Quechee Gorge Bridge
Suicide Prevention Barrier Study

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About this study

- Initiated by VTrans based on legislation passed in 2016:

AOT is required to:

…thoroughly review suicide prevention as well as pedestrian, first responder, and other safety measures that could be taken, and the merits of taking such measures, at the Quechee Gorge Bridge. The review will identify:

1) *short- and long-term suicide prevention as well as pedestrian, first responder, and other safety measures for all users that could be taken, including:*
   a) *providing information and resources, including emergency contact information and means of emergency communication; and*
   b) *physical improvements to the bridge structure and the surrounding area;*
2) *estimated costs and benefits and an expected timeline associated with implementing the measures identified*
3) *economic, community, and tourism concerns associated with implementing the measures identified in subdivision (1) of this subsection.*

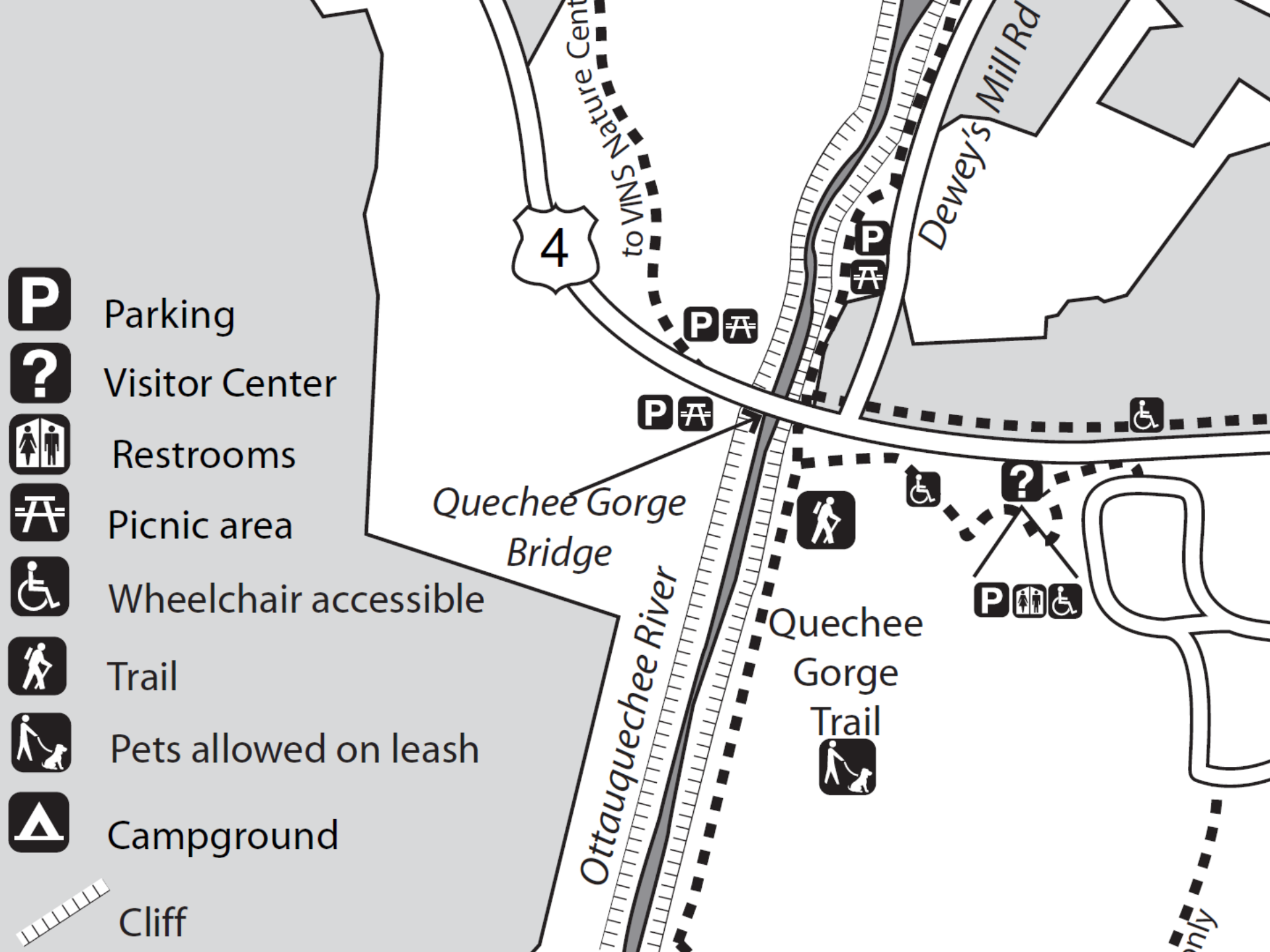
Study Advisory Committee

- VT Agency of Transportation
  - Structures,
  - Operations,
  - Traffic safety,
  - Policy and Planning,
  - Environ'l Permitting
- VT State Parks
- VT Historic Preservation
- VT Department of Health
- US Army Corps of Eng's
- Town of Hartford
  - Police,
  - Fire,
  - DPW,
  - Community Development,
  - Town Manager
- Two Rivers-Ottauquechee Regional Planning Commission

Tonight's Meeting

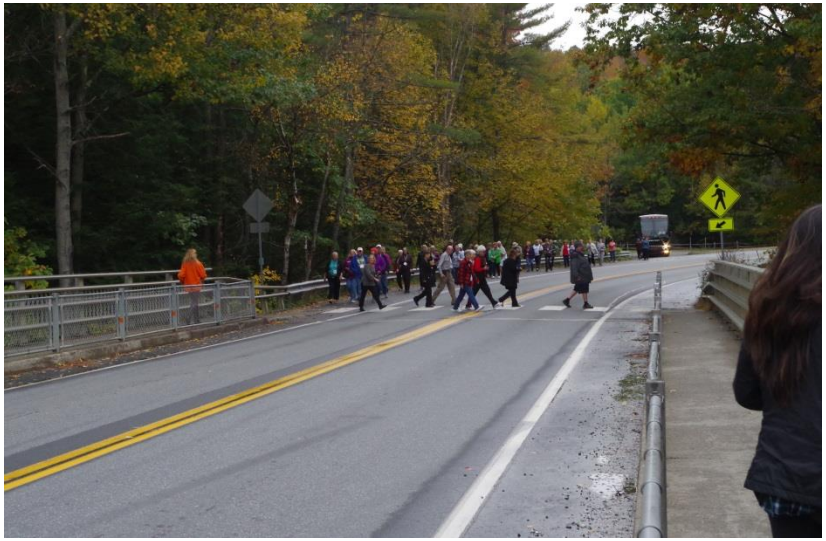
- Review site conditions
  - Quechee Gorge State Park
  - Quechee Gorge Bridge
- Case studies
- Alternatives
- Discussion

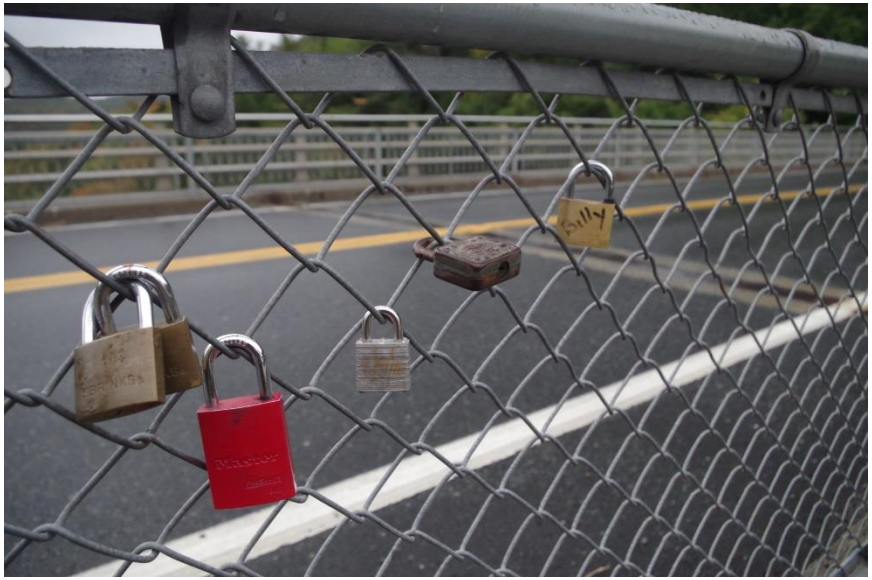
QUECHEE GORGE STATE PARK

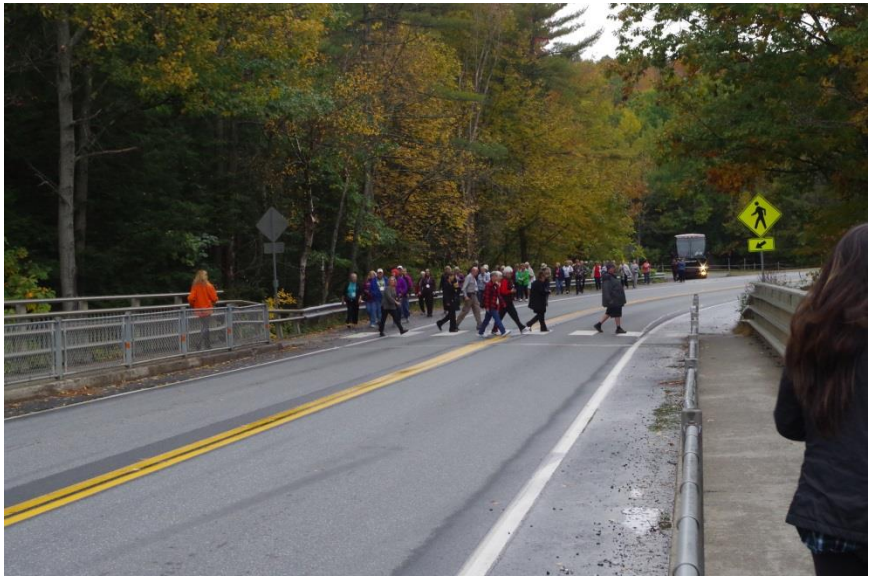

Parking
Visitor Center
Restrooms
Picnic area
Wheelchair accessible
Trail
Pets allowed on leash
Campground
Cliff
4
to VINS Nature Cent
Dewey's Mill Rd
Quechee Gorge Bridge
Ottauquechee River
Quechee Gorge Trail

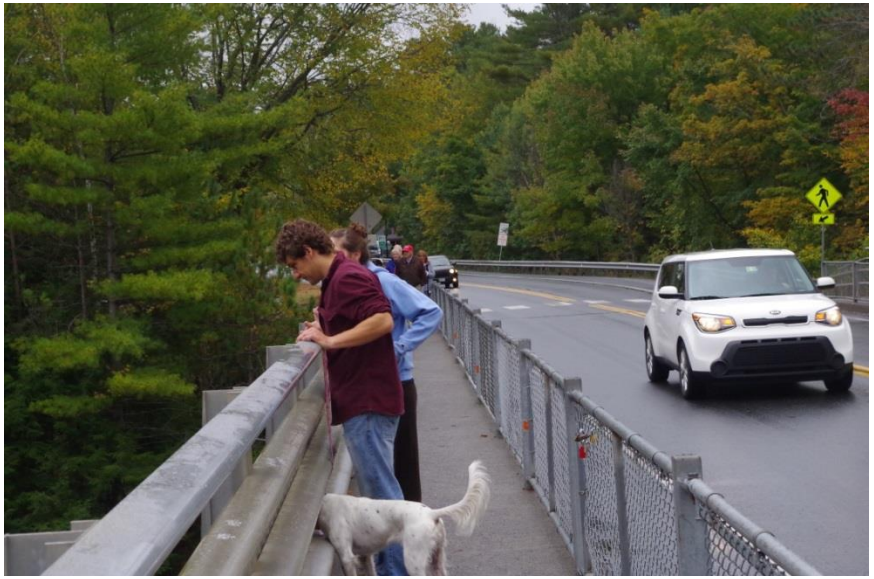
How many visit the gorge?

