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# The Fundamental Guide to Measuring the ROI of Safety in Construction

Understanding how building a safety culture at your organization results in significant ROI.

Presented by myComply

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# Measuring the ROI of Safety in Construction

Understanding how building a safety culture at your organization results in significant ROI.



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# Introduction

ROI needs to be shown to justify any expense, but do you need to justify investing in safety? The answer is, yes.

Safety is something every contractor preaches, but world-class contractors actually invest in developing processes and procedures to ensure safety isn't just lip-service. Investing in safety can be difficult for companies who are not able, or don't know how to measure the impact of their investment.

Contractors already work with razor thin margins. Without a rational justification for their various expenditures they cannot run efficient businesses. Although every contractor wishes for an unlimited safety budget to ensure no accidents, or worse, on the job – it is just not reality.

So, how are contractors ensuring they are tracking, managing, measuring, and realizing a return on their investment in safety?

We'll show you.

'The Fundamental Guide to Measuring the ROI of Safety in Construction' has been built to help contractors (large and small) develop better processes to measure and understand their investment in safety.

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# Accidents are Preventable

Almost every accident that happens on the job can be prevented. Most supervisors, contractors, and even workers would tell you that a decision was rushed, a shortcut was made, or someone wasn't following the rules.

We see some contractors in the industry build accidents and injury costs into their projects or company budgets. This builds a culture of acceptance and complacency around safe work practice. Contractors should aim to build a safety culture, which stresses constant improvement and will be covered in the latter stages of this guide.

As a general contractor, you have to clearly identify the rules and enforce them religiously. Subcontractors on your jobsite must know the severity and understand the consequences of not complying. Your on-site safety procedures, standards, and processes are the driver to preventing accidents on the job. "Accidents happen" is a common industry saying but you, the contractor, should always be striving for zero accidents and it starts with investment in your safety program.

