Big Sky Pop Up Traffic Calming Toolkit

November 2023

Pop up projects are quick, low cost and can be installed in the spring and removed in the fall before the snow falls when winter maintenance becomes common and snow piles tend to narrow roadways creating natural traffic calming. Many streets in Big Sky were constructed without sidewalks, thus people walking and biking must share space with motor vehicles. This menu of pop-up traffic calming treatments is intended to assist The Big Sky community to create safer streets for people walking and biking to connect Town Center and Meadow Village to nearby neighborhoods, businesses, open space, and trails.

Prepared for: Big Sky Community Organization

Prepared by: Rebecca Gleason and Matthew Madsen

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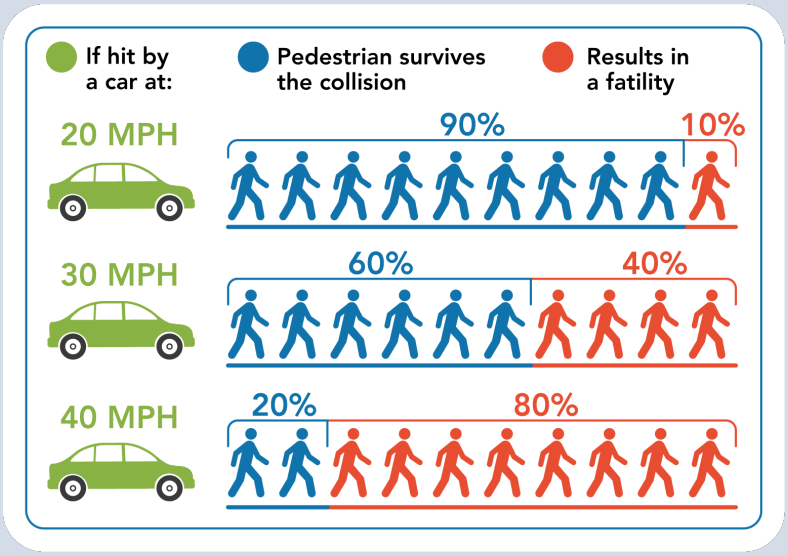
Why Traffic Calming?

A main goal of traffic calming is to reduce vehicle speeds to create a safer space for all road users. This matters because higher speeds can lead to fatalities or more serious injury when crashes do occur. In addition, traffic calming prioritizes pedestrian & cyclist safety.

40% **of residents who responded to the survey often walk or bike for transportation in Big Sky**

2017 community survey in the Big Sky Master Trails Plan (Alta Planning & Design, 2019)



National Transportation Safety Board, 2017 Reducing Speeding-Related Crashes Involving Passenger Vehicles. Available at: https://www.ntsb.gov/safety/safety-studies/documents/ss1701.pdf

Traffic Calming Goals

	Pedestrian Lane	Curb Extensions	Pedestrian Refuge Island	Median Island	Traffic Circle	Street Art
Reduce speed	👍	👍	👍	👍	👍	
Increase pedestrian visibility	👍	👍	👍			
Control right-of-way					👍	
Minimize pedestrian exposure	👍	👍	👍			
Create comfortable space	👍	👍	👍			👍

Traffic Calming Treatments

Pedestrian Lane

Create a dedicated space on the street for pedestrians when sidewalks are impractical.

Materials:

- 3" x 36" round delineator posts (white, 8 per block)
- Latex traffic paint-white
- Retroreflective glass beads
- Self-watering planters- 48" by 20" wide x 23" high rectangular (2 per block)
- Potting soil and drought tolerant plants

Cost estimate:

- $1800 - $2600 for 330' long block
- $7,000 -$10,100 for 4 blocks (approximately 1/4 mile)

St. Charles, MN. (Alta Planning & Design-FHWA 2016)
*See the **Small Town & Rural Design Guide***

Curb Extension

Increase safety and visibility of pedestrians, reduce crossing distance and slow drivers' speed. Can be installed at intersections or mid-block pedestrian crossings.

Materials:

- 3" x 36" round delineator posts (white - 18 mid-block, 32 at intersection)
- Latex traffic paint - white
- Retroreflective glass beads
- Self-watering planters- 33" conical (4 mid-block, 4 at intersection)
- Potting soil & drought tolerant plants

Cost estimate:

- Mid-block $2,900- $4,700
- 4-way intersection: $4,300 - $7,800

Gallagator Trail and E. Garfield St. Bozeman. (WTI)

Pedestrian Refuge Island

Minimize exposure to vehicles by offering mid-crossing protection, allowing pedestrians to cross one lane of traffic at a time.

Materials:

- 3" x 36" round delineator posts (10 yellow)
- Two 36" round self-watering planters
- Latex traffic paint- white, yellow
- Retroreflective glass beads
- Potting soil & drought tolerant plants

Cost estimate:

- $2,000 - $3,000

W. Beall St. & 22nd Bozeman. (WTI)

Median Island

Slow driver speed by narrowing travel lanes and deflecting straight travel.

Materials:

- 3" x 36" round delineator posts (8 yellow)
- Two 36" round self-watering planters
- Latex traffic paint- white, yellow
- Retroreflective glass beads
- Potting soil & drought tolerant plants

Cost estimate:

- $2,000- $2800

N. Wallace St. Bozeman. (WTI)

Traffic Circle

Reduce speeds and help control right-of-way at uncontrolled intersections.

Materials:

- 3" x 36" round delineator posts (10 yellow)
- 36" round self-watering planter
- Latex traffic paint- white, yellow
- Retroreflective glass beads
- Potting soil & drought tolerant plants
- Directional signs

Cost estimate:

- $1,500- $2,600

Hamilton, MT. (City of Hamilton)

Shared Lane Marking (Sharrow)

Sharrows indicate a shared lane for bicycles and automobiles on low volume, traffic calmed streets with a design speed < 25 miles per hour.

Materials:

- Stencil
- Latex traffic paint- white
- Retroreflective glass beads

Cost estimate:

- $287 (for a quarter mile with 5 sharrows in each direction at 250' spacing)

Bozeman, MT. (WTI)

Street Art

Create a sense of pride in public space and express local character unique to Big Sky.

Materials:

- Latex traffic paint – white
- Paint roller pads
- Spray paint in multiple colors
- Supplies such as stencils, paint brushes, etc.

Cost estimate:

- $450-$700

Street art near Lindley Park in Bozeman. (WTI)

Materials and Costs

3" x 36" round delineator post (less durable)	$40 each
3" x 36" round delineator post (more durable)	$140 each
48" x 20" x 23" flat end self- water planter	$420 each
36" round self-water planter	$370 each
33" conical self-water planter	$330 each
Potting soil (1 cubic foot)	$10/cf
Drought tolerant plants	$20/flat
Latex traffic paint (180 linear feet /gallon)	$36/gal
Retroreflective glass beads (20 lb tub)	$30/tub
Spray paint- various colors for street art	$16/can

Choosing Plants

For pedestrian visibility and safety, choose plants under 12" in height. As most planters will be in full sun, choose drought tolerant plants such as fountain grass (6"), candytuft (10"), petunias (8"), or marigolds (6").

Moore-Gough, C., 2020.

Costs will vary depending on the size and scope of the project. Lower estimates use $40 per post, while higher costs use $140 per post, which are more durable. Self-watering planter costs are from Sybertech, provided for reference only (not an endorsement of a specific product).

Appendices

Besides the traffic calming tools described above, in the following pages, **Appendix A** contains Big Sky pop-up concepts, a discussion of striping and pavement markings as well as information on speed limit rules for this unincorporated community in Montana. **Appendix B** contains nine case studies that highlight how other resort communities are working to become more walkable, bikeable and transit friendly.

References

Alta Planning & Design, 2019: Big Sky Trails Master Plan.

Federal Highway Administration, 2016: Small Town and Rural Multimodal Networks.

Moore-Gough, C., 2020. Annual Flowers: Retrieved from Montana State University Extension.

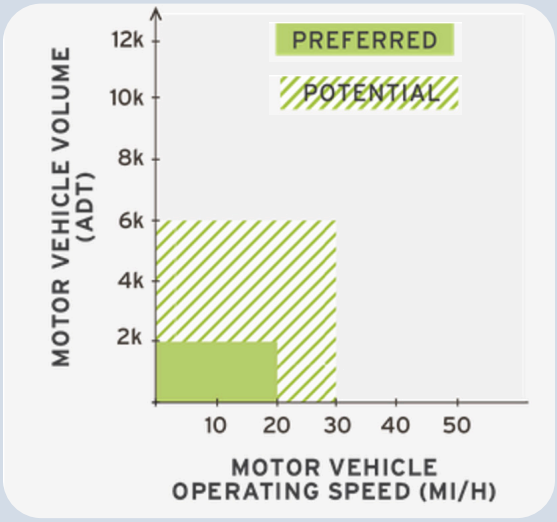
Sybertech Waste Reduction, 2021: Self watering planters.

Appendix A

Pedestrian Lane Pop up

Rainbow Trout Run parallels Ousel Falls Road and with less traffic, it is a lower stress environment for people walking or biking. It was identified by BSCO staff as an area to explore for possible traffic calming treatments. One treatment that could work along this stretch of road is a pedestrian lane. A pedestrian lane provides a stable surface separate from the travel lane and visually narrows the street which encourages slower speeds vehicle speeds. They are a good treatment option when sidewalks are impractical.

