay-by-phone app.

Employee Parking Permits

- All employees should be treated equally and provided abundant parking choices. With this in mind, we recommend the following changes to the employee parking permit program:
    - Recognizing that many employees have no practical choice but to drive, employees should be provided with free parking at all times in the Airport Road and Ice Rink satellite lots (all spaces in the former, and designated spaces in the latter). Connecting transit should be made available over the same hours that most employees work, accommodating dishwashers, barbacks and others who must remain after bars and restaurants close. This will require an extension in the hours of Free Ride service to the remote lots (see "Transit" section).
    - We do not recommend reserved employee spaces or discounts at in-town lots or on-street spaces. Rather, employees using these spaces should pay the same rates as other motorists. Given the town's limited resources, employees will derive

greater benefits from subsidized housing and from improvements to transit, biking and walking infrastructure than they will from subsidized parking in town.

- Some employers may choose to cover employee parking costs. Employers who provide free parking, however, should be encouraged or required to provide an equal benefit to employees who do not drive, in the form of taxable cash or other benefits.
- The Town has indicated that it would like to continue its policy of providing free parking in Town-owned in-Town lots after 3 p.m. for employees. In order to remain consistent with other policies, including the aforementioned "apres-ski" discount, we recommend that all employees who park after 3 p.m. and do not depart until after 7 p.m. be offered free parking. This would provide convenient options for employees in addition to expanded late-night transit service.

Residential Parking Permits

On-street parking is prohibited on most blocks in the town, and is generally allowed only on commercial blocks. However, it is allowed in neighborhoods on High Street, Harris Street and much of French, a street that is on the edge of downtown but is primarily residential. Based on existing observed, relatively low demand, pricing of the currently free spaces on French is not recommended. However, pricing spaces on Main, Ridge, Adams, Lincoln and in nearby lots could cause some "spillover" impact on French. For this reason, the Town's existing residential parking permit program is recommended to be continued, with some modifications.

The license plate-based enforcement proposed for paid spaces could be incorporated into the residential permit program. This would make it easy for the Town to establish and enforce a residential permit district that is friendly for both visitors and full-time residents. Full-time residents could simply register their license plates to allow them to park in the permit district. Guests could also pay on a daily basis, for as many days they need to park in the residential district. The Town can decide if there should be a price difference between full-time residents and guests, and what evidence is necessary to establish guest status. We recommend the continued issuance and use of low-cost permits for full-time residents. We also recommend setting guest permit rates at a high enough level to discourage employees and day skiers from parking in residential areas, in order to eliminate the need for guests to prove their status.

Other Permit Programs

No recommendations are made related to the Town's existing overnight, Ice Rink day use and other special permit programs.

PARKING INFORMATION

The parking management program described in the previous section will go a long way toward reducing the traffic congestion associated with "circling" for parking by ensuring that a few spaces are always available on all street segments and in all blocks. Coupling pricing of all in-town spaces with continuation of the Town's existing policy of offering free parking lot in the remote Satellite Lot on Airport Road will further disincentive circling for parking within town.

The Town could further reduce the congestion associated with circling by providing additional directional signage including signs with "real-time" information on availability of spaces in different locations. This could take two basic forms:

- *Digital displays at key motorist "decision points" on approaches to town*. The Town has recently added a variable message sign along southbound Highway 9 just north of town; however, it offers limited space and is primarily used to advertise an Interstate 70-related website. While large variable message signs like those used by CDOT may not be aesthetically appealing, additional large digital displays of some sort along Highway 9 to both the north and south could serve to divert unnecessary traffic simply by providing basic decision-making information for motorists – for example, whether large in-town lots were full, and whether to proceed directly to the Airport Road Satellite Lot instead rather than continuing into town and circling for parking before eventually returning to the lot. For in-town spaces, this information could be provided using data from pay stations and gates, while for Vail Resorts lots, the current "low-tech" system used in the Gondola Lots – based on observation by Vail Resorts employees – could be leveraged and expanded to other locations. Alternately, the Town could simply declare lots "full" at a predetermined time based on historical data (i.e., on peak days each lot can be expected to fill by a certain time).
- *Online, through various platforms*. An "all-in-one" travel planning app is recommended for development in a later section. This app should include real-time information on parking availability at different locations; where there are pay stations, this information could be very specific ("X" number of spaces at "Y" locations), while in lots operating on a "pay-by-foot" (walk up kiosk) system; more general information (where lot is full or still has spaces available) may be necessary. In addition to the app, this information could be distributed by text message to subscribers (who could sign up in advance using the smartphone app or on the City website to receive texts on specific days), via a Twitter feed (similar to the *@breckconditions* account used by Vail Resorts), on the Town's website or through other social media channels.

FUTURE CAPACITY EXPANSION

The Town should first give its newly expanded parking demand management program an opportunity to succeed before concluding that additional parking supply is necessary. However, if traffic to the town of Breckenridge continues to grow, at some point it is likely that expanded parking capacity will be necessary. We recommend that any future parking structures be located where they would have the least impact on traffic congestion bottlenecks and hotspots, ideally at remote sites (e.g., Airport Road and/or the Ice Rink) with frequent transit connections to the core of Town – ideally, gondola connections, as described in the following section. This would help to ensure that those using these facilities have convenient access to the town core.

If a parking structure is to be built in-town, we recommend that the Town explore with Vail Resorts the possibility of purchasing/adding capacity at the Gondola and/or Gold Rush sites. While these would generate additional traffic on North Park Avenue, they would have less of an impact on Park than the F Lot site, and could similarly attract additional shoppers to downtown if the pedestrian path between the Gondola Lots and Main Street were improved as recommended elsewhere in this document. A structure at the Gondola or Gold Rush sites would also allow traffic to remain on Park, rather than funneling much of it onto Watson and Main as would occur with a structure at the Sawmill site (the Sawmill site also presents design challenges).

Any future parking structures should also be sized based on detailed study of need over the 10- to 20-year timeframe, and taking into account emerging technologies such as autonomous vehicles, which may reduce parking needs over the long term.

The following Feasibility Studies depict optional scenarios for capacity expansion based upon future need determined by the Town of Breckenridge. The findings of this document and potential impacts of future parking expansion on traffic congestion dictate that preference for Intercept Lot expansion should be given over an increase in capacity with the downtown corridor:

North Breckenridge Intercept Parking Expansion

- **Airport Road near Colorado Mountain College** – The location of town owned land near Colorado Mountain College (CMC) provides opportunity for parking capacity expansion to the north with the option to leverage its existing, significantly sized, surface parking infrastructure, see Figure 4. This intercept lot would allow visitors to leave their vehicles at the edge of Town, decrease in town trips, and reducing overall traffic congestion as a result. Consideration and coordination with College staff, students, and events would need to be considered, and their involvement in the ultimate design paramount as well. There could be opportunities for shared parking with CMC to reduce the overall footprint considering weekend skiers and weekday students would not conflict.

  This study depicts a new parking deck which can be built to varying levels depending on parking need determined by the Town of Breckenridge at a later date. To the south of the garage, additional surface parking could be provided, along with optional pick-up/drop-off areas for local or regional buses. This location, along the Blue River Corridor also benefits for its capacity to serve as a northern terminal stop for proposed future gondola expansion, should the decision to expand this public transit option to the north be considered.

Figure 4 - Conceptual Intercept Lot and Gondola Station near Colorado Mountain College (approx. 991sp. proposed; 4 level structure)

- **Airport Road at Block 11** – Along with the CMC site study, consideration should be made for the southern end of the Block 11 Parcel, near the Upper Blue Elementary School. An alternative location for a northern terminal gondola station or even a mid block stop for future growth to the north, this location would serve the future residents of the Parcel and existing Breckenridge Terrace residents alike, refer to Figure 5.

  This design study demonstrates how a small parking structure, surface parking, and transit stop could integrate within the existing Master Plan of the property. Its location, similar to that of CMC, can leverage its proximity to the Blue River Corridor for preferred Gondola routing within existing Town owned property.

  This property is currently owned by the school district and would require a purchase by the Town.

Figure 5 - Conceptual Block 11 Intercept Lot and Gondola Station (approx. 399sp. proposed; 4 level structure)

- **Airport Road at McCain Property** – A third and final location for a northern Intercept Lot has been considered at the southern edge of the McCain Property, just north of CMC. Similar to that of the previous studies, the proposal for this location is determined by its relationship to get traffic easily to-and-from Highwya 9, and the opportunity to integrate this Intercept Lot and Gondola Station within the design of future development growth strategies, see Figure 6.

  This design also features a structured parking solution in conjunction with surface parking as well as transit stop to provide optimal flexibility and options for users to encourage use.

  The McCain property is owned by the Town and a parking addition is consistent with current master plan options for the property.

Figure 6 - Conceptual McCain Property Intercept Lot and Gondola Station (approx. 777sp. proposed; 4 level structure)

South Breckenridge Intercept Parking Expansion

- **Ice Rink** – Although attention is typically paid to traffic and congestion associated with Highway 9 and the I-70 corridor to the north, recent studies along with empirical evidence underscore the shift in the balance of traffic from Highway 9 to the south as critical to the future traffic considerations of the Town. Existing Town owned property is limited along this stretch of the southern corridor; however, expansion of the already leveraged Ice Rink parking lot should be highly considered. Its location is already ideally suited as close in and convenient for visitors coming into town from this direction. And its geographical setting makes design of structured parking more suitable and easier to disguise than other, more prominent locations.

  The feasibility design for this location focuses primarily on a multi-level parking structure that can be nestled into the heavily wooded hillside to the south, see Figure 7. A small amount of surface parking can also be located, with space available to maintain the existing transit stop as well. The Ice Rink would also ideally serve as the south terminal station for future gondola expansion. The location of the station and plaza could be located immediately adjacent to the proposed parking structure and allow visitors to step out of their vehicles, almost directly onto a gondola car and into town within a few short minutes.

Figure 7 - Conceptual Ice Rink Intercept Lot and Gondola Station (approx. 687sp. proposed; 4 level structure)

In Town Parking Expansion

While the findings of this report encourage the consideration of intercept lots to the north and south ends of town to mitigate congestion impact, it would be negligent to ignore the potential for future capacity increase within the downtown corridor. Prior to committing towards substantial investment in infill infrastructure; however, primary consideration should be given not only to impact on traffic and congestions related issues, but to the potential for alternative land uses for this highly valuable real estate.

