

# MAD RIVER VALLEY SERVICE OPTIONS

Located in central Vermont, Mad River Valley encompasses the towns of Warren, Waitsfield, and Fayston and is home to Sugarbush Ski Resort and Mad River Glen. The Valley is defined geographically by Mad River. The Sugarbush ski area consists of two peaks, Lincoln Peak and Mount Ellen. Primary access to the Valley is via Route 100 and Route 17. In 2000, population in the three towns was estimated at 4,481 an increase of 24 percent from 3,390 persons in 1990. Service options are based on our analysis of the data in Working Papers A and B. Options have been examined in terms of how well they serve the identified markets, the degree to which they address adopted local and Vermont state goals for transit, the service type, likely impacts on operating costs and ridership, capital requirements, and any other particular needs or requirements.

## SUMMARY OF TRANSIT POTENTIAL

The results of the needs assessment, including the needs analysis, the identification of major trips generators, and data on human service agencies, were used as the foundation for the development of service options. Several of the key findings of the needs assessment, which affected the development of alternatives, are summarized below.

### Where People Live Who Need Transit

Areas of relatively moderate to low need in the Valley are scattered throughout the three towns based on both the *number* and *percentage* of transit dependent persons. According to the 1990 Census, areas of relatively high need based on the *density* of these same populations are found in:

High Density	-	none
Medium Density	-	none
Low Density	-	Fayston, Waitsfield, Warren

### **Where People Need to Go on Transit**

Local major trip generators for employment, shopping, and attractions tend to be found in the Sugarbush Resort Area, Mad River Glen, with additional destinations in the Villages of Waitsfield and Warren.

### **Appropriate Types of Transit Services**

As indicated above, the concentration of potential origins and destinations will determine the types of transit service that are appropriate and the frequency of those services. The design of transit services matches potential demand with the type and frequency of service, looking for the most efficient and effective service design. Service options considered include:

- route deviation – rural
- fixed-route - commuter
- rural fixed schedule
- rural demand-response

The potential for applying fixed-route services is assessed using overall population density as the primary indicator of the potential success. A general rule of thumb is that in order to support these more traditional fixed-route services, the overall population densities must be at least 2,000 persons per square mile, although areas with 1,000 - 2,000 may be considered for some non-traditional fixed-route services.

## MAD RIVER VALLEY TRANSIT

Currently, there is no local transit service in the Valley. Mad River Valley Transit previously provided five transit routes in the area through its contract with Wheels Transportation Services. The transit service was named the *Mad-Bus* and a map depicting the routes is provided in Figure 1. The following section provides a review of the previous transit routes and options for re-implementing services in the Valley. The Mad-Bus service provided free rides in the Mad River Valley and to connections with other routes and services. The five routes were labeled Blue Route 1, Blue Route 2, Green Route, Red Route, and Orange Route. All five routes operate primarily during the winter ski season (November 23<sup>rd</sup> to April 14<sup>th</sup>) with the exception of the Green Route, which operated on a reduced schedule in the non-Winter season. In addition, schedules varied between peak weeks and non-peak weeks during the ski season. Weeks considered to be peak weeks during the ski season are:

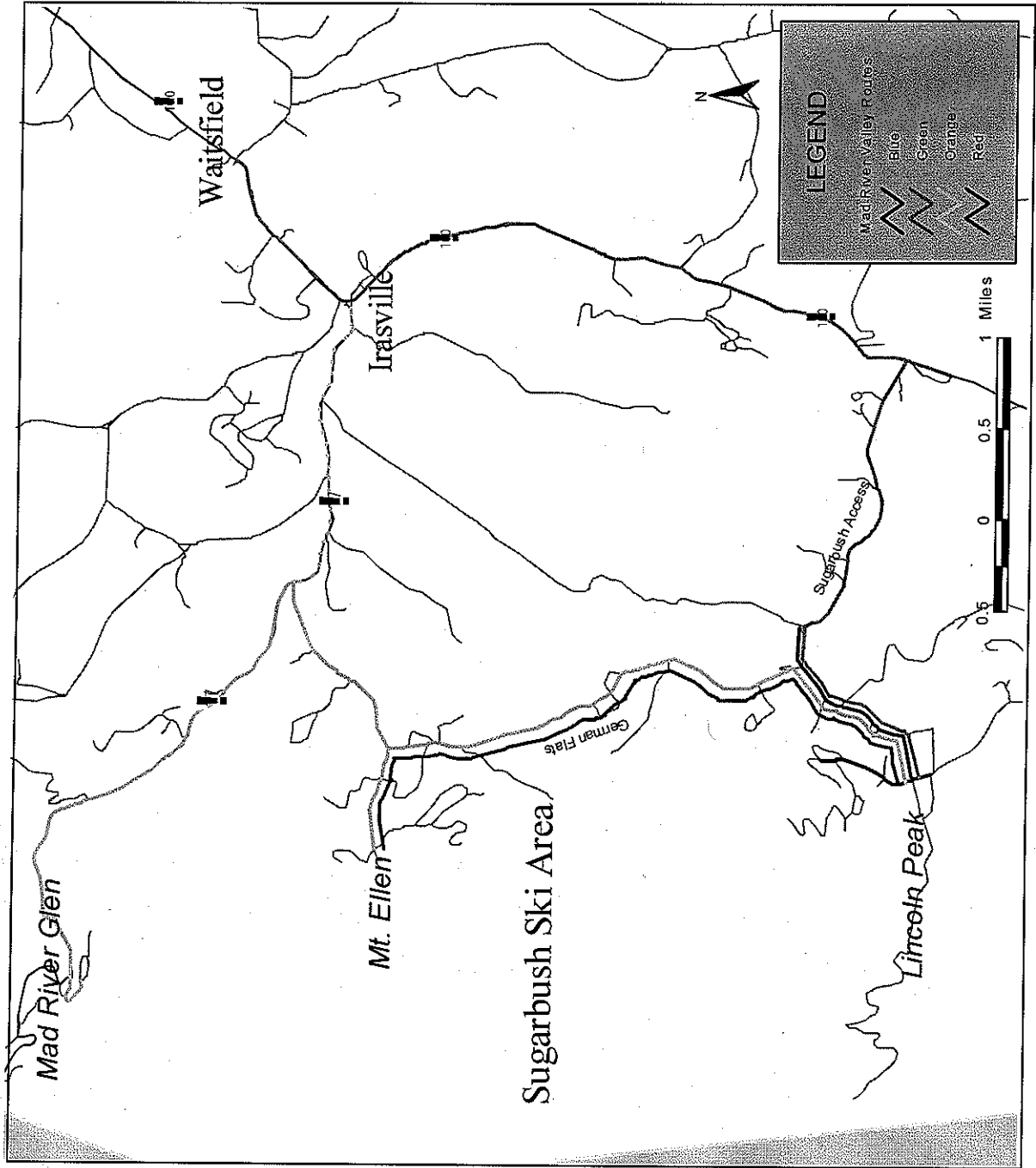
- December 26<sup>th</sup> to January 1<sup>st</sup>
- February 16<sup>th</sup> to February 24<sup>th</sup>
- March 11<sup>th</sup> to March 15<sup>th</sup>

In FY 2001, the Mad-Bus provided 64,024 trips and averaged 8.45 persons per hour and costs approximately \$313,968. Its average cost per trip for the same year was \$4.90. Table 1 presents basic operating data for the five routes.