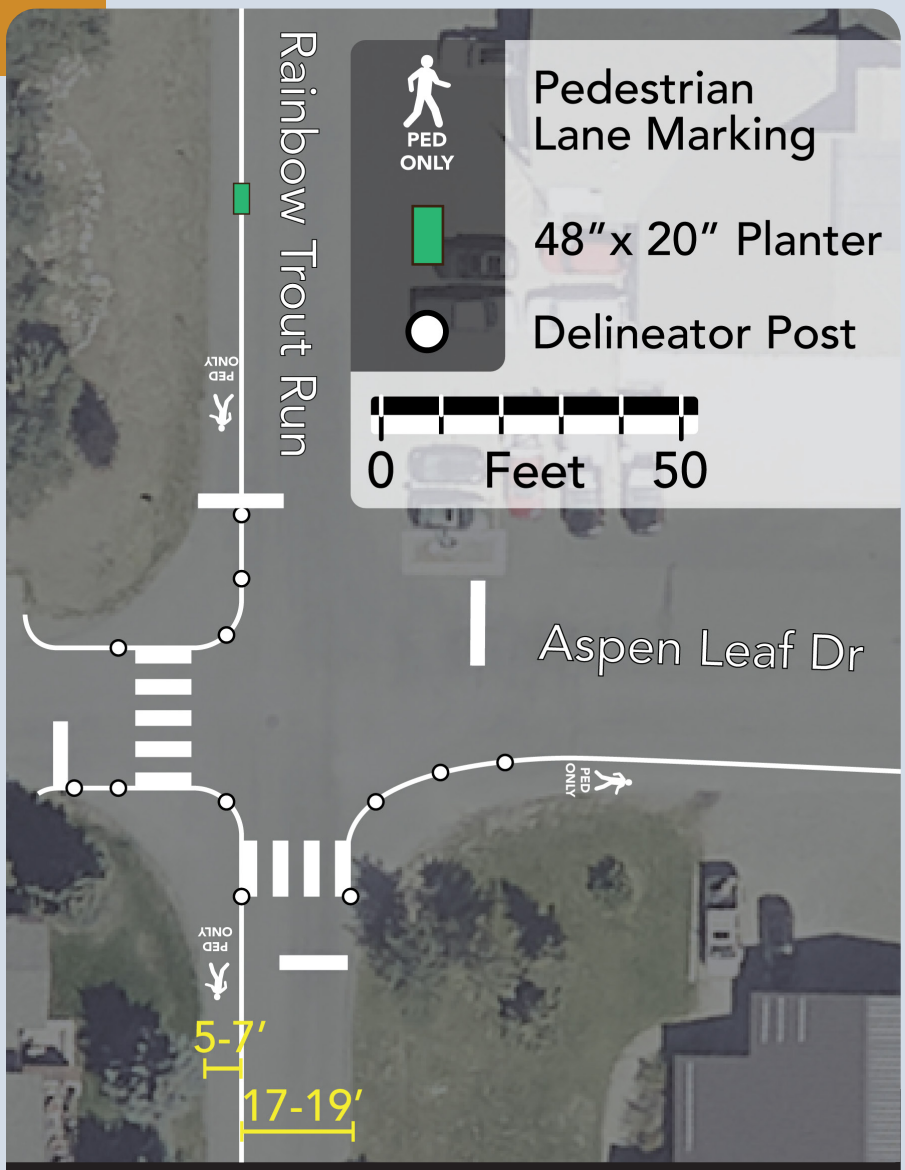
Pedestrian lanes can be used if certain traffic speeds and volumes exist along the roadway. The figure below shows speeds up to 20 mph and volumes below 2,000 vehicles are preferred. However, a pedestrian lane could be considered on streets with speeds up to 30 mph and traffic up to 6,000 vehicles per day (FHWA, 2016).



Staff has identified an approximately 0.3-mile stretch of Rainbow trout run from Big Pine Dr. to Limber Pine Place where a pop-up pedestrian lane could be installed as shown in the concept drawing to the right. This would prioritize safe connectivity from housing to a bakery, coffee shop, restaurants, and other destinations.

Pop up pedestrian lane concept: Rainbow Trout Run

Pedestrian Lanes have a preferred width of 8 feet and a minimum width of 5 feet to promote side by side walking within the lane (FHWA, 2016). For this project, assuming a 24 feet wide road, a 5-7 feet wide pedestrian lane could fit and allow 17-19 feet of lane width for motor vehicles and bikes as shown on the concept drawing to the left at the intersection of Rainbow Trout Run and Aspen Leaf Drive. In addition, a temporary pop-up lane could be extended to the existing sidewalk east on Aspen Leaf Drive until a more permanent solution may be constructed.



Pop up Pedestrian Lane Concept at intersection

As with all pop-up traffic calming projects, engagement with neighbors, through community meetings and online survey, as well as traffic and pedestrian data collection would need to occur to ensure that this treatment is good a fit for this street. In addition, the fire department should review concepts to ensure access is suitable for emergency vehicles.

Material costs are estimated to range from approximately $7,400 to $11,800 for this pedestrian lane concept. The lower cost uses $40 per **delineator post**, while the higher cost uses $140 per post for a **more durable post** that may withstand multiple hits by motor vehicles. Costs are based on the assumptions below and will vary depending on factors such as purchase date, location, product quality, quantity discounts etc.

- 3" x 36" round delineator posts (white, 44 total) ($1800 -$6200)
- Latex traffic paint-white (33 gallons at $36/gal, $1200)
- Retroreflective glass beads (two 20 lb tubs, $60)
- Self-watering planters- 48" by 20" wide x 23" high rectangular (8 total x $420, $3360)
- Potting soil and drought tolerant plants ($960)

More details on pedestrian lane design can be found in the **Small Town and Rural Multimodal Networks publication.**

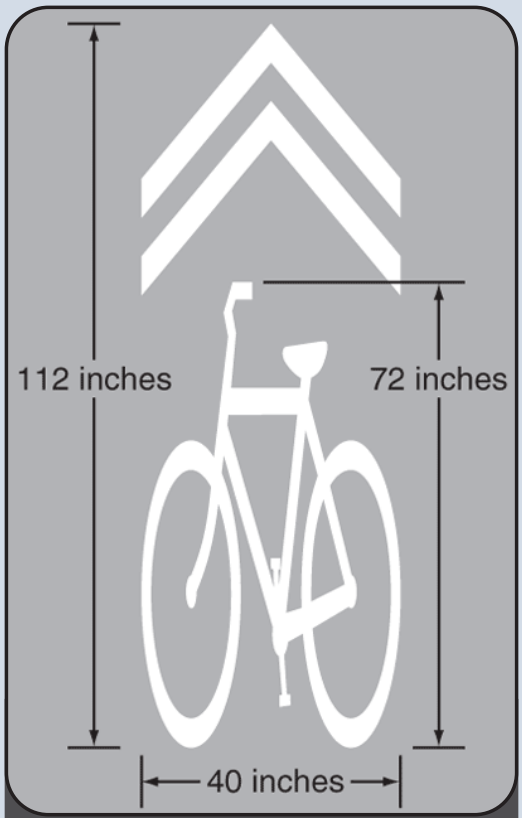
Striping and pavement markings

BSCO staff requested guidance on streets that could benefit from striping and other pavement markings such as sharrows. Shared lane markings (sharrows) are pavement markings used to indicate a shared lane for bicycles and motor vehicles. Sharrows reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance (NACTO, 2023).

Big Sky neighborhood streets that have low traffic volumes and are traffic calmed to under 25 miles per hour could benefit from sharrows. In the Town Center area, Rainbow Trout Run, Spruce Cone Drive and Simkins Dr are north/south streets where sharrows could direct bicyclists away from the busy Ousel Falls Drive. Sharrows on Aspen Leaf Drive could help create an east/west bicycle friendly connection between Spruce Cone and Huntley Dr.

In Meadow Village, a new pedestrian tunnel constructed in 2023 connects the HWY 64 shared use path to a new path along the east end of Little Coyote Rd. Beyond that paved path (west of Seeway Rd), the Crail Ranch Trail parallels Little Coyote Rd. for a mile, providing an off road gravel option for people walking and biking. Sharrows on the central and western sections of Little Coyote and Two Moons could help create a more bicycle friendly route between Meadow Village and Town Center. Sharrows should not be considered a substitute for bike lanes or separated paths where space permits. More guidance on sharrows can be found from NACTO Shared Lane Markings. As with any change to the street, residents must be engaged in the planning process.

Generally, there do not appear to be safety benefits in roadway centerline or edge striping for narrow, low volume roads, such as those typical in Big Sky Town Center and Meadow Village areas. A 2013 study investigated how low-cost edge lines and centerlines on narrow (16-20 feet wide), low-volume (less than or equal to 3,000 vehicles per day) roads may improve safety. The study found that there is much variation in the practices of state DOTS regarding installing pavement markings on roads 16 to 20 ft wide. In addition, the study's limited analysis of crash frequency, density, rate, and safety performance found no statistical difference between segments with and without centerlines and/or edge lines. (Virginia Center for Transportation Innovation and Research, 2013).



Shared Lane Marking "Sharrow" (MUTCD)

Speed limit rules

Big Sky is an unincorporated community, with both the Town Center and Meadow Village areas falling within Gallatin County. Rural Improvement Districts (RIDs) and Homeowners Associations (HOAs) in Big Sky may petition Gallatin County if they want to change speed limits. The Gallatin County Road and Bridge Department conducts a traffic investigation and recommends a speed limit, which then goes through the County Commission process before it may be implemented. More information on how to petition Gallatin County is provided at How to Set a Speed Limit.

The setting of speed limits in Montana is typically statutory as stated in Montana Code Annotated (MCA) (MDT, 2023). According to MCA 61-8-303, the speed limit on public highways (non-interstate) is 70 mph hour during the day and 65 mph during the nighttime and the speed limit in an urban district is 25 mph. "Urban district" means the territory contiguous to and including any street that is built up with structures devoted to business, industry, or dwelling houses situated at intervals of less than 100 feet for a distance of one-fourth mile or more (MCA 61-8-102). Neighborhoods in Big Sky Town Center and Meadow Village appear to meet this urban district definition. MCA 61-8-310 states that minimum speed limits in rural areas may not be less than 35 mph for a paved road or 25 mph for an unpaved road. However, speed limits in or near a school zone or senior citizen center may be decreased to 15 mph.

A better approach to lower speeds is to design streets with elements such as narrow lanes, smaller corner radii and landscaping such as street trees, which are more effective than speed limit signs. The National Association of City Transportation Officials (NACTO) has a design speed discussion, focused on creating safer places for people driving and walking that can be found at this link NACTO Design Speed discussion. Pop up traffic calming projects are a good way to test different street design changes before investing in more costly permanent infrastructure.

References

FHWA 2016: Small Town and Rural Multimodal Networks.

MDT, 2023: Speed Limits.

NACTO, 2023. Urban Street Design Guide: Design Speed Discussion.

Virginia Center for Transportation Innovation and Research, 2013: Investigation of the Safety Effects of Edge and Centerline Markings on Narrow, Low-Volume Roads.

Prepared for: Big Sky Community Organization

Prepared by: Rebecca Gleason and Matthew Madsen

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Appendix B

Case Studies: Walk, Bike and Transit Friendly Resort Communities

August 2023

Prepared for: Big Sky Community Organization

Prepared by: Andrea Hamre, Rebecca Gleason and Matthew Madsen

MONTANA STATE UNIVERSITY | Western Transportation Institute

Contents

Acknowledgements

Big Sky Community Organization for supporting this project.
Big Sky Resort Area District and the Small Urban, Rural and Tribal Center on Mobility (SURTCOM) at WTI for funding.

