

CHAPTER 3. TRANSIT SYSTEM

3.1 EXISTING SERVICES

The Town of Avon provides transit services locally while ECO Transit provides regional services throughout Eagle County. This section describes existing conditions for Avon transit services as well as regional coordination and facilities used by both systems. These systems work together to provide Avon residents with access to jobs locally and throughout the region and to provide residents and guests access recreation, shopping and medical services.

3.1.1 Town of Avon Shuttle

The Town of Avon operates free shuttle services to connect residents and visitors to activity centers and employment. They also operate complementary paratransit service. In the past they operated the parking lot shuttles that connect Beaver Creek Resort to the skier parking provided on the south side of US 6. During the 2008/2009 season Beaver Creek is operating this service. Service routes and frequencies vary by season.

Winter and summer are the primary seasons and the service description will focus on these seasons. Two dates were chosen for evaluation of peak activity; February 18, 2008 was chosen to represent the peak winter season and July 26, 2008 was chosen to represent the peak summer season. Data was gathered by route and stop for both Avon Transit and ECO Transit for these two dates.

Avon Station is the Town's primary transit hub where riders can transfer regional services operated by ECO or to the Gondola service operated by the Westin to reach Beaver Creek.

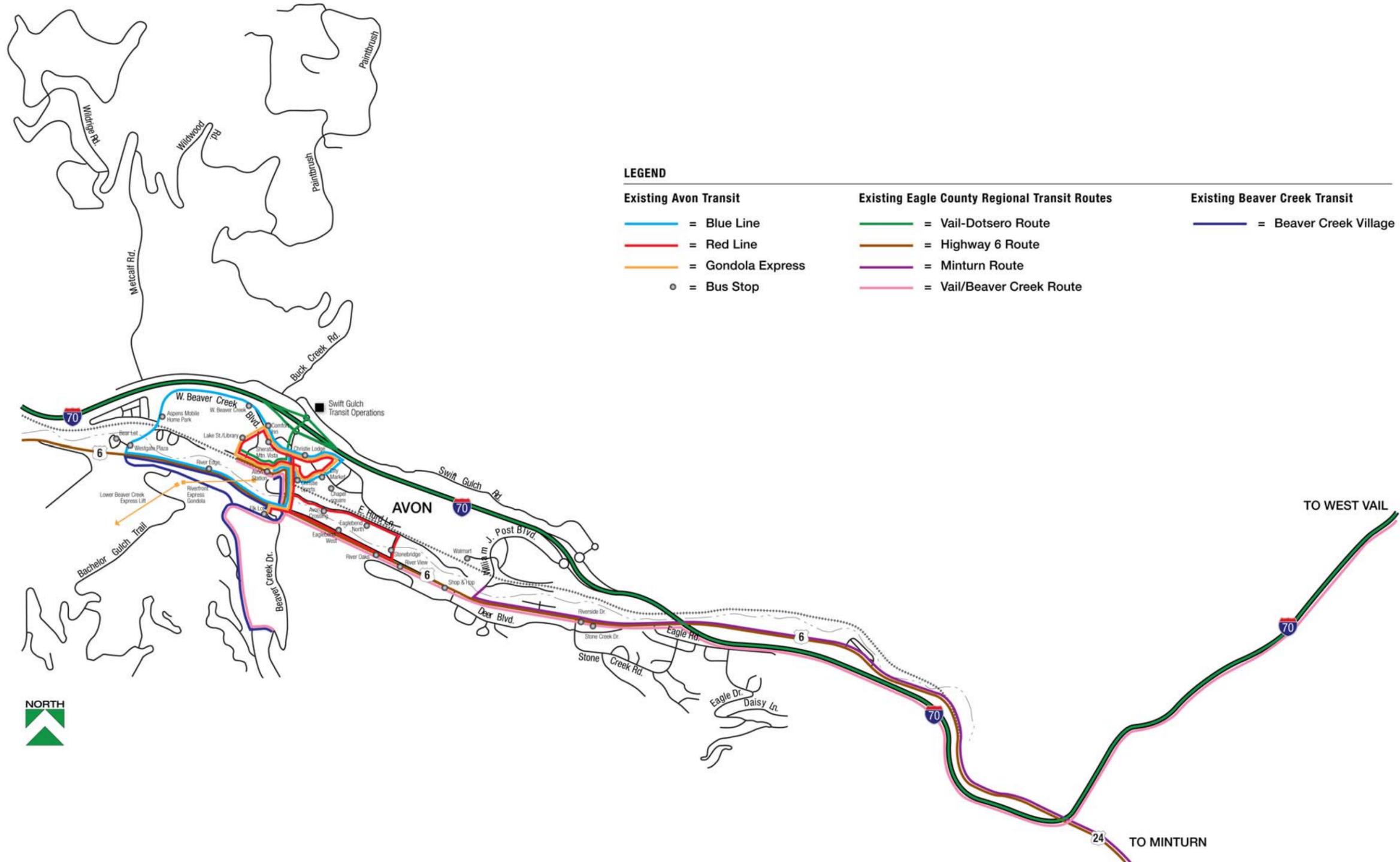
Beaver Creek Resort Company (BCRC) is temporarily using a stop at Avon Station for skiers shuttle to their covered bridge stop. The stall they are temporarily using will ultimately be used by Avon Transit to accommodate future growth. The Elk Lot, operated by BCRC is another connection point between Avon Transit, Eco transit and BCRC transit. The Elk Lot has poor circulation and is undersized for existing demand. Analysis and recommendations of BCRC's system is beyond the scope of this study.

The Town and ECO routes are based out of the Swift Gulch operations facility located on the north side of I-70. This facility and the fleet stored and maintained at this site are described under Section E of this report.

3.1.1.1 Winter Services

Figure 3.1 illustrates the current routes operated in winter. The winter schedule and routing underwent service changes in 2008. A comparison of **Tables 3.1** and **3.2** illustrates the changes.

Figure 3.1 Existing Local and Regional Bus Routes



The main service difference between the 2007/2008 season and the 2008/2009 season was in the operation of the Beaver Creek Village Shuttle. In the 2007/2008 season Avon Transit operated this service between the Elk and Bear Parking lots and Beaver Creek Village, River Edge and the Landing. In the 2008/2009 season Beaver Creek Ski Resort began operating the service, limiting the service to peak hours only. Other minimal routing adjustments were made; most notably the Gondola Express serves Chapel Square in the 2008 winter service rather than the Red and Blue Lines serving this stop as in 2007. The Chapel Square change was made due to difficulties with a turning movement on the previous route and lack of ridership.

Table 3.1 2007/2008 Avon Winter Route Hours and Frequency of Service

Route	AM or All Day	PM Service	Frequency
Red Line	5:58 AM – 7:03 PM		20 minutes
Blue Line	6:03 AM – 7:03 PM		20 minutes
Gondola Express	7:40 AM – 10:05 AM	2:05 PM – 6:00 PM	5 minutes
	10:05 AM – 2:05 PM		15 Minutes
Black Line		7:03 PM – 11:03 PM	30 Minutes
Beaver Creek Village – Green Line	6:30 AM – 12:00 PM	2:00 PM – 6:00 PM	5 Minutes
	5:30 AM – 6:30 AM	12:00 PM – 2:00 PM; 6:00 PM – 9:00 PM	10 Minutes
		9:00 PM – 2:30 AM	20 Minutes

Table 3.2 2008/2009 Avon Winter Route Hours and Frequency of Service

Route	AM or All Day	PM Service	Frequency
Red Line	6:00 AM – 7:00 PM		15 minutes
Blue Line	6:06 AM – 7:00 PM		15 minutes
Gondola Express	8:00 AM – 6:05 PM		10 minutes
Black Line		7:00 PM – 11:00 PM	30 Minutes

The Red Line Shuttle makes two loops, one serving Avon Crossing, Eaglebend North, Stonebridge, Eaglebend West and Elk Lot. The other loop serves the lodges and retail located on Beaver Creek Blvd, Benchmark Rd, Beaver Creek Place, and Lake Street. During the 2008/2009 season, the Red line frequency increased from 20 minutes to 15 minutes.

The Blue Line Shuttle also is a looped route, with one large loop and one small loop. The large loop operates clockwise from Westgate Plaza, traveling north on West Beaver Creek Boulevard, Avon Road, and Benchmark Boulevard to Avon Station continuing to the Elk Lot. A small counter-clockwise loop then continues along Benchmark Boulevard to serve City Market, returning to Avon Station and continuing along US 6 to Westgate Plaza.

The Black Line Shuttle is a combination of the other routes providing service between Avon Station and the Elk Lot to the mobile home park on the west and lodges and retail in downtown Avon. It consists of one large clockwise figure eight loop providing 30-minute headways between 7:00 PM and 11:00 PM daily.

Together, the Red, Blue and Black lines are referred to as the “town routes”.

The Gondola Express Shuttle connects the Gondola at Avon Station to lodges and retail businesses in Avon. It operates counter-clockwise along Benchmark Rd, Beaver Creek Blvd, and Lake St on ten-minute headways. During the 2008/2009 season the Gondola Express operates every 10 minutes all day. This is less frequent in the peak periods but more in the midday than the previous winter season.

Beaver Creek operates the Beaver Creek Village Shuttle from Avon Station to Beaver Creek Village between 8:00 AM and 11:30 AM and from 2:30 PM to 5:30 PM. These peak times were selected to serve mountain access demand patterns for upload and download.

The River Front Gondola operates whenever the lower Beaver Creek chairlift is in service (i.e. snow level dependant) during the hours of 8:30 AM and 3:30 PM. For the past two ski seasons, the gondola commenced operation on December 20th and shut down on March 30th for a total of about 95 days of operation. The gondola has carrying capacity of 1,200 passengers per hour and is expandable to 1,600 passengers per hour through the addition of more cars. The Westin River Front operates the gondola at no charge to passengers.

3.1.1.2 Ridership by Stop and by Hour

As illustrated in **Table 3.3**, Avon Transit had a total of 2,321 boardings on the Red, Blue, Black and Gondola routes on February 18, 2008. 2008 data for ECO Transit was not available by stop. It was estimated by increasing 2006 data for the same weekend day by 23% the overall increase in ECO ridership between 2006 and 2008¹ for the selected stops on that day. Based on this calculation ECO served another 1,465 riders in the Avon area on that day. These numbers represent one-way unlinked transit trips and therefore do not account for transfers between routes and systems.

¹ According to ECO Transit, the peak period ridership increase between 2006 and 2008 was 23% for Avon stops on selected days. The systemwide increase between 2006 and 2008 was 38%.

Table 3.3 Ridership by Stop February 18, 2008

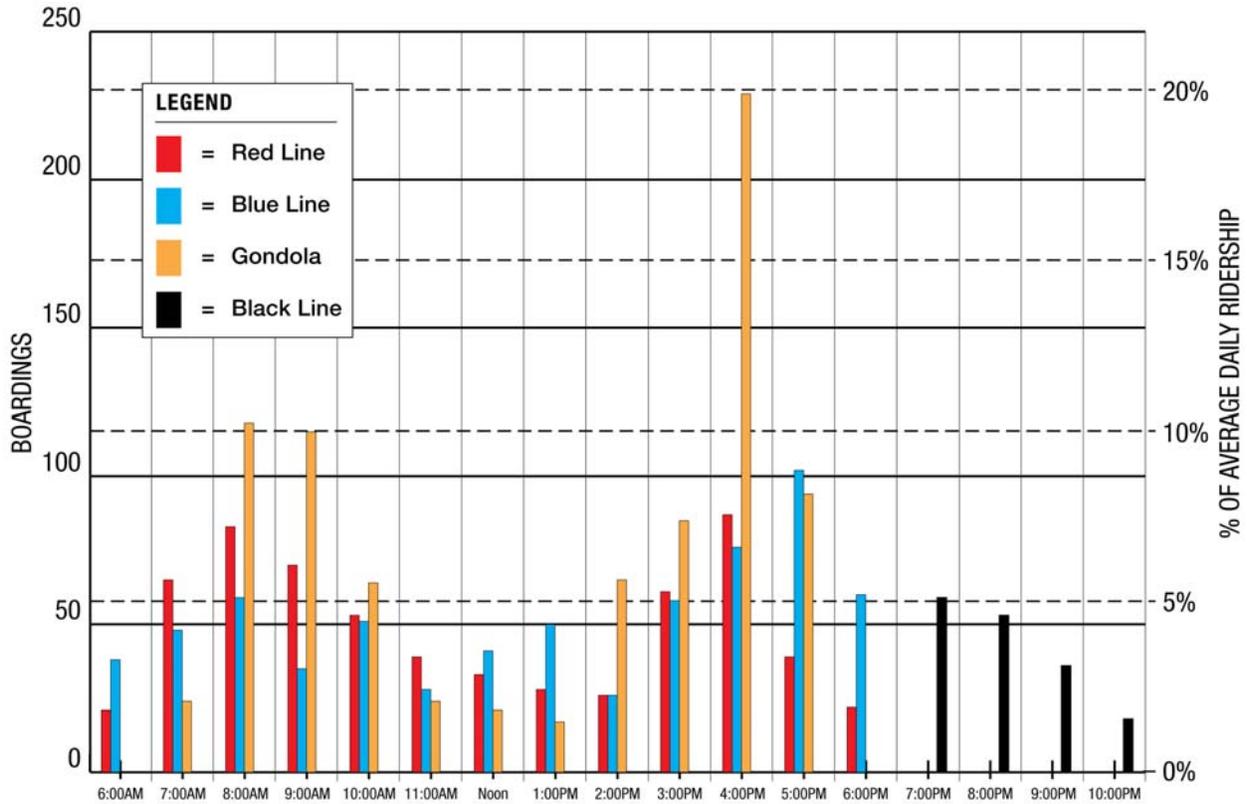
Stop	Town Routes			Lodging Route Gondola	Regional Route ECO*	Total
	Red	Blue	Black			
Aspens Mobile Home Park		168	31			199
Avon Station	35	121	11	474	710	1,351
Avon Crossing	4		28			32
Bear Lot					247	247
Chapel Square	18	13				31
Christie Lodge	108	92	18	112		331
Christy Sports	11			5		16
City Market	55	115	45	23		238
Comfort Inn	22			82		104
Eaglebend North	41					41
Eaglebend West	58		3		28	89
Elk Lot	134	38	16		109	297
Lake Street	66	21	6	159		252
Library				1		1
Rivers Edge					66	66
River Oaks					52	52
River View					54	54
Sheraton Mtn. Vista		20				20
Shop and Hop					38	38
Stone Creek					39	39
Stonebridge Drive	75		2			77
Walmart					140	140
Westgate Plaza		74	6			80
West Beaver Creek Blvd		10				10
Total By Route	627	672	166	856	1,465	3,786
% of Total	38.7%			22.6%	38.7%	100.0%

Sources: Town of Avon, ECO Transit stop level ridership data.

* ECO Transit is included because they also stop at Avon's core hub, the Avon Station and provide regional access to Avon's residents and visitors.

Figure 3.2 illustrates boardings by hour by route. As shown, boarding activity peaks in the morning between 8 and 11 AM accounting for about 28% of the total daily boardings. The Gondola route experiences a spike in activity, nearly 20% of average daily ridership, during the 4 PM hour as skiers depart the mountain.