### Green Route

As stated above, the Green Route operated year round. During the 2001 winter ski season, the route operated Monday through Sunday between the hours of 8:00 a.m. and 6:00 p.m. (Monday through Saturday) and 8:00 a.m. to 4:00 p.m. (Sundays). In addition to the daytime service on Saturdays, evening service is also provided from 6:00 p.m. to 1:30 a.m. In the 2001 schedule, a reduced schedule was offered for the summer and fall seasons. Service hours in the summer and fall season were from 8:50 a.m. to 3:36 p.m. Monday through Friday. The route

Figure 1: MAD RIVER VALLEY ROUTES



**Table 1**  
**MAD RIVER VALLEY TRANSIT ROUTES**  
**FOR FY01**

<b>Route</b>	<b>Hours</b>	<b>Miles</b>	<b>Operating Cost</b>	<b>Total Boardings</b>	<b>Boardings/ Hour</b>
Green	2,451	39,303	\$96,580	6,485	2.65
Blue1	1,591	13,533	\$68,563	16,086	10.11
Blue2	1,693	13,116	\$71,891	23,782	14.05
Red	1,303	17,358	\$53,876	12,565	9.64
Orange	543	8,106	\$23,058	5,106	9.40

operated between Lincoln Peak and Waitsfield Village. Major timed points along the route included Lincoln Peak, Bridges, Sugarbush Inn, Powderhound, Fiddler's Green, Village Square, Mad River Green, Mad River Flick, BridgeStreet, Fire Station/Chamber, Mad Mountain Tavern, and Gallagher's on Route 17. The Green Route provided 6,485 trips in FY 2001, averaging 2.65 boardings per hour and was the least productive of the five routes.

### **Options for Green Route**

One of the primary function of this route is to connect the Waitsfield Village with the Sugarbush ski area for employment and shopping. There are several options presented for the Green route. The options are:

1. Discontinue the Green route
2. Reduce schedule with the same routing
3. Reduce schedule with new routing

**Option 1 - Discontinue Green Route.** This option proposes that the Green route be terminated due to its low productivity rate. In lieu of the Green route, potential transit riders can utilize the Community Wheels service in Waitsfield which provides door-to-door in the area.

**Option 2 - Reduce Schedule with Reverse Routing.** If the route is to be re-implemented, this option recommends that the service span of hours be adjusted so that it operates only during the ski season (November to April) Monday through Sunday. Service hours for Monday through Saturday would be 7:30 a.m. to 5:30 p.m. and Sunday from 8:00 a.m. to 4:00 p.m. The headways will continue to be 60 minutes. In addition to revising the service hours, it is proposed under this option that the routing be reversed. Rather than originating from Lincoln Peak, the route would originate in Waitsfield Village and terminate at Lincoln for the return trip. With ten daily service hours and eight service hours on Sundays, it is estimated that total seasonal hours for this route would be 1,752 hours. At an average cost per hour rate of \$40, total operating cost for the route will be approximately \$70,080. It can be expected that by

reducing the service level more appropriately to match the demand ridership, levels will increase to between three and four persons per hour.

