



Berlin New Town Center Multi-Use Path


Alternatives Presentation



OTTER CREEK
ENGINEERING



Progress Check-In

- ✓ Project Kick-off Meeting
This is a meeting of the municipality, MPM, Design Consultant and VTrans Project Supervisor to discuss the goals and objectives of the project and define the project development process. Project scope, schedule and budget are some of the areas of discussion at this meeting
- ✓ Local Concerns Meeting
This is the first of three public meetings. This gives local citizens and stakeholders with interest in the project a chance to comment on the potential details and impacts of the project.
- ✓ Purpose & Need
Develop a Purpose & Need Statement so that the needs and goals of the project are clearly defined.
-  Alternatives Presentation
This is the second of three public meetings. This is when the design consultant presents the alternatives of the project to the public. The purpose of this presentation is to ultimately select a preferred alternative for further development.
- Cost Estimates & Timeline
Develop a cost estimate for planning, design, construction and maintaining of the selected alternative. Provide a timeline taking the project through design, permitting, and construction
- Report Production & Submission
Prepare scoping study report documenting steps and process along with supporting materials. VTrans and the MPM will review and comment before final submission to the town.

Alternatives:

Option #1: No Build

Option #2: Build New with Phase II Complete Loop

- Concept Design Alignment A
- Concept Design Alignment B

Option #1: No Build

- No convenient and protected pedestrian path that spans the entire town center, with no additional connection to the nearby elementary school.
- No Improvements

Existing Berlin Mall Rd, Berlin, VT



Option #2: Build New Concept Design A

- Multi-Use path that provides a protected route.
- Convenient access to residential buildings.
- Potential future extension to the Berlin Elementary School .
- Connection to a possible pedestrian sky bridge over Fisher Road to connect with the Central Vermont Medical Center.
- 4,837-foot length of new path with one roadway crossing.
- Phase II provides complete loop around town center with 2,794-foot of additional pathway.

