

2023 VERMONT PUBLIC PLACES AWARDS

Kingdom Trails Network Capacity Study

Award Submission

2.27.2023





KINGDOM TRAILS OVERVIEW

Kingdom Trails is a world-class mountain bike and multi-season trail destination that is deeply intertwined with the local communities of the Northeast Kingdom.





ABOUT THE PROJECT

The Kingdom Trails Network Capacity Study was a year long planning process intended to address issues and capacity of the Kingdom Trails network and enhance the network's positive impact on the host communities.

This project explored:

- A new Welcome Center location
- Access portal improvements
- Connections and crossings
- Opportunities to disperse users

Key project elements included:

- Data collection on existing levels of use and experience
- Engagement with the host communities
- Network analysis (capacity, traffic, parking, etc.)
- Conceptual designs for potential improvements



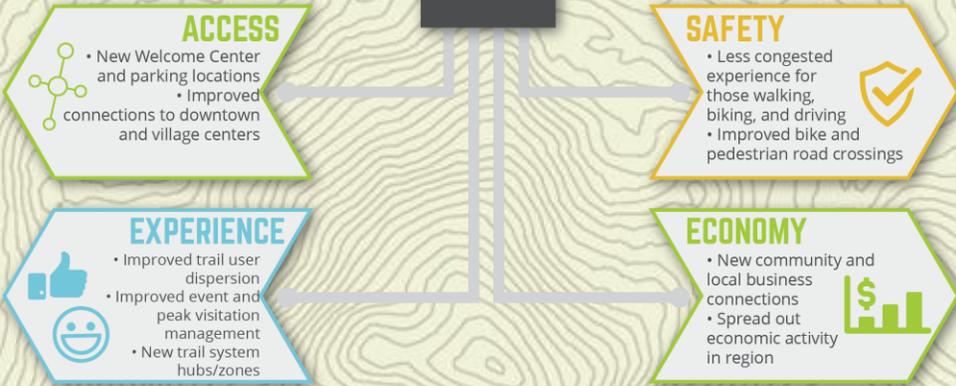
NETWORK COMPONENTS



ANALYSIS



OUTCOMES



PUBLIC ENGAGEMENT



15+
Focus Group
Meetings

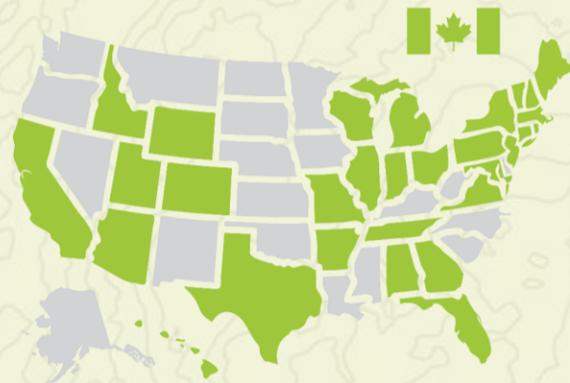


200+
February
Open House
Attendees

950+

Visioning
Survey
Respondents

25+ States & 3 Canadian Provinces



309+

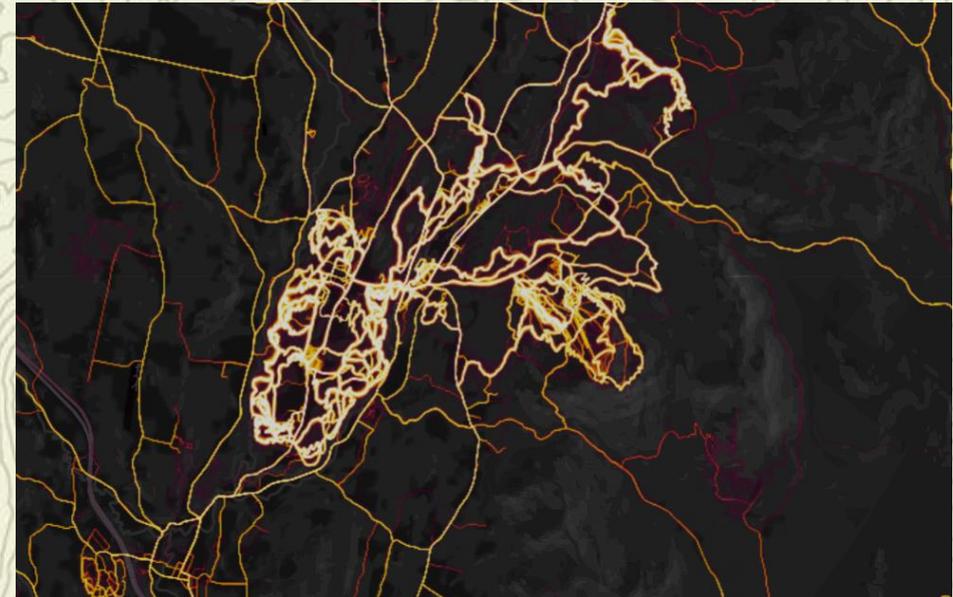
Post-Ride
Surveys



ANALYSIS GOALS

Capacity analysis addressed the following key questions:

- How many people can the system and each of the pods accommodate?
- Does the capacity of the trails align with or exceed the number of people who can access the system?
- What are areas that may benefit from additional trails, parking, food & beverage, or lodging?

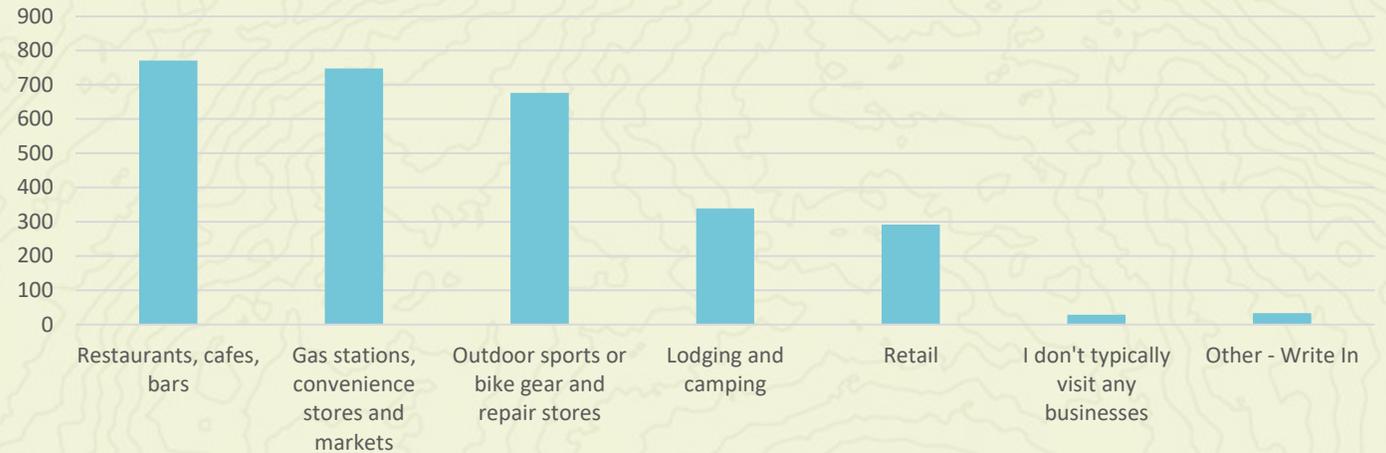




ANALYSIS COMPONENTS

- Trail counting—summer + winter
- Strava/Trailforks user data
- Trail pass/membership sales analysis
- Inventorying + observations
- Focus groups, surveys, and public engagement