There could be options for coordinated additional parking on the Vail Associates owned lots that would be more preferable than the Town owned properties. However, for the purpose of this report the Town owned properties were the only potential locations considered.

- **F-Lot** – This existing surface lot has long been considered an ideal location for building a parking structure. The location and proximity to both downtown and nearby ski lifts are very intriguing when considering capacity increases. It should be noted however, that this location is already central to the existing congestion and gridlock on peak days. Increasing vehicular access and total traffic numbers would only exacerbate the existing, underlying issue.

  With that in mind, this study does depict how the existing lot could be reconfigured into a tuck-under structure, see Figure 8, with surface parking along Highway 9, along with a second floor parking down, connecting directly to Tiger Dredge lot immediately north. Plazas and connected pathways would create an inviting environment for visitors and help extend the ambience of the Blue River Plaza further south and west, engaging both sides of the River.

Figure 8 - Conceptual F-Lot Parking Garage (approx. 346sp. Proposed; 2 level structure)

- **East Sawmill Lot** – As a means to help connect the existing Gondola Lots to Downtown, as well as to complete the gap in Blue River Bikeway, a proposal for a Parking Garage in this existing lot has been considered, see Figure 9. The location of the lot remains central to core businesses, and traffic access to this location further to the north of Main Street, would create less impact on peak days than at F-Lot.

  In this study, a parking garage has been located immediately adjacent to the east end of the Gondola Lots. Access would likely need to come from Watson Avenue to the north and Ski Hill Road to the south, likely with no direct access from the Vail Resorts owned Gondola Lots to the west. Surrounding the structure are a proposed series of park-like pathways and pocket parks that creates a more inviting atmosphere for visitors to navigate, compared to the surface parking lot located there today.

  This option would directly conflict with the existing master plan for the Gondola Lot property, which was a Town and Vail Associates coordinated effort.

Figure 9 - Conceptual E. Sawmill Parking Garage (approx. 326sp. proposed; 3 level structure)

3 TRAFFIC

Our recommended strategy for reducing traffic congestion has multiple elements. As explained in the introduction to the previous chapter, it includes recommendations to more effectively manage parking in order to reduce rates of circling looking for parking. It also includes recommendations to make riding public transit, cycling and walking more attractive alternatives to driving for in-town trips, recommendations that are described in the following chapters. Combined, these measures should be sufficient to reduce peak traffic volumes by several percentage points, which in turn should result in a greater reduction in delay and congestion.

However, we have also included recommendations more directly addressing traffic and safety issues on Park Avenue, the Highway 9 bypass of town. These recommendations are focused on new and redesigned roundabouts, and include improvements for pedestrians.

PARK AVENUE ROUNDABOUTS

The Town has already developed plans to introduce roundabouts at the intersections of Park with:

- Village Road
- Four O'clock Road
- French Street

Additionally, Town staff have expressed interest in exploring roundabouts at the existing signalized intersections of Park with Airport Road, Ski Hill Road and South Main Street. Synchro traffic model analysis indicates that replacement of the existing signal at Park and Ski Hill Road with a roundabout could reduce peak vehicular delay. Analysis of traffic volumes at the nearby Village at Breck crossing, meanwhile, indicates that traffic could be accommodated at South Main using a single-lane roundabout, which in turn could be built without requiring modification of adjacent structures (the curbline would extend into existing setbacks on the east side of the intersection).

In addition to the above, we recommend consideration of a new roundabout at Park and Watson. This would serve to reduce delay for buses attempting to turn left onto southbound Park from the existing transit center. Even if the transit center were relocated, as has been discussed, a roundabout at this location would help improve circulation for autos by facilitating left turns from Watson.

Our recommendation is for a study of all potential roundabout locations along Park to:

- Conduct traffic modeling in order to confirm, consistent with CDOT requirements, both engineering feasibility and the potential for maintenance of existing throughput
- Prioritize locations on the basis of potential for congestion reduction and other factors such as available right-of-way and potential to improve transit operations

- Further develop concepts for the previously proposed pedestrian bridge at the Village at Breck crosswalk

In all cases:

- ***Roundabouts should include pedestrian crossings***. Where pedestrian volumes are high enough to have a meaningful impact on traffic, this is an indication of demand for pedestrian crossings that should be accommodated if the Town is to make walking a more attractive alternative to driving for short, in-town trips.
- ***Roundabouts should be compact in design***, with a design speed of 10 miles per hour, and accommodating large vehicle movements using rollover aprons.

In addition to introduction of new roundabouts, we recommend redesign of the existing roundabout at Park and North Main to better accommodate eastbound-to-northbound left-turn movements, and reduce the existing requirement to manually manage the intersection using traffic control officers during peak periods in order to facilitate those movements. The source of this problem is the lack of vehicles making a northbound-to-westbound movement through the intersection, which would cause southbound vehicles to yield and create "gaps" for eastbound-to-northbound vehicles. Southbound traffic, could, however, be slowed by redesigning the southbound approach to deflect at something closer to a right angle; in other words, rather than angling to the right on approach, vehicles would continue along something close to a straight line until reaching the roundabout itself. Because there is virtually no traffic to yield to at this point, they could safely enter even from something approaching a full stop.

4 PUBLIC TRANSIT

Making alternatives to driving more attractive is an essential component of our strategy for reducing traffic congestion, supporting Main Street business and improving the customer experience for residents, employees and visitors. Our transit-related recommendations can be grouped into five categories:

- Passenger Information and Amenities
- Free Ride Route Reconfiguration
- Transit Center Reconfiguration
- Transit Priority Treatments
- Gondola Expansion

PASSENGER INFORMATION AND AMENITIES

In the near term, the Town should take a number of low-cost steps to improve the customer experience for transit riders and potential riders.

- ***Improve the system for providing real-time information***. The Town currently provides limited real-time information on Free Ride bus locations and wait times via its website and an off-the shelf smartphone app. Town staff have indicated that the existing equipment used to report locations of buses is somewhat unreliable. For some time, staff have been exploring upgrades to the real-time system. Summit Stage is currently in the process of implementing such a system, and the Town might benefit from using the same vendor, once testing and implementation have been completed. In addition to distributing information through digital channels, the Town should post LCD digital displays in shelters at busy stops. At the Transit Center, information on all routes should be prominently displayed, preferably using large monitors both inside the waiting area and outside, visible from bus bays and the sidewalk.
- ***Provide transit schedules and real-time information to Google and other mapping services***. Free Ride information is currently not available via the widely-used "transit" layer in Google Maps. This information should be provided in General Transit Feed Specification (GTFS) format.
- ***Provide shelters, seating, real-time displays, maps and schedules at busy stops***. Space allowing, shelters with seating and real-time displays should be provided at all well-used stops. Even where shelters are not available, maps and schedules can be posted using signs or canisters attached to flag sign posts. Ideally, all flag signs should include information on destination, span, and headways, as well as directions on how to obtain real-time information (e.g., via the recommended smartphone app).

FREE RIDE ROUTE RECONFIGURATION

A number of alternatives for reconfiguration of the Free Ride system were explored. However, the system is in actuality two systems: one operated by the Town, and the other by Vail Resorts, which operates routes designed specifically to serve its guests and employees, as well as repurposed school buses that are less maneuverable than transit coaches and unable to operate on some neighborhood streets. The disconnected street network beyond the Town core also limits options for redesign of the route network.

Ultimately, the following limited changes were recommended:

- ***Redesign the Orange Route, by far the least productive route in the system, to be more direct, frequent and useful***. A redesigned Orange Route could also serve to support the larger objectives of making it more convenient for employees to park in remote lots, and easier for visitors to access Main Street. When the Vail Resorts-operated Red Route is in operation between the Satellite Lot and Breckenridge Station, on winter days, the recommended Orange Route would operate directly between Breckenridge Station and the Ice Rink Lot via French, Main, and Boreas Pass Road every 15 to 20 minutes (as frequently as possible using a single vehicle). Because the Red Route operates every 10 minutes, transit trips from the Satellite Lot to Main Street would be relatively convenient, even with a transfer (or a short walk). When the Red Route is not in operation, the Orange Route would be extended to the Satellite Lot via Park and Airport Road, thereby directly connecting both remote lots to Main Street. The Orange Route could be operated using the replica trolley vehicle the Town has already ordered, providing special branding for Main Street service.
- ***Make the Purple (Wellington) Route bidirectional, and thus much more useful***. Large, one-way loops like the current Purple Route may be direct and convenient in one direction, but require much less direct, much longer trips in the other direction – and unless a route is convenient for *round trips*, it is effectively inconvenient for most trips. Counterclockwise operation of the Purple Route would require new stops, some in locations without sidewalks, and at these locations concrete "pads" may have to be built to enable wheelchair access, in order to remain compliant with the Americans with Disabilities Act (ADA). Bidirectional operation would also require an additional vehicle to be in service, increasing costs. The Town has also indicated a desire to divert the route slightly to serve the Breckenridge Recreation Center on Kingdom Drive.

Additionally, it is recommended that the Town: initiate discussions with Vail Resorts regarding opportunities to combine and streamline the Blue and Brown Routes, which overlap in many segments; consider using additional transportation revenues to expand evening and weekend service (including late-night Orange Route service for downtown employees); and use any further revenues to provide 10-minute service on the Orange Route and to extend service to areas that are currently without any service, including Upper Warriors Mark and the Tiger Road neighborhood.

TRANSIT CENTER RECONFIGURATION

The Town's existing Transit Center at the Gondola Lots is relatively well-located, walking distance from the Town core and immediately adjacent to the gondola itself. However, both the facility and approach paths on busy streets could be redesigned to improve the reliability of service, as well as to reduce the impact of the facility itself.

- ***As part of or separate from Gondola Lots redevelopment, improve access to the center from Park Avenue***. Ideally, a roundabout would be provided at Watson enabling more efficient southbound left turns into and out of the center. Alternately, a direct, bus-only path could be provided between the center and a roundabout at French. We do not recommend relocation of the transit center closer to French, and farther from the town core.
- ***Consider relocating some Transit Center bus bays onto Watson itself***. Buses that are traveling through on Watson rather than turning around could save time and fuel, and the footprint of the off-street center could be reduced, by relocating some stops onto the street. A sawtooth configuration should not be necessary if buses are departing on a first-in/first-out basis; in this case, a "nose-to-tail" configuration could be used, further saving space.

