

# **2021 – 2030 Ten Year Plan: Final Regional Project Prioritization**

North Country Council Transportation Advisory  
Committee

April 11<sup>th</sup>, 2019

# Ten Year Plan Overview

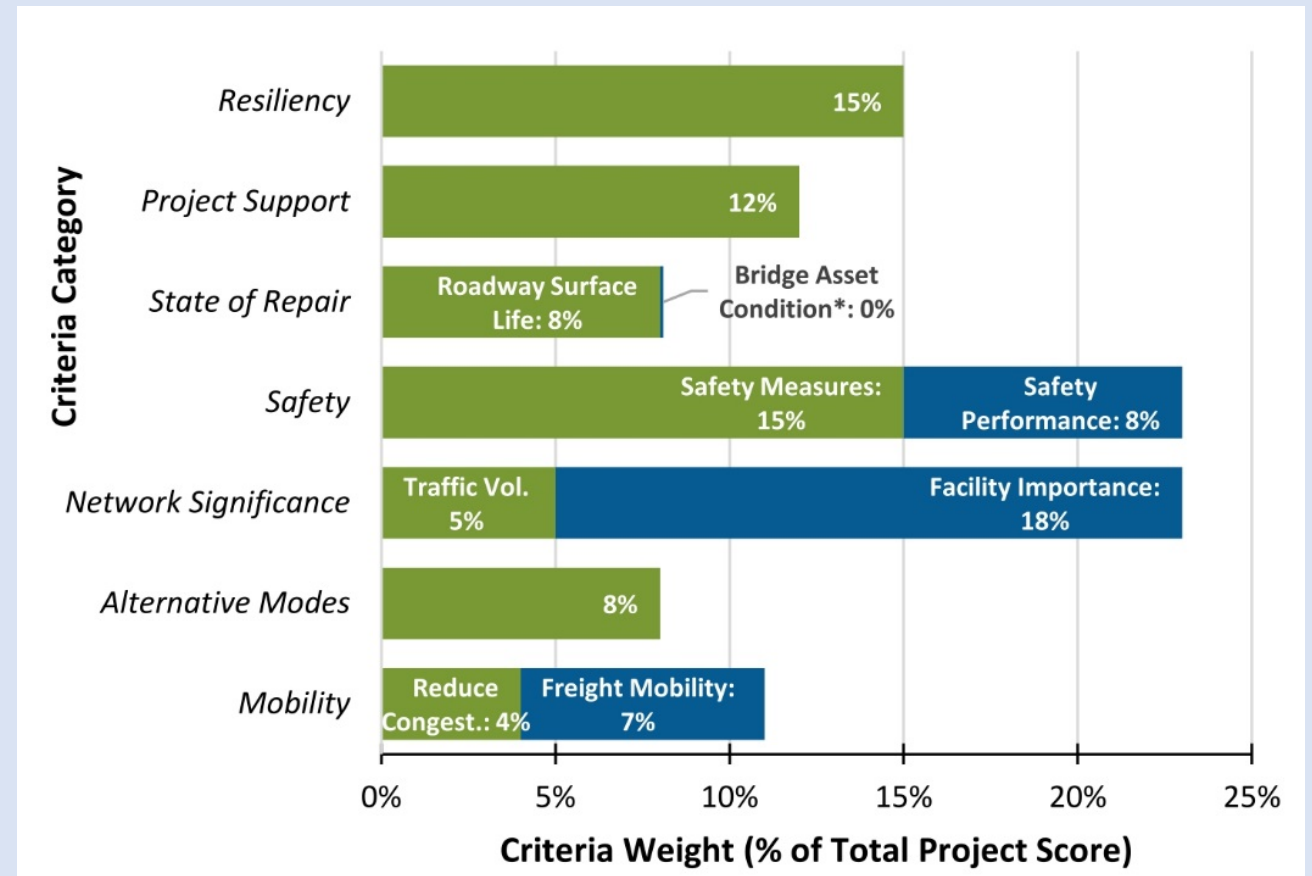
- Each 2 year-cycle
  - RPC's are given a regional allocation for new projects (\$6.1 million for NCC region)
  - Projects submitted by communities to RPC's for consideration
  - RPC's rank and submit initial list of regional projects to NHDOT
  - NHDOT develops planning-level engineering cost estimates, provide feedback to RPC's
  - **RPC's incorporate feedback and submit final project list**
  - GACIT develops draft TYP and conducts public hearings
  - GACIT submits draft TYP to Governor and Council
  - G & C submits draft TYP to legislature
  - Governor signs TYP

# Initial Project Prioritization Process

- Regional project rankings submitted by RPC's
  - Criteria developed by NHDOT; weighted by NCC & TAC
  - NCC staff develop draft rankings
  - TAC reviews – *no formal vote for initial submission*

# Criteria Weights

Criteria Weights	
Criteria	Weight
<b>Mobility</b>	
Reduce Congestion	4%
Freight Mobility	7%
<b>Alternative Modes</b>	8%
<b>Network Significance</b>	
Traffic Volume	5%
Facility Importance	18%
<b>Safety</b>	
Safety Measures	15%
Safety Performance	8%
<b>State of Repair</b>	
Roadway Surface Life	8%
Bridge Asset Condition	0%
<b>Support</b>	12%
<b>Resiliency</b>	15%



# NHDOT Revisions to Project Proposals

- Significant increases in cost estimates (statewide trend)
  - Cost estimates based on actual project/unit costs from previous Ten Year Plan projects
  - Federal funding drives up project costs
  - Estimated year-of-expenditure: 2.55% annual inflation applied
- Modification of scope for some projects