Thank you to leaders from the ski resort communities for sharing their expertise.
More information can be found at the WTI project page.

Disclaimer

Telluride, photo courtesy WTI

Introduction

These case studies provide guidance on plans, policies, and programs that lead to more walkable, bikeable, and transit-friendly mountain and ski resort communities. This work is intended to help the town of Big Sky, Montana create an environment where residents and visitors have safe and convenient ways to travel by foot, bike, and bus, rather than automobile only. Table 1 contains demographic information for the case study communities and demonstrates their differences and similarities to Big Sky.

Table 1: Case Study Community Demographics

Town[1 2 3]	Population (2020)	Population (2010)	Percent Population Change	Median Household Income	Percent Below Poverty (2020)	Percentage of Housing Units that are Seasonal (2020)
Big Sky, MT	3054	1528	99.9%	$80,455	9.7%	55.5%
Aspen, CO	7,721	6,403	20.6%	$77,669	4.4%	36.1%
Banff, Alberta Canada[2]	8,305[4]	7,584[5]	8.7%	$88,000[6]	4.0%[7]	Not available
Crested Butte, CO	1,335	1,432	-6.8%	$62,500	6.0%	14.5%
Jackson, WY	10,585	9441	12.1%	$76,518	6.3%	3.7%
Park City, UT	8,467	7,553	12.1%	$114,798	8.0%	55.6%
Steamboat Springs, CO	13,048	11,796	10.6%	$74,351	8.1%	34.2%
S. Lake Tahoe, CA	22,535	22,114	1.9%	$52,871	11.6%	36.8%
Vail, CO	5,614	5,241	7.1%	$82,661	8.7%	58.4%
Whistler, BC, Canada[2]	13,982[4]	9,824[5]	42.3%	$99,000[6]	4.8%[7]	Not available

Table Notes:

[1] Values for U.S. communities compiled by Headwaters Economics using Census Bureau's American Community Survey 5-Year Estimates

[2] Values for Canadian communities compiled by WTI staff using Statistics Canada website are based on 2011 and 2021 Census of Population

[3] For the U.S. communities, Headwaters Economics color coding indicates the reliability of the estimates based on thresholds for the coefficient of variation: black indicates high reliability (coefficients of variation <12% indicating relatively small sampling error); orange (underlined) indicates medium reliability (coefficients of variation 12-40%, indicating values should be interpreted with caution); and red (circled) indicates low reliability (coefficients of variable over 40%, indicating that the estimates should be considered very unreliable)

[4] 2021 Census of Population, Statistics Canada

[5] 2011 Census of Population, Statistics Canada

[6] Median total income of household in 2020 (Canadian Dollars)

[7] Prevalence of low income based on (LICO-AT) Canadian Low-Income Cut-Offs (after tax)

These case studies contain examples of policies, plans, and programs that community leaders felt were impactful in reducing automobile dependency. However, it is not a comprehensive list and communities have many other transportation related activities that are not discussed here.

Policies

Policies refers to general strategies, principles, and processes aimed at improving walking, biking, and/or transit transportation options. For example, in Aspen Colorado, developers are required to complete a spreadsheet tool to identify and implement measures that have the capacity to reduce vehicle trips generated by the project. In South Lake Tahoe, CA, incorporating the visitor population into funding applications has boosted the region's ability to expand and improve facilities for walking and biking. Table 2 shows case studies that highlight transportation related policies.

Table 2: Case Studies with Policy Examples

Community	Transportation Related Policy
Aspen, CO	Transportation Impact Analysis, Bike/Pedestrian Transportation Policy
Jackson, WY **Steamboat Springs, CO** **Vail, CO**	Regional Transportation Planning Administrator Position or Authority
Whistler, BC, Canada	Portion of Hotel Tax/Resort funds for walk, bike, transit
Park City, UT	Local bond to fund walk/bike projects
South Lake Tahoe, CA	Counting short term visitors in population estimates

Plans

Plans refers to master plans, grants, or transportation action plans aimed at improving walking, biking and/or transit transportation options. For example, in 2022, Park City, Utah adopted their Long-Range Transportation Plan: Park City Forward. Table 3 shows case studies that highlight transportation related plans.

Table 3: Case Studies with Plan examples

Community	Transportation Related Plan
Aspen, CO **Park City, CO** **Steamboat Springs, CO**	Bike/Pedestrian Master Plan
Jackson, WY	Safe Streets for all (SS4A) planning grant
Whistler, BC, Canada	Transportation Action Plans

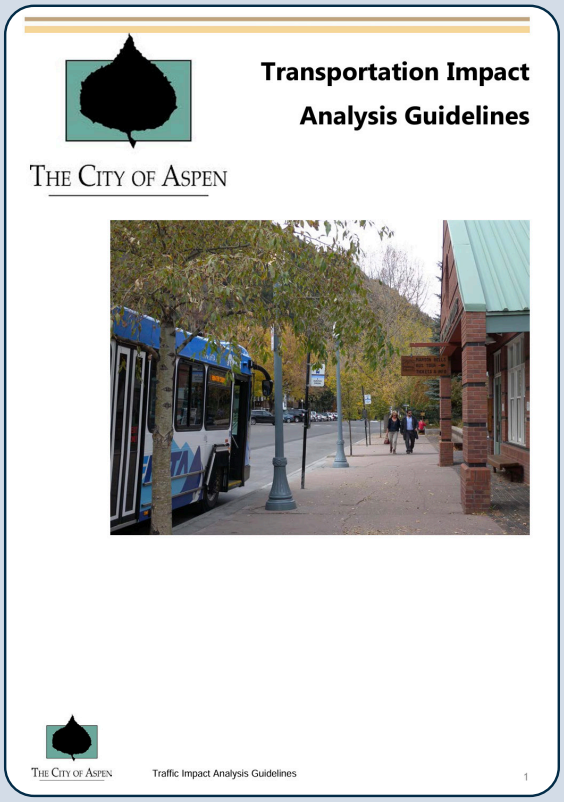
Programs

Programs refers to measures or activities with a long-term aim to improve walking, biking, and/or transit transportation options. For example, Banff, Canada's parking management program encourages visitors to park their vehicles in an intercept lot and use a shuttle to the National Park or town, including via a "Park. Ride. Explore" marketing campaign. In South Lake Tahoe, planners are designing streetscaping to better withstand heavy snowfall – factoring snow removal and storage into the design of Complete Streets and active transportation projects. They are also using specialized equipment and snow stakes to ensure streetscape improvements are more visible to plows.

Another recent example is Vail's 2022 E-Vail Courier Program- a last mile delivery program designed to remove most delivery vehicles from the Vail Village and Lionshead pedestrian malls. All nine communities featured herein have various programs that encourage, support, and improve bikeshare, local/regional transit, and parking management to name a few.

Aspen, Colorado

Population: 7,721
(2020 American Community Survey)



Challenges to Creating Walk, Bike, and Transit Friendly Places

The City of Aspen has experienced space constraints, limited funding, a snowy/cold climate, and competing interests for vehicle space.

Aspen's Walk, Bike, and Transit Friendly Solutions

The City of Aspen has a longstanding goal of limiting the number of motor vehicle trips over Castle Creek Bridge (the only bridge leading into town) to 1993 levels. The following policies, plans, and programs have been impactful in this effort.

Transportation Impact Analysis Policy

Since 2014, Aspen has required a **Transportation Impact Analysis** (TIA) and mitigation measures to be conducted on developments. This requirement is unique because it is focused on Transportation Demand Management (TDM; the application of strategies and policies to reduce travel demand of single-occupancy vehicles) and Multi- Modal Level of Service (MMLOS; evaluation of the safety and quality of access and flow for pedestrians and bicyclists), rather than increasing roadway capacity. As stated in the TIA policy:

> *The City of Aspen recognizes that vehicle LOS is one performance measure that needs to be carefully weighed against other City objectives to balance the preservation of community values with a safe and efficient circulation system. Vehicle LOS only assesses traffic operations from a driver's perspective. It does not capture the perspective of pedestrians and bicyclists nor does it recognize potential impacts of driving on air pollution or other environmental resources. (Aspen TIA Guidelines, undated. Received from Hailey Guglielmo February 2023)*

Developers/applicants are required to use the TDM and MMLOS tools to identify measures that have the capacity to reduce vehicle trips generated by the project. The TIA also outlines specific transit LOS for Aspen based on hours of weekday service, frequency of service, travel time and peak passenger load. Aspen is in the process of revamping their TIA tools to be more user friendly.

2018 City of Aspen Pedestrian/Bicycle and Transportation Policy

This policy document outlines guiding principles and processes for the Pedestrian and Bicycle Safety Team (PABST) so that they can ensure all residents of and visitors to Aspen can safely walk, bicycle, and easily access transit as part of their daily routine.

Aspen Bicycle and Pedestrian Master plan

This **master plan** serves as a road map for the future and contains colorful graphics that show community survey results investigating why people walk and bike, a needs assessment, photos of innovative bike facilities, and recommended bike and pedestrian facility maps.

Aspen Downtowner Electric Shuttle

A mix of visitors and locals use this free **door-to-door shuttle service** in downtown Aspen, which runs from 8 am to 11 pm. The electric vehicles have heaters and ski racks, and people can request a ride using the Downtowner app.

WE-Cycle BikeShare

This **bikeshare program** is part of the regional Roaring Fork Valley bikeshare serving Aspen, Basalt, Willits, El Jebel and Snowmass Village.

Paepcke Transit Hub Improvement Project

Paepcke Transit Hub refers to the existing collection of multi-modal transportation options grouped around Paepcke Park, a central location to Aspen, which is just outside of the commercial core. In addition to pedestrians and bicyclists, this transit hub includes two WE-cycle stations, a Car To Go station, and the three bus stops. A hub improvement project was completed in 2022 to enhance the safety and function of existing services and upgrade infrastructure to support emerging technology. See Figure 1 on the following two pages for details and an example of outreach materials.

Critical Factors for Success

According to Senior Project Manager Mike Horvath, critical factors for success for the Paepcke Transit Hub project were partnerships with other departments and community entities as well as project outreach to neighbors and entire community.