TRANSIT PRIORITY TREATMENTS

- ***Consider providing transit signal priority at the intersection of Park and Airport Road***. Delay for northbound buses turning left from Park onto Airport could be reduced by providing limited transit signal priority – for example, by holding the left-turn phase a few seconds longer for approaching buses. This would have some impact on traffic.
- ***If the intersection of Park and Ski Hill Road remains signalized, provide a transit queue jump***. At the other signalized intersection along Park, at Ski Hill Road, space exists for an additional treatment: a "queue jump" bus-only bypass with a special transit-only advance signal phase allowing buses to slip past queued cars to the right, then receive a bus-only green light enabling them to go ahead of traffic. Note that this recommendation would apply only if the intersection were not reconfigured as a roundabout.

GONDOLA EXPANSION

Finally, the Town should replace key links in its existing bus-based transit system with extensions of the highly popular and effective Breck Connect gondola. Such extensions, while costing tens of millions of dollars to construct (and additional funds to operate), have the potential to dramatically reconfigure the landscape for in-town circulation, providing users with fast and extremely frequent connectivity between locations that can now be difficult to access. These extensions could serve as actual physical extensions of the existing gondola, from its Gondola Lots base, or as new gondolas with new base structures adjacent to the existing structure. In any case, connections between the gondola branches should be made as close and seamless as possible. Additional details of these proposals will be provided as part of the project final report.

The following extensions are recommended, in descending order of priority, see Figure 10:

- Colorado Mountain College and Airport Road Satellite Lot to Gondola Lots, with intermediate stations at key areas along the Blue River in relation to centers of activity and housing density. Locations for intermediate stations could include the recreation center, the Block 11 affordable housing and Parkway Center.
- Gondola Lots to Riverwalk Center via the river corridor, with pedestrian connectivity to Main Street at the Blue River Plaza via the 4 O'clock Road/Washington Avenue pedestrian axis.

- Ice Rink intercept Lot to Riverwalk Center.

Figure 10 - Conceptual Gondola Alignments

5 ACTIVE TRANSPORTATION & URBAN DESIGN

Just as improving public transit is essential to reduce traffic congestion, support business and improve the customer experience, so too is making the pedestrian environment more appealing, and biking and walking more attractive alternatives to driving. This will require several strategies:

- Enhanced Blue River Corridor
- Enhanced Pedestrian Access to Downtown
- Wellington Lot Park
- Bikeshare System
- Bike Parking Expansion

Figure 11 - Conceptual Downtown, Urban Design Strategies Map

ENHANCED BLUE RIVER CORRIDOR

The Blue River is an important amenity and form giving element in the Town of Breckenridge. The river corridor is a place where families stop and enjoy the sound of rushing water, play in the cool water in the summer and the river corridor supports the one of the main tourist bike destinations in the county. The Blue River is also a destination fishing attraction. The Town has completed several improvements to enhance this corridor and create an amenity from what was once river turned upside down by mining.

Although the river is a great amenity, it is has also become a separator in the town core. The development on the east side of the river and the west side of the river has grown over time to represent two diverse trajectories within the town fabric. On the east side of the river, the town was minimally damaged by the mining and has grown to become the darling main street that so many come to Breckenridge to enjoy. On the west side of the river, the land use has grown to become mostly a parking, commercial development and transportation corridor.

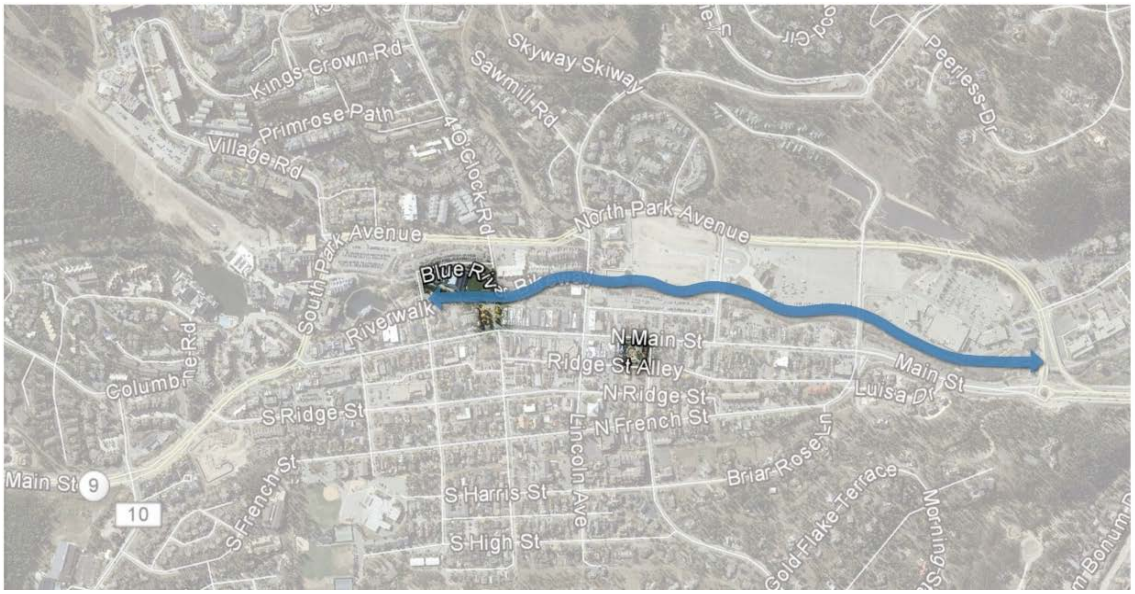
Enhancing this corridor will create stronger ties to both sides of the river, as well as create a more improved north/south connection through the Town core.

Riverbank Landscape, Grading & Restoration

The Blue River should become an accessible amenity through the town core. Currently the river has been recreated in many places and is one of the iconic elements through Town, especially in the summer. The next steps should be to improve the section from Ski Hill Road to North Park Avenue, see Figure 12. This section would be improved by the following steps:

- **Grading Improvements** – This section of the river is still a deep embankment and would be improved by lowering the grade on the surrounding parcels and creating a more gracefully swept river corridor edge.
- **Access** – Where it makes sense with the adjacent land use (as demonstrated in the previously completed Gondola Lots Master Plan) pedestrian access should be encouraged to allow interaction by visitors with the river.
- **The River Corridor** – Should be landscaped with native grasses and other riparian vegetation to create a more natural setting and the appropriate edge conditions for encouraging a healthy ecosystem.
- **River Improvements** – May impact parking lot capacity and should be designed to minimize the loss of parking in the core of town. Loss of in town capacity can be partially offset with additional parking located at the intercept lots at Airport and Ice Rink respectively.

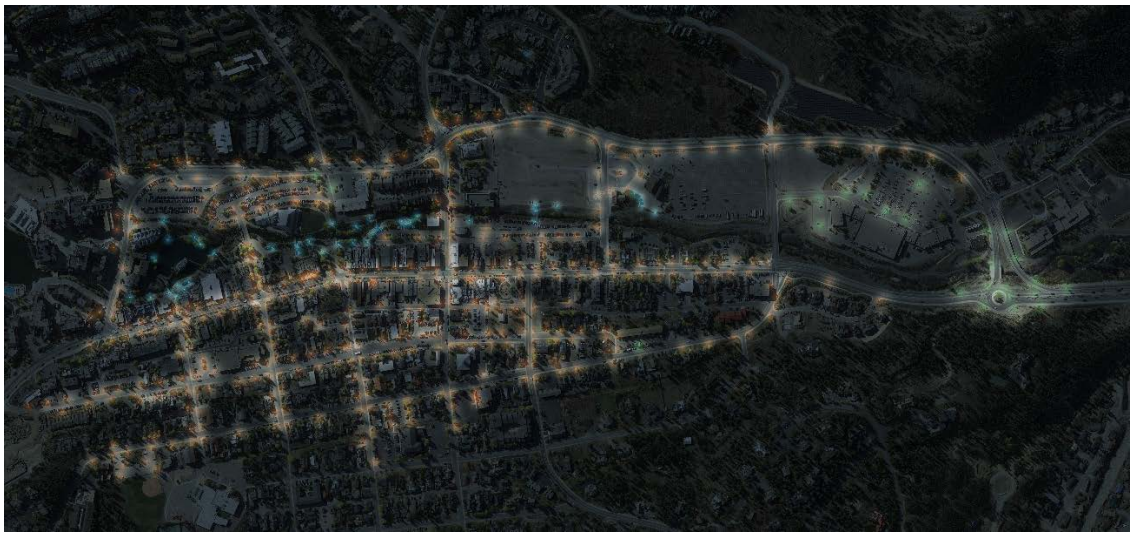
Figure 12 - Blue River Bikeway Connection



Lighting

The Town should ensure a safe level of lighting along the river corridor. All lighting fixtures should be dark sky friendly and only be applied as necessary to create a comfortable and safe environment for pedestrian, see Figure 13.

Figure 13 - Current lighting conditions of the Blue River Corridor show gaps of pedestrian

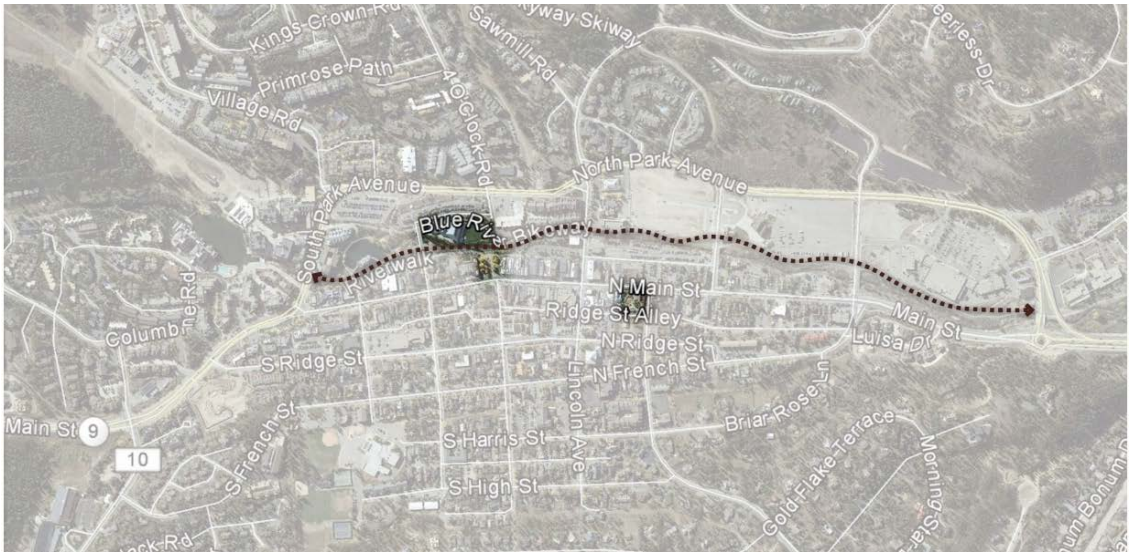


Pedestrian and Bicycle Accommodations

Currently the riverwalk is not connected south of Watson to Ski Hill Road. At Ski Hill Road, it is unclear whether to proceed on the riverwalk path or to choose to use the alley system to engage the town as a pedestrian or a cyclist, see Figure 14. The pedestrian experience would be improved by implementing the following:

- Connecting the bike path through the river corridor between the South Gondola and East Sawmill parking lots.
- Creating one midblock crossing for the bike path and pedestrians on Ski Hill Road.
- Regulating the alley to become a pedestrian or bike only zone from 7 a.m. to midnight and a service area during the off-peak pedestrian times.
- Providing clear wayfinding/signage regarding where bikes, pedestrians, cars and service vehicles are supposed to be and when.

