

# Summit Stage Microtransit Feasibility Analysis

Prepared for:

Summit Stage, a Department of Summit County, CO

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FEHR  PEERS

## Table of Contents

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<b>Chapter 1: Introduction .....</b>	<b>7</b>
Project Context.....	7
What is Microtransit.....	7
Versions of Microtransit Service .....	8
<b>Chapter 2: Peer Review.....</b>	<b>11</b>
Peer Profiles.....	11
Yellow Zone Microtransit – Steamboat Springs, CO.....	11
TART Connect – Placer County/Tahoe, CA .....	13
Micro by High Valley Transit – Summit County, UT.....	16
Key Takeaways .....	18
Successes .....	18
Challenges .....	19
Lessons Learned: .....	19
<b>Chapter 3: Needs Assessment.....</b>	<b>20</b>
Travel Pattern Assessment.....	20
StreetLight Data Analysis.....	20
Zones .....	20
Analysis Results .....	23
Summary of All Zones.....	37
Transit Access Assessment .....	38
Transit Access in Silverthorne/Dillon .....	38
Keystone/Summit Cove.....	40
Frisco/North Breckenridge.....	41
Breckenridge.....	42
Blue River .....	43
Copper Mountain .....	44
Public Engagement Results.....	45
Respondent Demographics .....	45
Use and Challenges of Existing Transit .....	47
Interest in New On-Demand Service .....	48
Preference of New On-Demand Service Characteristics .....	51
Other Comments .....	54

Destinations Mapping.....	54
Key Takeaways of Community Engagement.....	57
<b>Chapter 4: Microtransit Service Alternatives.....</b>	<b>58</b>
Potential Zones Identified .....	58
Proposed Initial Microtransit Zones.....	58
Evaluation Criteria .....	60
<b>Chapter 5: Implementation .....</b>	<b>63</b>
Service Delivery.....	63
Possible Phasing .....	65
Timeline and Next Steps .....	65
<b>Chapter 6: Performance Standards .....</b>	<b>68</b>
Service Adjustments and Monitoring Plan .....	68
Tracking Ridership.....	68
Tracking Ride Times.....	69
Tracking User Experience.....	69
Evaluating Service Area Scope .....	69
Microtransit Performance .....	70
Reporting and Adjustments.....	71

## List of Figures

---

Figure 1. Microtransit Application Examples .....	<b>Error! Bookmark not defined.</b>
Figure 2. Microtransit Service Model Examples.....	<b>Error! Bookmark not defined.</b>
Figure 3. Yellow Zone Diagram.....	<b>Error! Bookmark not defined.</b>
Figure 4. TART Connect Zones .....	<b>Error! Bookmark not defined.</b>
Figure 5. High Valley Transit Routes and Zones .....	<b>Error! Bookmark not defined.</b>
Figure 6. StreetLight Analysis Zone Map .....	<b>Error! Bookmark not defined.</b>
Figure 7. North Silverthorne Zone Trip Patterns.....	<b>Error! Bookmark not defined.</b>
Figure 8. North Silverthorne Zone Outgoing Trips Map.....	<b>Error! Bookmark not defined.</b>
Figure 9. Dillon Zone Trip Patterns.....	<b>Error! Bookmark not defined.</b>
Figure 10. Dillon Outgoing Trips Map.....	<b>Error! Bookmark not defined.</b>
Figure 11. Frisco Commercial Zone Trip Patterns.....	<b>Error! Bookmark not defined.</b>
Figure 12. Frisco Commercial Zone Outgoing Trips Map .....	<b>Error! Bookmark not defined.</b>
Figure 13. Frisco Main Street Zone Trip Patterns .....	<b>Error! Bookmark not defined.</b>
Figure 14. Frisco Main Street Zone Outgoing Trips Map .....	<b>Error! Bookmark not defined.</b>
Figure 15. Summit Cove Zone Trip Patterns.....	<b>Error! Bookmark not defined.</b>
Figure 16. Summit Cove Zone Outgoing Trips Map.....	<b>Error! Bookmark not defined.</b>
Figure 17. Tiger Road Zone Trip Patterns.....	<b>Error! Bookmark not defined.</b>
Figure 18. Tiger Road Zone Outgoing Trips Map.....	<b>Error! Bookmark not defined.</b>
Figure 19. West Breckenridge (Peak 7) Zone Trip Patterns .....	<b>Error! Bookmark not defined.</b>
Figure 20. West Breckenridge (Peak 7) Zone Outgoing Trips Map .....	<b>Error! Bookmark not defined.</b>
Figure 21. Origin-Destination Matrix – Average Daily Trips.....	<b>Error! Bookmark not defined.</b>
Figure 22. Origin-Destination Matrix – Average Weekday Trips.....	<b>Error! Bookmark not defined.</b>
Figure 23. Transit Access – Silverthorne/Dillon .....	<b>Error! Bookmark not defined.</b>
Figure 24. Transit Access – Keystone/Summit Cove.....	<b>Error! Bookmark not defined.</b>
Figure 25. Transit Access – Frisco/North Breckenridge .....	<b>Error! Bookmark not defined.</b>
Figure 26. Transit Access – Breckenridge.....	<b>Error! Bookmark not defined.</b>
Figure 27. Transit Access – Blue River .....	<b>Error! Bookmark not defined.</b>
Figure 28. Transit Access – Copper Mountain .....	<b>Error! Bookmark not defined.</b>
Figure 29. Home Locations of Survey Respondents.....	<b>Error! Bookmark not defined.</b>
Figure 30. Age of Survey Respondents.....	<b>Error! Bookmark not defined.</b>
Figure 31. Building Type of Survey Respondents .....	<b>Error! Bookmark not defined.</b>
Figure 32. Reported Challenges/Barriers to Riding the Bus .....	<b>Error! Bookmark not defined.</b>
Figure 33. Reported Interest in Using Microtransit.....	<b>Error! Bookmark not defined.</b>

Figure 34. Reported Microtransit Trip Purposes .....	<b>Error! Bookmark not defined.</b>
Figure 35. Willingness to Use Microtransit if it Took Additional Time.....	<b>Error! Bookmark not defined.</b>
Figure 36. Reported Frequency of Microtransit Use (Free Service) .....	<b>Error! Bookmark not defined.</b>
Figure 37. Reported Usage Times For a Microtransit Service.....	<b>Error! Bookmark not defined.</b>
Figure 38. Desired Amenities For a Microtransit Service .....	<b>Error! Bookmark not defined.</b>
Figure 39. Desired Origins and Destinations For a Microtransit Service .....	<b>Error! Bookmark not defined.</b>
Figure 40. Proposed Initial Microtransit Zones.....	<b>Error! Bookmark not defined.</b>
Figure 41. Possible Phasing Plan .....	<b>Error! Bookmark not defined.</b>

## List of Tables

---

Table 1. Yellow Zone Characteristics .....	12
Table 2. TART Connect Characteristics.....	14
Table 3. Micro Characteristics.....	18
Table 4. StreetLight Analysis Zone Descriptions .....	21
Table 5. Microtransit Zone Evaluation Criteria.....	60
Table 6. Microtransit Zone Quantitative Scores .....	61
Table 7. Microtransit Zone Relative Scores .....	62
Table 8. Advantages and Disadvantages of Turn-Key Contracts .....	63
Table 9. Advantages and Disadvantages of Agency Operated Model .....	64
Table 10. Potential Phase 1 Service Options .....	66
Table 11. Phase 2 All Zone Service .....	67
Table 12. Examples of Microtransit Performance Metrics for Various Systems .....	70
Table 13. Suggested Microtransit Performance Metrics for Summit County.....	71

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# Chapter 1: Introduction

## Project Context

Summit Stage has the potential to serve some of the lower density (and harder to serve with fixed route) areas of Summit County with more flexible transit service such as microtransit; these areas were previously identified in the both the 2020 Summit Stage Short Range Transit Plan and 2021 Summit Stage Equity and Access Study. This focused and targeted analysis of microtransit feasibility can ensure those service gaps become bridged.

This study is focused on addressing key questions such as:

- What are the key locations where a new type of transit service is needed and who needs a new service the most?
- What are the trip needs that currently are not being met?
- What is the microtransit model that will meet Summit Stage's goals in the most cost-effective manner possible?
- What are sustainable funding sources for new service?

We understand the local context for this study and how critical it is that we set an innovative, opportunistic, and realistic course. Summit Stage is a crucial component of the local community, both from a quality of life and an economic perspective, and this plan allows Summit Stage to improve its service effectiveness and deepen its community impact.

## What is Microtransit?

Microtransit is a form of demand-responsive transit that leverages a smartphone app, as well as a call-in option or online reservation system, to match trip requests in real-time to dynamic/flexible routes in a defined service area. For users, it is similar to using ride hailing services such as Uber or Lyft with the ability to request a trip within a short timeframe (typically 15 minutes or less) and be picked up and dropped off within a short distance of their origin and destination points (typically 1-2 blocks or less).

Most agencies provide fare-free micromobility services and have adopted turn-key models that are privately operated by companies such as Downtowner or Via Mobility. Choosing a private operator model offers several benefits, including reduced initial costs due to the absence of vehicle purchases and decreased workload for the agency, as there is no need to hire drivers or deal with daily challenges that arise with day-to-day operation. Additionally, turn-key models enable a pilot phase to generate community interest, minimizing the risk of implementing a service that the community might dislike. However, in the long run, operating this way might

prove to be more expensive than operating the service in-house with agency vehicles and drivers and purchased ride-matching technology.

Agencies can engage privately operated companies through a contractual arrangement, allowing for annual evaluations based on key metrics. This approach enables the agency to assess the service regularly and determine whether extending the contract is appropriate. Additionally, this allows flexibility if an agency decides that it would want to pursue internal operations of the service.

### **Versions of Microtransit Service**

There are several different ways microtransit can be configured to operate. Each model has advantages and disadvantages – the best choice is usually determined by community goals and target markets.

#### *Zonal*

In a zonal model, any two points within the defined microtransit zone can be connected. The points are typically connected door-to-door or street corner to street corner. Passengers enjoy the advantage of getting picked up and dropped off exactly where they are and exactly where they want to go, as well as being able to use the service for a variety of trip purposes within the zone. The downside is that passengers are often onboard the microtransit vehicle for longer than they would be in comparison to an equivalent trip by car. In a zonal model, the microtransit vehicle will often take a circuitous route to pick up and drop off passengers along the way, which means the trip time for most trips from start to finish is longer for some of the passengers (typically those traveling longer distances within the zone).

#### *Zone to Point*

In a zone to point model, a microtransit zone is defined in combination with a specific destination point, usually a bus or rail station, outside of the zone. In this model, passengers can only go from the microtransit zone to the defined point. Passengers can get picked up or dropped off door-to-door or corner-to-corner in the microtransit zone, but the trip typically needs to start and end at the defined point. This type of service often departs and arrives at the defined point at times that correlate to bus or train departure or arrival times. A zone to point model usually has high ridership but is limited in its target market, as the service is typically used by commuters (or other specific user groups) as a first and final mile connection to rapid transit.

#### *Flex Route*

A microtransit flex route model operates more like a fixed route bus with pre-determined bus stops and time points, but a flex route has the ability to go off-route within a specific zone between stops to pick up and drop off passengers who request real-time trips. This allows passengers to choose to use defined stops at a scheduled time or to request a trip in real-time

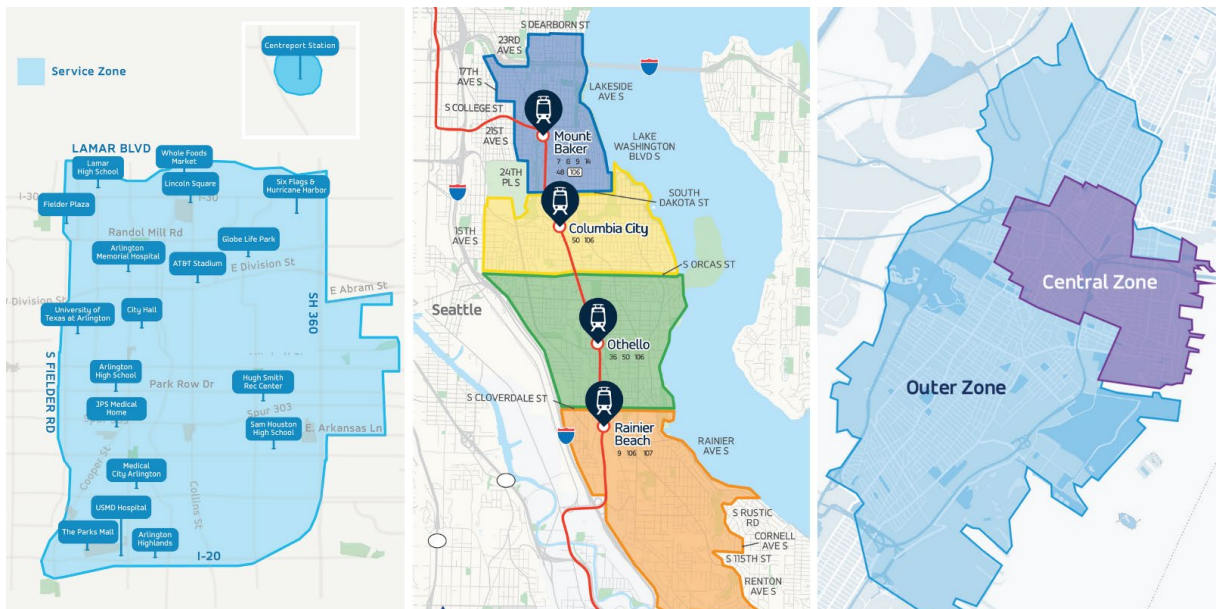


within the flex route zone. This model is more efficient overall, in terms of ability to combine multiple passengers on the same trip, but less convenient for some passengers who may need to make different connections than the pre-determined points.

### Examples

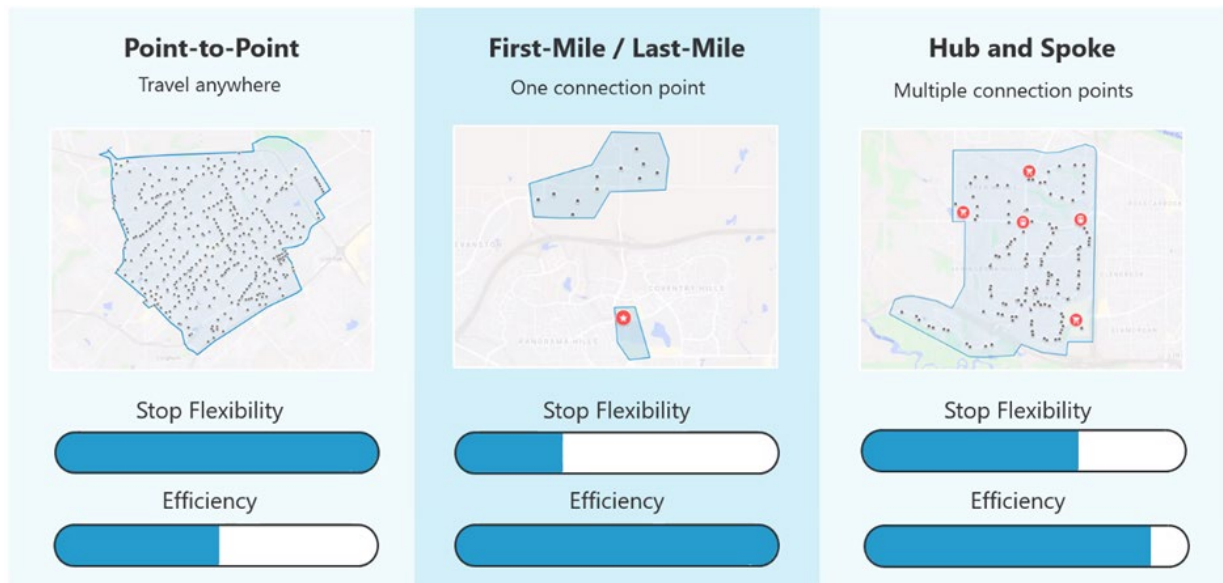
Examples of microtransit applications and microtransit service models are shown in **Figure 1** and **Figure 2**.

**Figure 1. Microtransit Application Examples**



Source: Via Transportation, Inc.

**Figure 2. Microtransit Service Model Examples**



Source: RideCo, Inc.

# Chapter 2: Peer Review

## Peer Profiles

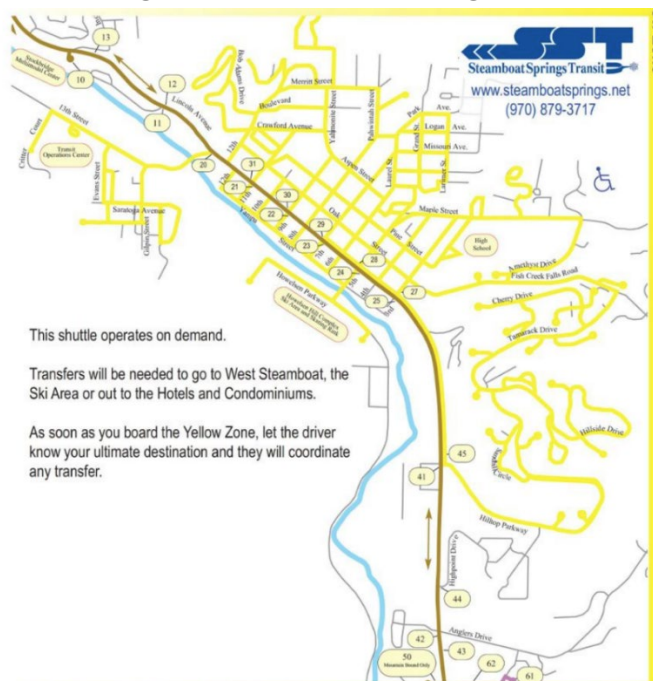
Summit County can learn from existing microtransit services in similar contexts that were explored in a peer review.

### Yellow Zone Microtransit – Steamboat Springs, CO

#### *Service Characteristics*

The Yellow Zone microtransit serves downtown Steamboat Springs and surrounding neighborhoods, recreation center, and multimodal center shown in **Figure 3**. It replaced an underutilized transit route that previously served the downtown area. The service area is approximately 3.2 square miles, and the “Yellow Zone” is a small part of the service area that contains schools, high density areas, low income residential areas, the historic downtown and remote parking. Rides are limited to within the service area, and there is an up to 15-minute wait time for a ride, but many rides are responded to in seven minutes or less.

**Figure 3. Yellow Zone Diagram**



Source: SST, City of Steamboat Springs, 2023.

Steamboat Springs uses one to two battery electric vehicles (EV) vans to support the service in addition to one gasoline-powered ADA-compliant van (to be converted to battery/electric van soon). Each van is equipped with bike racks and only service animals are allowed in the vehicle. **Table 1** summarizes key service characteristics.

**Table 1. Yellow Zone Characteristics**

Service Span	Response Rate	Productivity (riders/hr) (2022)	Cost per Passenger (to SST)	Technology that is utilized to reserve and schedule trips	Fare Model	Year Implemented
7:00 a.m. - 6:20 p.m., Daily	~7 to 15 minutes	5.5	~ \$14/ passenger in peak season  ~\$20/ passenger in non-peak season	Downloading the Yellow Zone app or by calling a dispatch phone #	Fare Free	2021

Source: SST, City of Steamboat Springs, 2023.

### *Overview of Funding Model*

The decision to provide transit service fare-free helped with the overall marketing and getting the community to try and continue using the service. By not charging for the service, the city did not have to deal with drivers handling cash, meeting federal requirements for handling cash, nor provide safety modifications to the vehicle fleet such as security cameras.

In 2023, Steamboat Springs Transit (SST) paid approximately \$400,00 for year-round service of the Yellow Zone. Steamboat Springs has been able to redirect the money that was being used to operate the underutilized transit route to the microtransit service. Additionally, a portion of Federal Transit Administration (FTA) Formula Grants for Rural Areas – 5311 funds are used to support the service.

## **TART Connect – Placer County/Tahoe, CA**

### *Service Characteristics*

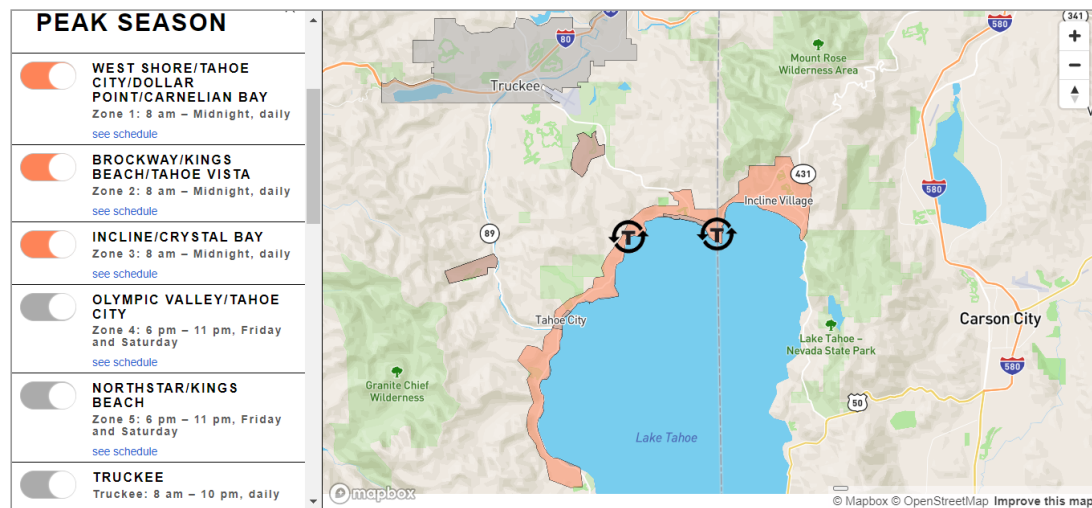
TART Connect offers free, on-demand microtransit service that operates in Placer County, California and Washoe County, Nevada. TART Connect operates six different geographical zones surrounding Lake Tahoe, neighborhoods along two state highways and the adjacent city, Truckee, as shown in **Figure 4**. During peak season there are a total of six zones, and during the non-peak season, the quantity of zones reduces to four. Each zone has distinct hours of operation ranging from 8 am – Midnight, daily to 6 p.m. to 11 p.m. Friday and Saturday. **Table 2** summarizes key service characteristics.