Lessons Learned

According to Mr. Horvath, one lesson learned for the Paepcke Transit Hub project was that more detailed information within the transit hub plan set would have been helpful at reducing the number of RFIs (requests for information) and delays caused by RFIs. He also recommends ordering supplies and materials as early as possible to avoid delays.

Contacts

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Michael Horvath City of Aspen Engineering Project Manager (for Paepcke Transit Hub), **mike.horvath@aspen.gov**

Figure 1: The Paepcke Transit Hub improvement flyer is an example of public outreach materials

PAEPCKE TRANSIT HUB IMPROVEMENTS
CITY OF ASPEN

Project Information | August-December 2020
Updated: October 2020
PaepckeTransitHub@gmail.com | 970-924-0644 (call or text)
aspencommunityvoice.com/PaepckeTransitHub

Objective: Improve safety and user experience for pedestrians, bicyclists, bus riders and motorists at this popular transit area.

Project Summary: The collection of multi-modal services including three popular bus stops, two WE-cycle stations, Car to Go, and its central location make the Paepcke Transit Hub the second busiest transit area in the city. Following public input, the City of Aspen developed conceptual designs for safety and function improvements along Main Street and Garmisch Street surrounding Paepcke Park.

Project Update:

- [x] Read about conceptual designs
- [ ] Watch conceptual design video at aspencommunityvoice.com/PaepckeTransitHub
- [ ] Share your feedback on the webpage, via email or via phone

Garmisch Street Improvements

Main Street Improvements

Renderings are for illustrative purposes only and may not reflect the final design or layout.

Figure 1b: The Paepcke Transit Hub improvement flyer is an example of public outreach materials

PAEPCKE TRANSIT HUB IMPROVEMENTS
CITY OF ASPEN

Project Information | August-December 2020
Updated: October 2020
PaepckeTransitHub@gmail.com | 970-924-0644 (call or text)
aspencommunityvoice.com/PaepckeTransitHub

Application of public input into conceptual designs:

Phase I & II Input Themes	Conceptual Design Approaches [# numbers correspond to numbers on conceptual illustrations]
Garmisch is disorganized and has conflicting user corridors	**Garmisch Improvements** • Larger curve radius on southwest intersection corner for easier turning maneuver 1 • Formalized bus pull-off beyond the mid-block crossing just before Hopkins 4 • Exit bus from front and rear onto sidewalk • Queued busses can wait to pull-in or can drop passenger mid-block onto pedestrian area • Mid-block crosswalk 3 • Parallel public parking by Molly Gibson 2 • Ten diagonal, 2-hour public parking for park users with permeable pavers 5 • WE-cycle parking station 6 • One Car to Go parking space with electric charging station 7
Sidewalk connections could be improved	**Garmisch Improvements & Main Street Improvements** • Mid-block drop off for inbound buses with dedicated concrete bus pad 9 • Detached sidewalks along north and west sides of Paepcke park with ADA accessible ramps 8
Desire for covering or shelter at outbound stop with enhanced seating, real time bus signs and better route information	**Main Street Improvements** • Thinner, long BRT style bus shelter with increased cover and seating 25-30 people shelter 11 • Route maps and RFTA info, digital real-time signage • Separate waiting area from private property with additional bench seating
Main Street pedestrian crossing is distressing/feels dangerous	**Main Street Improvements** • Move north rapid flashing beacon onto raised island south of the bus pad to improve beacon visibility for motorists and serve as a safe pedestrian refuge to view traffic and cross Main Street 10 • Signage and striping improvements including shark teeth yield markings 13
Other concerns: ponding of rain water at down-valley stop, trash and recycling	**Main Street Improvements** • Grading and drainage improvements to prevent puddling and splashing 14 • Rain gardens • WE-cycle bike station with permeable pavers 12 • Bear-resistant trash and recycling receptacles

Learn more -
Project Webpage: aspencommunityvoice.com/PaepckeTransitHub
Email: PaepckeTransitHub@gmail.com
Project Phone: 970-924-0644 (call or text)

Banff, Alberta, Canada

Population: 8,305
(2021 Census of Population, Statistics Canada)

Challenges to Creating Walk, Bike, and Transit Friendly Places

The Town of Banff is located within Banff National Park, and directly affected by visitation to, and decisions for, the Park. Visitation has increased by 30% since 2010 and is expected to continue increasing. The vast majority of visitors to the Park arrive in private vehicles and expect to drive freely anywhere they wish and at all times of day. However, the road network capacity is finite and space to expand the road network capacity is also limited. This, combined with private vehicles, created congestion pressures (Figure 2) that resulted in negative impacts on transit travel times and the overall visitor experience, as well as on resident quality of life. Policies and programs to support congestion mitigation and sustainable transportation options need tax support and broad stakeholder engagement and buy-in. Overall, key challenges in the transportation system within Banff include:

- Continuing the investments that have produced a successful reversal in the historic trend of growing congestion pressures, which led to secondary outcomes such as backup spillover traffic onto the area highways.
- Buses including the local Roam bus run by Bow Valley Regional Transit Services, the Parks Canada Lake Connector shuttle, and the regional On-It bus run by Southland Transportation Ltd. (between Calgary and Banff) get stuck in congested private vehicle traffic.
  - The Roam Route 1 bus spent an estimated 83 hours in traffic delays along a 4.2 km stretch between town and a location in the Park during July-August 2022.

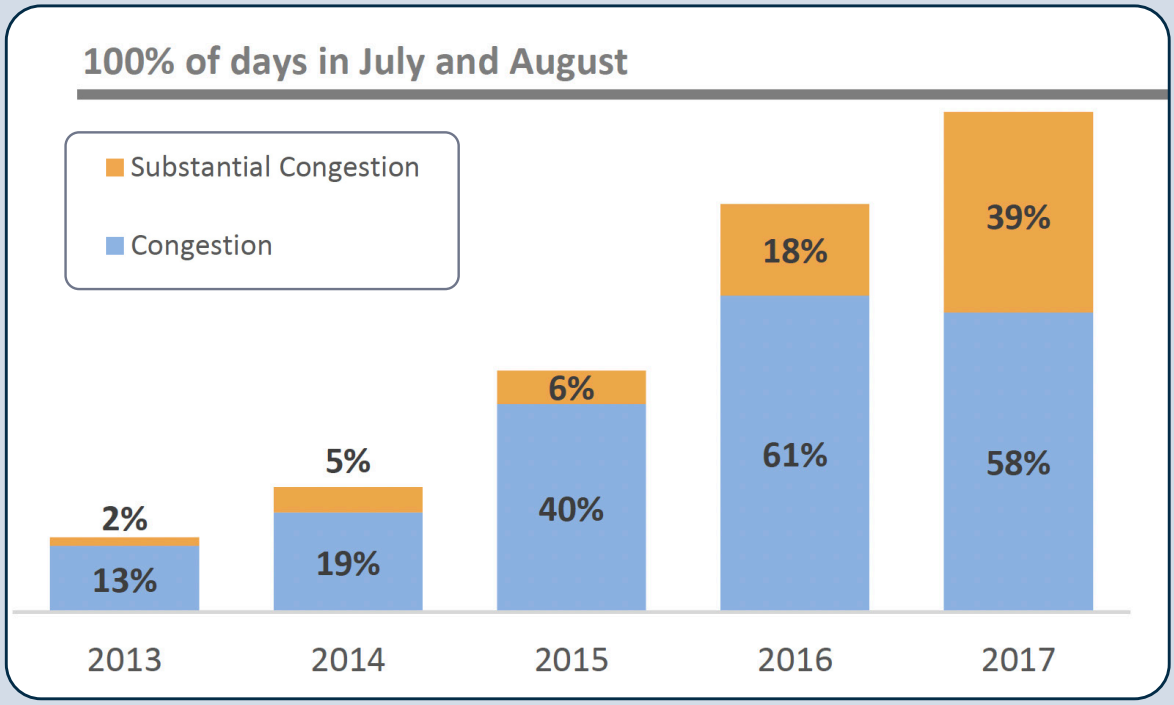

Figure 2: Congestion (24,000+ vehicles per day) or Substantial Congestion (28,000+ vehicles per day) trended upward between 2013 and 2017 – but has since declined. Image Source: Figure ES-1 & 1-1 from the 2018 Calgary-Bow Valley Mass Transit Feasibility Study demonstrating year-over-year congestion change during July and August in Banff)

Banff's Walk, Bike, and Transit Friendly Solutions

Incentivizing Sustainable Alternatives and Disincentivizing Driving

Carrots don't work without the sticks, and the sticks don't work without the carrots; success comes from combining incentives for the use of sustainable alternatives with disincentives for driving. The Town of Banff and partners, including Parks Canada, have pursued a mutually reinforcing package of programs and policies to improve sustainable alternatives and implement parking management. Town officials collected and analyzed data to determine that charging for parking was critical in creating the mode shift observed, while improvements to sustainable alternatives were also critical in making parking charges tolerable to visitors. The upward trend in congestion observed between 2013 and 2017 is successfully being reversed as visitors, who arrive by car, are increasingly choosing other ways to get around once they arrive.

Expanding and Improving Public Transit

In the last 10 years, Banff has made significant investments and improvements in local and regional public transportation, as well as pedestrian access and walkability. They have invested heavily in transit and put transit prioritization projects into place, built two pedestrian bridges over the Bow river (which divides population centers from key attractions), pedestrianized key downtown streets during peak hours, and rebuilt Bear Street as a pedestrian-priority plaza. Since 2013, the Roam bus fleet has increased from 4 to 32 buses, and the service is free to all Banff residents and many hotel guests. Parks Canada also funds free transit from Tunnel Mountain Campground, and On-It provides transit between the Calgary population center and Banff during peak summer weekends (Figure 3). Investments have also been made in trails and pedestrian bridges to improve pedestrian access. Additional improvements to sustainable alternatives are being planned, including more transit prioritization projects.

