Thank you for having me here today to take a big picture look at the state of America's infrastructure and how that relates to your work in asset management.

My name is Casey Dinges, and I am the Senior Managing Director of Public Affairs, Membership, Leadership & Programs for the American Society of Civil Engineers, representing over 150,000 engineers who work in your communities on water, dams, roads, rail and much more.

Every four years ASCE assembles an advisory council of infrastructure experts across 16 major sectors of infrastructure to evaluate the current condition of our nation's infrastructure and the amount of investment needed to keep it working for us and our economy.

The Advisory Council oversees research and data collection across 8 key criteria and turns this assessment into an easy to understand format that you'll remember from your school days – a Report Card.

A Report Card tells you whether you're doing well or if you need to improve and, like any good teacher would, it gives you recommendations to raise your grades. ASCE seeks to do the same with its Report Card for America's Infrastructure.

Whether it's pipe breaks that happen every few minutes across the country

or potholes and congestion

or rusty bridges that have tipped you off, America's infrastructure did not receive a A grade in 2013.

Let's start with the bad news since it's probably pretty clear by now – the *2013 Report Card for America's Infrastructure* gave the U.S. infrastructure an overall GPA of a D+.

There were 11 poor D grades, 4 mediocre C grades, and only 1 good B grade.

The bottom line is that we continue to see categories of infrastructure that simply are not seeing the maintenance or investment to improve day to day performance and save money in the long-term, and the infrastructure gap for the U.S. is growing.

Just like every one sitting in this room, America's infrastructure is up against 3 key issues:

- AGE
- TIME
- MONEY

By age, we are talking about some pipes, locks, and dams that were installed before the Civil War.

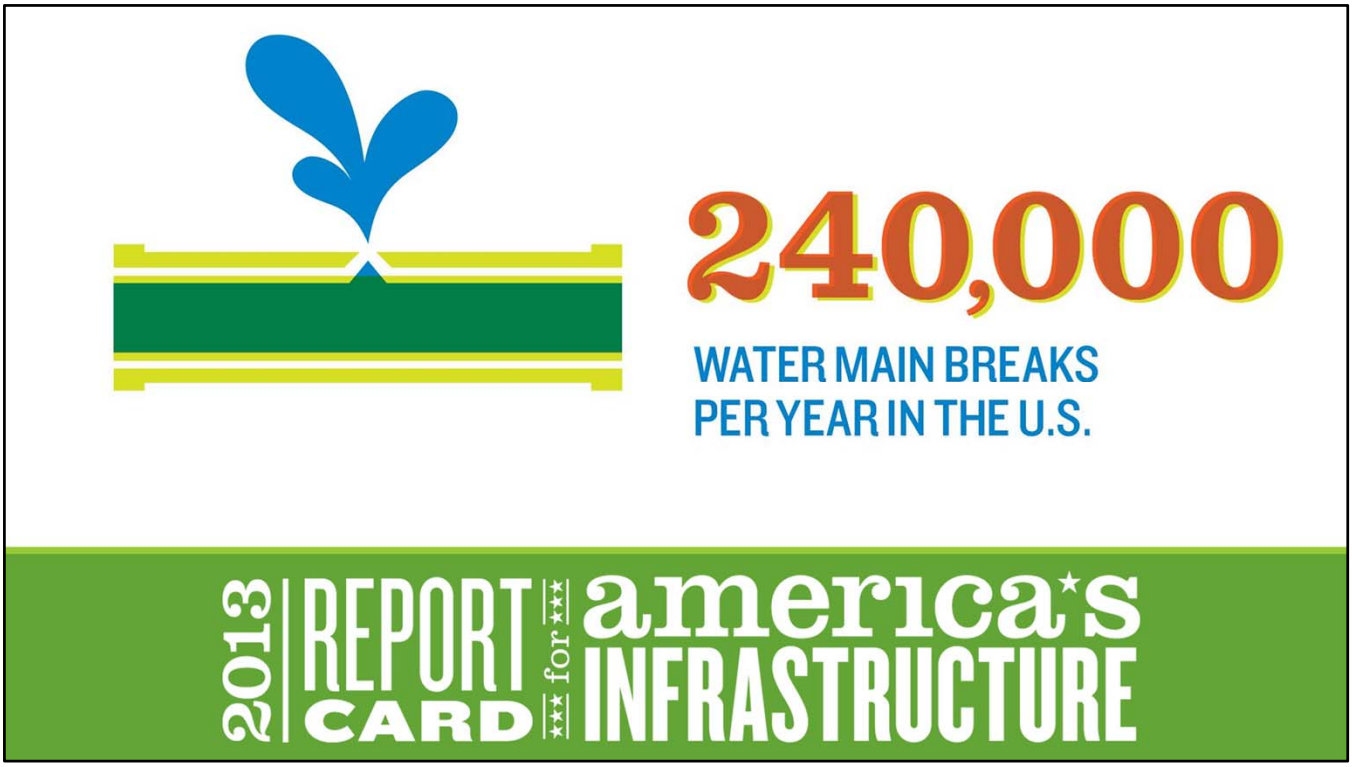
By time, we know that every bridge, pipe, dam and road has a timeframe during which we expect it to keep working.

