

My involvement with the bridge began when Chuck Nora and I were tasked with addressing the signage at the bridge. This was in approximately August, 2020. We made recommendations regarding signage but changes were made that didn't exactly make sense and signs were also added.

Aaron Underwood organized several meetings to discuss possible protection solutions. A copy of that report is enclosed, and you will note that almost every one of the suggestions has been either done or considered.

In February of 2021 I acquired a report from George DOT on "Warning Systems Evaluation for Overhead Clearance Detection." If you would like a copy of the report, please let me know. It was at this time that we learned that 50% of solutions were generated from Trigg Industries.

Scott Hoyne and I began working together in February, 2021. Scott got a quote for a detection system from Trigg Industries. Copies of the original and current quotes are available in the packet of quotes. The dilemma is that installation is not included.

During the past year and a half, we have had three Village Managers and this project has frequently been put on the back shelf. Scott and I have continued to talk with companies that may be able to help us and requested quotes from several of them.

Today, October 10, 2022, I met with Bill Jacob, Greg Jackson, Scott Hoyne and Jim Carmichael, the steel structure person. We had been thinking in terms of constructing a steel structure away from the bridge, similar to what a large parking garage would use at its entrance. Jim will be providing us some ideas that might work for us.

Jim also made us aware of people's inclination to look straight ahead instead of up. All five of us agree that signs should be on the east and west side of the bridge and on each side of the bridge. We believe the sign should read "low clearance" or some iteration. They should also include some kind of flashing object to catch one's attention.

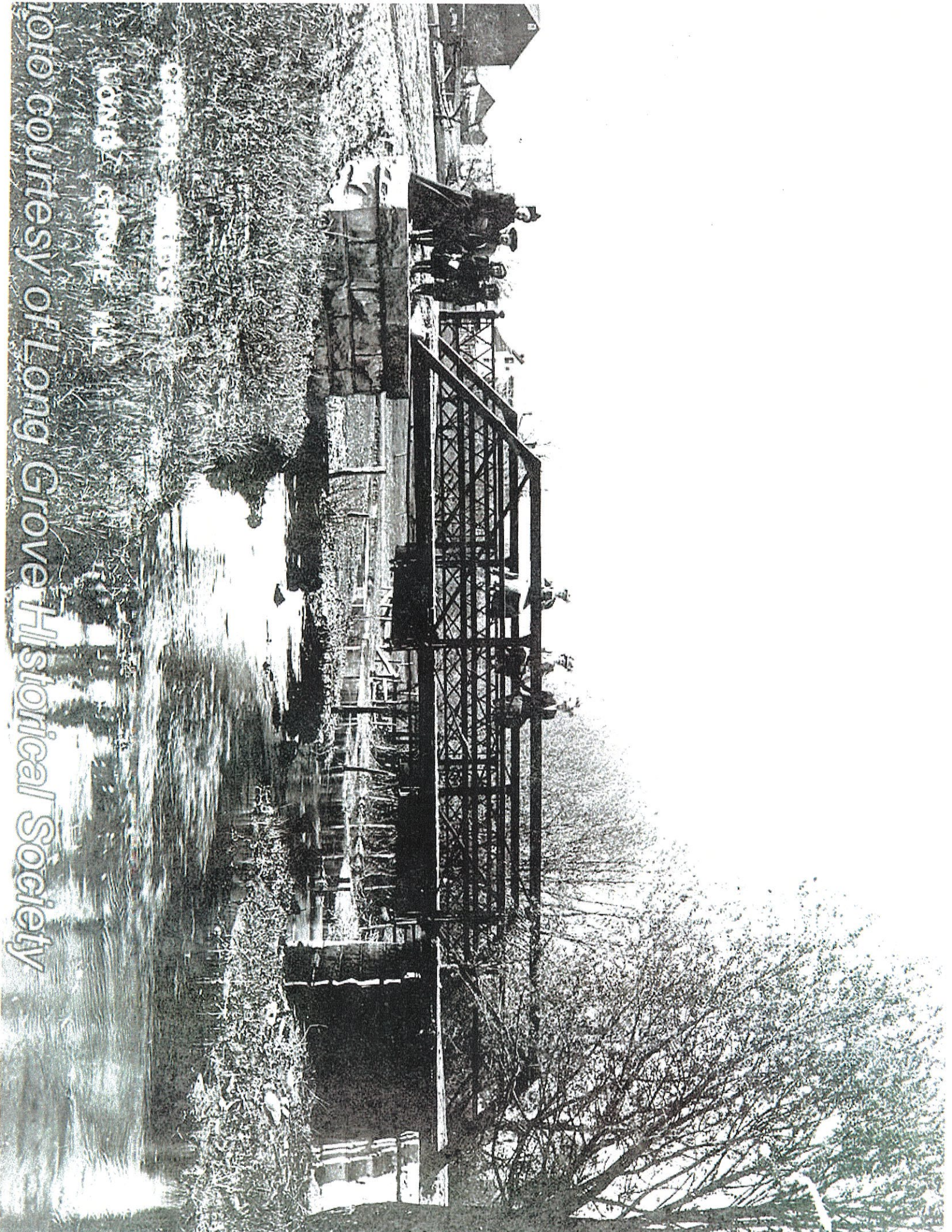
We also know that all the quotes we have received need to be analyzed as to whether parts could be used or totally discounted. We also know that we need to remove as many signs as legally possible because the more signs there are the more that people don't see them.