#### **Advantages**

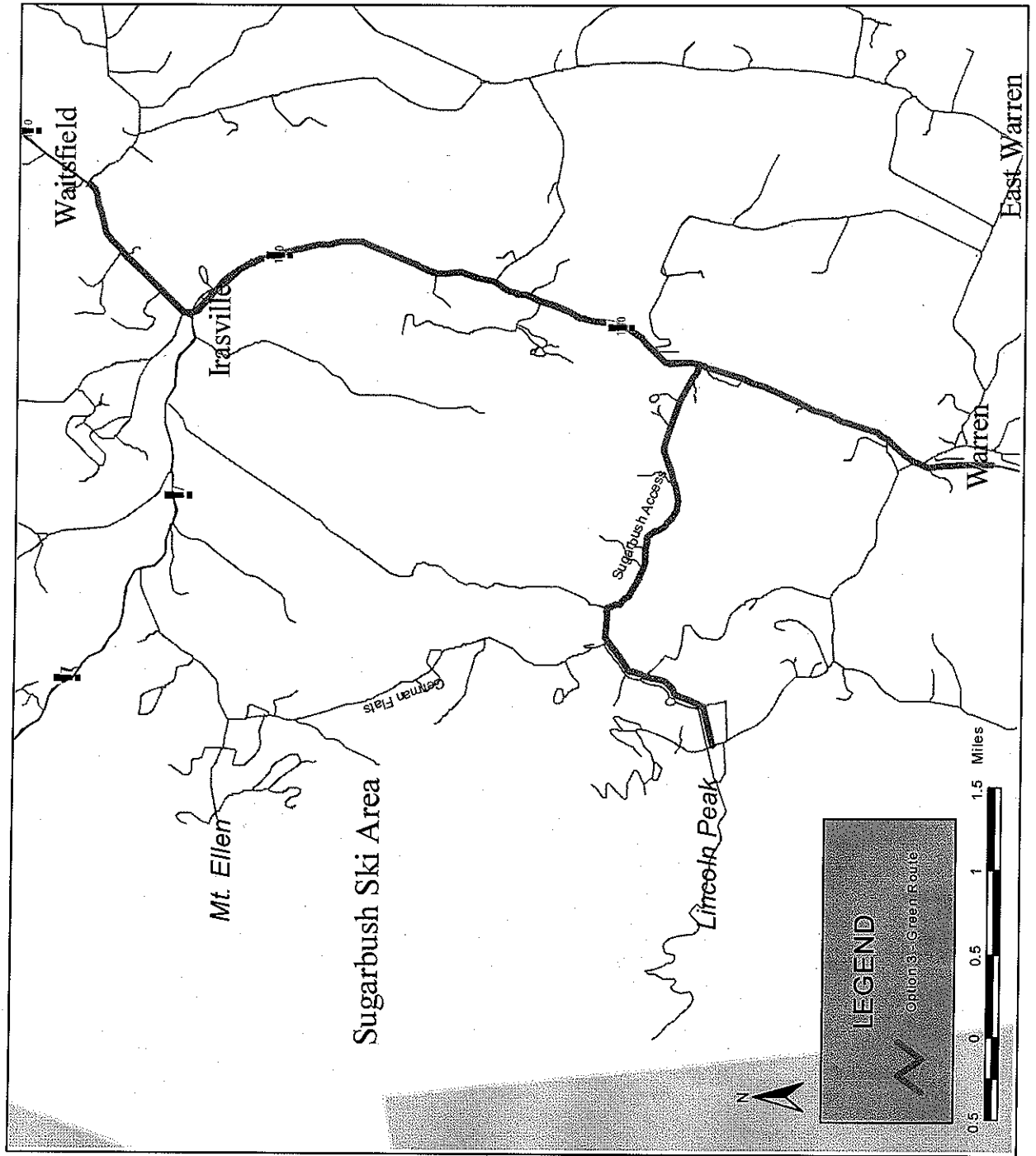
- Connects the Village of Waitsfield and Sugarbush for employment and shopping.
- Reduces costs by reducing service hours.
- Better matches the level of service outlay with demand.

#### **Disadvantages**

- Service will not operate in the off ski season.
- May only experience slightly higher productivity rates.

**Option 3 – Reduce Schedule with New Routing.** Under this option, the Green Route would operate between the Villages of Waitsfield, Warren, and Lincoln Peak as depicted in Figure 2. Service hours would be that of Option 2. The first run of the day would originate in Waitsfield Village traveling southbound on Route 100 to Warren Village then back up north on Route 100 before taking the Sugarbush Access Road to Lincoln Peak. This would be the only run that serves both Waitsfield and Warren in a single trip. The following runs throughout the day will begin at Lincoln Peak and end alternately in Waitsfield and Warren. For example, one run would operate from Lincoln Peak to Waitsfield and back, and the next run from Lincoln Peak to Warren and back. Service from Lincoln Peak would alternate between Waitsfield and Warren. It is estimated that this option will cost \$70,080 annually. Reducing the service level to more appropriately match demand but at the same time providing service to an area currently not served, ridership productivity levels are projected to be between the range of 3.5 to 5 persons per hour.