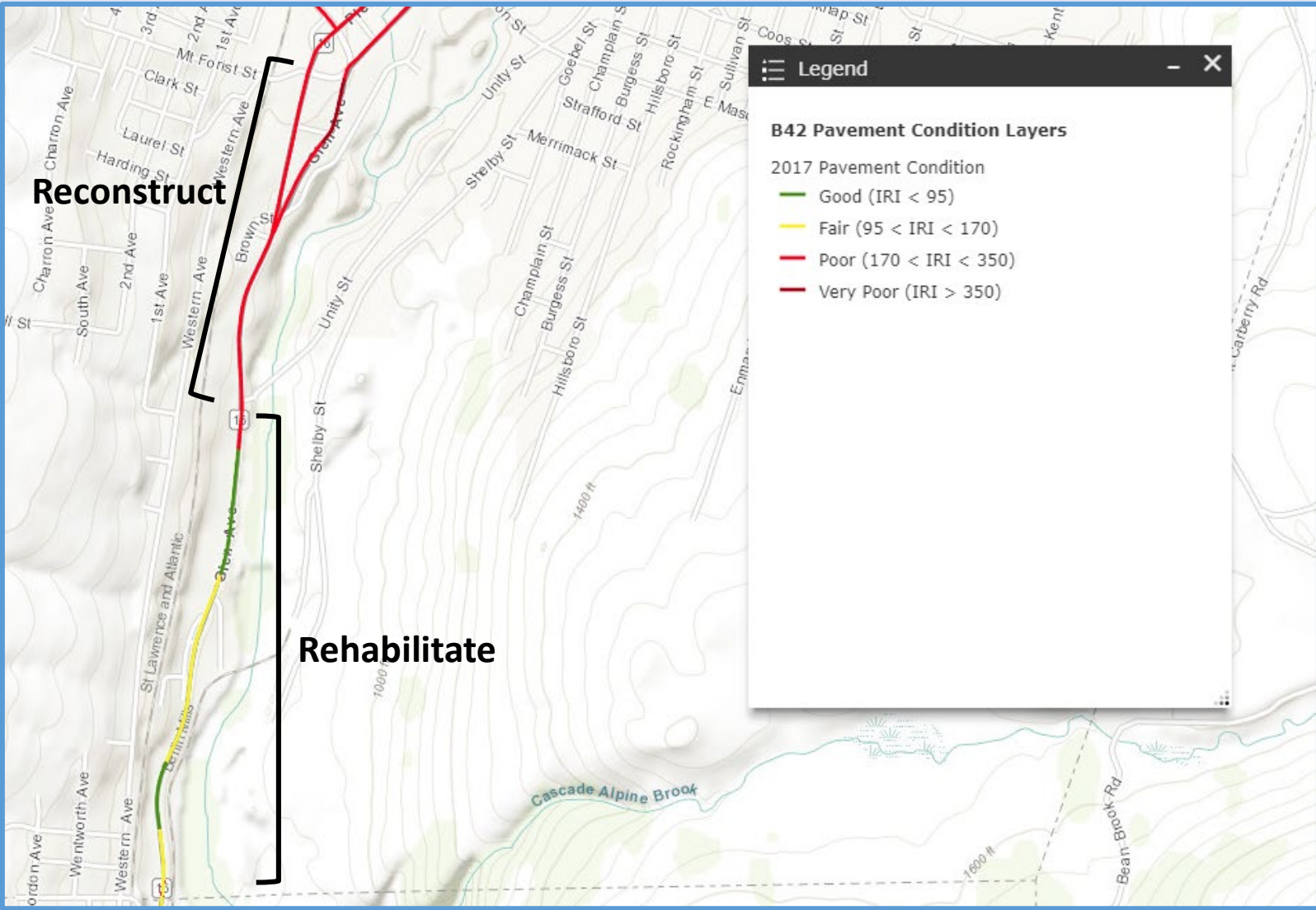
# **City of Berlin Proposal:**

## ***NH 16 Reconstruction & Sidewalk Improvements***

- Total project cost: \$3,885,000
- Reconstruct NH 16 from Cleveland Bridge to Exchange St
- Rehabilitate NH 16 from Gorham Town Line to Cleveland Bridge
- Replace sidewalks

# Berlin:

## NH 16 Reconstruction & Sidewalk Improvements



# Berlin:

## *NH 16 Reconstruction & Sidewalk Improvements*

Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>7.0</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	6.5	
<b>Alternative Modes</b>			
	8%	7.5	
<b>Network Significance</b>			
Traffic Volume	5%	8	
Facility Importance	18%	9	
<b>Safety</b>			
Safety Measures	15%	6.5	
Safety Performance	8%	5	
<b>State of Repair</b>			
Roadway Surface Life	8%	9	
Bridge Asset Condition	0%	0	
<b>Support</b>			
	12%	5	
<b>Resiliency</b>			
	15%	6.5	



# NHDOT Revision:

## ***NH 16 Reconstruction & Sidewalk Improvements***

- Total project cost: \$11,790,565
- 20% match required (urban compact area)
- Ten Year Plan cost: \$9,432,452
- Exceeds \$6.1 million regional allocation – *adequate funding not available to support inclusion in FY 2021-2030 TYP*
- Project would require moving utilities, upgrading retaining walls, and potential ROW expansion
- No proposed changes to overall scope