Figure 3.2 Winter Boardings by Hour by Route



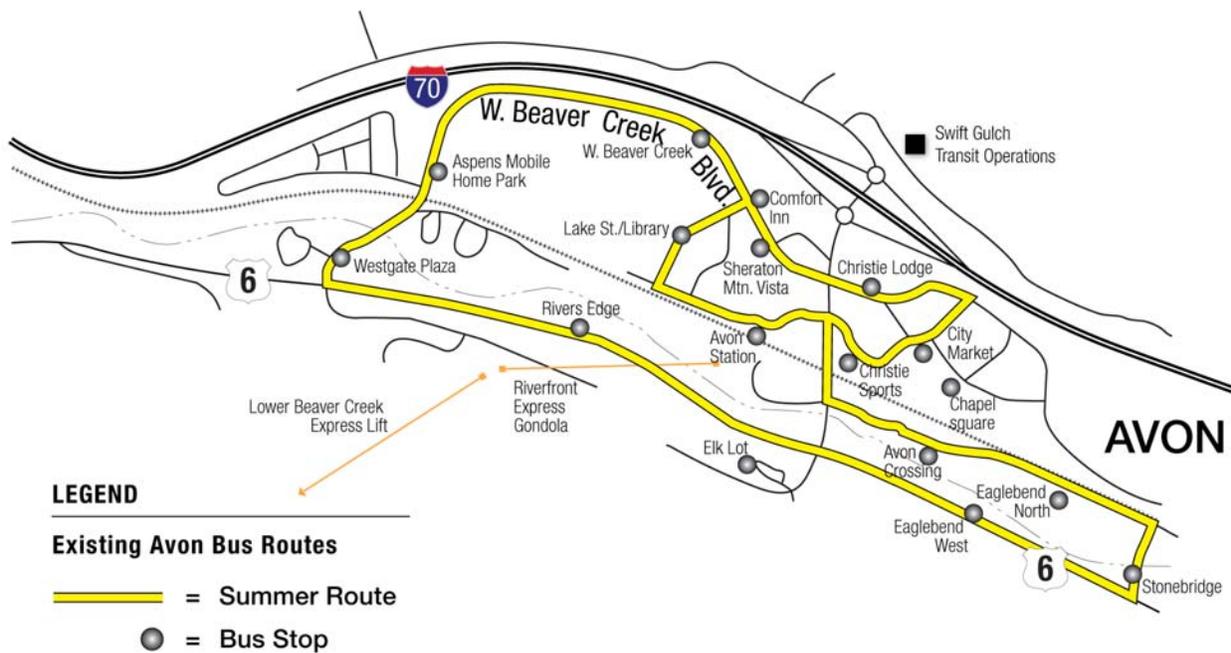
3.1.1.3 Summer Services

Figure 3.3 illustrates the routes operated in summer. The frequency and hours of operation are illustrated in Table 3.4. The Gondola Express Shuttle does not operate in the summer.

Table 3.4 Summer Route Hours and Frequency of Service

Route	Hours	Frequency
Combined Route	6:00 AM – 7:13 AM	30 minutes
	7:13 AM – 10:13 AM	15 minutes
	10:13 AM – 12:28 PM	30 minutes
	12:28 PM – 6:13 PM	15 minutes
	6:13 PM – 8:28 PM	30 minutes
	8:28 PM – 10:28 PM	15 minutes
	10:28 PM – 11:18 PM	30 minutes

Figure 3.3 Summer Town Route



3.1.1.4 Ridership by Stop and by Hour

Table 3.5 summarizes ridership by stop on July 26, 2008. As shown, Avon Transit had a total of 785 boardings on the Town Routes (combined Red, Blue, and Black). ECO served another 480 riders in the Avon area on that day. Similar to the winter calculations, these numbers represent one-way unlinked transit trips and therefore do not account for transfers between routes and systems. A comparison of summer and winter stop activity is illustrated graphically in **Figure 3.4**.

Table 3.5 Ridership by Stop July 26, 2008

Stop	Town Routes	ECO	Total
Aspens Mobile Home Park	140		140
Avon Station	156	230	386
Avon Crossing	5		5
Bear Lot		100	100
Chapel Square	4		4
Christie Lodge	37		37
Christy Sports	1		1
City Market	162		162
Eaglebend North	21		21
Eaglebend West	32	0	32
Elk Lot	74	20	94
Rivers Edge	16	10	26
River Oaks		10	10
River View		20	20
Sheraton Mtn. Vista	9		9
Shop and Hop		10	10
Stone Creek		0	0
Stonebridge Drive	41		41
Walmart		80	80
Westgate Plaza	82		82
West Beaver Creek Blvd	5		5
Total By Route	785	480	1,265
% of Total	62%	38%	100%

Sources: Town of Avon, ECO Transit stop level ridership data.

Figure 3.4. Ridership by Stop - Winter and Summer

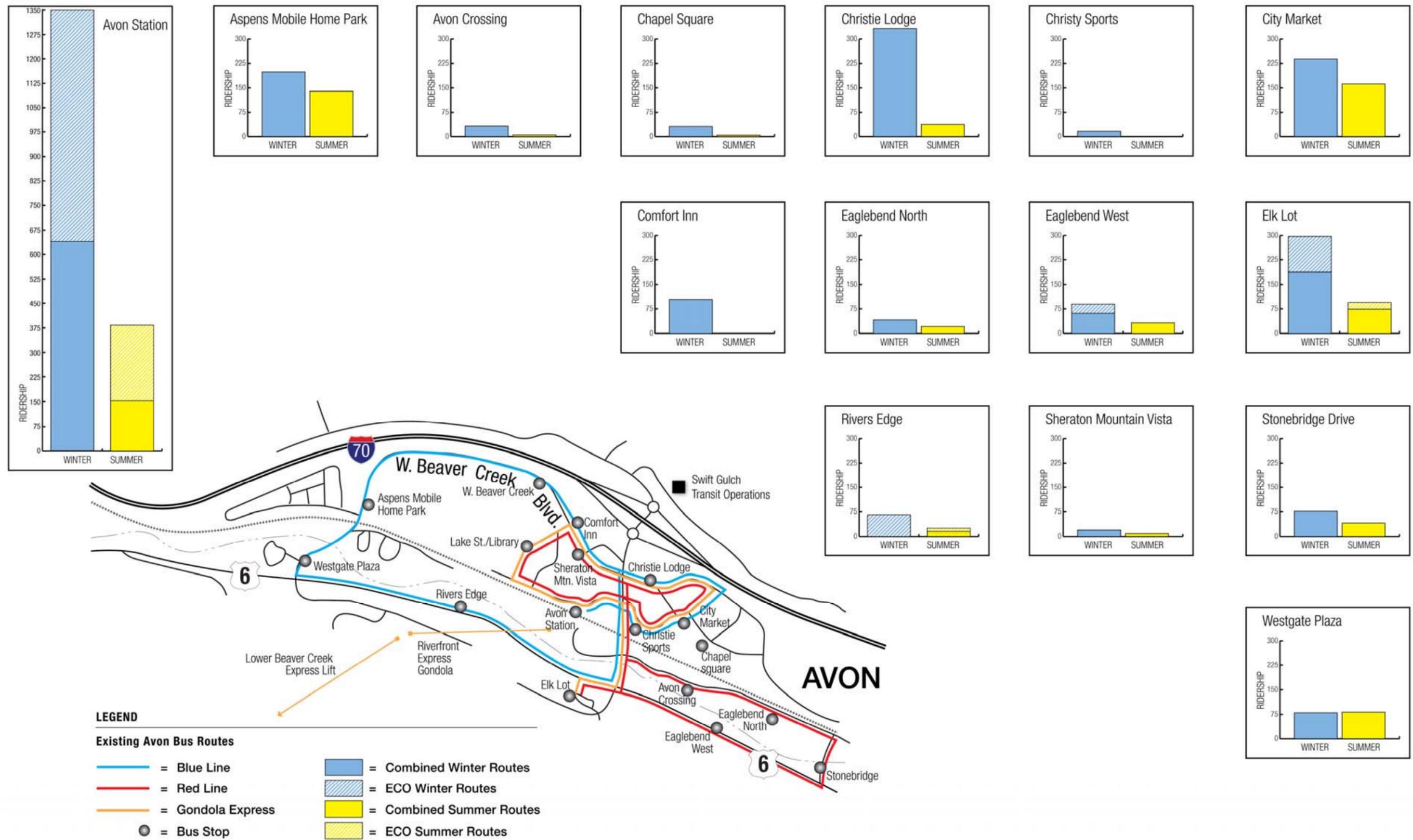
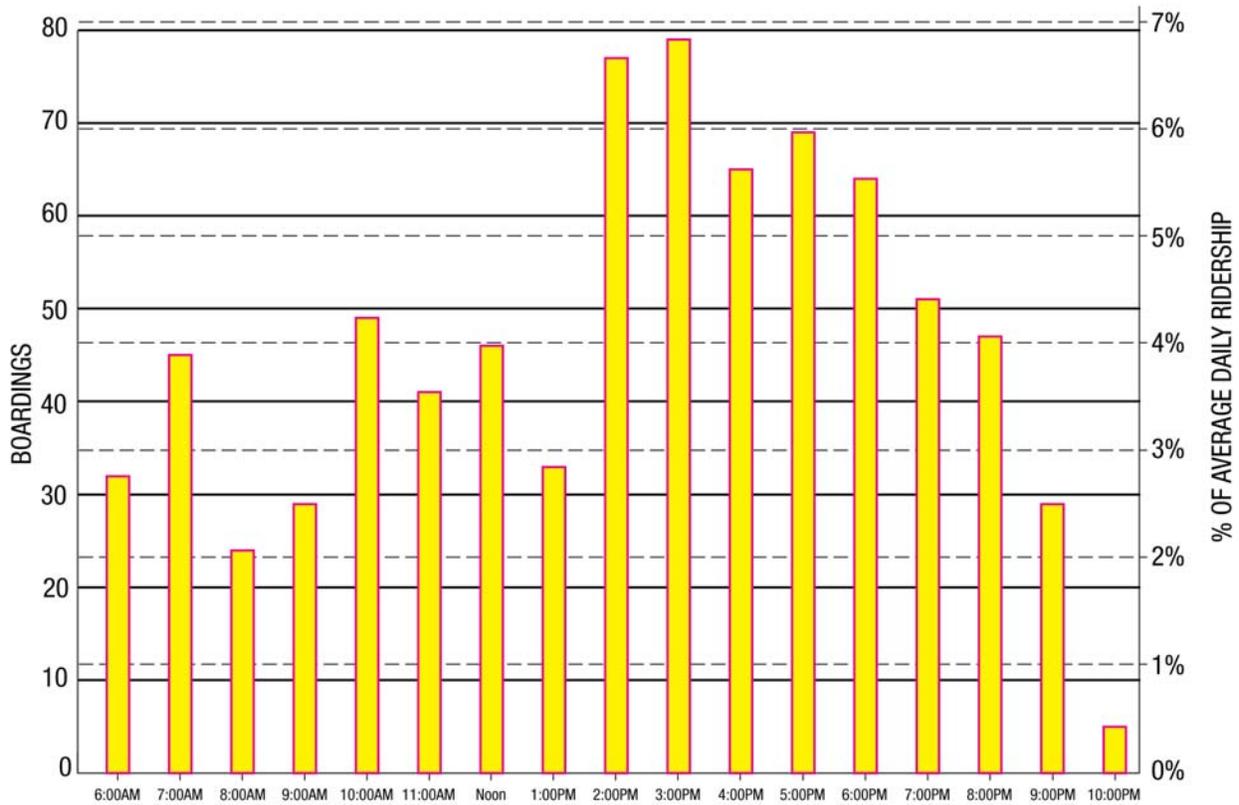


Figure 3.5 illustrates lists boardings by hour by route during a peak summer day. Boarding activity is spread more evenly over the day than during the winter with peak activity occurring in the late morning from 10 AM to 1 PM and early afternoon from 2 to 5 PM.

Figure 3.5 Summer Boardings by Hour and Route



3.1.1.5 Service Characteristics

The 2008 ridership level, by month and by route, is illustrated in **Figure 3.6**. Total ridership averages nearly 60,000 per month in the beginning of 2008 (January through March); about 23,500 April through November and 54,500 in December).

Figure 3.6 Avon Transit Ridership by Route by Month

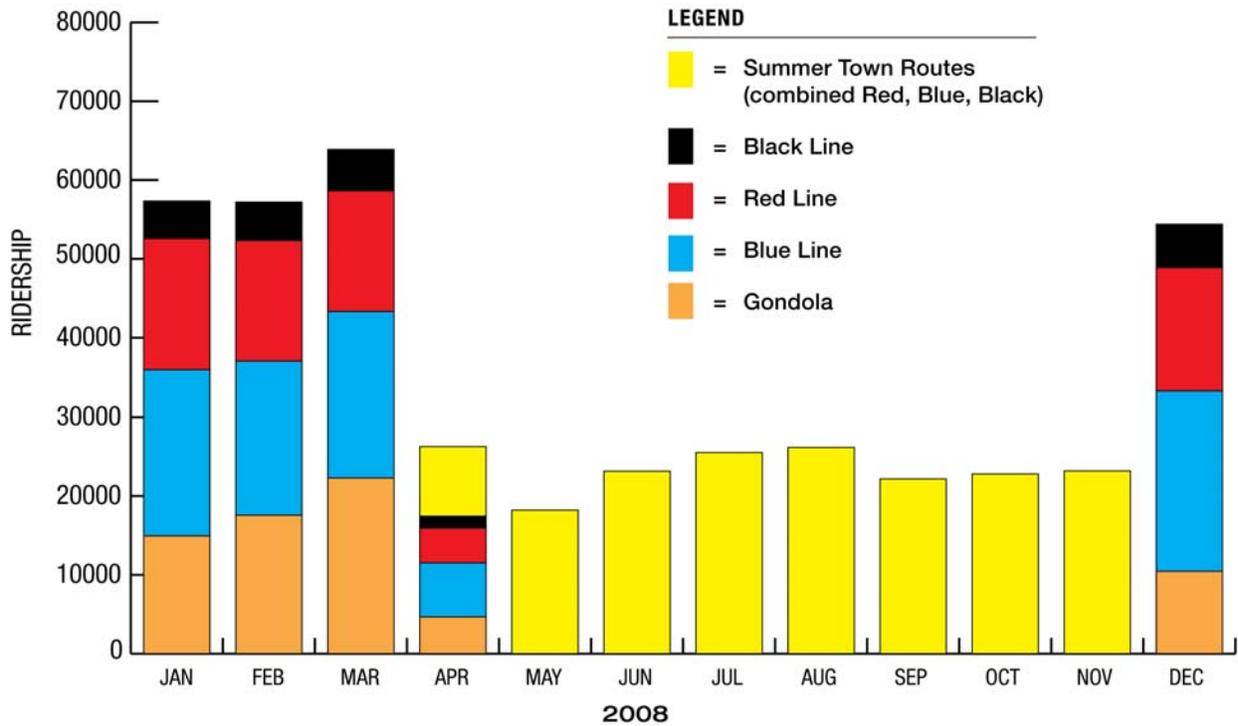
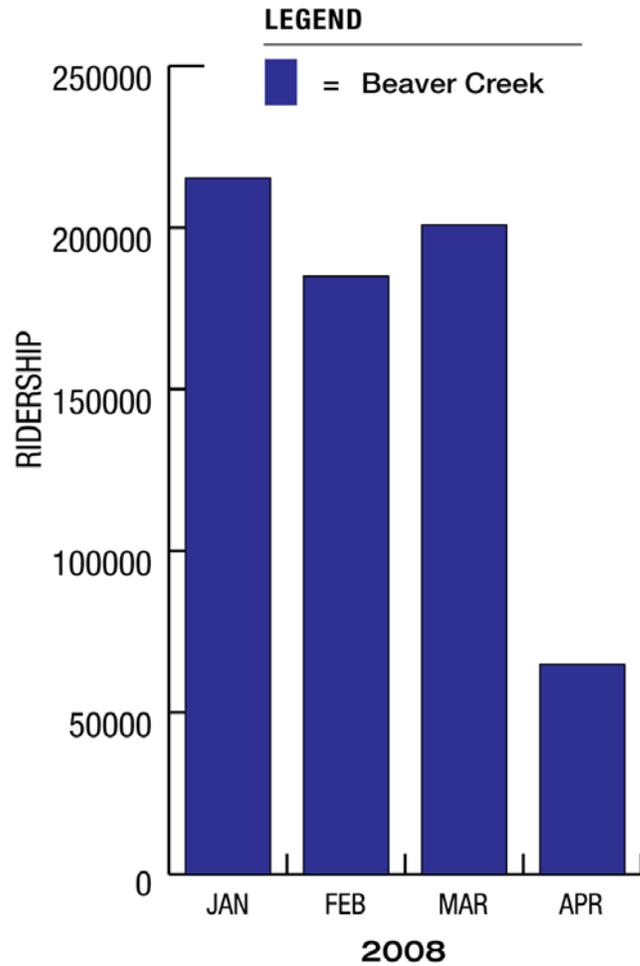


Figure 3.7 illustrates ridership on the Beaver Creek shuttle early in 2008 when Avon operated this service for Beaver Creek. This service averaged about 200,000 boardings per month during the first three months of 2008.