Figure 14 - Connected Blue River Corridor from North to South end of Main Street



Closing the Watson-Ski Hill gap in the path would make the path a more attractive option for bike commuters, and not just recreational cyclists. The Blue River Recreational Pathway runs nine miles from Breckenridge to Frisco, where it connects to the Dillon Dam Recreational Path, which in turn connects to the Silverthorne Recreational Path. The River Path is a viable commuting option for Breckenridge workers who live in the lower-cost communities to the north. However, the existing gap, even though brief, cuts off access to the Village at Breck and South Park Avenue and discourages use of the path to commute to jobs in the south end of town.

ENHANCED PEDESTRIAN ACCESS TO DOWNTOWN

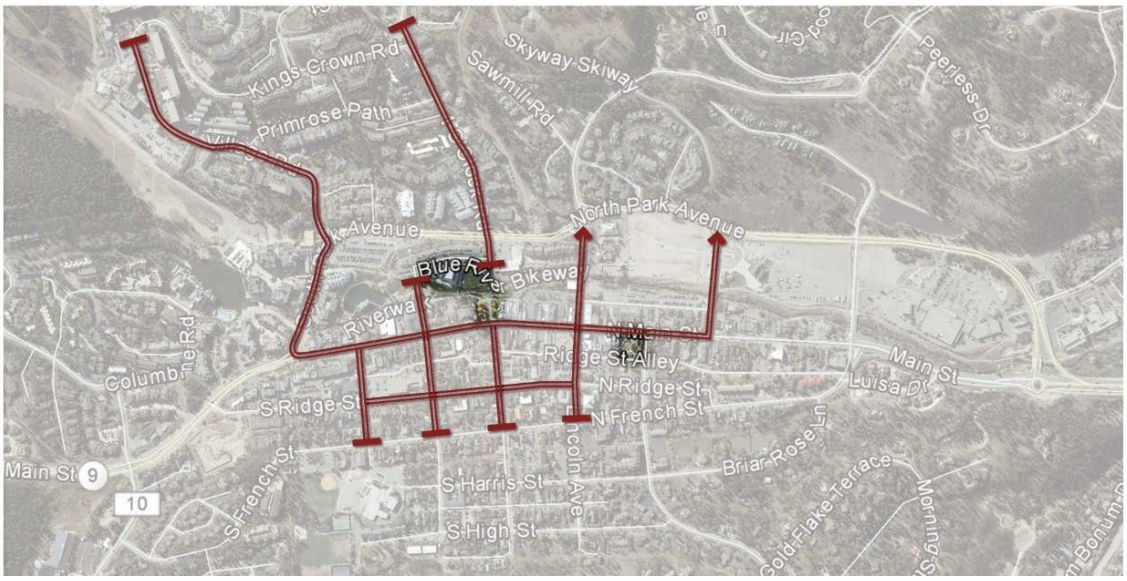
The pedestrian experience in Breckenridge has both successes and challenges within the existing network. The Town should implement a tiered approach to addressing how pedestrians use the Town's streets and pathways.

Sidewalk Improvements

One of the most successful pedestrian environments in town is Main Street. The character and improvements of this street can be a guideline for developing a system of key pedestrian street environments, see Figure 15. These streets should seek to accommodate the following:

- At minimum one larger (six- to eight-foot) sidewalk, preferably located on the north side of the street to make use of the heat gain from the sunshine.
- A higher level of maintenance on this pathway to minimize the buildup of snow and ice in the winter months. Evaluate the addition of heated walkways in the most extreme steep and difficult sections.
- A consistent and predictable lighting pattern
- A consistent landscape theme, including pedestrian wayfinding
- Site furnishings (benches, waste receptacles, etc.) that all use the town standard and are located in a consistent manner
- Incorporate public art along these key pathways to further demonstrate that these walks area a crafted journey for visitors and to highlight the unique art program in Breckenridge

Figure 15 - Improved Key Pedestrian Corridors



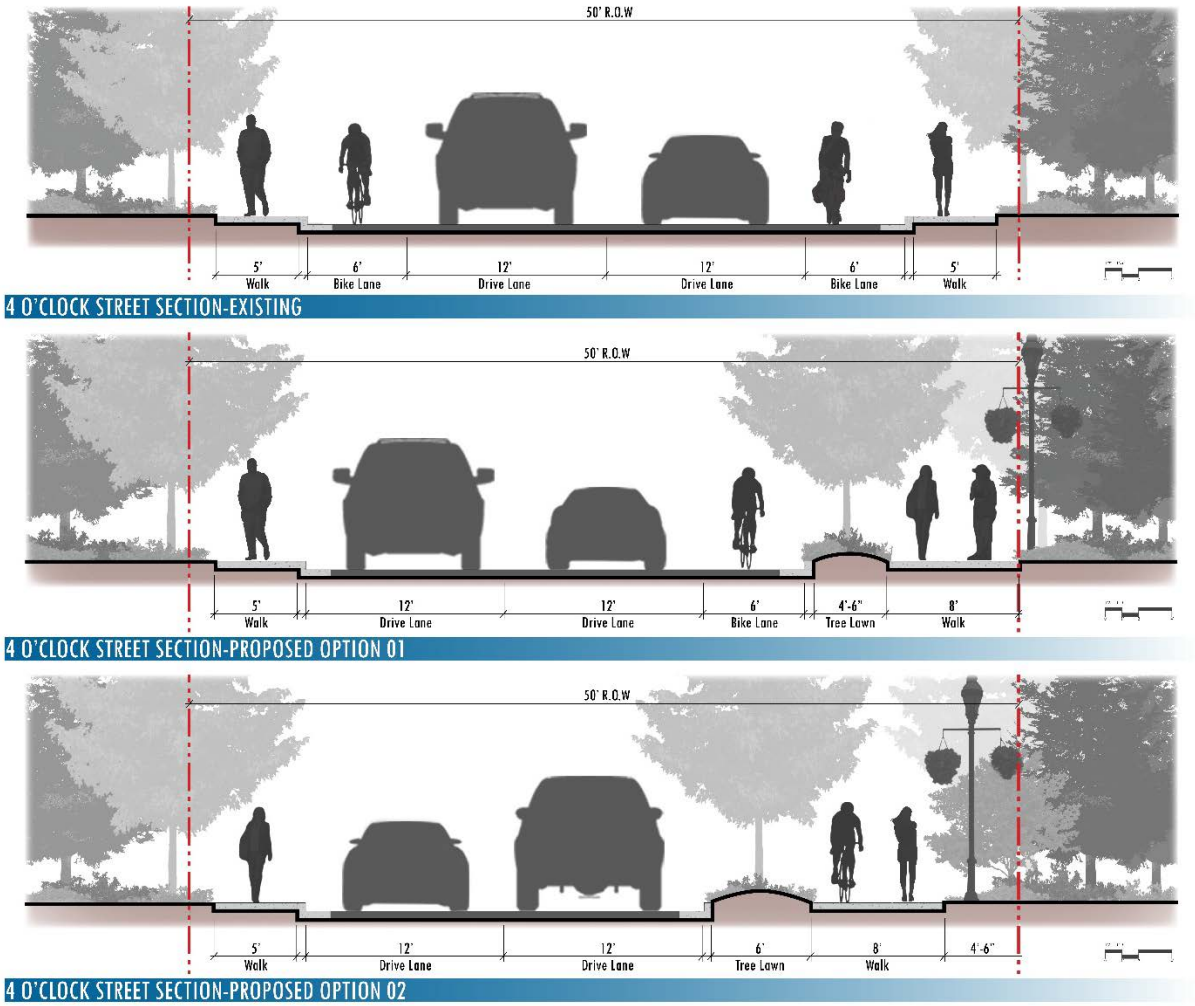
Improving sidewalks will not only improve pedestrian conditions; it will make the Free Ride system more effective, and reduce the number of short vehicle trips into town by making it easier and safer for residents and visitors to walk.

Because sidewalks are expensive, the town should consider partnering with homeowners associations and hotels to jointly fund sidewalk improvements in residential and lodging areas.

Each street will have it's own design considerations due to the complexity of access, Town maintenance programs and current street/walk design. As an example, 4 O'Clock could be modified as shown in Figure 16 and 17.

Figure 16 – Typical view for improved 4 O'Clock street section

Figure 17 - Typical Street Cross Sections



Park Avenue Crossings

In addition to crosswalks at all new roundabouts on Park Avenue (see Traffic chapter), we recommend a new pedestrian-actuated signal at the existing un-signalized crosswalk on Park at the Village at Breck, see Figure 18. Initial analysis indicates that if timing were synced with the existing signal at Park and South Main (assuming operation of that signal on a fixed cycle reflecting the existing maximum recall time including southbound Main actuation, rather than manual operation during peak periods, as now occurs – and assuming that it is not replaced by a roundabout), this could serve to maintain existing levels of traffic flow and accommodation for pedestrians while eliminating the need for labor-intensive manual management during peak periods. Ultimately, the Town may wish to grade separate the crossing via a pedestrian bridge crossing over South Park Avenue from F-Lot to Village at Breck.