**99%**

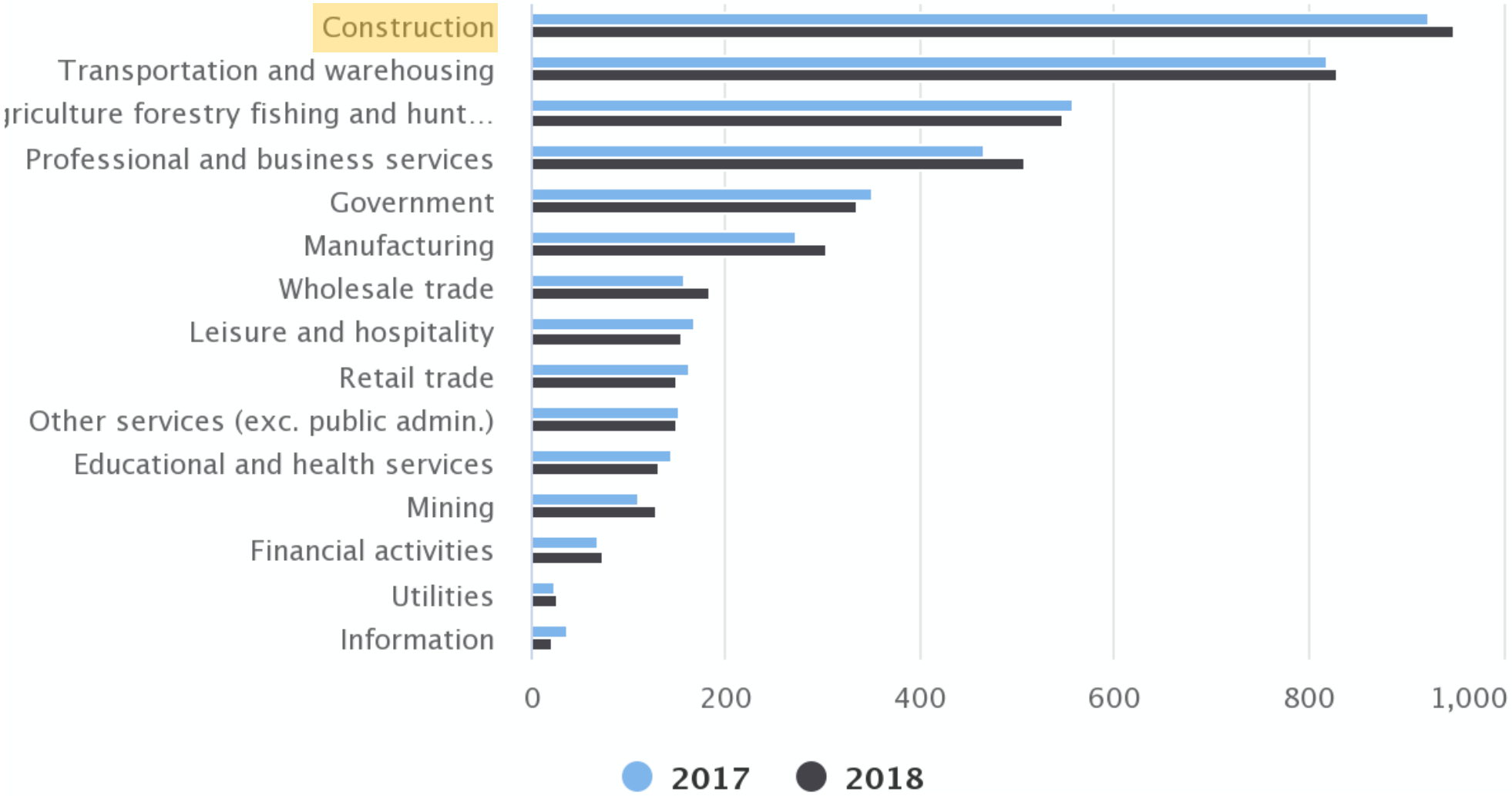
**of ALL accidents are preventable**

**Your On-Site Safety Procedures & Standards are KEY**

*"We don't work in a dangerous environment. We work in a hazardous environment that we make dangerous by not following safe work procedures and wearing our PPE."* - Brad Miles

Picture Source: https://injuryfacts.nsc.org/work/work-overview/work-safety-introduction/

# # of Preventable Fatal Injuries by Sector



# Accidents Cost You

Accidents hurt. Not just physically, but financially as well. According to the National Safety Council, in United States during the year of 2018 there were:

**4,493**
PREVENTABLE DEATHS

**4.6**
MILLION MEDICALLY CONSULTED INJURIES

**3**
FATAL INJURIES PER DAY

**$170.8**
BILLION IN COSTS



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# The Cost of Worker Injuries

## Know Exactly What an Accident Costs.

Contractors everywhere work hard to implement safety processes and procedures that promote safe work practice on the job. The goal is to avoid becoming a statistic noted in our previous example on page 4 or one of the numbers listed below.

A contractor must become intimately familiar with a quantifiable figure that represents the associated costs to a significant accident on site. This number should be engrained in the project teams and should be one of the drivers to enforce safe practice.

## Understand Productivity Losses

Some costs are easily quantifiable, like: medical costs, costs associated to insurance, and/or legal feeds dealing with claims from a worker injury or death.

What isn't always easy to understand is the amount of money and time lost from a worker injury. The days that a worker is not on the job not only slows productivity on the job, but you're likely paying for that workers time away from the site. You may have to bring in new workers to fill the gap, which can all add up significantly.

### The Cost of Worker Accidents/Injuries

**The figures shown are National Safety Council estimates of the total economic costs of work-related deaths and injuries.*

- $1,100 per worker injury
- $41,000 per medically consulted injury
- $1,190,000 per worker death

### Days Lost Due to Worker Accidents/Injuries

- 103,000,000 Total Days Lost in 2018
- 68% of Days Lost Were Due to Injury
- 55,000,000 Days Lost in Future Years After 2018

# Hard vs. Soft Costs

As mentioned on the previous page, some costs are easier to quantify than other costs. There are certain bills that pile up due to a workplace accident that are not always accounted for. Safety costs can be divided into two distinct categories: hard costs and soft costs.