Concept Layout



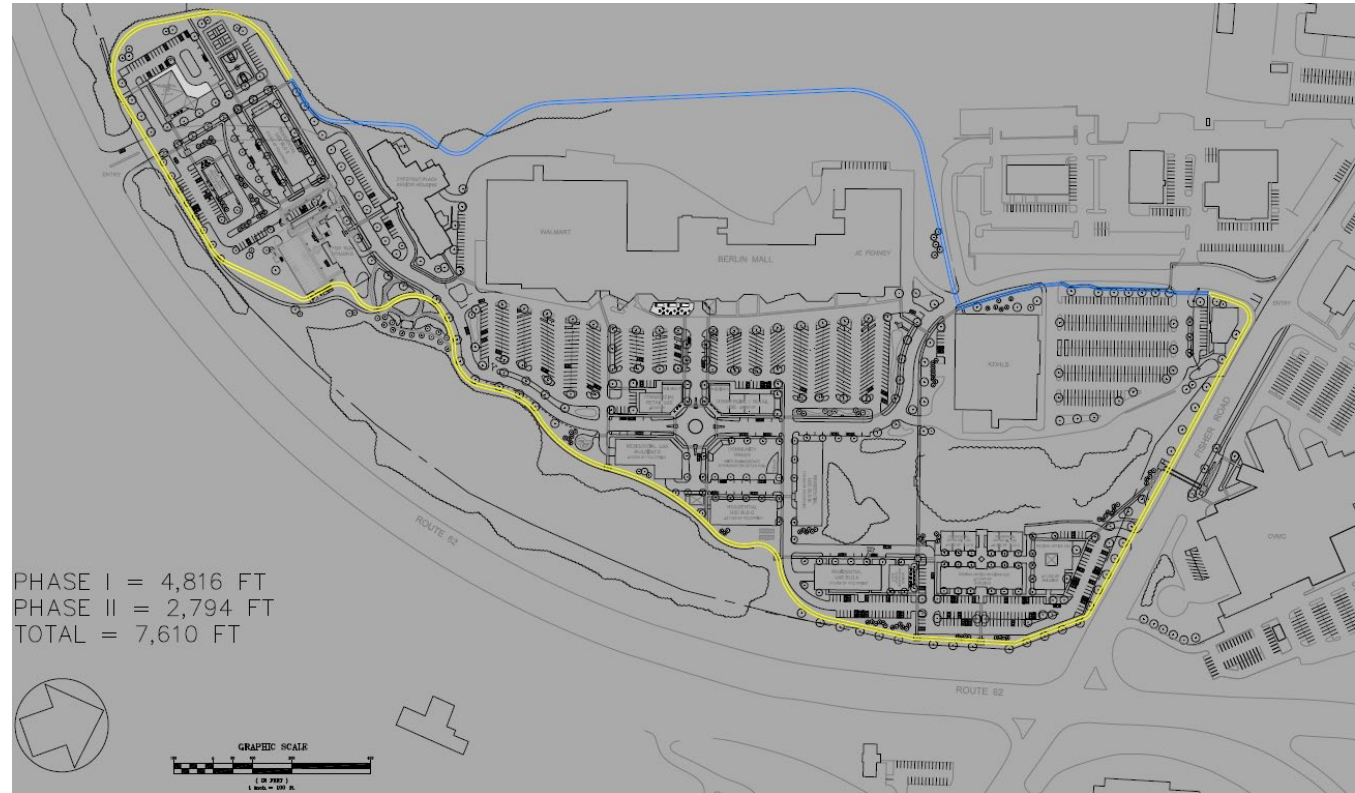
Green = Phase I

Blue = Phase II

Option #2: Build New Concept Design B

- Multi-Use path with alternate Fox Run Building layout to best avoid wetland impacts, same benefits as Design A.
- 4,816-foot length of path with one roadway crossing, 7,611-foot after Phase II.
- Phase II provides complete loop around town center with 2,794-foot of additional pathway.

Concept Layout



Yellow = Phase I

Blue = Phase II

Alternative Considerations

1. Local & Regional Issues
2. Impacts
3. Permitting
4. Engineering / Materials / Safety
5. Cost

Local and Regional Issues

FROM LOCAL CONCERNS PUBLIC MEETING

- Use speed tables/speed bumps for path crossings of roadway
- Allow access for emergency vehicles
- Wintertime access and how that can be done on a snowy path
- Establish sections of path to facilitate direction to emergency responders
- Provide parking and accommodations for users
- Provide wayfinding signage

OPTION #1: NO BUILD	Option #2: BUILD NEW		
Not addressed	Phase I Option A	Phase I Option B	Phase II

Local and Regional Issues

Purpose & Need (As Approved by Town and VTrans)

Purpose: To construct a multi-use path within the Town of Berlin's New Town Center that conforms with Complete Streets Guidance and that will provide safe, pedestrian related recreational opportunities while also serving to extend and connect with the Town's multi-use path network.

Need: The New Town Center project area is comprised of expansive parking and vehicular travel ways with limited, safe options for bike, pedestrian, and other users. Connectivity both internally and to adjacent pathways and uses is non-existent.

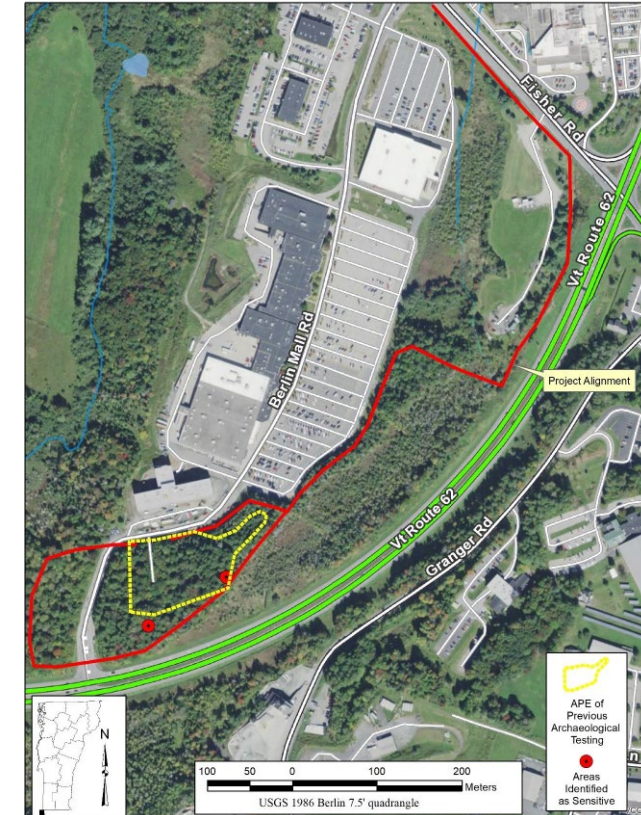
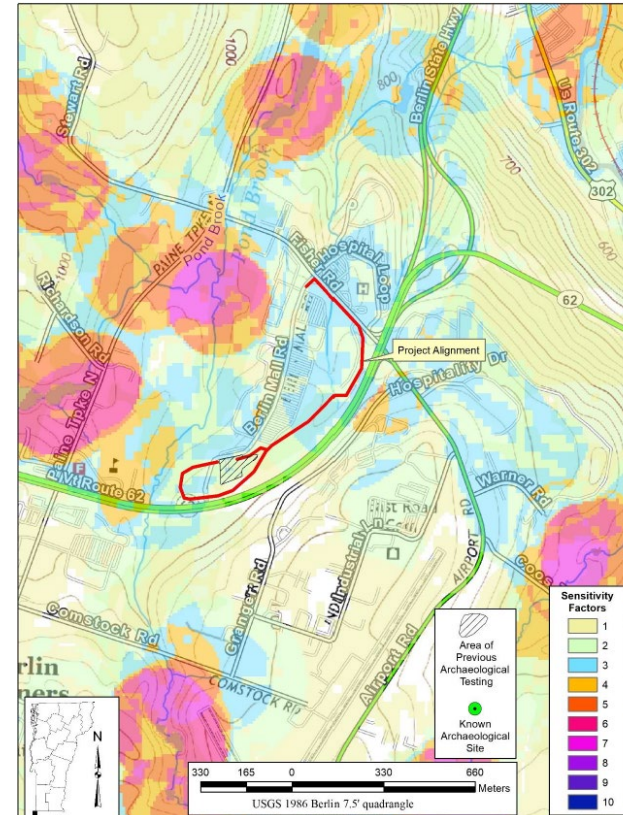
OPTION #1: NO BUILD	Phase I,		PHASE II,
Does not meet the purpose or need	OPTION A	OPTION B	A OR B
	Concept Design Alignments A and B meet the project's purpose and need.		