# Berlin:

## *NH 16 Reconstruction & Sidewalk Improvements*

Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>7.0</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	6.5	
<b>Alternative Modes</b>			
	8%	7.5	
<b>Network Significance</b>			
Traffic Volume	5%	8	
Facility Importance	18%	9	
<b>Safety</b>			
Safety Measures	15%	6.5	
Safety Performance	8%	5	
<b>State of Repair</b>			
Roadway Surface Life	8%	9	
Bridge Asset Condition	0%	0	
<b>Support</b>			
	12%	5	
<b>Resiliency</b>			
	15%	6.5	

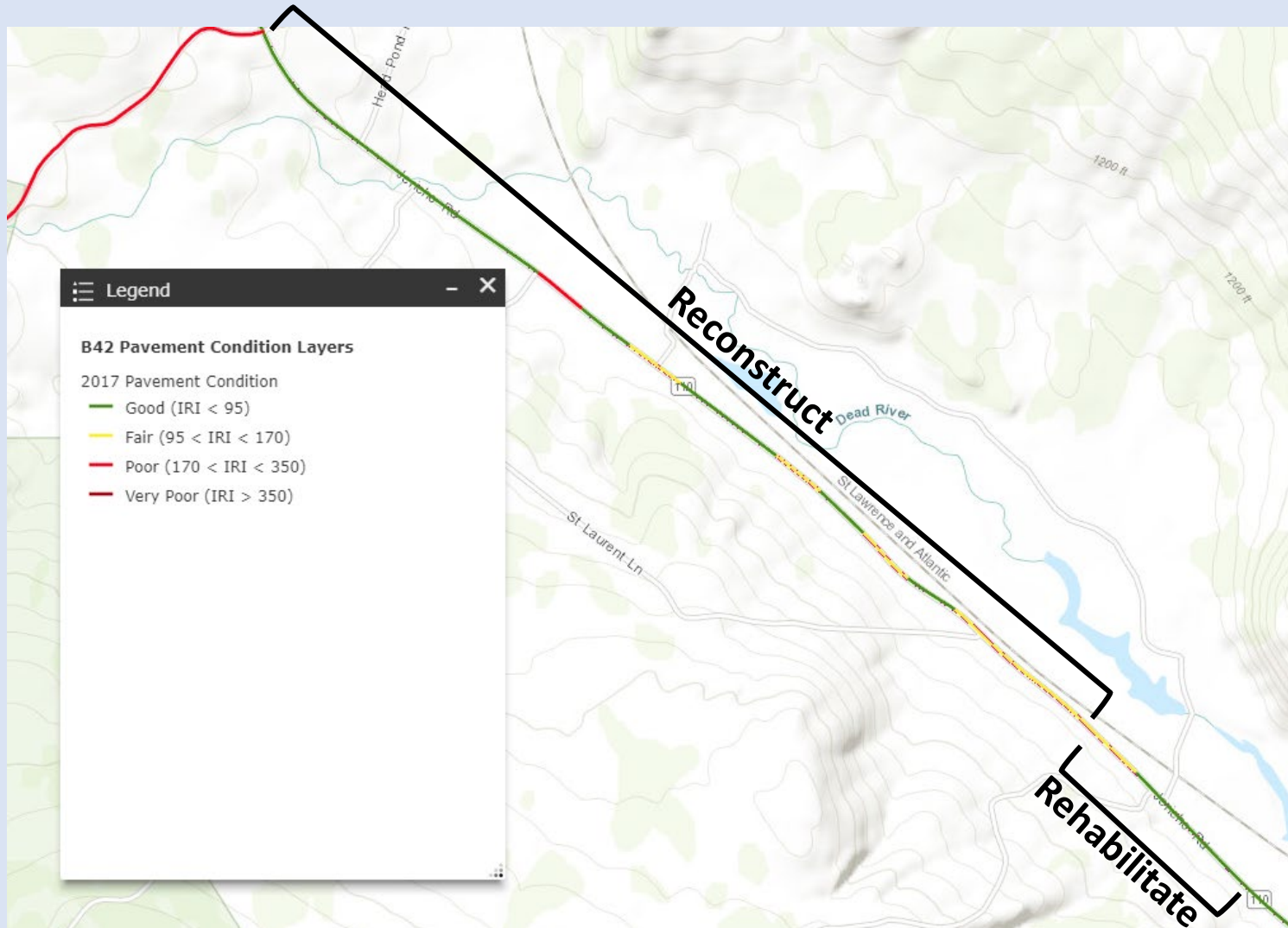
# City of Berlin Proposal:

## *NH 110 Reconstruction/Rehabilitation*

- Total project cost: \$4,665,000
- Rehabilitate NH 110 from end of NH 110 Phase II project (near Public Works Garage) to urban compact line
- Reconstruct NH 110 from urban compact line to Jericho Mountain Road

# Berlin:

## *NH 110 Reconstruction/Rehabilitation*



# Berlin:

## *NH 110 Reconstruction/Rehabilitation*

Criteria	Weight	Score (1-10)	Weighted Score	
<b>Mobility</b>			<b>5.7</b>	
Reduce Congestion	4%	5		
Freight Mobility	7%	5		
<b>Alternative Modes</b>		8%		6.5
<b>Network Significance</b>				
Traffic Volume	5%	4		
Facility Importance	18%	6.5		
<b>Safety</b>				
Safety Measures	15%	6		
Safety Performance	8%	5		
<b>State of Repair</b>				
Roadway Surface Life	8%	6		
Bridge Asset Condition	0%	0		
<b>Support</b>		12%		5
<b>Resiliency</b>		15%	6	