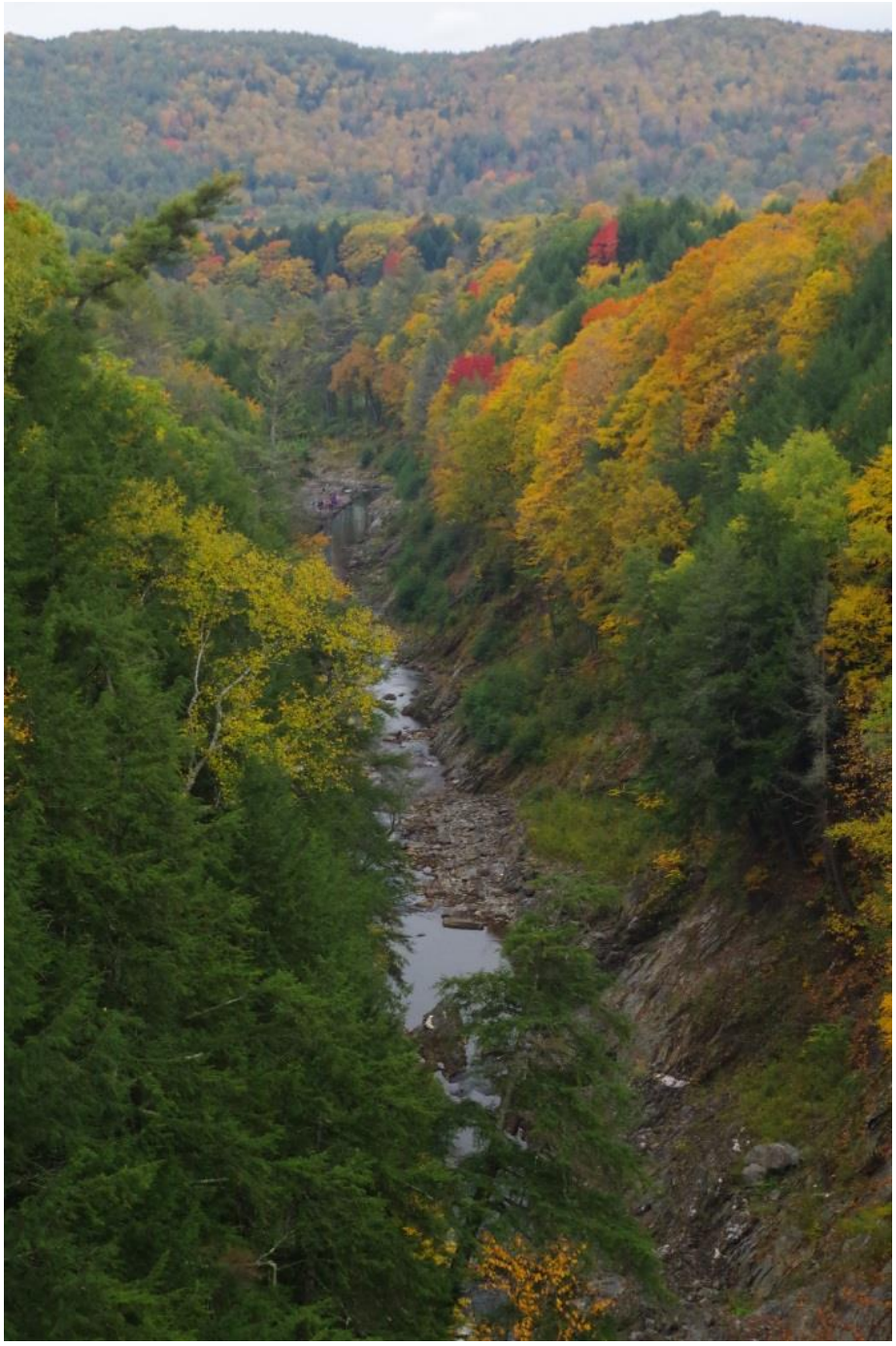
- Visitor Center has over 100,000 visits per year
- By far the highest day use compared to other state parks
- Hub of economic activity




Silly
Master







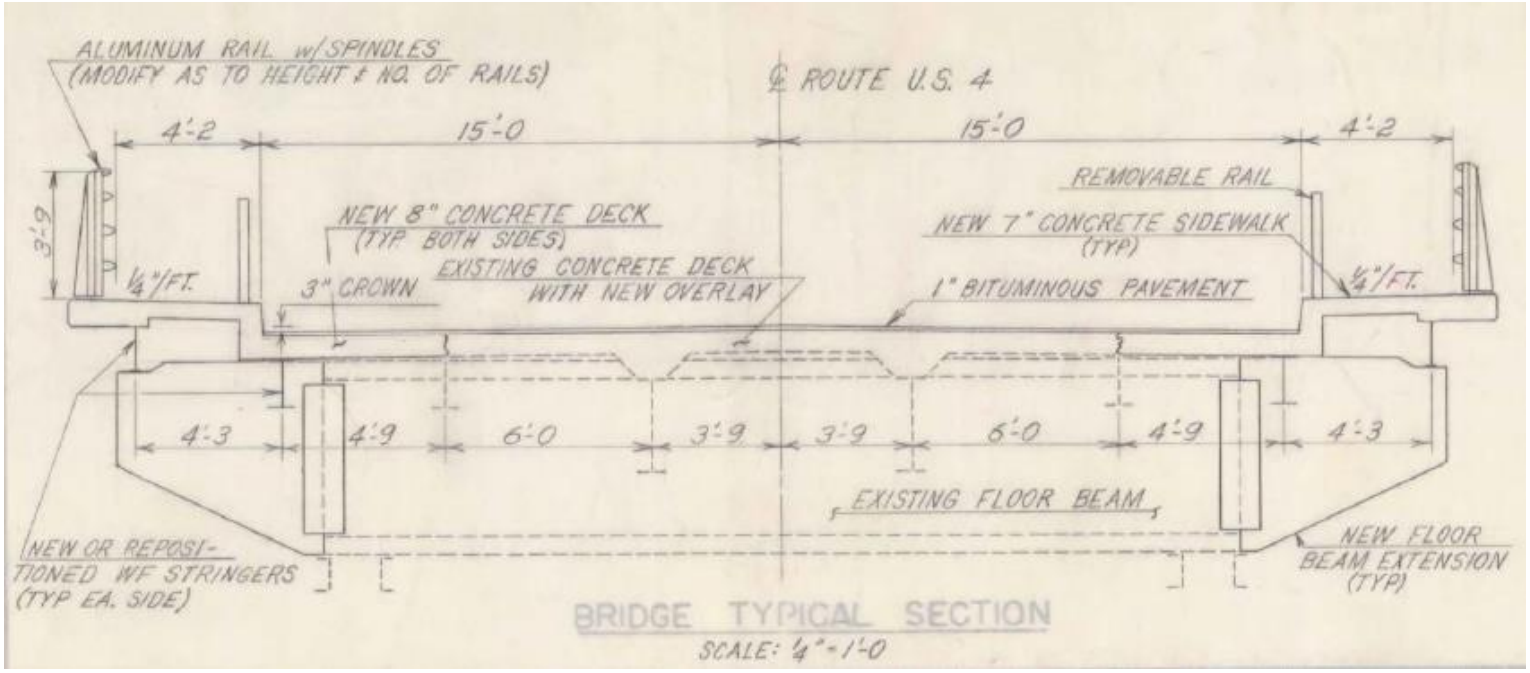
QUECHEE GORGE BRIDGE

Quechee Gorge Bridge: US 4

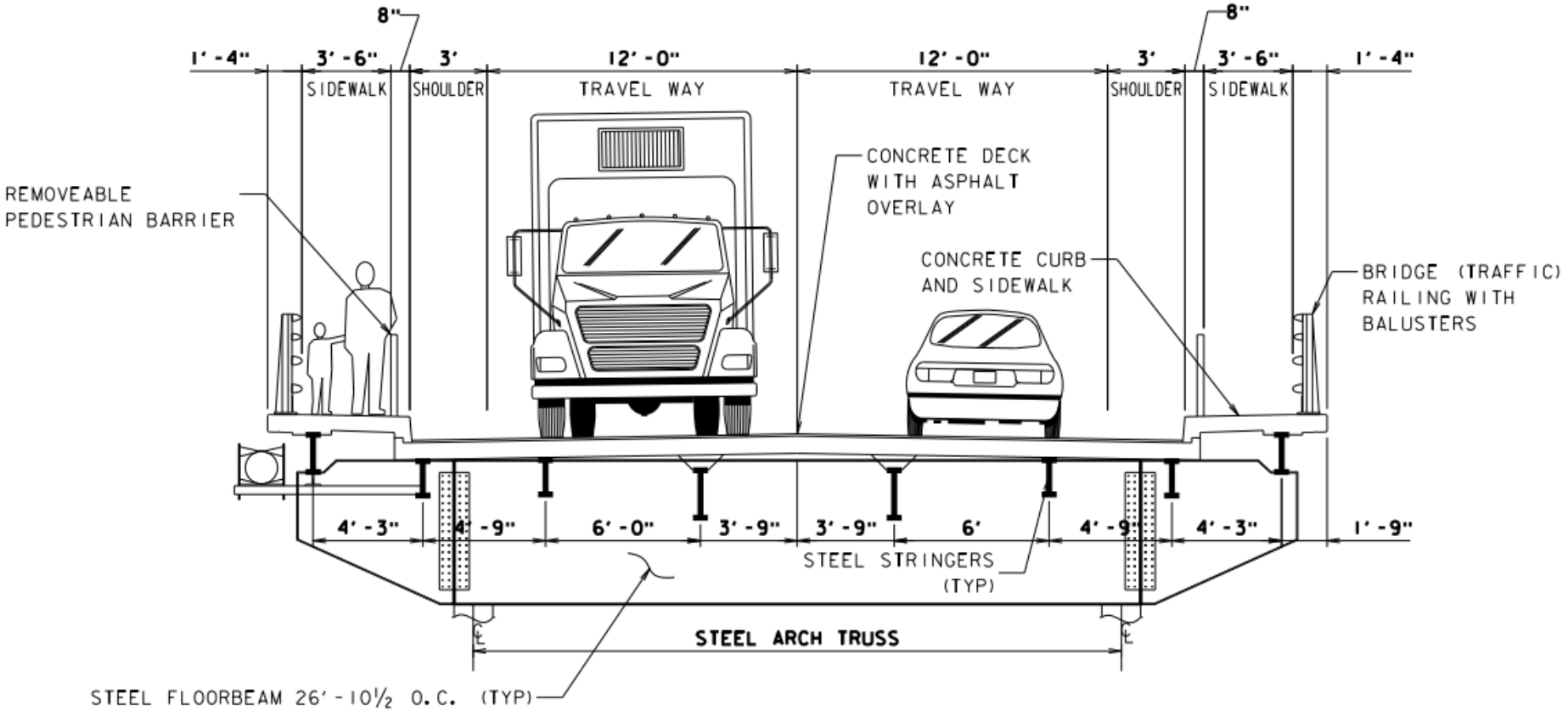
- Length = 285 ft; Depth of Gorge = 165 ft
- Traffic Volume = 9,000 vehicles per day
- Traveled Way Width
  - 12 ft lanes
  - 3 ft shoulders
  - Existing railings added in 1972
  - Railings do not meet current standard

Quechee Gorge Bridge: Sidewalk

- Added in 1972, with bridge rail and removable barrier at curb
- 3.5 ft wide; does not meet ADA guidelines