Prior to the formation of TART, transit service in the area was operated by three different providers, Placer County, Washoe County, and another local transit provider, which all had unique branding and bus stops. The three transit providers decided to form an intergovernmental agreement (IGA) to form TART and consolidate transit under one organization jointly. Each entity is responsible for the zones in their purview and has decided to fund the TART Connect service separately.

There are 11 vehicles that operate within the Placer County zones and a total of six in the Washoe County zones. The North Lake Tahoe TART Connect allows service animals only while Truckee TART Connect allows all well-behaved pets. There are two service vehicles that are ADA accessible that riders may request. The vehicles are gasoline-powered vans equipped with bike racks in the summer. Due to the high demand for the service, the response time for a ride can take up to 40 minutes in high-demand zones.

Placer County has the unique perspective of operating microtransit with a turn-key operator, Downtowner and internally operating its dial-a-ride service. Placer County has recently purchased a technology similar to the one used in microtransit to give riders the choice to reserve a ride via a smartphone app. The County entered into a three-year contract with Spare Labs Inc. to provide microtransit technology to the dial-a-ride service in another part of the county. The first full year of obtaining and utilizing solely the microtransit technology will cost \$56,000 and \$53,000 for each of the following two years.

**Figure 4. TART Connect Zones**



Source: TART, 2023.

**Table 2. TART Connect Characteristics**

Service Span	Average Response Rate	Productivity (riders/hr) (2022)	Cost per Passenger (to TART Connect)	Technology that is utilized to reserve and schedule trips	Fare Model	Year Implemented
Zone 1: West Shore/Tahoe City/Dollar Point/Carnelian Bay (Peak: 8 a.m. – Midnight daily) (Non-Peak: 6 p.m. – 10 p.m. daily)	Peak: 42 minutes  Non-peak: 14 minutes	5.25	\$16.44	Downloading the TART Connect app or calling a dispatch phone #	Fare Free	2020

Service Span	Average Response Rate	Productivity (riders/hr) (2022)	Cost per Passenger (to TART Connect)	Technology that is utilized to reserve and schedule trips	Fare Model	Year Implemented
Zone 2: Brockway/Kings Beach/Tahoe Vista (Peak 8am-midnight, daily) (Non-peak: 8 a.m. – 10 p.m., daily)	Peak: 30 minutes  Non-peak: 12 minutes	8.42	\$16.44	Downloading the TART Connect app or call a dispatch phone #	Fare Free	
Zone 3: Incline Village/ Crystal Bay (Peak: 8 a.m. - midnight, daily) (Non-peak: 8 a.m. -10 p.m., daily)	Peak: 35 minutes  Non-peak: 20 minutes	8.96	\$11.61	Downloading the TART Connect app or call a dispatch phone #	Fare Free	
Zone 4: Olympic Valley/Tahoe City (Peak: 6 p.m. - midnight, daily) (Non-peak: 6 p.m. – 10 p.m., daily)	Unknown	1.04	\$16.44	Downloading the TART Connect app or call a dispatch phone #	Fare Free	
Zone 5: North Star/ Kings Beach (Peak: 6 p.m. - midnight, daily) (Non-peak: 6 p.m. – 10 p.m., daily)	Unknown	1.0	\$16.44	Downloading the TART Connect app or call a dispatch phone #	Fare Free	

Service Span	Average Response Rate	Productivity (riders/hr) (2022)	Cost per Passenger (to TART Connect)	Technology that is utilized to reserve and schedule trips	Fare Model	Year Implemented
Zone 6 (Truckee): 6:30a.m – midnight, daily	10 minutes	4.6	\$22.21	Downloading the TART Connect app or call a dispatch phone #	Fare Free	

Source: TART, 2023.

### *Overview of Funding Model*

The Placer County zones are funded 100% through a Transit Occupancy Tax (TOT) and recently the establishment of a Tourism Business Improvement District (TBID) will also contribute to the microtransit funding. The annual cost of the Placer County zones during all seasons was approximately \$2 million. The Washoe County zones are funded through private business funding, county funds, and the Regional Transportation Commission (RTC Washoe). The annual cost of the Washoe County zones for all seasons was approximately \$900,000. The Truckee zone is funded from a portion of the city's general fund, the airport district, and through local HOA fees.

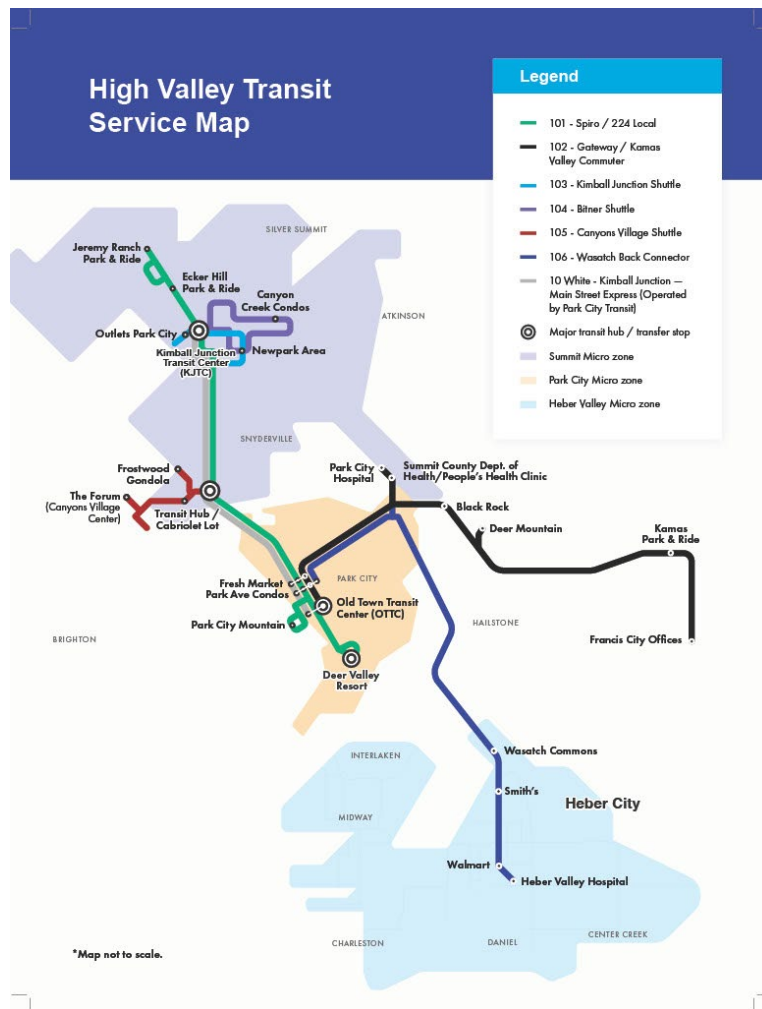
## **Micro by High Valley Transit – Summit County, UT**

### *Service Characteristics*

High Valley Transit provides free microtransit service in three distinct zones in northern Summit County, Park City, and Heber Valley, Utah shown in **Figure 5**. The service connects to high-frequency microtransit and fixed-route buses, providing seamless travel throughout the region. Initially launched with one zone, approximately 30 square miles in size, and 14 vehicles at peak time, the service has expanded to include two additional zones due to its popularity. High Valley Transit uses approximately 20 branded sedans and SUVs equipped with bike racks and ski racks in the winter, making it a convenient and sustainable option for residents and visitors alike to get around. There was a 41% increase in total fixed route rides and a 113% increase in micro rides between July 2022 and July 2023. **Table 3** summarizes key service characteristics.



**Figure 5. High Valley Transit Routes and Zones**



Source: High Valley Transit, 2023.

**Table 3. Micro Characteristics**

Service Span	Response Rate	Productivity (riders/hr) (2022)	Cost per Passenger	Technology that is utilized to reserve and schedule trips	Fare Model	Year Implemented
Summit County Zone: 5 a.m. – 1 a.m.						
Park City Zone 6:30 a.m. - midnight	~ 18.1 minutes	3.2	Unknown	Downloading the High Valley Transit app or call a dispatch phone #	Fare Free	2021
Heber Valley Zone: 5 a.m. – 10 p.m.						

Source: High Valley Transit, 2023.

### *Overview of Funding Model*

High Valley Transit is fare-free and is funded in part by sales and transportation tax revenues. The annual cost of operating Micro during all seasons was approximately \$2.3 million.

## **Key Takeaways**

In recent years, microtransit services have emerged as a promising solution to enhance public transportation systems in various regions. Stakeholder interviews conducted by our team revealed valuable insights into the benefits and challenges of microtransit. Key insights include:

### **Successes**

- Overall increase in riders using public transit on fixed route services
- Positive feedback from the community
- Increased mobility options for residents and visitors
- Filled a missing gap of transit service
- Established connections to transit that were under or not utilized due to accessibility
- Changed the mindset of the community on the value of public transit

- Helped the transit-dependent population, tourists, and residents move around the area
- Helped with parking management

## Challenges

- Cost per passenger on microtransit is higher than on other fixed-route services
- Can add to traffic and vehicle miles traveled due to dead-heading in between trips
- Technology area of turn-key operations: Placer County finds it a barrier that to be able to determine how many vehicles are deployed and their location they must request info through Downtowner first
- Response times: Response times increased from 15-18 minutes to 30-42 minutes for TART Connect due to popularity and sharp increase ridership. This was addressed by allowing vehicles to move freely between zones and not have a set amount in each zone
  - As microtransit becomes more popular, more vehicles are required at higher overall cost

## Lessons Learned:

- Microtransit can be an effective way to provide transportation. Stakeholders reported that microtransit can be a cost-effective way to provide transportation, especially in areas with low population density or where fixed-route transit is not feasible.
- Hiring microtransit drivers is easier than hiring fixed-route bus drivers.
- Communicate the value of microtransit to the public and elected officials early in the process, which may not be seen through financials.
- Consider providing fare-free service to make the program more successful.
- More program budget may be required as demand increases.
- Consider a public-private partnership for microtransit. Public-private partnerships can leverage the expertise of the private sector in vehicle maintenance and marketing, while the public sector provides funding and oversight.

# Chapter 3: Needs Assessment

Fehr & Peers explored the need for and best application of a microtransit service by looking at existing travel patterns in the area, assessing current access to transit, and talking with the community.

## Travel Pattern Assessment

This travel pattern assessment identifies the existing trends in how people travel throughout Summit County. Understanding this existing movement throughout the county helps inform how successful microtransit services can be.

### StreetLight Data Analysis

Origin-destination trip data for Summit County were collected using StreetLight Data. StreetLight Data is an on-demand mobility analytics platform and a “big data” provider that compiles origin-destination trip data from global positioning system (GPS) tracking technology provided through location-based services (LBS) data or connected vehicle data (CVD). LBS data is collected through mobile devices when a user enables a location-based services application on their smartphone, and CVD is collected from vehicles equipped with advanced communication technology. For this analysis, LBS data from cellphones were used to understand travel patterns. Vehicle trip volumes are estimates of typical, daily trip patterns. A “trip” starts when a mobile device is no longer stationary and a “trip” ends when there is a shift in travel mode, or when the device is stationary for more than five minutes.

The primary output used in this analysis is the StreetLight All Vehicles Volume, which is an estimate of vehicle trips, calibrated to real traffic counts. StreetLight allows for analysis over different time periods, and for this analysis, data was collected for a full year of data (May 2021 to April 2022), the summer season (June through August 2021), and the winter season (December 2021 through March 2022). To capture peak flows and analysis at various times of the day and days of the week, data was collected for a typical weekday (Tuesday – Thursday), a typical weekend (Saturday – Sunday), and a typical week (Sunday – Saturday) on an hourly basis.

### Zones

Transportation zones are the building blocks for running analyses on the StreetLight platform. Zones can be used to analyze traffic that stops and starts within an area. A total of 17 zones throughout Summit County were analyzed. The zones developed were based on the land use patterns, including separate zones for major commercial areas and recreational facilities separate zones for the major transit stations, and separate zones for residential zones separated by highways, railroads, or other built-environment features. A travel pattern analysis captures

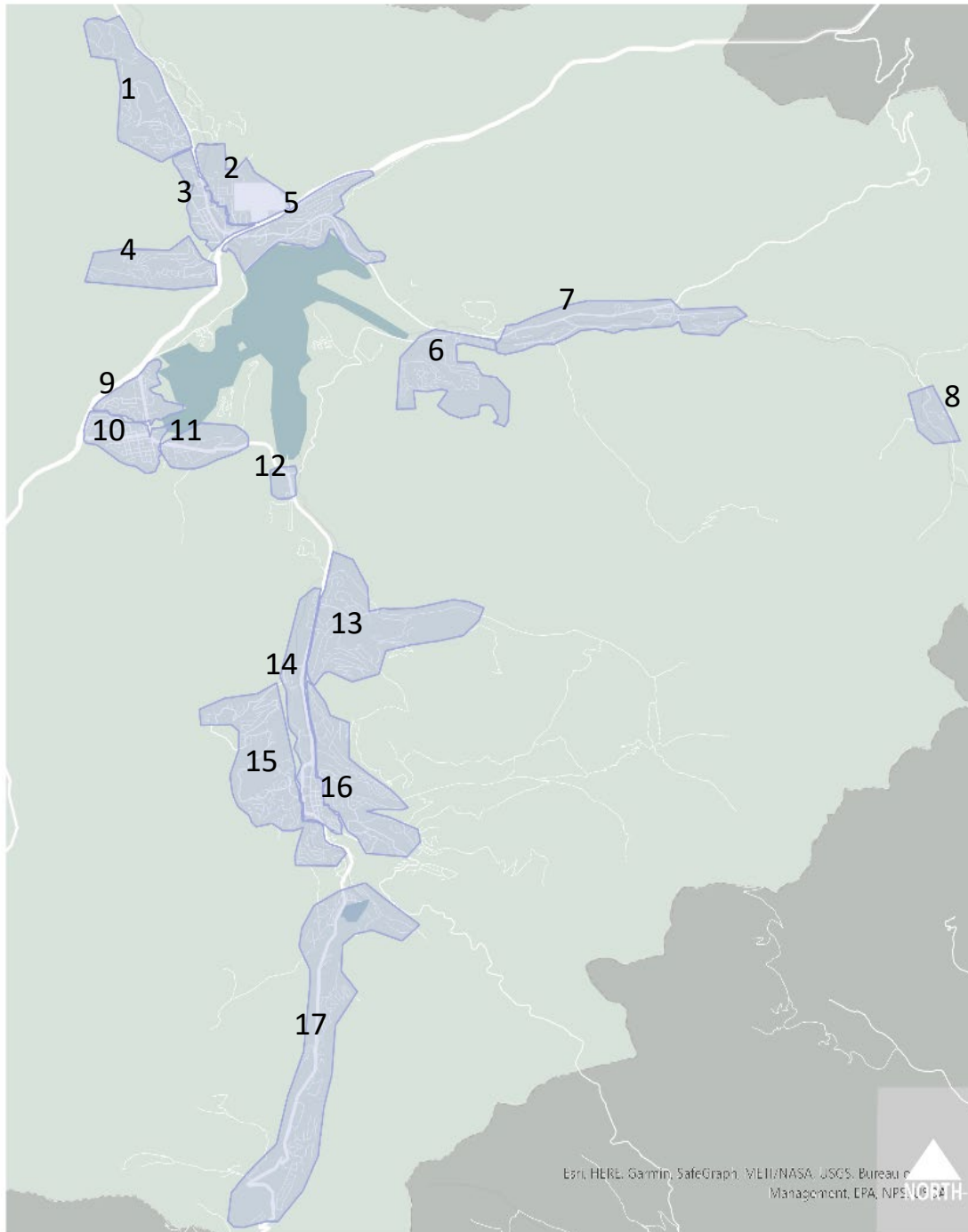
movement to/from selected analysis zones, however trips made to/from areas outside of the analysis zones are not included. **Table 4** shows the zone descriptions for each zone used in this analysis, with numbers corresponding to the map of the zones in **Figure 6**.

**Table 4. StreetLight Analysis Zone Descriptions**

Zone Name	Zone Number	General Zone Description
<b><i>North Silverthorne</i></b>	1	Willowbrook Rd. to Maryland Creek Park, West of Highway 9
<b><i>Silverthorne East Residential</i></b>	2	Ptarmigan Trail to Bald Eagle Rd., East of Rainbow Dr.
<b><i>Silverthorne Downtown and Transit Center</i></b>	3	North of I-70 to Smith Ranch Rd., along Blue River Pkwy.
<b><i>Wilderness</i></b>	4	Wilderness neighborhood, West of Lowe's
<b><i>Dillon</i></b>	5	South of I-70 to Corinthian Cir., including Dillon Valley to Straight Creek Dr. dead end
<b><i>Summit Cove</i></b>	6	Western Summit Cove boundary and East to Elk Cir.
<b><i>Keystone</i></b>	7	Keystone Science School to Powerline Parking Lot, along Highway 6
<b><i>Montezuma</i></b>	8	Montezuma town boundaries
<b><i>Frisco Commercial</i></b>	9	South of I-70 to Tenmile Creek, along Summit Blvd.
<b><i>Frisco w/Main Street</i></b>	10	Larson Ln. to Temple Trail, along West of Summit Blvd.
<b><i>Frisco Adventure Park</i></b>	11	Stella Jay Rd. to Crown Pl., along Highway 9
<b><i>Summit High School</i></b>	12	School Rd. to Farmers Ln., along Highway 9
<b><i>Tiger Road</i></b>	13	Mountain View Way to Fairview Blvd., East of Highway 9 to Blair Witch Trailhead
<b><i>Downtown Breckenridge</i></b>	14	North of Tiger Rd. to Boreas Pass Rd., along Highway 9
<b><i>West Breckenridge</i></b>	15	Barton Rd. to Gold King Way, West of Park Ave.
<b><i>East Breckenridge</i></b>	16	Fletcher Ct. to Bunker Hill Ln., East of Harris St.
<b><i>Blue River</i></b>	17	Lakeshore Loop to Summit Ln., along Highway 9

Source: Fehr & Peers, 2023.

**Figure 6. StreetLight Analysis Zone Map**



Source: Fehr & Peers, 2023.

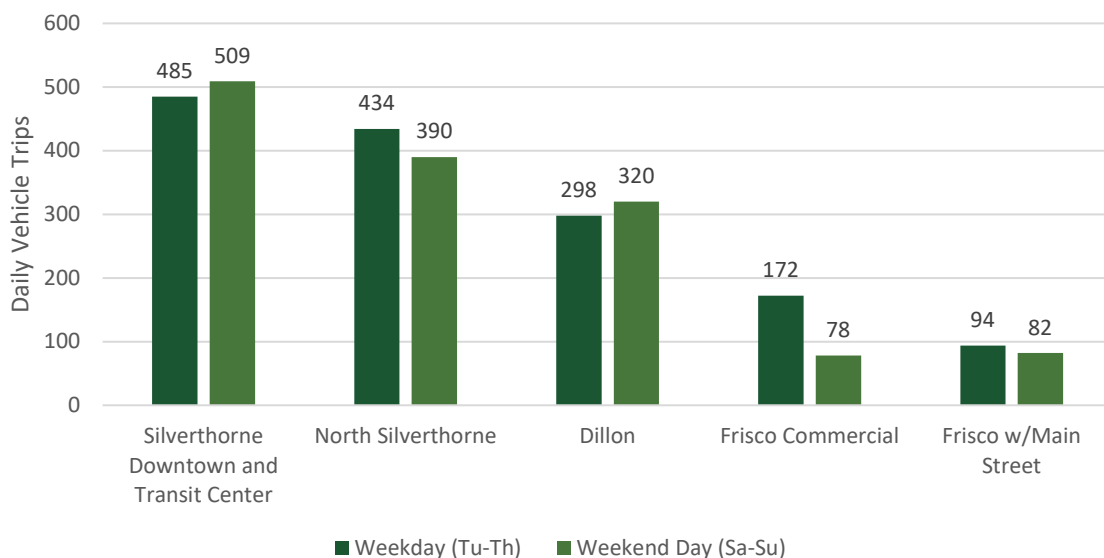
## Analysis Results

Summit Stage initially identified microtransit opportunity areas of interest to understand existing travel patterns, and how additional or new transit service can serve these patterns. These areas were identified by Summit Stage as being challenging to effectively serve with fixed route transit. The analysis helps to understand potential transit market demand to and from these areas.