Figure 2: OPTION 3 - GREEN ROUTE WITH SERVICE TO WARREN



### **Advantages**

- Provides a connection from Warren to Waitsfield and Sugarbush for employment and shopping.
- Reduces costs by reducing service hours.
- Better matches the level of service outlay with demand.

### **Disadvantages**

- Service will not operate in the off ski season.
- Reduced service level to Waitsfield.
- May only experience slightly higher productivity rates.

Although Options 2 and 3 for the Green Route will experience higher productivity levels it will not reach the levels experienced by the Blue, Red, and Orange Routes.

### **Blue Route 1 and 2**

Both routes operate 8:00 a.m. to 5:00 p.m. during the ski season between December and April. Fixed-route service is provided between 8:00 a.m. to 12:30 p.m. during the peak weeks in the winter ski season and on weekends. During the non-peak weeks in the winter ski season, the fixed-route service operates till noon rather than 12:30 p.m. Frequencies on the weekends and weekdays (during the peak weeks) operate with a 15-minute headway using two vehicles, and during the non-peak weekdays, the route operates on a 30-minute headway using one vehicle. On-demand service is provided between 1:00 p.m. and 5:00 p.m. during peak and non-peak days.

Blue Route 1 provides service along Inferno Road between South Village and Summit. Major timed points along the route are Lincoln Peak, Snow Creek, South Village, Glades/Paradise, and Summit/North Lynx. The route carried 16,086 persons in FY 2001 averaging ten persons per hour and the overall cost for this route was \$68,563.

Blue Route 2 provides service along Sugarbush Access Road between Lincoln Peak and Southface. Major timed points along the route include Lincoln Peak, Sugar Lodge, Lower Club,

## **Disadvantages**

- No longer operate Operating on 15 minute headways along the two routes.

## **Red Route**

The Red route operates only during the winter ski season. Its service hours are from 8:45 a.m. to 5:15 p.m. Monday through Sunday. The route provides service between Lincoln Peak and Mount Ellen via German Flats Road. One vehicle is used to operate this route on a 30-minute headway. This route provided 12,565 one-way passenger trips during FY 2001 and cost a total of \$53,876. Its average boarding per hour was 9.64.

## **Option for Red Route**

It is recommended under this option that the Red Route be discontinued only if the option for the Orange Route is implemented. Points served by the Red Route could easily be incorporated into the Orange Route. The objective of this option is to streamline the connections between Lincoln Peak, Mt. Ellen, and Mad River Glen and increase the level of service to Mad River Glen.

## **Orange Route**

The Orange Route operated between Lincoln Peak, Mount Ellen, and Mad River Glen along German Flats Road. Service hours are 8:30 a.m. to 5:30 p.m. Monday through Sunday with service every 60 minutes. Additional service along Route 17 is available on weekends. One vehicle is used to operate this service on a one-hour headway. In FY 2001, the route provided 5,106 one-way trips, averaging 9.4 trips per hour. The total operating cost for this route was \$23,058.

### **Option for the Orange Route**

This option is contingent upon discontinuing the previously operated Red Route. Under this option, the Orange Route would operate throughout the ski season, Monday through Friday on 30 minute headways utilizing two vehicles. Service hours will be from 8:30 a.m. to 5:30 p.m. The two vehicles would operate bi-directionally along German Flats Road, with major time points at Lincoln Peak, Mt. Ellen, and Mad River Glen. It is estimated that this will incur an estimated 2,700 vehicle revenue hours over the ski season and cost approximately \$108,000. The cost to operate the previous Red and Orange Route was about \$77,000, so this option would be an increase of \$31,000.

#### **Advantages**

- Increases the level of service to Mad River Glen.
- Eliminates duplication of service along German Flats Road.

#### **Disadvantages**

- Increase of \$31,000 in costs.

Another option for service in the Valley is to re-implement either all or some of the routes previously operated with no or slight modifications.