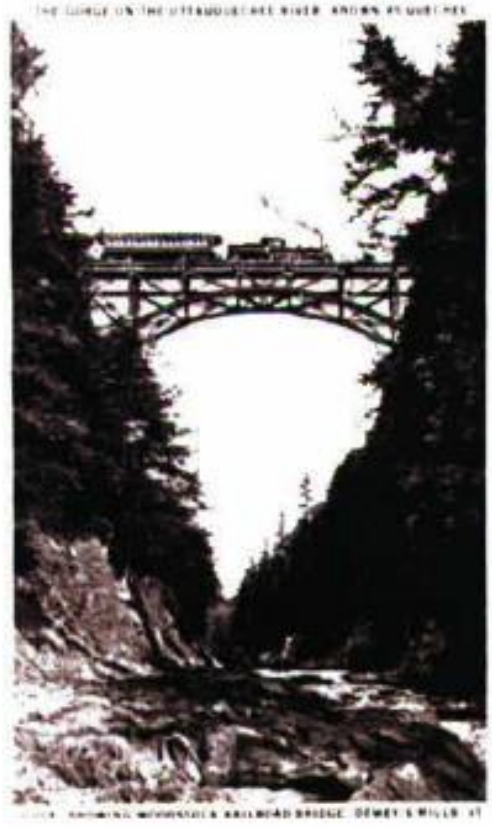


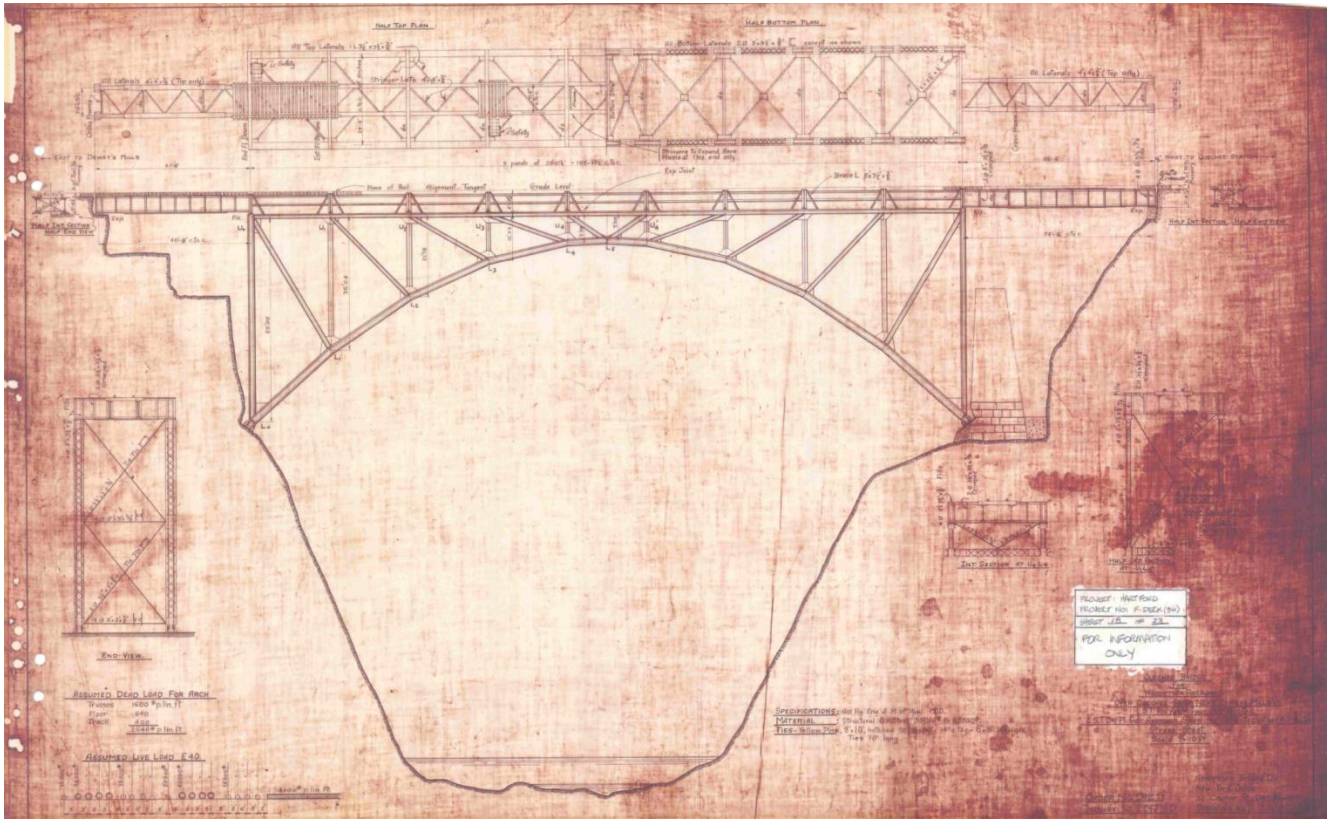
Bridge Cross Section-Existing



Historic Bridge

- Built in 1911 for the Woodstock Railroad
- Listed on the National Register of Historic Places



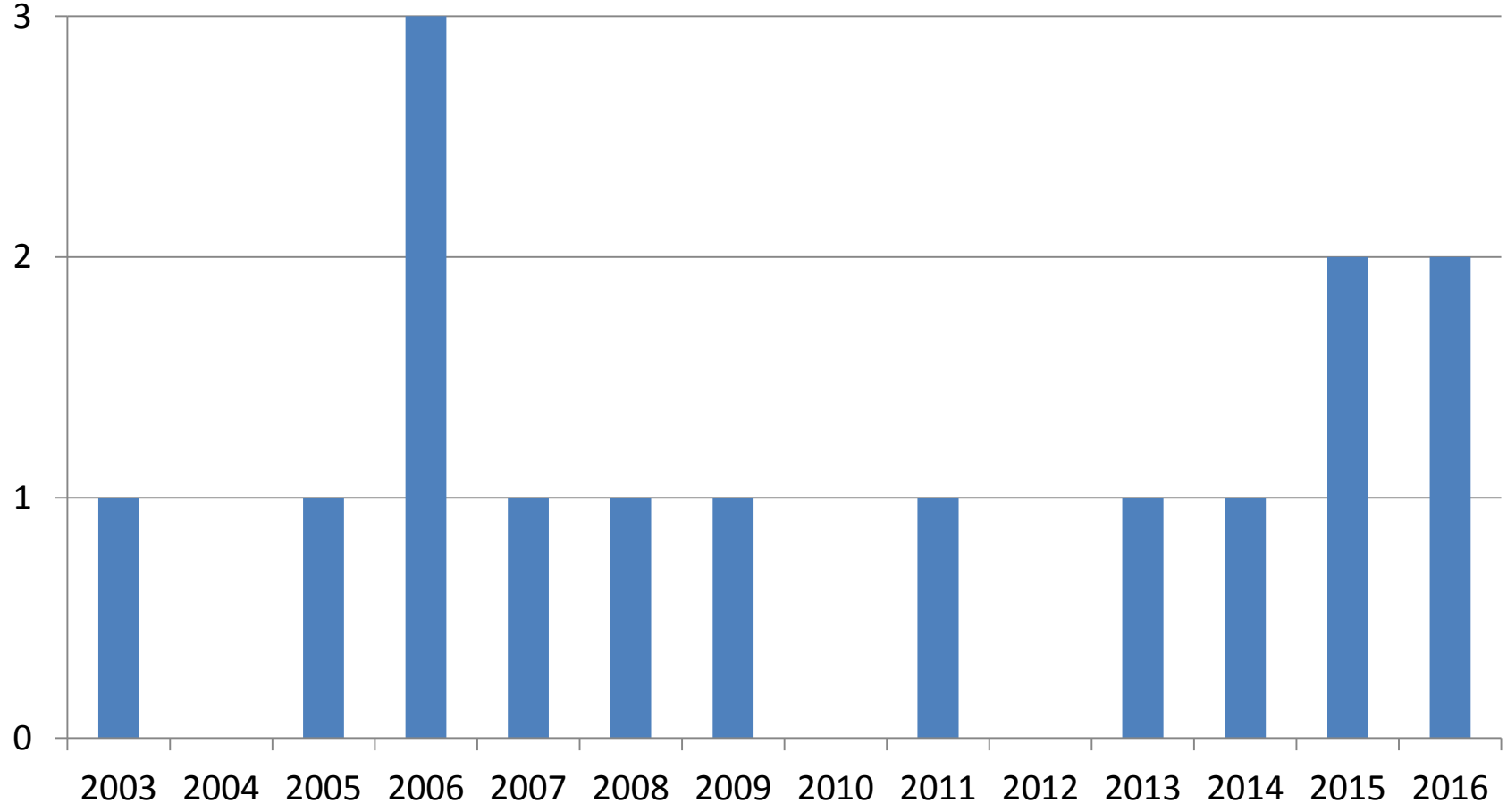


Crashes

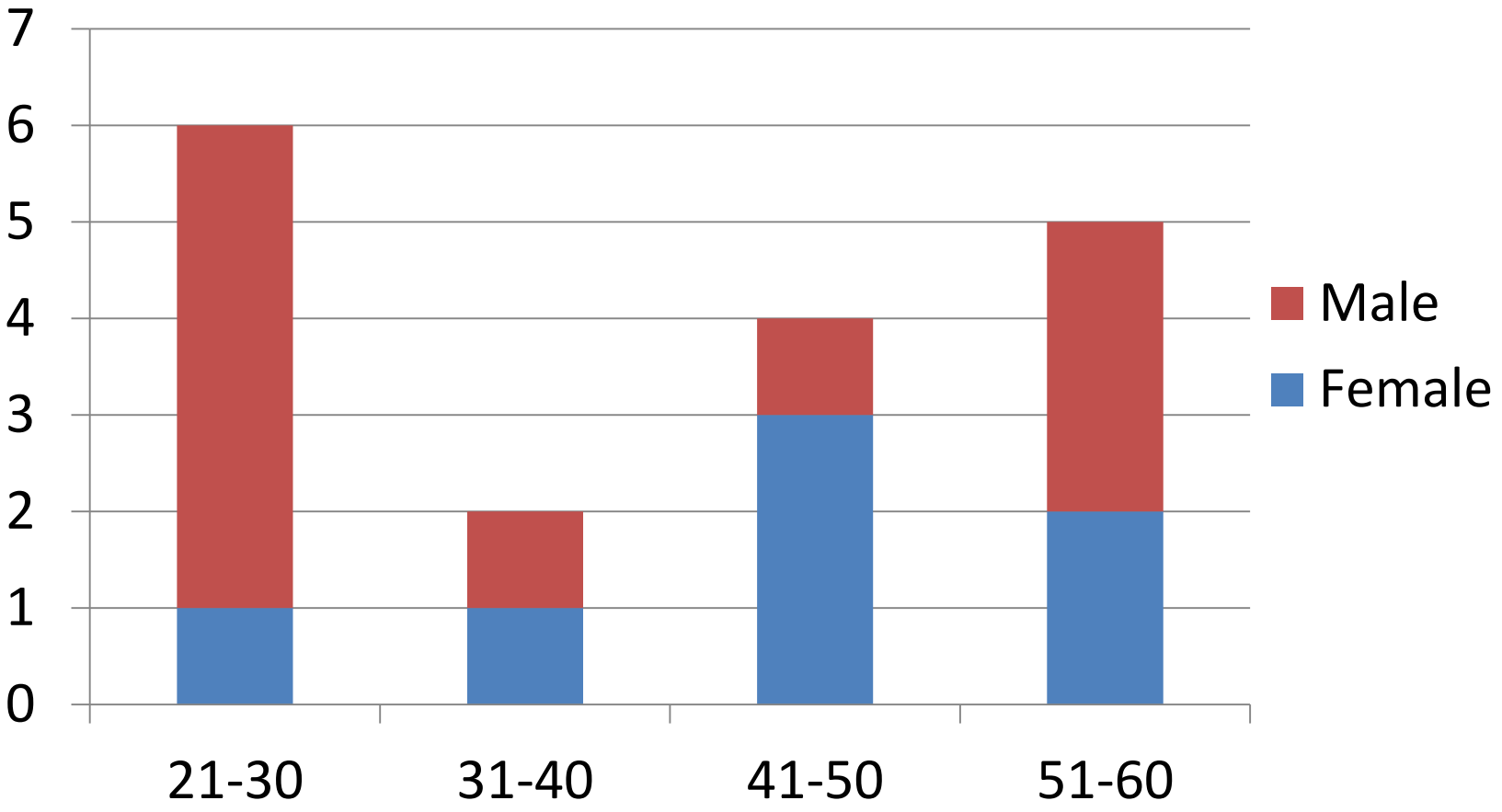
- 33 crashes on bridge 2010 to 2016
- Many rear enders, few injuries