Archeological Impacts

Archeological Resources Assessment Report Results

- In general, project alignment follows areas of previous disturbance
- One area of identified sensitivity previously cleared, other area will require Phase I site identification survey

Option #1: no build	PHASE I		PHASE II
	OPTION A	OPTION B	
No impacts	Additional investigation	Additional investigation	No impacts



Impacts Wetlands

Option #1: no build

- Wetlands
 - No new impacts

Phase I

OPTION A

OPTION B

- Wetlands
 - New impacts, to both wetland buffer and wetlands themselves
 - Less impacts with Option B and altered Fox Run building alignment.

PHASE II

- Wetlands
 - Minimal additional impacts

Impacts Wetlands

Phase I Option A

- Buffer Impacts: 16,455 sq ft
- Direct Impacts: 978 sq ft



Impacts Wetlands

Phase I Option B

- Buffer Impacts: 13,714 sq ft
- Direct Impacts: 978 sq ft



Impacts Wetlands

Phase II

- Buffer Impacts: 21 sq ft
- Direct Impacts: 0 sq ft



Permitting

	No Build	Phase I		Phase II
		Option A	Option B	
Act 250 Land Use	None	X	X	X
Local Zoning	None	X	X	X
404 COE Permit	None	X	X	X
State Wetlands Permit	None	X	X	X
Stormwater Permit (3-9050)	None	X	X	X
Construction General Permit (3-9020)	None	X	X	X

Engineering

Material	construction	BICYCLE ACCESS	PERMITTING	UTILITIES
Asphalt, concrete, gravel	<p>Time to complete: Dependent on outside factures, assumed within 6 months after start.</p> <p>Difficulty: No truly complex elements involved with the multi-use path, project is straight forward.</p>	Yes	Covered previously	Relocations not anticipated, new lighting or amenities may require extensions

Cost

Multi-Use Path (8-foot wide)	No Build	Build		
		Phase I		Phase II
		Option A	Option B	
Clearing and Grubbing		\$8,000	\$8,000	\$5,000
Common Excavation		\$43,000	\$43,000	\$25,000
8 ft wide bituminous path	-	\$387,000	\$386,000	\$224,000
Pedestrian Signal		\$15,000	\$15,000	\$15,000
Traffic Control	-	\$14,000	\$14,000	\$9,000
Restoration	-	\$41,000	\$41,000	\$24,000
Pedestrian Signal	-	\$15,000	\$15,000	\$15,000
Amenities (signage, benches, etc.)	-	\$28,000	\$28,000	\$18,000
Mobilization/Demobilization @10%	-	\$56,000	\$55,000	\$35,000
SUB TOTAL CONSTRUCTION	\$0	607,000	605,000	370,000
CONTINGENCY @ 25%		152,000	152,000	93,000
TOTAL ESTIMATED CONSTR. COST	\$0	759,000	757,000	463,000
Services - Design, Permitting, Bid and Construction*				
Engineering	-	\$ 60,000	\$ 60,000	\$ 35,000
MPM	-	\$ 60,000	\$ 60,000	\$ 40,000
Construction Management	-	\$ 60,000	\$ 60,000	\$ 40,000
TOTAL SERVICE FEES	\$0	\$ 180,000	\$ 180,000	\$ 115,000

NOTES:

1. Construction costs are preliminary and are not based on detailed plans and specifications. Actual costs may vary substantially from these estimates. Contingency is based on 25% of the subtotal construction cost at the preliminary planning stage.