Finally, we're talking about the investment that's necessary to have the functioning, reliable infrastructure we all want and need.

America now has a $3.6 trillion dollar backlog of projects to maintain and modernize our infrastructure by 2020. That's a 3 with twelve zeroes and change.

We all know this is big, but let me put this in perspective - you could buy ALL the sports teams in the U.S. with the money we need to invest in America's infrastructure.

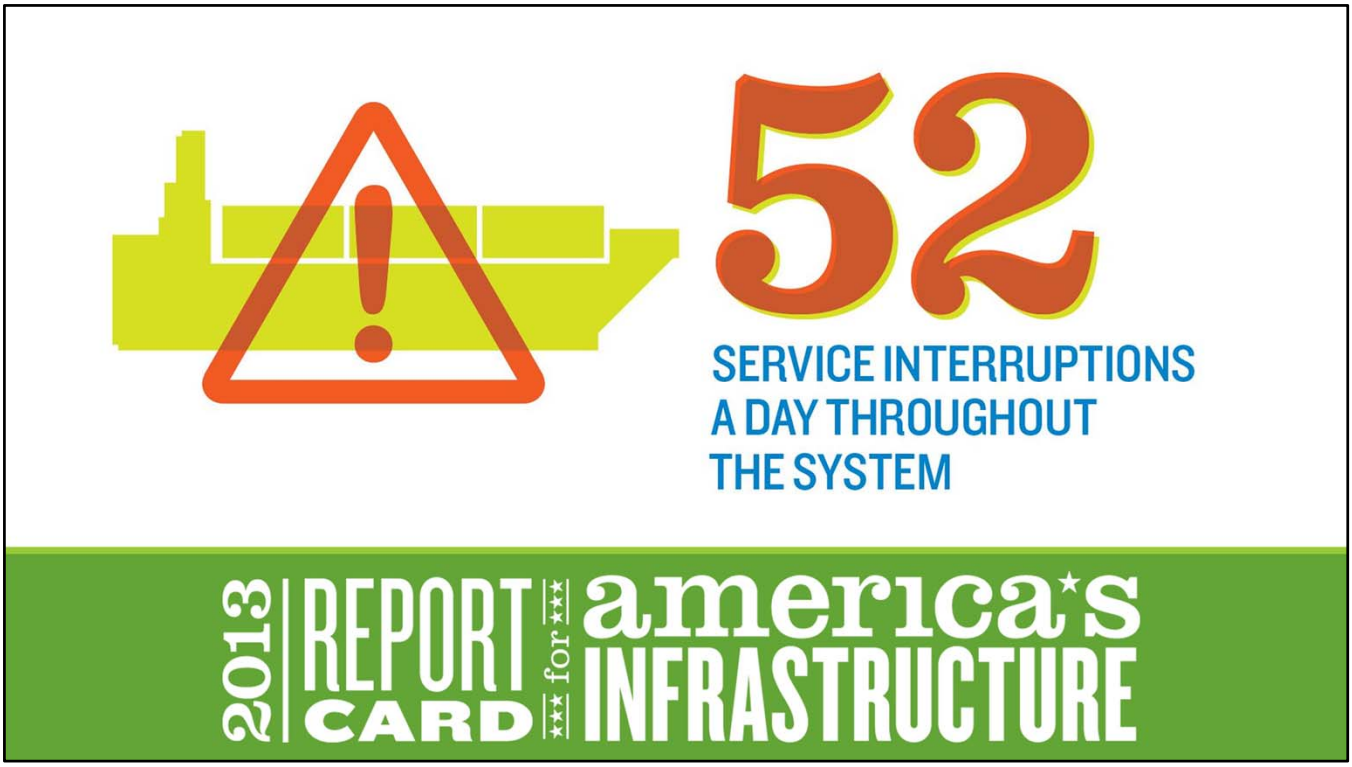
Here are 5 facts from the 2013 Report Card that show the challenges America's infrastructure is facing and the impact to people like you and to businesses.