QUECHEE GORGE BRIDGE SUICIDES

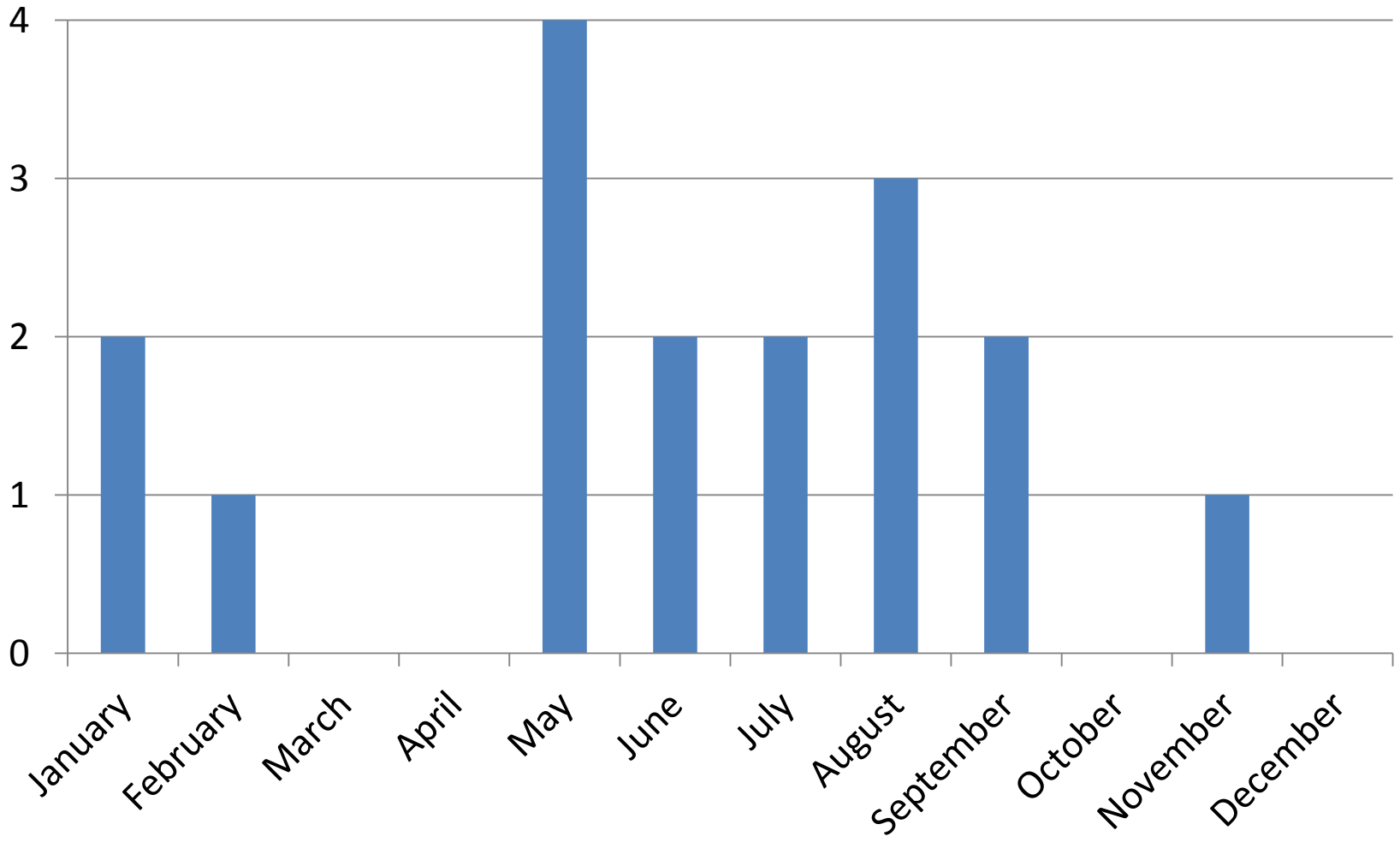
Quechee Gorge Suicides
Since 2003



Age and Gender



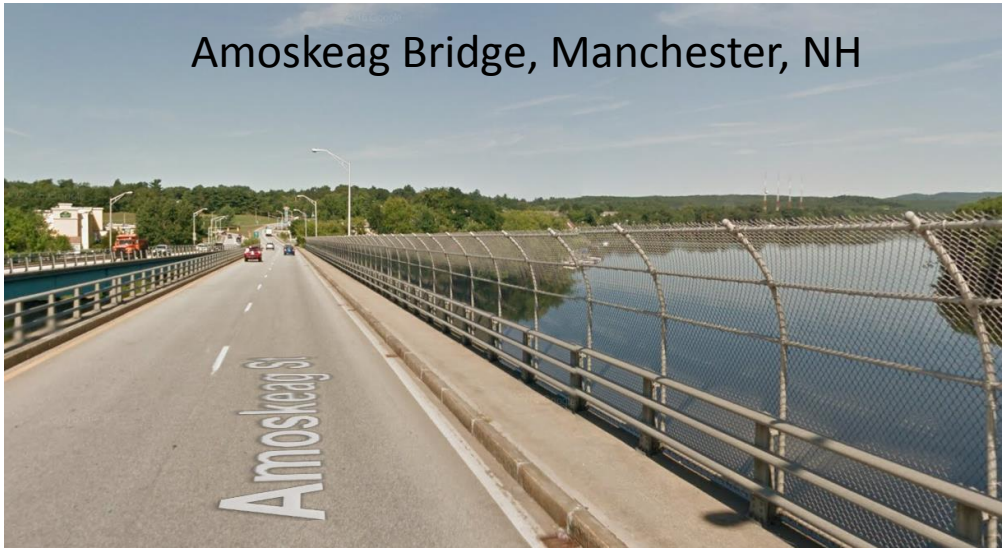
Month

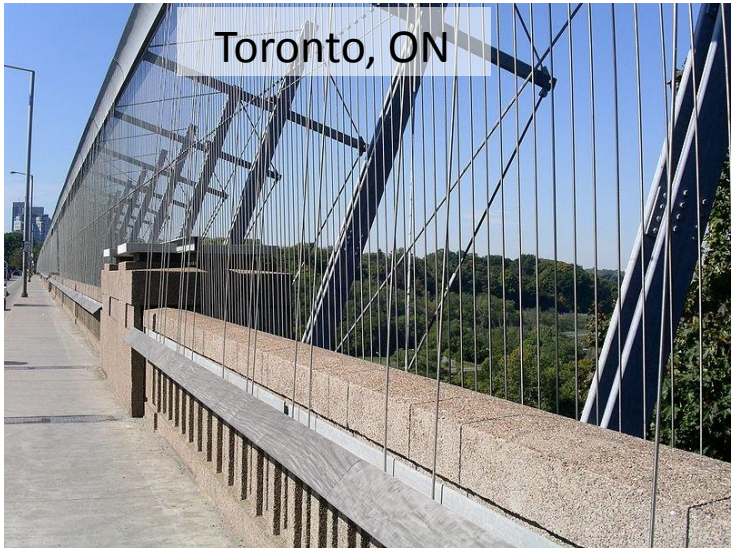

4
3
2
1
0
January
February
March
April
May
June
July
August
September
October
November
December