There are many ideas that we need to consider. Its possible more than one solution will be needed.

As we continue to find a solution for protecting our Bridge, I think it is important that we recognize that we made the most important protection of the Bridge when we put in the steel infrastructure. We do not have serious physical damage to the bridge because of the steel structure protects it.

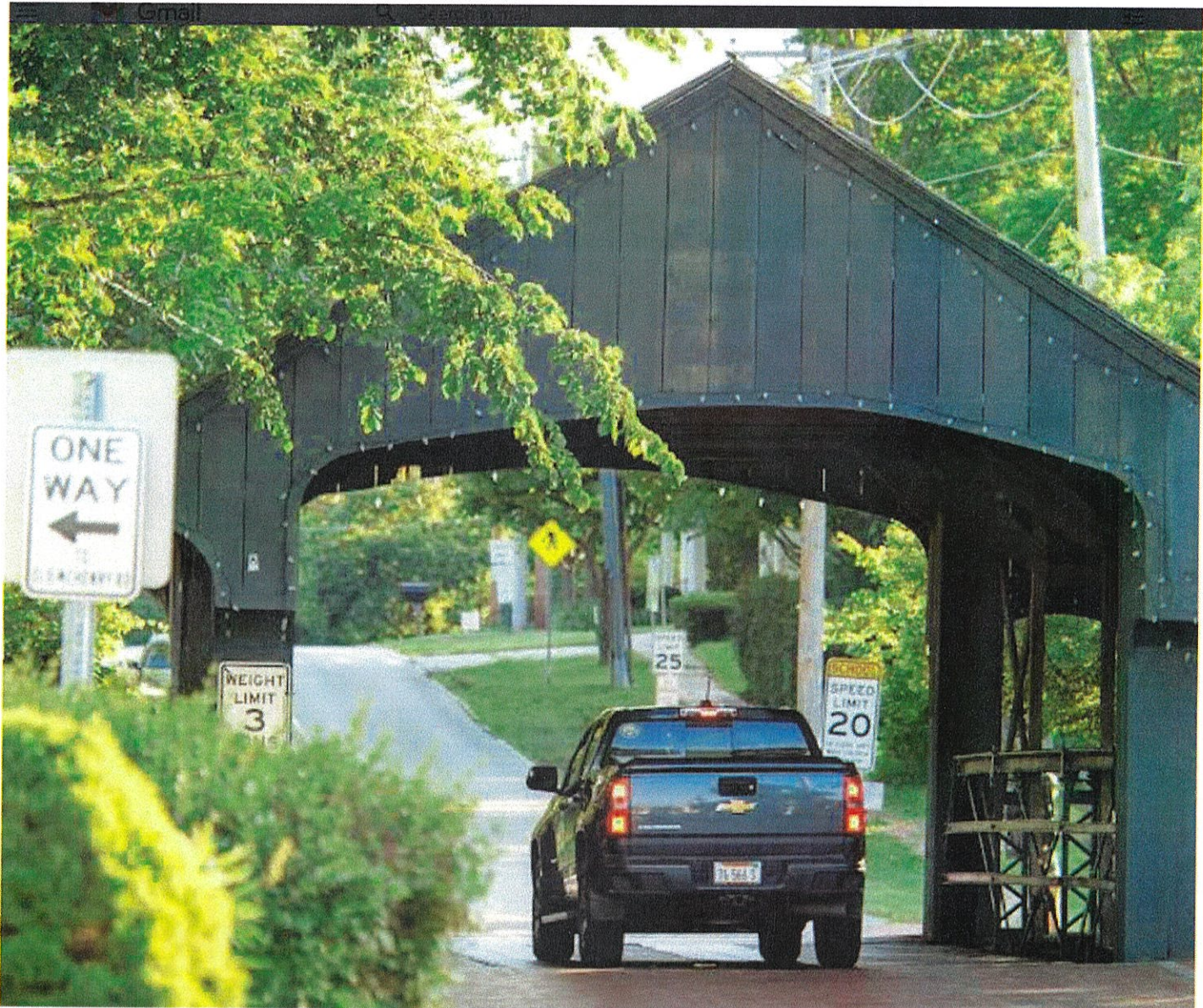
We do have attacks on our reputation and the branding of our Village but we can solve this by reducing, if not eliminating, the bridge being hit.