Especially in the country's older cities, much of the drinking water infrastructure is old and reaching the end of its life.

In the U.S., the age of our pipes is showing – there are 240,000 water main breaks per year!

While you're here today, there will a pipe break every few minutes, and by tonight when you lay your head on a pillow there will have been 600 pipe breaks disrupting commerce and communities across the country.



Our nation's inland waterways and rivers are the hidden backbone of our freight network – they carry the equivalent of about 51 million truck trips each year.

Yet, on these marine highways, there are on average 52 service interruptions each day throughout the system.

Projects to repair and replace aging locks and dredge channels take decades to approve and complete, exacerbating the problem further.

One in every nine bridges in the U.S. are rated as structurally deficient.

While structurally deficient doesn't mean they're going to fall down, it does mean that one or more of their elements caused it to flagged for increased inspection.

Essentially, structurally deficient bridges are on a special "watch list" for the safety of the travelling public.

U.S. dams provide drinking water, hydropower and flood control across the U.S.

There are more than 4,000 deficient dams spread across the country, and about half of these have a high-hazard risk designation meaning that a significant amount of people, property, and lifeline facilities are below these dams.

America's energy grid is only as strong as its weakest link.

Investment in power transmission has increased since 2005, but ongoing permitting issues, weather events, and limited maintenance have contributed to an increasing number of failures and power interruptions.

As a society that relies on our phones and our computers, it's estimated that it costs a business $1000 for every hour of power disruption.

If the power's not on, we're not on.

These 5 facts – broken pipes, disrupted waterways, deficient bridges and dams, and power outages – and many more all add up to poor D and mediocre C grades leading to an overall GPA of D+.

However, there is good news.