Figure 3.7 2008 Beaver Creek Shuttle Boardings by Month



The service hours operated each month are illustrated in **Figure 3.8**. The current level of service provided by the system matches well with the seasonal ridership patterns shown in **Figure 3.6**. As shown, during the first three months of the year service hours exceed 1,500 per month. During the summer months the combined town routes averaged about 1,000 hours per month and returned to about 1,500 hours with the start of the ski season in December.

Figure 3.8 Avon Transit Service Hours by Route

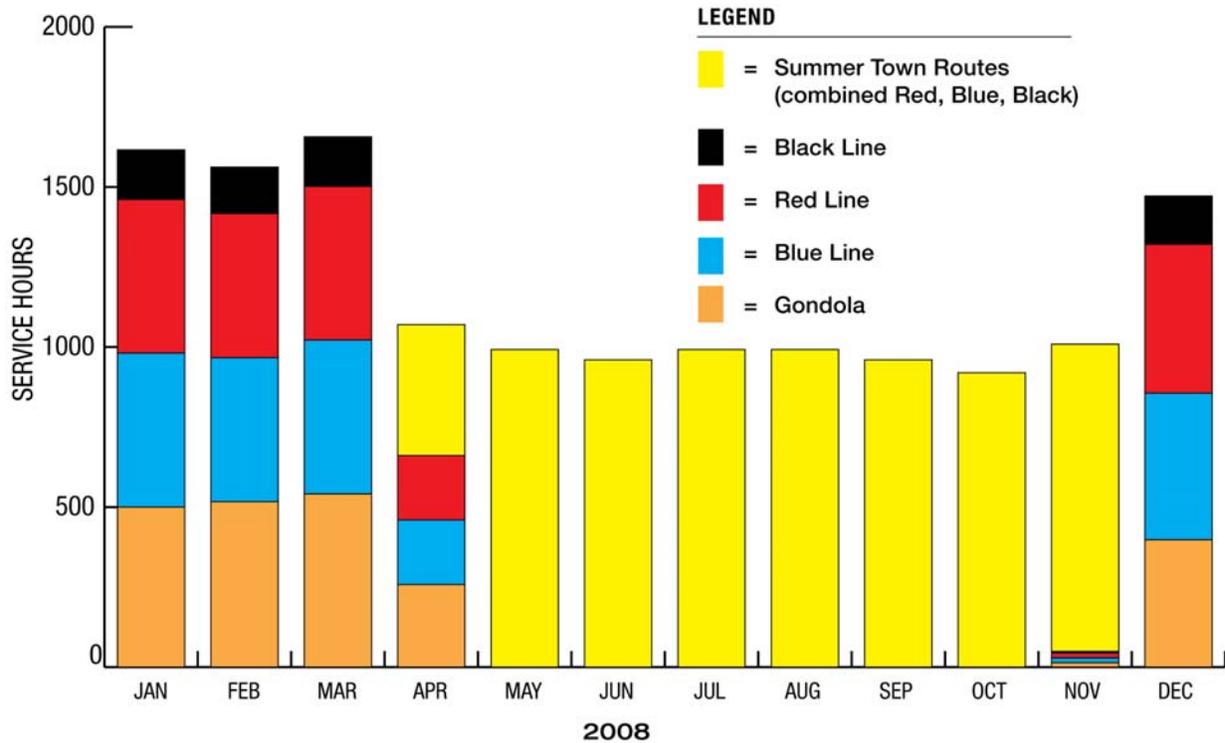


Figure 3.9 illustrates the service hours for the Beaver Creek shuttle early in 2008 when Avon operated this service for Beaver Creek. As shown, this service averaged about 2,500 service hours per month during the first three months of 2008.

Figure 3.9 2008 Beaver Creek Shuttle Service Hours

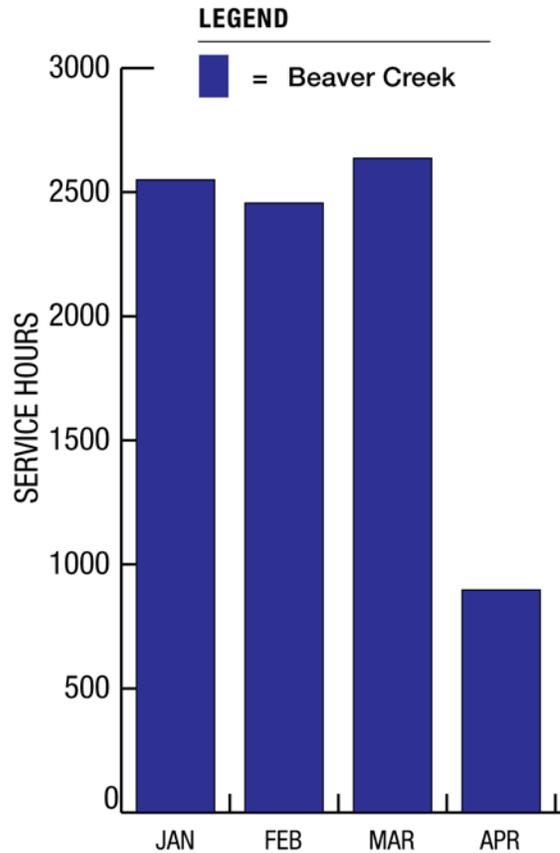


Table 3.6 shows the riders per hour over the course of the year, one measure of effectiveness of the system. As shown, Avon’s routes range 18 boardings per hour in May to 38 boardings per hour in March, with an annual average of 29 boardings per hour. Winter boardings per hour are approximately 48% higher than during summer. Avon Transit accommodates this by providing about 50% more service (measured in service hours per month as shown on Figure 3.8) during the winter ski season. The flatter hourly pattern during the summer means that buses are less full at any given time but the frequency of service is still appropriate.

Table 3.6 2008 Boardings per Hour by Month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
Avon Routes	35	37	38	25	18	24	26	26	23	23	23	37	29
Beaver Creek Shuttle	87	79	80	65	-	-	-	-	-	-	-	-	80

3.1.2 Wal-Mart and Buffalo Ridge Demonstration Service

The Village at Avon is home to a number of retail destinations in Avon such as Wal-mart and Home Depot. Buffalo Ridge is a large residential development on the north side of I-70 that currently has approximately 250 multi-family dwelling units. Between June 2006 and April 2007 the Town of Avon modified the Blue and Red routes to include stops at the Village at Avon and Buffalo Ridge. This demonstration service was used to assess the demand for service to the area. The demonstration project showed that there was substantial demand for service to Wal-mart and Buffalo Ridge.

Table 3.7 compares data collected during the demonstration period to the winter peak analysis day described above. As shown, adding the Wal-mart and Buffalo Ridge boarding activity to the 2008 peak winter day boarding activity would increase overall activity by 20%. The Wal-mart stop would have been the fourth busiest stop in the system.

Table 3.7 Potential Increase in 2008 Peak Winter Day Ridership

	Red	Blue	Black	Gondola	Total
Boardings By Route (2008)	627	672	166	856	2,321
Boardings at Wal-mart and Buffalo Ridge (2007)	197	172	-	-	466
% Increase	31%	26%	-	-	20%

The other consideration when evaluating this demonstration service is the increase in service hours required to serve this stop. The town of Avon estimated that providing service to Wal-mart and Buffalo Ridge added 18.5 service hours per day. This would result in approximately 25 boardings per hour. This is somewhat lower than the average annual boardings per month shown in **Table 3.6** reflecting the long additional distance required to serve Wal-mart and Buffalo Ridge.

While these measures demonstrate the high demand for service to Buffalo Ridge and Wal-mart, Avon’s service was discontinued because the developer has refused to pay for transit service. ECO Transit does provide fare-based service to the Village at Avon.



Avon residents walking from Wal-Mart back to Avon’s core area along East Beaver Creek Boulevard.

Avon Transit continues to receive requests each month from the community to provide fare-free transit connectivity between Avon's core area and the Village at Avon.

3.1.3 ECO Transit Routes

The regional service operated by ECO Transit is also illustrated in **Figure 3.1**. **Table 3.8** lists ECO's transit routes and frequencies. These routes serve local trips along US 6 and between Avon Station and the Wal-Mart / Home Depot commercial center, but more importantly they provide regional connections for employees and visitors wishing to travel to other areas in Eagle and Lake Counties. Approximately 71% of Avon's workforce lives outside of Avon and many use ECO Transit or carpool to work.²

The Minturn and Leadville routes are primarily commuter routes with services operating only in the AM and PM peak hours. Both routes serve Wal-Mart, Avon Station and the Elk Lot. The Leadville route also serves Beaver Creek and City Market. The US 6 route runs between Vail and Edwards serving Avon at Avon Station, the Elk Lot, and the Bear Lot.

The Dotsero route operates throughout the day, serving the Wal-Mart, Avon Station, the Elk Lot, and the Bear Lot. Service to Wal-Mart and the Bear Lot is limited to three trips per day while service to Avon Station and the Elk Lot is approximately every 30 minutes throughout the day. Service between Vail, Avon, and Beaver Creek is provided along I-70, stopping in Avon at Avon Station.

² Town of Avon Housing Needs Assessment, RRC Associates, Inc. 2006.

Table 3.8 ECO Transit Routes, Frequencies and Fares

Route	Description	Service Times	Frequency*
Dotsero East	Dotsero to Gypsum, Eagle Airport, Eagle, Avon, and Vail	5:45 AM - 6:45 AM 6:45 AM - 8:15 AM 8:15 AM - 4:50 PM 4:50 PM - 11:22 PM	15 Minutes 20 Minutes 70 Minutes 75 Minutes
Dotsero West	Vail and Avon to Eagle, Eagle Airport, Gypsum and Dotsero	6:50 AM - 11:30 AM 11:30 AM - 1:30 PM 1:30 PM - 4:30 PM 4:30 PM - 6:30 PM 6:30 PM - 2:15 PM	60 Minutes 120 Minutes 70 Minutes 30 Minutes Varies
US 6 East	Edwards to Avon, Eagle-Vail, and Vail	5:00 AM - 6:00 AM 6:00 AM - 8:00 AM 8:00 AM - 4:30 PM 4:30 PM - 5:00 PM 5:00 PM - 8:00 PM 8:00 PM - 1:00 AM	60 Minutes 15 Minutes 30 Minutes 15 Minutes 30 Minutes 60 Minutes
US 6 West	Vail to Eagle-Vail, Avon and Edwards	5:37 AM - 3:37 PM 3:37 PM - 7:37 PM 7:37 PM - 8:37 PM 8:37 PM - 1:37 AM	30 Minutes Alternates 5 minutes and 20 minutes 30 Minutes 60 Minutes
Minturn	Minturn to Avon	6:05 AM - 2:33 PM 5:00 PM - 11:50 PM	100 Minutes 100 Minutes
Leadville	Leadville to Vail, Avon and Beaver Creek	5:35 AM - 6:15 AM 3:50 PM - 4:50 PM	20 Minutes 60 Minutes
Vail/Beaver Creek on I-70	Express Service between Vail, Avon, and Beaver Creek	7:40 AM -10:00 AM 10:00 AM - 11:00 AM 11:00 AM - 2:00 pm 2:00 PM - 3:00 PM 3:00 PM - 5:00 PM 5:00 PM - 6:00 PM 6:00 PM - 12:00 AM	20 Minutes 30 Minutes 60 Minutes 30 Minutes 20 Minutes 30 Minutes 60 Minutes

3.1.4 Stops and Stop Amenities

Avon's current bus stops range from the Avon Transfer Station with various rider amenities (a "hub") to small shelters with schedules and trash cans (a "stop") to a simple sign with a posted schedule. Pictures of each of the stops are included below.



Aspens Mobile Home Park



Avon Station



Avon Crossing



Chapel Square



Christie Lodge



Christy Sports

Town of Avon Comprehensive Transportation Plan



City Market



Comfort Inn



Eaglebend North



Eaglebend West



Library



Rivers Edge



River Front Gondola



Sheraton Mtn. Vista



Stone Creek



Stonebridge Drive



Westgate Plaza



West Beaver Creek Blvd

Table 3.9 summarizes the amenities present at each stop. Bus stop standards are included in the **Supplemental Materials**.

Table 3.9 Transit Stop Amenities

	Shelter	Bench	Trash Can	Schedule Post	Schedule Holder
The Aspens	√	√	√	√	
Avon Crossing/Canyon Run		√	√	√	
Chapel Square				√	
Christie Lodge				√	
Christy Sports		√	√	√	
City Market SB		√√	√		
City Market NB		√	√	√	
Comfort Inn		√		√	
Eaglebend North		√	√	√	
Eaglebend West	√		√		√
Recreation Center					
River Front Gondola	√		√		
River Edge				√	
Sheraton Mtn. Vista	√				√
Stonebridge Drive		√	√	√	
Westgate	√		√	√	
West Beaver Creek Blvd		√√	√	√	

3.1.5 Fleet and Facilities

The Town of Avon fleet consists of ten accessible passenger vehicles. There are two small (19-21 passenger) gasoline-powered vehicles with a four-year useful life and eight full size coaches with a 12-year useful life. This allows the system to assign smaller capacity coaches at times or on routes where ridership is lower. The town annually sets aside funds for asset maintenance and replacement. **Table 3.10** lists the fleet characteristics.