Figure 18 - Location of Proposed Roundabouts and Signalized at Grade Pedestrian Crossings

Improved Off-Street Pedestrian Connections

The guest experience for pedestrian near downtown suffers from a lack of cohesive design and wayfinding. Once a resident or guest crosses Park Avenue, finishes skiing or parks in the parking areas west of the Blue River, they do not currently find a great pedestrian connection to the Main Street areas of Town, see Figure 19. The Town should create a more encouraging environment through the following:

- **Gondola Lots** – Although there is a Master Plan in existence that would support a much stronger connectivity to Main street, it is unclear as to when the improvements might be implemented as part of a private development plan. The Town should consider creating a strong pedestrian environment within the Gondola Lots with lighted and paved walkways connecting the existing Skyway Skiway ski back , the gondola and the access points to Main Street.
- **Park Avenue Pathway** – Currently the west side of Park Avenue contains a narrow and inconsistently maintained walkway. The Town should improve this pedestrian environment with a much wider walk that is maintained to minimize the ice and snow buildup. Additionally, pedestrian level lighting should be installed at regular intervals.
- **F-Lot/Washington-Tiger Dredge** – The pedestrian pathways from these lots should be addressed to create an improved pathway experience. Additionally, pedestrian level lighting and wayfinding signage should be installed at regular intervals.

Figure 19 - Location for Improved Off-Street Corridors

Improved Ski Back

The ski back to the Gondola Lots ends in a difficult area to navigate. The Town should encourage use of the tunnel with these improvements:

- Explore re-grading the ski back to allow direct ski into the tunnel.
- Create an escalator on the east side of the tunnel into the parking lots.
- Develop a connection to Town from the ski back exit via the suggested new pedestrian connection parkway.
- The pedestrian parkway would include enhanced paving, lighting and wayfinding to direct guests towards Main Street, improving the overall guest experience.
- Wayfinding signage should note a distance to Main Street, not a general statement, such as "To Main Street" so as to clearly express the close relationship of Downtown to those less familiar with the area.

Pedestrian and Bicycle Wayfinding

While the Town already provides some pedestrian-oriented directional signage, including town maps, additional signage at decision points along key routes would be helpful. This signage should indicate distances in terms of travel times, calculating at a rate of three miles per hour (e.g., "Downtown 10 minutes). It should also be simple and standardized in design, prominent, and positioned for maximum visibility to pedestrians and cyclists, see Figures 20 and 21.

Additionally, the pedestrian connection from the southwest bed base is currently not well defined. The Town should implement a wayfinding strategy that locates a consistent designed gateway along Park and within the parking reservoirs to inform guests of how to walk to Main Street.

Figure 20 – Improved pedestrian corridor with wayfinding and lighting along Blue River near Riverwalk Center

Figure 21 - Consistent Wayfinding Signage Used to Guide Resident and Visitors to Downtown, Identifying Direction and Distance.

Wayfinding Signage locations

NORTH

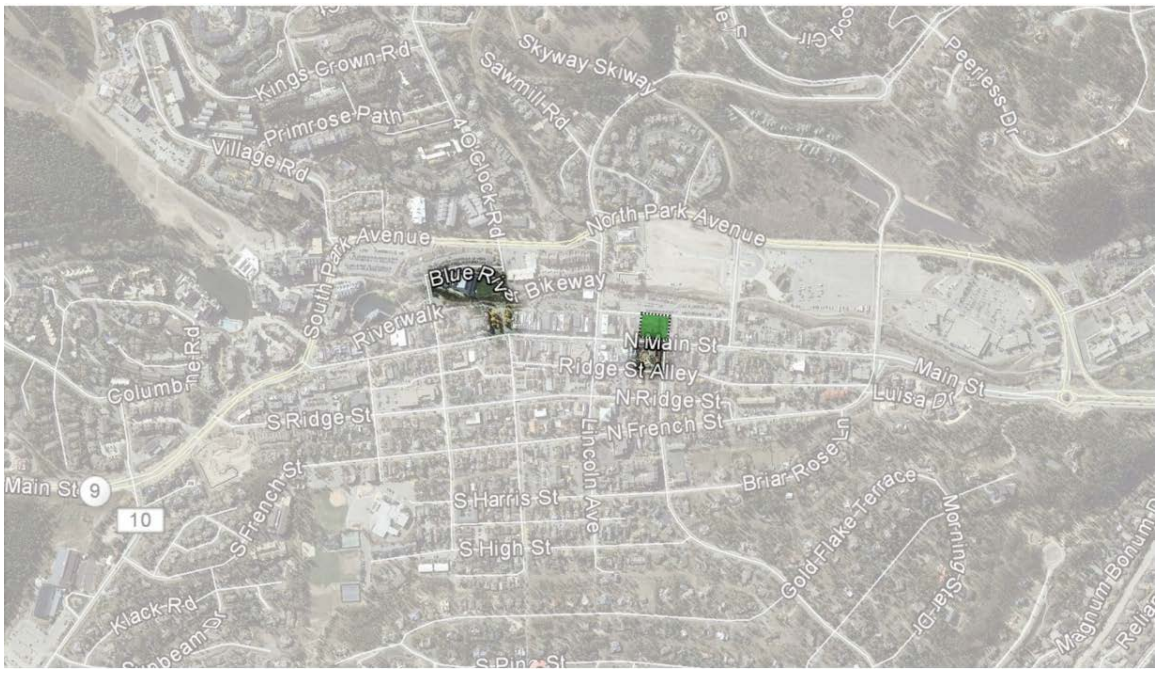
WELLINGTON LOT PARK

The Wellington Lot is currently used for a variety of parking needs. Although it would displace some parking, the Town should consider converting a portion of this area into a Town park for many reasons, see Figure 22 and 23:

- A park on both the west and east side of Main Street as you enter town from the north would create a park gateway into Town
- The park would be a great way to extend Main Street as a place toward the river and the gondola parking lots.
- It would improve the guest experience walking from the gondola lots to Main Street and add an additional amenity for the guests and residents in town

Figure 22 - A redesign Wellington Lot space with emphasis on pedestrian connections, not parking

Figure 23 - Proposed Wellington Lot Connection Near North Main to Improve Connectability West to the Gondola Lots



BIKESHARE SYSTEM

Public short-term bike rental or "bikeshare" systems have become increasingly commonplace across North America. Denver's system is now six years old, there are now similar programs in Boulder and Fort Collins, and systems are opening in a matter of days in both Aspen and Basalt. The Aspen/Basalt WE-Cycle system will initially feature 39 stations with 191 bikes available to both seasonal subscribers as well as those with temporary, 24-hour memberships. The program will initially operate from May to October, with plans to eventually expand to winter.

In a bikeshare system, bikes can be picked up from one station and dropped off at another, making them an attractive option for in-town trips that are slightly or somewhat longer than walking distance. The utility of bikeshare systems is not limited to non-bike owners, as such systems are useful for spontaneous, one-way and "first-/last-mile" trips on one end of a transit trip.

BIKE PARKING EXPANSION

As part of an effort to make it easier to use bikes for short in-town trips, longer trips from towns to the north and "first-/last-mile connections" to transit, expanded parking options should be offered. These should include:

- Additional on-street bike racks downtown and at other major destinations in town, such as City Market
- Secure weather-protected bike lockers at the Transit Center/future Gondola Visitor Center (see next chapter). These should be available for rental on both a short- and long-term basis. Over time, the Town may wish to expand this facility into a full "bikestation" with amenities including valet parking and bicycle rental and repair facilities.

6 OTHER RECOMMENDATIONS

In addition to recommendations directly related to parking and to modes of transportation -- driving, transit, biking and walking – we recommend a number of additional transportation demand management (TDM) strategies.

GONDOLA VISITOR CENTER

The current Transit Center (Breckenridge Station) waiting area should be expanded to include short- and long-term lockers for cyclists (see previous chapter) as well as short-term lockers for visitors (i.e., skiers wishing to store their gear while going out for dinner on Main Street). It should also include changing areas, and might include other amenities such as a staffed information desk (with information on travel options as well as local businesses), small convenience store and cafe.

SMARTPHONE APP

Town staff have expressed strong interest in an "all-in-one" travel planning app, specific to Breckenridge, that could provide information on:

- parking availability (real-time)
- Free Ride wait times (real-time)
- parking locations and costs
- Free Ride schedules, maps and fares
- Summit Stage schedules, maps and fares
- Denver city and airport shuttle schedules and fares
- traffic conditions (real-time)
- bike routes
- rideshare options (both within Breckenridge and from the Front Range)

Given the highly customized nature of such an app, it would likely have to be custom-developed for the Town. However, if developed in partnership with Vail Resorts, it could serve not just as a traffic-management tool, but a marketing platform.

Any such app should be developed for both iOS and Android platforms and updated on a regular basis.

LYFT PARTNERSHIP

Finally, the Town should explore a partnership with a TNC and hotel operators to provide shared-ride services for residents and visitors as a supplement to Free Ride service (particularly in the evening, when buses operate less frequently) and possible replacement for some private shuttle

services. Lyft has expressed interest in just such a partnership, using its Lyft Carpool service. Such a service could offer additional local employment opportunities, including part-time shift work that could be used to supplement existing incomes for low-income service sector workers. The Town could partly subsidize this service and/or act as a broker between the TNC and lodging operators.

TOWN OF BRECKENRIDGE

TRANSPORTATION, PARKING AND URBAN DESIGN STUDY

ANALYSIS

1 ANALYSIS

Preliminary concepts for recommendations were developed on the basis of: the analysis of existing conditions, including review of previous planning efforts; initial public input; peer and best practice review; and project team workshops or charrettes at which various ideas, including both previously existing and new ideas, were proposed and discussed. The preliminary concepts were then subjected to analysis.

Because the concepts were diverse in nature, a range of methods was used for analysis. In all cases, efforts were made to assess the concepts quantitatively, in order to provide a sound basis for final recommendations. However, it is important to understand that all such modeling exercises are merely predictive in nature; they are, in effect, informed "best guesses." Moreover, the benefits and impacts of some concepts are, depending on the metric, inherently harder to precisely quantify.

For these reasons, the results from quantitative analysis that follow should be viewed not as definitive judgments on the relative value of concepts, but as inputs that, along with other factors, were used to inform collaborative decisions by the project team on final recommendations to Council.