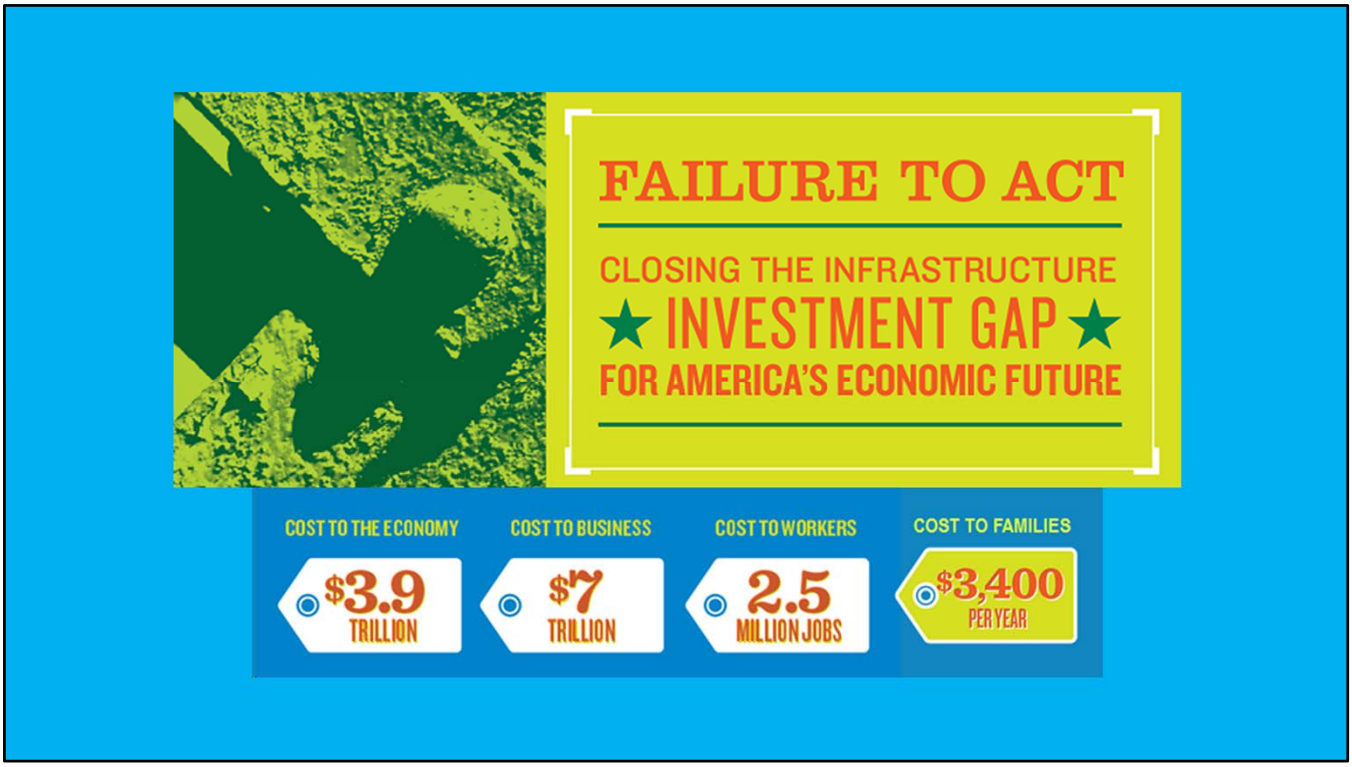
From 2009 to 2013, we saw some positive trends:

- Modest improvements in 6 areas of the 16 leading to grade increases (shown by the blue arrows)
- Greater private investment tied to market competitiveness in areas like rail
- Targeted state and local efforts like bond initiatives and gas tax adjustments in several states
- Short influx of federal infrastructure investment that bumped up water and transportation investments

Why did some sectors improve, while others continued to fall behind?

The answer is simple: in sectors where investment was made – by both the

public and private sectors - and innovative solutions pursued, the grades rose.



So you might ask, "Why do these grades matter?" What does a D+ mean for our country?

ASCE had a team of economists answer this questions in a series of economic reports we called "*Failure to Act.*" The latest report was just release this May.