Bobbie O'Fallon

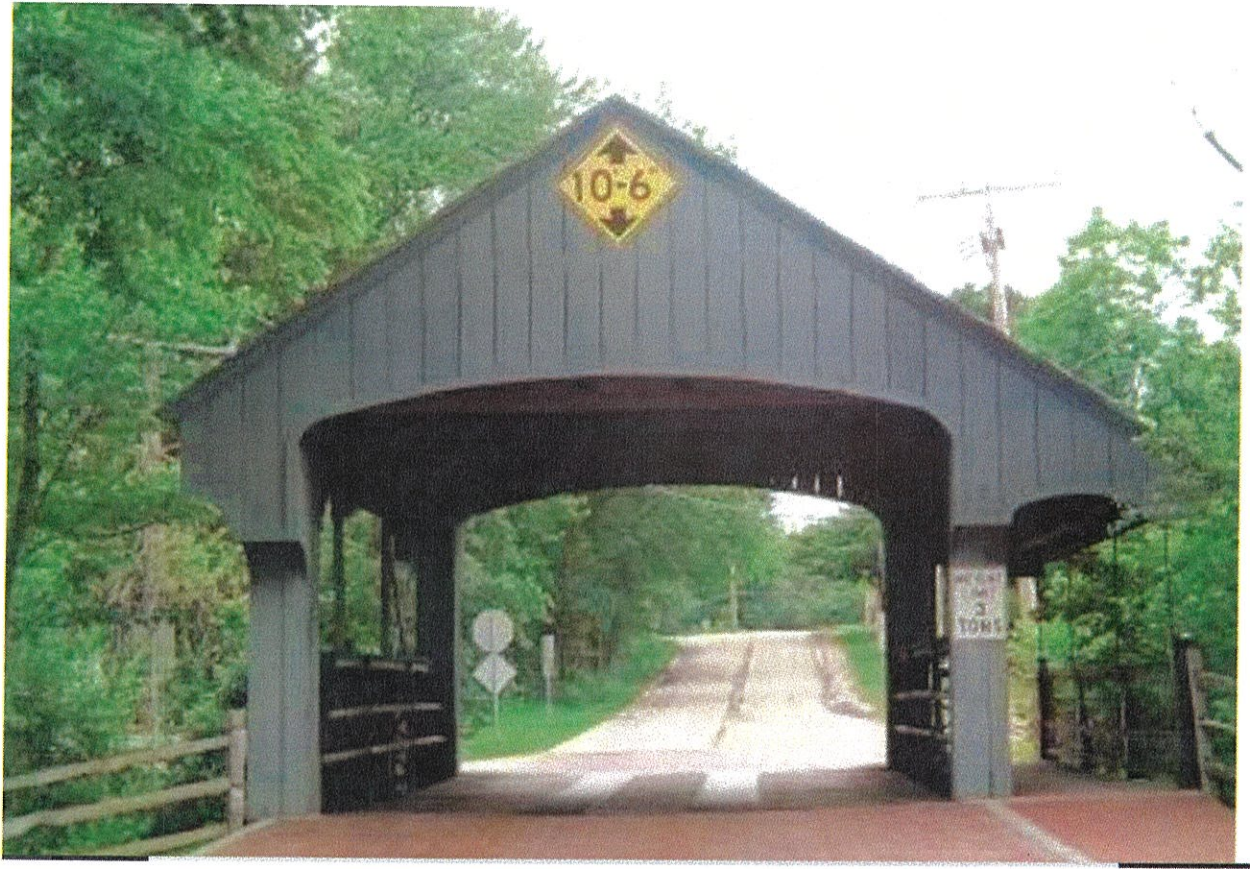