Business Visits



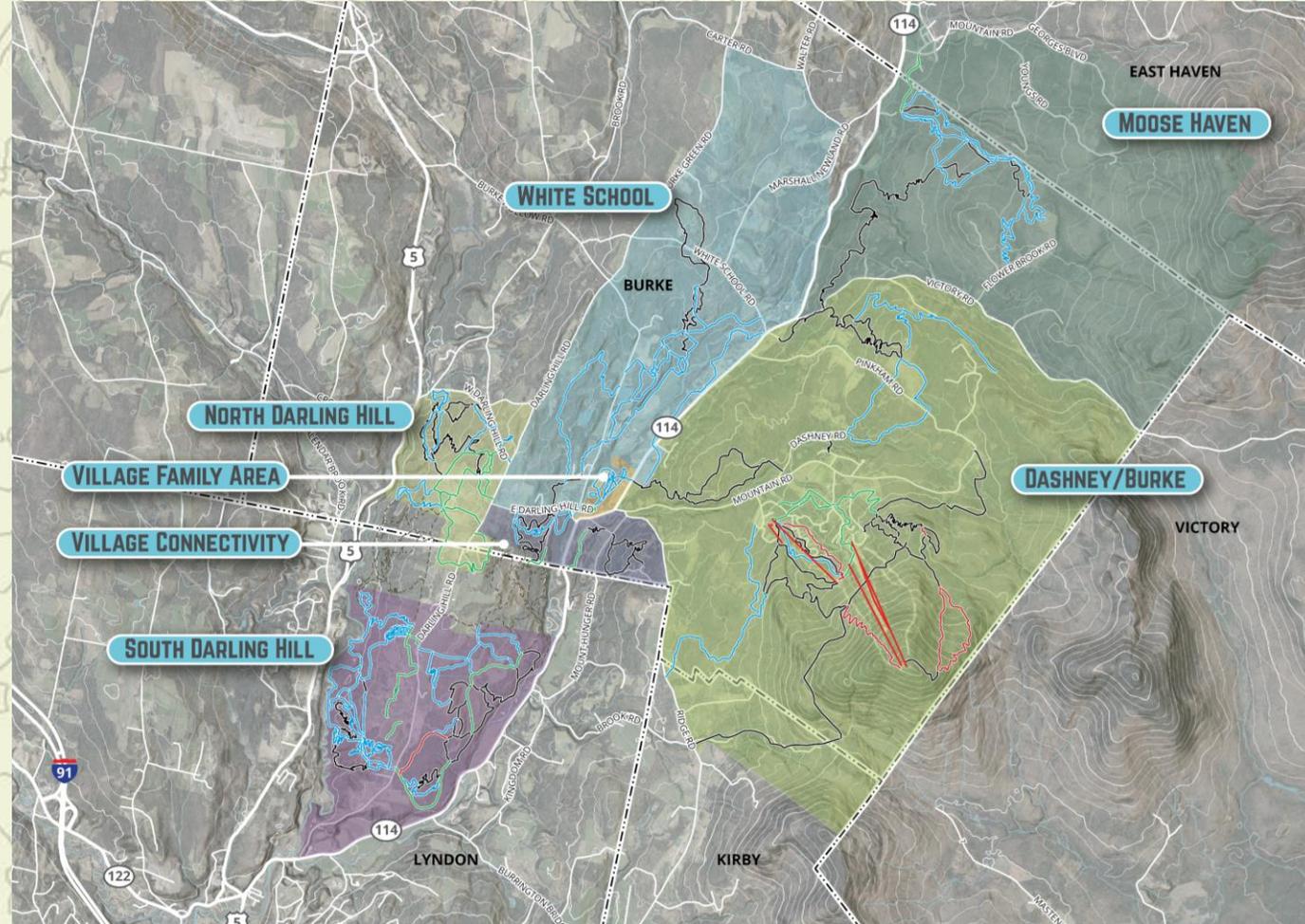
Riding Locations





CONDUCTING ANALYSIS

- 100+ miles of non-motorized trails on 100+ private landowners' property
- Existing trail system divided into 7 “pods”
- Pods represent distinct riding zones within the system, many with their own parking infrastructure
- Analysis appreciates that some riders will remain in one pod over the course of the day, while others will ride from pod to pod or park in one pod and ride in another





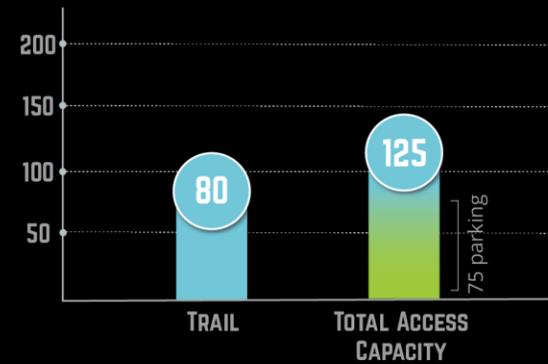
CONDUCTING ANALYSIS

$$\text{TRAIL CAPACITY OF THE POD} = \text{HOURLY CAPACITY OF ACCESS TRAILS} \times \text{LENGTH OF TIME PEOPLE SPEND IN THE POD}$$

(I.E., UPTOWN, WINNIE'S WAY, LOOP)

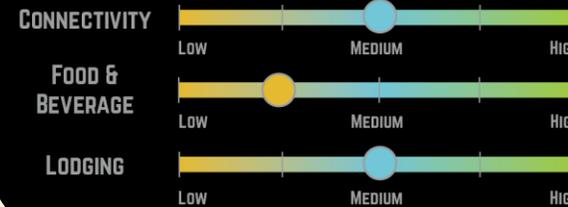
EXAMPLE POD

Relatively limited trail capacity for the supply of parking and access.