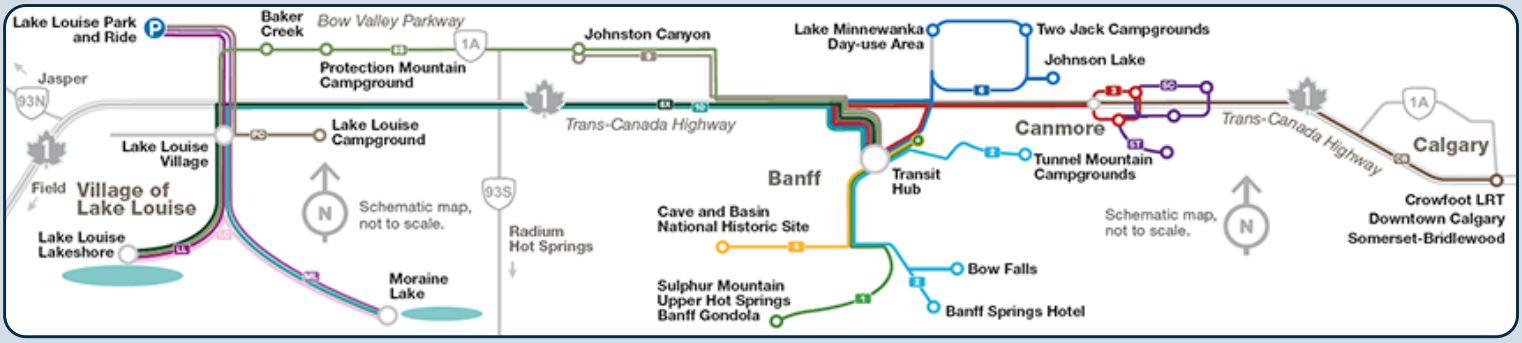

Figure 3: This overview of the Banff transit system shows that Roam Public Transit provides service to several key destinations, as well as connections to other transit services, and a dedicated Park and Ride lot. (Image Source: Parks Canada).

Parking Management.

An intercept parking lot was built to provide a place to park private vehicles outside of key destinations and reduce the volume of private vehicles coming into the downtown core and parking at key destinations. Visitors are encouraged to consider parking in the intercept lot and then using a shuttle to the Park or town, including via a "Park. Ride. Explore" marketing campaign. Parks Canada provides real-time information to visitors about the availability of parking and major traffic events. The downtown core has been organized into zones, including those where residential parking permits are required, where **visitor-pay parking** is in place, and where parking is free (Figure 4). Visitors are encouraged to consider several free parking lots within a short distance (<10-minute walk) from the downtown core.

Figure 4: Town of Banff public parking (image source: Town of Banff)

Critical Factors for Success

Town officials credit partnerships with local businesses, community organizations, and neighboring communities, as well as public support via tax funding, for the success of their efforts to improve sustainable alternatives and discourage driving.

Lessons Learned

The Town of Banff and its partners have pursued a "build it, and they will come" approach. Transit investments have resulted in substantial increases in the usability of the services, as well as ridership. Roam bus ridership has increased 260% between 2013 and 2022, from 600,000 trips to 1,700,000, and had an estimated 2,100,000 riders in 2023. The 340,000 riders who took Roam between July and August 2022 represent the equivalent of removing 137,000 vehicles from the downtown road network. That means that 9% of daily incoming vehicles (2,200 vehicles) were parked, and their users chose other ways to get around town.

Town officials are confident that strains from roadway gridlock would continue to grow unabated without the Roam bus service. After several years of successful transit frequency increases during the peak summer months, the Town of Banff voted to increase off-peak frequencies as well. As a result, Roam has seen a 61% increase in ridership over the previous record year (2019) in just the first four months of 2023.

In contrast to the so-called "transit death spiral," where decreasing service leads to decreasing ridership and further decreasing services, the Town of Banff has harnessed the positive service cycle where improved service leads to increased ridership and further service improvements.

Contacts

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Adrian Field, Director of Engineering, Town of Banff

Crested Butte, Colorado

Population: 1,335 (2020 American Community Survey)

The town of Crested Butte is approximately four miles from Mt. Crested Butte (pop 901), the location of the popular ski area Crested Butte Mountain Resort (CBMR), and the last community along the road. This layout is similar to Big Sky, where the Town Center is approximately 6.5 miles from the ski resort, and it is also the last community along the road.

Challenges to Creating Walk, Bike, and Transit Friendly Places

Crested Butte is facing growing auto dependence of residents due to a housing crisis and many visitors arriving by motor vehicles.

Crested Butte's Walk, Bike, and Transit Friendly Solutions

Crested Butte has been successful in managing negative impacts of automobile traffic and auto dependence through the following actions:

Free Local and Regional Transit

The Town of Crested Butte and Mt. Crested Butte have a dedicated sales tax for the operation of Mountain Express, the local transit provider. Similarly, residents of Gunnison County approved a dedicated sales tax for the operation of a Regional Transit Authority between Gunnison and Crested Butte. Both systems operate fare-free.

Figure 5: Mountain Express Bus (Courtesy: Crested Butte Mountain Express)

Parking Management

The Town of Crested Butte and CBMR manage their parking resources in different ways. The resort charges for parking while the Town manages its parking resources through a neighborhood permit process, only allowing residents (not visitors) to park in neighborhoods. These management practices contribute to reducing vehicle trips in the valley. According to the February 7, 2022 Crested Butte Staff Report, a parking program could address the following challenges:

- Reducing the impact automobiles have on the community by reducing traffic volumes and greenhouse gas emissions.
- Increasing transit ridership by reducing the convenience of parking.
- Creating a more walkable and bike-friendly community by reducing the number of vehicles circulating in town.
- Balancing the small-town feel of Crested Butte with the continued livability of the town. Crested Butte and the Valley's visitation is increasing and impacting the community's quality of life.

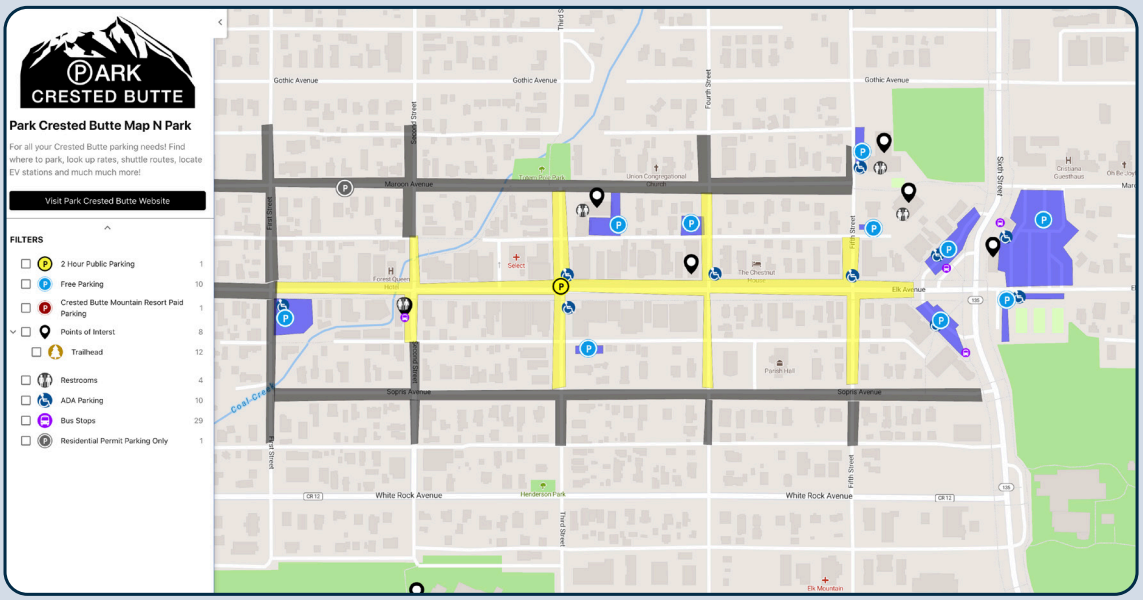

Figure 6: Interactive map of Crested Butte Parking (Courtesy: Town of Crested Butte)

Traffic Calming

The Town of Crested Butte has a traffic calming program for some of the Town's most traveled corridors and residential streets. Seasonal traffic calming during the warmer months include planters filled with flowers and various treatments that slow motor vehicle speeds and make streets safer and more welcoming for everyone.

Contact

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Resources

Town of Crested Butte Public Parking
Town of Crested Butte Mountain Resort

Jackson, Wyoming

Population: 10,585
(2016-2020 American Community Survey 5-Year Estimates)

Challenges to Creating Walk, Bike, and Transit Friendly Places

Jackson might be considered 'first among equals' when it comes to the affordable housing crisis; like many peer resort communities, unaffordable housing makes it difficult for workers to live near their jobs. This creates regional transportation challenges as more workers commute longer distances – according to the Town of Jackson, the **median sale price for a single-family home in 2016 was $880,000**. Once workers or visitors arrive, shifting as many of the in-valley/in-town trips away from single-occupancy vehicles and toward sustainable alternatives continues to be a challenge.

Part of the housing affordability challenge in Jackson is due to the shift of even the most modest housing stock toward short-term rentals (e.g., AirBnB). When more housing stock is devoted to temporary visitors, rather than long-term residents, not only workforce housing challenges are created, but growing and maintaining a local constituency and base of support for sustainable transportation is also difficult.

Figure 7: Pathway between Town of Jackson and Grand Teton National Park (Image Source: Jackson/ Teton Integrated Transportation Plan).

Build-out of the active transportation network is at a critical inflection point. After several decades of successful effort to build an extensive separated pathway network (Figure 6), including connections to surrounding communities and Grand Teton National Park, focus has shifted to creating a higher level of safety, comfort, and accessibility on town streets via on-street bike facilities. The best practice design guidance calling for separation and protection from fast-moving motorized traffic requires the reallocation of space, leading to some "bikelash" or opposition.

Jackson's Walk, Bike, and Transit Friendly Solutions

Hiring a Transportation Planner

To increase their ability to address regional transportation challenges, **Teton County created and filled a new Regional Transportation Planning Administrator position** in 2022. This role serves to coordinate transportation planning efforts in Teton County, the Town of Jackson, and with additional regional partners. One of the Regional Transportation Planning Administrator's projects is the development of a regional multimodal hub, which uses the City of Aspen's hub as a model. This new regional administrator builds on the work of the existing Teton County Pathways & Trails Coordinator.

The new Safe Streets for All (SS4A) federal program recently awarded $480,000 for the Teton County & Town of Jackson Comprehensive Safety Action Planning Project, which will focus on updating the 2007 Pathways Master Plan.

Critical Factors for Success

A visionary founder in Jackson laid the groundwork for a pathways system in the 1990s that has enabled successful implementation in the intervening decades. Having a community member with the foresight to build pathways ahead of much of the westward expansion in housing development enabled critical linkages in the Pathways network (such as the Garaman Pathway, which provides safe crossing of Highway 89/U.S. Highway 191).