Four vehicles have reached the end of their useful life. Two cut-aways were removed from service in 2008 due to failed structural and moisture proofing systems which resulted in mold; these were older vehicles (814 and 815) due for replacement in 2005. One new Gillig coach (#855) has a diesel-electric hybrid engine. The remainder of the fleet has diesel engines.

The Town of Avon's Transit Division operates out of the Swift Gulch operations facility. The facility currently is home to 19 transit personnel and 25 transit vehicles. ECO transit and Beaver Creek Metro District lease space at this site. The site provides parking for transit vehicles, service vehicles and employees. All vehicles are stored outdoors in harsh mountain conditions. It houses administrative offices, employee lockers, showers, a break room, training facilities, fleet maintenance bays, fueling, a bush wash and commercial driver's license course. This facility requires replacement and expansion to meet current and future demands.

The Town has identified a project to expand the facility and provide covered storage for vehicles. This facility would be shared with Eagle County and is referred to as the “ECO/Avon Joint Regional Facility”. This project would include one building for bus storage and a second building to house operations. It would double the throughput of bus re-fueling and bus washing, add a commercial driver’s license training and testing course, include training facilities with internet access and video conferencing, and provide storage for bus stop shelter materials and associated infrastructure. Construction is anticipated in 2010-2011.

This \$25 million project has been submitted for State and Federal transit grant funding. As of April 1, 2009, full funding for construction of this planned facility has not yet been obtained. The project was reviewed by CDOT and ranked very highly in the State’s overall goals for connectivity and mobility. It is also “ready to go” and will act as a stimulant to the current economic condition. At present it is the top ranked unfunded transit facilities project on CDOT’s Senate Bill 1 list. The project also ranks highly on several pending FTA grant request lists.

Table 3.10 Fleet Roster

Make/Model	Year	Unit #	Useful Life	Replac e in Year	Mileage	Capacity			Fuel	Condition
						Seat	Stand	W/C		
Gillig Phantom	1994	830	12-yr	2006	496,008	37	20	2	D	Fair
Gillig Phantom	1996	838	12-yr	2008	132,791	43	20	2	D	Good
Gillig Phantom	1998	849	12-yr	2010	320,992	43	20	2	D	Excellent
Gillig Phantom	2003	850	12-yr	2013	21,393	35	20	2	D	Excellent
Ford E-450	2004	816	4-yr	2008	104,325	19	-	2	G	Fair
Ford E-450	2004	817	4-yr	2008	97,394	19	-	2	G	Fair
Optima Opus	2005	853	12-yr	2015	48,668	28	-	2	D	-
Gillig Phantom	2007	854	12-yr	2019	-	28	10	-	-	Excellent
Gillig Phantom	2008	855	12-yr	2020	-	28	10	-	Hybrid	Excellent
Gillig Phantom	2008	856	12-yr	2020	-	28	10	-	-	Excellent

3.1.6 Budget and Funding

Avon Transit operates as an enterprise fund within the Town of Avon’s overall financial program. The Town funds transit services primarily through General Fund dollars and contributions from third parties. Federal and State funds are pursued for capital expenditures. In the 2007/2008 winter season, the Town was under contract to operate the Beaver Creek Resort parking lot shuttles (but not for the 2008/2009 Winter season). The agreement for the provision of municipal services in the Village at Avon includes transit services but to date, Traer Creek Metro District, LLC has not paid for or requested transit service to connect Wal-Mart and Home Depot to Avon’s other areas.

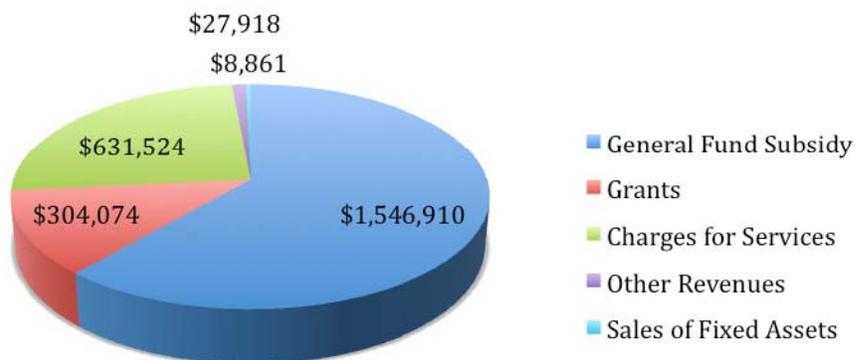
Federal Transit Administration grant funds are routinely applied to vehicles, equipment and facilities purchases. These grant funds are able to pay for up to 80% of the cost of capital purchases. In recent years, however, Avon (and other transit agencies) has only been allocated 10-20% of their requested amount due to a shortage of federal funding dollars.

The Town of Avon spent \$2,519,287 on transit services in 2008, with \$380,092 of this for buses and other transportation related capital expenses. The pie charts below illustrate expenses and revenues by category.

2008 Expenses by Category



2008 Revenues by Source



On the revenue side, the general fund subsidy has increased since 2006. With Avon no longer operating contract service for Beaver Creek, this trend is expected to continue. While this change reduces the total service hours operated, the other impact is that the system is no longer able to spread fixed overhead expenses over a larger base of service hours and riders.

On the expense side, the combination of administrative, operating, and marketing costs are used as a basis for understanding the ongoing system costs. The remaining capital expenses can vary substantially from year-to-year. **Figure 3.10** illustrates the historical shared cost per service hour. In 2008 the cost of operation per service hour was calculated at \$62.33. For 2009 the Town estimates that transit costs will be approximately \$90.00 per service hour.³

It is also useful to understand costs per rider based on service type. **Table 3.11** illustrates the estimated costs allocated by route based on 2008 service levels. With the system not operating the Beaver Creek parking lot shuttle in 2009, the costs per passenger for other route services are expected to increase somewhat. **Figure 3.11** illustrates the historical change in subsidy from the Town's general fund to Avon Transit's Enterprise Fund per passenger.

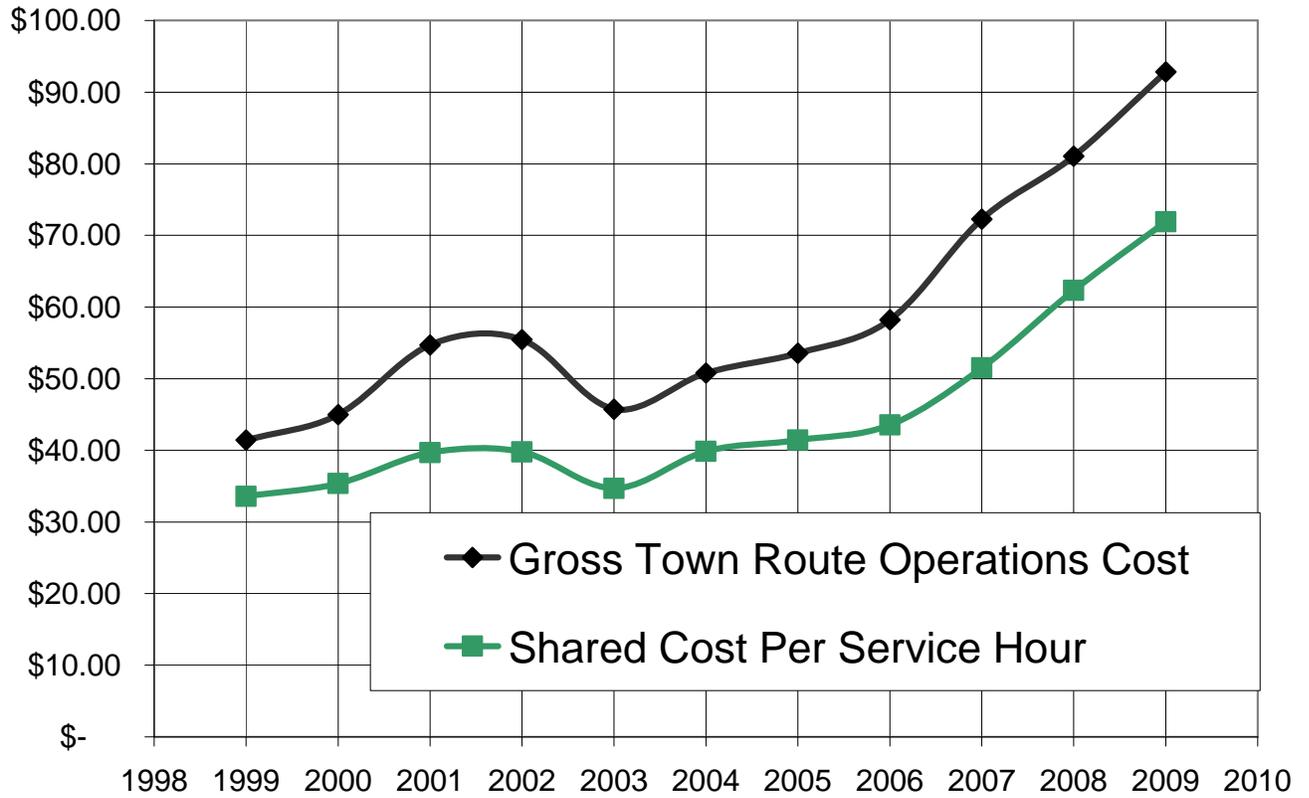
Table 3.11 Productivity by Service Type

	Service Hours	2008 Cost	Passenger Trips	Cost per Passenger Trip
Town Routes	13,095	\$1,062,755	448,000	\$ 2.37
Gondola Express Route	2,228	\$ 189,125	72,000	\$ 2.63
Gondola	800	\$ 256,000	93,000	\$ 2.75
BC Parking Lot Shuttle	9,903	\$ 549,714	425,657	\$ 1.29
TOTAL	26,026	\$2,057,594	1,038,657	Avg. \$ 1.98

Source: Town of Avon

³ Service hours include the running time of the routes plus about 20% additional hours for pre-and post-trip safety inspections, training, and the washing and refueling time

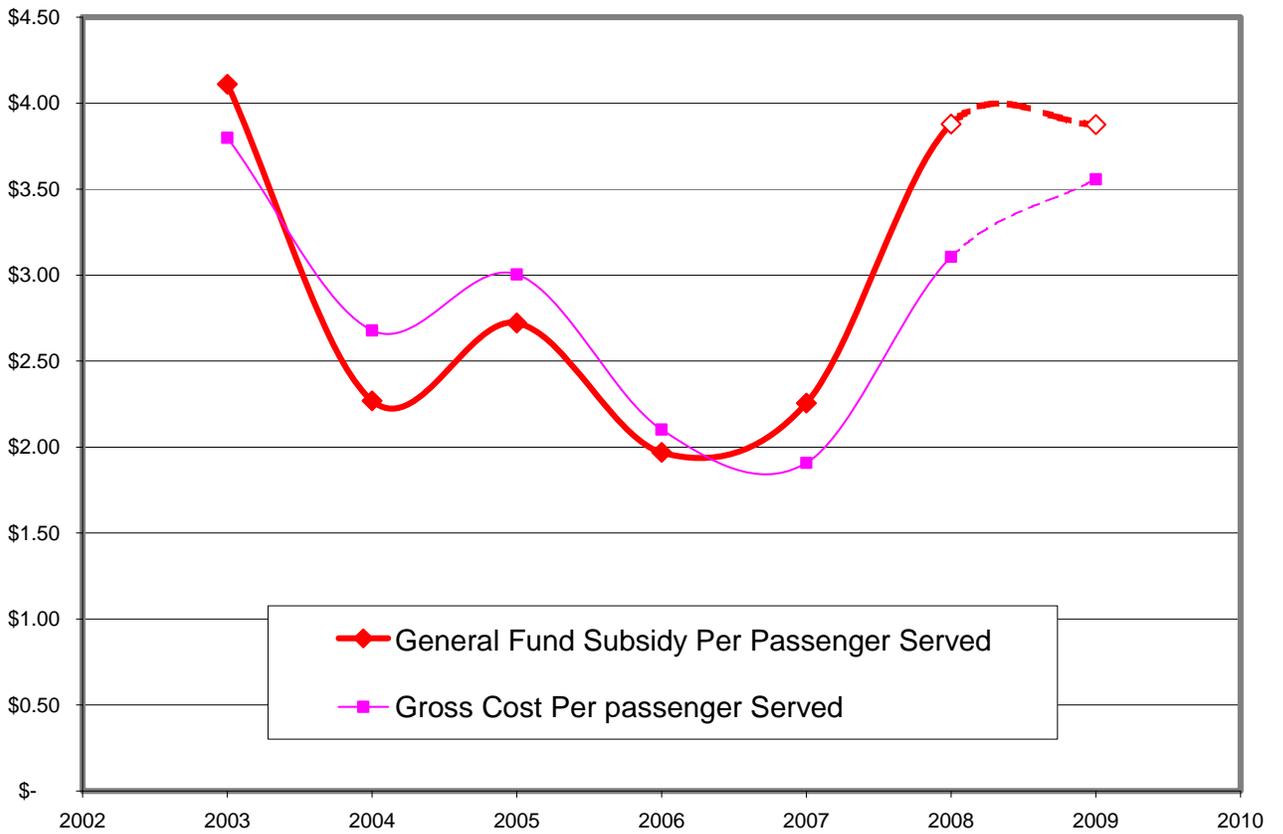
Figure 3.10 Historic Cost per Service Hour for Town Routes



Note: Excludes capital expenditures, gondola.

Source: Town of Avon

Figure 3.11 Cost of Transit Service per Passenger



Source: Town of Avon

3.2 FUTURE CONDITIONS

Substantial planned residential and commercial development in the Town of Avon and Avon's desire to encourage multi-modal travel within the Town will increase demand and change travel patterns on Avon's transit system. This section describes the planned development, considerations for future transit service and three service scenarios to accommodate the future demand.

3.2.1 Planned Development

This section describes the methodology for estimating transit ridership demand as a result of Avon's planned development. At buildout Avon is expected to have approximately 4,800 new residential units, 250,000 square feet of new retail development and 187,000 square feet of new office development. More information about this new development is included in **Chapter 1**.

3.2.1.1 Future Road Network

Figure 3.12 illustrates the planned road network. A new roadway is shown through the Village at Avon Planned Unit Development based on both the Village filing and the recognition that the existing roadway will likely not provide adequate access and capacity for the 2,000 units planned in this area. The final design of the roadways in the Village will influence transit routing patterns. A new road in the West Town Center area will connect Lake Street to Benchmark Road; it is referred to as Main Street.

3.2.2 Transit Demand

Transit demand is made up of residents of Avon that live and work in Avon and Beaver Creek, employees of Avon and Beaver Creek that live outside the area and Avon and Beaver Creek visitors. Demand is dependent on many different aspects of travel such as parking availability, cost of parking, development density and type, congestion, and travel time to name a few. These factors make it difficult to pinpoint an exact mode share that will be achieved in the future. Because of this, transit demand is presented in a range. The low end is based roughly on today's rate of transit activity. However by implementing more stringent parking policies, pay parking and maintaining frequent, reliable transit service the mode share could increase to the higher end estimate. The following section describes the future transit demand estimates associated with the different user populations.

3.2.2.1 Avon Transit Demand

A production-based trip generation model was developed to estimate transit demand in the Town of Avon. This means that demand is based on trips produced from the development of residential and lodging units and distributed to attractions such as retail, office and commercial development. Total trips (vehicular, transit, other) were estimated using ITE's trip generation rates for each new residential and lodging land use and new area served by transit. Mode splits were then applied to these trip generation estimates and an average auto occupancy number was applied to the resulting number to convert vehicle trips to person trips. The auto occupancy conversion used is 2.0.