Key takeaway of the capacity findings.

This bar chart illustrates the **trail capacity** (i.e. number of users who can comfortably be on the trail system at the same time) and the **access capacity** (parking, direct from lodging, etc.) for the trail pod.

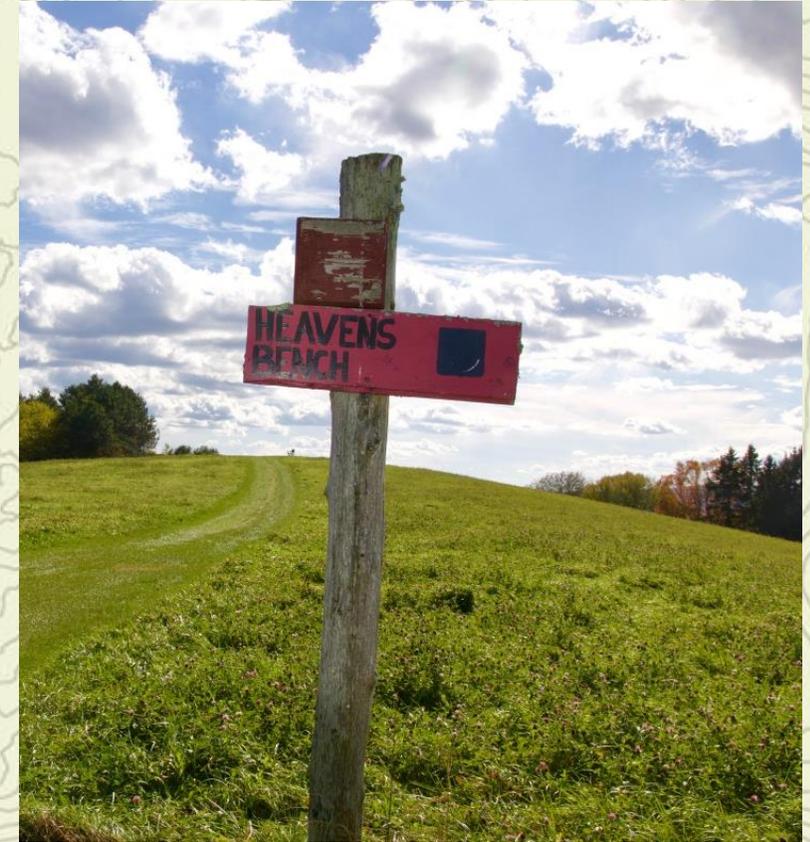


These charts illustrate the trail pods relative score in connectivity, supply of food and beverage venues, and supply of lodging.



EXISTING CONDITIONS KEY TAKEAWAYS

- Overall system capacity and existing visitation levels not massively out of balance, but riders are not currently well-distributed throughout the system and some available parking is often not well utilized
- To address capacity there are important opportunities for relieving pressure in E. Burke Village and other specific “Pinch Points” in the system
- Growth of pod-based riding vs. long system rides
- Weekend heavy visitation profile—limited dispersal on weekdays
- Confirmation of the popular and less popular parts of the trail network





RECOMMENDATIONS

Recommendations were wide-ranging, touching on trail and access infrastructure, messaging, and partnerships.