Hard costs are things that are recorded easily on paper or by financial record. These costs can be calculated simply and clearly.

Soft costs are the expenses that accrue after a workplace accident that are not directly recorded or billed on paper. These costs slow productivity, distract project teams, and often go unrecorded leaving contractors unaware of the true cost of an accident on site.

Be aware of your hard costs first, and then ensure you explore the soft costs related to an accident. To calculate or understand you soft costs start by talking with every individual who was involved with the accident resolution. This can be admin staff, legal teams, project staff, etc.

We've listed some of the hard and soft costs (right) but these costs certainly do not round the list.

## Direct (Hard) Costs

- Safety wages
- Operational costs
- Insurance premiums and/or attorney's fees
- Accidents and incidents
- Fines and/or penalties

## Indirect (Soft) Costs

- Accident investigation
- Repairing damaged property
- Administrative expenses
- Worker stress in the aftermath of an incident resulting in lost productivity, low employee morale and increased absenteeism
- Training and compensating replacement workers
- Poor reputation, which translates to difficulty attracting skilled workers and lost business share



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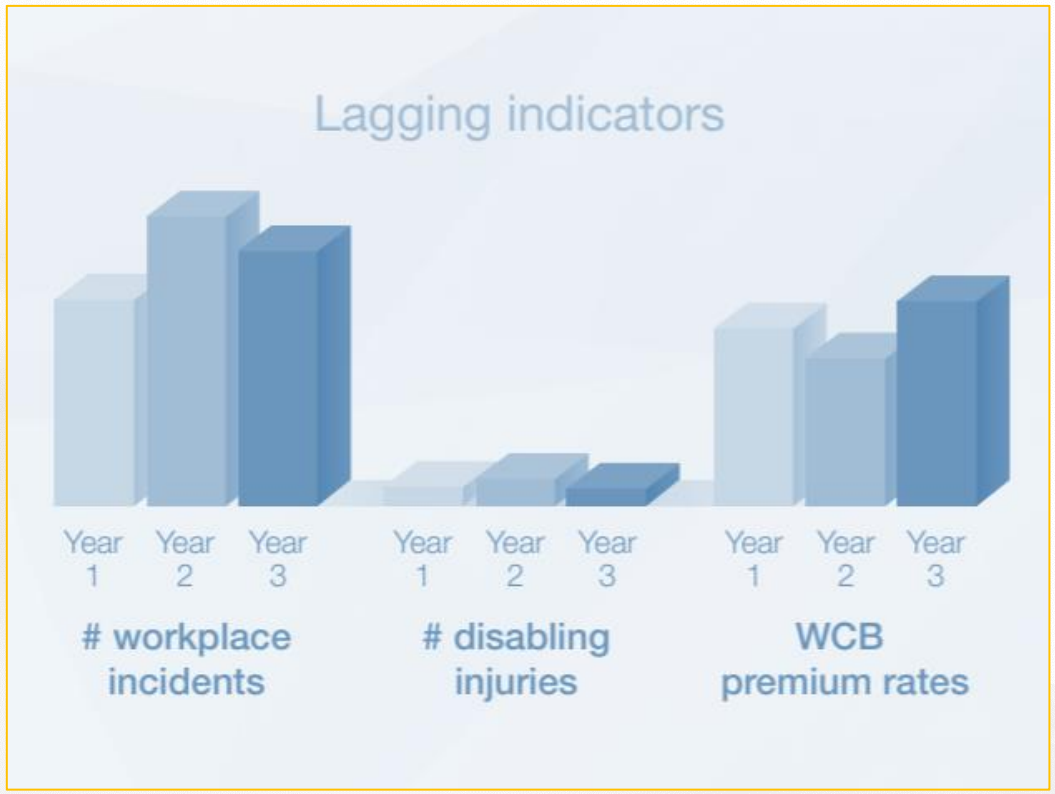
# Measuring the Impact of Safety

$1  $4

OSHA studies indicate that for every $1 invested in effective safety programs, you can save $4 to $6 as illnesses, injuries and fatalities decline.