The Friends of Pathways nonprofit organization (Figure 7) has done an excellent job of telling the stories of Pathways users (e.g., videographers filming Bike to School Day and interviewing school officials and parents). Post-implementation data has proven useful in responding to project backlash and assertions that "nobody uses these facilities."

Figure 8: Friends of Pathways Landing Page (Image Source: Friends of Pathways).

Lessons Learned

The Teton County Pathways & Trails Coordinator has used targeted and seasonal pilot and demonstration projects to help the community to see and experience on-street bike facilities, and to build public support. Taking time to plan for future development may allow proactive design and implementation, rather than expensive retrofitting down the line. Even well-intentioned local targets for affordable housing development (such as Jackson's goal for 65% of employees to live locally set in 2012) may be difficult to attain; it is important to be realistic about the potential for growing regional travel demands due to affordable housing challenges.

Contact

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Park City, Utah

Population: 8,467
(2016-2020 American Community Survey 5-Year Estimates)

Challenges to Creating Walk, Bike, and Transit Friendly Places

Like many resort communities, Park City is a smaller community that receives a lot of visitation, and it is challenging to provide a consistent level of transit service while still being able to scale up for peak times and large events. A newer challenge for active transportation is the interaction of incompatible users types (e-bikes and dog walkers for example) on the trail system.

Park City's Walk, Bike, and Transit Friendly Solutions

Park City's free transit and a citizen led Walking and Biking Advisory Liaison Committee have been very impactful in creating more transportation options and reducing dependence on the automobile.

Free Transit

Park City's local and regional transit services are fare free and include five bus routes and a trolley line operated by Park City Transit, and 2 regional bus routes operated by High Valley Transit, which began service in Summer 2021. To some degree, peak season hiring for transit has helped Park City scale up service during large events and peak times.

Walking and Biking Advisory Liaison Committee

The Walking and Biking Advisory Liaison Committee (WALC) group formed from Park City residents and stakeholders who led an effort to secure funding and build more active transportation options. This effort led to a $15 million bond being awarded in 2007 to fund walkability projects, including separate bike paths and walk-friendly features in the heart of Park City that connect to over 350 miles of trails (**David Fierro, 2011**)

Transportation Plan

In 2022, **Park City Forward**, the Long-Range Transportation Plan was adopted. It contains the following guiding principles:

- Develop a Park Once community
- Collaborate with regional partners on long-range transportation solutions
- Identify, manage, and mitigate traffic during peak conditions
- Expand our world class biking and walking infrastructure
- Proactively review and analyze disruptive transportation and transit ideas and innovation
- Continue to develop and improve the internal Park City Transit system

Park City leaders think this plan will be a significant tool in improving all modes of transportation in the City - from biking and walking to technology.

Critical Factors for Success

A City Commissioner cited two reasons for the city's forward-thinking mindset; "We are willing to tax ourselves for things we believe our community wants. That's a big hurdle for a lot of municipalities. We also go on a road trip every year to see what other communities are doing. Then we go and steal the best ideas we can" (Fierro, 2011).

Lessons Learned

Make planning efforts something that the community, elected officials, and stakeholders can quickly understand. The Park City Forward plan content has been provided in concise and easy to understand formats (**as a brochure, vision summary and blueprint/ final plan**) Figure 8 shows various types of people that make Park City a thriving community. The Park City Forward Plan (September 2022) examined the community's diverse transportation needs through a lens of its typical users to identify salient transportation solutions.

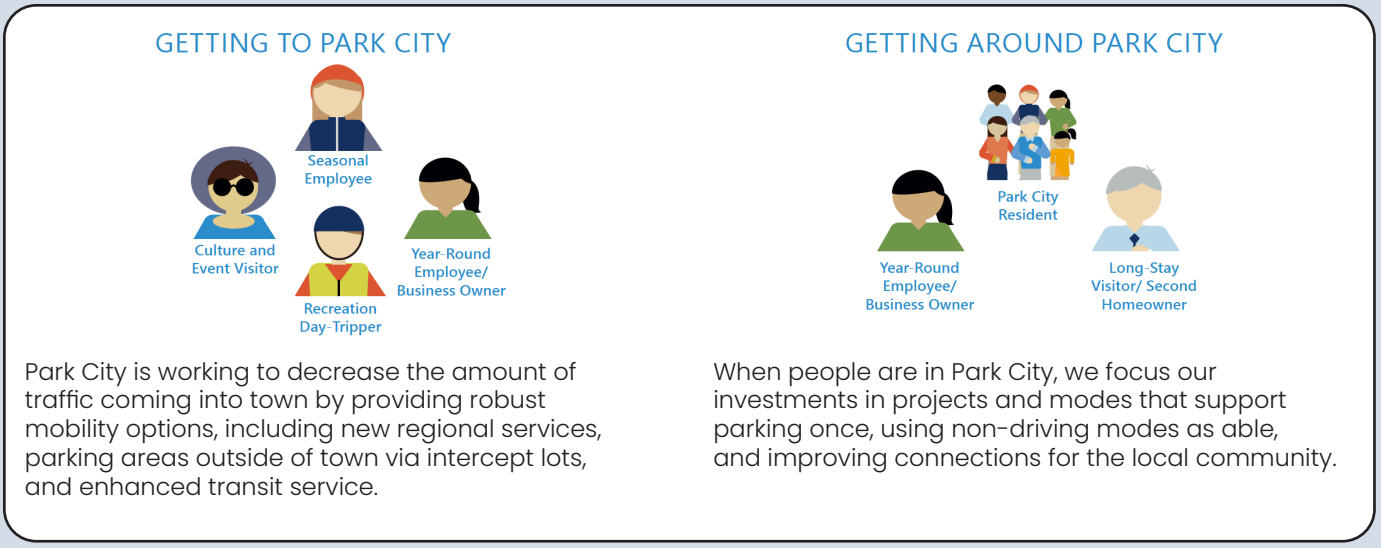

Figure 9: Park City People (source: Park City Forward Final Plan September 2022)

Contact

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Steamboat Springs, Colorado

Population: 13,048 (2016-2020 American Community Survey 5-Year Estimates)

Challenges to Creating Walk, Bike, and Transit Friendly Places

Like many peer communities, Steamboat Springs faces transportation challenges relating to traffic congestion and parking availability, as well as unsafe or unwelcoming conditions for pedestrians and bicyclists.

The 2019 Downtown Plan listed several challenges and difficult decision points relating to connectivity, parking, and mobility. In terms of parking, "lack of parking for business customers and "lack of parking for business owners and employees" were the top-cited connectivity/mobility challenges (Figure 9) reported in the public engagement process (see page 10), and the plan describes difficult decisions surrounding building an expensive parking garage versus investing in alternatives, as well as implementing metered parking versus maintaining free parking (see page 16). Lacking sidewalk and bicycle facility networks were also cited as connectivity/mobility challenges, and the plan describes the need to add to the pedestrian and bicyclist networks within a narrow public right-of-way, while also pursuing parking solutions.

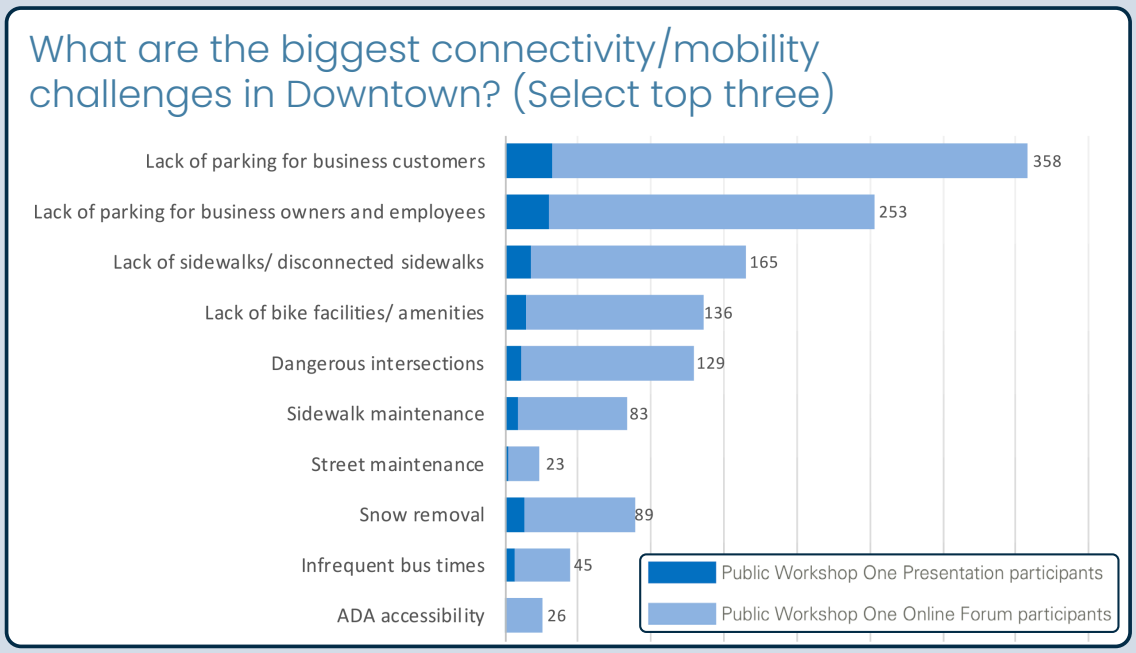

Figure 10: Public Comment on Connectivity and Mobility (Source: 2019 Downtown Plan).

The 2022 Mountain Area Master Plan, which focuses on the areas surrounding the Steamboat Ski Resort, describes several challenges, including insufficient pedestrian wayfinding, confusing/nonintuitive entrances and unattractive, congested conditions at the Gondola Transit Center, sprawling parking lots on high-value land, congestion from vehicles searching for parking, and growing demand for parking that is likely to exceed the current supply (see Figure 13, page 37).

Parking continues to be a contentious issue in Steamboat Springs. There is division over whether there is a parking problem that should be solved by an increase in the parking supply or a walking problem that should be solved by encouraging and facilitating walking to and from the existing parking supply. Priced parking (e.g., metered parking) continues to be periodically considered but has not been adopted.