They primarily addressed:

- Dispersing use, parking, and economic benefits across the area
- Relieving the pressure on landowners and communities
- Creating safer and less congested biking, walking, and driving experiences
- Infrastructure enhancements and other improvements throughout the East Burke Village and the system



ACCESS

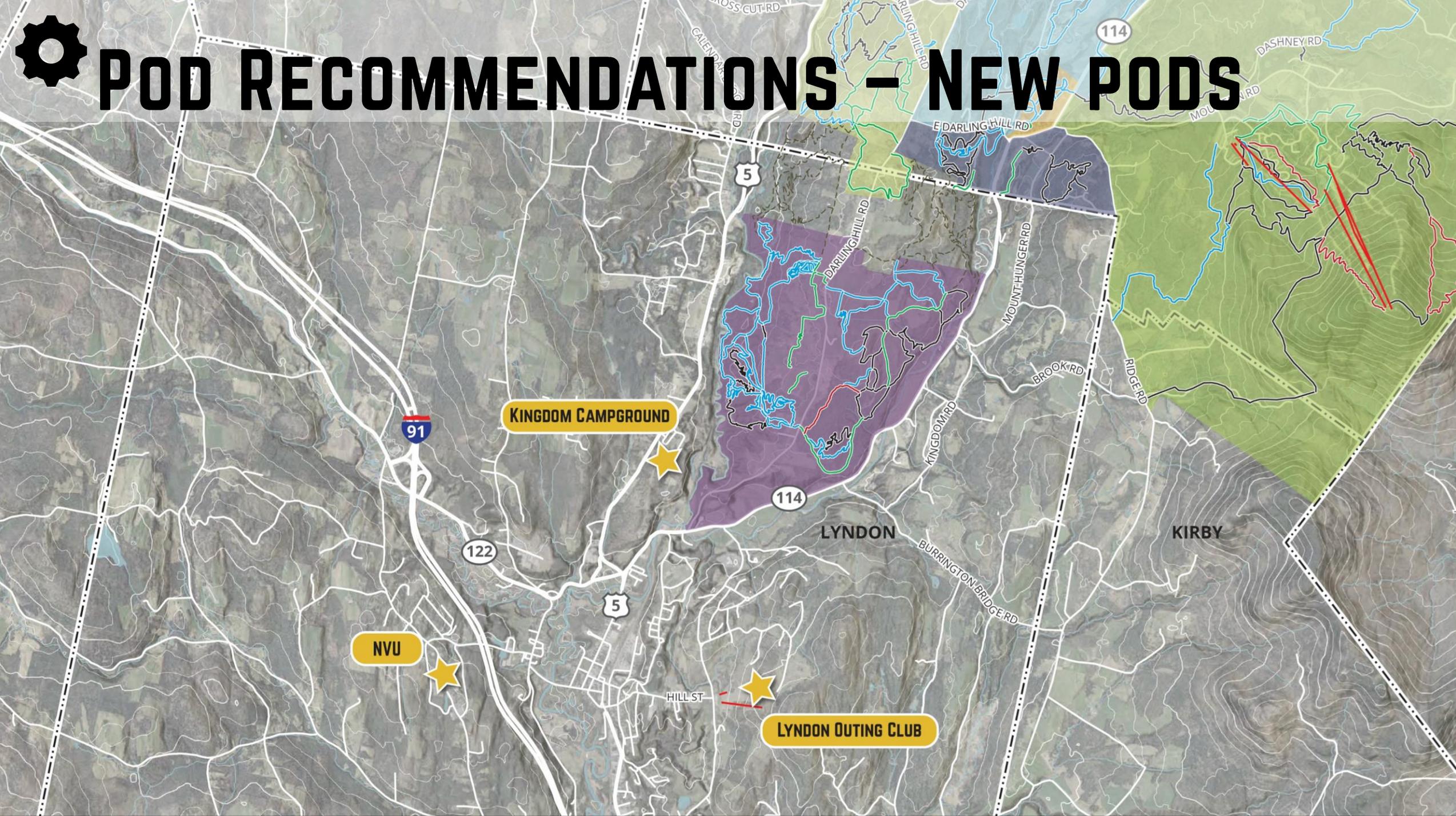
EXPERIENCE

SAFETY

ECONOMY



POD RECOMMENDATIONS – NEW PODS



RECOMMENDATIONS: ROAD-TRAIL CROSSINGS ENHANCEMENTS

Standardized trail system improvements for both road and trail users

- Tactile rumble strip
 - Armored stone elements – signal to slow down
 - Visual cue for all
 - Prevents erosion at road crossings
- Vertical elements
 - Signal to drivers
- Simple “You are Here” Trail Map
 - Encourages route finding outside of the ROW
 - Integrates stop sign, emergency evacuation system signage, and QR code



An Implementation grant for this project was secured from the Northern Forest Center before the Network Capacity Study was fully completed, and KTA was able begin immediately implementing crossing enhancements using their in-house trail crew.