### North Silverthorne

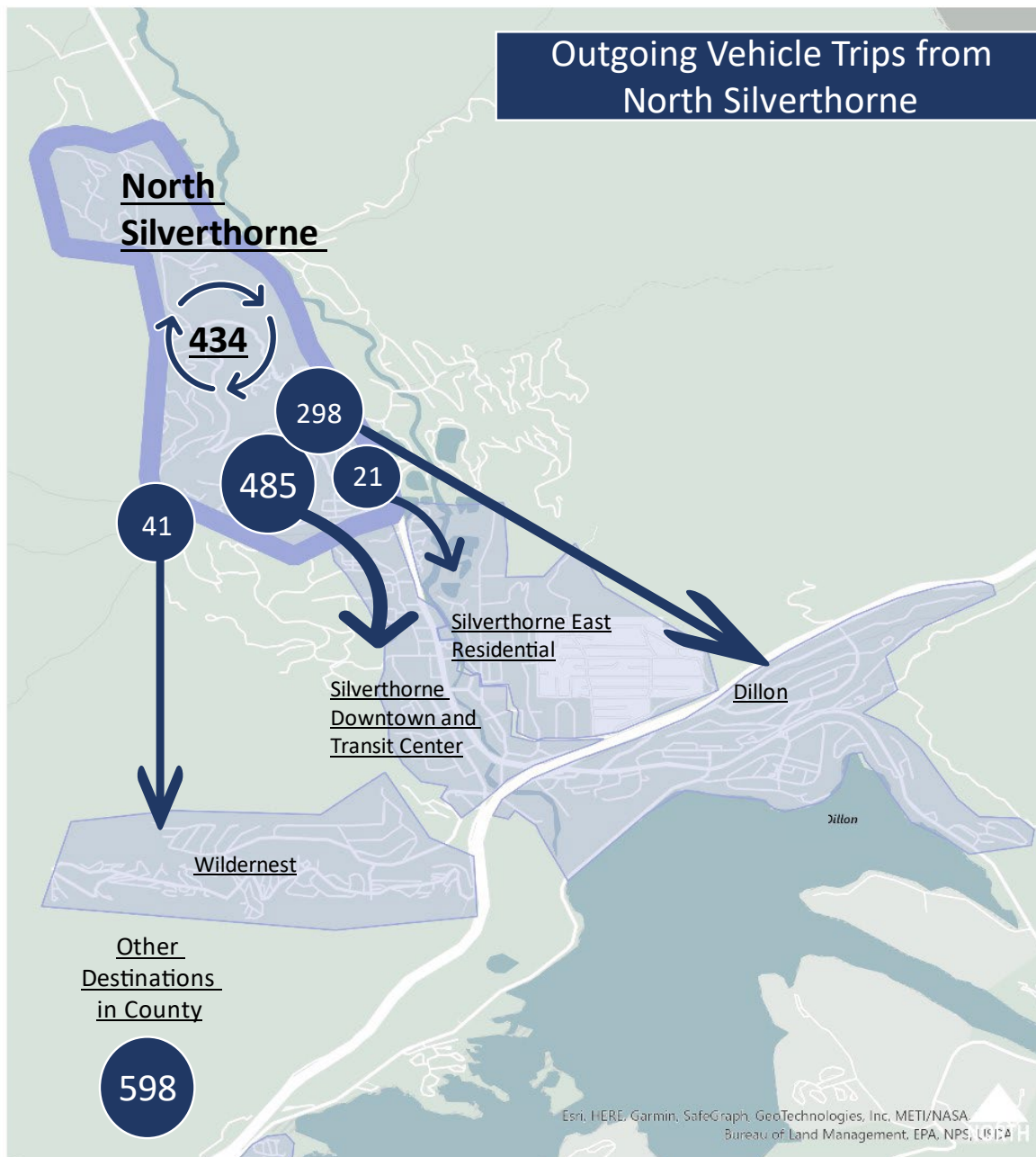
The North Silverthorne analysis zone is located on the west side of US-9 and bounded by Maryland Creek Road in the north and Coyote Drive in the south. This location can be difficult to access for fixed route service due to the terrain of roads and distance from downtown Silverthorne. It includes residential homes and lodging. Out of the 17 zones analyzed, the highest number of trips originating in this zone traveled to the Silverthorne Downtown and Transit Center, followed by internal trips (trips originating and destined for areas within the North Silverthorne Zone itself). The Dillon, Frisco Commercial and Frisco with Main Street analysis zones were also top destinations from this origin. The top five trip destinations and the corresponding number of average daily trips originating from the North Silverthorne zone, split by day type, are displayed in **Figure 7**. **Figure 8** displays a map of the weekday trip patterns from this origin.

**Figure 7. North Silverthorne Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours.

**Figure 8. North Silverthorne Zone Outgoing Trips Map**



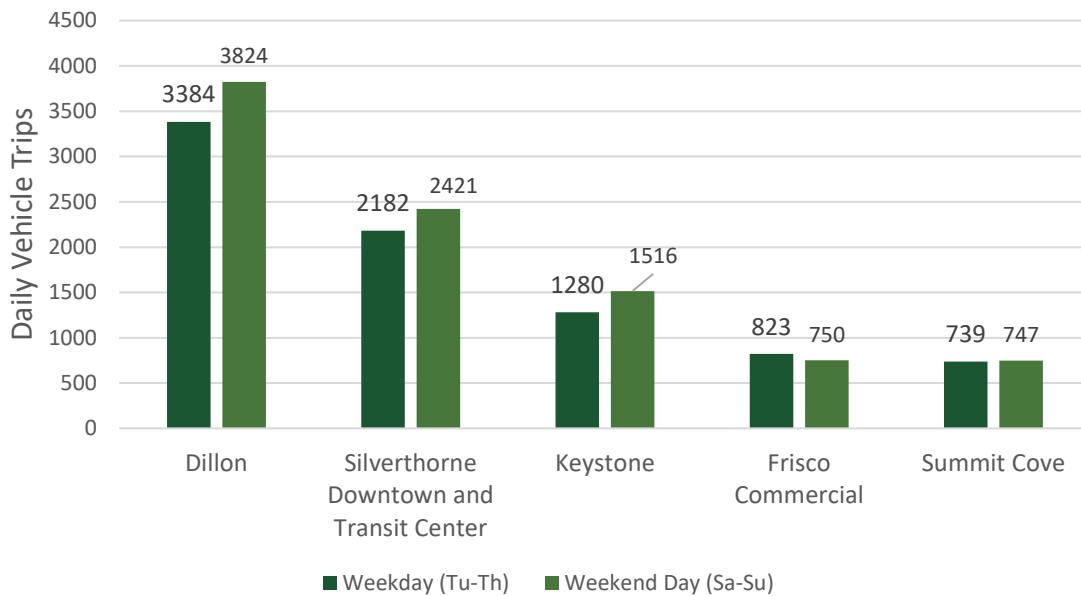
Source: StreetLight Data, May 2021 – April 2022, All Hours, Weekdays.



## Dillon

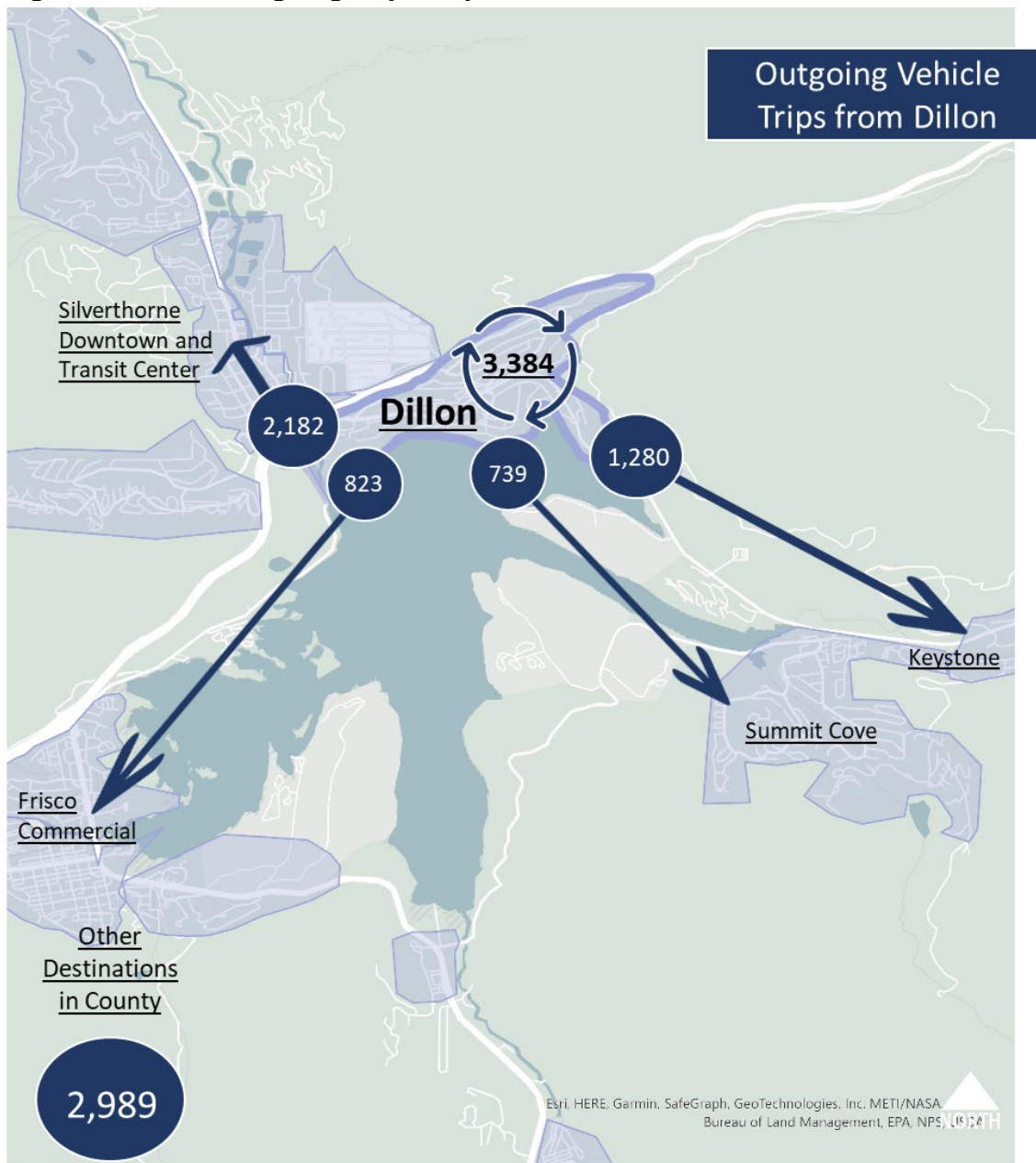
The Dillon Zone encompasses the entire Town of Dillon. The highest number of trips in the Dillon zone started and ended within the zone boundaries, as shown in **Figure 9**. The next highest zone traveled to from Dillon was the Silverthorne Downtown and Transit Center followed by Keystone, Frisco Commercial and Summit Cove zones. Average weekday trips originating from the Dillon analysis zone are also visualized in **Figure 10**.

**Figure 9. Dillon Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours.

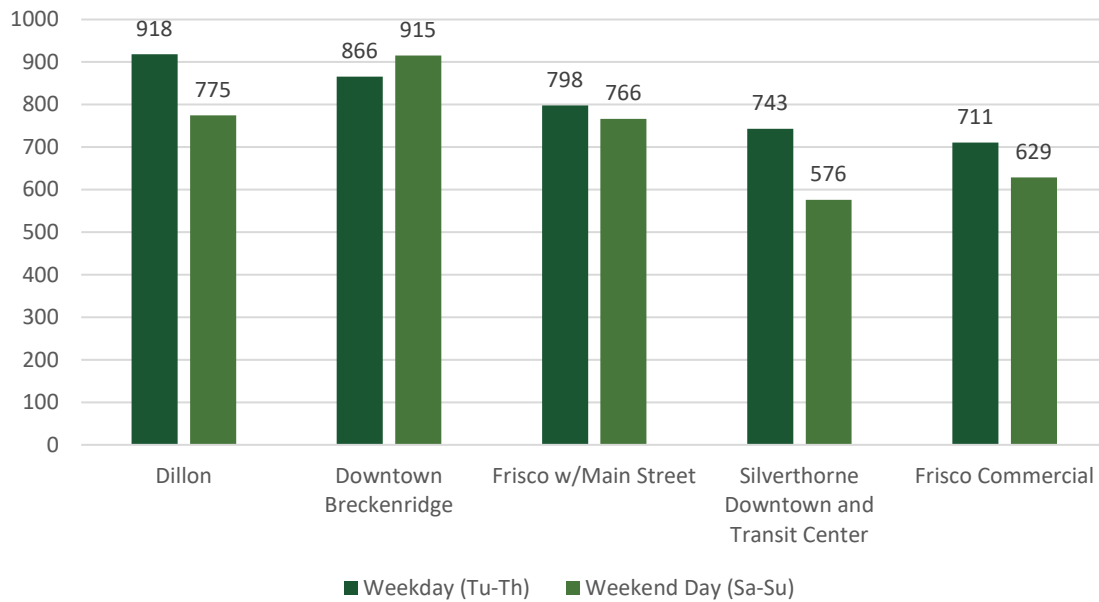
**Figure 10. Dillon Outgoing Trips Map**



### *Frisco Commercial*

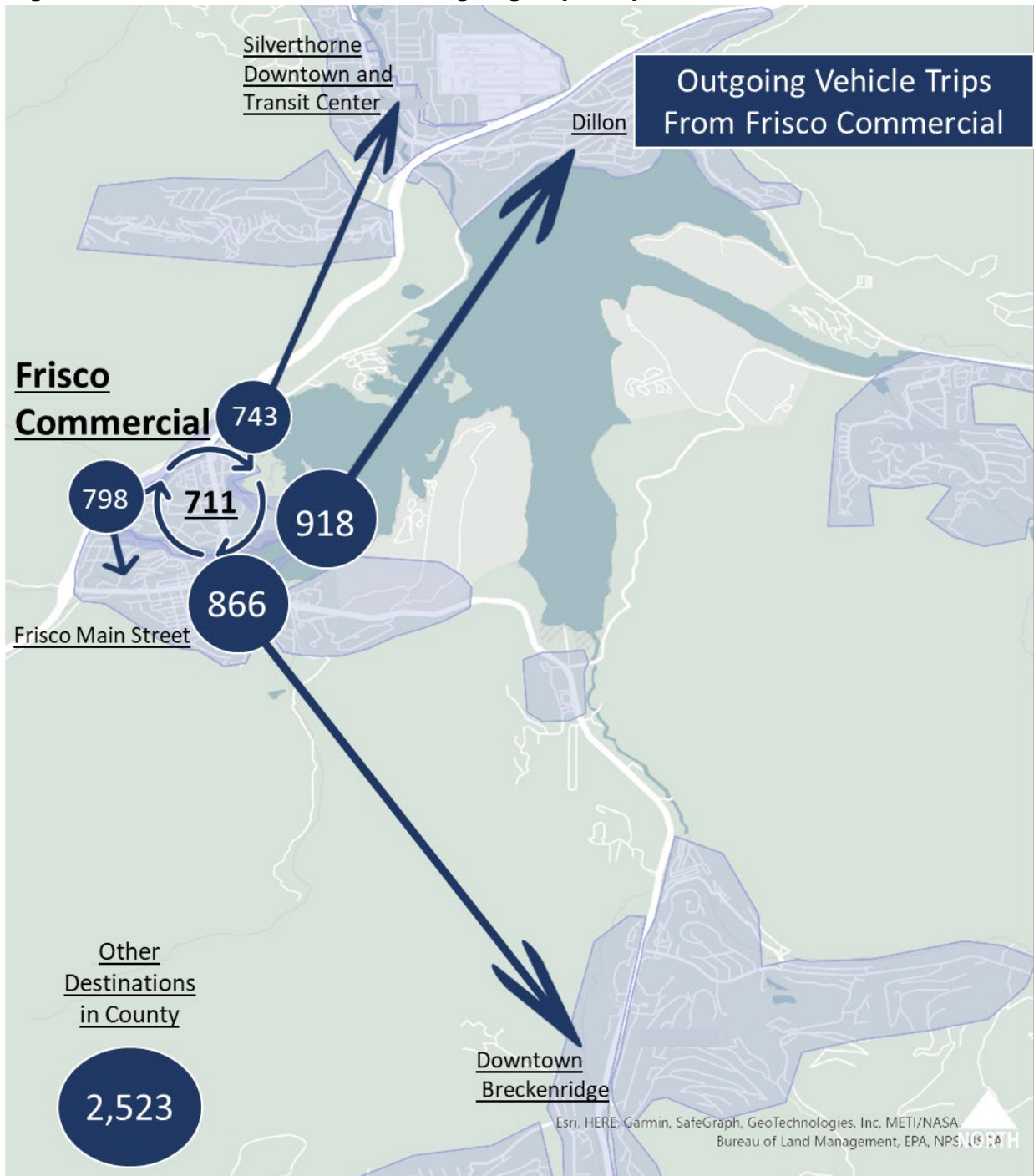
The Frisco Commercial zone includes the northern portion of Downtown Frisco and the Frisco Transit Center. The top zone destinations of trips originating in this zone were to Dillon, Downtown Breckenridge, Frisco w/main street, Silverthorne Downtown and Transit Center and within the zone itself shown in **Figure 11** and **Figure 12**.

**Figure 11. Frisco Commercial Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours.

**Figure 12. Frisco Commercial Zone Outgoing Trips Map**



Source: StreetLight Data, May 2021 – April 2022, All Hours, Weekdays

### *Frisco Main Street*

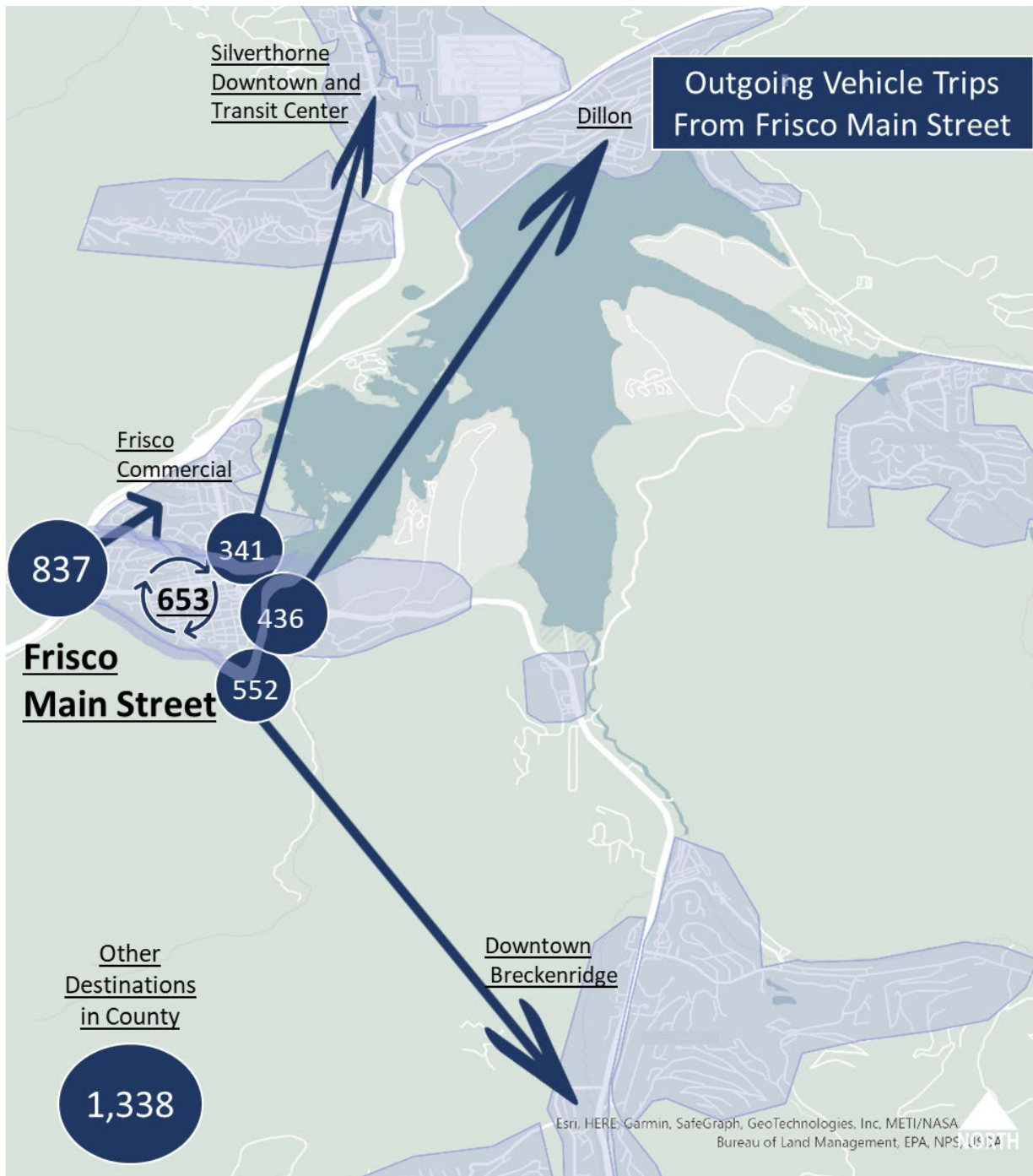
The Frisco Main Street zone is the southern portion of Frisco that includes residential areas, Main Street, and the Frisco Bay Marina. Trips originating in this zone followed a similar pattern to the Frisco Commercial zone with the highest number of trips going to the adjacent Frisco Commercial zone, followed by internal zone trips, Downtown Breckenridge, Dillon, and the Silverthorne Downtown and Transit Center zones shown in **Figure 13** and **Figure 14**.