In terms of public transportation, while the 2019 Downtown Plan notes that all areas of downtown are well-served (i.e., within ¼ mile of a bus stop or a 10-minute walk), recent efforts to expand service have not been successful. As reported in the Steamboat Pilot & Today (**March 2nd, 2023**), the cost of the Steamboat Springs transit network is increasing faster than its funding, which has required reduced service in order to remain within budget. As a result, it is not possible to serve the annexed Brown Ranch community and neighborhoods to the west with current funding. On **November 24th, 2022**, it was reported that bus driver staffing shortages meant the Steamboat buses could not run past midnight – leading to public safety concerns for visitors as well as employees who needed to make late night/early morning trips home or to the resort. As the Steamboat Springs Transit Manager summarizes, the biggest transit challenges relate to stable funding and staffing.

Steamboat's Walk, Bike, and Transit Friendly Solutions

Some of the local and regional transportation challenges could be addressed by the formation of a Regional Transportation Authority. A renewed effort is underway to form such an entity (as reported **March 21st, 2023**), with three municipal partners (Steamboat Springs, the City of Craig, and Routt County) commissioning a Regional Transportation Authority Feasibility Study with the help of funding from the Colorado Department of Transportation as well as the Federal Transit Administration. Such an authority could create a pathway for dedicated transit funding, in contrast to the existing method that requires transit service to compete for funds from the City of Steamboat Springs General Fund. While awaiting the outcome of the feasibility study, the Steamboat Springs Transit Manager is practicing intensive recruiting of bus drivers, as well as a modernization of transit information via a dedicated app and GPS-based real-time information. This information provides critical updates abouts detours, crowding, and traffic delays.

Critical Factors for Success and Lessons Learned

In the effort to establish a Regional Transportation Authority, instead of looking for partners along the way, a strong partnership was established prior to the effort commencing. In addition, the upcoming Feasibility Study will identify potential projects using detailed scoring around vehicle miles traveled reductions. These projects may then be included in a proposal to the public when the vote on the establishment of the Authority is held. The renewed effort is also intentionally multimodal and includes a name change from Regional Transit Authority to Regional Transportation Authority.

A dedicated IT specialist was hired to focus on the efforts to modernize the system's transit information. This enabled efforts such as beta testing to ensure successful deployment.

Contact

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Justin Barker, Transit IT Specialist, **jbarker@steamboatsprings.net**

South Lake Tahoe, California

Population: 22,535 (2016-2020 American Community Survey 5-Year Estimates)

Challenges to Creating Walk, Bike, and Transit Friendly Places

The City of South Lake Tahoe is located on the CA-NV border and situated within a bi-state regional planning context and among multiple local jurisdictions around the lake. The City of South Lake Tahoe is the sole incorporated municipality within the Lake Tahoe basin. All other 'cities' (Tahoe City, Kings Beach, Incline Village, Homewood, Tahoma, etc.) are unincorporated communities within either Placer, El Dorado, Douglas or Washoe County. This has created challenges in terms of public transportation planning and coordination, as well as staffing; Vail Resorts, casinos, local jurisdictions, school districts, and the regional Tahoe Transportation District (TTD) all run transit services in the Lake Tahoe region – and compete for workers from the same labor pool. Placer County Transit (PCT) runs bus services on the north shore and TTD serves the south shore.

Figure 10: Heavy snowfall creates challenges for maintaining winter road and trail conditions (Image Source: Lake Tahoe Bicycle Coalition, courtesy of the City of Lake Tahoe).

Impromptu and unsanctioned parking around the lake has become a significant problem, and parking enforcement efforts have not been able to curb this behavior. There is limited land available to create new parking lots and restrictions on new impermeable coverage under stringent development controls were put in place by the Tahoe Regional Planning agency (TRPA) to protect the clarity of Lake Tahoe.

Like many ski resort communities, snow plowing (removal and storage) and winter road/trail maintenance pose significant challenges for the region, which routinely sees 210+ inches of snowfall annually (Figure 10). Transit buses are susceptible to being hit in collisions due to icy road conditions, and infrastructure such as parking meters can be damaged by plows. In addition, many traditional vertical traffic calming features don't work well when heavy equipment is clearing 2-3 feet of snow. Poorly designed streetscape elements get damaged by plowing.

South Lake Tahoe's Walk, Bike, and Transit Friendly Solutions

Including Visitor Numbers in Funding Applications

The Tahoe Metropolitan Planning Organization played a major role in ensuring that short-term visitors were included for population accounting purposes in grants to fund walking, biking, and transit projects (from the federal Transportation Improvement Program and CA state Active Transportation Program); this revised approach has led to an increase in active transportation project funding for the Tahoe region.

Designing with Weather Conditions In Mind

Local and regional planners are proactively designing streetscaping and securing equipment to better anticipate and withstand the impacts of the region's heavy snowfall. For example, the Tahoe Transportation District is in the process of securing smaller buses that will more easily navigate winter conditions, while the City of South Lake Tahoe is working on factoring in snow removal and storage into the design of Complete Streets and active transportation projects – and using specialized equipment and snow stakes to ensure streetscape improvements are more visible to plows (Figure 11).

Figure 12: Streetscaping damaged by winter plows (Image Source: City of South Lake Tahoe).

The Tahoe Transportation District is working on competitive and enticing employee benefits and perks to recruit and retain workers. To address parking challenges around the lake, TTD is acquiring small parcels to use for parking and also creating services such as the East Shore Express shuttle to reduce the demand for parking at popular destinations.

Critical Factors for Success

Incorporating the visitor population into funding applications has boosted the region's ability to expand and improve facilities for walking and biking. In addition, a policy adjustment at the Tahoe Regional Planning Agency means that sidewalks and bike paths are no longer considered impermeable surface coverage for the purposes of hardscaping runoff pollution mitigation fees; this change has proved critical to encouraging paths for walking and biking.

Lessons Learned

It is much more effective to proactively design for heavy snowfall and winter conditions than to fix and replace infrastructure once it is damaged. Consideration of snow storage with buffer areas in Complete Streets design is critical to ensuring bike and pedestrian improvements can be cleared and remain accessible during winter months.

Contacts

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Vail, Colorado

Population: 5,614 (2020 American Community Survey)

Challenges to Creating Walk, Bike, and Transit Friendly Places

The Greater Vail community is sprawling, and lack of affordable housing has forced many to live outside of Vail with fewer transportation modes into Vail proper the farther away they live. This puts more pressure on parking and increases traffic volumes in both Vail and the communities down valley. It also spreads out jobs and services, which makes them harder to access without an automobile. Challenges in the transportation system within Vail include:

- Significant congestion on many bike paths and pedestrian areas during the busy summer months, which increases the chances of bike/pedestrian collisions.
- Hiring bus drivers to support the levels of transit service needed for the transportation system to operate efficiently at all levels (local, regional, and intercity travel).

Vail's Walk, Bike, and Transit Friendly Solutions

Regional Transportation Planning

There is a growing understanding that transportation issues must be addressed at a regional scale. In autumn 2022, voters approved a referendum to create a regional transportation authority that provides expanded regional transit services as well as coordinates other regional transportation programs and planning efforts. This will hopefully help address the transportation issues that the county is facing as it continues to grow.

Regional E-Bike Share System

Outside of the regional transportation authority multiple local governments have come together to create a **regional e-bike share system** (Figure 13) that services much of eastern Eagle County. Vail has created dismount zones in each of the downtown areas to address the pedestrian congestion. The town and has added advisory bike lanes on a road that sees significant bike volumes during the summer but where permanent bike lanes were not feasible.

Figure 13: E-bike share program in Vail is part of regional system (Image Courtesy Town of Vail).

Pedestrianize Neighborhoods, High-Frequency Transit & Parking Management

The most impactful project that Vail has undertaken to promote alternative transportation modes was to reallocate automobile driving and parking lanes into pedestrian malls in the two downtown neighborhoods (in the 1970s) and consolidate day parking into two parking structures that the Vail manages. This, combined with high frequency transit connecting the two downtown areas, often makes walking, biking, or transit the easiest way to access or travel within downtown Vail. Since the Town manages most of the day parking, it can use its parking management policies to make a significant impact as part of its transportation demand management program.

E-Vail Courier Program (last mile delivery)

In 2022, the Town implemented the **E-Vail Courier Program**- a last mile delivery program to removed most delivery vehicles from the Vail Village and Lionshead pedestrian malls. In the past, delivery vehicles would go directly to businesses within the pedestrian mall. Over the past year the town implemented a pilot and full-scale program where most delivery vehicles are required to deliver to a centralized loading dock on the periphery of the mall. From there, a third-party logistics company contracted by the town uses electric carts (Figure 14) for the final last mile delivery to the businesses.

Figure 14: E-bike share program in Vail is part of regional system (Courtesy Town of Vail).

Key Benefits of E-Vail Courier Program

This project removes large commercial vehicles from the pedestrian mall, which frees up more space for pedestrians. It also reduces local air pollution by preventing trucks idling outside of businesses during deliveries.

Critical Factors for the Success of the E-Vail Courier Program

Communication with stakeholders was a key factor in the success of this project. Town staff and the contracted last mile delivery company were in constant communication with both the purveyor companies and affected local businesses, which allowed them to walk through the new process and address any concerns that may have arisen.

Lessons Learned from E-Vail Courier Program

This program was a lesson in being mindful program impacts on affected parties. Originally, there was a plan to slightly increase the business license fee for affected businesses to help fund a portion of operating expenses. After feedback from business owners, the town instead decided to cover that portion of the operating costs through its general fund.

Contact

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Whistler, British Columbia, Canada

Population: 13,982 (2021 Census of Population, Statistics Canada)

Challenges to Creating Walk, Bike, and Transit Friendly Places

Whistler has a growing population of both short-term visitors and year-round residents. Between 1996 and 2016, short-term visitors grew from 1.7 million to 3 million and year-round residents grew from 7,000 to 12,000 (Source: **Moving Whistler, 2018**). As a result, Whistler has been facing growing transportation challenges related to traffic congestion and safety, parking, transit crowding, and delays. These transportation impacts have led to visitor and resident complaints, as well as negative impacts on businesses and the environment.

The **2016 Parking Study** found weekend occupancy in most parking lots was over 90% during both the winter and summer, with availability at 0% on peak days in many parking lots. In addition, traffic levels were historically high in 2016, and a large share of daily traffic (as measured by the Highway 99 traffic counters) was generated by trips within Whistler.

Overall, key challenges in the Whistler transportation system relate to:

- Congestion on roadways and difficulty finding parking.
- Dispersed land use and development patterns, hilly topography, and winter weather conditions that create challenges for transit system planning as well as active transportation.
- Limited funding for alternative services and programs to support walking, biking, and transit.