Figure 3.12 Planned Roadway and High Speed Rail

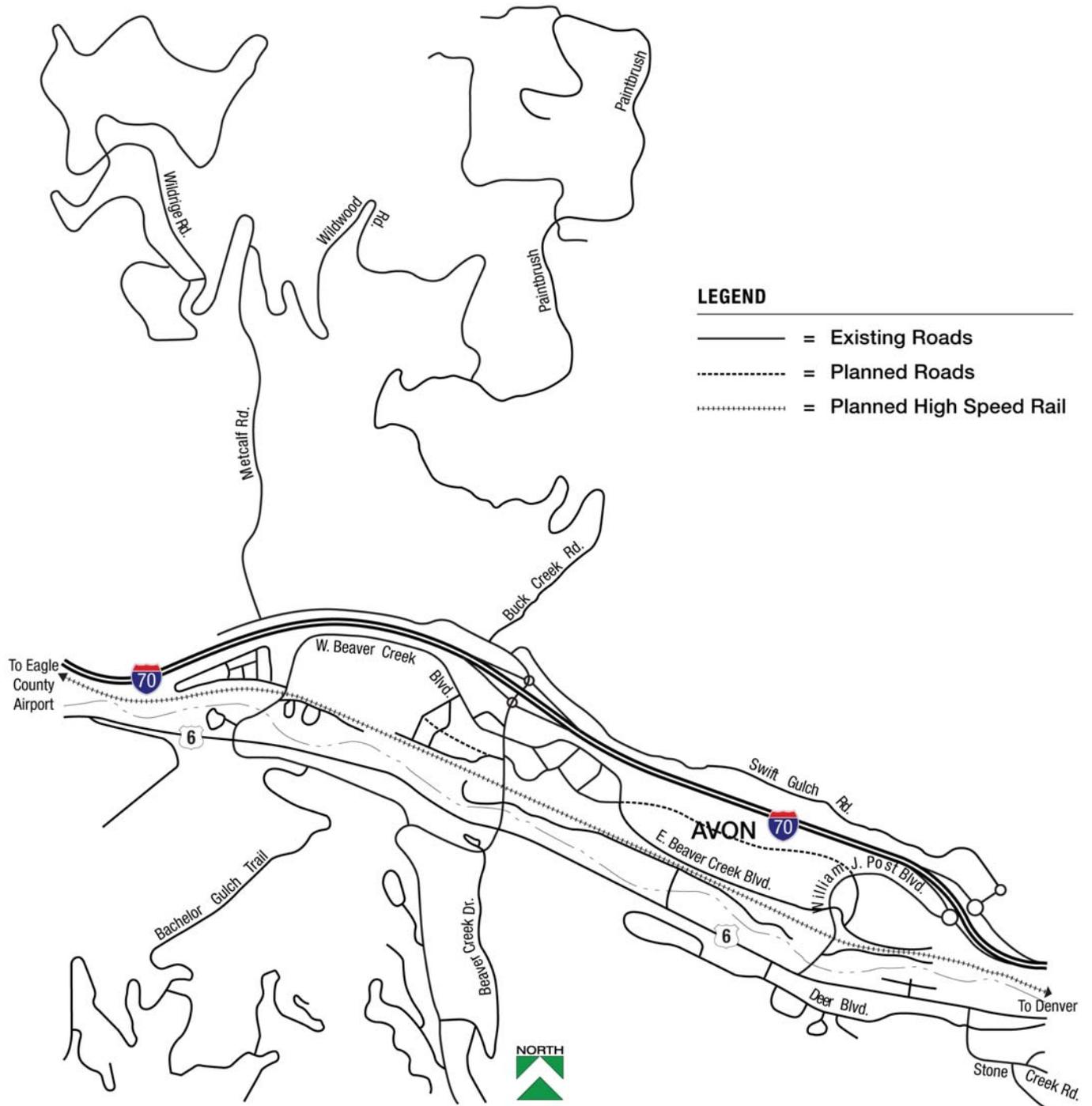


Figure 3.13 illustrates the three general subareas used for this analysis. The three subareas are referred to as the Town Core, the Outer Core and Mountain Rural. Development in the Town’s core area where there is dense mixed-use land uses will achieve the highest transit mode splits while low density residential only areas on the town periphery will achieve only minimal transit ridership. **Table 3.12** illustrates the range of mode splits based on the location of new development within Avon. Both the low and high mode share splits assume that the Town will continue to promote a transit friendly, less auto-oriented community and that new developments will be transit-oriented. The high-end mode share reflects the addition of the proposed high-speed rail connecting Avon to Vail, Denver, DIA, and Glenwood Springs. An intermodal, high-speed regional rail station in Avon would serve Minturn, Eagle Vail, and Edwards and would significantly increase transit demand in the Town of Avon.

Table 3.12 Mode Share Estimates

Town Area	Transit Mode Share	
	Low	High
Core Area	11%	20%
Outer Core	5%	10%
Mountain Rural	1%	3%

Table 3.13 lists the resulting transit trip demand estimated for new developments and existing developments that are not currently served today but are expected to be served in the future. These daily numbers reflect average winter day ridership increases as a result of the new development. In 2008, summer ridership on the Town routes was 42% of the winter totals.

Table 3.13 New Avon Transit Demand at Buildout (Average Winter Day)

Planned Development	New Daily Avon Transit Demand	
	Low Mode Share	High Mode Share
East Town Center Condo/Townhouse	690	1254
West Town Center Condo/Townhouse	690	1250
Village at Avon Condo/Townhouse	240	720
Village at Avon Single Family	18	54
Confluence Condo/Townhouse	350	640
Swift Gulch Condo/Townhouse (existing)	300	600
Swift Gulch Condo/Townhouse (new)	4	12
Folson Condo/Townhouse	40	76
Buck Creek Condo/Townhouse	4	14
Benchmark Condo/Townhouse	106	318
Wildridge Condo/Townhouse (new)	0	2
Wildridge Single Family (new)	25	75
Wildridge (existing)	30	90
Daily Total	2,497	5,105

Figure 3.13 Town of Avon Transit Subareas

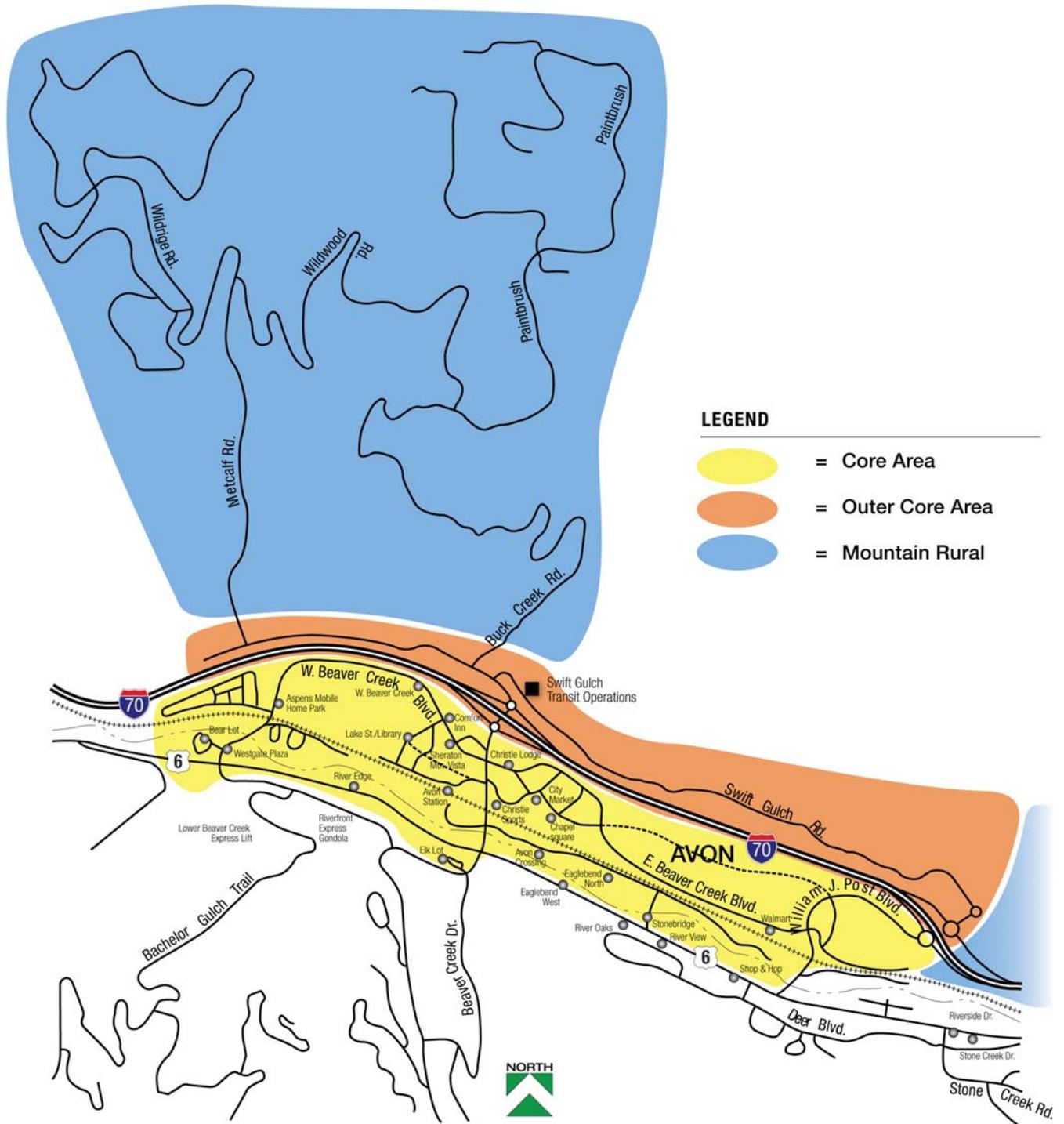
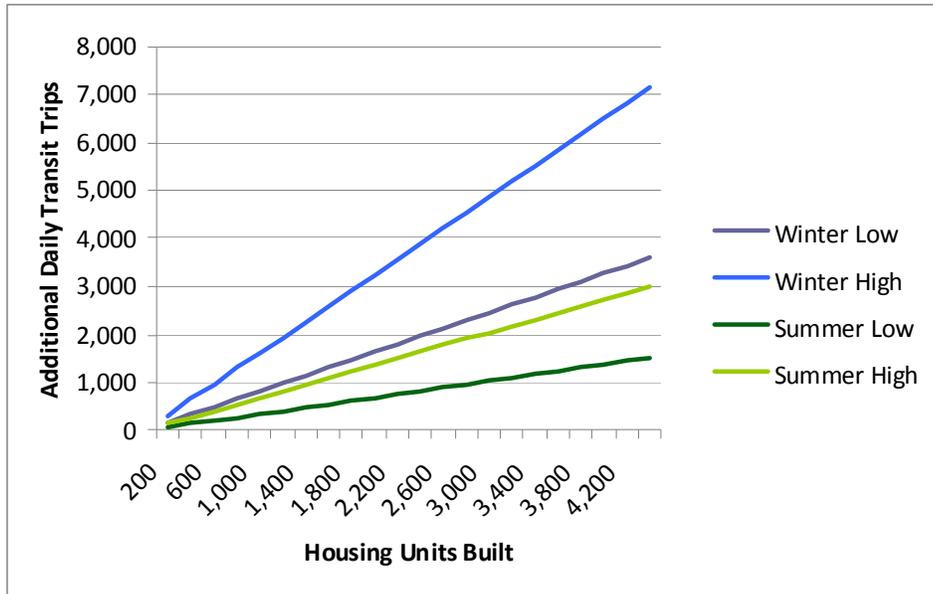


Figure 3.14 illustrates the anticipated daily growth in ridership for winter and summer seasons to the future demand identified in **Table 3.13** based on an annual growth rate of 200 units annually. While it is recognized that growth will vary from year-to-year, this chart illustrates the anticipated range of ridership increases as the Town moves towards buildout. These ridership increases would be in addition to the existing average ridership of 1,900 daily riders in the winter and 800 daily riders in the summer.

Figure 3.14 Increase in Ridership as Town Builds Out



At buildout ridership projections indicate that the Town’s transit services will carry between 1.02 million and 1.65 million riders annually depending on the level of service provided, the availability of high-speed regional rail and parking restrictions/ fees in place. **Table 3.14** illustrates the range of low and high ridership projected at buildout.

Table 3.14 Town of Avon Annual Ridership Projections at Buildout

Range	Annual Ridership	
	Low	High
Existing	420,000	420,000
New	597,000	1,233,000
Total	1,017,000	1,653,000

3.2.2.2 Beaver Creek Demand

In the past Avon has also operated transit service for Beaver Creek (serving Avon Station, Elk Lot, Bear Lot and Beaver Creek Village). This route carried 200,000 riders a month or an average of 6,700 per day. On a busy winter day this route is estimated to have carried approximately 9,000 passengers. Estimates made by Town staff suggest that there is limited ability to increase Beaver Creek's capacity of "skiers at one time", so growth is anticipated to increase the number of peak days in the season.

3.2.2.3 Employment Demand

In addition to transit demand generated by residential development within the Town of Avon, employees arriving to Avon from outside the area by ECO transit will also generate transit demand. A recent Eagle County employment study indicates that by 2030 there will be an increase of 11,000 people who live outside of Town and commute to new jobs in Avon⁴. If 15% of these employees ride regional transit and 20% of those riders transfer to Avon transit to reach their final destination this would increase transit demand by approximately 330 employees riding transit daily and 660 transit trips. The importance of employment transportation for employees arriving via ECO will continue to grow as the community reaches build-out. Serving these employees effectively is anticipated to require service to transferring passengers whose place of employment is not on the ECO routes.

3.2.3 Alternatives

Future bus routing options were identified to accommodate planned development at buildout of Avon. A map of the near-term option developed with town staff is provided followed by a description of options to accommodate the long-term demand anticipated. These options should be considered a guide to development of future transit because specific routing patterns may emerge in response to development and the new road network as it occurs.

The Town of Avon Comprehensive Plan includes many goals and objectives to create an integrated transit system that minimizes dependence on automobile travel within the Town. Transit service that facilitates access to businesses, community services and nightlife is also vital to other place-making goals described in the Comprehensive Plan. Development of future transit alternatives considered the existing and future travel patterns, land use types, and the Town's general transportation policies and goals. Specific considerations for future transit alternatives are discussed below.

One-Way versus Bi Directional Service

The Comprehensive Plan calls for consideration of future bi-directional service. Bi-directional service patterns enable passengers to travel the shortest distance to their destination rather than riding a long loop around in one direction. It is, however, recognized that bi-directional service requires more resources to provide the same frequency of service as a looped route (e.g. a 15-minute one-way loop would require the same number of bus hours as a 30-minute bidirectional loop. To maintain a 15-minute headway and provide bidirectional service would require twice as many bus hours). In areas where there is not a significant travel time

⁴ Local and Regional Travel Patterns Study, 2004, RCC Associates, Charlier Associates, and Healthy Mountain Communities

improvement the Town may choose to continue with single direction loops, with incremental increases in frequency. Reducing headways by 5 minutes could be a precursor to providing bidirectional service to accommodate additional demand. It is recommended that the Transportation Department conduct regular assessments of ridership to determine the best timing for changing a route from a single direction loop to bi-directional.