# Lagging Indicators




*Picture Source: Leading Indicators for Workplace Health and Safety: A User Guide*

Lagging indicators are key performance indicators (KPIs) that look at past statistics — data that has already occurred. By definition, they're reactive. They can be used to track how many incidents took place at your organization, and how severe the injuries or illnesses were.

You'll notice on the next page that some lagging indicators can be formula-based or more complex measurements. The industry uses some fancy acronym-based lagging indicators widely, but not all lagging indicators have to be difficult to define or measure. A lagging indicator could simply be # of incidents over a defined period of time (as shown on the left).

Lagging indicators are typically much easier to determine than a leading indicator but they do not predict future outcomes. They become benchmarks for contractors to reflect on at the next review period. Teams typically know they are improving or failing by looking at a lagging indicator, but may not know exactly why.

That's why the relationship between leading and lagging indicators becomes so important. Each type helps fill in gaps of information and paint a more comprehensive safety performance picture.



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# Lagging Indicators: Examples

Here's a few examples of some common lagging metrics used in the industry:

### Total Recordable Injury Frequency (TRIF) Rate:

Measures the number of cases per 100 full-time employees where an injury or illness caused a loss of life, situation where an employee is unable to work (days away), is restricted or transferred based on inability to perform normal job functions or any other injury that falls under OSHA's definition of a recordable incident.

### Days Away, Restricted or Transferred (DART) Rate:

Measures the number of cases per 100 full-time employees where an injury or illness causes an employee to be restricted or transferred based on inability to perform normal job functions.

### Experience Modification Rating/Rate (EMR):

Also known as "mod factor." Calculation normally performed by the insurance industry (National Council on Compensation Insurance or state level agency) reflecting percentage of workers' compensation pay-outs by a company compared to a company of similar size and type.

## Calculating TRIF

(# of work-loss cases x 200,000)
divided by (# of hours worked)

## Calculating DART

(# injuries x 200,000)
divided by (# hours worked)

## Calculating EMR (Usually Performed by Insurance Teams)

ACTUAL RATE (L) = E + F x H
EXPECTED (M) = G + H x H
EXPERIENCE MODIFICATION RATE = L / M

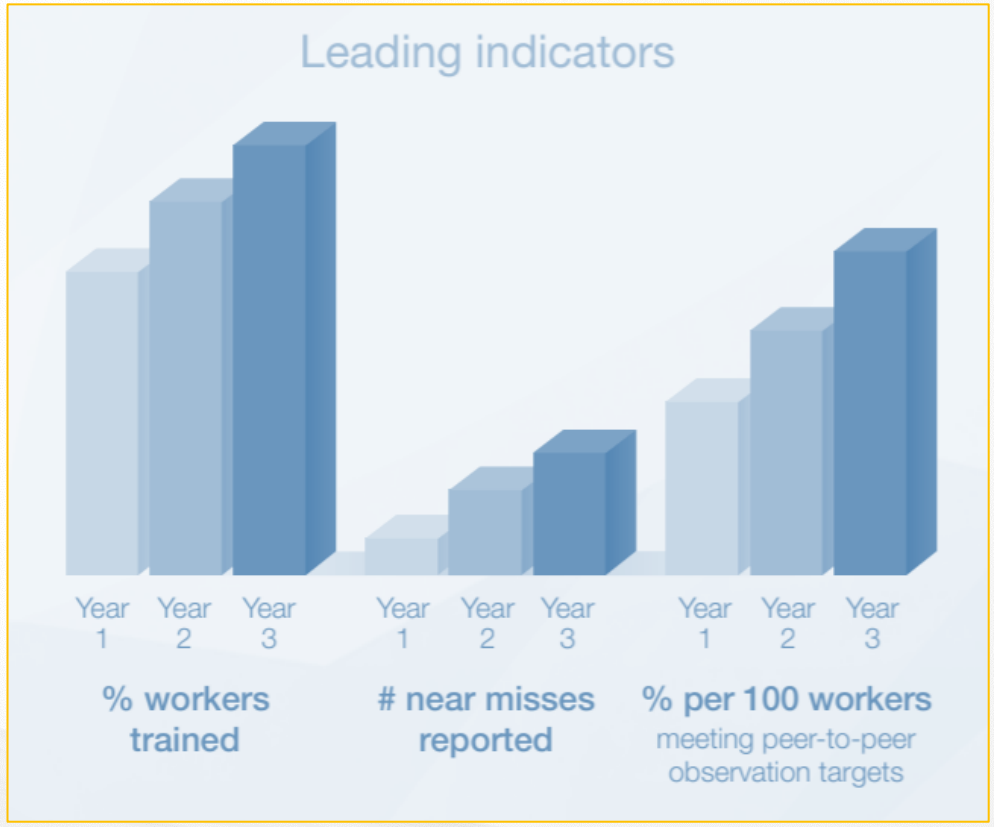
A – Payroll (12 months of real wages only)
B – Job Classification Rate (Found at NCCI)
C – Discounts, Penalties & Assessments
(Decided at the final stage for your premium)
D – Actual Loss (Total Actual Incurred Losses)
E – Actual Primary Loss
(Actual Loss below the amount of $17,000)
F – Actual Excess Loss (D – E)
G – Expected Primary Loss (K x J)
H – Expected Excess Loss (K – G)
I – Expected Loss Rate (Found at NCCI)
J – Discounted Ratio (Found at NCCI)
K – Expected Loss (A x I) / 100)
L – Actual Rate (E+F(H))
M – Expected Rate (G+H(H))