Means Restriction for Bridges

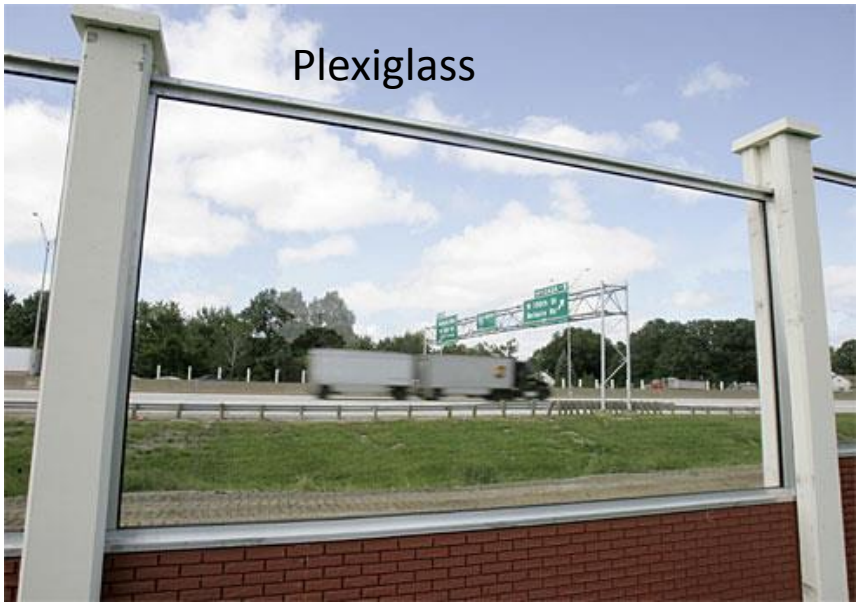
DATA AND CASE STUDIES

Barriers or "Means Restriction" on Bridges



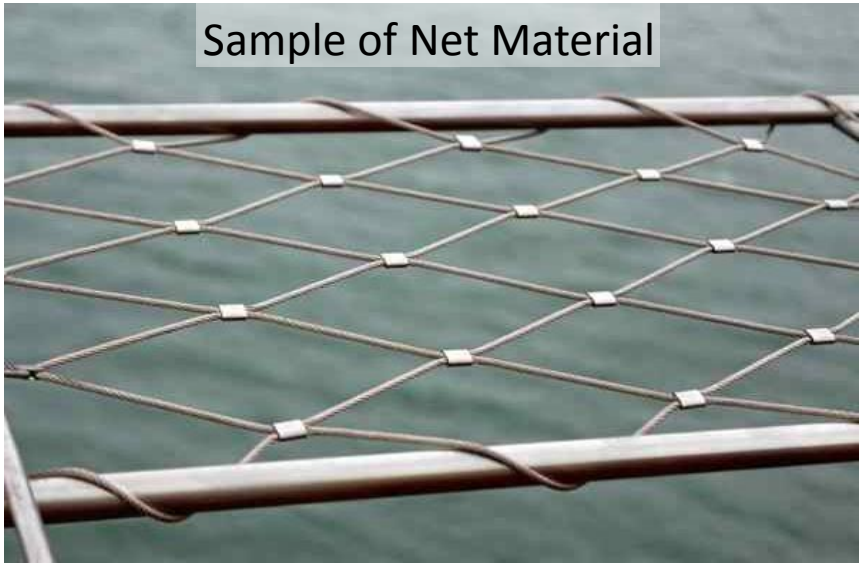


Barrier Types



Ithaca, NY

Bern, Switzerland

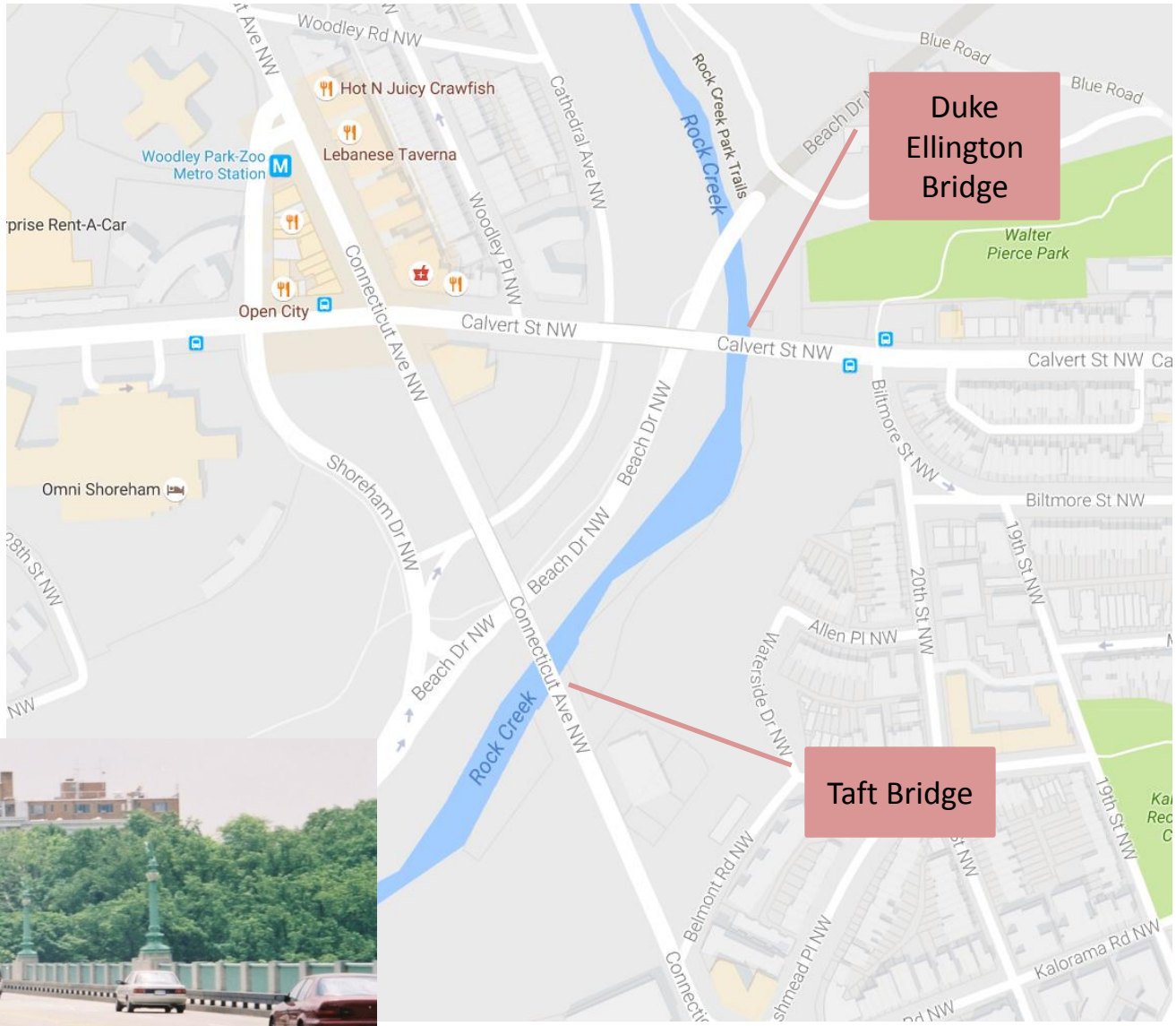

Sample of Net Material

Golden Gate Bridge

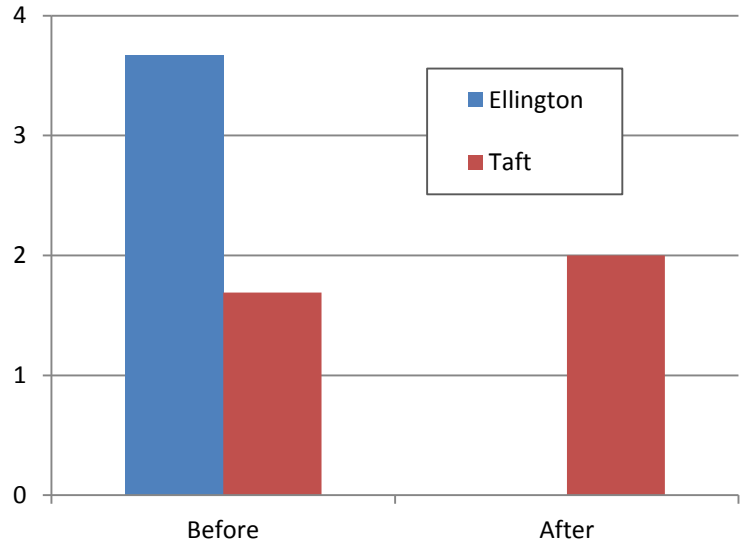
Case Studies

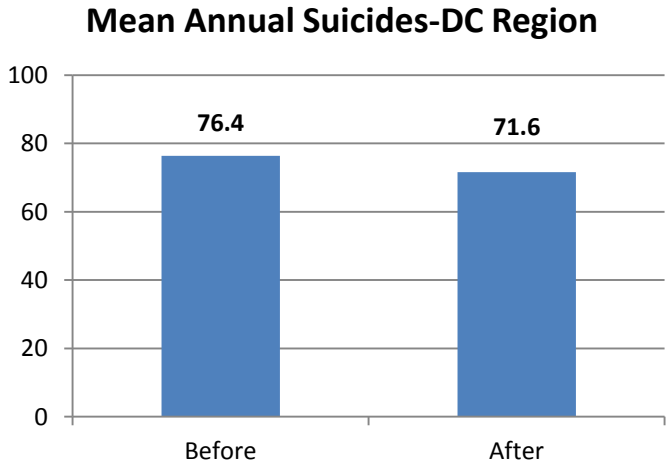
- Duke Ellington Bridge, Washington DC
- Memorial Bridge, Augusta ME
- Cornell/Ithaca Gorge Bridges, Ithaca, NY

Duke Ellington Bridge



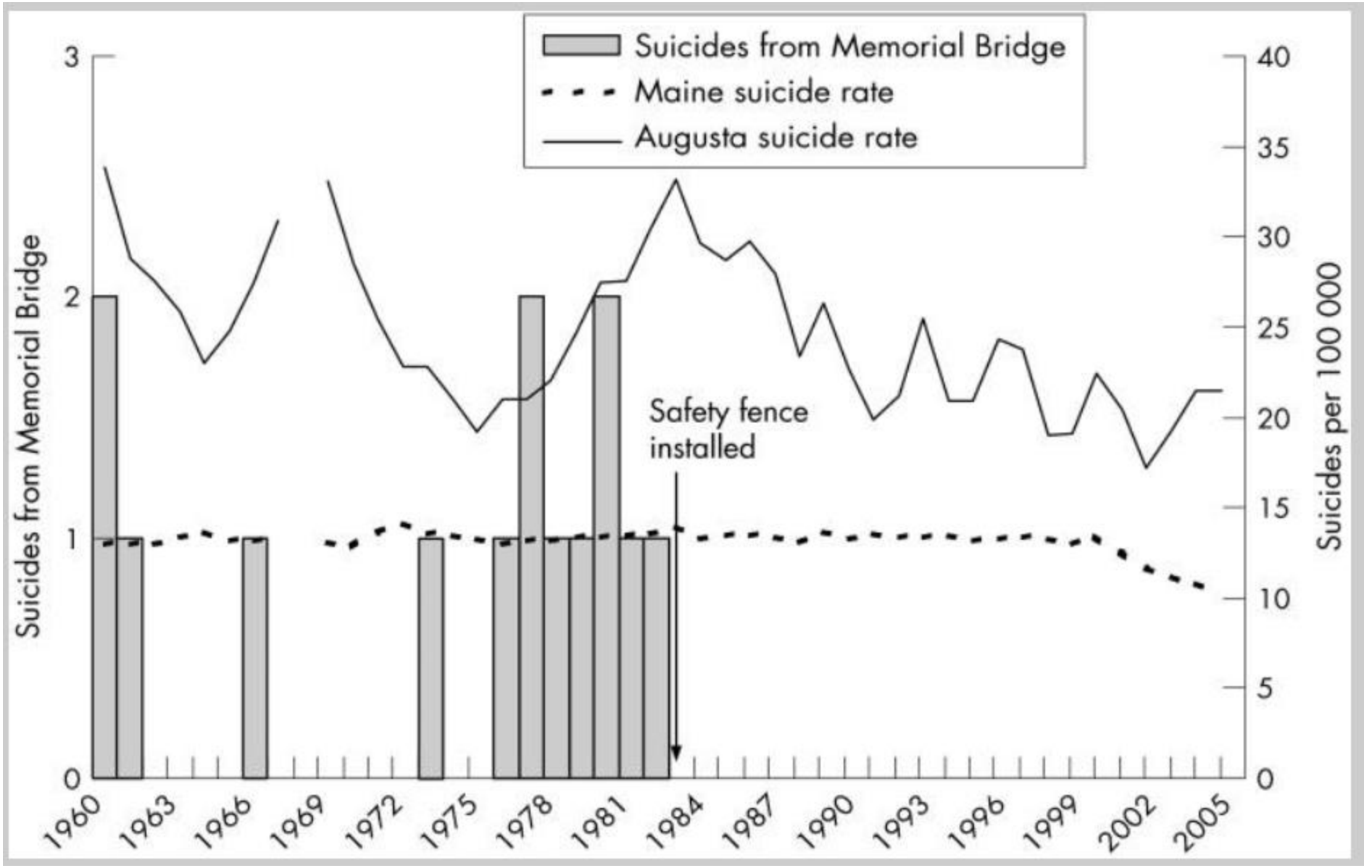
Pre-barrier vs. Post-barrier Suicides





- No increase at Taft Bridge after installation of barrier
- Regional suicide rate declined after barriers

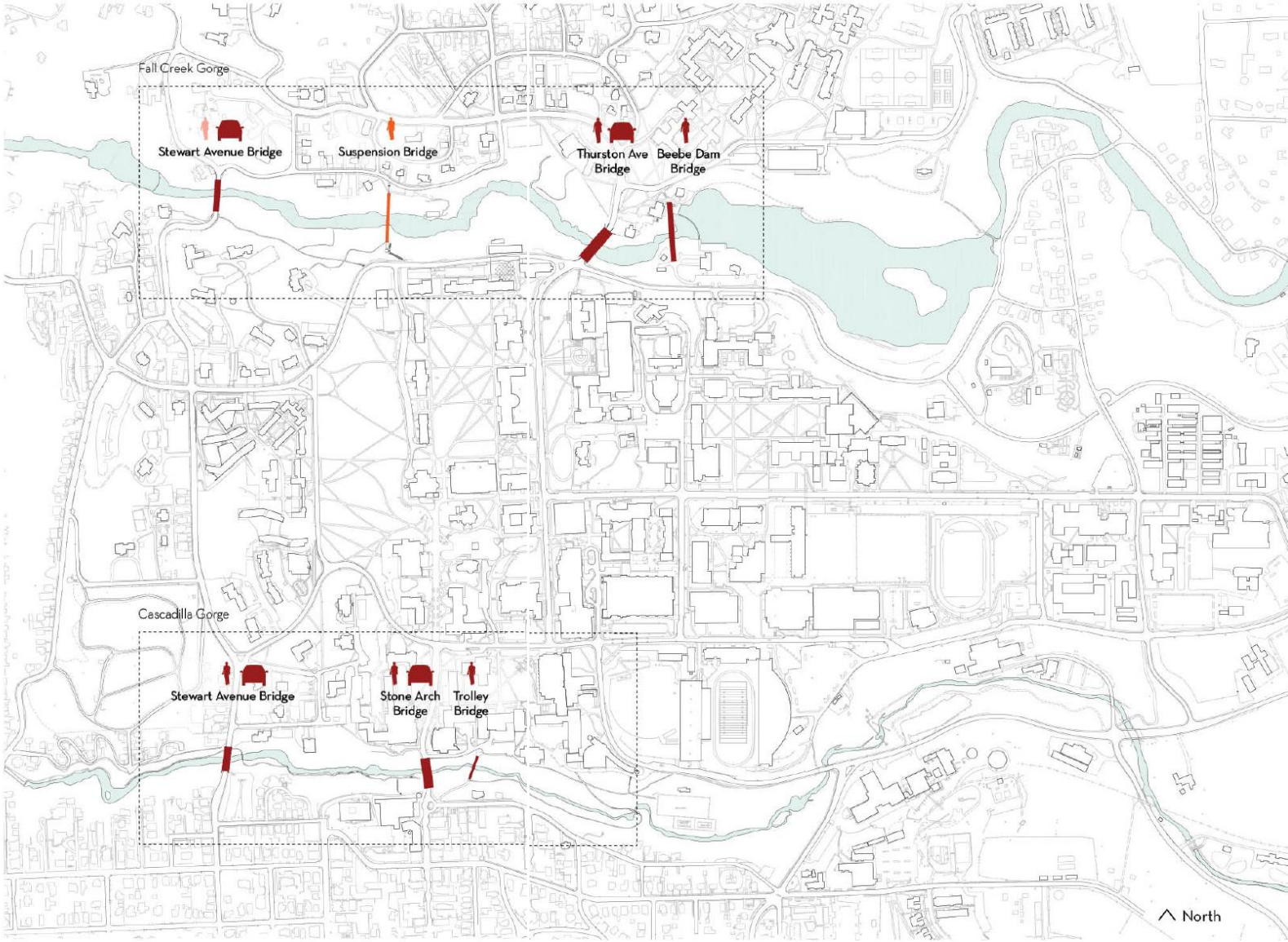
Memorial Bridge, Augusta, ME


Suicides from Memorial Bridge
Maine suicide rate
Augusta suicide rate
Safety fence installed
Suicides from Memorial Bridge
Suicides per 100 000
0
1
2
3
0
5
10
15
20
25
30
35
40
1960
1963
1966
1969
1972
1975
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005

Memorial Bridge, Augusta

Ithaca NY Gorge Bridges

Bridge Location
and Traffic Types



Pedestrian
Vehicle
Low Med High

Chain Link barriers - 2010

Nets replaced barriers 2012

Summary

- Bridge barriers have been proven to be highly effective in preventing suicides and save lives.
- By deterring an attempt, the person in crisis is given more time for their period of crisis to pass.
- Suicide barriers have high benefit to cost ratio.