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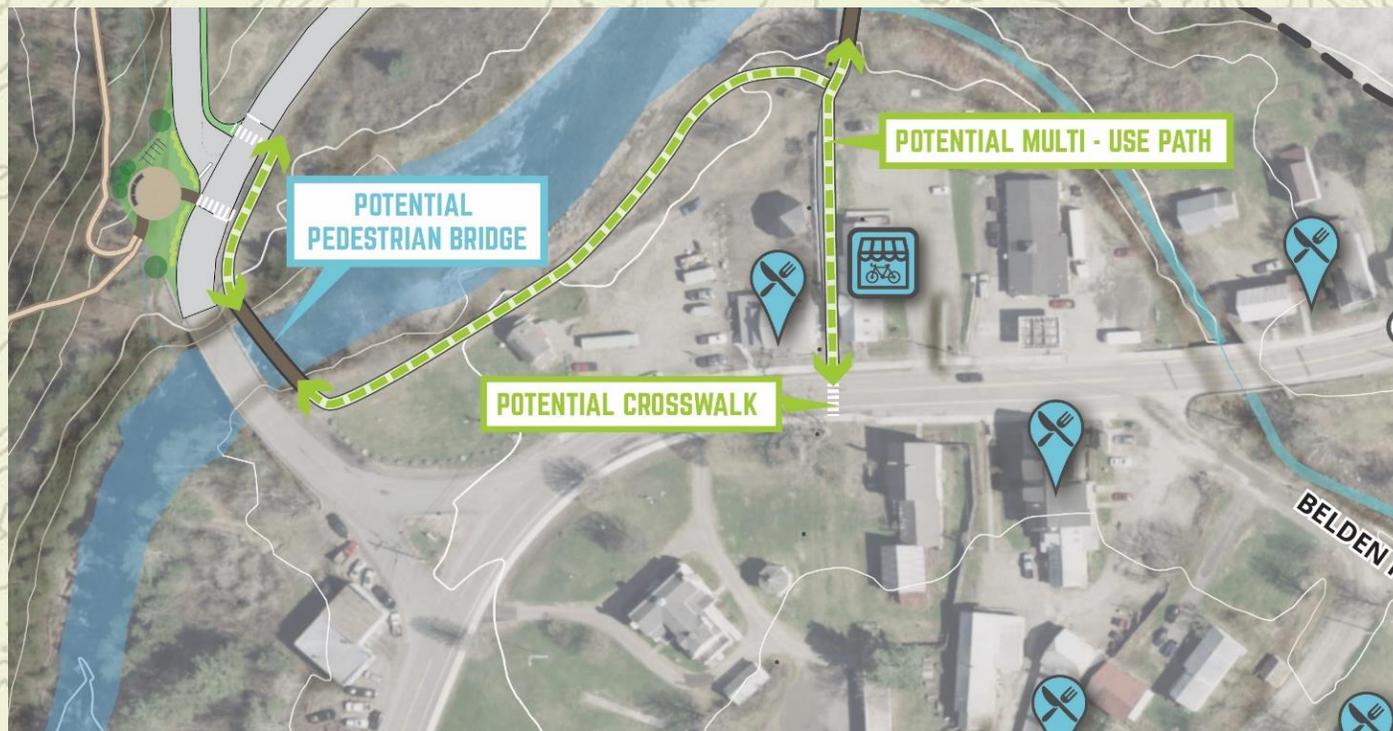