# Leading Indicators

Leading indicators are predictive metrics that focus on continuous improvement. According to Jonathan Thomas, director of safety management solutions for the National Safety Council (NSC), leading indicators measure safety events or behaviours that occur before an incident.

A safety program that is improving will typically show signs of growth through a leading indicator. Leading indicators do a fantastic job of showing the connection between a contractors policies, practices, and safety protocols and achieving desired safety/compliance goals.

The important thing to note with a leading indicators is the path that you want to go or the goal you want to achieve. Leading indicators are like progress reports that show trends towards or away from your goals. If a construction site wants 100% of workers adequately trained on site, they must first ensure they are recording worker training, and second monitor the % of workers trained on site over a desired period of time.




Picture Source: Leading Indicators for Workplace Health and Safety: A User Guide



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# Leading Indicators: Examples

## Example of a Leading Indicator

A general contractor (GC) site requires all workers to wash their hands when entering the site. It's a standard safe work practice the GC has put in place and the assumption is everyone follows it, but how often are workers actually washing their hands?

A leading indicator can be of use here. Regular observations can capture and record this information (i.e. number of observations of workers washing or not washing at entry), and corrective actions (e.g. additional orientation, reminders, posters, etc.) can be introduced to enforce corrective action.

## Choosing Leading Indicators:

**Focus on Compliance:**
Organizations that are in the early stages of developing their OHS program, or whose OHS performance level requires improvement, can come up with a few key leading indicators to confirm compliance with legislated requirements. Examples might be confirming whether hazard assessments are actually being completed and ensuring workers are involved in the process.

**Focus on Improvement:**
Organizations with more established OHS programs/stronger OHS performance levels (beyond basic compliance), might introduce leading indicators to grow and refine their existing programs for continued improvement. Examples could include asking what per cent of the workforce has OHS training beyond basic legislated compliance, or how often management walks the floor.

**Focus on Continuous Learning:**
Organizations with a mature OHS culture/a consistently high level of OHS performance (low incident rates) can select leading indicators to drill down for deeper knowledge, drawing out information about their health and safety culture. They might select leading indicators to track what per cent of their communication budget is dedicated to OHS, or how many different avenues the organization uses to communicate OHS messaging.

Picture Source: Leading Indicators for Workplace Health and Safety: A User Guide

## Together, leading and lagging indicators provide a solid, bigger-picture perspective on what is and is not working in your OHS management program.