**Figure 13. Frisco Main Street Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours

**Figure 14. Frisco Main Street Zone Outgoing Trips Map**

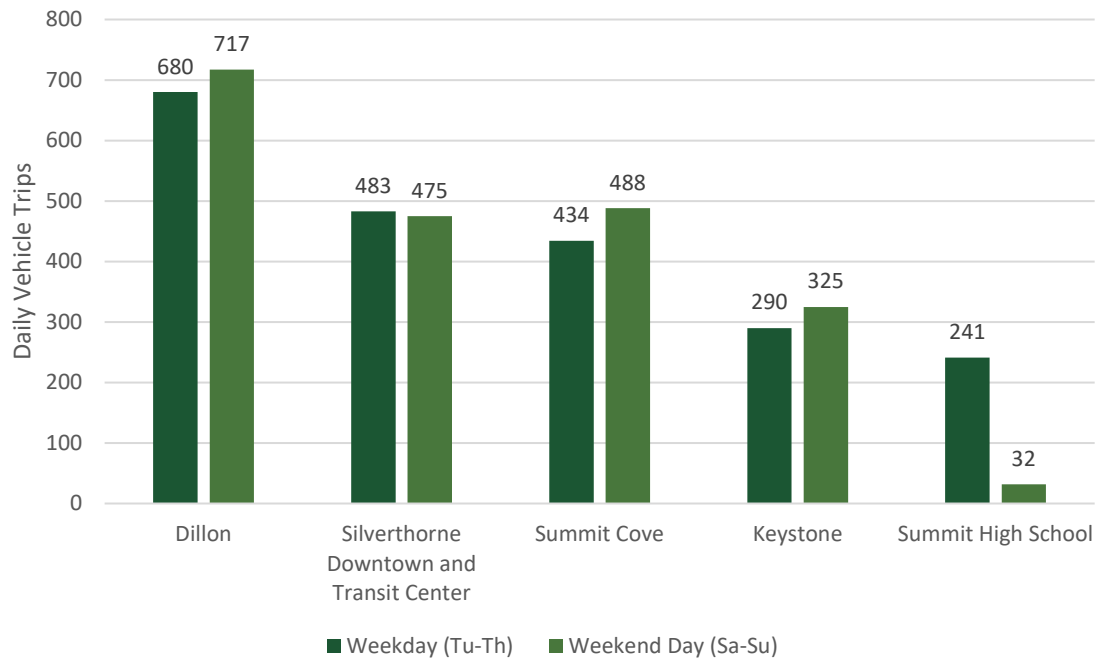


Source: StreetLight Data, May 2021 – April 2022, All Hours, Weekdays.

### Summit Cove

Summit Cove is a neighborhood in Summit County near Keystone that has one bus stop near US-6. This area has residential housing, lodging, and the Keystone Ranch Golf Course. The largest number of trips from Summit Cove traveled to Dillon, Silverthorne Downtown and Transit Center, Summit Cove, Keystone, and Summit High School shown in **Figure 15** and **Figure 16**.

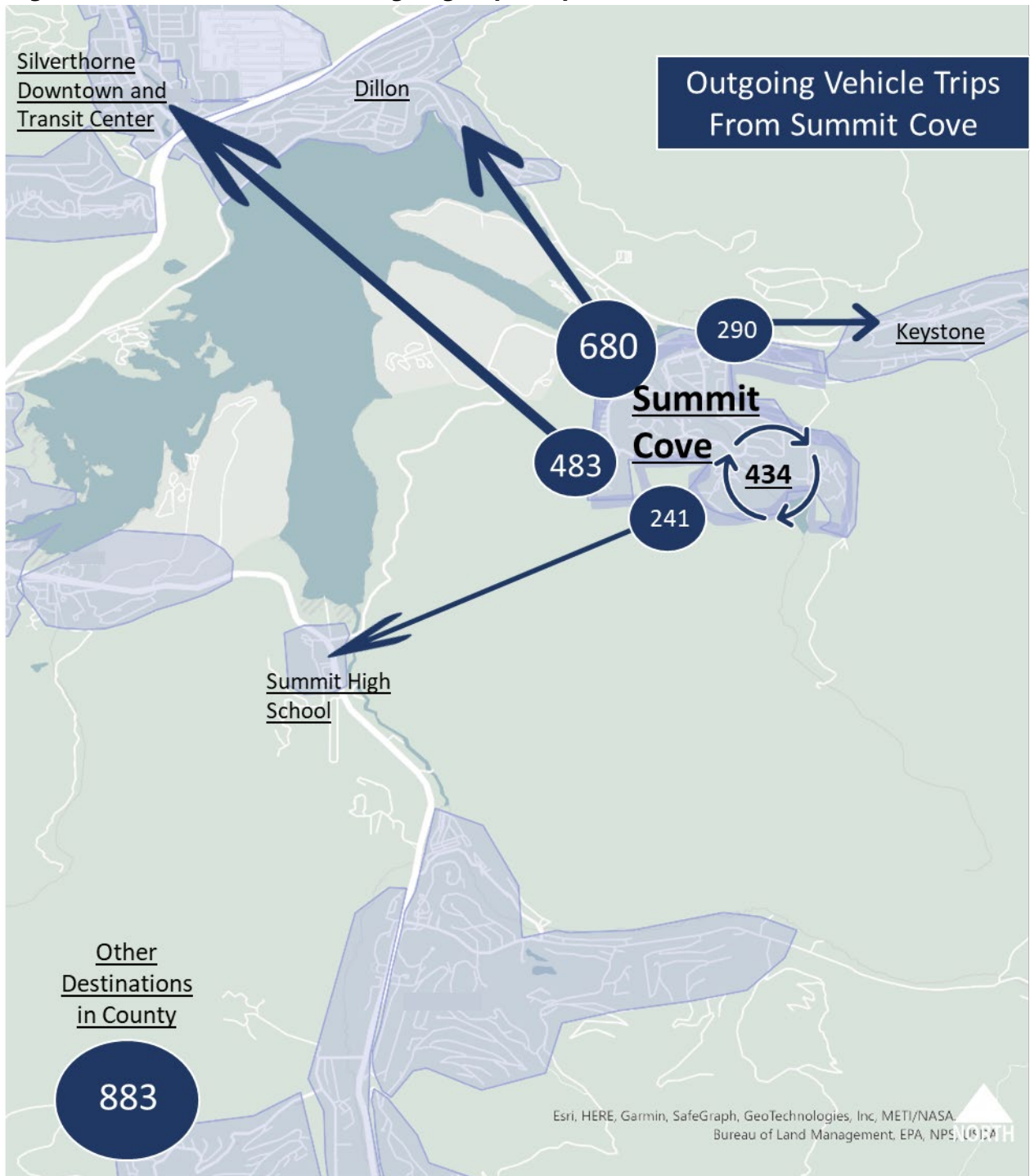
**Figure 15. Summit Cove Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours.



**Figure 16. Summit Cove Zone Outgoing Trips Map**



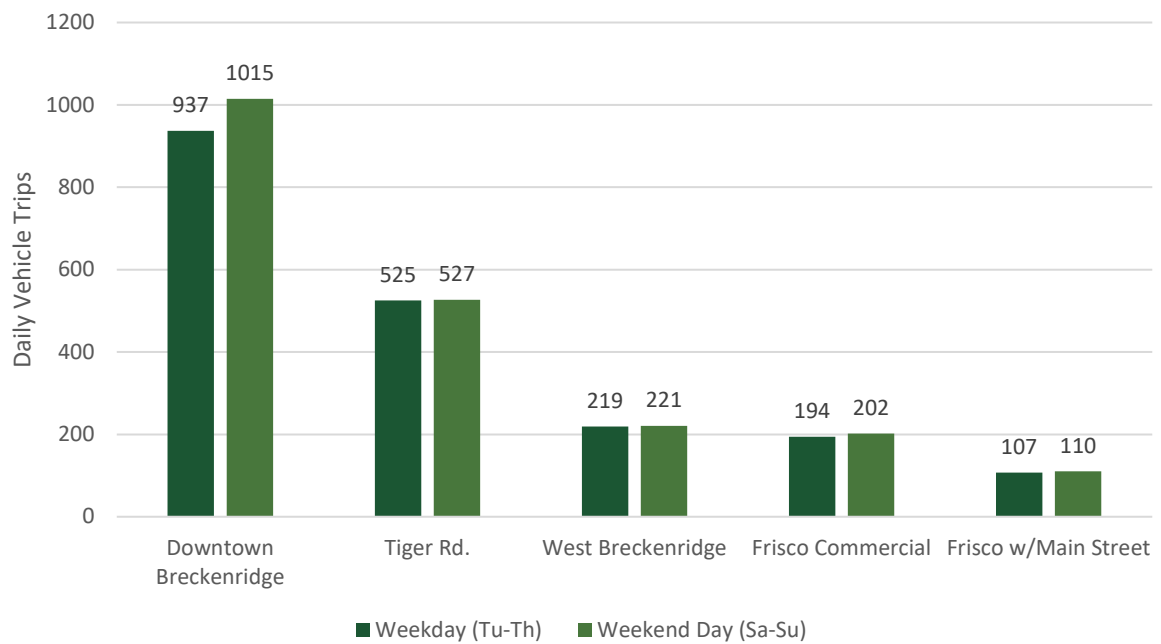
Source: StreetLight Data, May 2021 – April 2022, All Hours, Weekdays.



### *Tiger Road*

The Tiger Road zone includes Tiger Road in north Breckenridge and the residential housing to the south. The top five trip destinations from this zone traveled to Downtown Breckenridge, followed by trips within the zone, West Breckenridge, Frisco Commercial, and Frisco w/Main Street. Trips to Downtown Breckenridge comprise most trips from this zone shown in **Figure 17** and **Figure 18**.

**Figure 17. Tiger Road Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours.

**Figure 18. Tiger Road Zone Outgoing Trips Map**

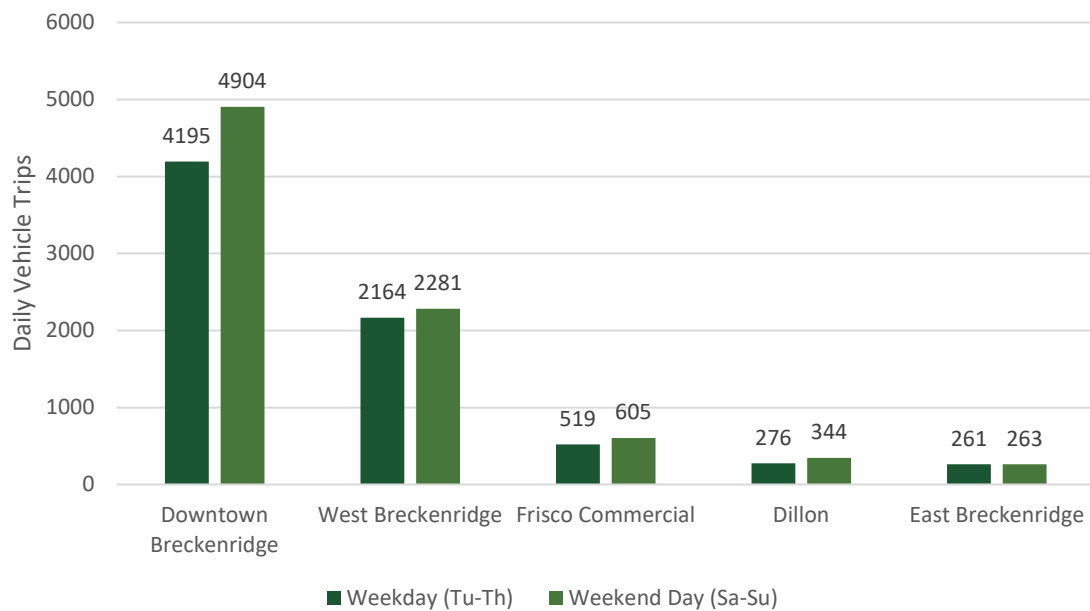


Source: StreetLight Data, May 2021 – April 2022, All Hours, Weekdays.

### *West Breckenridge (Peak 7)*

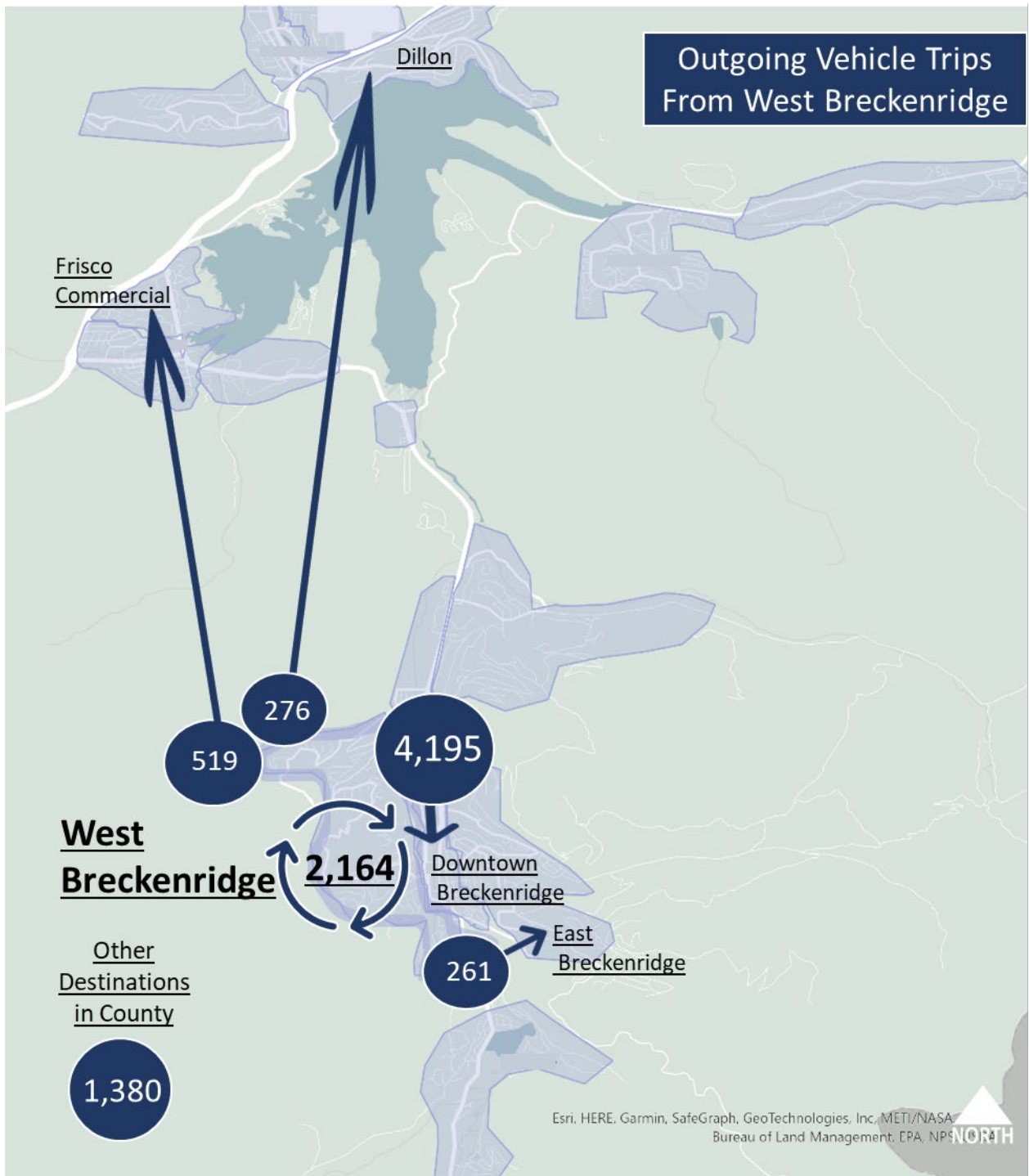
The West Breckenridge Zone consists of residential housing, lodging, and connections to ski access points. The majority of trips in this zone traveled to the nearest zone – Downtown Breckenridge. The next zones with the highest amount of trips originating from here were internal trips, Frisco Commercial, Dillon, and East Breckenridge zones shown in **Figure 19** and **Figure 20**.

**Figure 19. West Breckenridge (Peak 7) Zone Trip Patterns**



Source: StreetLight Data, May 2021 – April 2022, All Hours.

**Figure 20. West Breckenridge (Peak 7) Zone Outgoing Trips Map**



Source: StreetLight Data, May 2021 – April 2022, All Hours, Weekdays.

## Summary of All Zones

The following matrix shows the relationship of trips to/from all 17 zones including average daily trips and average weekday trips shown in **Figure 21** and **Figure 22**. The largest volumes of average daily trips occurred within or between the following zones:

- Internal Downtown Breckenridge
- Downtown Breckenridge to West Breckenridge (Peak 7 area)
- Internal Dillon
- Internal Keystone
- Silverthorne Downtown to Dillon
- Internal Silverthorne

**Figure 21. Origin-Destination Matrix – Average Daily Trips**

	Destinations																		
Origins	Blue River	Dillon	Downtown Breckenridge	East Breckenridge	Frisco Adventure Park	Frisco Commercial	Frisco w/Main Street	Keystone	Montezuma	North Silverthorne	Silverthorne Downtown and Transit Center	Silverthorne East Residential	Summit Cove	Summit High School	Tiger Rd.	West Breckenridge	Wilderness	Grand Total	
Blue River	275	50	847	59	27	95	38	25	0	2	45	5	14	37	27	179	6	1731	
Dillon	54	3619	534	108	120	831	419	1401	4	325	2294	258	752	134	112	289	767	12021	
Downtown Breckenridge	872	586	6772	1586	185	992	504	387	1	78	403	35	215	179	989	4576	171	18531	
East Breckenridge	64	108	1453	599	75	202	117	29	0	10	106	8	28	120	100	271	10	3300	
Frisco Adventure Park	22	158	181	59	120	304	154	29	0	25	123	18	42	37	24	68	41	1405	
Frisco Commercial	113	896	914	215	237	705	800	227	1	150	711	88	197	146	230	592	274	6496	
Frisco w/Main Street	37	458	565	110	142	869	711	143	0	82	333	49	113	87	106	270	132	4207	
Keystone	21	1379	411	22	38	195	140	3468	17	43	527	37	304	41	36	115	130	6924	
Montezuma		3	1	0	0	0	0	17	2		1	0	2		0	0	0	26	
North Silverthorne	4	311	82	11	36	146	90	52		427	512	22	40	41	9	27	43	1853	
Silverthorne Downtown and Transit Center	49	2342	440	109	110	760	344	490	1	536	2323	285	450	134	96	251	763	9483	
Silverthorne East Residential	4	226	38	6	26	83	50	50	0	25	249	138	24	55	3	8	39	1024	
Summit Cove	13	705	210	23	52	179	121	308	2	40	483	20	460	176	22	74	64	2952	
Summit High School	28	137	240	94	53	250	95	32		35	138	41	119	125	43	92	38	1560	
Tiger Rd.	23	109	981	89	32	204	108	40		11	89	5	22	55	540	225	13	2546	
West Breckenridge	190	308	4510	265	92	574	260	123	0	30	215	11	69	110	229	2276	39	9301	
Wilderness	7	689	199	10	46	238	153	158		48	759	38	70	78	12	41	509	3055	
Grand Total	1776	12084	18378	3365	1391	6627	4104	6979	28	1867	9311	1058	2921	1555	2578	9354	3039	86415	

Green indicating higher volumes. Source: StreetLight Data, May 2021 – April 2022, Average Daily Trips.