# NHDOT Revision:

## *NH 110 Reconstruction/Rehabilitation*

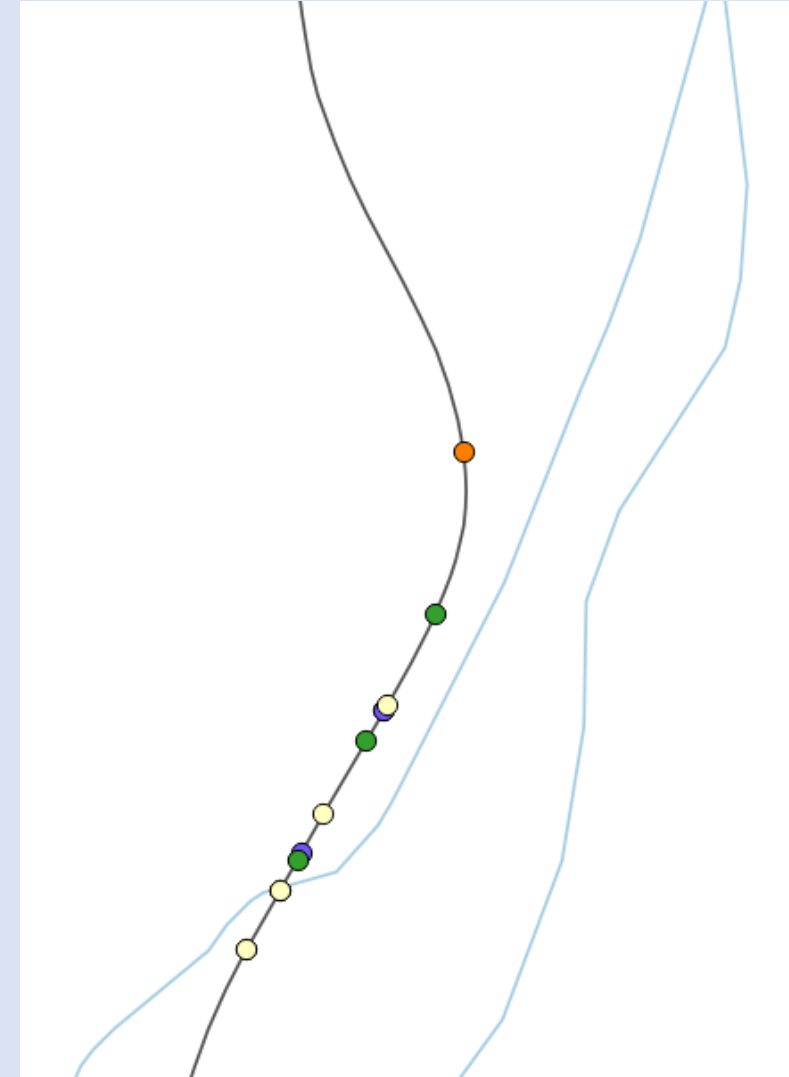
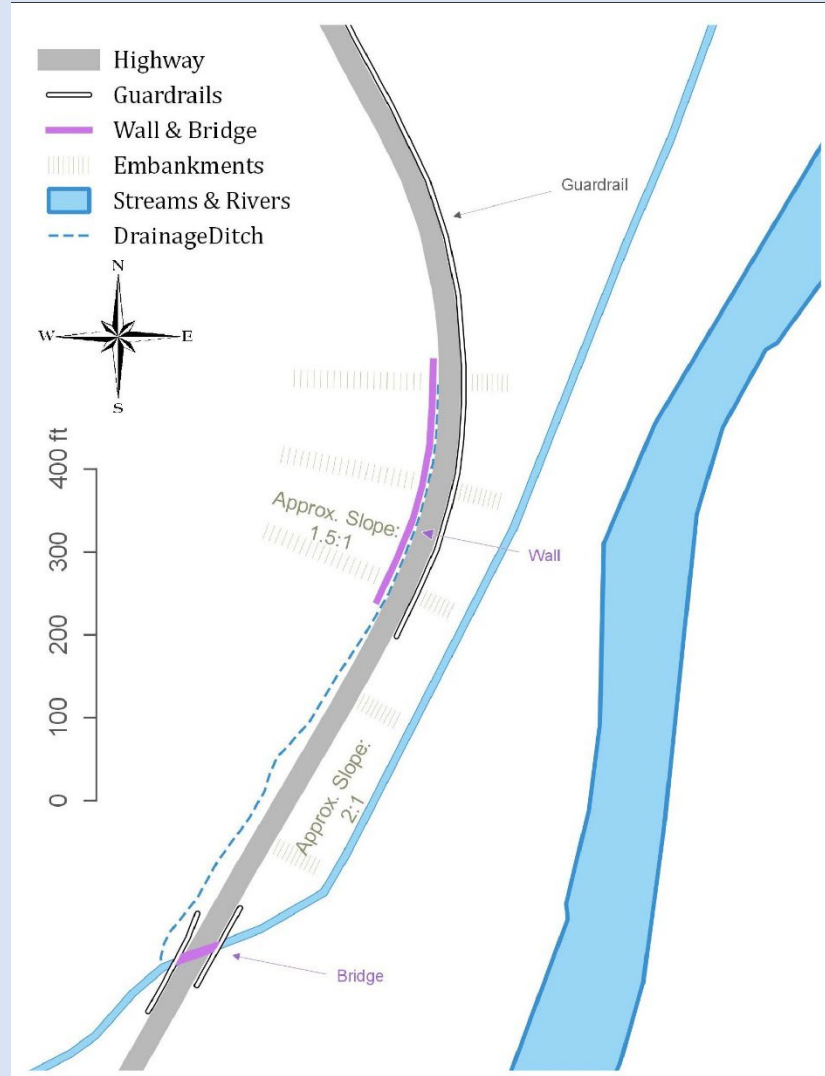
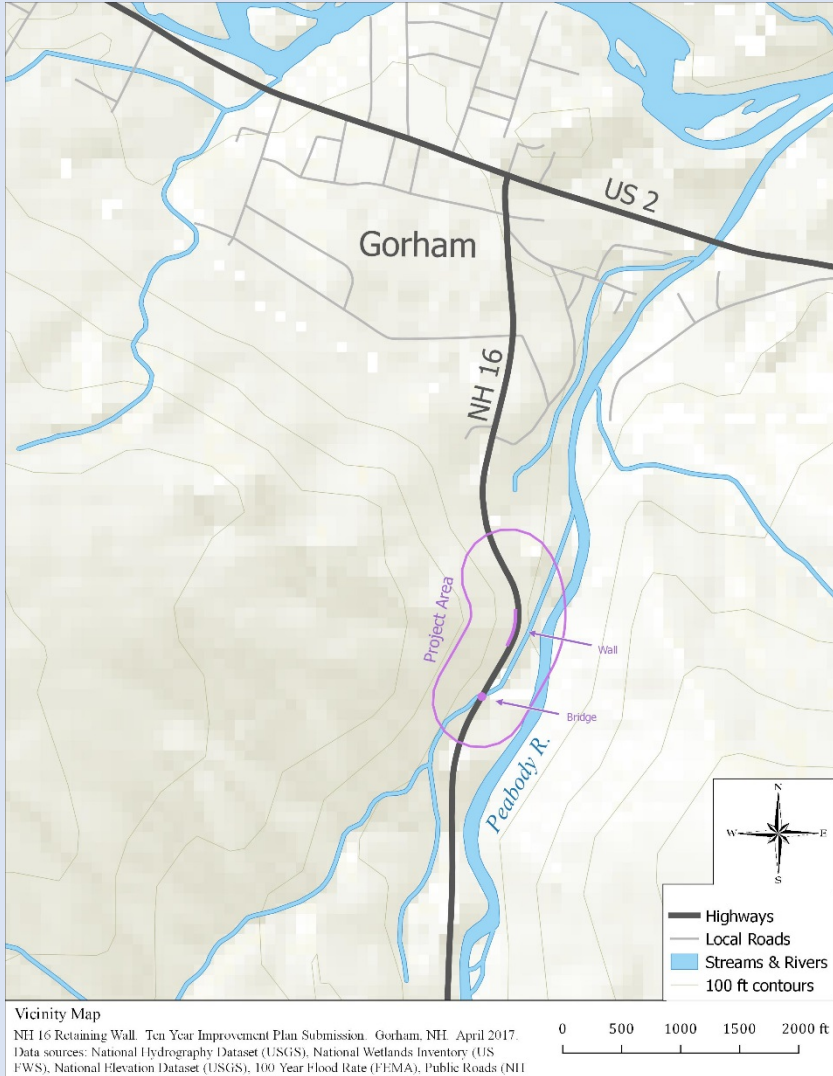
- Total project cost: \$12,405,862
- Exceeds \$6.1 million regional allocation – *adequate funding not available to support inclusion in FY 2021-2030 TYP*
- Project would require widening of reconstructed portion of NH 110 to meet 4' shoulder requirements (include bridge widening) – significant costs with utility relocation and ROW acquisition