ALTERNATIVES

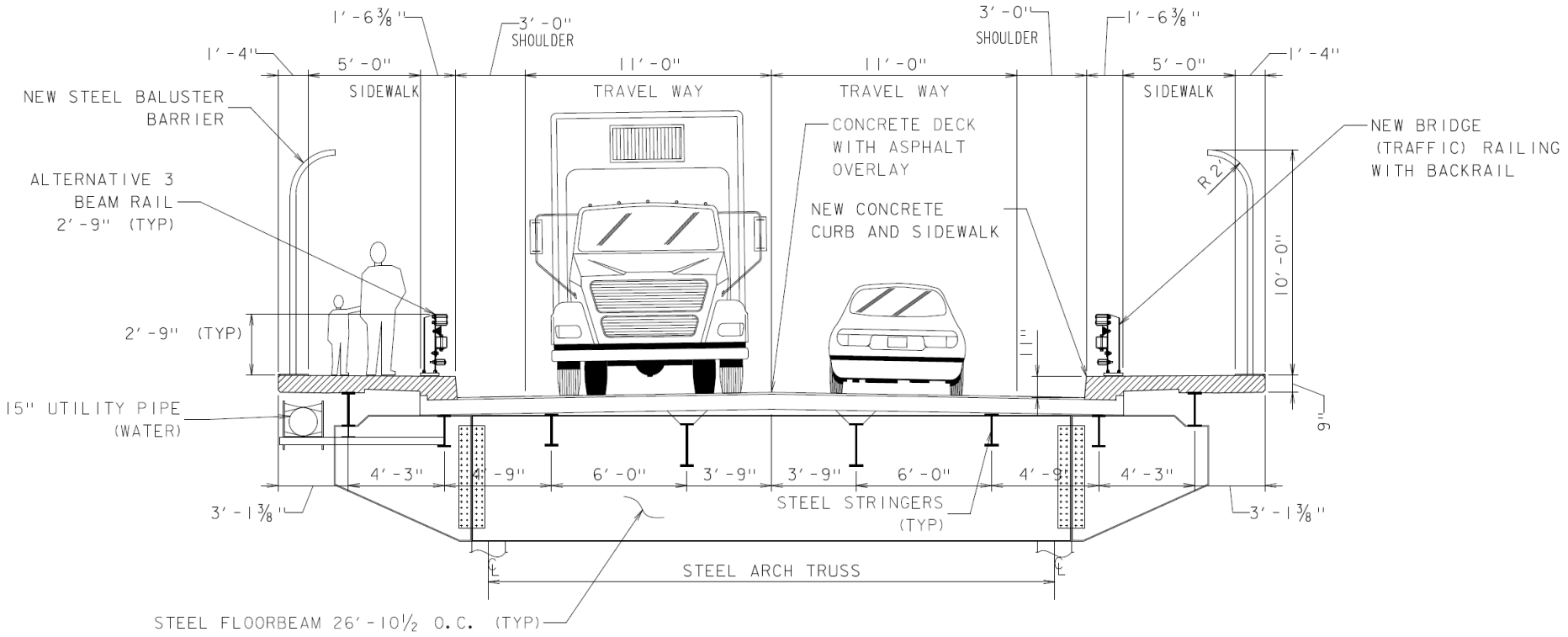
Alternatives

1) No Action on bridge
   - Increased Information and Resources
   - Lighting
2) Suicide Prevention Barrier
3) Suicide Prevention Nets