**Figure 22. Origin-Destination Matrix – Average Weekday Trips**

Origins	Destinations	Blue River	Dillon	Downtown Breckenridge	East Breckenridge	Frisco Adventure Park	Frisco Commercial	Frisco w/Main Street	Keystone	Montezuma	North Silverthorne	Silverthorne Downtown and Transit	Silverthorne East Residential	Summit Cove	Summit High School	Tiger Rd.	West Breckenridge	Wilderness	Grand Total
Blue River		283	46	802	62	30	90	39	27		2	40	4	11	49	30	186	7	1708
Dillon		53	3384	494	105	129	823	403	1280	5	307	2182	240	739	176	103	263	711	11397
Downtown Breckenridge		834	549	6412	1606	202	909	477	355	0	76	394	42	234	211	945	4312	158	17716
East Breckenridge		66	101	1435	591	88	212	141	28	0	11	99	8	31	165	103	268	11	3358
Frisco Adventure Park		20	175	203	72	127	332	156	25	0	35	146	23	51	48	24	69	44	1550
Frisco Commercial		108	918	866	219	252	711	798	209	1	166	743	101	225	191	229	546	276	6559
Frisco w/Main Street		37	436	552	132	141	837	653	131	0	95	341	53	122	115	109	281	122	4157
Keystone		24	1219	386	23	34	175	128	3111	19	41	480	37	278	54	34	104	116	6263
Montezuma			2	0	0		0	0	20	1		1	0	3					27
North Silverthorne		3	298	73	14	53	172	94	49		434	485	21	49	57	8	26	41	1877
Silverthorne Downtown and Transit Center		52	2218	426	103	127	782	351	455	1	540	2266	266	454	174	93	227	708	9243
Silverthorne East Residential		3	206	42	5	34	89	52	55	0	21	226	133	22	78	3	9	33	1011
Summit Cove		13	680	216	26	57	206	119	290	2	45	483	20	434	241	23	89	67	3011
Summit High School		35	186	291	126	69	342	123	44		50	185	55	152	166	58	116	53	2051
Tiger Rd.		25	94	937	84	33	194	107	33		8	92	5	20	73	525	219	14	2463
West Breckenridge		195	276	4195	261	91	519	259	111	0	26	200	9	80	146	225	2164	38	8795
Wilderness		6	619	183	10	53	249	138	142		41	694	36	73	111	12	40	496	2903
Grand Total		1757	11407	17513	3439	1520	6642	4038	6365	29	1898	9057	1053	2978	2055	2524	8919	2895	84089

Green indicating higher volumes. Source: StreetLight Data, May 2021 – April 2022, Average Weekday Trips.

## Transit Access Assessment

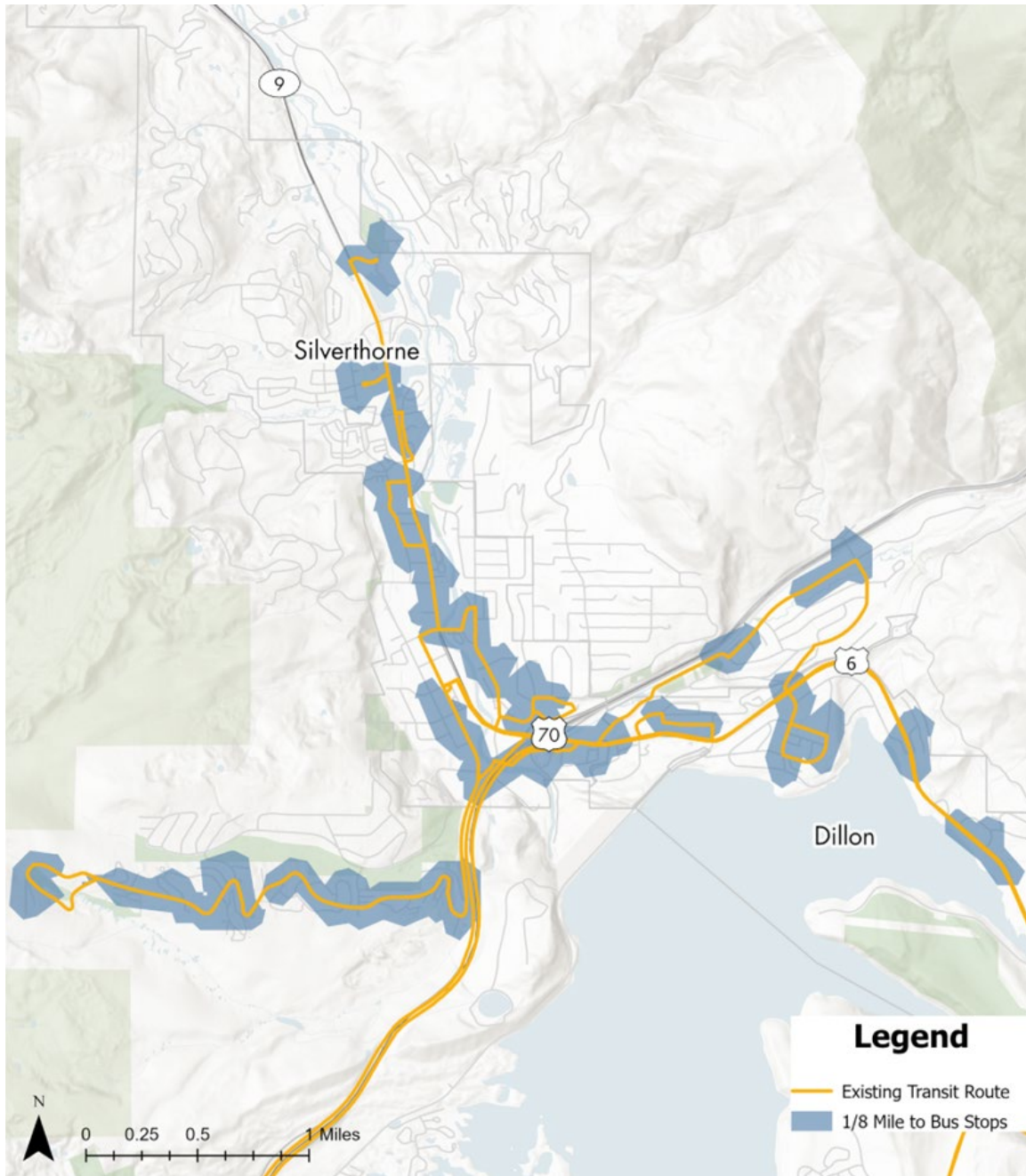
The primary goal of the transit access assessment is to visualize the geographic coverage of existing services from Summit Stage, Breckenridge Free Ride and the Keystone Resort shuttles to identify where coverage gaps exist. This information will help determine which key areas need more first/last mile service and may be potential candidates for microtransit zones. To determine what areas are lacking sufficient transit access, a 1/8<sup>th</sup> of a mile buffer distance to bus stops on the road network was applied for spatial analysis.

### Transit Access in Silverthorne/Dillon

This region generally has extensive transit coverage for key origins and destinations, as well as Wildernest. However, there are transit access gaps in the upper Dillon Valley, North Silverthorne, and other less dense neighborhoods of Silverthorne. Additionally, in Silverthorne about 6% of the population living in census tract one of Summit County have an income below the poverty level. This number increases to 10% in the Dillon area (census tract two of Summit County). Income can be a significant factor in determining whether individuals will choose to ride transit or not, and providing sufficient transit to those with lower incomes can increase access to key destinations. **Figure 23** depicts the areas within 1/8<sup>th</sup> mile of an existing bus stop in Silverthorne and Dillon.



**Figure 23. Transit Access – Silverthorne/Dillon**



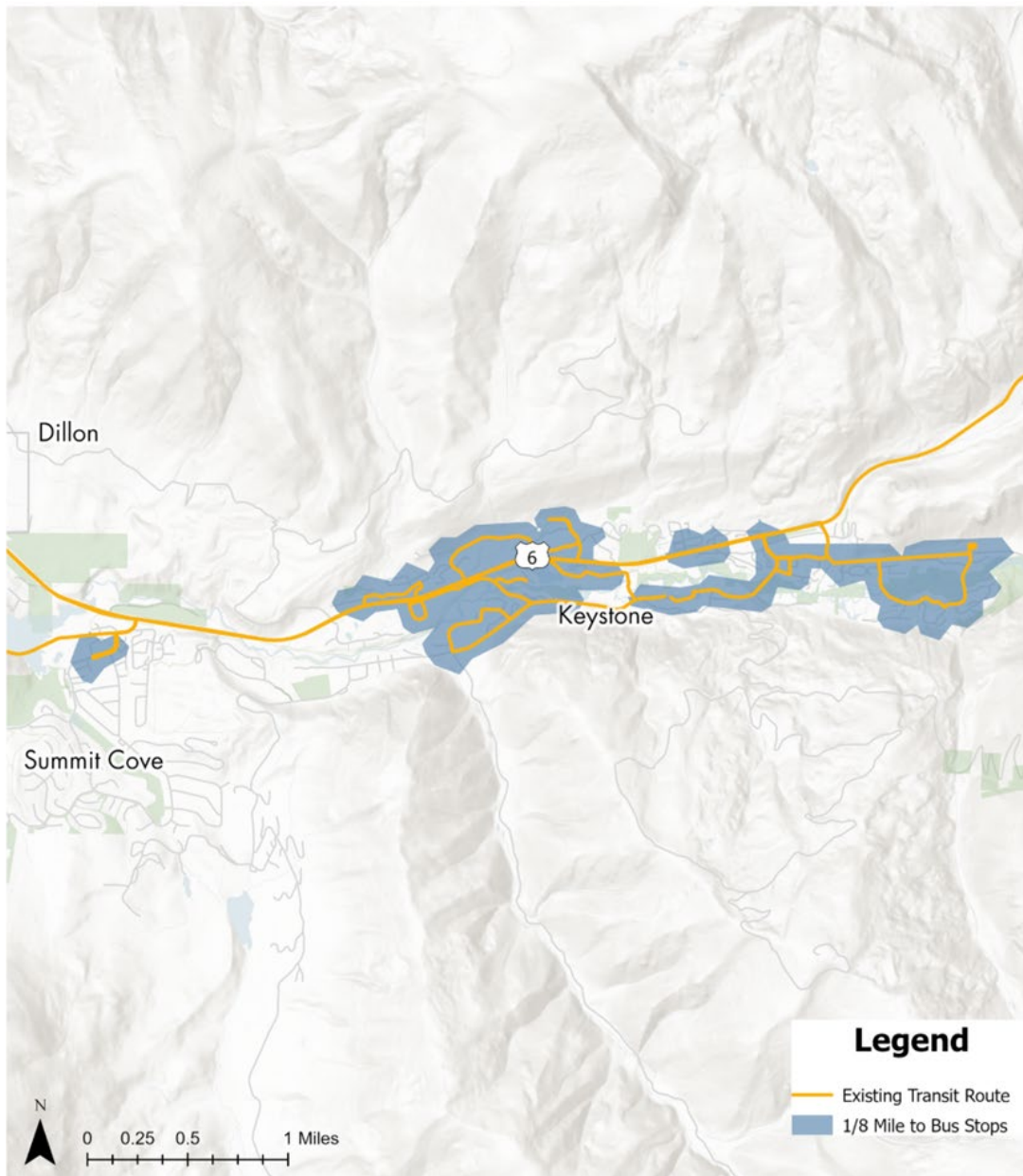
Source: Fehr & Peers, 2023.



### Keystone/Summit Cove

Keystone has excellent transit coverage, mostly due to the seasonal resort shuttles. In Summit Cove, however, there is a significant lack of transit coverage, as shown in **Figure 24**. Summit Cove residents will likely depend on a personal vehicle or shared ride to get to desired destinations. Summit Cove has also previously been identified as an area that is difficult to serve by existing transit.

**Figure 24. Transit Access – Keystone/Summit Cove**



Source: Fehr & Peers, 2023.

### Frisko/North Breckenridge

The transit network prioritizes service along key commercial corridors, but this results in some coverage gaps within residential areas, especially in denser Frisko communities shown in **Figure 25**. This area is in census tract three of Summit County and has 10.3% of the population living with a disability, which is the highest out of all transit accessibility locations analyzed in Summit County, highlighting the need for accessible public transportation in this area.

**Figure 25. Transit Access – Frisko/North Breckenridge**

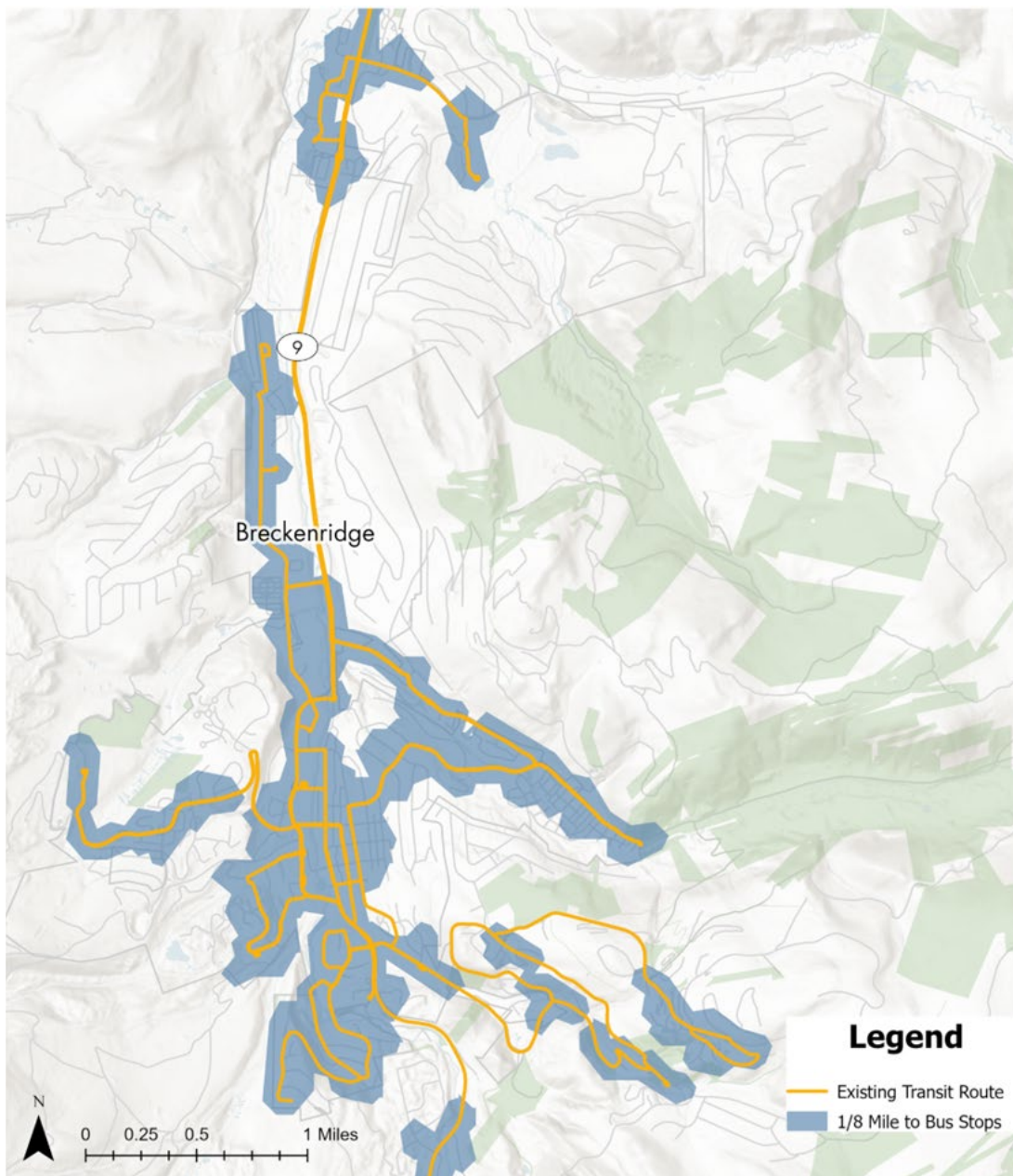


Source: Fehr & Peers, 2023.

## Breckenridge

Most of Breckenridge has excellent transit coverage provided by Summit Stage and Breckenridge Free Ride. The few areas that are outside of 1/8 mile of a bus stop are in less dense residential areas along Ski Hill Road/American Way (north of Peak 7) and areas east of Highway 9 between Wellington neighborhood and Tiger Road shown in **Figure 26**.

**Figure 26. Transit Access – Breckenridge**



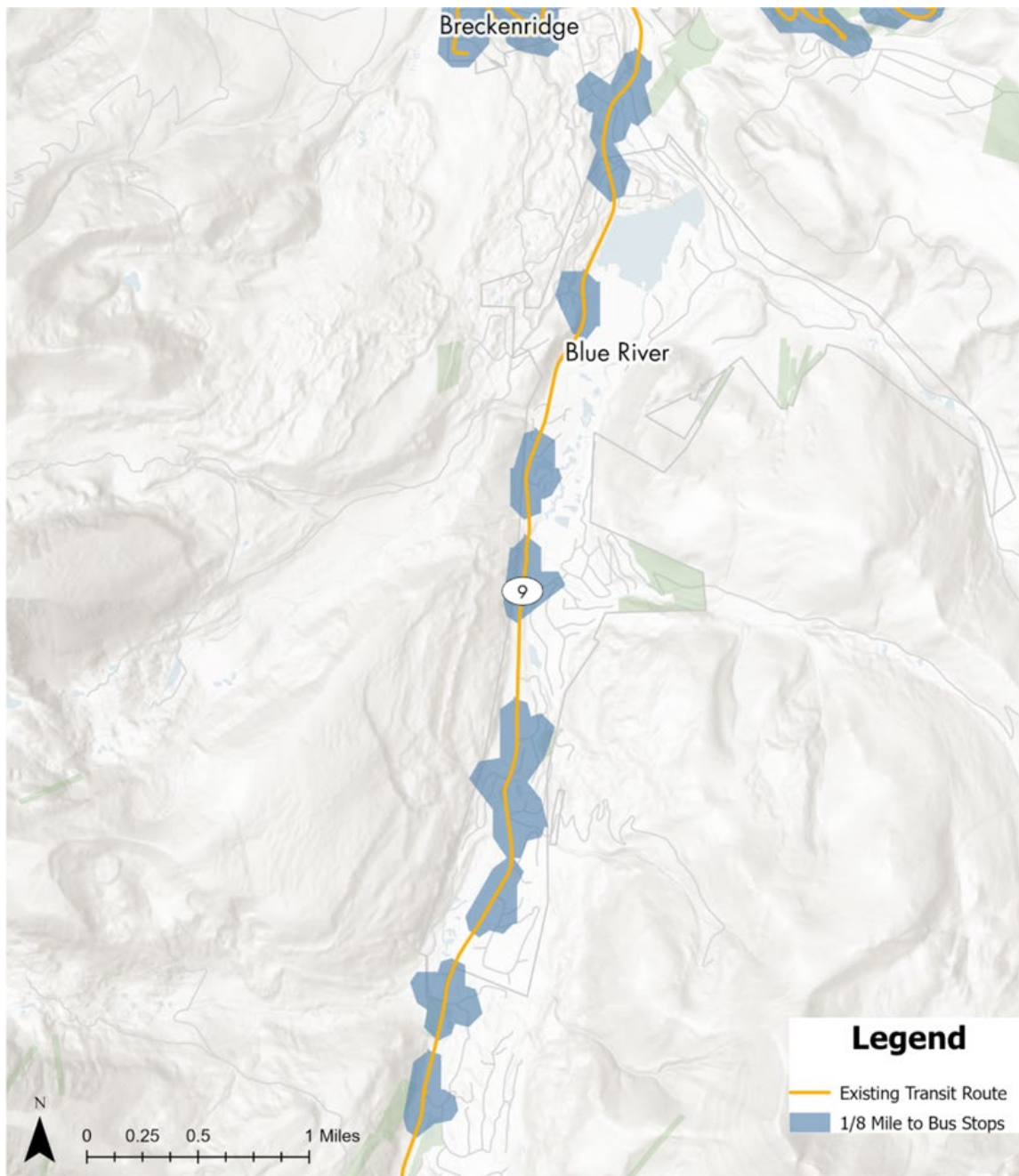
Source: Fehr & Peers, 2023.



## Blue River

While Summit Stage currently offers extensive coverage along Highway 9, some less densely populated residential areas around Blue River Road experience service gaps shown in **Figure 27**.