Whistler's Walk, Bike, and Transit Friendly Solutions

Transportation Advisory Group

Whistler's Transportation Advisory Group (TAG) was reactivated in 2015 and has focused on collecting and analyzing transportation data to support evidence-based decision making. The TAG led a series of assessments in 2016-2017 and developed short-, medium- and long-term Transportation Action Plans that contain strategies for traffic and parking management, and improvements to transit, carpooling, carsharing, and bicycling. In addition, the TAG has conducted regular **research and monitoring** efforts to assess and evaluate the results of these action plans.

Incentivizing Sustainable Alternatives and Disincentivizing Driving

Carrots don't work without the sticks, and the sticks don't work without the carrots; success comes from combining incentives for the use of sustainable alternatives with disincentives for driving. Whistler and partners have pursued mutually reinforcing programs and policies to improve transportation options and manage parking. Whistler implemented parking fees at municipally owned and operated parking lots and encouraged the resort operator (Vail) to implement parking fees as well. Revenue from municipal parking has been directed, in part, to the Community Transportation Initiative Fund, which has funded free transit service on summer weekends, additional transit pass subsidies for high school students, and secure bike and gear parking at lakeside parks.

The TDM Coordinator is confident that charging for parking and directing the revenues to improve transportation options has been critical for reducing congestion, parking issues, and overall transportation impacts. In addition, a portion of the Hotel Tax and Resort Municipality Initiative funds support walking, biking, and transit programs, including Village Shuttle routes 4, 5 and 8 (Figure 15).

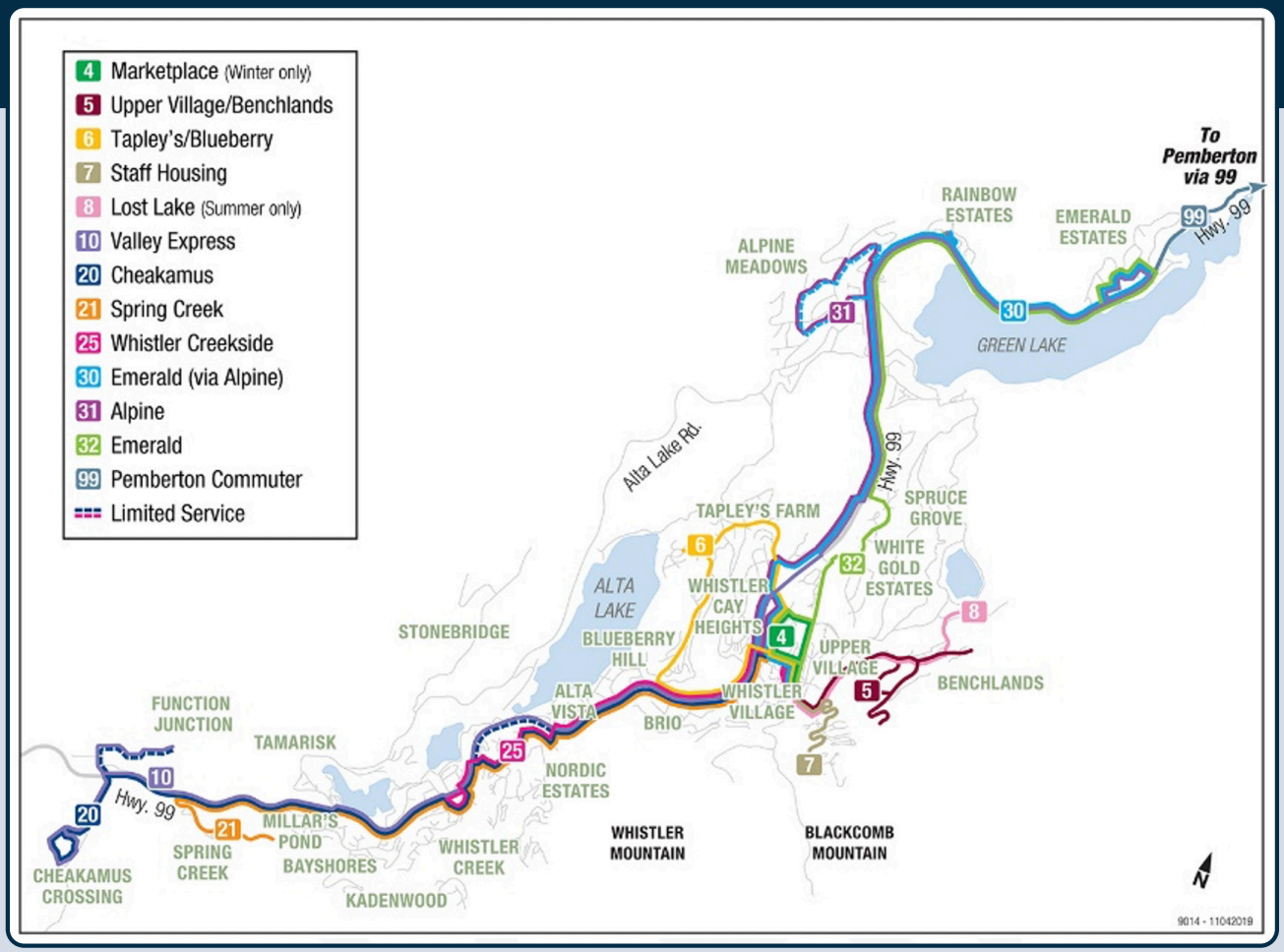

Figure 15: BC Transit Map for the Whistler Village and Region (Source: BC Transit).

Whistler has also made a winter maintenance commitment to the Valley Trail multiuse path to enable safe walking and biking year-round. To reduce the overall demand of travel across the region, Whistler also has a policy commitment to house at least 75% of its workforce within Whistler itself.

Critical Factors for Success

The TAG is chaired by the Mayor and has strong buy-in from key stakeholders and partners, including the resort and business communities as well as the public. The TAG has been successful in packaging policies to discourage driving and encourage use of alternatives in a way that has broad appeal.

Lessons Learned

Holding planning efforts accountable through regular monitoring and reporting of results has helped sustain interest and support; Whistler is a great example of SMART (Specific, Measurable, Accountable, Realistic, Time-Based) goal setting and action-planning. The TAG produced **monitoring reports** for the Transportation Action Plans in 2018, 2019, 2020, and 2021. In addition, they have invested in strong community engagement and information sharing, including visually appealing **infographics and posters**.

Contact

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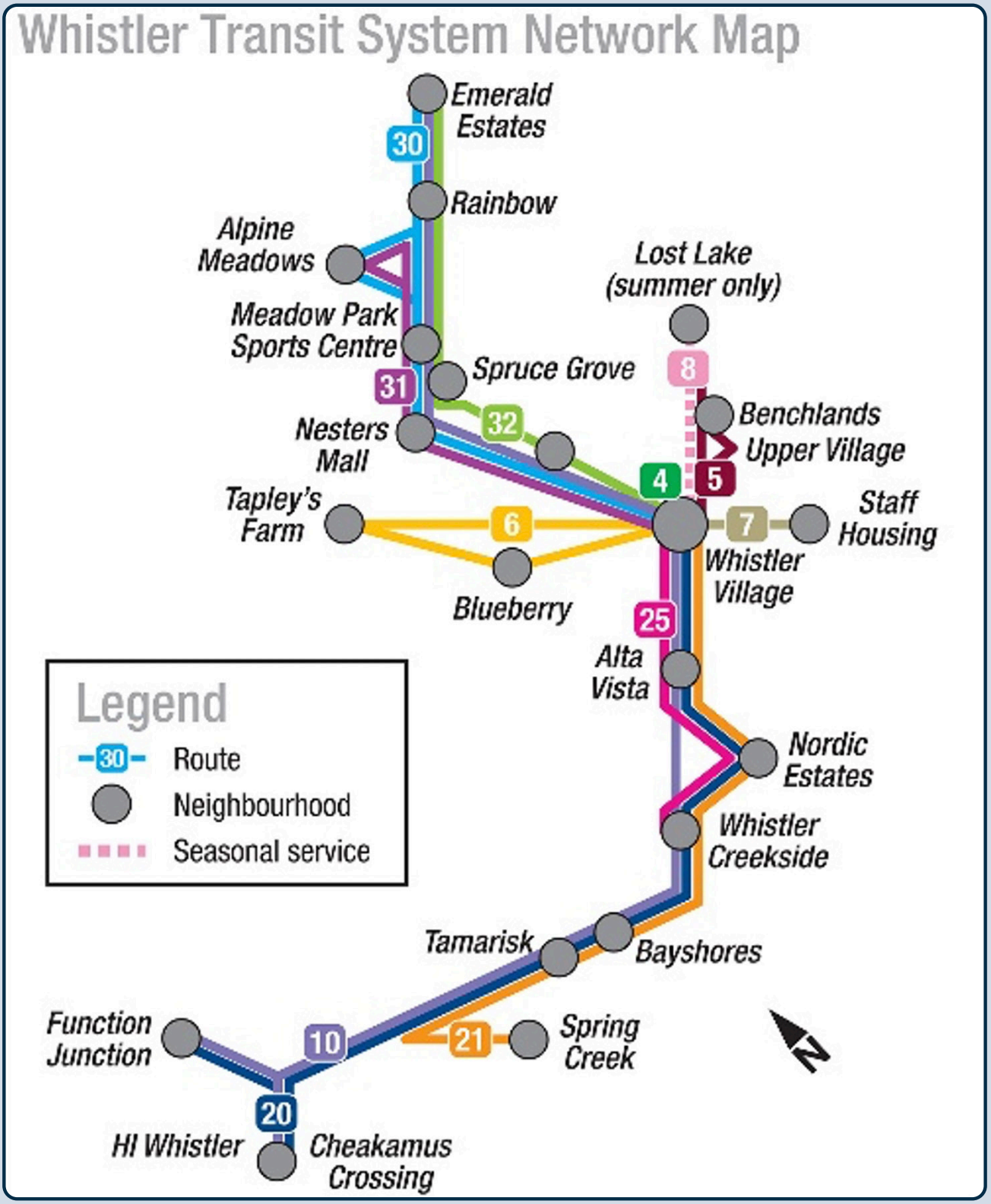

Figure 16: BC Transit Map for the Whistler Village and Region (Source: BC Transit).