Direct Connections

A single seat ride between origins and destinations (a direct connection) improves the desirability of transit service and therefore provides the ability to capture a higher share of people riding transit.

Existing and emerging land use patterns indicate that there will be a substantial demand for traveling across town between residences on the west end of town and the big box retailers on Post Boulevard. There are a number of ways to improve east/west travel across town:

- Extend the Blue Route to Post Boulevard
- Interline the Blue Route or Red Routes and a new route serving the east end enabling passengers to stay onboard and avoid having to transfer to another vehicle.
- Expand the gondola loop to serve the west end (preferably bi-directional)

Direct connections to Beaver Creek Village are also desirable to enable visitors to travel between events and amenities in Beaver Creek Village and Avon town center. This will be especially true as the Town builds out and the East and West town center areas are re-developed and enhanced. One option for providing a direct connection between Beaver Creek Village and the Avon Town Center might be interlining the Gondola Express Route with the Beaver Creek Shuttle (e.g. returning to a pre-2008 “skier shuttle” route).

Land Use Patterns

Transit supportive areas are those developments with high enough residential density and/or employment density to merit being served by transit. For this exercise, Avon has been broken into three different sub area types where service could be provided.

The first area is the Town Core. This area is roughly bounded by West Beaver Creek Boulevard on the west, Beaver Creek Place on the east, I-70 on the north and US 6 on the south. The entire Town Core is considered transit supportive and has the highest density of residential units, employment, and activity centers. Areas contiguous with the currently defined Town Core area could be added to the Town Core definition if they match the residential density and employment density of the existing core area. The second area is called the Outer Core. The transit supportive areas in the Outer Core still have a solid density of residents or jobs, but perhaps not both. Generally the activity centers are much more limited in the Outer Core. The third area is referred Mountain Rural – The transit supportive areas within the Mountain Rural classification are those areas that have the lowest residential density and may have minimal or no employment. Typically a residential density of ten or more people per acre within walking distance of the route is needed for viable fixed route service.

As the Village at Avon is developed, the outer core area will have more transit supportive development. This development provides an example of the range of densities that might be used for Town Core and Outer Core. The PUD for the Village at Avon calls for the densest development on the west end with 25 dwelling units per acre and somewhat lower densities in the central and east end with residential densities of 15 dwelling units per acre. Using the Town's average of 3 people per dwelling unit, the west side would have 75 people per acre and likely be included in the Town Core category. The central and east sides would have 45 people per acre and would likely be part of the Outer Core.

The west end of the Village at Avon is anticipated to have densities equivalent to the Town Core and the east end may vary between Town Core and Outer Core designations, depending on how development occurs.

Transit services should only be provided in the outer core and mountain rural classifications when a logical route can be structured to serve contiguous or connecting areas can be operated. The Town will need to balance the need to provide transit service to new developments (or outlying areas) with transit service productivity as measured in passengers per hour. It is recommended that transit service not be expanded to areas until there is adequate development to meet the Town's productivity standards.

- The 2008 figures show the Town carried an average of 43 passengers per hour in the winter on Town routes and 28 passengers per hour on its summer routes.
- Routes serving residential and lower density areas may have ridership levels closer to the summer averages but these levels will occur on a year-round basis.
- New service will initially have lower levels of ridership, but the expectation would be that within two seasons any additions will meet system standards.

Parking Policies

Parking policies will influence transit demand. Pay parking within the Town of Avon and/or at the existing Beaver Creek day skier parking lots would increase transit travel by visitors and employees. The Town anticipates that the free day-skier lots will likely change to pay lots in the near future.

Seasonal Variation

The Comprehensive Plan promotes an integrated and less-seasonal transit operation of the main Town Routes. The winter season is assumed to be 130-135 days long and the summer level of service would be in place the remainder of the year; a separate operating plan for the shoulder season is not expected to be necessary. Year-round service to the residential areas that can support transit service will be necessary to build transit use among employees. Summer service levels will be maintained to provide good connections while trying to retain a balance with productivity.

Planned Regional Rail Service

The Rocky Mountain Rail Authority has initiated a study that is evaluating the feasibility of high-speed rail service connecting the Denver Metropolitan Area and DIA to the mountains and resort communities in the I-70 corridor. Avon anticipates the inclusion of a multimodal transit facility on the east end of Town near Post Boulevard's intersection with the railroad tracks. Providing a high-speed rail station in Avon will increase number of people choosing transit over private auto travel and reduce residents' and visitors' dependence on private autos. To maximize the rail's effectiveness Avon Transit and ECO will need to provide frequent and convenient feeder bus service between the rail station and area destinations.

3.2.3.1 Near-Term

Figure 3.15 illustrates a transit service plan to address near term transit demand in Avon. This plan builds on the current routing plan but adds additional services to areas where growth has occurred. The service hours can be increased over time to keep pace with development. A near-term plan would provide approximately 20,000 hours of service annually on the Town routes, about 6,000 hours more than what was provided in 2008. This plan will need to be implemented by the time there are an additional 1,000 to 1,200 housing units built over 2008 levels to accommodate anticipated growth. This assumes the low mode share levels and productivity levels similar to today.

Red Route

The Red Route would be extended east to serve Buffalo Ridge and the big box stores on Post Boulevard. A previous demonstration of transit service to the Village at Avon showed a high demand for service along this route. It would continue to serve lodges along East Beaver Creek Boulevard and Benchmark Road as well as those along Hurd Lane with service to the Elk Lot. The planned route would initially operate in a counter clockwise direction with 30-minute headways.

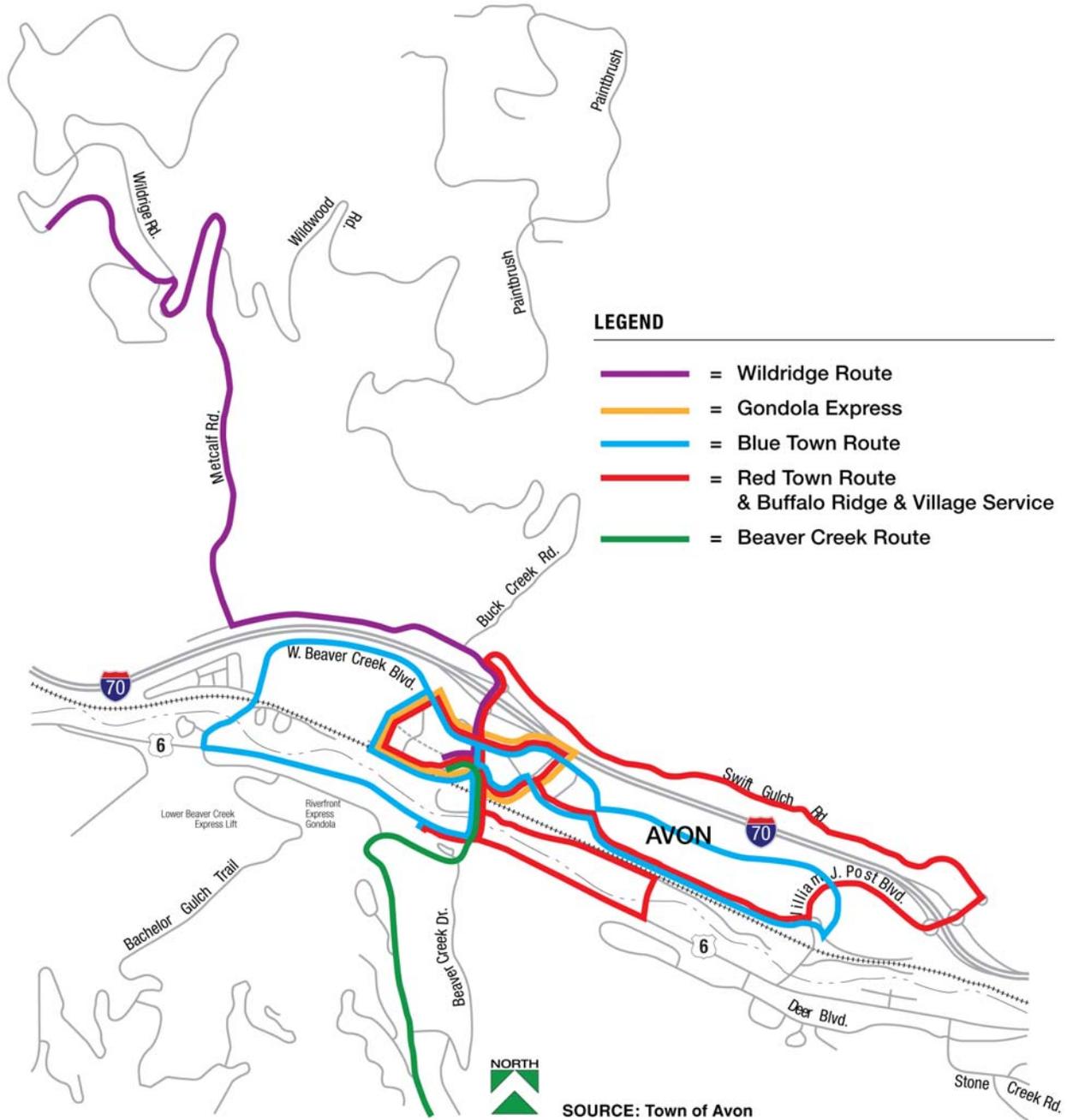
Blue Route

The Blue Route would also be extended east to serve the big box stores on Post Boulevard. It would continue to serve West Beaver Creek Boulevard, US 6, the Elk Lot and Avon Station. Service would be bidirectional and would be provided every 30 minutes.

Gondola Express Route

Service would continue to be provided at 2009 levels. This includes one bus operating at loop intervals of approximately seven minutes for 10 hours a day during the winter season.

Figure 3.15 Near -Term Transit Plan



Beaver Creek Shuttle

Beaver Creek Resort Company operated this service in the 2008/2009 season and it expected to continue to operate the service in the near term. This plan does not include analysis of BCRC's transit system. Thus the level of service and total operating cost to the Town for operating of the green line in future years is unclear at this time. Note however that the Town of Avon has been requested to contribute to BCRC's cost of operating this route during ski season via a cost sharing agreement (e.g., between all service partners such as Beaver Creek Ski Company, Vail Resorts, and Avon). For purposes of this plan, it is assumed that Avon Transit incurs no service hours but could incur an annual cost of up to \$135,000/yr for contribution to green line service.

Riverfront Gondola

The Gondola's current capacity is 1,200 passengers per hour. Adding cars increases this capacity to a maximum of 1,600 passengers per hour. The Near-Term plan does not include capital costs associated with adding cars to increase the capacity of this service.

Wildridge Route

This plan anticipates new transit service being provided to the Wildridge residential area connecting residents to Avon Station at some point in the next 10 to 12 years. The service plan includes approximately 60 hours of service per week. A four wheel drive vehicle will be necessary to operate this service reliably through Wildridge's mountainous terrain during inclement weather. Initially, it may be more appropriate to operate a truncated route (e.g., to the east end of Nottingham or to the Metcalf truck turn around) and then evaluate ridership patterns before extending the route up Wildridge Road.

Fleet

While the exact fleet size can't be identified without developing a specific operating plan, the preliminary evaluation of near-term services indicates that two to three additional vehicles will be needed to provide the service identified.

Budget

The operating cost for the near-term alternative is approximately \$2.0 million annually in 2008 dollars (22,000 bus hours at \$90/hour). The cost per rider for most of the routes is expected to be less than \$3.00 (in 2009 dollars) once the routes have been established for a year or so. The cost per rider to operate service into Wildridge would be higher than for other routes due to the low density of development, distance from the town center, and the relatively low mode split anticipated; operation of this route as described should be expected to have an associated cost of about \$20 to \$30 per boarding. Because this would not be a cost effective service, operating a shorter, truncated service would be a more effective means to serve Wildridge residents in the near term. Costs include maintenance of buses and facilities. These can dramatically change depending on fuel, inflation and changes in operating costs. In addition, the Town contributes funding to the Gondola operation and may contribute funding to operation of the Beaver Creek Shuttle.

3.2.3.2 Long-Term Routes

In the long-term it is anticipated that growth in residences, visitors and employment and the implementation of parking restrictions and pay parking in Avon will require somewhere between 38,000 and 60,000 service hours annually to accommodate Town transit demand. This compares to the 14,000 hours provided in 2008. This range reflects the low and high levels of mode share identified in the demand section. The location and timing of future developments will play a big role in how routes are modified and expanded over time to achieve these additional service hours. A few suggested options to enhance service in the area are discussed below. **Figure 3.16** illustrates the areas in the Town of Avon expected to warrant transit service at buildout.

Buffalo Ridge and Village Service

While the near term plan extends existing services east to cover this area, future demand for travel between the Village at Avon and the rest of Avon will warrant providing additional hours to this area. This could come in the form of a new route or by adding buses to the existing red and blue routes to improve frequency and/or provide bi directional service.

Gondola Express/Beaver Creek Shuttle

The Gondola Express Route and the Beaver Creek Shuttle could be operated as one route to provide a single seat ride from many of Avon's lodging units to Beaver Creek Village. During the summer season the Gondola Express Route would be dropped and only the Beaver Creek Shuttle would be operated.