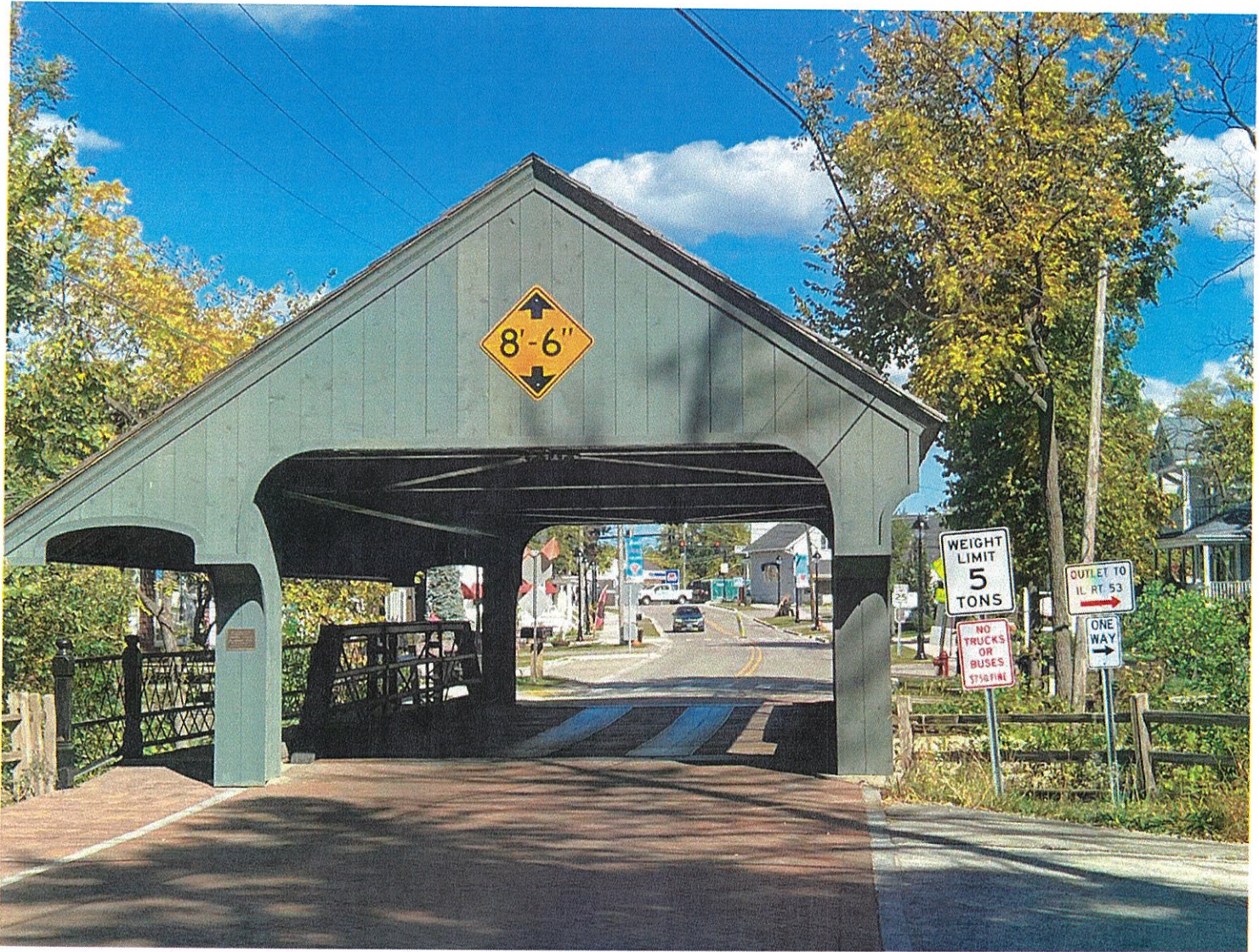
LONG GROVE, N.Y.