# Berlin:

## *NH 110 Reconstruction/Rehabilitation*

Criteria	Weight	Score (1-10)	Weighted Score	
<b>Mobility</b>			<b>5.7</b>	
Reduce Congestion	4%	5		
Freight Mobility	7%	5		
<b>Alternative Modes</b>		8%		6.5
<b>Network Significance</b>				
Traffic Volume	5%	4		
Facility Importance	18%	6.5		
<b>Safety</b>				
Safety Measures	15%	6		
Safety Performance	8%	5		
<b>State of Repair</b>				
Roadway Surface Life	8%	6		
Bridge Asset Condition	0%	0		
<b>Support</b>		12%		5
<b>Resiliency</b>		15%	6	

# Gorham: NH 16 Retaining Wall, Road Re-alignment, and Culvert Replacement





# Gorham:

## *NH 16 Retaining Wall, Road Re-alignment, and Culvert Replacement*



# Town of Gorham Proposal:

## *NH 16 Retaining Wall, Road Re-alignment, and Culvert Replacement*

- Total project cost: \$1,200,000
- Realign roadway to reduce angle of the curve
- Construct new retaining wall and improve drainage
- Upgrade culvert to match bankfull width of the stream, stream angle, and stream orientation

# Gorham:

## *NH 16 Retaining Wall, Road Re-alignment, and Culvert Replacement*

Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>7.5</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	7	
<b>Alternative Modes</b>			
	8%	6	
<b>Network Significance</b>			
Traffic Volume	5%	7	
Facility Importance	18%	9	
<b>Safety</b>			
Safety Measures	15%	8.5	
Safety Performance	8%	7.5	
<b>State of Repair</b>			
Roadway Surface Life	8%	7	
Bridge Asset Condition	0%	0	
<b>Support</b>			
	12%	8	
<b>Resiliency</b>			
	15%	6.5	