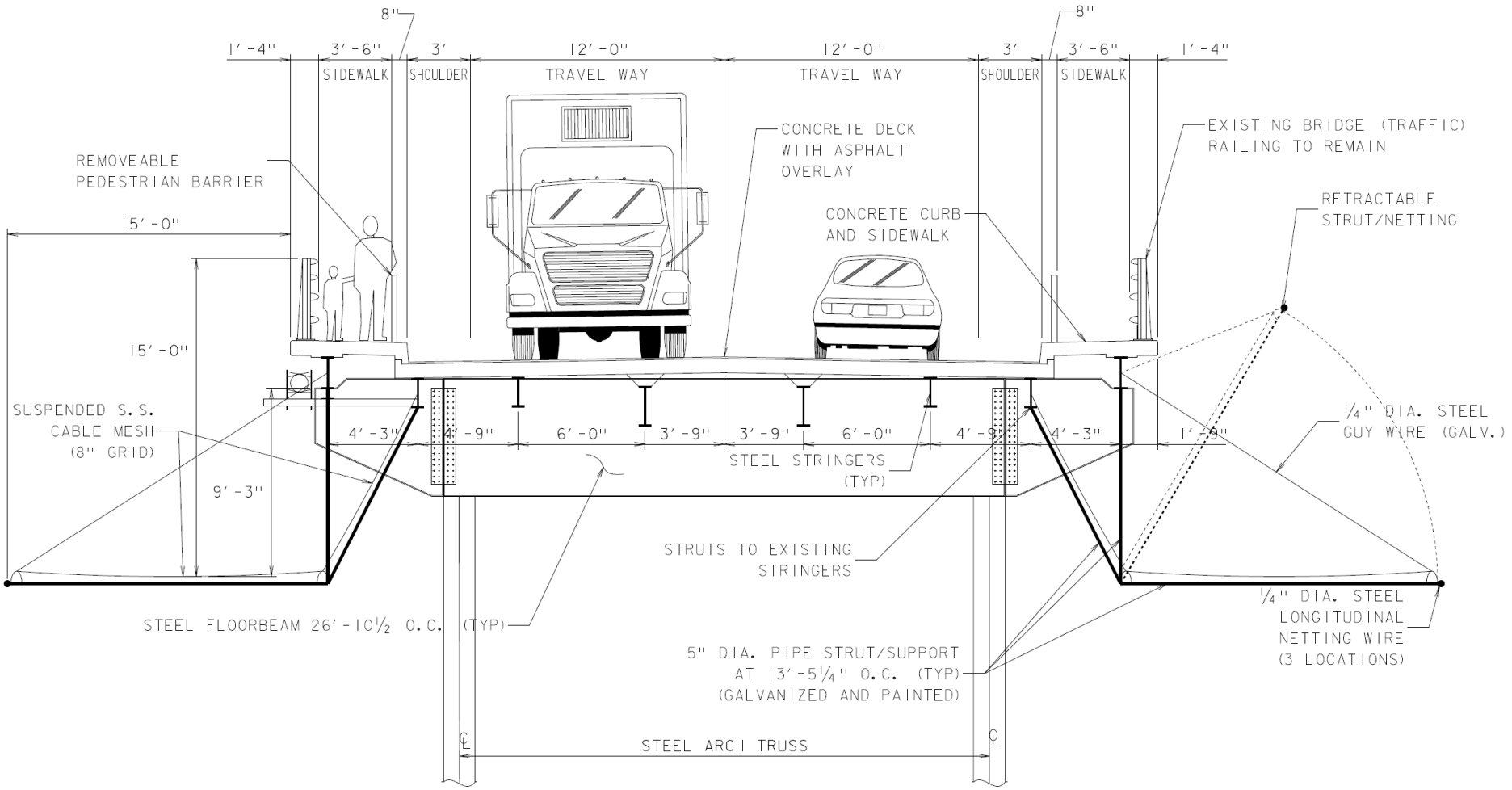
1) Increased Information and Resources

Call Boxes to be installed November 2016
Consider street lights at parking area

2) Suicide Prevention Barrier

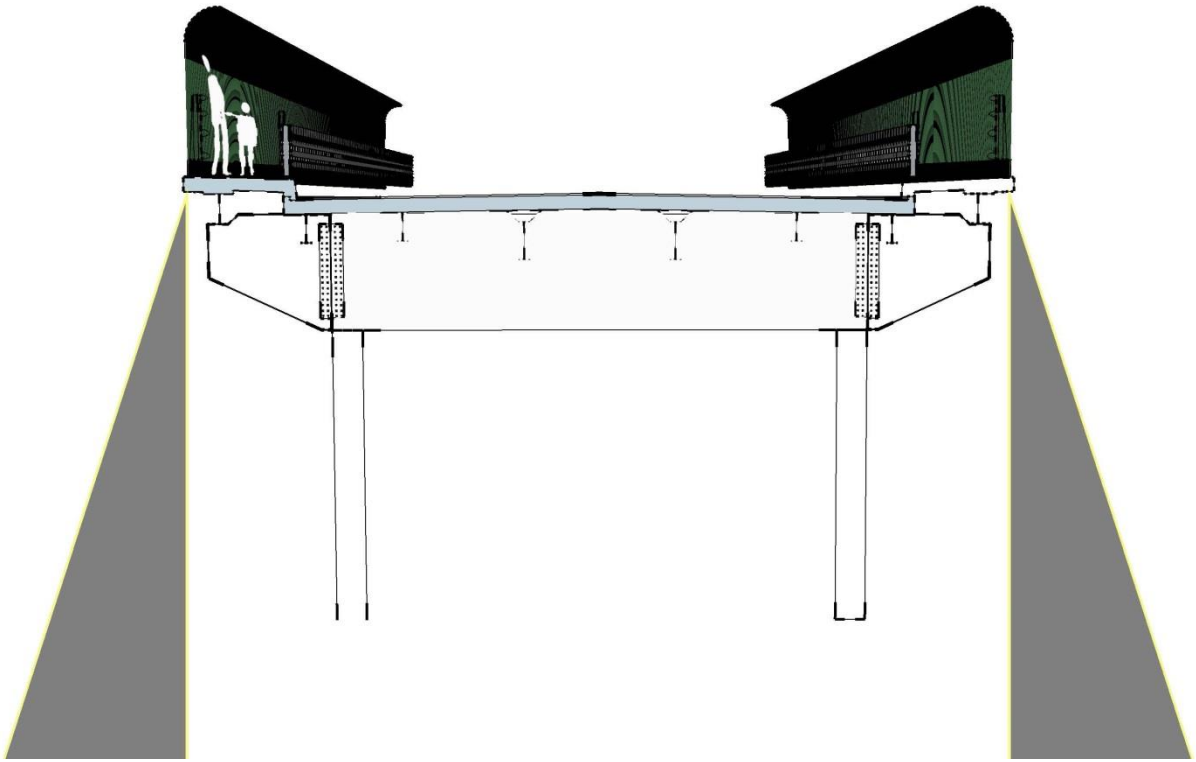


3) Suicide Prevention Net

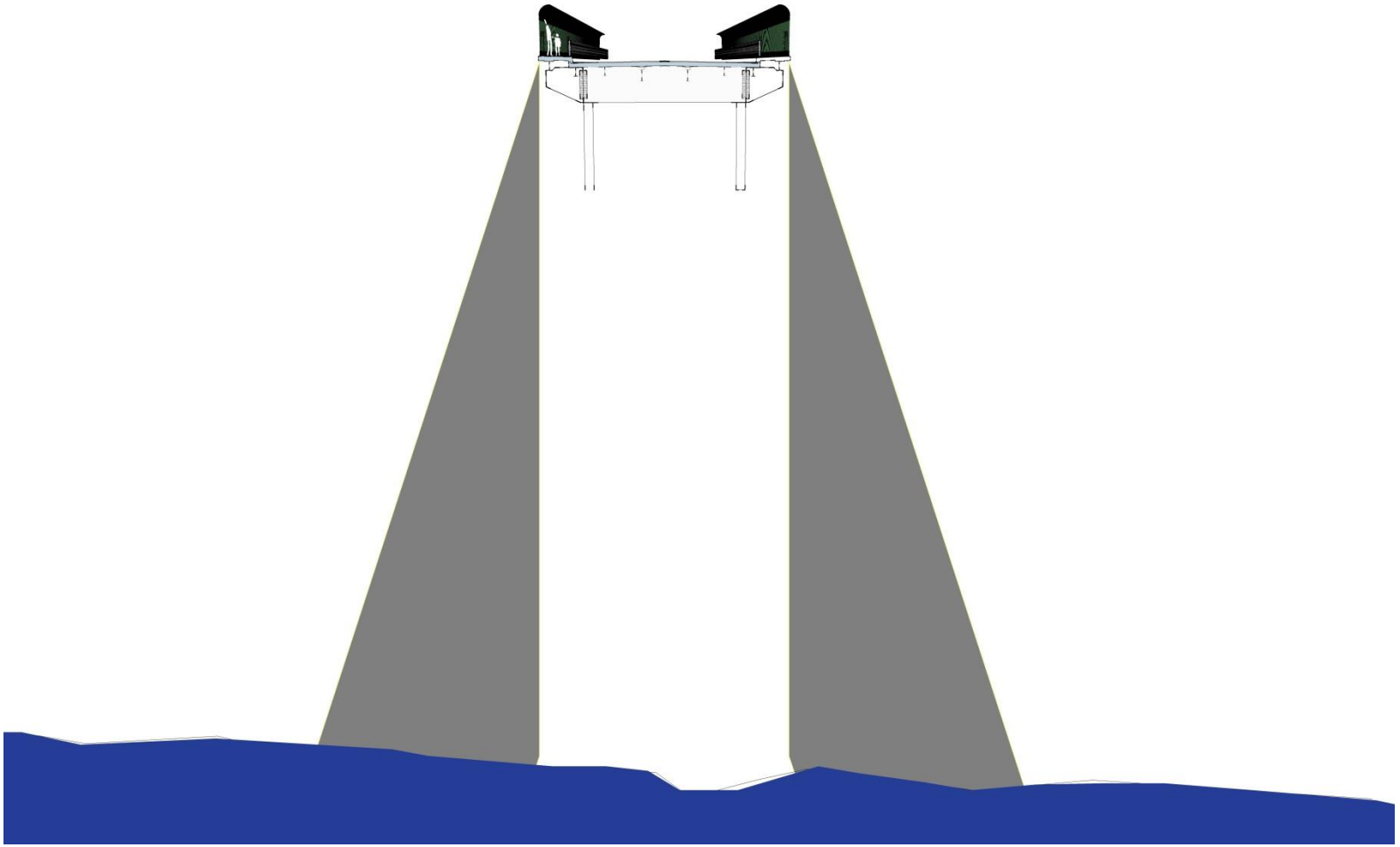


VISUAL IMPACTS

Viewshed Impact: Barrier

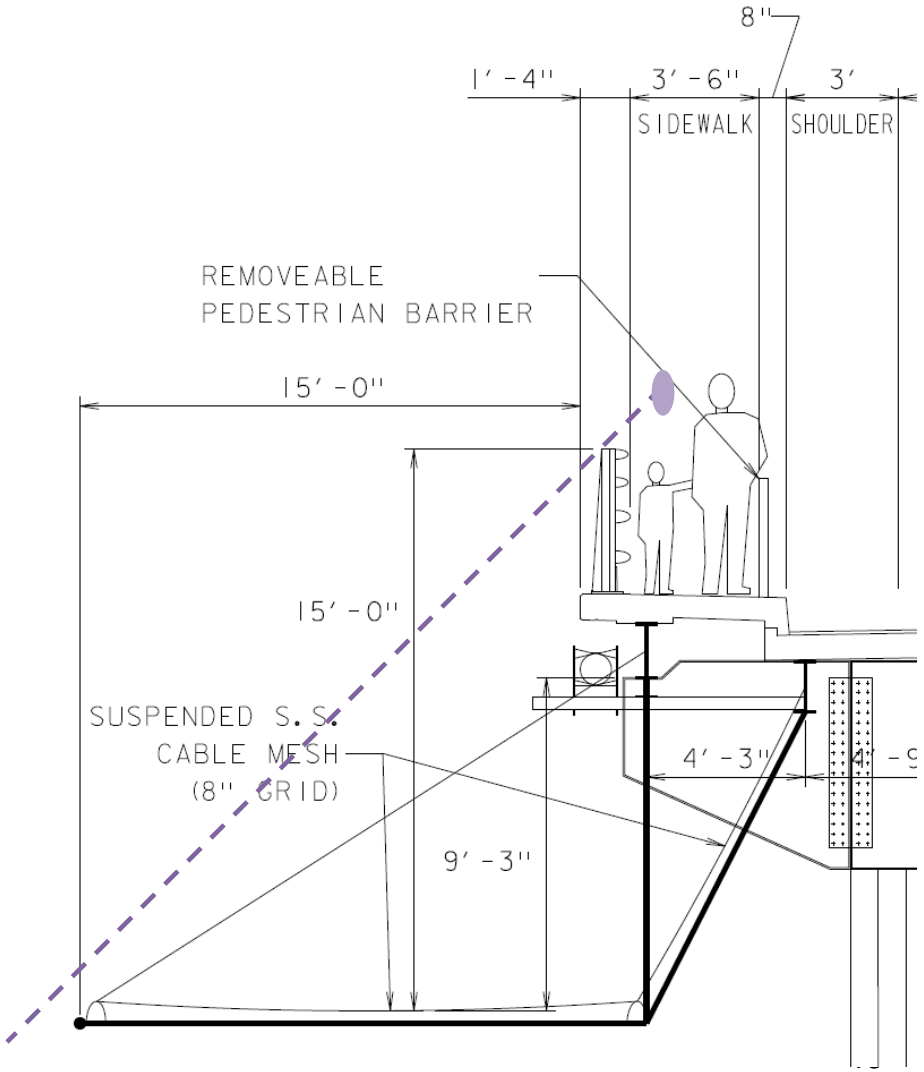


Viewshed Impact: Barrier

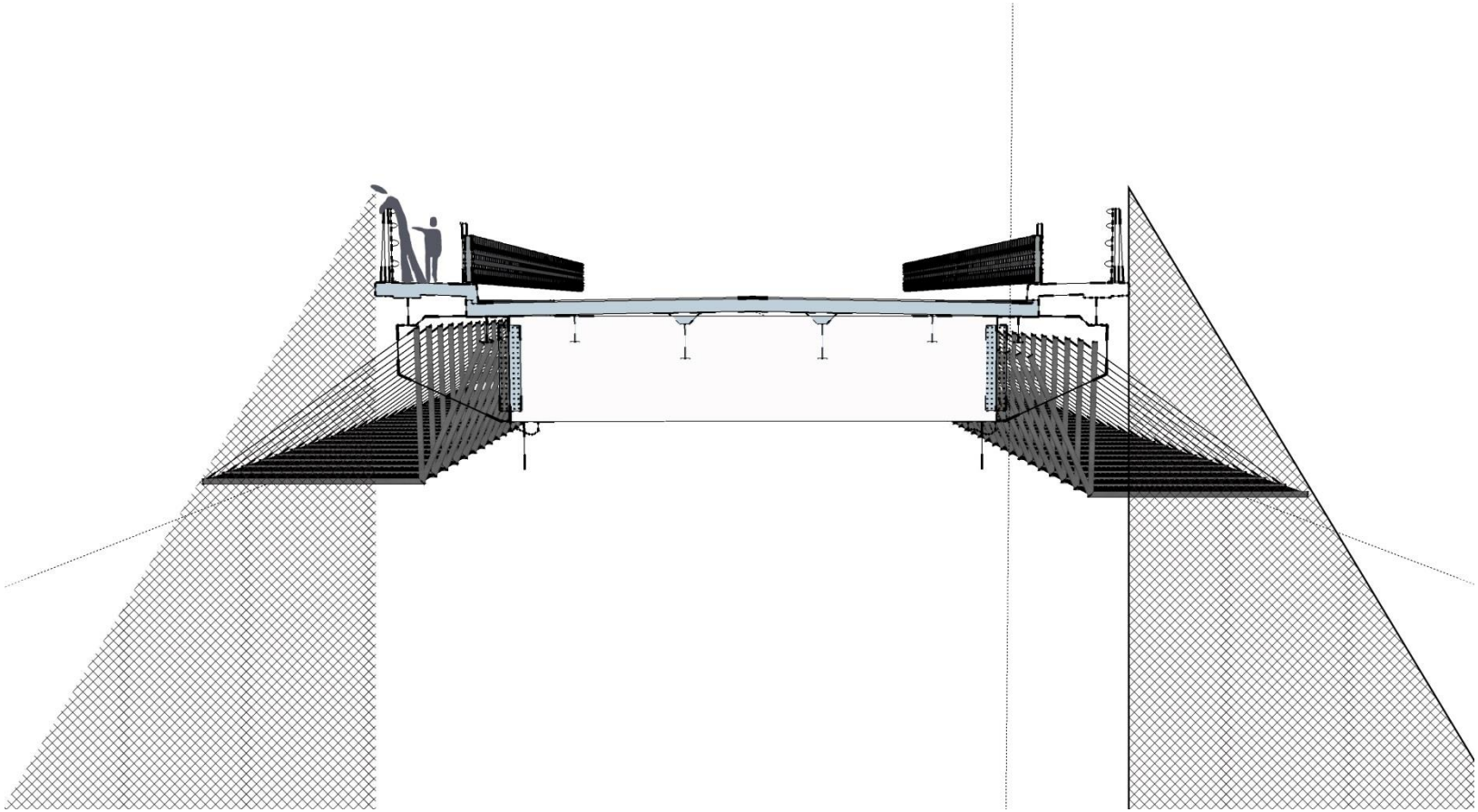


View from Sidewalk

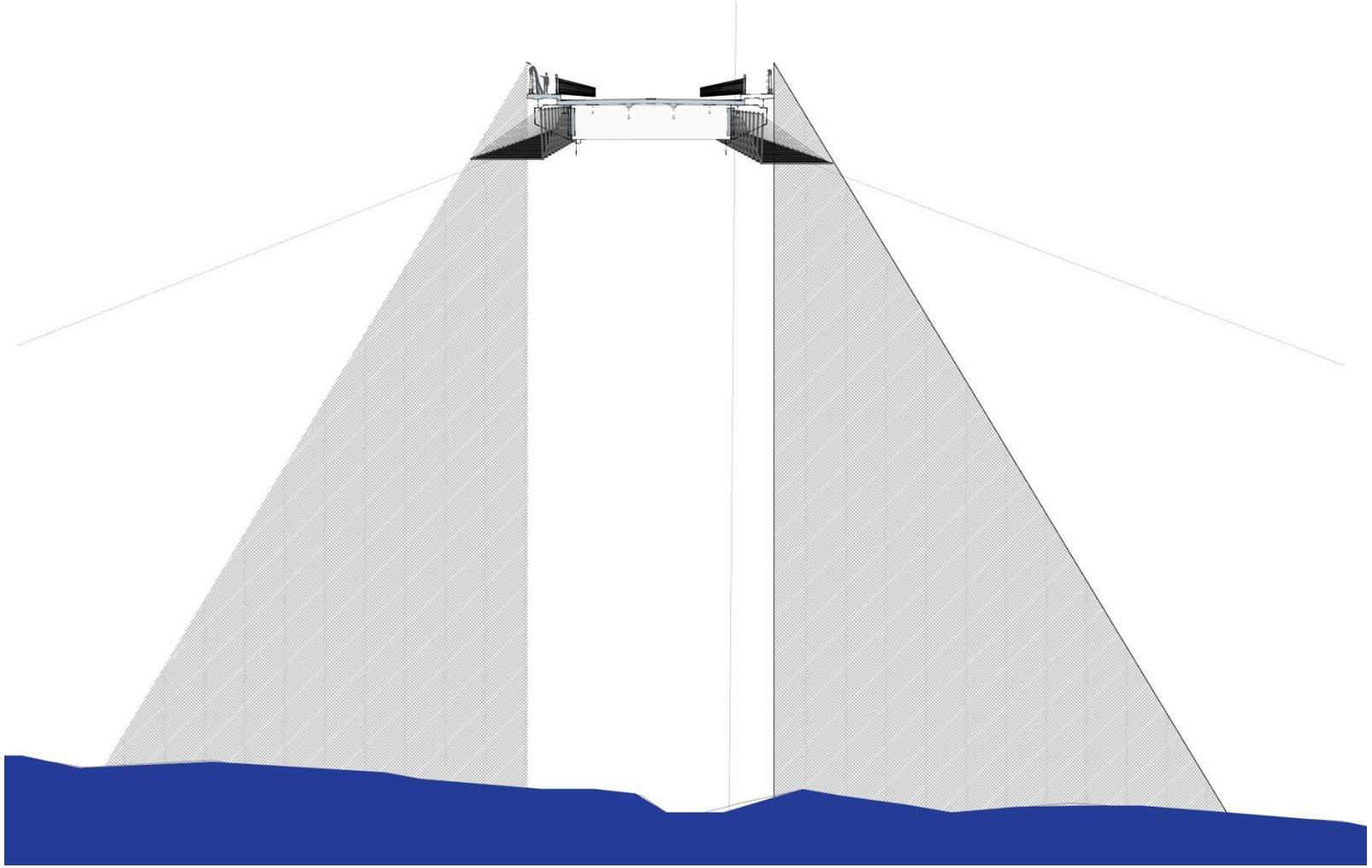
- Nets will not be visible for people walking on the sidewalk



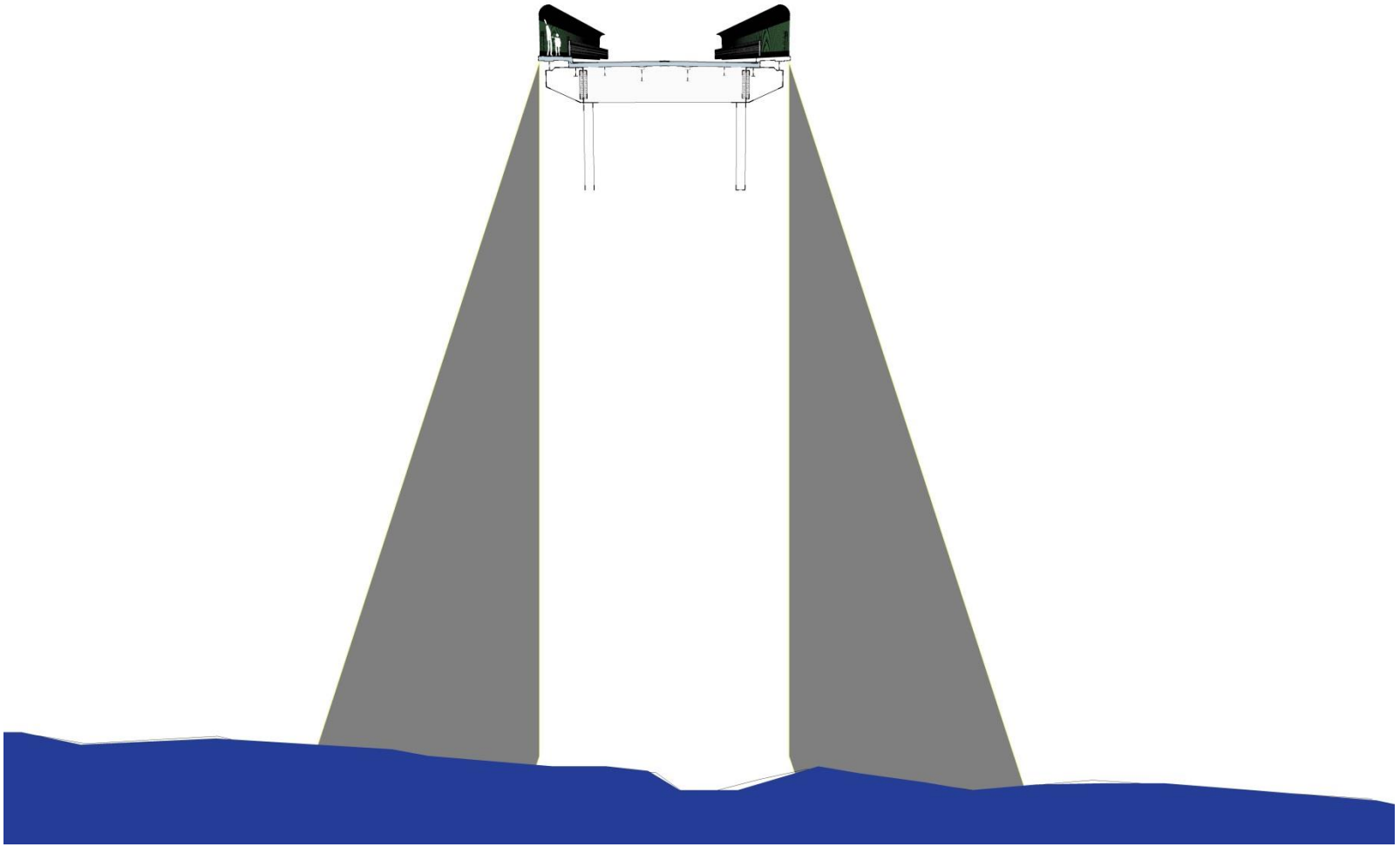
Viewshed Impact: Net



Viewshed Impact: Net



Viewshed Impact: Barrier

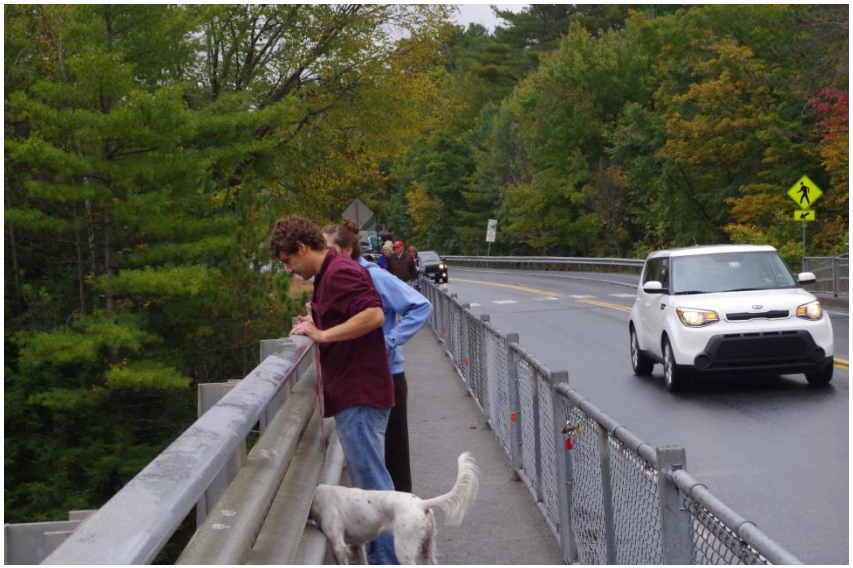


Visual Impact: User Perspectives