PHOTO COURTESY OF LONG GROVE HISTORICAL SOCIETY











VILLAGE OF LONG GROVE
Schaeffer

Robert Parker Collin Road

STOP

ONE LANE
BRIDGE
USE CENTER
TRACK

TRUCKS
MUST
TURN
→

WEIGHT
LIMIT
5
TONS

ONE
WAY

ISLAND PARK
STRONG







Bridge Walkway Arch Height

Aaron Underwood <aaron@uinnovate.net>


Archived: 9/12/2022 12:45:52 PM

Sent: 7/24/2020 6:58:41 PM

To: David Lothspeich <dlothspeich@longgrove.net>; Geoff Perry <gperry@gha-engineers.com>; Bill Jacob <Bill.Jacob@longgroveil.gov>

Cc: Ryan Messner <ryan.messner.pkg6@statefarm.com>

Folder: aaron@uinnovate.net/Sent Items

 BridgeWalkwayArchHeight.jpg

While Ryan, Bobbie, and I were meeting on Thursday at the Bridge to talk about a formal Bridge ceremony, we chatted briefly about the location of the National Historic Register plaques. Ryan and I noticed something that seemed odd about the apparent framing recently completed for the pedestrian walkway - it seemed 18 to 24 inches lower than the old bridge. Perhaps we were simply mistaken in how we're interpreting the framing, or they already intend to cut this back as part of getting that curve in place. But... after some internal debate with myself, I decided perhaps I should go ahead and say something in case the contractor did make a mistake and, if so, it's probably much easier to correct now than in a few weeks when everything is supposed to be finished. I tried to take a pic matching an old pic I had to show what I was talking about. Does this seem odd to anyone else, or am I just jumping the gun in trying to imagine what it will be when finished?

Thanks!

Aaron



Bridge Protection League – 1st Meeting – Wednesday September 2nd, Buffalo Creek Brewing

Members in Attendance—

Argie & Aaron Underwood (Residents & LG Historical Society)

Ryan Messner (HDLGBA)

Jesse Visocnik (Resident & HDLGBA)

Dell & Liana Modder (LG Community Church)

Ben Finch (Resident)

Jesse DeSoto (HDLGBA)

Craig LaPlante (Resident)

Jeff Taylor (Resident & HDLGBA)

Mike Marr (HDLGBA)

Absent:

John Marshall (Resident)

Tony West (LG Community Church)

Holly Oberider (LG Community Church)

Ethel Robey-Berger (Resident & Montessori School of LG)

John Kopecky (HDLGBA)

Purpose—To create a representative group of residents and business owners who will identify possible solutions to reduce the frequency and severity of bridge accidents. The group shall include individuals knowledgeable with previous bridge hits, bridge maintenance, and bridge historical attributes. The group shall include individuals directly impacted by changes to bridge function and appearance. The group shall include some members of the Long Grove community at-large, not directly living or having prior experience with the bridge. The group shall be limited to a maximum of 15 regular primary members, though larger stakeholder groups may be appropriate. Progress reports and possible solutions shall be communicated regularly with Village President Bill Jacob, and members may need to be available for more in-depth meetings with Village staff and board members.

Goal—Brainstorm Solutions

Next Meeting – Wednesday September 9th, Historical Society Farmhouse Front Lawn (please bring a folding chair), 5pm

Next Meeting Goal – Prioritize/Quantify Solutions and Recommend Short Term Action Items

Meeting Notes:

Incidents

There have been four known incidents of Bridge hits since the reopening in August:

- 1) 8/15 - School Bus – Church Side - Driver saw signs, disregarded them and didn't know the height/weight of her vehicle.
- 2) 8/19 - Medical Services Truck – Downtown Side – Missed signage, didn't use center track.
- 3) 8/24 - Delivery Truck with ladders – Downtown Side – didn't know his vehicle height.
- 4) 8/31 - U-Haul – Downtown Side – Went through at speed (30mph?), presumably missing or disregarding all signage, including the stop sign.

We should start tracking these to measure progress as different measures are implemented.