# **NHDOT Revision:**

## ***NH 16 Retaining Wall, Road Re-alignment, and Culvert Replacement***

- Total project cost: \$3,457,078
- Replace crib wall with new retaining wall (500' long x 4-6' high)
- Move retaining wall into hillside and install proper drainage
- Roadway realignment removed – high cost, less safety benefit than addressing retaining wall & drainage
- Culvert – perched outlet being addressed through Bridge Maintenance program (separate)

# Gorham:

## *NH 16 Retaining Wall, Road Re-alignment, and Culvert Replacement*

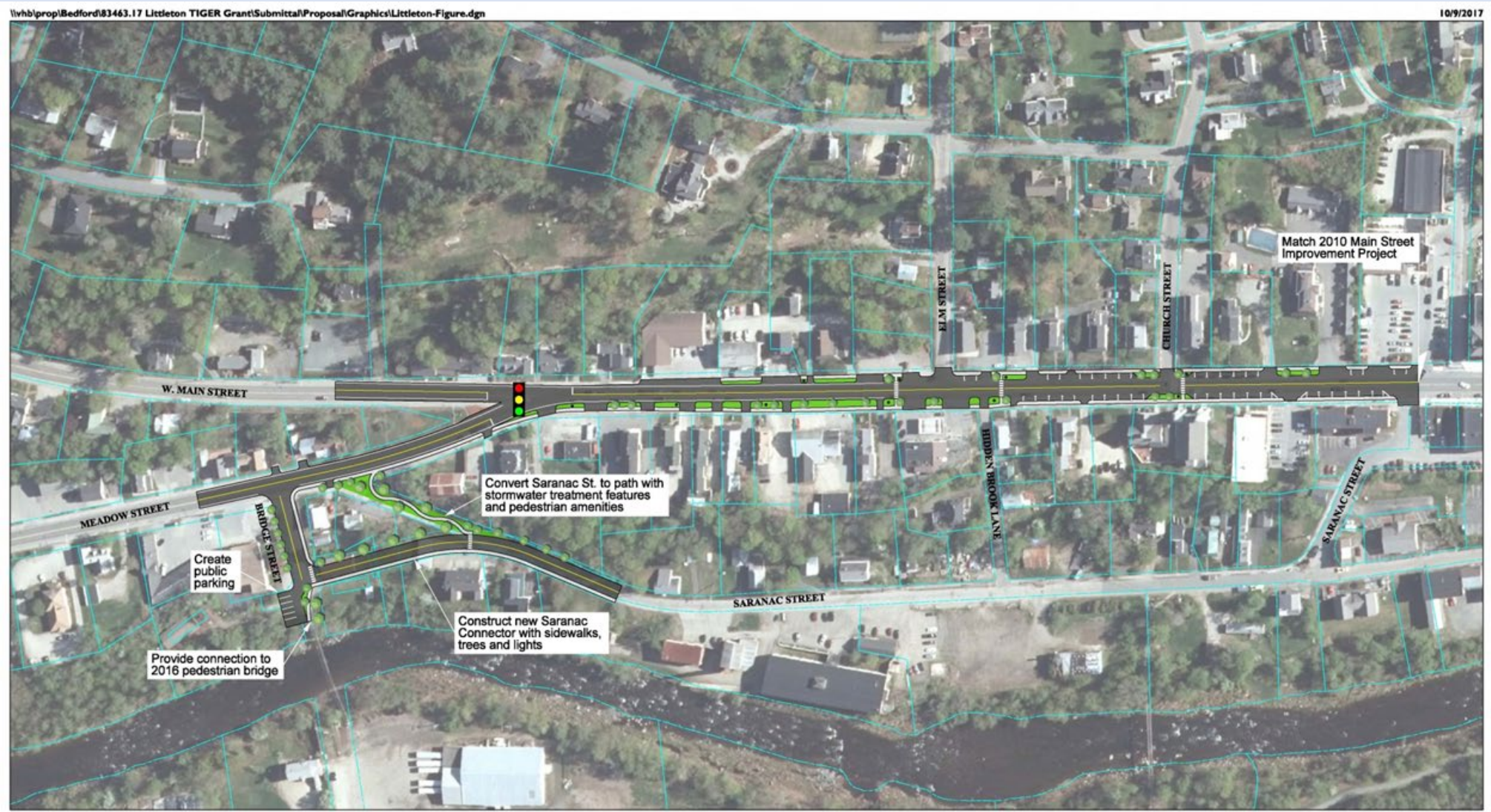
Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>7.4</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	7	
<b>Alternative Modes</b>			
	8%	6	
<b>Network Significance</b>			
Traffic Volume	5%	7	
Facility Importance	18%	9	
<b>Safety</b>			
Safety Measures	15%	<b>8</b>	
Safety Performance	8%	7.5	
<b>State of Repair</b>			
Roadway Surface Life	8%	7	
Bridge Asset Condition	0%	0	
<b>Support</b>			
	12%	8	
<b>Resiliency</b>			
	15%	<b>6</b>	

# Town of Littleton Proposal

## *Main Street Phase II – Road Reconstruction, Pedestrian Improvements, Intersection Improvements*

- Total project cost: \$3,200,000
- Reconstruct west end of Main Street and Meadow Street
- Replace sidewalk and add bumpouts to reduce crossing distances
- Re-route Saranac Street to Bridge Street (locally-funded)
- Time with sub-area II sewer project

