

**Concord 12004**  
**Sewalls Falls Road Bridge over the Merrimack River**  
**Alternatives Summary Matrix**

Typical Section Sidewalk	5' Shlder -12' Lane -12' Lane -5' Shlder 5 feet on both sides		One Way - 18' Lane One 5' wide sidewalk	18' Existing - 20' New One 5' wide sidewalk
	Alternative 4	Alternative 8	Alternative A	Alternative B
	Off-Line Upstream	On-Line	Rehab Existing	Rehab Exist Add 2nd One-Way Truss on Upstream Side
<b>Engineering Issues</b>				
Design Speed	35 mph	35 mph	35 mph w/ Lighting	35 mph w/ Lighting
Profile	35 mph	35 mph	20 mph	20 mph
Maintenance of Traffic	On existing bridge	Bridge closed during construction	Bridge closed during construction (open winters)	On existing bridge
Phased bridge construction?	No	No	No	No
Approx. construction duration	2 seasons	2 seasons	2 seasons	3-4 seasons
Sewer and gas lines	Can remain on exist bridge	Relocated	Can remain on exist bridge	Can remain on exist bridge
<b>Right-of-Way Impacts</b>				
Fish & Game property	Minimal (E)	Moderate (E)	Minimal (E)	Minimal (E)
State LCIP property	Substantial (A)	Moderate (E)	Minimal (E)	Substantial (A)
Concord Monitor	Substantial (A)	Moderate (E)	Minimal (E)	Substantial (A)
Residential property opposite Concord Monitor	Minimal (E)	Moderate (E)	Moderate (E)	Minimal (E)
<b>Resource/Environmental Impacts</b>				
Existing historic bridge	Can remain in place	Removed	Can remain in place	Can remain in place
Fish & Game boat ramp	None	Minimal**	None	None
LCIP property	Substantial	Moderate	Moderate	Substantial
Floodplain/floodway	Minimal	Minimal	Minimal	Minimal
Potential eagle perch trees	Moderate	Minimal	Minimal	Moderate
Brook Floater mussels	Minimal	Minimal	Minimal	Minimal
<b>Community Resource Impacts</b>				
Emergency Response Time During Construction	Minimal	Substantial	Substantial	Minimal
Bicycle/Pedestrian Safety Improvement	Substantial	Substantial	Minimal	Minimal
Aesthetic Impact	Substantial	Substantial	Minimal	Moderate
Recreational Impacts	Minimal	Moderate	Moderate	Minimal
Neighborhood Impacts	Moderate	Moderate	None	Moderate
City Cost	Standard****	Standard****	Low Initial - High Future	High Initial

(E) - Easement only  
(A) - Acquisition of Right-of-Way required  
\*\*\*\* Assumes bridge type to be Steel Girder/RC Deck  
\*\*\* Impacts to the boat ramp can be mitigated by constructing a flanking span across the ramp, cantilevering the proposed sidewalk over the ramp, or relocating the ramp  
\*\* Boat ramp may need to be closed temporarily during construction  
\* Alternate funding will be required for rehabilitation of the existing bridge

Cost				
<b>Steel Girder/ Reinforced Concrete Deck</b>				
Bridge Construction	\$ 4,613,000.00	\$ 4,613,000.00		
Removal of Exist. Truss Bridge	\$ -	\$ 117,600.00		
Removal of Exist. Approach Spans	\$ 153,500.00	\$ 153,500.00		
Roadway Construction	\$ 1,147,000.00	\$ 882,000.00		
Right-of-Way	\$ 200,000.00	\$ 100,000.00		
Engineering	\$ 500,000.00	\$ 500,000.00		
Existing Bridge Rehabilitation *	\$ 788,220.00	\$ -		
Approx. maintenance cost of existing bridge (over 25 years)	\$ 81,400.00	\$ -		
Utility Relocations	?	?		
<b>Total</b>	<b>\$ 7,483,120.00</b>	<b>\$ 6,366,100.00</b>		
<b>Steel Truss</b>				
Bridge Construction	\$ 8,000,000.00	\$ 8,000,000.00		
Removal of Exist. Truss Bridge	\$ 117,600.00	\$ 117,600.00		
Removal of Exist. Approach Spans	\$ 153,500.00	\$ 153,500.00		
Roadway Construction	\$ 1,147,000.00	\$ 1,147,000.00		
Right-of-Way	\$ 200,000.00	\$ 200,000.00		
Engineering	\$ 500,000.00	\$ 500,000.00		
Utility Relocations	?	?		
<b>Total</b>	<b>\$ 10,118,100.00</b>	<b>\$ 10,118,100.00</b>		
<b>Wooden Covered Bridge</b>				
Bridge Construction	\$ 8,500,000.00	\$ 8,500,000.00		
Removal of Exist. Truss Bridge	\$ 117,600.00	\$ 117,600.00		
Removal of Exist. Approach Spans	\$ 153,500.00	\$ 153,500.00		
Roadway Construction	\$ 1,147,000.00	\$ 1,147,000.00		
Right-of-Way	\$ 200,000.00	\$ 200,000.00		
Engineering	\$ 500,000.00	\$ 500,000.00		
Utility Relocations	?	?		
<b>Total</b>	<b>\$ 10,618,100.00</b>	<b>\$ 10,618,100.00</b>		

Rehab Existing Truss				
Rehabilitation of Exist. Truss Bridge			\$ 2,800,000.00	
Removal of Exist. Approach Spans			\$ 153,500.00	
Roadway Construction			\$ 350,000.00	
Right-of-Way			\$ 100,000.00	
Engineering			\$ 500,000.00	
Utility Relocations			?	
<b>Total</b>			<b>\$ 3,903,500.00</b>	

Rehab Existing Truss and Add 2nd One-Way Truss				
Bridge Construction			\$ 4,500,000.00	
Rehabilitation of Exist. Truss Bridge			\$ 2,800,000.00	
Removal of Exist. Approach Spans			\$ 153,500.00	
Roadway Construction			\$ 1,147,000.00	
Right-of-Way			\$ 200,000.00	
Engineering			\$ 500,000.00	
Utility Relocations			?	
<b>Total</b>			<b>\$ 9,300,500.00</b>	

Truss Maintenance (present value analysis of 25 year costs, assuming 3% APR)			
Biennial inspection (\$2500 every 2 years)	\$ 21,000.00		\$ 21,000.00
Misc. Painting (\$15000 every 5 years)	\$ 50,000.00		\$ 50,000.00
Misc. Repairs (\$8000 every 10 years)	\$ 10,400.00		\$ 10,400.00
<b>Total</b>	<b>\$ 81,400.00</b>		<b>\$ 81,400.00</b>