Riverfront Gondola

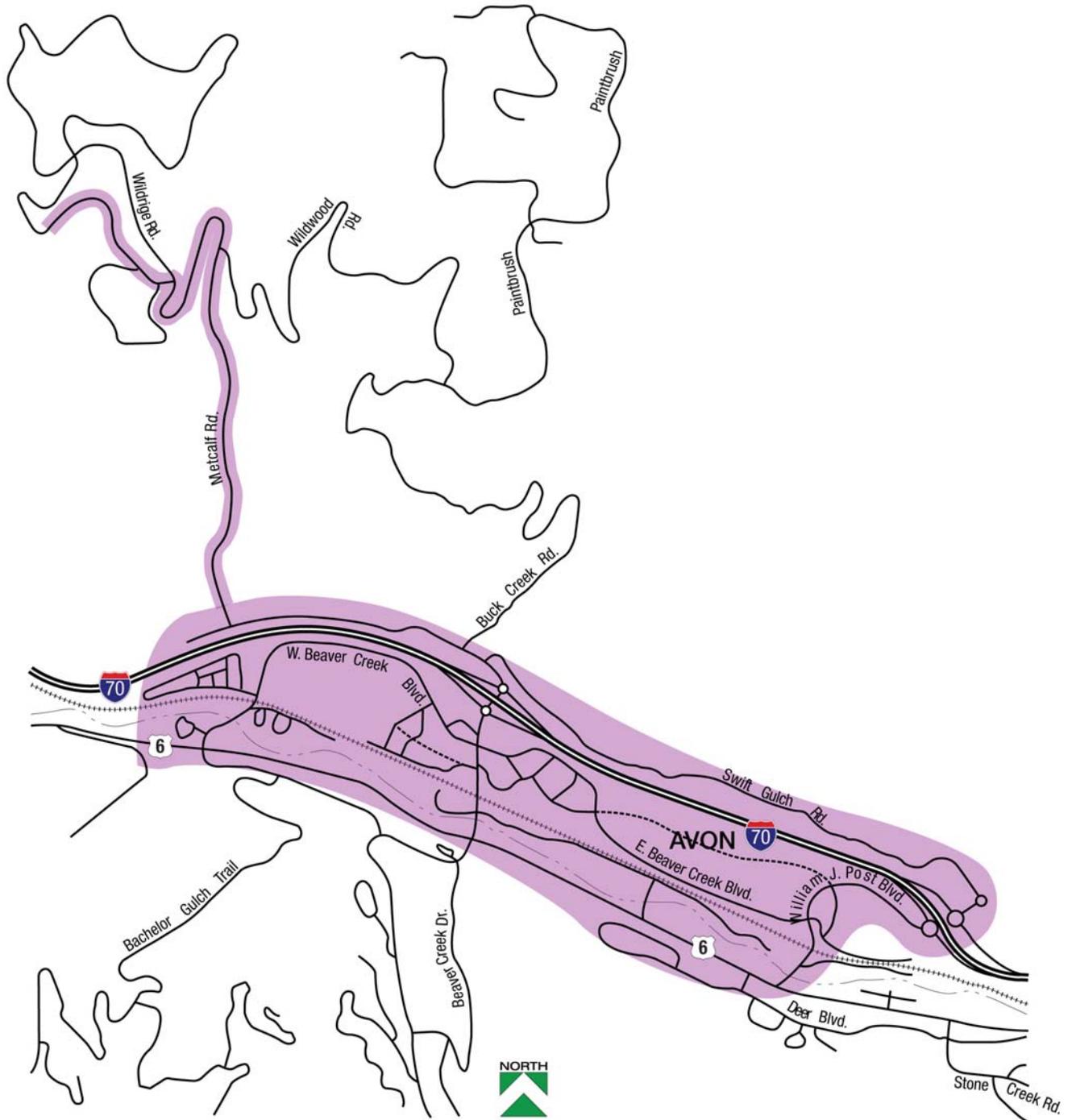
As demand grows, adding capacity to the Gondola will be an effective way to increase the person carrying capacity to the base of Beaver Creek and limit the need to add buses along Village Road to serve Beaver Creek

Wildridge Route

A preliminary evaluation of this route indicated that it would have sufficient resources to be combined (or interlined) with a new route serving Swift Gulch, Post Boulevard and East Beaver Creek Boulevard. Interlining these two routes would be a more efficient use of the Town's resources than providing a separate bus and driver for each route. However, the four wheel drive vehicle expected to be required to operate the Wildridge service may not be a practical vehicle to operate on another route.

Demand for service to the Wildridge area is not expected to require additional service beyond what is planned in the near term. However, should demand for this service grow, additional service could be provided by increasing frequency of service to 30 minutes or providing additional peak period service as necessary to meet demand. As with all services, providing more service to an area should be evaluated to ensure that it can be implemented cost effectively.

Figure 3.16 Areas Served by Avon Transit at Buildout



Fleet

While the exact fleet size can't be identified without developing a long-term operating plan, the preliminary evaluation of services indicates that a fleet of between 14 and 17 vehicles would be needed to accommodate future demand for Town services. An additional 14% in spare vehicles are also needed resulting in a total of 15 to 19 vehicles at build-out. In addition, the fleet will require at least two vehicles suitable for paratransit or other specialized services – one in-service and one spare (e.g. cut-aways, commercial vans, etc.) Finally, non-revenue vehicles such as a maintenance truck and a supervisory vehicle should be included on the fleet roster.

Budget

In the long-term it is anticipated that an annual operating budget of between \$3.2 and \$5.1 million will be needed to provide service that accommodates planned development. These costs include maintenance of buses and facilities. These can dramatically change depending on fuel, inflation and changes in operating costs. Town contributions to the Gondola operation and operation of the Beaver Creek Shuttle are not included in these estimates.

3.2.4 Bus Stop Improvements

Based on bi-directional service on most roadways, **Figure 3.17** illustrates the location of bus stops that will be needed. For areas where service does not exist today these locations are approximate and final decisions will need to be made based on a traffic engineering review. As appropriate, Avon should work with ECO Transit, the school district, and Beaver Creek Resort to coordinate the location of bus stops. Details about when bus stops should be added and guidelines for their placement and design are included in **Chapter 3, Bus Stop Guidelines**.

3.2.5 Maintenance/Operations

As discussed in the existing conditions section, the Town of Avon and Eagle County are planning to construct an expanded shared bus maintenance and operations facility to replace the current Swift Gulch facility. Based on the service planning options discussed here, the maintenance and operations facility should plan to accommodate indoor parking for to 21 full-size buses, two paratransit vehicles and about six auxiliary vehicles at buildout for Avon service.

3.2.6 Capital and Operating Costs

Table 3.15 summarizes the growth in annual operating costs between 2009 and 2035. The operating cost for the near-term alternative is approximately \$2.0 million annually in 2008 dollars. In the long-term it is anticipated that an annual budget of about \$3.6 million will be needed to operate service that accommodates planned development. The addition of a regional rail hub and parking restrictions in the Town of Avon could increase transit demand substantially and require additional local service to be provided. Under that scenario the annual budget to operate services in the Town could reach somewhere around \$5 million. These costs are based on \$90 per hour and include maintenance of buses and facilities.

Figure 3.17 Suggested Stops

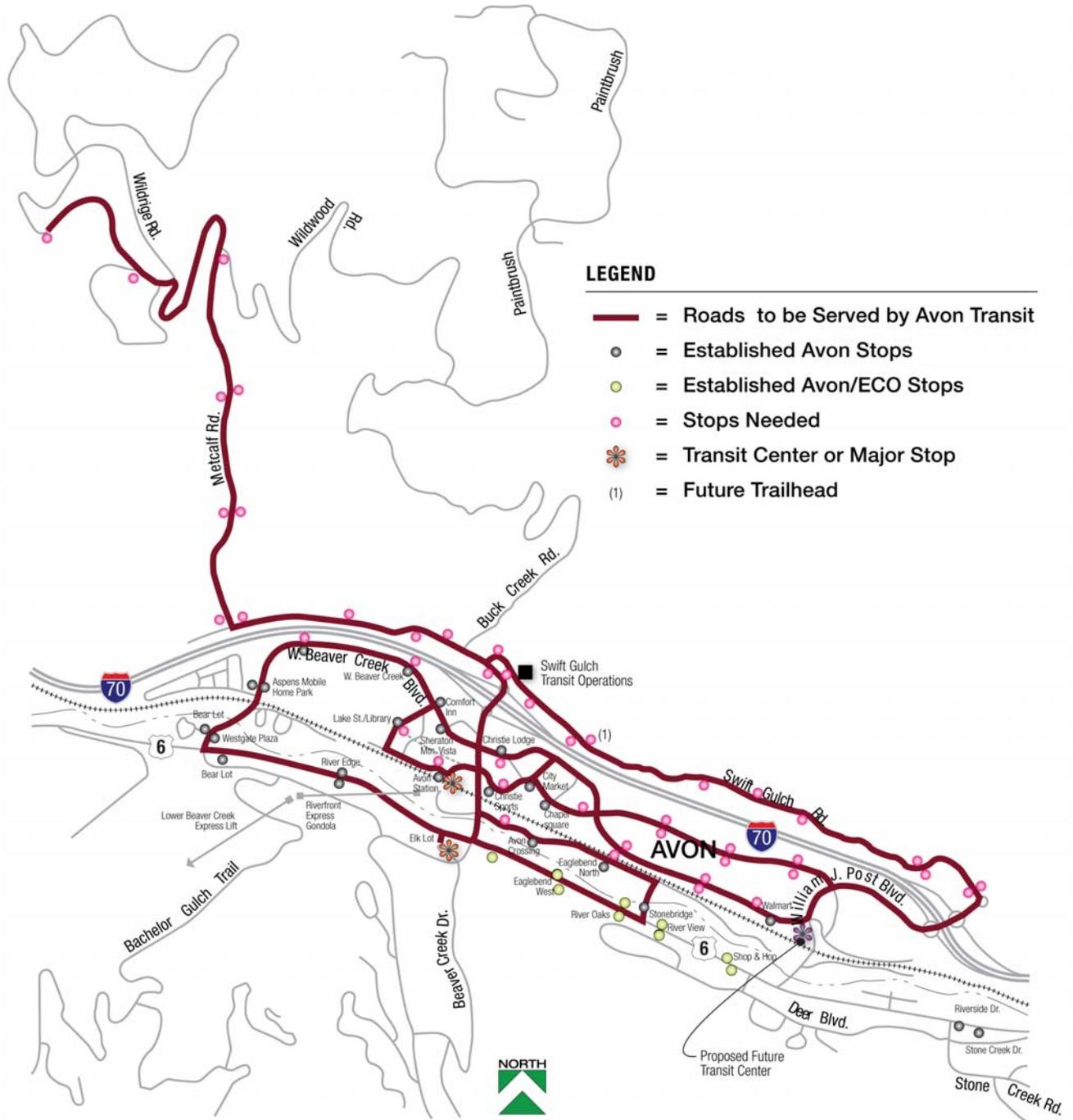


Table 3.15 Operating Costs and Service Hour Estimate

Year	2009	2010	2020	2035 (Buildout)	Comments
Town Routes	13,100	11,600	12,130	14,500	Assumes about half of projected service hour growth occurs in near-term
Gondola Express	1,150	1,150	1,150	2,300	Assumes second bus added in future
Village at Avon	-	6,800	8,920	14,500	Assumes additional buses added in future
Wildridge	-	-	-	3,744	Assumes 60 hrs/wk in route
Beaver Creek Village	-	-	-	4,528	Assumes Avon resumes operation of this route
Total Service Hours	14,250	19,550	22,200	39,572	
Estimated Bus Route Operations Cost (@\$90/ service hour)	\$1.4 m	\$1.8 m	\$2.0 m	\$3.6 m	Does not include gondola operations, capital costs

In addition to the operating costs described above, the budget for Avon Transit will need to account for the growing fleet needs and replacement of the existing fleet. It is recommended that financing be provided for the fleet on an annualized basis. **Table 3.16** identifies life-cycle costs for vehicles. The fleet costs will increase as transit services build. This table illustrates hybrid buses rather than clean diesel. While the initial cost of hybrid vehicles are higher, fuel costs are lower and the public has voiced support for hybrids and other environmental stewardship initiatives (e.g. 2008 Community Survey).

Table 3.16 Fleet Costs

Life-cycle Vehicle Costs	Cost Each	Life in Years	Cost per Year
Full-size Hybrid Bus	\$520,000	12	\$74,000
Full-size Non Hybrid Bus	\$380,000	12	\$54,100
Body-on-chassis/Vanterra Hybrid	\$200,000	7	\$48,800
Four-wheel Drive Commercial Van	\$50,000	7	\$12,200
Non-Revenue Vehicles	\$50,000	7	\$12,200

- 1) Assumes 7% interest, 10 year lease purchase
- 2) Assumed 7% interest, 5 year lease purchase

In addition, two other major capital costs are for bus stop and signage and routine facility upgrades. The Bus Stop Guidelines and Standards identify stops as Simple, Enhanced Level 1 and Enhanced Level 2. While it is assumed that developers will build the initial stops, paying for pull-outs, shelters, and signage, there will be ongoing costs to upgrade and maintain the stops. It is recommended that funding be identified for stops on an annual basis (approximately \$20,000 would be a reasonable level).

3.2.7 Funding Options

The primary sources of funding for transit services in Colorado are ones the Town presently uses. General fund dollars are used for local services and a sales tax is in place to fund ECO regional transit services. The Town accesses Federal Transit Administration (FTA) funds for the discretionary capital fund program, known as FTA section 5309. In addition, the Town has requested FTA 5311, ARRA and Senate Bill 1 funding for transit capital funds.

Currently the Town funds \$1.5 million out of the general fund. Additional ongoing funding will be needed for all future alternatives. Assuming local funds are needed to support operations plus 20% of capital costs, the long-term local funding responsibility would be between \$3.4 and \$5.3 million per year.

Considerations in determining how to fund long-term transit operations are listed below. Different mechanisms are considered and may vary by route.

Beaver Creek Resort Company/Vail Resorts

Beaver Creek Resort Company (BCRC) has historically been responsible for funding transportation for its customers to Beaver Creek Village for skiing and night-time dining and entertainment. Ideally, BCRC would continue to fund this service and would do so year-round. If the town pays for this service, a sales tax increase may be an effective mechanism to assure that the amount of service benefitting BCRC visitors is paid for by those visitors.

Development Impact Fees

Much of the increase in transit service is for new development. Colorado allows development impact fees for the capital cost of transit services, but at present does not provide for development impact fees for operating costs. The Town may wish to support changes to Colorado's laws regulating development impact fees to expand them to cover operating costs as well as capital costs. California and other states have used this funding mechanism with good results for over twenty years.

Sales Tax Increase

A sales tax increase could be used to raise funding for future transit. Sales taxes are widely used statewide for funding transit services and are viewed as one of the best ways to provide transit funding for Avon. In resort areas such as Avon, a high proportion (about 2/3rds) is derived from guest spending. This places the responsibility for funding on visitors who use much of the transit services. A downside is that sales tax collections reflect the economy and in downturns can significantly impact the ability of a local agency to provide transit services. To mitigate this, an adequate reserve is needed to provide for stable service delivery. The Town has calculated that a sales tax of 0.75% (e.g. \$0.75 on a \$100 purchase) would be adequate to fund both transit and trails expansion.

Forming a Regional Transit District that includes the Beaver Creek Metropolitan District may be an option for establishing long-term transit funding.

Lodging Tax

The Town estimates that a small lodging tax applicable to lodges in both Avon and the BCMD could generate revenue to fund the Beaver Creek shuttle. However, the Town estimates that a lodging tax increase within only the Avon town limits would not be adequate to generate sufficient revenue unless it was considerably higher than other lodging taxes in Colorado.

CHAPTER 4. SUMMARY AND RECOMMENDATIONS

The Town of Avon has experienced rapid growth in recent years. Avon provides a focal point for housing, lodging and services that support year-round recreational opportunities throughout the area. Like many communities along the Interstate 70 mountain corridor, increasing travel demand in Avon has accompanied the growth in both residential and commercial development. Planned re-development of the Avon Town Center, along with anticipated new development in the Village at Avon, will also place increasing pressure on the Town's existing transportation system. Along with increasing traffic volumes, a growing demand for alternative transportation modes is expected.

To help maintain the quality of life in this mountain community, this Comprehensive Transportation Plan provides an integrated approach to planning for future roadway improvements, transit service enhancements, and non-motorized facilities. The analyses documented in this report have been based on land use projections for the year 2035. Future travel demand forecasts and the associated impacts to the multi-modal system in Avon have been estimated. Existing and future deficiencies have been identified for roadways, bicycle/pedestrian facilities, and the transit system.