# Littleton: Main Street Phase II – Road Reconstruction, Pedestrian Improvements, Intersection Improvements



# Littleton:

## *Main Street Phase II – Road Reconstruction, Pedestrian Improvements, Intersection Improvements*

Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>6.9</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	5	
<b>Alternative Modes</b>	8%	8.5	
<b>Network Significance</b>			
Traffic Volume	5%	9	
Facility Importance	18%	9	
<b>Safety</b>			
Safety Measures	15%	8	
Safety Performance	8%	7.5	
<b>State of Repair</b>			
Roadway Surface Life	8%	9	
Bridge Asset Condition	0%	0	
<b>Support</b>	12%	3	
<b>Resiliency</b>	15%	5	



# **NHDOT Revision:**

## ***Main Street Phase II – Road Reconstruction, Pedestrian Improvements, Intersection Improvements***

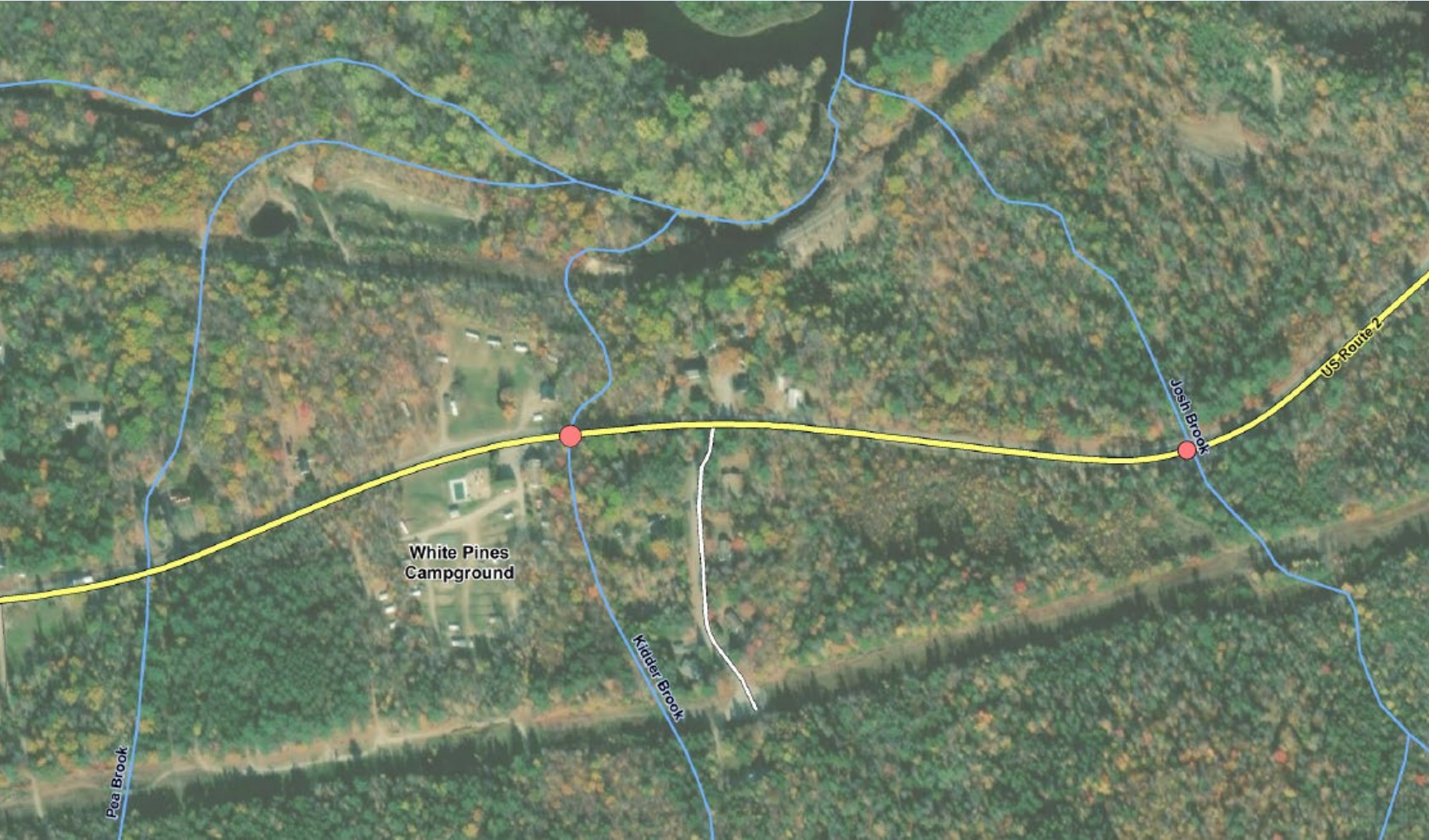
- Total project cost: \$4,316,780
- Would be structured as a municipally-managed, Local Public Agency project (20% match required)
- Ten Year Plan cost: \$3,453,424
- Selectboard voted to support revised approach
- Funds would need to be budgeted for and approved via warrant article
- Looming challenge of Saranac St/Bridge St realignment (unfunded)