Obstructions

Height obstructions/barriers built in advance of the bridge seem to be the surest way of eliminating bridge hits and to keep over-height vehicles from contacting the bridge. A re-settable steel obstruction that was incorporated into a rehab done to a Georgia covered bridge seems to be having success:

<https://www.ajc.com/news/local/cobb-covered-bridge-the-hits-keep-coming/ZclWoREE68Ukhlyl8Ngz7J/>

An obstruction on the church side of the bridge would have some impact on services to the three residences located on Schaeffer. This might necessitate making Schaeffer a two way so garbage and delivery vehicles could access Schaeffer from Route 53.

An obstruction on the downtown side is more problematic. There is less physical room and the service impact more severe for the businesses and residents located near the bridge.

An alternative to the physical obstruction is a virtual one, where a laser is tripped by an over-height vehicle that activates various sirens and lights to alert the vehicle to stop:

<https://www.tapconet.com/product/overheight-warning-system>

A ballpark cost for such a system is \$15K per side.

It should be noted that the same solution would not have to be used on each side. For example, a physical obstruction could be used on the church side, and the laser height detection could be used on the downtown side.

A softer form of obstruction is another option, such as the "headache bars" deployed on the bridge before the cover was erected. Consensus seemed to be that these were ineffective.

Enforcement

There was a suggestion that we dedicate a police office to the bridge for a few days to monitor/enforce the speeds, stops, and truck ban. This could also gather data about driver behavior that could help us improve warnings and signage.

It was suggested that we deploy a temporary "your speed is" sign to slow traffic coming in from the church side. A permanent "your speed" sign might be possible if this was effective. Local residents might be willing to chip in and try this themselves.

The Village needs a permanent solution for video monitoring in a way that supports police enforcement.

Anecdotes from the recent events suggest police are reluctant to write tickets. The Village should communicate a zero tolerance policy to officers regarding bridge incidents.

Signage/Warnings

A "Video Surveillance" sign was added a few years ago to the old bridge and noticeably effected truck behavior. This should be added back.

There are too many signs and some of the signs are poorly worded. All signage on the bridge approach needs to be rethought and redesigned holistically. Too much signage and too much information is as problematic as not enough.

Speed bumps were discussed as an alert mechanism. Apparently the village has previously said these are not possible because of snow plowing. Rumble strips (grooves cut in pavement) could be an effective alternative.

Lighted, flashing, temporary signs (such as are used for road construction or to warn of impending road closures) could be put up now as a short term solution to warn drivers on both sides who approach the bridge. "Low clearance bridge ahead—trucks and busses prohibited" etc... Perhaps Lake County could assist with this?

A red light camera for the stop sign was discussed to raise driver awareness.

Make Maintenance Easier

The wooden components of the cover that are frequently impacted should be redesigned so they are quick and easy to replace. For example in the old bridge, finish nails were used as fasteners as it improved the chances that a dislodged board could be reused.

There was some discussion about making the impact area be steel instead of wood. Either by simply exposing the underlying steel, or by switching out some of the wood boards for steel.

Other

There may be grant money available for safety, specifically the FHWA. Perhaps Dan McConchie also.

Lake County DOT John Nelson may be of some assistance with signage.

We could contact Landmark Illinois or other historical preservation agencies— they may be able to point us to resources.

There was discussion about getting Google and Waze to remove the road from their routing, either by getting them to designate it closed or local traffic only.

Local bus companies should be contacted to alert bus drivers they cannot use the bridge. We know that they would use the old bridge occasionally.

We discussed if there was a benefit in making the road one-way over the bridge, though consensus seemed to be that the impact of that was too severe. And it would only solve the issue from one side.

We discussed raising the cover and the impact of that was deemed financially impractical.

We should be gathering data about the type and frequency of incidents so we can monitor progress. And we should have a goal – perhaps no more than 4 cosmetic damage strikes per year?

Covered Bridge Phased Strike Solutions

Introduction

As a way of making the previously discussed strike mitigations more actionable, the most promising ideas have been grouped into phases. The initial phase contains the easiest/cheapest/least intrusive/best value ideas and the latter phase contains the more costly and intrusive (and perhaps most effective) measures. This would support an approach of implementing only as much as was necessary to achieve an acceptable strike level.

Goal

The strikes per year incurred on the old bridge cover would seem to be a reasonable goal for the new cover. That number is thought to have been 4-6 strikes per year, at a maintenance cost to the village of approximately \$10,000 to \$15,000 per year. A number lower than that may certainly be worth pursuing.