**Figure 27. Transit Access – Blue River**

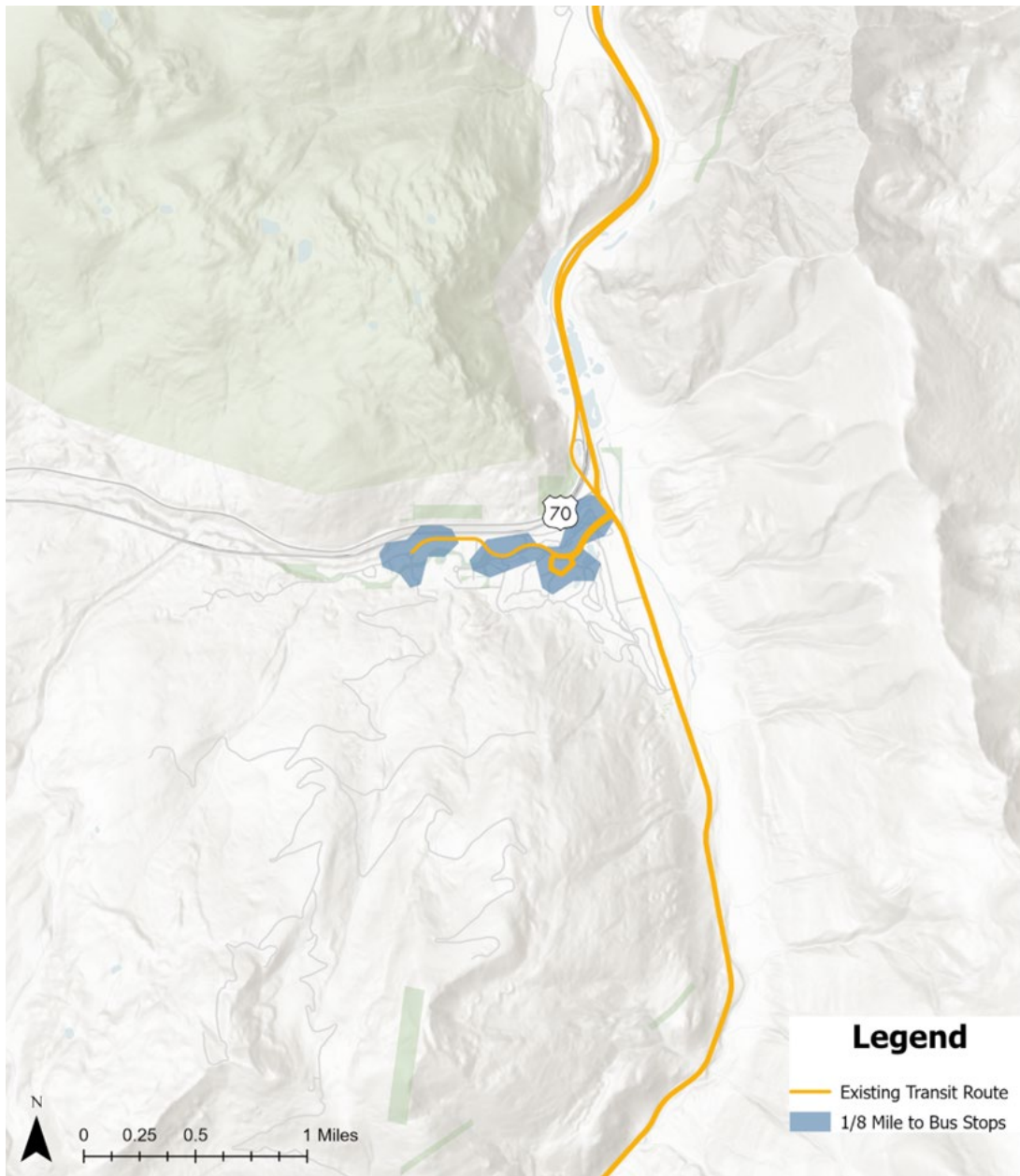


Source: Fehr & Peers, 2023.

## Copper Mountain

Summit Stage routes cover most of Copper Mountain, with additional connections across base villages provided by Copper's shuttles (not included in map) shown in **Figure 28**.

**Figure 28. Transit Access – Copper Mountain**



Source: Fehr & Peers, 2023.

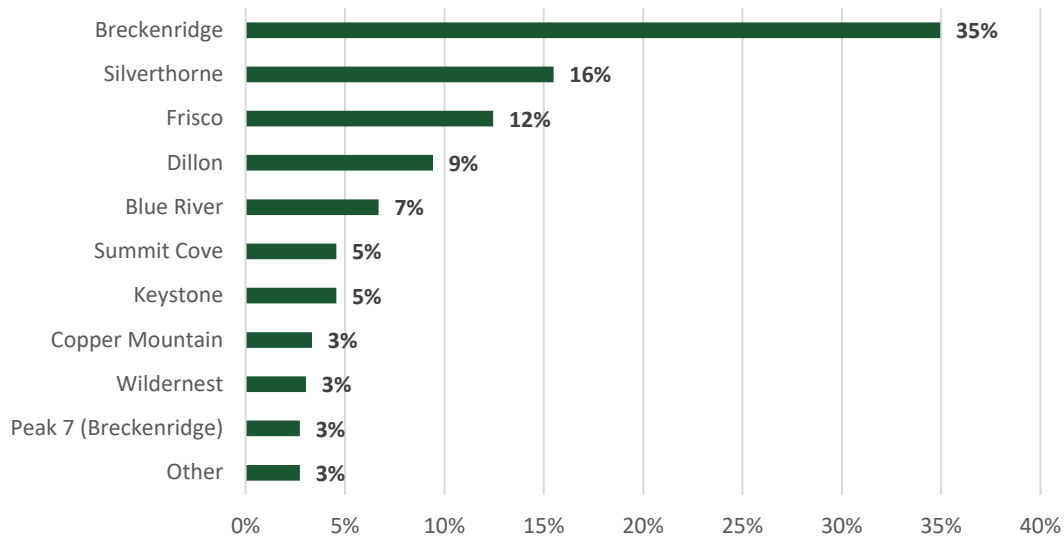
## Public Engagement Results

Multiple community engagement touchpoints were employed in the study, including two stakeholder group meetings, pop-up events at various transit centers, and one online survey. The survey helped understand current transit use and challenges, gauged interest in a potential on-demand service, and provided respondents a chance to interactively map desired destinations. The survey accepted responses between the beginning of September and end of October 2023. Survey respondents could choose from ten languages to complete the survey, including English and Spanish among others. The survey received 378 total responses, a relatively high response rate for a survey of this type when compared against other similar communities. The input from this survey is described below.

### Respondent Demographics

Respondents to the online survey were presented with questions to describe their affiliation with Summit County, residence within the County, access to a car, age, race/ethnicity, and residential building type. The questions about access to a car, age, race/ethnicity, and residential building type were optional questions. These questions were asked to ensure that the survey reached a representative population. About 80% of respondents indicated that they live in the County, while 10% indicated that they own a vacation home in Summit County. The remainder of the respondents go to work, school, access services, or recreate in the County. Those who live in Summit County were asked to indicate where specifically they reside, and the largest portion of respondents indicated they reside in Breckenridge (35%), followed by those who reside in Silverthorne (16%), and then those who live in Frisco (12%), as shown in **Figure 29**. It should be noted that for many of those who answered “other” as their residence in Summit County were mostly in unincorporated areas either outside of Silverthorne or Breckenridge.

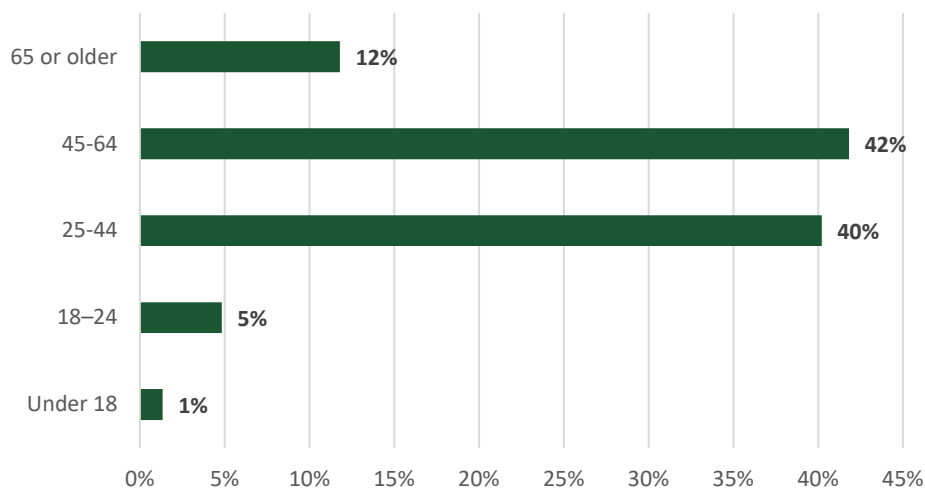
**Figure 29. Home Locations of Survey Respondents**



Source: Fehr & Peers, 2023.

When asked about access to a car, 79% of respondents indicated they do have access to a car, and some respondents clarified in open-ended comments that they either share a car with another member of their family or would prefer to utilize public transportation instead of driving their car. Most respondents were between the ages of 25 and 64, but there were responses from people younger than 24 and those who are 65 and older, as shown in **Figure 30**.

**Figure 30. Age of Survey Respondents**

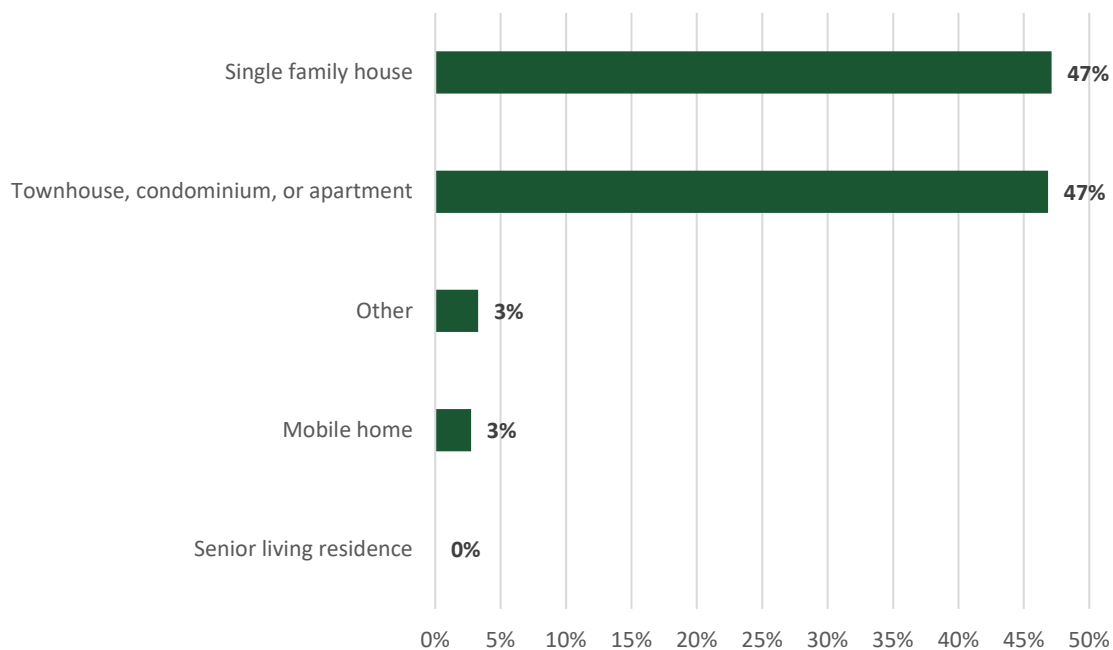


Source: Fehr & Peers, 2023.

Furthermore, 79% of respondent identify as white, and 13% of respondents identify as Hispanic or Latino. These are both demographic statistics that are in line with the Summit County community profile, as there are 80% of people in Summit County who identify as “White Alone, not Hispanic or Latino” and 15% of people in Summit County who identify as “Hispanic or Latino”, according to the U.S Census.

Finally, most survey respondents reside in a single-family house, townhouse, condominium, or apartment, as shown in **Figure 31**.

**Figure 31. Building Type of Survey Respondents**



Source: Fehr & Peers, 2023.

### Use and Challenges of Existing Transit

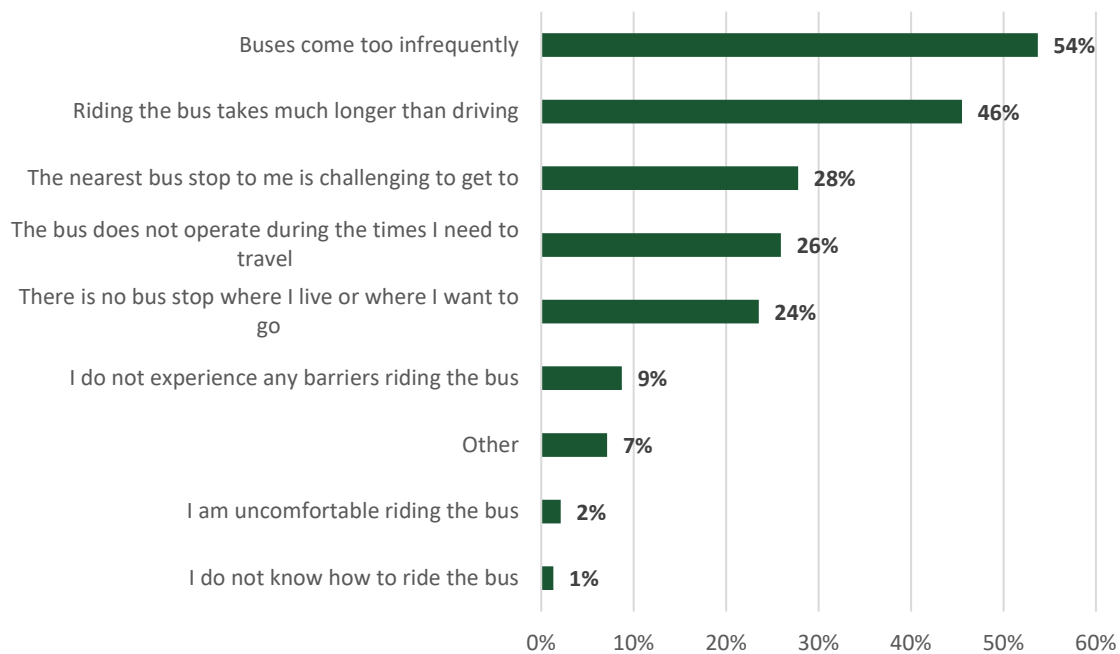
Survey respondents were asked how frequently they use the existing Summit Stage buses, and what challenges they encounter to riding the bus. The largest portion of respondents (40%) indicated that they ride the bus less than once per week, followed by almost a quarter of respondents who said they never ride the bus. About 17% of respondents indicated that they ride the bus most days, while 12% said they ride the bus a few days a week.

The expressed challenges to riding the bus are displayed in **Figure 32**. More than half of the respondents indicated that a challenge to riding the bus is the infrequency of buses, followed by the fact that riding the bus takes much longer than driving. These sentiments are supported in the open-ended comments, for which the largest portion of comments specifically noted that the



existing frequency of buses needs improvement to meet their transportation needs. Other challenges that respondents expressed about riding the existing buses include challenges in getting to a bus stop and buses not operating during the times that respondents need to travel. In fact, requests for later service, whether it be on existing service or future service, were also a common theme in the open-ended comments received.

**Figure 32. Reported Challenges/Barriers to Riding the Bus**

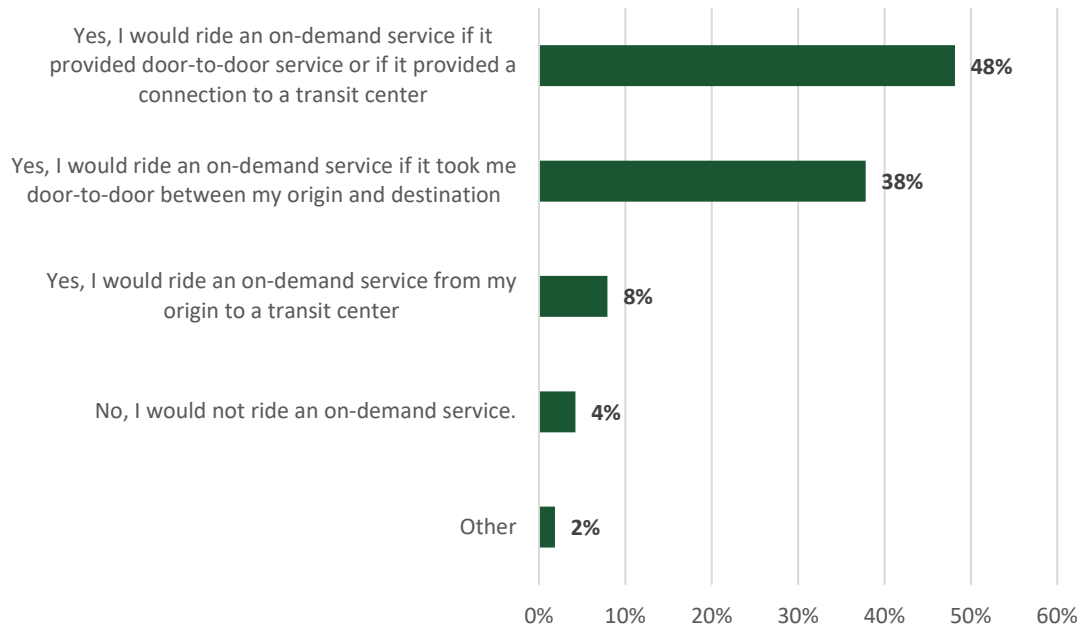


Source: Fehr & Peers, 2023.

### Interest in New On-Demand Service

When presented with the idea of Summit Stage potentially operating a new on-demand microtransit service, 4% of respondents indicated that they would not be interested in riding the service, 48% of respondents indicated that they would ride the new service if it provided door-to-door service or connected to a transit center, and 38% would ride if it provided door-to-door service between the rider's trip origin and trip destination. Full results are shown in **Figure 33**.

**Figure 33. Reported Interest in Using Microtransit**



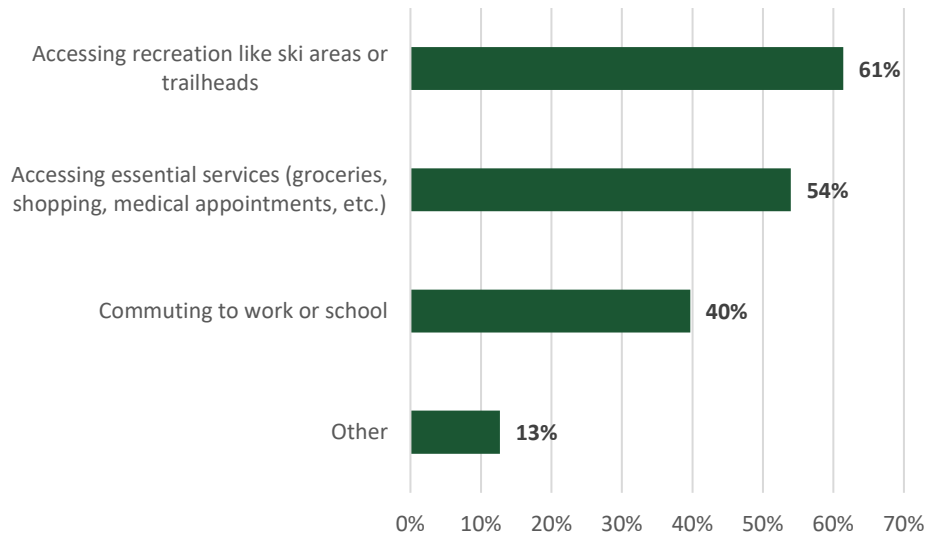
Source: Fehr & Peers, 2023.

Furthermore, when asked about comfortability with different scheduling modes for the service, 58% of respondents indicated they would be comfortable with scheduling a ride using a smartphone app, while 37% indicated they would be comfortable with scheduling a ride by either using a smartphone or by calling in.

In terms of location preference for this service, the largest portion of respondents (53%) would like to see this new service in Breckenridge, followed by Frisco (41%) and Silverthorne (36%). Notably, this response pattern resembles the areas where survey respondents indicated they reside. There were also 12% of respondents that indicated "other" as their preferred location to implement the service, and the comment responses most commonly mention on-demand service in Peak 7 and on-demand service that connects different communities throughout the County (such as Breckenridge to Keystone).

When asked about trip purpose when using the potential on-demand microtransit service, the largest portion of respondents indicated they would use the service to access recreation areas, followed by those who would access essential services, and followed by those who would commute to work or school, as shown in **Figure 34**. For the 13% of respondents who indicated "other" as their response, the common themes of comments included using the service to travel to event venues, going out to dinner, and in harsher weather conditions.

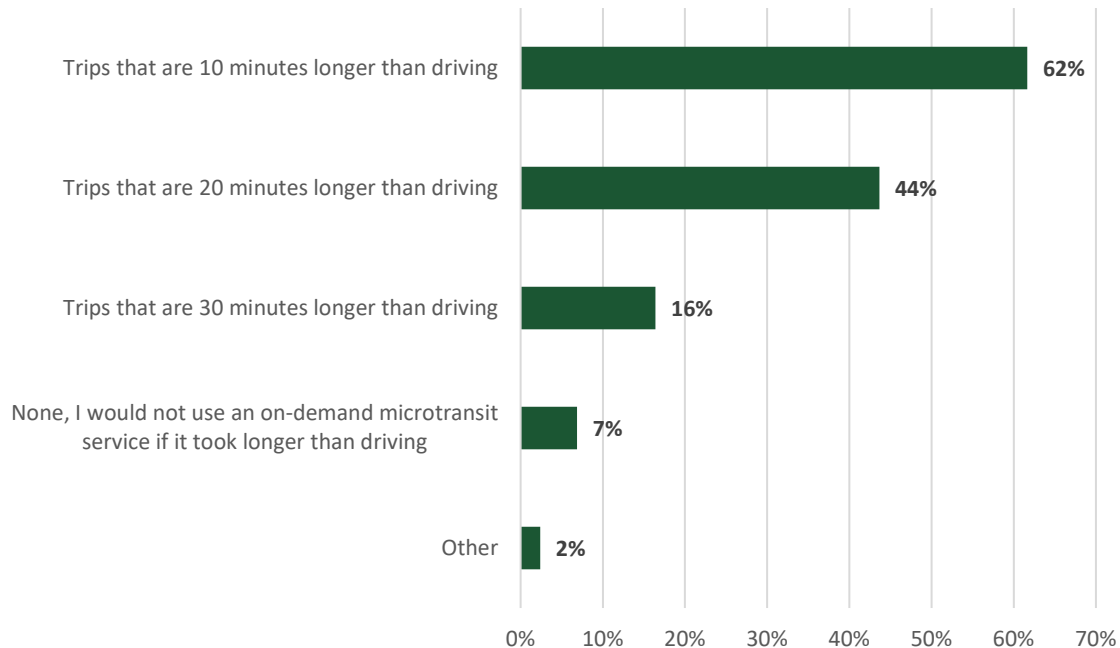
**Figure 34. Reported Microtransit Trip Purposes**



Source: Fehr & Peers, 2023.