# Littleton:

## *Main Street Phase II – Road Reconstruction, Pedestrian Improvements, Intersection Improvements*

Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>6.9</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	5	
<b>Alternative Modes</b>	8%	8.5	
<b>Network Significance</b>			
Traffic Volume	5%	9	
Facility Importance	18%	9	
<b>Safety</b>			
Safety Measures	15%	8	
Safety Performance	8%	7.5	
<b>State of Repair</b>			
Roadway Surface Life	8%	9	
Bridge Asset Condition	0%	0	
<b>Support</b>	12%	3	
<b>Resiliency</b>	15%	5	

# Shelburne: *US 2 Culvert Upgrades*



# Shelburne:

## *US 2 Culvert Upgrades*

### Kidder Brook

- 2001 Corridor Study identifies flooding issues
- 2014 assessment
  - Structure condition: poor
  - Partial geomorphic compatibility
  - Directly upstream bankfull widths: 13-16 feet
  - Channel bankfull width: 9 – 12 feet
  - Culvert width: 5 feet
  - No aquatic organism passage
  - No wingwalls to direct water



# Shelburne:

## *US 2 Culvert Upgrades*

### Josh Brook

- 2018 assessment
  - Structure condition: good
  - Geomorphic compatibility: mostly incompatible
  - Directly upstream bankfull widths: 17 - 45 feet
  - Channel bankfull width: 19 – 29 feet
  - Culvert width: 6 feet
  - Evidence of significant flood damage downstream



# Town of Shelburne Proposal

## *US 2 Culvert Upgrades*

- Total project cost: \$1,485,000
- Replace undersized round culverts at Kidder Brook and Josh Brook crossings with box culverts that span bankfull width of the stream and match the stream angle and orientation
- Raise roadway at Kidder Brook to improve vertical alignment and sightline

# Shelburne:

## *US 2 Culvert Upgrades*

Criteria	Weight	Score (1-10)	Weighted Score
<b>Mobility</b>			<b>7.5</b>
Reduce Congestion	4%	5	
Freight Mobility	7%	7.5	
<b>Alternative Modes</b>	8%	5	
<b>Network Significance</b>			
Traffic Volume	5%	4	
Facility Importance	18%	9.5	
<b>Safety</b>			
Safety Measures	15%	7.5	
Safety Performance	8%	5	
<b>State of Repair</b>			
Roadway Surface Life	8%	7.5	
Bridge Asset Condition	0%	0	
<b>Support</b>	12%	8	
<b>Resiliency</b>	15%	9	

# NHDOT Revision:

## *US 2 Culvert Upgrades*

- Total project cost: \$2,658,558
- Kidder Brook culvert removed from project scope – scheduled to be improved through CRDR program in FY 2020 – 5x8' box culvert with wingwalls
  - DOT to investigate vertical alignment issues & potential speed limit reduction
- Josh Brook culvert included in project scope
- Culvert improvement will require relocation of aerial utilities



# Shelburne:

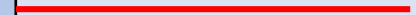
## *US 2 Culvert Upgrades*

Criteria	Weight	Score (1-10)	Weighted Score	
<b>Mobility</b>			<b>7.2</b>	
Reduce Congestion	4%	5		
Freight Mobility	7%	7.5		
<b>Alternative Modes</b>		8%		5
<b>Network Significance</b>				
Traffic Volume	5%	4		
Facility Importance	18%	9.5		
<b>Safety</b>				
Safety Measures	15%	6.5		
Safety Performance	8%	5		
<b>State of Repair</b>				
Roadway Surface Life	8%	7.5		
Bridge Asset Condition	0%	0		
<b>Support</b>		12%		8
<b>Resiliency</b>		15%		8.5

# Preliminary Project Rankings from NCC (Fall 2018)

Rank	Municipality - Project	Score (out of 10)	Project Cost
1	Gorham – NH 16 Realignment, Retaining Wall & Culvert Upgrade	7.5	\$1.2 million
1	Shelburne – US 2 Culvert Upgrades	7.5	\$1.5 million
3	Berlin – NH 16 Roadway Reconstruction & Sidewalk Improvements	7.0	\$3.5 million
4	Littleton – Main Street Phase II	6.9	\$3.2 million
5	Berlin – NH 110 Roadway Reconstruction & Sidewalk Improvements	5.7	\$4.6 million

Regional funding allocation: \$6.1 million



# Proposed Project Rankings from NCC (Spring 2019)

## Approach #1

Rank	Municipality - Project	Score (out of 10)	TYP Project Cost
1	Gorham – NH 16 Retaining Wall	7.4	\$3.5 million
1	Shelburne – Josh Brook Culvert (US 2)	7.2	\$2.7 million
3	Berlin – NH 16 Roadway Reconstruction & Sidewalk Improvements	7.0	\$9.4 million
4	Littleton – Main Street Phase II	6.9	\$3.4 million
5	Berlin – NH 110 Roadway Reconstruction & Sidewalk Improvements	5.7	\$12.4 million

Regional funding allocation: \$6.1 million



# Proposed Project Rankings from NCC (Spring 2019)

## Approach #2

Rank	Municipality - Project	Score (out of 10)	Project Cost
1	Gorham – NH 16 Retaining Wall	7.4	\$3.5 million
2	Shelburne – Josh Brook Culvert (US 2)	7.2	\$2.7 million
3	Littleton – Main Street Phase II	6.9	\$3.2 million

Regional funding  
allocation: \$6.1  
million



# Next Steps

- **April 2019:** NCC Commissioners approve RTIP
- **May 2019:** Deadline for NCC to submit project rankings
- **June 2019:** Draft TYP prepared by NHDOT
- **July 2019:** Beginning of GACIT process