Due to the diversity of the concepts, a number of metrics were used to quantify benefits and impacts, including: "PM Peak Traffic" (numbers of vehicles exiting the town to the north during the busiest hour on the busiest day, based on an approximate capacity for northbound Highway 9 of 2,000 vehicles per hour); all-day, citywide traffic; transit ridership; and numbers of visitors to Main Street. These metrics were selected on the basis of discussions with staff and the public regarding project objectives and priority concerns, including the preliminary discussions that resulted in the high-level project goals.

The primary tool used for analysis was the Trip Reduction Impact Analysis or TRIA model developed by Nelson\Nygaard. The TRIA model is designed to assess, at a high level, potential for mode shift from private vehicles to non-auto trips based on literature review of observed impacts from transit, pedestrian, cycling, and transportation demand management (TDM) programs and projects.

(Note that some concepts were included in the analysis but are not shown here because preliminary analysis indicated a very low cost-benefit ratio. For example, subsidies to incentivize shuttle rides from DIA were eliminated on the basis of very high cost. Others are not shown because benefits could not reasonably be quantified; for example, changes to traffic signal operation at South Park and Main would need to be modeled in collaboration with CDOT.) Results of the quantitative analysis are shown in Figure 1.

Figure 1 Quantitative Analysis of Preliminary Concepts

Category	Concept	Benefit/Impact	Methodology
Transit	Downtown Gondola Extension	75-125 addt'l daily visitors to Main St; 1.5-3% decrease in PM peak traffic (30-60 vehicles)	Based on Town survey findings re: exit times from parking lots
Transit	City Market Busway/New Transit Center & Roundabout	3-5% increase in ridership (225-375 daily boardings)	Assumed based on reliability improvement
Transit	Free Ride Reconfiguration	3-5% increase in ridership (225-375 daily boardings)	2-4% based on changes in service levels to segments, .5 elasticity; +1% assumed from increased understanding
Transit	Free Ride Passenger Amenities (bus stop improvements, real-time information)	1-3% increase in ridership (75-225 daily boardings)	Per Transit Cooperative Research Program 48, for real-time
Bicycle	River Path Gap Closure	Negligible change in traffic	TRIA
Bicycle	Bikeshare System	1-1.5% decrease in all-day, citywide traffic (250-400 vehicles) **summer only*	TRIA
Pedestrian	Townwide Sidewalk Improvements	1-1.5% decrease in all-day, citywide traffic (250-400 vehicles)	TRIA
Pedestrian	Park Ave Crossing Improvements		TRIA
Pedestrian	Gondola Lots-Main Street Path Improvements		TRIA
TDM	Congestion Pricing of Paid Parking Lots	1.5-3% decrease in PM peak traffic (30-60 vehicles)	Based on survey findings re: exit times and assumed shift from exiting in peak to shoulder
TDM	Pricing of Free Parking	2-4% decrease in all-day, citywide traffic (500-1000 vehicles)	TRIA
TDM	Parking Wayfinding/Real-Time Info	2-4% decrease in all-day, citywide traffic (500-1000 vehicles)	TRIA
TDM	Smartphone Application		
Other	Affordable Housing on F Lot and/or Gold Rush	3-4% decrease in PM peak traffic (60-80 vehicles)	TRIA, based on 32-unit development
Other	F-Lot Parking Structure	75-125 addt'l daily visitors to Main St; 6-10% increase in PM peak traffic (120-200 vehicles)	Based on 600-space increase, survey findings re: existing exit times

In order to allow for easier comparison of concepts, the quantitative analysis was then converted into a qualitative analysis in which benefits are normalized across combined categories and expressed using a five-point scale. In Figure 2, "full" discs represent maximum benefit or least impact, "empty" discs represent minimum benefit or greatest impact, and half-full discs represent little benefit or impact. Benefits, meanwhile, have been combined into two categories: "mode shift/congestion reduction" and "Main Street access."

Figure 2 Qualitative Analysis of Preliminary Concepts

Category	Concept	Primary Benefit	Extent of Benefit
Transit	Downtown Gondola Extension	Mode Shift/Congestion Reduction	●
		Main St Access	●
Transit	City Market Busway/New Transit Center & Roundabout	Mode Shift/Congestion Reduction	◕
Transit	Free Ride Reconfiguration	Mode Shift/Congestion Reduction	◕
Transit	Free Ride Passenger Amenities (bus stop improvements, real-time information)	Mode Shift/Congestion Reduction	◕
Bicycle	River Path Gap Closure	Mode Shift/Congestion Reduction	◑
Bicycle	Bikeshare System	Mode Shift/Congestion Reduction	◕
Pedestrian	Townwide Sidewalk Improvements	Mode Shift/Congestion Reduction	◕
Pedestrian	Park Ave Crossing Improvements		
Pedestrian	Gondola Lots-Main Street Path Improvements		
TDM	Congestion Pricing of Paid Parking Lots	Mode Shift/Congestion Reduction	●
TDM	Pricing of Free Parking	Congestion Reduction Main St Access	●
TDM	Parking Wayfinding/Real-Time Info	Mode Shift/Congestion Reduction	●
TDM	Smartphone Application		
Other	Affordable Housing on F Lot and/or Gold Rush	Mode Shift/Congestion Reduction	●
Other	F-Lot Parking Structure	Mode Shift/Congestion Reduction	○
		Main St Access	●

Findings from the analysis may be summarized as follows:

- *Measures related to parking and wayfinding could have a significant impact on traffic.* It is difficult to quantify the percentage of traffic in areas with limited parking that consists of motorists "circling" or "cruising," looking for parking. Parking researcher Donald Shoup of the University of California, Los Angeles found an average figure, across multiple studies, of 30 percent. However, the figures in the individual studies ranged from 8 to 74 percent. The TRIA model predicts a much more conservative 2 to 4 percent reduction from pricing parking, and a similar impact from providing widespread, "real-time" information on where parking is currently available, so motorists can proceed directly to those spaces. Discounts encouraging motorists to exit parking lots outside of the peak period, meanwhile, might have a similar impact, although the impact would be reduced if only Town and not Ski Resort lots were included.
- *Additional in-town affordable housing for employees could also have a significant impact on parking*, simply by reducing the number of employees living outside town, and likely to drive to work. However, this concept was not included in the final recommendations, as decisions on the best use of the F-Lot and Gold Rush Lot (the envisioned sites) will be made through a separate process.
- *Both a Gondola extension to Main Street and in-town parking structure could result in many more visitors to Main, but the former would reduce peak traffic, while the latter would increase it.* Using Town survey data on exit times from parking lots and rates of visitation to Main Street by those parked in different lots, as well as assumptions regarding capacity, the analysis found that each concept could result in roughly equivalent numbers of additional daily visitors to Main Street. However, a parking structure would result in many more vehicles parked in-town –many of which would then attempt to exit town during peak periods – while a Gondola extension would provide an incentive for those who are already parked to delay their exits until after the peak period.
- *Transit, pedestrian and bicycle projects could have a significant impact on traffic if packaged.* Analysis of preliminary concepts for Free Ride system reconfiguration and other transit improvements found potential to increase transit ridership by several hundred boardings per day. However, while some of these transit trips would replace auto trips, some would be new trips (providing a benefit by increasing mobility, but having no impact on traffic congestion). Similarly, pedestrian and bicycle improvements would have a modest impact on traffic congestion; combined, however, they might have a significant impact, and once again, additional walk and bike trips would support Main Street businesses, Townwide economic development and other community goals.

TOWN OF BRECKENRIDGE

TRANSPORTATION, PARKING AND URBAN DESIGN STUDY

COST & IMPLEMENTATION

Figure 1 below lists the recommendations described in the previous chapters, and identifies required actions on the part of Town staff and Council as well as estimated costs associated with each recommendation and recommended timeline for implementation. Please note that in most cases estimated costs are sketch-level/order-of-magnitude, to be further refined through future planning and design efforts.

Figure 1 Recommendations Summary and Implementation Strategy

Recommendations		Required Actions	Costs/Cost Factors/Potential Revenues		Timeline	
General	Detailed		Capital/One-Time	Operating/Ongoing	Initial Steps	Complete Implementation
Parking						
Revise parking policies to enhance demand management	▪ Charge for some currently free spaces (see recommendation for recommended rates, locations, hours, etc.) ▪ With limited exceptions, eliminate time limits ▪ Revise permit program to provide "apres-ski" discounts, eliminate employee permits, revise resident permits ▪ Develop validation program	▪ Staff to recommend to Council detailed policies for Winter 2016-17 (rates, hours, time limits, permit programs, rates for violation, etc.) ▪ Council to adopt Winter 2016-17 policies ▪ Staff to issue RFP for on-street pay stations, parking lot gates, fee machines, and addt'l license plate readers as needed (specs to include data collection/real-time reporting technology) ▪ Staff to develop detailed implementation program (e.g., paystation locations, outreach strategy) ▪ Staff to implement implementation program (incl. installation of equipment as well as door-to-door and roaming "ambassadors" both in advance of and following introduction) ▪ Staff to develop/implement data collection program (for seasonal/quarterly occupancy rates) ▪ Staff to recommend to Council detailed policies for Spring/Summer/Fall 2017 (with provisions for rate adjustments in summer and fall based on observed spring occupancy) ▪ Council to adopt Spring/Summer/Fall 2017 policies ▪ Repeat data collection/policy revision process on annual basis	$350,000 (Town estimate) ▪ Paystations (on-street) ▪ Exit gates (lots) ▪ Fee machines (lots) ▪ Addt'l license plate readers	No cost assumed due to addt'l revenues ▪ Additional staff time for quarterly data collection ▪ Maintenance costs for new equipment ▪ Real-time reporting communication fees ▪ *Offset by new revenues*	Immediate	Winter 2016-17
Distribute real-time information on parking availability	▪ Reprogram existing VMS or install new VMS on N Hwy 9 to provide general information (e.g., "Gondola Lots full – parking available at Satellite Lots") ▪ Distribute more detailed information digitally (e.g. ID full and available lots via Twitter, text alerts, spaces available per lot and block face via website – *note: smartphone app addressed separately*)	▪ Staff to include real-time reporting capability as spec in parking RFP (see above) ▪ Staff to develop/recommend to Council information distribution strategy, incl. recommendation re: VMS on N Hwy 9 and incorporating real-time reporting capability (plus "low-tech" information sources as necessary) ▪ Council to approve distribution strategy, incl. decision re: VMS on N Hwy 9 ▪ Staff to implement distribution strategy	$25,000 for trailer-mounted VMS[1] $40,000 for permanent VMS[2] ▪ Additional VMS (if proceed with recommendation)/reprogram existing VMS ▪ Payment equipment described above	$1,500 for maintenance of VMS ▪ VMS maintenance ▪ Minor staff time for updates to distribution channels (VMS, Twitter feed, text alerts, website)	Immediate	1-2 years

[1] United States Department of Transportation (USDOT) research (http://www.itscosts.its.dot.gov/its/benecost.nsf/ID/3A6575DA1D5C384E852577110048C2BE?OpenDocument)

[2] Based on cost of $34,000 to install existing permanent VMS, taking into account inflation.