Another question targeted at gauging interest for a new on-demand microtransit service asked respondents what additional amount of travel time the rider would be comfortable with if riding on-demand microtransit service took longer than driving but less time than taking the Summit Stage bus. About 7% of respondents indicated they would not take the service if it took longer than driving, and the largest portion of respondents said they would be comfortable with trips that are ten minutes longer than driving, as shown in **Figure 35**. There was also a significant portion of respondents comfortable with trips twenty minutes longer than driving.

**Figure 35. Willingness to Use Microtransit if it Took Additional Time**

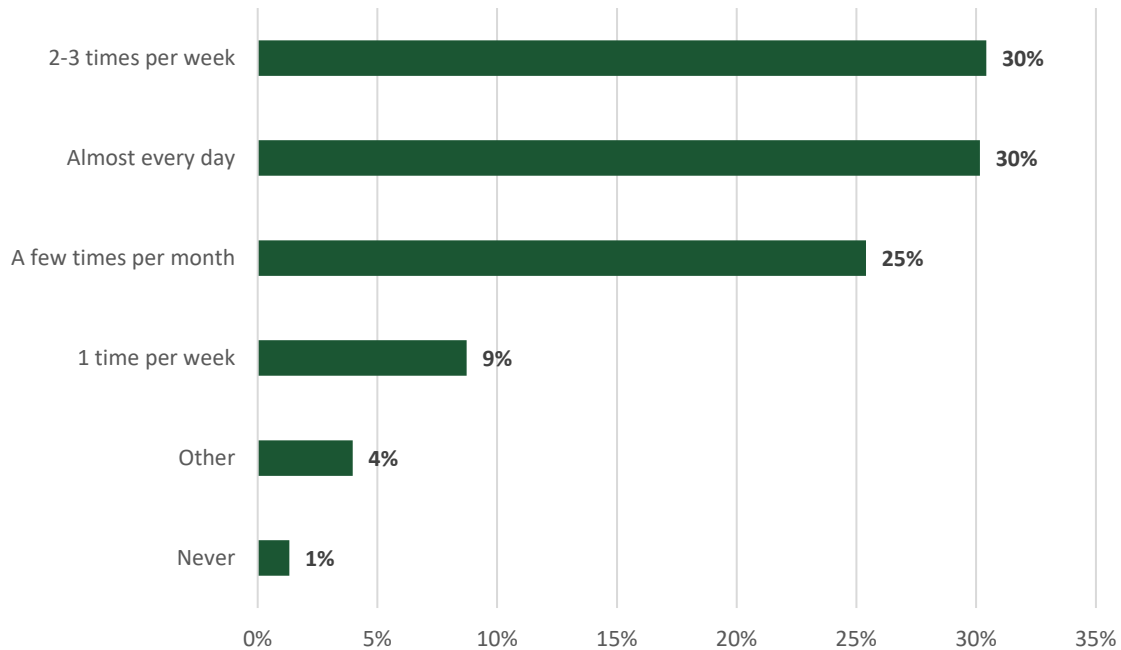


Source: Fehr & Peers, 2023.

### **Preference of New On-Demand Service Characteristics**

The survey also asked about the preferred microtransit service characteristics riders would like to see, including price and service hours. When asked how often they would ride the service if it cost two dollars per ride, the largest portion of respondents (37%) indicated they would ride a few times per month, 12% said they would ride it almost every day, and 6% said they would never ride it. When asked how often they would ride the service if it was free, 60% of respondents indicated they would either ride almost every day or two to three times per week, as shown in **Figure 36**. Those who responded with “other” to either question about service cost emphasized the need for it to be free while also being reliable and quick.

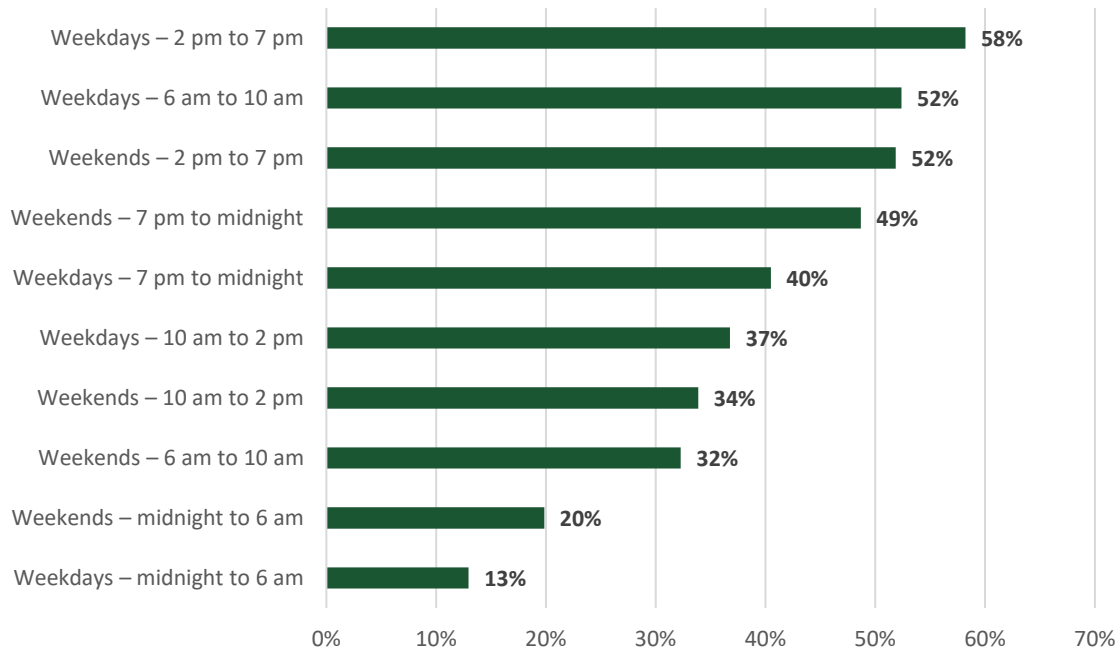
**Figure 36. Reported Frequency of Microtransit Use (Free Service)**



Source: Fehr & Peers, 2023.

Furthermore, the survey asked what days and times of day respondents would likely use the service. The top responses, as seen in **Figure 37**, include riding the service on weekdays during peak traffic hours (6AM to 10AM and 2PM to 7PM), followed by weekend afternoons and evenings (2PM to midnight). These service characteristics help with planning the initial service, prioritizing the hours in which the public expressed a desire to ride the service. This does not mean, however, that other days of the week or times of day are less important to consider, as all riders will have different trip purposes on the service.

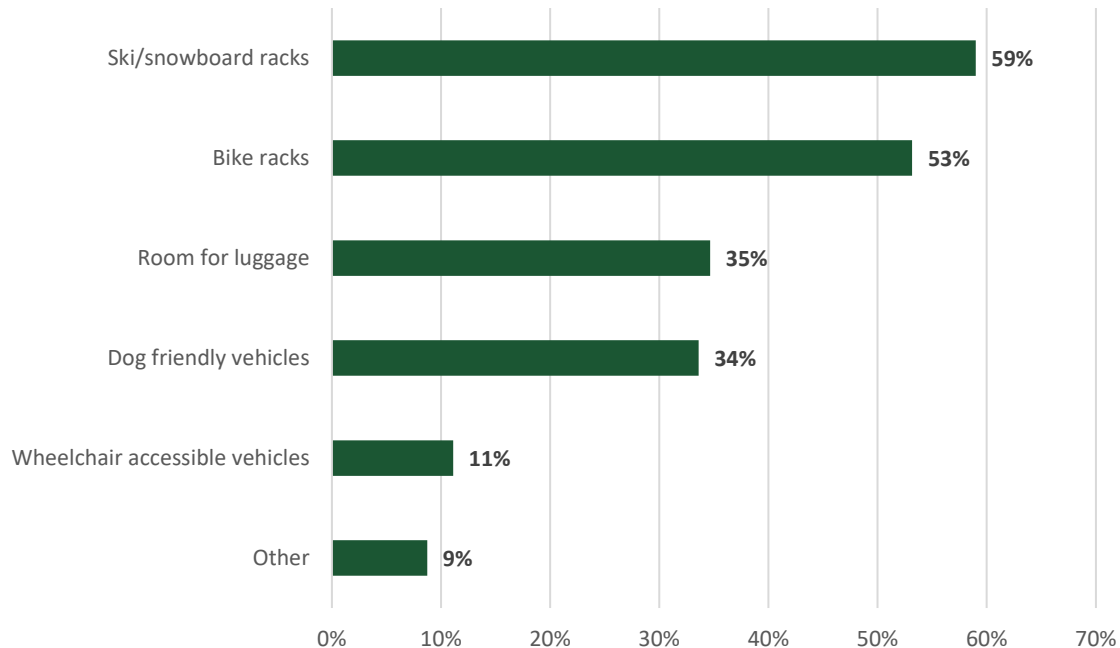
**Figure 37. Reported Usage Times For a Microtransit Service**



Source: Fehr & Peers, 2023.

Another service characteristic that the survey asked about is the impact of potential amenities of the service. When asked what amenities would make survey respondents most likely to use the potential service, the largest portion of respondents indicated they would be in favor of ski/snowboard racks and bike racks, as seen in **Figure 38**.

**Figure 38. Desired Amenities For a Microtransit Service**



Source: Fehr & Peers, 2023.

### Other Comments

As referred to throughout the previous sections, survey respondents had multiple opportunities to provide general and specific open-ended responses. Toward the end of the survey, specifically, survey respondents were asked to provide any other comments about needed transit service in Summit County. Overall, common themes of these comments can be described as supportive of new on-demand service, a desire to improve frequency of existing Summit Stage buses, a desire to implement an on-demand service in the Peak 7 neighborhood, and a desire to have more direct connections to regional transportation opportunities. Other comments also included a desire for later service, direct connections between Summit County communities, and a desire to have this service focus more on local transit needs rather than visitor transit needs.

### Destinations Mapping

As part of the online survey, community members had an opportunity to interact with a map of Summit County to give input on desired trip origins and trip destinations. **Figure 39** displays the origins and destinations that survey respondents provided, many of which were located in Breckenridge (again, in correlation with the high number of Breckenridge survey respondents). Within Breckenridge, many of the indicated trip origins are around the single-family homes along Blue Ridge Road and American Way in the northwestern parts of the Town. Most of the desired

destinations in this area of Summit County are near commercial areas along Airport Road and Highway 9. There were also some desired destinations at Peak 7 and Peak 8.

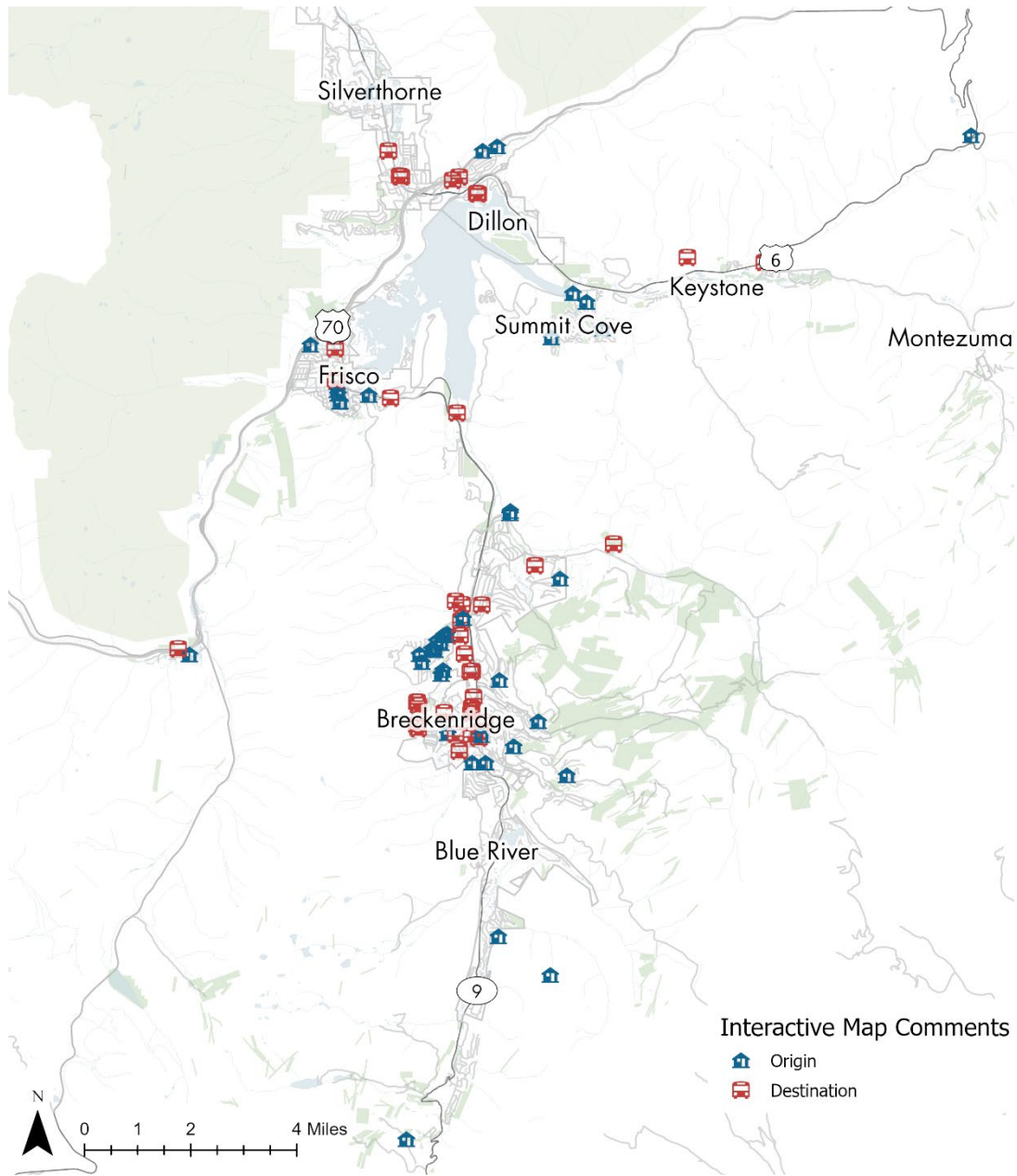
Another concentration of trip origins and destinations is within Frisco, with many desired origins located south of Main Street, and desired destinations located near the Highway 9 and I-70 intersection.

There were not many trip origins indicated within Silverthorne, but many of the desired destinations are along the commercial areas of Highway 9.

Finally, there were some notable concentrations of trip origins near Summit Cove and Blue River.



**Figure 39. Desired Origins and Destinations For a Microtransit Service**



Source: Fehr & Peers, 2023.

## **Key Takeaways of Community Engagement**

Community engagement plays a vital role in envisioning future transportation options across Summit County. The key takeaways of this study's community engagement include the following:

- Top challenges with existing transit include infrequent bus schedules, trips are longer than driving, bus stops are challenging to get to, and service hours do not match the travel needs.
- Overall, there is positive support for microtransit for accessing essential services, employment, and resort areas.
- The top desired service hours are weekday peak hours and weekend afternoons/evenings.
- Breckenridge respondents were over-represented in the survey relative to County population, and the corresponding results show geographic preference for service in Breckenridge.

# Chapter 4: Microtransit Service Alternatives

## Potential Zones Identified

Between the peer review of other microtransit services, the existing travel patterns, the existing access to transit throughout the County, and input from the community engagement elements, the project team drafted five potential microtransit zones that could be implemented in the next five years, either in phases or all at once. This section describes how the project team developed the five potential initial zones and the results of an evaluation of the zones on a set of criteria.

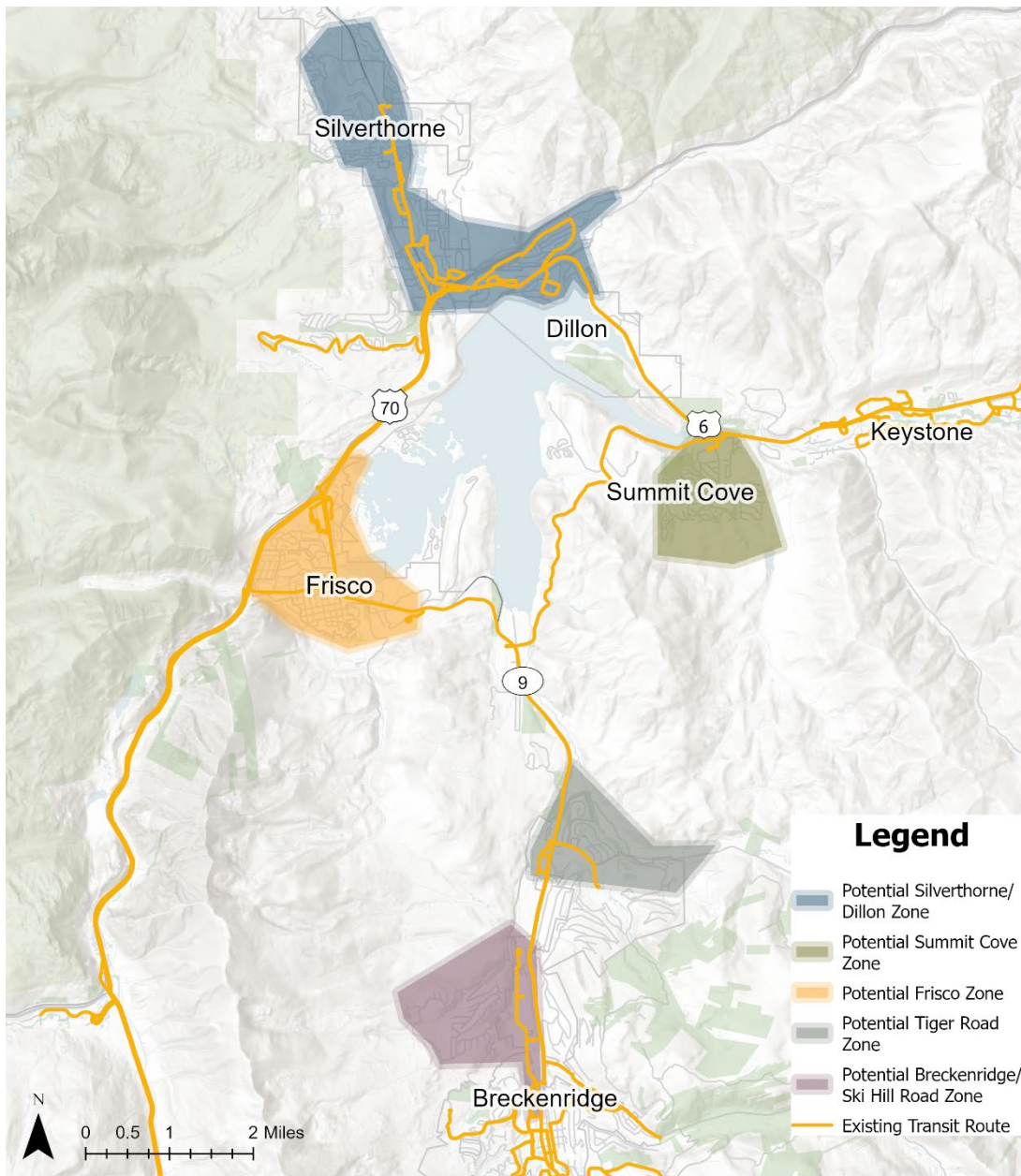
## Proposed Initial Microtransit Zones

As the project began to develop potential microtransit zones, guidance from the peer review and previous planning efforts indicated that it is important to focus on areas in Summit County where new microtransit service could be successful and best achieve a wide range of community goals. As a result, these zones should be considered initial zones only. In other words, these are proposed microtransit zones that could reasonably be implemented in the near- and mid-term horizon. Phase 3 (long-term) would be an appropriate timeline to consider other areas in Summit County. In general, the project team aimed to develop initial zones that:

- Have an ideal size of less than five square miles.
- Provide transportation opportunities in unserved and underserved areas, especially relative to transit-dependent populations.
- Balance the study's goals and community needs.
- Consider previous planning efforts.
- Complement and do not compete with existing transit services.
- Serve both intra-community travel and first/last mile connectivity.

The initial zones shown in **Figure 40** should be assessed against defined performance standards over time and reconsidered to provide the best service to Summit County. In the current configuration, the zones would operate in a zonal fashion, where a rider can request a ride between any two points within a single zone.

**Figure 40. Proposed Initial Microtransit Zones**



Source: Fehr & Peers, 2024

## Evaluation Criteria

The five microtransit zones were evaluated based on a set of criteria that was informed by the travel pattern assessment, transit access assessment, community engagement, and other study goals. Each evaluation criteria, the metric it measured, and the technical details of the measurement are displayed in **Table 5**.