Phase One Ideas

A1) Designate Robert Parker Coffin Road from the cross roads to 53 as LOCAL USE ONLY. Inform GPS navigation providers of the change. This will prevent GPS systems from routing through traffic over the bridge – it is thought GPS systems won't use a LOCAL USE ONLY road unless the destination is on the LOCAL USE ONLY section of the road. This type of through traffic is responsible for all of the strikes to date on the new bridge. While traffic designations like th's are somewhat vague and difficult for police to enforce, the intent here is simply to change GPS routing. Lack of enforceability should not be an issue. This type of physically posted traffic restriction is the most effective way of changing the GPS routing.

A2) Rethink the signage on the bridge approach from scratch. Rid the area of visual clutter and low priority signage. Include signage regarding video surveillance and \$2000+ fines. Consider a fake traffic camera. Consider a flashing red light addition to the stop signs, if it can be done with blinders or shields in a way to not impact neighboring properties.

A3) Score rumble strips into the pavement on both approaches to the bridge to raise driver awareness.

A4) Install a "your speed is" sign on the church side of the bridge (perhaps just past the church), to instill a caution into drivers approaching the bridge and downtown pedestrian area.

A5) Arrange for video surveillance of bridge strikes. Track information about the incidents, either by including this aspect in the arrangement, or by making the video public so the community can perform that function. Key tracking information includes vehicle type, direction, speed, routing decision (driver vs GPS), route frequency (local driver vs. new to the area), law enforcement outcome, and insurance outcome.

A6) Adopt a formal policy on when strikes are pursued with law enforcement and when they are not. Communicate this to the officers frequenting Long Grove.

A7) Redesign the wooden structure in the strike zone to be quicker and cheaper to repair after a strike. Most strikes to date seem to have been below the steel, but above the wooden trim.

Phase Two Ideas

B1) Install a laser height detection mechanism on the approach to the bridge. Have it trigger a “railroad style” flashing light when tripped, and also a “trucks must turn arrow”.

B2) Integrate a flashing mechanism into the bridge itself, if it can be done without affecting the appearance too drastically – for example LED light strips, or recessed lights of some type. This could be implemented on the downtown side first for a period of time to evaluate its effectiveness, before proceeding to church side implementation.

Phase Three Ideas

C1) Replace the stop sign with a stop light on each side of the bridge to enforce the “one vehicle at a time”. Integrate this with the laser height detection to force over-height vehicles to turn. Integrate a railroad style crossing gate which would lower for an over height vehicle. The crossing gate itself could have “must turn” verbiage and arrows on it.

Phase Four Ideas

D1) Add a physical steel barrier on the approach to the bridge. Consider a resettable design to minimize road closure time and maintenance cost when it’s struck.

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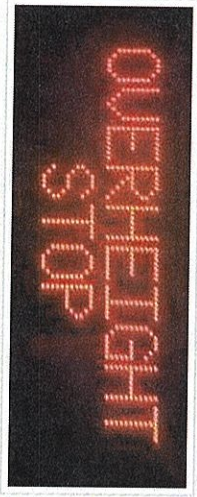
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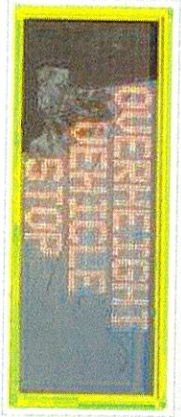
Amy Gayton (Resident)



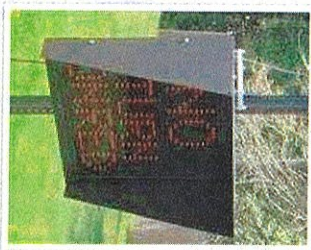
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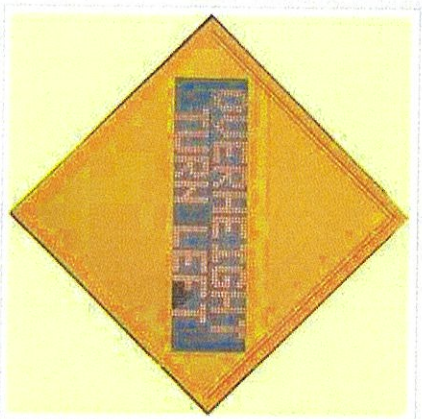
EXAMPLE 2



EXAMPLE 3



EXAMPLE 4



EXAMPLE 5



EXAMPLE 6