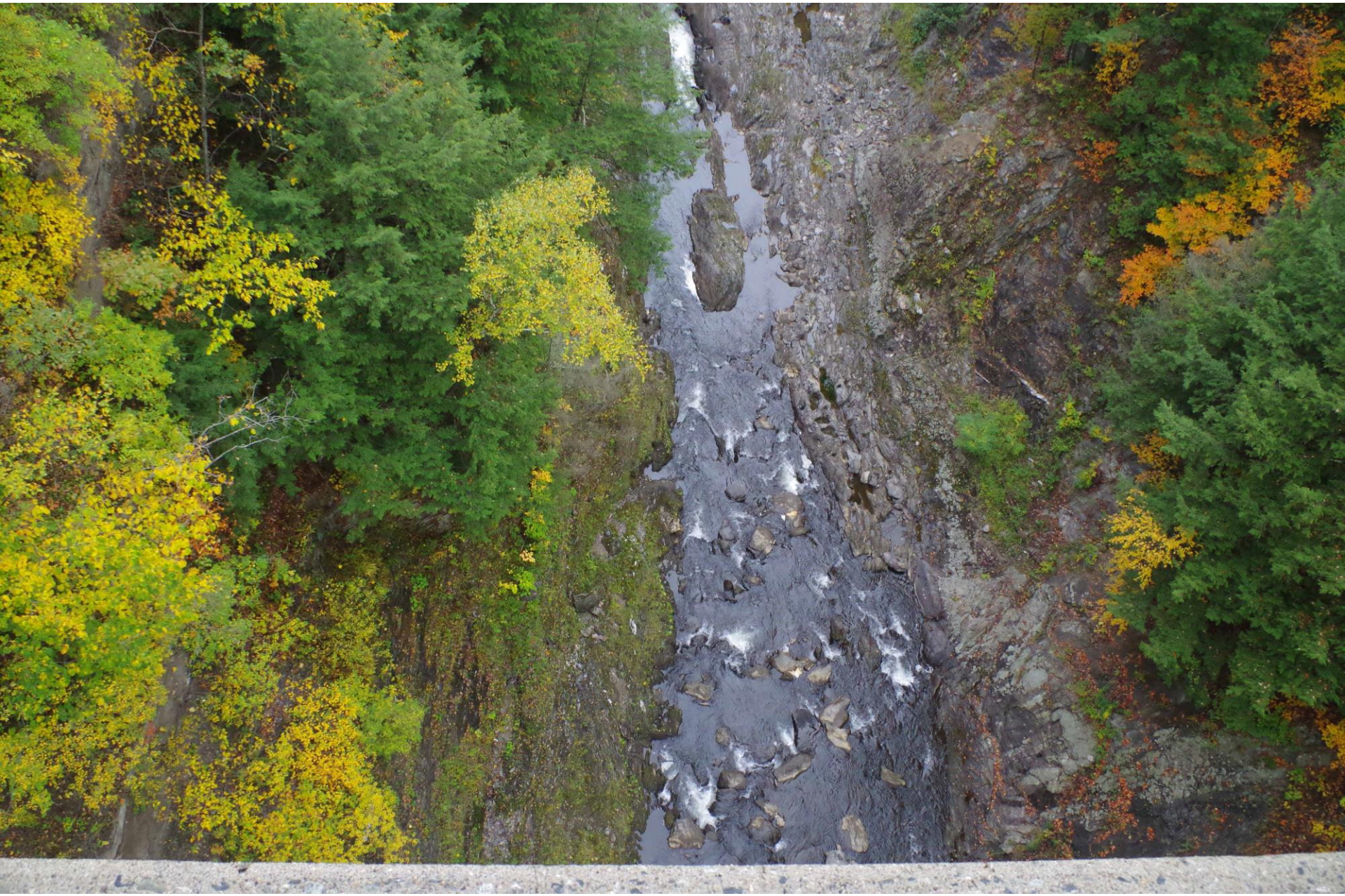
- From automobile
- From sidewalk
- From trails

View from automobile

View from Sidewalk



View from Sidewalk



View from Trails

QUESTIONS?

Planning and Design Considerations

- Effectiveness in suicide prevention
- Impact on the community
  - Appearance of barrier
  - Transparency/Compatibility with viewing gorge
- Impact on bridge structure and load rating
- Emergency response considerations
- Maintenance requirements
- Cost

DISCUSSION

Next Steps

- Continue research and design refinements
- Develop cost estimates for construction
- Evaluate maintenance, emergency response considerations with Town and State officials
- Develop implementation plan and timeline
- Prepare Final reports by December 23, 2016 for legislature