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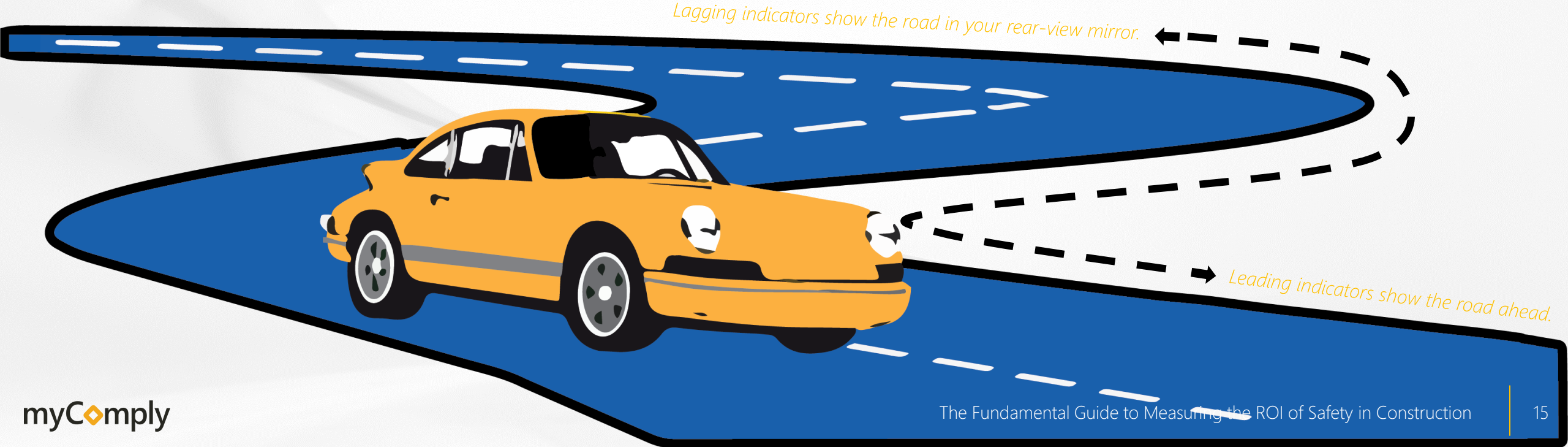
# Use Both Leading & Lagging Metrics

In order to create a comprehensive picture of your safety performance contractors will need to pay attention and measure BOTH leading and lagging indicators. **Using both leading and lagging metrics shows the entire path, not just what is behind or ahead of you.**

The leading indicator shows you the road ahead which can be influenced, the lagging indicator cannot be manipulated as it reflects what is already done. With only lagging indicators you're not able to proactively influence safety and with only leading indicators you're failing to benchmark key performance metrics.



# Safety & Insurance

Win More Bids

Pay Lower Premiums

Run Safer Job Sites



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# What Insurance Companies Look For

Back to that complex lagging indicator called the Experience Modification Rating (EMR). It's used by insurance companies to price out worker's compensation premiums and gain an understanding of the risk associated to insuring your company.

The industry average EMR is 1.0. If your EMR goes below 1.0, then your company is considered safer than most. This then means lower premiums.

If your EMR goes above 1.0, you're considered riskier, and that might cause your company to be unable to bid on certain projects. In addition to losing bids, you'll notice much higher insurance premiums.

Check out the example below:

If your EMR is above 1.0 it's considered a debit factor. If it's less it's known as a credit factor. A good example is if an employer has had no claims and their credit factor is 0.85. Their unmodified premium is $100,000.

So their modified premium would then be $100,000 X .085= $85,000. Say their credit factor is 1.25, then it would be $125,000, which would mean their modified premium is higher.

Ultimately, the insurance agencies and underwriting teams are looking for you, the contractor, to prove that you are not a risk to insure. If you are a risk to insure, this might not mean you won't get insurance but you'll pay a lot more. In some cases, you may not get insured at all. Work to prove to outside agencies, like insurance, that your safety program reduces risk significantly.