Recommendations		Required Actions	Costs/Cost Factors/Potential Revenues		Timeline	
General	Detailed		Capital/One-Time	Operating/Ongoing	Initial Steps	Complete Implementation
Expand parking capacity	▪ Construct parking structure	▪ Town to continue discussions with Vail Resorts re: potential Town purchase of Gondola and/or Gold Rush lots ▪ If purchase, conduct feasibility/demand study of structure at this site, as well as Ice Rink and Satellite Lots ▪ Based on impacts of demand management program above, staff to recommend/Council to decide whether to proceed with structure, and if so where	$20,000,000 – $50,000,000 ▪ Construction costs, including related access improvements (also potentially land costs)	$700-$1,100 per space[3] ▪ Maintenance costs	TBD	TBD
Traffic						
Provide roundabouts at all street (not driveway) intersections on Park Ave	▪ Phase implementation on basis of study identifying highest-priority locations/discussions with CDOT	▪ Have consultant conduct study including conceptual design (assume pedestrian crossings and compact configurations), modeling of truck movement and traffic impacts, identification of property impacts ▪ Prioritize locations/develop phased implementation strategy on basis of study findings/discussions with CDOT/opportunities to improve transit reliability (i.e., via a roundabout at Watson) ▪ Proceed with design, cost estimation, permitting and construction processes (per CDOT requirements)	$250,000 for study $2,500,000 per roundabout[4] ▪ Construction costs	$45,000 per roundabout ▪ Minor changes in maintenance costs (e.g., change in area of pavement, changes to plowing operations associated with roundabout design, maintenance of roundabout center island)	Immediate	3-5 years
Modify existing N Park/Main roundabout	▪ Reconfigure to slow SB traffic	▪ As part of roundabout study, develop conceptual design ▪ Based on conceptual design, seek initial approval from CDOT ▪ Proceed with design, cost estimation, permitting and construction processes (per CDOT requirements)	$150,000-$300,000[5] ▪ Construction costs (curb modification; estimate assumes no costs related to site constraints, i.e. adjacent to Blue River)	No cost assumed due to reduced enforcement cost ▪ Minor changes in maintenance costs ▪ *Offset by reduction in enforcement costs*	1-2 years	3-5 years
Transit						
Enhance amenities for Free Ride passengers	▪ Upgrade real-time information system ▪ Provide Free Ride information through Google Maps ▪ Provide shelters, seating, real-time displays, maps and schedules at major stops	▪ Staff to initiate discussions with Summit Stage re: real-time vendor, process, “lessons learned” ▪ Either sole-source to SS vendor or issue RFP for upgraded real-time system (specs should include capability to distribute information via smartphone app, website) ▪ With vendor assistance, implement real-time system (including displays at major stops) ▪ With consultant help as needed, convert Free Ride information to GTFS format ▪ Develop phased “amenity enhancement” plan for provision of shelters, seating, maps and schedules at all high-priority stops (to be defined by staff) ▪ Implement amenity enhancement plan	$15,000 per shelter $225,000-$400,000 for real-time[6] ▪ Real-time equipment aboard vehicles and at stops ▪ Shelters and informational signage	$50,000 for real-time[7] ▪ Minor maintenance costs for shelters with enhanced amenities including real-time displays	Immediate	1-2 years

[3] Victoria Transport Policy Institute research (http://www.vtpi.org/tca/tca0504.pdf)

[4] Based on estimated cost for design and construction of Four O’Clock Road roundabout.

[5] Nelson\Nygaard estimate based on national experience.

[6] Based on $450,000 cost for Summit Stage to install real-time equipment on vehicles and at transit centers, as well as accompanying mobile app and automated passenger counters. Part of Summit Stage cost was based on fleet size (26 vehicles).

[7] Based on Summit Stage cost of $49,000.

Recommendations		Required Actions	Costs/Cost Factors/Potential Revenues		Timeline	
General	Detailed		Capital/One-Time	Operating/Ongoing	Initial Steps	Complete Implementation
Reconfigure Free Ride service	▪ Reconfigure Orange Route ▪ Reconfigure Purple Route ▪ With Vail Resorts cooperation, reconfigure Blue and Brown Routes ▪ If funding allows, provide: – more frequent evening and off-season service – more frequent Orange Route service – service to Upper Warriors Mark and Tiger Rd	▪ Complete process of identifying new stop locations/design of new stops on Purple Route ▪ Implement new stops on Purple Route ▪ Complete standard processes for reconfiguring Purple and Orange Routes (schedule development, updated materials, etc.) ▪ Implement route changes for Winter 2016-17 ▪ Initiate discussions with Vail Resorts staff re: Blue/Brown route combination ▪ Consistent with Council direction re: allocation of addt'l revenues from lift ticket tax, conduct staff analysis of additional service expansions, develop and implement as recommended	$1.8 million (Town estimate) ▪ Additional stops ▪ Additional vehicles as necessary	$450,000 (Town estimate – Orange and Purple routes only) ▪ To extent service expanded, additional operating and maintenance (O&M) costs	Immediate	Winter 2016-17
Improve access to transit center	▪ Provide roundabout at Park/Watson ▪ As part of Gondola Lots redevelopment, redesign transit center (potentially by moving stops onto Watson)	▪ (See previous roundabouts recommendation) ▪ For transit center reconfiguration: Town to continue discussions with Vail Resorts re: potential Town purchase of Gondola and/or Gold Rush lots ▪ If purchase, feasibility study of parking structure, incorporate redesign of transit center to increase efficiency of operations (e.g. by including on-street stops to allow direct through-routing) ▪ If no purchase, delay reconfiguration of transit center until greater certainty re: future configuration of Gondola Lots site	$2.5 million per roundabout $1 million-$3 million for transit center reconfiguration as part of Gondola Lots project[8] ▪ Construction costs	None ▪ *While some time savings, unlikely enough to allow reduction in operating costs*	TBD	TBD
Provide transit priority at signalized intersections on Park	▪ If Ski Hill Rd intersection remains signalized, provide transit-only "queue jump" bypass lanes with transit-only advance signal phases ▪ If Airport Rd intersection remains signalized, introduce transit signal priority	▪ No action until roundabout study complete (see previous) ▪ If roundabouts not recommended at one or both locations: – At Ski Hill Road, proceed with CDOT permitting/design and engineering process for queue jumps on both approaches, in space between through lanes and pedestrian islands (current bike envelope), along with new transit-only signal – For Airport Rd, model traffic impacts based on different policy assumptions re: TSP, and contact Summit Stage regarding experience with transit signal priority/process for proceeding	$2.50 per linear foot to restripe at Ski Hill Rd (assumes no curb relocation needed) plus costs for signal equipment $100,000-750,000 for TSP[9] ▪ Primarily signal-related (minor costs associated with restriping at Ski Hill)	Minimal ▪ *While some time savings, unlikely enough to allow reduction in operating costs*	1-2 years	1-2 years
Introduce new gondola routes	▪ Introduce new gondola routes between existing base and Satellite Lot ▪ Introduce new gondola route between existing base and Tiger Dredge Lot ▪ Introduce new gondola route between existing base and Ice Rink Lot	▪ Continue discussions with gondola manufacturer regarding cost, process ▪ Staff to await Council direction to proceed further ▪ Before proceeding, have consultant conduct study of ridership, property impacts, etc., and use this as basis for prioritization	$10,000,000 - $30,000,000 ▪ Construction costs	Varies ▪ *Depending on alignment, potential savings to Vail Resorts or Town from bus service reduction*	TBD	TBD

[8] Nelson\Nygaard estimate based on national experience. Includes demolition of existing transit center and reconstruction of Watson between Park and River, including curb relocation, sidewalk widening and shelters. New waiting area (Gondola Visitor Center) assumed to be separate cost.

[9] Costs can vary widely depending on factors including existing signal controllers.

Recommendations		Required Actions	Costs/Cost Factors/Potential Revenues		Timeline	
General	Detailed		Capital/One-Time	Operating/Ongoing	Initial Steps	Complete Implementation
Bicycle						
Introduce bikeshare system	▪ Introduce Town-operated bikeshare system (spring/summer/fall only)	▪ Meet with staff from Aspen program to discuss lessons learned, partnership opportunities ▪ Have consultant conduct demand/financial feasibility study (incl. assessment of sponsorship opportunities) ▪ If decide to proceed, hire bikeshare program coordinator	$500,000 (Aspen WE-cycle, 2013) ▪ Bikeshare stations and bikes	$4,270 per station for maintenance (Aspen WE-cycle, 2015) 8 FTE (number of administrative staff at Aspen WE-cycle, plus 2 FTE for operations staff) ▪ Annual administrative and maintenance costs *(offset partly or fully by revenues from sponsorship and fees)*	Immediate	1-2 years
Expand bike parking	▪ Provide additional downtown and at other major destinations (e.g. City Market) ▪ Provide secure lockers at Gondola Visitor Center (see below)	▪ Proceed with design and construction ▪ If proceeding with visitor center, develop permit program for locker rentals ▪ Issue RFP for locker equipment vendor	$500-$1,500 per rack[10] $1,500-$3,000 per locker ▪ Costs for racks and lockers	No cost assumed due to revenue from lockers ▪ Maintenance costs ▪ *Offset by new revenues*	Immediate (for racks; lockers TBD)	1-2 years (for racks; lockers TBD)
Other						
Construct Gondola Visitor Center	▪ Replace existing Breckenridge Station building with expanded facility providing rental lockers for bicycles, ski gear and clothing, changing areas, an information desk and retail space	▪ Take no action until greater certainty re: future configuration of Gondola Lots site ▪ If/when decision to proceed, Staff to recommend, Council to approve program ▪ Hire architect, proceed through design and construction processes ▪ Potentially include skier lockers in bike locker RFP (see above)	$2,000,000 - $3,000,000 ▪ Construction costs to be estimated by architect	Assumed 3 FTE (manager + admin asst + maintenance staff), plus misc. operating costs ▪ *To be partly offset by locker rentals, potential retail leases)*	TBD	TBD
Develop Breckenridge travel planning smartphone app	▪ Develop "all-in-one" custom travel planning app for iOS and Android	▪ Issue RFP for app developer, including specs identified as part of this study ▪ Work with developer to identify most feasible elements/requirements associated with different elements ▪ Ensure that real-time parking and transit data (see above) can be integrated	$200-$300/hr. ▪ Up-front cost to develop app	▪ Ongoing fees for smartphone developer	Immediate	1-2 years
Partner with Lyft to provide local e-hail service	▪ Based on discussions already occurring, potentially develop program to subsidize on-demand service	▪ Continue discussions with Lyft representatives re: nature of program, potential cost	▪ None	If $10 per trip subsidy and 100 trips per day, $365,000 Assume addt'l $50,000 for marketing ▪ Potential trip-based subsidies and marketing costs	Immediate	Winter 2016-17