Improvement alternatives for each mode have been developed to ensure adequate capacity, enhanced safety, and convenience of service for residents and visitors. The resultant recommendations are described as follows:

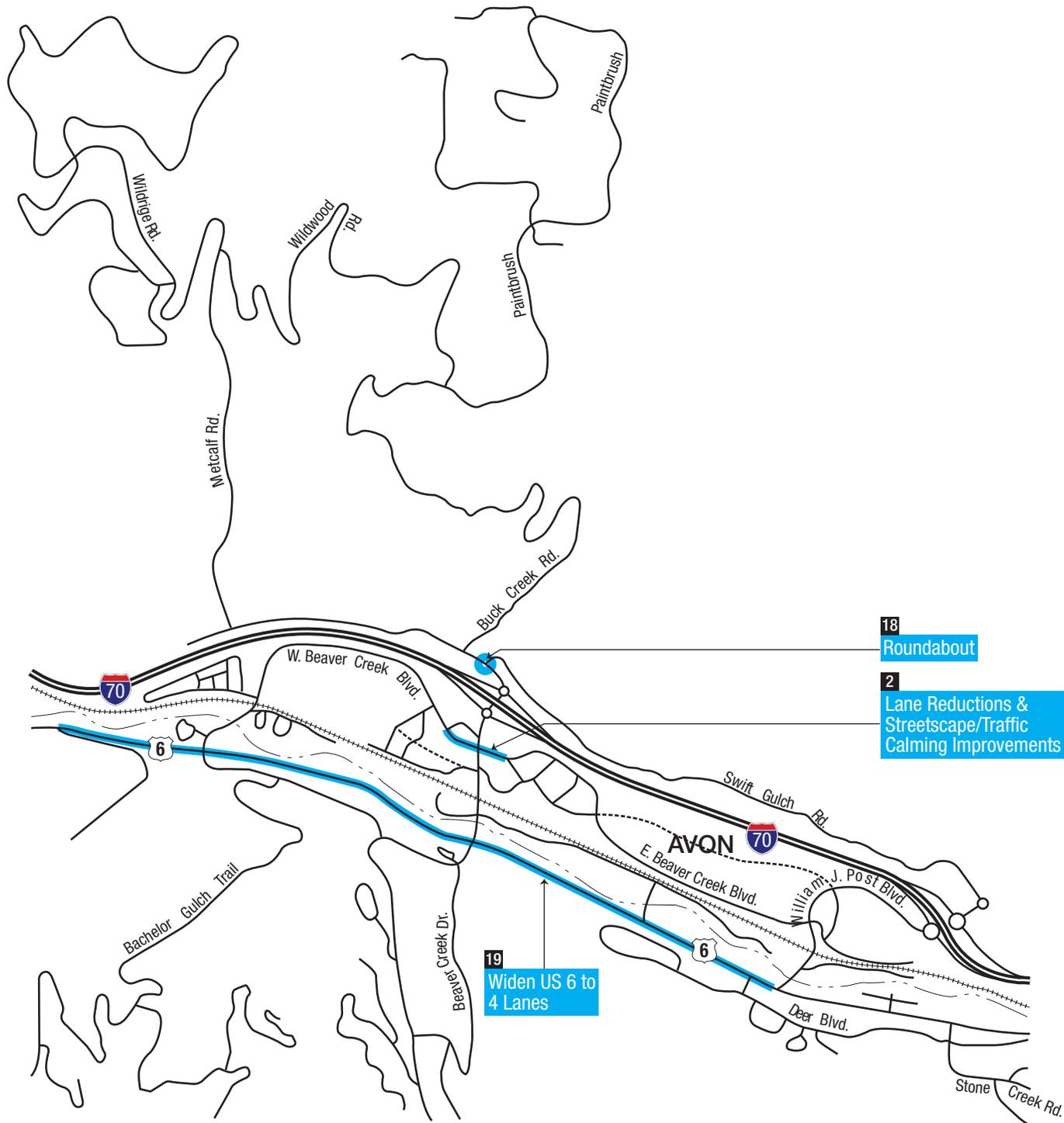
Roadway System

- Widen US 6 to four through-lanes.
- Construct a single-lane roundabout at the Nottingham Road/Swift Gulch Road intersection.
- Reduce the number of approach lanes on Beaver Creek Boulevard (East and West) at the roundabout at Avon Road.

Figure 4.1 shows these improvements.

Bicycle/Pedestrian Facilities

- Continue to partner with ECO Trails on regional trail planning and construction in Avon.
- Construct sidewalk along Beaver Creek Boulevard (East and West) to provide pedestrian continuity.
- Construct sidewalk along the north side of US 6 between Post Boulevard and West Beaver Creek Boulevard.
- Provide a trail connection from West Beaver Creek Boulevard to the southwest corner of Nottingham Park.
- Construct improvements to the existing trail along Nottingham Road, including sidewalks, crosswalks, streetscape and lighting improvements, transit stops, and connections through the guardrail section.



18
Roundabout

2
Lane Reductions &
Streetscape/Traffic
Calming Improvements

19
Widen US 6 to
4 Lanes

X Refer to Table 4.1 for improvement description and cost

Figure 4.1
Recommended Roadway Improvements

- Construct bike lanes on Metcalf Road from Nottingham Road to Old Trail Road in Wildridge.
- Construct a pedestrian bridge over I-70 from the Buffalo Ridge apartments to the Village at Avon.
- Provide a trail connection from the Nottingham Road bike path to Buck Creek Road/trail connector.
- Install sidewalk along the north side of Chapel Place at the east side of Chapel Square.
- Construct a grade separated crossing under US 6 on the east side of the Avon Road roundabout (at Beaver Creek) and construct a pedestrian bridge over the Eagle River in this vicinity.
- Construct a grade separated pedestrian crossing of I-70 near Metcalf Road.
- Construct a grade separated crossing of Avon Road between the East and West Town Centers (at the Main Street alignment).
- Construct a pedestrian crossing of the UPRR from Eagle Bend Drive to the Village at Avon.
- Construct new trails and provide trail enhancements as defined in the recently adopted Town of Avon Recreational Trails Master Plan.

Figure 4.2 graphically depicts these improvements.

Transit

- Implement the Near Term Transit Plan, including additional services and route enhancements.
- Develop Long Term plans and implement increased service, routing, and fleet improvements.

Figure 4.3 depicts the above improvements.

The primary goal for transportation in Avon is to encourage the use of alternative modes and to de-emphasize the private automobile, with a focus on safety for non-motorized users. Based on this, the above improvements have been prioritized into Near Term, Intermediate, and Long Range categories, as listed in **Table 4.1**. The preliminary opinions of probable cost are also included in the table.

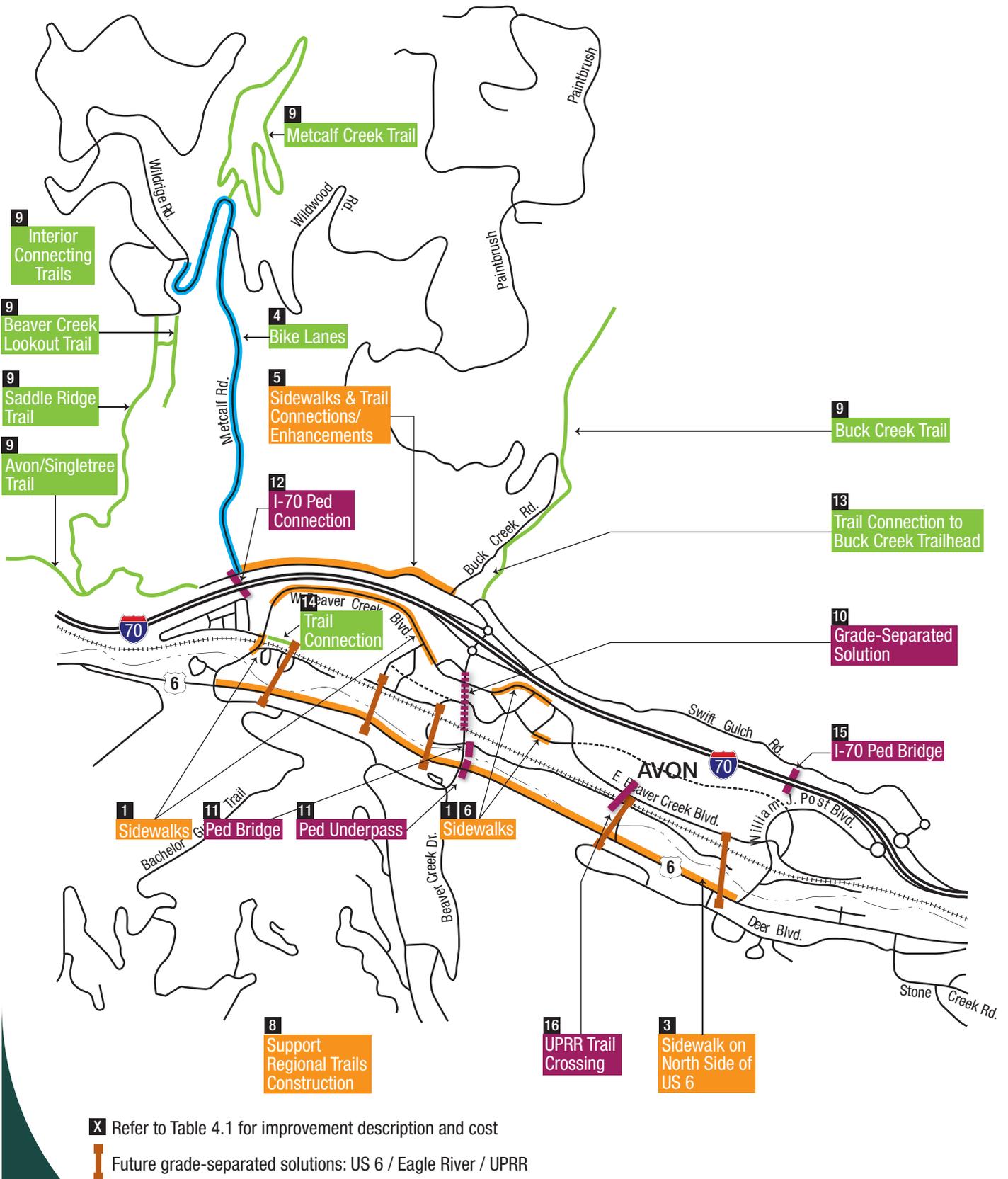
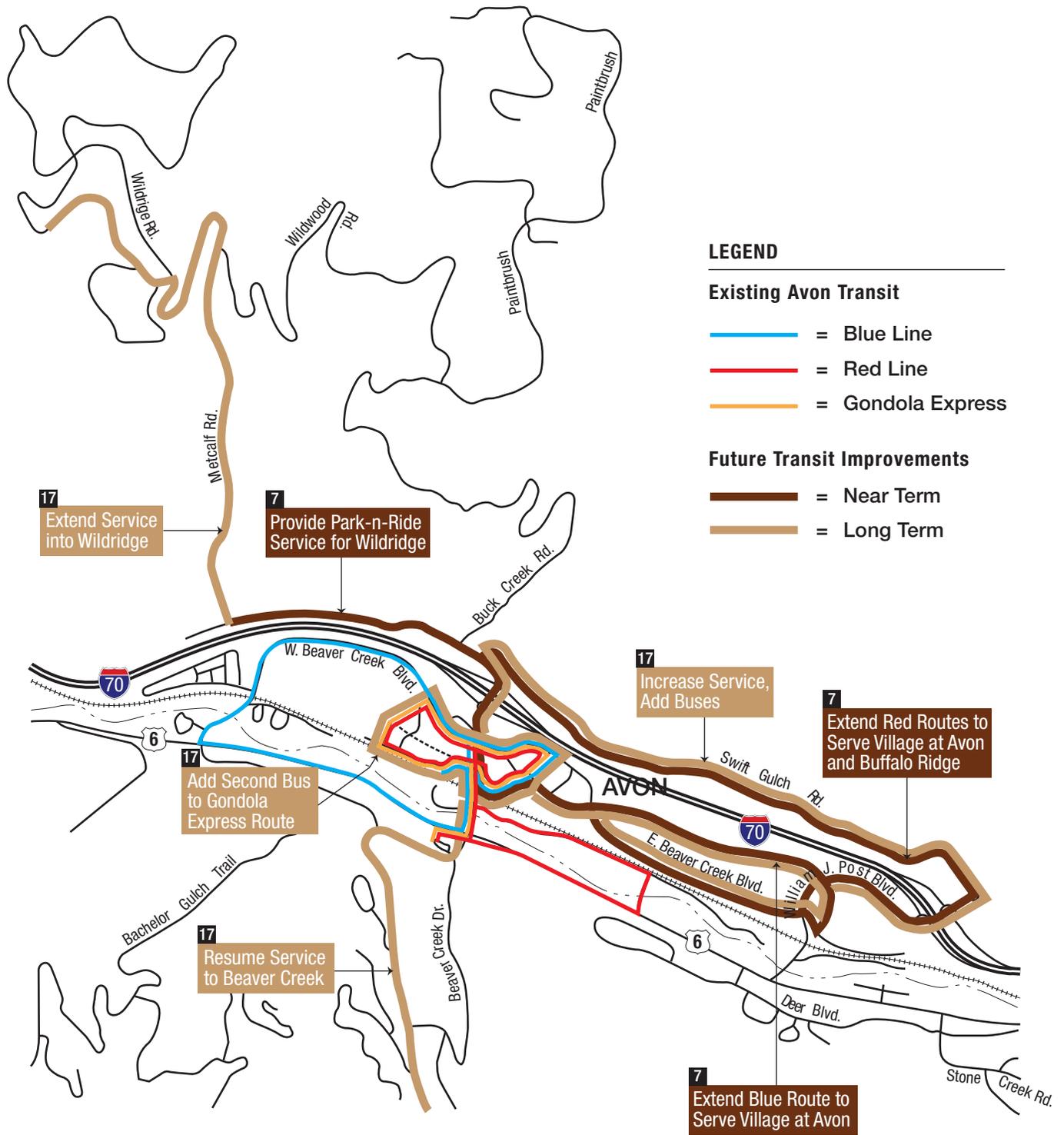


Figure 4.2
Recommended Non-Motorized Improvements



X Refer to Table 4.1 for improvement description and cost

Figure 4.3
Recommended Transit Improvements

Table 4.1 Improvement Prioritization and Preliminary Cost Opinions

Priority	Project Description	Cost (Millions)
Near Term		
1.	Beaver Creek Boulevard Sidewalks	\$0.18
2.	Beaver Creek Boulevard Lane Reductions/Streetscape	\$0.75
3.	US 6 Sidewalks	\$1.20
4.	Metcalf Road Bike Lanes	\$0.50
5.	Nottingham Road Trail Improvements	\$0.50
6.	Chapel Place Sidewalks	\$0.05
7.	Near Term Transit Plan	\$2.0*
8.	Support ECO Trails Plan	**
9.	Implement Recreational Trails Master Plan	\$0.77
Intermediate		
10.	Pedestrian Crossing Solution for Avon Road	\$0.51 to \$1.80
11.	Pedestrian Connection- US 6 and Eagle River	\$1.50
12.	I-70 Pedestrian Grade Separation at Metcalf Road	\$0.97 to \$2.20
13.	Nottingham Road/Buck Creek Trail Connection	\$0.05
14.	W. Beaver Creek Blvd/Nottingham Park Connection	\$0.05
Long Range		
15.	I-70 Pedestrian Bridge, Buffalo Ridge to the Village	\$2.00
16.	RR Pedestrian Crossing, Eagle Bend	\$1.40 to \$2.20
17.	Long Term Transit Plan	\$3.4 to \$5.3*
18.	Nottingham Road/Swift Gulch Road Roundabout	\$1.00
19.	US 6 Four-Lane Widening	\$34.50

* Annual Operating Cost

** Pursue potential ECO funding options and developer contributions



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