There's a variety of insurance that contractors need but insurance that safety teams are typically concerned with are:

## General Liability Insurance

Protects your company from various liabilities, including injury claims and subsequent medical expenses.

## Workers Compensation Insurance

Most states require some form of workers' compensation insurance to protect employees from lost wages and medical expenses that result from job-related injuries. It also helps protect a company from lawsuits related to those injuries.

# How Technology Can Help

Technology can help to reduce risk, benchmark metrics, measure performance, and give a contractors a more transparent understanding of their safety performance.

Insurance agencies around the world, including the likes of Travelers and AXA XL are forming partnerships with construction technology companies in order to help their clients reduce risk and save costs on insurance. Recently, the world's second largest insurance company (AXA) curated numerous technology solutions under their construction insurance arm AXA XL, building what is referred to as their technology ecosystem.

*"We can connect technologies together to create a digital environment where clients can see their information all in one spot providing a risk dashboard, benchmarking capabilities, access to project status information, claims trending and more. The construction industry may have once been slow to adapt to technology, but that's changing, and we're excited to be an integral part of driving that change."*

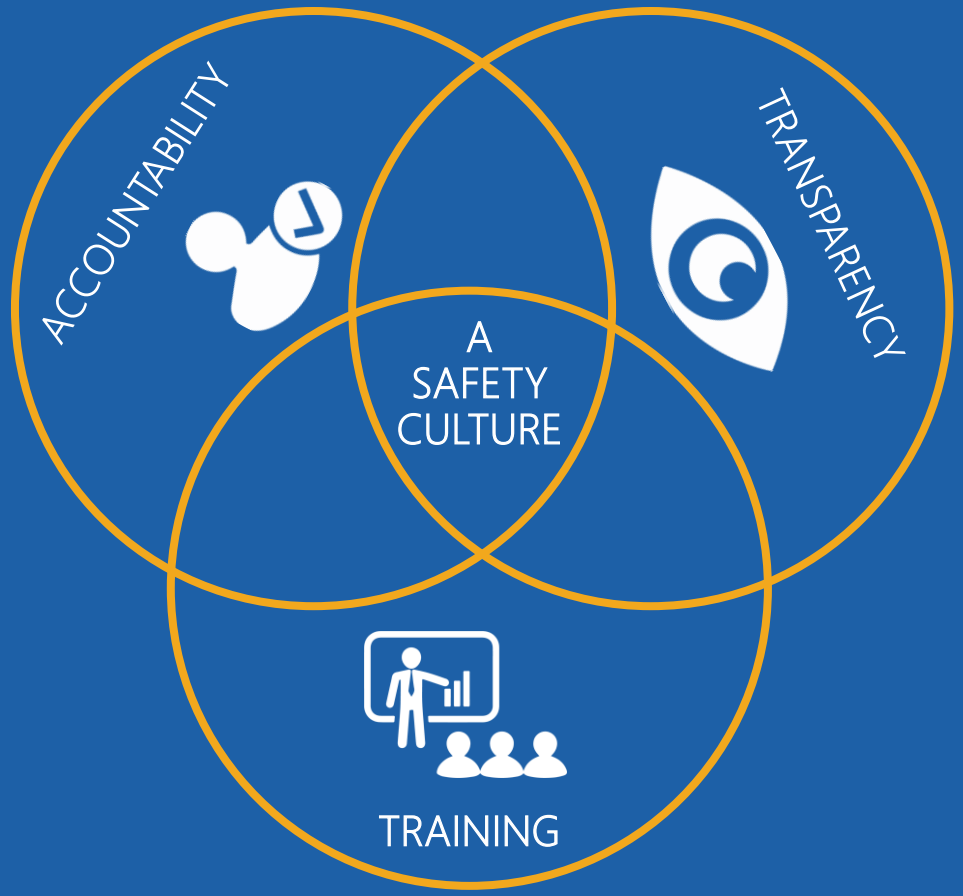
- Gary Kaplan, President of AXA XL's North American Construction Business

## Technology That Helps Reduce Risk:

Technology can help provide instant access to detailed data, reports, and information the contractors use as performance indicators for safety. Some include:

- Casualty Claims Benchmarking and Trends
- Forecasted Weather Risks
- Project Specific Alerts
- Training Verification
- Access Control to Qualified Individuals
- Virtual Site Walkthroughs & Inspections
- Wearable Technology to Monitor Health/Safety
- Easy Access to Documentation
- Mobile Accessibility to Information

# Building a Safety Culture



# A Safety Culture

We've examined how safety impacts your bottom line, and how contractors need to care about safety in order to run a more efficient/profitable business. But what about the part where we, as humans, simply want to ensure every man and woman makes it home safe to their families? Yes that's important too.

Motivation to build a safety culture at your business can be about both! You should care about how safety impacts your bottom line and you should appreciate how a safe working environment protects your greatest assets, people.

A safety culture, like any workplace culture, is not built overnight. One person or one leader cannot influence a culture of safety alone, it takes buy-in from multiple stakeholders.

Ever wonder why some of the largest and most profitable contractors in the world are also the safest? These folks win the most jobs, the big contracts, and are constantly growing. They've invested in a safety culture and are seeing their investment pay dividends each and every day.

Invest in building a culture that prides safe work practice, and if you've already done so, work towards continuous improvement by reviewing your leading and lagging indicators.

## Influencing a Safety Culture

### 1) Make Safety Your Top Priority

Jobsite safety should be placed above everything else: costs, productivity, timelines, etc. When you prioritize safety first, the impact on your bottom line comes naturally.

### 2) Training is Essential

Ensuring that all individuals on the site are properly trained, with up-to-date course refreshers is key to keeping workers safe.

### 3) A Safety Committee

Don't push safety from the top-down, get individuals involved in promoting a safe work environment in all levels of the organization.

### 4) Accountability

Everyone on the job is accountable for safety. Ensure all site staff know the consequences and dangers of NOT following safety protocols.

### 5) Regular Inspections

Walk the site, note what's going on. You need to know your job and don't want an OSHA audit to be the first inspection of your project.

# Summary

## 1 Understand that Accidents are Preventable

- 99% of accidents are preventable, know and understand that there are measures you can be taking to avoid accidents
  - When there is an accident, diligently investigate where a 'hole' in your process was exploited, then patch it.

## 2 Know How Much An Accident Costs You

- Assign a dollar figure to various types of accidents on the job. These figures represent the amount of money that could be saved with improved process
  - Use this to gain safety buy-in from outside depts

## 3 Use Leading & Lagging Metrics to Gauge Performance

- Gather various indicators that will inform you and your team of your safety performance.
  - Use both leading and lagging indicators to build the whole picture.

## 4 Safety Drives Insurance Costs Down

- If your EMR is below 1.0, you're going to start saving money on insurance premiums
  - Added benefit is you will be more likely to win competitive bids

## 5 Build a Safety Culture

- Establish processes, gain buy-in, ensure workers are trained, communicate goals transparently, and constantly enforce safe work practice.
  - Start working towards a world-class safety culture and you will start to run a more profitable business

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At the heart of a low EMR score, low incident rates, or any safe work environment is qualified/trained workers.

myComply's software and integrated hardware solutions verify the presence, or identify the absence, of up-to-date safety training for workers that you are responsible for. Ensure a compliant workforce on your job sites with myComply.

## Training Reduces Risk and the Likelihood of an Accident

- Part of building a safety culture is ALWAYS ensuring that workers you are responsible have up-to-date training. myComply alerts you when training is due to expire and/or has expired.

## Leading Indicators

- myComply's live dashboard and on-demand reports will allow you to set compliance goals and measure your progress

Example) You want 100% of the workers on your site to have up-to-date training. No problem, myComply allows you to disallow workers who are untrained or have expired training from the site.




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myComply works with over 4,000 contractors worldwide to reduce risk on the job.

A workforce that is appropriately trained greatly reduces risk.

With myComply, contractors ensure all workers who enter their sites are properly trained and have up-to-date certifications.

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For more information, contact:
sales@mycomply.net
1-877-583-9303