[10] Pedestrian and Bicycle Information Center research (http://www.pedbikeinfo.org/planning/facilities_bike_bikeparking.cfm)

TOWN OF BRECKENRIDGE

TRANSPORTATION, PARKING AND URBAN DESIGN STUDY

PERFORMANCE MONITORING

PERFORMANCE MONITORING

Ongoing performance monitoring will be necessary to confirm that the Town's future transportation efforts are achieving progress toward Town goals. Performance monitoring will allow the Town to track progress over time and "course correct" or adjust when policies and programs are not achieving desired results. It will also allow the Town to identify emerging problems and to test new solutions developed in response. Finally, performance monitoring will be essential to ensure that the Town's transportation-related spending and decision-making processes are transparent and responsive to the public, and that they remain aligned with larger Town goals.

In developing recommendations for performance monitoring metrics and methodologies:

- We reviewed the Town's previous survey and other data collection efforts
- We reviewed evaluation frameworks developed by Nelson\Nygaard and others for cities and towns including Santa Monica, Boulder and others.
- We developed metrics in a broad range of categories, including non-transportation categories (this is essential, as transportation is a means to achieve other objectives, not an end in itself).
- We selected metrics on the basis of relevancy and applicability to the recommendations in this report, as well as relevancy to the unique needs and conditions of Breckenridge.
- We attempted to simplify the process of reporting by selecting only the most relevant and important metrics, as well as those that could be reported without undue difficulty or expense.

Following are brief descriptions of recommended categories, metrics, rationales and objectives for the metrics and reporting methodologies. In most cases, metrics should be reported annually, and published in a report made available to the public, including via the Town website. A user-friendly, visually-oriented "dashboard" might also be developed and regularly updated.

TRANSPORTATION SYSTEM

Mode Share (by Category)

One of the goals adopted for this project was a reduction in driving. This is necessary, obviously, to reduce traffic congestion, but also to advance environmental, safety and other goals. The Town has previously collected mode share or mode split data by survey. At a minimum, mode share should be reported on an annual basis for:

- Trips into and out of Breckenridge
- Trips within Breckenridge
- Trips on peak days (e.g., winter weekends)
- Employees
- Visitors
- Residents

The objective should be a year-over-year reduction in the percentage of trips made by automobile for all groups and categories of trips. The Town has also previously reported on average vehicle

occupancy; for purposes of this measure, we recommend reporting both single- and multi-occupant private vehicles.

TRAFFIC

Number of Gridlock Days

The Town already tracks the annual number of days on which traffic control officers must be deployed. The objective should be a year-over-year reduction in the total.

Peak and Shoulder Volumes at "Gateway" Screenlines

During the busiest visitor week of the year – between Christmas Day and New Year's – the town should annually conduct counts of traffic volumes on Highway 9 north of the North Park and Main and south of the South Park and Main intersections. While 24-hour volumes will be useful for planning purposes, the metrics that should be reported are:

- Peak hour volumes
- Three-hour peak period volumes
- Percentages of peak period in peak hour
- Percentages of 24-hour in peak period

The purpose of reporting on "shoulder" periods just outside the peak hour or peak period will be to measure the Town's success in not just reducing driving, but "peak spreading," or reducing the share of all driving that occurs during the most congested times.

Peak Travel Time on Park Avenue

The most commonly used measure of traffic congestion is intersection or roadway "level of service," or LOS. LOS is a measure of delay; however, by focusing on specific intersections or roadway segments, it does not reflect the measure of performance most important to motorists: end-to-end travel time. Because Park Avenue between the North and South Main intersections is, as part of Highway 9, the Town's primary route for through travel by autos, it is here that end-to-end travel time should be measured during the peak hour as part of the aforementioned annual December counts. The objective should be year-over-year reduction. (Note that Google Maps now provides travel time information between any two points by time of day and day of the year; this information is provided in terms and minutes and ranges, however, and is thus not previse enough for use as a measure. It could however be used to supplement the "official" data.)

PARKING

Occupancy (by Time and Location)

The parking management program recommended in this report is based on a single metric and objective: 85 percent occupancy of parking spaces on each block face and within each lot. It is recommended that this data be collected on a quarterly/seasonal basis, and it should be reported on this basis. The objective should be occupancy as close as possible to 85 percent at all locations and at all times (with the caveat that occupancies can be expected to be lower during periods of low demand, occupancies can be expected to be higher during "peak of peak" periods of very high

demand, and the Town does not set rates at Vail Resorts-owned lots). Another parking-related measure can be found under the "Economic Development" category.

TRANSIT

Annual Ridership

The Town already collects data on numbers of boardings on its Free Ride buses. Note that while total ridership may be increased simply by increasing service (as it can by improving reliability, system legibility and other factors), a separate measure of productivity of service is also recommended, below. This measure should be reported at both the system and route levels, and the objective should be a year-over-year increase.

Productivity (Boardings per Hour of Service)

In addition to collecting data on ridership, Free Ride staff already have available to them data on numbers of in-service hours operated. Just as with total ridership, this widely-used measure of efficiency and cost-effectiveness should be reported at both the system and route levels. It should also be reported for both day and evening service, and for both the winter and other seasonal service patterns. The objective should be a year-over-year increase.

On-Time Performance

Similarly, the Town collects data on schedule adherence. This should be reported, at a minimum, for the winter season, at both the system and route level, with a target rate of 85 percent of all trips arriving at time points no more than one minute early or five minutes late.

Number of Stops with Shelters, Seating and Real-Time Information

In addition to the above measures of system performance, the Town's progress in improving amenities for passengers should be tracked. Three important and easily observable elements are shelters, benches, and real-time information displays (which the Town plans to begin installing in the near future). Over time, this measure may be retired as amenities are provided at all busy stops. For the time being, however, there should be an objective of a year-over-year increase in the numbers of each.

ACTIVE TRANSPORTATION AND HEALTH

Average Pedestrian and Bike Volumes at Major Screenlines

Sample-based counts of pedestrian and bicycle volumes should be conducted on peak and "typical" or average days in both winter and summer at a point on Main Street (for pedestrians) and on the Blue River Recpath (for cyclists). The objective should be a year-over-year increase. The Town might also conduct supplemental before-and-after counts at locations where major investments in infrastructure are to be made, such as at the foot of Four O'Clock Road, where sidewalks are recommended to be improved.

Average Weekly Minutes of Physical Activity

This basic measure of the health of residents – time spent walking or biking each day – might be tracked through annual surveys or through voluntary submittals to a smartphone app. While self-reported data can be unreliable, aggregate data might provide insight into the effectiveness of Town investments in infrastructure for active transportation. The objective should be at least 150 minutes per week, per adult (note that this is based on the widely-used standard of 150 minutes of "moderate exercise," including cycling and brisk walking).

Miles per Capita of Sidewalks and Dedicated Bicycle Routes

While quality and not just quantity of pedestrian and bicycle infrastructure is important, a simple measure of linear distance can be used as an indicator of progress toward improving infrastructure. The objective should be year-over-year improvement.

Miles per Capita of Plowed Sidewalk and Dedicated Bicycle Routes

In alpine communities such as Breckenridge, unremoved snow and ice can deter and even prevent walking and biking, including walking to bus stops. This recommendation assumes that Town staff can, in collaboration with consultants, develop a means to accurately measure the length of sidewalks and bike paths and routes that are plowed on a regular basis.

ECONOMIC DEVELOPMENT

Annual Retail Revenues per Parking Space

This report recommends pricing of currently free parking spaces downtown largely to ensure that spaces are always available for customers of downtown businesses. If this policy is successfully implemented, it should contribute to increased sales. The objective for this measure should be a year-over-year improvement, with the caveat that factors both beyond the Town's control (an increase or decrease in sales unrelated to parking availability) and within its control (an increase in the number of parking spaces, thereby decreasing the ratio of sales-to-spaces) may influence performance.

EQUITY

Low-Income Household Percentage Spending on Transportation

This is a key measure of the success of the transportation system in ensuring social equity. Autos are more expensive to own, operate and use than other modes, and where the transportation system is less successful in contributing to social equity – where driving is a real or virtual requirement, and not an option – the percentage of household income spent by low-income households on transportation is high. These data can be collected by survey. For purposes of reporting, "low-income" may be defined as the lowest quartile. The objective should be a year-over-year decrease.

ENVIRONMENT

CO2 Emissions per Resident, Employee and Visitor

Pending discussions among the project team, this measure may be more complicated to report, as there is no regional model that the Town could use to estimate CO2 emissions from transportation (or the related measure of vehicles mile traveled). As a proxy, mode share might be used. The objective would be a year-over-year decrease.

SAFETY

Collision Rates

This most basic measure of safety should be reported publicly, both for collisions between automobiles as well as those involving pedestrians or bicyclists. Locations and severity should be included in reporting. The objective should be a year-over-year decrease in rates of both total and injury collisions.

Perceived Safety

While actual safety is paramount, *perceptions* of safety held by pedestrians and cyclists must factor into planning and prioritization of projects, as this is a key contributor to the experience of pedestrians and cyclists and their willingness to continue walking or biking at some or all locations, some or all of the time. This information can be collected for key locations by survey. the objective should be higher levels of perceived safety at all locations year over year.

CUSTOMER EXPERIENCE

Transportation Experience Satisfaction (by User Group)

Finally, overall customer satisfaction with the City's transportation facilities and policies should be reported for all major user groups or markets, including residents, employees and visitors. This data can be collected by survey, and the objective should be year-over-year improvement.