**Table 5. Microtransit Zone Evaluation Criteria**

Evaluation Criteria	Metric	Technical Details	Data Source(s)
<b><i>Achieves Goals of 2021 Equity &amp; Access Study</i></b>	Number of recommendations addressed	Counts the number of location-specific recommendations that would be accomplished by each zone, in addition to recommendations that are not location-specific.	Summit Stage 2021 Equity & Access Study
<b><i>Community Health Equity</i></b>	Number of Census Tracts Covered with Highest Classification of CDPHE Health Equity Factors	Sums the number of factors where a census tract that is classified as the highest class for disadvantages within the County is served by each zone. Includes factors of age, disability, education, employment, income/poverty, language, and race/ethnicity.	CDPHE Community Health Equity Map
<b><i>Ridership Potential</i></b>	Average Estimated Weekday Riders	Estimates of microtransit ridership at full build-out of each zone.	Peer communities, travel pattern assessment
<b><i>Area Not Served by Existing Summit Stage/Breck Free Ride Service</i></b>	Approximate Percent of Area Not Within 1/8 Mile of Existing Bus Stops	The approximate portion of each zone that would cover an area that is <u>not</u> within 1/8 mile of an existing bus stop.	Summit Stage, Keystone Resort
<b><i>Total Operational Cost</i></b>	Annual Operating Cost	Estimates of annual operating cost at full build-out of each zone.	Peer communities
<b><i>Cost Per Passenger</i></b>	Annual Operating Cost Divided by Annual Ridership	Estimates of agency's cost per passenger by dividing total operational cost by ridership estimates.	N/A
<b><i>Public's Location Preference</i></b>	Within Top Five Locations Indicated On Survey	Indicates whether the zone covers an area that was one (or more) of the top five desired locations for new on-demand microtransit service expressed in the online survey.	Online survey
<b><i>Transit Access on Pedestrian Network</i></b>	Visual Assessment of Lack of Sidewalk Presence	Qualitatively assesses the lack of sidewalks within each zone (high means there are more areas without sidewalks).	Aerial imagery
<b><i>Trailhead/Access Point Access</i></b>	Number of Trailheads within ¼ Mile of Zone	Geospatially calculated the number of trailheads and access points either directly within or within a ¼ mile of each zone.	U.S Forest Service

The quantitative results are displayed in **Table 6**. Once each zone was evaluated, the zones were relatively scored on a qualitative scale of high-medium-low, comparing the alternatives to one another. The qualitative results are displayed in **Table 7**. When qualitatively comparing the zones, the Silverthorne/Dillon zone and the Summit Cove zone score the most dark-green designations, followed by the Tiger Road Zone, Breckenridge/Ski Hill Road zone and the Tiger Road zone. This indicates that the Silverthorne/Dillon and Summit Cove zones have the potential to overall perform the best and serve the goals of microtransit service the best compared to the other zones.

**Table 6. Microtransit Zone Quantitative Scores**

Evaluation Criteria	Metric	Silverthorne/ Dillon	Summit Cove	Frisco	Breckenridge/ Ski Hill Road	Tiger Road
Achieves Goals of 2021 Equity & Access Study	Number of Recommendations Addressed	8	7	5	6	5
Community Health Equity	Number of Census Tracts Covered with Highest Classification of CDPHE Health Equity Factors	5	4	1	2	2
Ridership Potential	Average Estimated Weekday Riders	300-450	100-175	150-250	200-300	75-150
Area Not Served by Existing Summit Stage/Breck Free Ride Service	Approximate Percent of Area Not Within 1/8 Mile of Existing Bus Stops	75%	95%	70%	85%	85%
Total Operational Cost	Annual Operating Cost	\$1.5M-\$2.25M	\$700K-\$1M	\$1M-\$1.5M	\$1M-\$1.5M	\$700K-\$1M
Cost Per Passenger	Annual Operating Cost Divided by Annual Ridership	\$12-\$15	\$15-\$19	\$15-\$19	\$12-\$15	\$18-\$25
Public's Location Preference	Within Top Five Locations Indicated On Survey	Yes	No	Yes	No	Yes
Transit Access on Pedestrian Network	Visual Assessment of Lack of Sidewalk Presence	Medium	High	Medium	High	High
Trailhead/Access Point Access	Number of Trailheads within 1/4 Mile of Zone	5	11	11	1	6

Source: Fehr & Peers, 2024.

**Table 7. Microtransit Zone Relative Scores**

<b>Evaluation Criteria</b>	<b>Silverthorne/ Dillon</b>	<b>Summit Cove</b>	<b>Frisco</b>	<b>Breckenridge/ Ski Hill Road</b>	<b>Tiger Road</b>
<b>Achieves Goals of 2021 Equity &amp; Access Study</b>	High	High	Medium	Medium	Medium
<b>Community Health Equity</b>	High	High	Low	Medium	Medium
<b>Ridership Potential</b>	High	Low	Medium	Medium	Low
<b>Area Not Served by Existing Summit Stage/Breck Free Ride Service</b>	Low	High	Low	Medium	Medium
<b>Total Operational Cost</b>	High	Low	Medium	Medium	Low
<b>Cost Per Passenger</b>	Low	Medium	Medium	Low	High
<b>Public's Location Preference</b>	Yes	No	Yes	No	Yes
<b>Transit Access on Pedestrian Network</b>	Medium	High	Medium	High	High
<b>Trailhead/Access Point Access</b>	Medium	High	High	Low	Medium

Source : Fehr & Peers, 2024.



# Chapter 5: Implementation

The initial microtransit zones proposed in the previous chapter can be implemented in a variety of ways, including the method of delivering the service and the phasing of the rollout.

## Service Delivery

There are two models that are generally used for microtransit service delivery: turn-key contracts and agency operated systems. Turn-key contracts involve delivering a service plan directly to a provider and relying on that provider to implement the service. The vendor is typically experienced in delivering microtransit service and will manage all aspects of the service. An agency operated service would be managed in-house using Summit Stage-owned vehicles and relying on agency personnel.

There are advantages and disadvantages to both models; **Table 8** and **Table 9** summarize the potential benefits and challenges.

**Table 8. Advantages and Disadvantages of Turn-Key Contracts**

Advantages	Disadvantages
Quick deployment	Requires oversight by sponsoring agency, which can be challenging
Does not require agency to have experience operating a transit service	Flexibility, responsiveness, and adaptability are constrained to the terms of the contract and to the capacity of the vendor
Does not require hiring of additional agency personnel (e.g., vehicle operators, administrative staff, maintenance teams)	Less control of service quality, customer experience, and operational procedures
Vendor is responsible for service quality and compliance	Typically more expensive



Advantages	Disadvantages
Vehicle capital costs can be included in the contract – minimizes the capital assets the agency must acquire	Reliant on private sector providers who may not have long-term financial stability
Allows agency to take advantage of the vendor's existing scale	

Source: Fehr & Peers, 2024

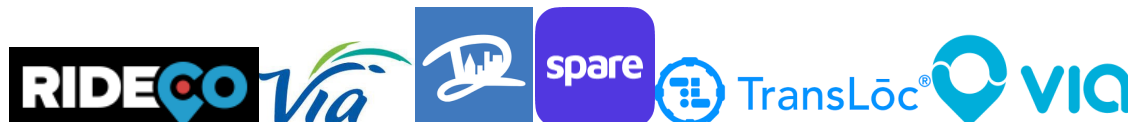
**Table 9. Advantages and Disadvantages of Agency Operated Model**

Advantages	Disadvantages
More control over service quality and operational procedures	High upfront capital costs
Agency can adapt or change the service quickly	May require hiring additional agency personnel
Ride matching software is needed but the procurement process is frequently simpler than contracting with a microtransit service provider	Longer period of time required for service planning and implementation period can also be longer
Agency can leverage its existing resources (drivers, dispatchers, vehicles, etc.)	While procurement is simpler, operating a service requires the agency to learn all the operational aspects and build institutional knowledge

Source: Fehr & Peers, 2024

In summary, the turn-key model allows for easy implementation, since the sponsoring agency does not need to hire additional personnel, acquire additional capital assets, or develop robust internal knowledge on microtransit operations, while the agency model offers more control.

There are several national vendors providing turn-key microtransit and flex/fixed route service today. These include Downtowner, RideCo, Spare Labs, Transloc, and Via, among others. These vendors provide service in a variety of communities, such as Summit County, UT; Park City, UT; Aspen, CO.



Due to ease of implementation and expertise that a turnkey contractor brings to a startup operation, we recommend that Summit County initially utilize a turnkey contract model and consider transitioning to an agency-run model with purchase technology over time.

## Possible Phasing

It is recommended that Summit County implement the proposed microtransit service in phases. The first phase would involve implementing two to three of the proposed microtransit zones. **Table 10** shows three options for this first phase, with the estimated cost and ridership. The second phase would include all five proposed zones, as shown in **Table 11**. The third phase would involve evaluating the performance of the initial zones (see **Chapter 6: Performance Standards**), adjusting the zones, improving the hours of service, or changing the seasonality. The third phase could also include shifting one or more zones to a fixed route service if the ridership patterns indicate the area would be well-served by fixed route. These phases are summarized in **Figure 41**.

## Timeline and Next Steps

Summit County wishes to move quickly from project planning to implementation. Typically, a pilot project such as this could take nine months to launch once a final service plan is complete, but it is possible to accelerate implementation and condense into four to six months, assuming that contracting with a microtransit vendor can be done efficiently and that vendor can set up operations and procure vehicles in a reasonable span of time. According to this timeline, it may be possible to have this new service operating by mid-October. The first phase should run for a couple years to provide enough time to evaluate the initial service and plan the implementation of the remaining zones. Consequently, it is estimated that the second phase could run from 2026 to 2028. The timing of the third phase would depend on the performance of the microtransit program and what sorts of changes Summit County wished to make at that point.

**Table 10. Potential Phase 1 Service Options**

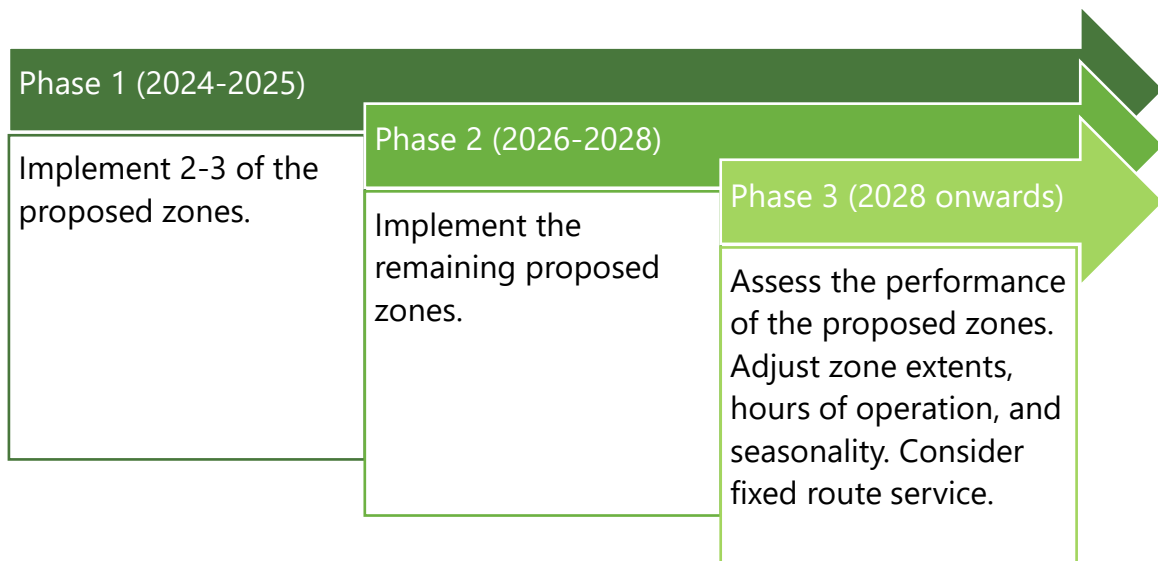
<b>Option A</b>	<b>Annual Operating Cost</b>	<b>Number of Peak Vehicles</b>	<b>Daily Ridership Estimate</b>
Silverthorne/ Dillon Zone	\$2M - \$2.5M	5	300-450
Summit Cove Zone	\$750k - \$1M	2	100-175
<b>Option A TOTALS</b>	<b>\$2.75M - \$3.5M</b>	<b>7</b>	<b>400-625</b>
<b>Option B</b>	<b>Annual Operating Cost</b>	<b>Number of Peak Vehicles</b>	<b>Daily Ridership Estimate</b>
Silverthorne/ Dillon Zone	\$2M - \$2.5M	5	300-450
Summit Cove Zone	\$750k - \$1M	2	100-175
Frisco Zone	\$1M - \$1.5M	3	150-250
<b>Option B TOTALS</b>	<b>\$3.75M - \$5M</b>	<b>10</b>	<b>550-875</b>
<b>Option C</b>	<b>Annual Operating Cost</b>	<b>Number of Peak Vehicles</b>	<b>Daily Ridership Estimate</b>
Silverthorne/ Dillon Zone	\$1M - \$1.5M	3	150-250
Summit Cove Zone	\$750k - \$1M	2	100-175
Breckenridge Ski Hill/ Peak 7 Zone	\$1M - \$1.5M	3	200-300
<b>Option C TOTALS</b>	<b>\$2.75M - \$4M</b>	<b>8</b>	<b>450-725</b>

Source: Fehr &amp; Peers, 2024.

**Table 11. Phase 2 All Zone Service**

	Annual Operating Cost	Number of Peak Vehicles	Daily Ridership Estimate
Silverthorne/ Dillon Zone	\$2M - \$2.5M	5	300-450
Summit Cove Zone	\$750k - \$1M	2	100-175
Frisco Zone	\$1M - \$1.5M	3	150-250
Breckenridge Ski Hill/ Peak 7 Zone	\$1M - \$1.5M	3	200-300
Tiger Road	\$750k - \$1M	2	75-150
<b>TOTALS</b>	<b>\$2.75M - \$3.5M</b>	<b>15</b>	<b>400-625</b>

Source: Fehr &amp; Peers, 2024.

**Figure 41. Possible Phasing Plan**

# Chapter 6: Performance Standards

The service plan provided is intended to serve as a roadmap for implementing each preferred alternative. While this service plan may prove to be effective for the first initial years of service, it is possible that the service may need to be adjusted periodically to better serve local needs. Performance metrics are key indicators of how well a transit agency is providing services to riders. These metrics are also used to understand how well an agency functions internally. In fact, performance metrics are required by the Federal Transit Administration (FTA) within the Title VI Civil Rights Act as it pertains to public transportation.

The FTA requires transit agencies to have standards for its services for minimum levels for vehicles (such as size, type, and age), performance (such as on-time performance), geographic availability of service, and minimum service standards (such as base and peak frequencies). These standards are important to ensure reliable service that is transparent to the general public, especially the riders.

## Service Adjustments and Monitoring Plan

The following section describes elements of a monitoring plan that should be implemented early in the and used to determine whether and when service changes are needed.

### Tracking Ridership

Use of the new service is a basic metric that the technology platforms can track and relay to Summit County on a regular basis. Ridership can be reported both as the total number of passenger trips per day and the average number of passengers per vehicle service hour. As discussed in the Evaluation Criteria section of this memo, the expected ridership depends on the zone and ranges from 75 to 450 persons per day. Initially, the ridership may be on the lower end of the range while Summit County builds awareness about the service and community understanding of this new transportation resource grows. It will take at 12 months for ridership to grow close to ridership estimates.

Summit County should set a ridership goal for each zone when it implements it. If the service is not meeting this ridership target after the first three months, then some additional analysis may be needed to pinpoint whether there are particular times of day when the service is utilized at a higher rate. If so, a determination can be made on whether a service span adjustment is needed. While ridership is a key metric, it should not be the single metric for measuring whether the microtransit pilot is performing successfully. When Summit County is determining whether to extend the service, metrics like response time, rider satisfaction, and the rate at which the service completes the trip types it was intended for should be among the factors considered.

## Tracking Ride Times

The number of passengers that can be served within a daily service span is dictated, in part, by the amount of time vehicles spend completing trips and the amount of time vehicles spend responding to trip requests. During the initial months of service, Summit County can track common origin-destination pairs and add a 50% buffer to the estimated trip time since vehicles will either spend some time traveling to pick up a passenger or a passenger may share the vehicle with someone making an unrelated trip, which will likely extend the ride time for both individuals. Factoring in the buffer time, it might be assumed each passenger will experience a 20-minute average trip time, for example. If, after the first three months, the actual per passenger trip time exceeds 20 minutes, the service plan should be adjusted to better reflect local travel conditions.

It is also projected that the average response time (or the time between when a passenger reserves a ride and when the vehicle arrives) should be 15-20 minutes depending on the service area. If it is found that the average response time is longer than 15-20 minutes, then changes may be needed in order to provide riders with a more accurate sense of potential response time.

## Tracking User Experience

While metrics like ridership can convey system productivity, more qualitative indicators are also important. The experiences of early riders should be captured in order to learn any unanticipated issues with service provision. Rider feedback can be captured through post-trip surveys that can be distributed either electronically or using paper copies that are distributed by the vehicle operator. In order to ensure the highest response rate possible, it is recommended the survey be brief and focus primarily on multiple choice responses with just one open-ended response. The electronic version should be smartphone-friendly to facilitate riders completing the survey shortly following their trip. Paper surveys should include a pre-paid postage envelope, so respondents face minimal barriers to returning their surveys.

The survey can be used to assess ease of use of the reservation system, whether riders find the vehicles comfortable, whether riders have positive interactions with vehicle operators, and whether the rider travel experience has improved when comparing to their pre-microtransit travel.

The surveys should be offered to each rider during the first six months of service in English and Spanish. Following a survey response evaluation period, surveying should then be conducted at regular intervals to be determined by Summit County and for passenger samples instead of all riders.

## Evaluating Service Area Scope

The initial service zone has been drawn based on the travel market assessment and stakeholder input. It is possible that some portions of the service area may be disproportionately heavy trip generators or popular destinations. Monitoring the origin and destinations patterns by trip will allow Summit County to understand whether the service area needs to be modified or if there are particular origin-destination pairs and routes that are utilized at a high rate. Software technology is available to provide visualizations of trip patterns to help Summit County evaluate service utilization and potentially make adjustments such

as narrowing the service area or establishing fixed pick-up/drop-off locations that serve popular destination.

## Microtransit Performance

Microtransit performs differently with several unique performance characteristics. **Table 12** shows some recent performance of five different microtransit systems in the western U.S., with a couple of urban examples and a few resort examples.

**Table 12. Examples of Microtransit Performance Metrics for Various Systems**

Metric	Montbello Connector (Denver, CO)	Citibus On-Demand (Lubbock, TX)	High Valley Transit (Park City, UT)	START On Demand (Jackson, WY)	TART (Tahoe City, CA)
Data time frame	Oct 2021 – July 2022	Jan 2022 – July 2022	Jan 2022 – July 2022	Jan 2022 – July 2022	Aug 2021
Ridership	32,000	69,000	172,000	88,760	5,689
Passengers per service hour	5.7	1.9	3.6	8.9	4.4
Average Wait Time (Trip Fulfill)	19 minutes	28 minutes	N/A	8 minutes	9 minutes
Average Customer Rating	4.8/5	96%	4.7/5	4.92/5	4.94/5
Shared Rides	25%	53%	N/A	32%	31%
Call-in Rides	7%	60%	N/A	N/A	N/A
Average requests per rider	N/A	30	N/A	N/A	N/A
Average Ride Distance or Time	N/A	N/A	4.75 miles	5 minutes	9 minutes

Source: Various performance reports as provided by each agency (2021, 2022).

As a new service that will likely require service adjustments in terms of hours, service zone, and seasonality, it will be important to track microtransit performance separately. Some suggested microtransit performance metrics for Summit County are shown in **Table 13**.

**Table 13. Suggested Microtransit Performance Metrics for Summit County**

Performance Measure	Suggested Goal	Frequency of Measurement	Comments
<i>Productivity – peak seasons (average across all zones)</i>	6	Monthly and YTD	Based on zone characteristics and experience from other agencies, this goal is reasonable.
<i>Productivity – base seasons</i>	3.5	Monthly and YTD	Based on smaller zone sizes and experience from other agencies, this goal is reasonable.
<i>Average Trip Fulfillment (time from request to vehicle arriving)</i>	15 minutes or less	Monthly and YTD	Service should be responsive to help build ridership.
<i>Average Customer Rating</i>	4.8 out of 5	Monthly and YTD	Passengers are asked to rate each trip in the app after trip completion.
<i>Shared Rides</i>	50%	Monthly and YTD	The more rides that can be shared, the more efficient the service is. Service parameters can be adjusted to push

Source: Fehr & Peers, 2022.

Other metrics that Summit County may consider tracking include:

- Non-English-speaking rides
- Wheelchair-using rides
- No shows
- Day or month with the most rides
- Day or month with the longest average wait

## Reporting and Adjustments

Summit County should regularly report on these metrics to elected officials, key partners, and the general public. Transparency allows for better decision-making and informed service adjustments.

It is recommended that Summit County complete a thorough review of the performance metrics suggested above along with initial responses to the rider surveys after the first three months of service. If any goals are unmet or if initial rider satisfaction is low, then targeted service adjustments may be required.

It is important to evaluate the causes and understand the context. First, evaluate to understand if the unmet measures are a short-term problem or a long-term trend. Having a long-enough period of time to identify problems is key. Staff should also evaluate if some external factor has negatively impacted performance and may be skewing results. And consideration should be given to any service changes, such



as implementing a new route, that may take 18 months or more to achieve the suggested goals. New services need time to build awareness and ridership.