2. Costs have been rounded up to the nearest \$1,000

3. Shared use paths use 6" fine gravel and 12" of sub-base material and 2" of bituminous surface. Reference cost value from Table 2 of the Vtrans Report on Shared-Use Path and Sidewalk Costs, January 2020.

4. Estimate considered Vtrans 2-Year Averaged Price List for the period of August 2018 - June 2020 with a 10% adjustment to account for pricing increases.

Evaluation Matrix

	Category	No Build	Build		
			Phase I		Phase II
			Option A	Option B	
Local & Regional Issues	Concerns	N/A	Yes	Yes	Yes
	Aesthetics	N/A	Positive Change	Positive Change	Positive Change
	Community Character	N/A	Positive Change	Positive Change	Positive Change
	Economic Impacts	N/A	Positive Change	Positive Change	Positive Change
	Conformance to Reg. Transportation Plan	N/A	N/A	N/A	N/A
	Satisfies Purpose & Need	N/A	Yes	Yes	Yes
Impacts	Ag. Lands	N/A	None	None	None
	Archeological	N/A	Pending Phase 1 Site Identification Survey	Pending Phase 1 Site Identification Survey	None
	Historic	N/A	None	None	None
	Hazardous Materials	N/A	None	None	None
	Floodplains	N/A	None	None	None
	Fish & Wildlife	N/A	None	None	None
	Rare, Threateneded & Endangered Species	N/A	None	None	None
	Public Lands - Sect. 4(f)	N/A	None	None	None
	LWCP - Sect. 6(f)	N/A	None	None	None
	Noise	N/A	None	None	None
Permits	Wetlands	N/A	Yes	Yes	Yes
	Act 250	N/A	Yes	Yes	Yes
	Local Zoning	N/A	Yes	Yes	Yes
	404 COE Permit	N/A	Yes	Yes	Yes
	Stream Alteration	N/A	No	No	No
	State Wetland Permit	N/A	Yes	Yes	Yes
	Storm Water Discharge	N/A	Yes	Yes	Yes
	Lakes & Ponds	N/A	No	No	No
	T & E Species	N/A	No	No	No
	SHPO	N/A	No	No	No
Engineering	Construction General Permit	N/A	Yes	Yes	Yes
	Material	N/A	Asphalt	Asphalt	Asphalt
	Construction	N/A	Moderate construction time	Moderate construction time	Moderate construction time
	Bicycle Access	N/A	Yes	Yes	Yes
	Hydraulic Performance	N/A	N/A	N/A	N/A
	Permitting	N/A	Permits prior to construction	Permits prior to construction	Permits prior to construction
Cost	Utilities	N/A	Yes	Yes	Yes
	Clearing and Grubbing	\$0	\$8,000	\$8,000	\$5,000
	Common Excavation	\$0	\$43,000	\$43,000	\$25,000
	8 ft wide bituminous path	\$0	\$387,000	\$386,000	\$224,000
	Pedestrian Signal	\$0	\$15,000	\$15,000	\$15,000
	Traffic Control	\$0	\$14,000	\$14,000	\$9,000
	Restoration	\$0	\$41,000	\$41,000	\$24,000
	Pedestrian Signal	\$0	\$15,000	\$15,000	\$15,000
	Amenities (signage, benches, etc.)	\$0	\$28,000	\$28,000	\$18,000
	Mobilization/Demobilization @10%	\$0	\$56,000	\$55,000	\$35,000
	Contingency (25%)	\$0	\$152,000	\$151,000	\$93,000
	Services (Design, Permitting, Bid, and Construction)				
	Engineering	\$0	\$60,000	\$60,000	\$35,000
	MPM	\$0	\$60,000	\$60,000	\$40,000
	Construction Management	\$0	\$60,000	\$60,000	\$40,000
Total	\$0	\$939,000	\$936,000	\$578,000	



Thank you for your time!

Questions?



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