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RECOMMENDATIONS: CROSSWALK & MULTI-USE PATH

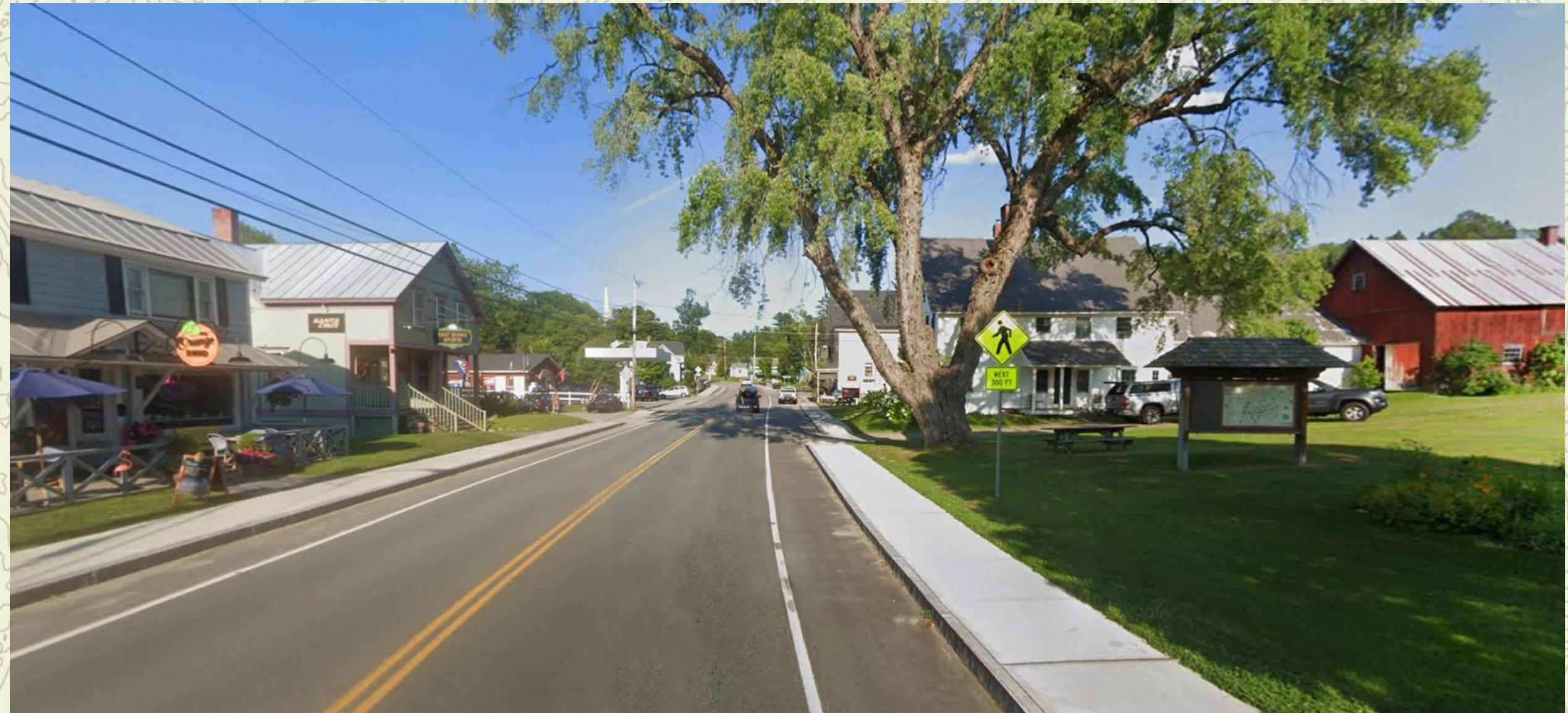
- New crosswalk and path connection from center of East Burke Village to the immense trail system beyond
- Joint project between KTA and Town of Burke
- Crushed gravel 8' – 10' wide path
- Feels like mix of “village infrastructure” and KTA trail system—incorporating streetscape elements such as the crosswalk, seating, and landscaping
- Pedestrian Bridge & Enhanced River Access



In partnership with KTA, the Village of East Burke is now exploring the next stage of design for this recommendation with a Scoping Study funded by a VTrans Bike/Ped Grant.



RECOMMENDATIONS: CROSSWALK & MULTI-USE PATH





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RECOMMENDATIONS: NEW WELCOME CENTER

- Elevate the quality of the experience for visitors to this world-class trail network
- Improved vehicular access/flow
- Direct trail access without crossing roads
- Extended Riverwalk and bike-ped connections to existing sidewalk
- Serve as a tourism info center to promote local/regional offerings
- Family-friendly & multi-generational with options for those who are not up for extended rides or hikes.

KTA was able to secure a USDA Rural Development Grant to support the next level of design for their new Welcome Center and NEK Community Recreation Hub which is currently underway!





RECOMMENDATIONS: NEW WELCOME CENTER

Key Site Elements

- Parking for 100+ cars
- Bike wash/fix it and water fountain
- New pump track
- Picnic pavilion & event lawn
- Secure, covered bike parking
- Separate office and guest services space
- Indoor conference/program space
- Covered outdoor sales window
- Bathrooms, changing space, lockers

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