



8 Must-Have Tools for Bridge Industry Professionals



Your guide to effective bridge management



bridgemastersinc.com

INTRODUCTION

With over 40 years of experience in the bridge industry, we've picked up a few tips along the way. This guide is meant to be a resource for anyone repairing or constructing bridges; the dedicated individuals we have had the pleasure of working with over four decades.

Below are three cornerstones of our success; the things that we keep top-of-mind each and every day we're in business. Every tip in this book is derived from at least one, if not all, of the following:



Safety

Safe work is more important than fast work.

Safety is a cornerstone of our philosophy, and should be for anyone in the construction industry. Keeping it top-of-mind in every facet of your workflow is absolutely essential. It saves time, cost, and most importantly, lives.



Efficiency

Streamline your processes for maximum efficiency. Don't cut corners.

Being efficient doesn't mean rushing through projects faster than the competitor. It means being smart with your time and using industry innovations and technology to your advantage.



Collaboration

It takes a village to repair or build a bridge.

Behind every bridge there's a network of engineers, contractors, inspectors, utility companies, government agencies, private entities and more. Building a strong resource network if you're in this industry is invaluable.

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BRIDGE ACCESS MACHINES

If your project requires access to hard-to-reach sections of a bridge, then bridge access machines are the safest and most efficient way to do it.

Each type of bridge access machine fills a specialized need. There are units with impressive reach for thorough inspections, units that rotate the platform parallel to the bridge to access the bridge deck - even compact units that can operate from the sidewalk to avoid traffic issues.

If you're in charge of a bridge project and need utilities installed, consider hiring an experienced contractor so the job goes quickly and smoothly. If you already have an experienced installer on your team or are performing an inspection, there are firms that can recommend and rent the right equipment for the job.



DRONES




Though the use of drones for bridge inspections is still in its infancy, these unmanned aerial vehicles (UAVs) could be a game-changer for the industry.

The fact is, America's bridges are aging and declining at a rapid pace. It's critical that inspections take place on higher-risk bridges so small issues don't escalate. Drones are non-invasive, can be deployed without much prep and can "see" hard-to-access areas using quality cameras that take photographs or video.

Though drones will never replace more detailed, hands-on inspections, they're an excellent way to increase the frequency of inspections of vulnerable bridges. Issues identified during drone inspections should be followed-up immediately with hands-on inspections.

To learn more, visit the [Minnesota Department of Transportation - Bridges and Structures website.](#)

ABC TECHNIQUES



Accelerated Bridge Construction (ABC) is a series of innovative techniques that reduce onsite construction/repair time and safety risks, and produce durable bridges with longer lifespans.

There are three main principles behind ABC: keep the bridge as light, simplistic and simple to erect as possible.

Accelerated Bridge Construction can:

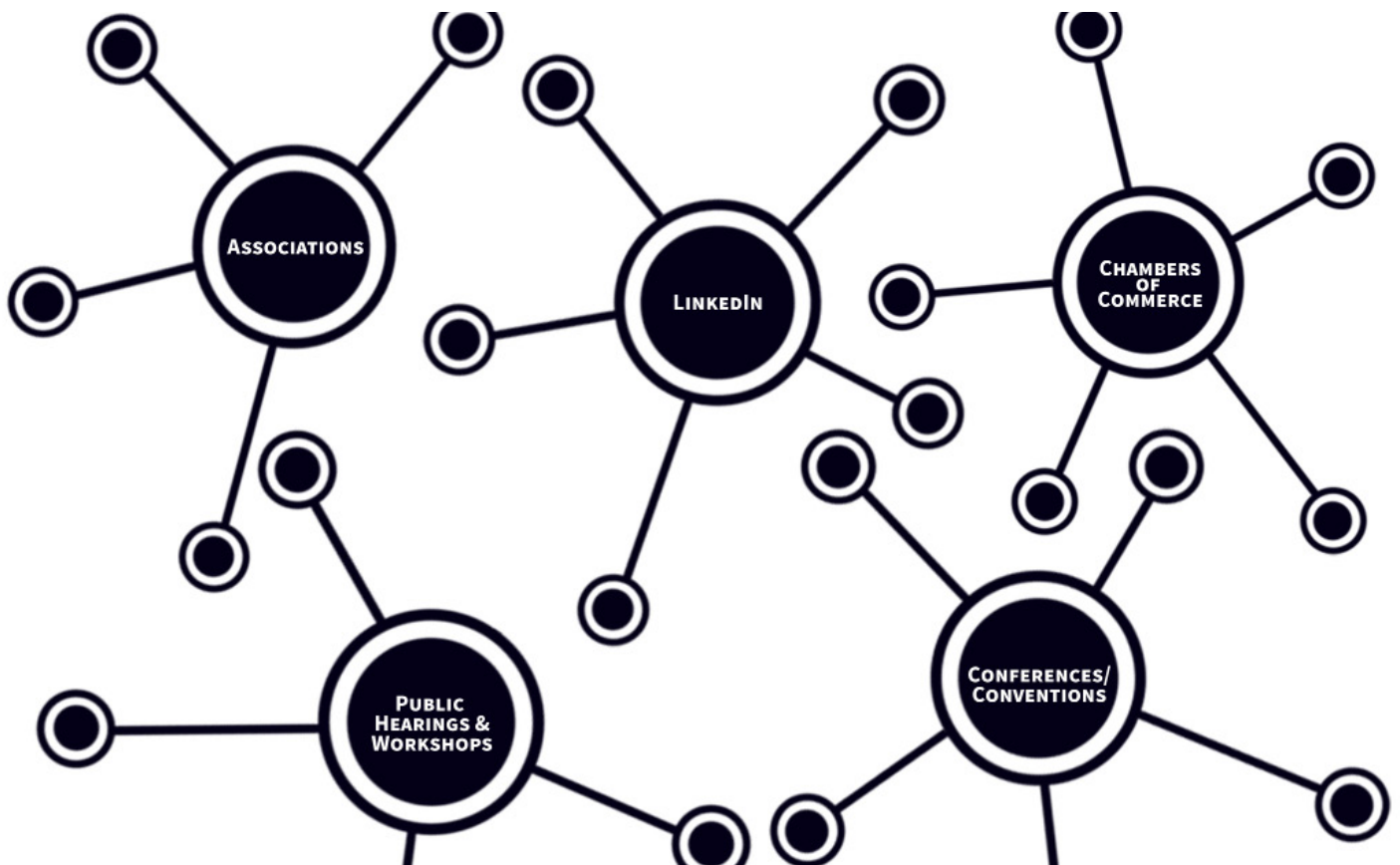
- Cut down on traffic delays and road closures.
- Reduce the local economic impact of bridge construction.
- Reduce construction-related injuries & fatalities.
- Lessen the likelihood of interruptions to local utilities.
- Create much lower project costs.
- Produce safer, more durable bridges with longer service lives.

To learn more, visit the [USDOT Federal Highway Administration website](https://www.fhwa.dot.gov/abc/).

BUILD YOUR NETWORK

As we've mentioned before, no single person can, or should, repair or build a bridge on their own. Leveraging a strong network of professional contacts can ensure a safe, efficient and successful project completion, and keep your reputation in tact.

You just need to know how you use your network.



Associations	LinkedIn	Chambers of Commerce	Hearings/ Workshops	Conferences/ Conventions
<i><u>Associations like ARTBA work to build & protect the U.S. transportation construction market.</u></i>	<i>Use your contacts to find the help you need, and take advantage of LinkedIn groups.</i>	<i>Become active member of your local chamber to build beneficial relationships.</i>	<i>Often held to gather input and info on road-related projects.</i>	<i>Focused on networking - you never know who you'll meet or what you'll learn.</i>

NEWS FEEDS

Changes in government, advancements in technology and other variables mean this industry is constantly changing. Monitor the news so you're always up to date on what's happening with infrastructure spend, engineering, safety guidelines and more.

Our three favorite ways to stay on top of the industry:



01 Google Alerts

Searches the web for news and updates related to topics of interest, and delivers them straight to your email.



03

Podcasts

Covers everything from music & comedy to engineering & infrastructure. Check out [The Infrastructure Show](#) on your morning commute or lunch break - most episodes are only 15 minutes.

02

RSS Feed Readers

Convenient applications that consolidate new content from your favorite sites (blogs, news) in one place.



EMERGENCY PROTOCOLS

Bridges built today are safer than ever before, but America's aging infrastructure and an increase in extreme weather events, natural disasters, and man-made threats mean it's vital to plan and prepare for emergencies.

Here's what we consider when preparing for an emergency event.

A clear rapid-response plan

State how to close the bridge down, detour traffic, and set up barriers and warnings. Emergency procedures often change depending on the type of event (natural disaster, security threat, etc.) so it pays to have a protocol for each.

Make sure your plans are known by all employees and integrate with those set by the police department, fire department, etc.

Safety meetings as a priority

Things get fuzzy if they aren't a part of our daily routine. Make safety meetings and emergency drills routine. It could save a life.

Who's Your Contact?

Earthquakes rupture gas lines. Fires melt pipes. High water could come in contact with electrical equipment. Have a contact on your team that knows when it's best to evacuate the area, or when it's safe to turn off utilities. prevent

Equipment and materials in place

The chance something may happen may seem slight, but the fact is, IT COULD HAPPEN. Don't get lazy - have emergency equipment prepared and maintained at all times.

PRIORITIZE SAFETY

Despite major advances in bridge and roadway construction safety, it's still very risky work. Researchers and manufacturers are constantly developing tools, protective gear, and equipment designed to keep workers safe.

Here's our 10 Essential Safety Tools for Bridge Workers:

1. Specialized bridge access equipment
2. Protection under bridge (PUB) systems
3. Safe and maintained vehicles
4. Appropriate signage & barriers
5. Fire blankets (fire retardant material)
6. Highly visible clothing
7. Eye and face protection
8. Foot/hand protection
9. Consistent refresher meetings
10. Continued education

Want even more safety information?

Check out [OSHA's website](#).

The Fatal Four

According to [OSHA](#), the following construction accidents were responsible for over half of worker deaths in 2014, and eliminating them would save 545 lives in the U.S. every year:

- 1. Falls (39.9%)**
- 2. Electrocutions (8.2%)**
- 3. Struck by object (8.1%)**
- 4. Caught in/in-between equipment, object etc. (4.3%)**

CONTINUED EDUCATION

Advancing your skillset in the industry is never time wasted. Attend educational workshops or get certified in new areas of interest.

Not only will it enhance the performance of your team, it will undoubtedly improve your professional standing.

Here's a few ideas to get you started.

01

Certifications

- Welding
- Class A CDL (commercial license)
- First aid/CPR
- Hazardous materials (HAZMAT)
- Flagger certification

02

Training

- OSHA education and training courses
- Fall protection & recovery
- Project management and business courses, along with industry-specific workshops & conventions

THE BIG PICTURE



We're proud to be a part of the bridge industry, a complex network of talented designers, engineers, contractors, inspectors, transportation authorities, utility companies, and more.

This diverse team keeps Americans safe and moving every single day - something we should all be proud of.

We hope this guide serves you well as you continue your journey.

ABOUT US

■ *Innovative under-bridge utility solutions*



Since 1974, Bridge Masters, Inc. has served the utility construction industry by specializing in bridge utility attachment and repair.

Our ability to specialize in this field comes largely from our patented Bridgewalker machines, which allow our bridge access professionals safe access underneath bridges of all sizes and types.

We also rent our machines to bridge professionals all across the West Coast, so you can install or repair with minimal risk.

■ Who we are

Bridge access and utility install experts with over 40 years of industry experience. We work closely with bridge owners and contractors to ensure their bridge utility installations are headache-free and on time.

■ What we do

We strive to be the best at what we do and offer:

- ▶ Innovative under-bridge utility solutions
- ▶ Bridge access machine rentals
- ▶ Over 40 years of knowledge and experience



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