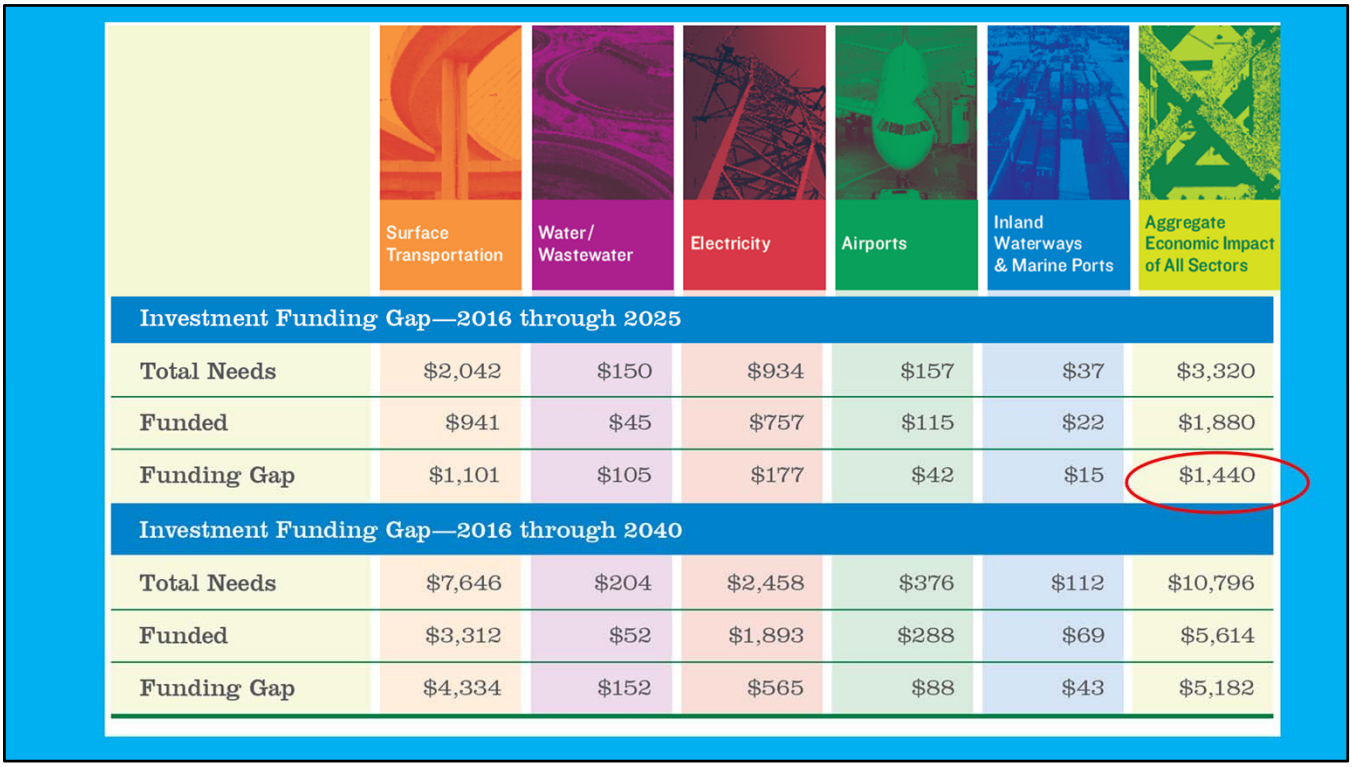
These report look at the economic impact of our poor infrastructure and the impact it will have on America's economic bottom line both in the next ten years and in the future if we fail to close the infrastructure investment gap.

If we continue to bury our head in the sand and not increase our investments, the problems escalate and cause the following effects by 2025:

- In the big picture, the overall impact to the U.S. GDP will be a drop of almost $4 trillion. That's larger than the GDP of Germany!
- Families will see their household disposable income drop by $3,400 each year, costing up to $34,000 by 2025 and over $100,000 by 2040.
- Not investing in infrastructure will also put 2.5 million U.S. jobs at risk as cost to businesses to produce products and services get passed along to workers and their income.

However, there was also good news that came from these reports – we can prevent all of these impacts if we close the investment gap.

If states, cities, private infrastructure owners and Congress each did more to fix their own infrastructure, we could close the investment gap.



	Surface Transportation	Water/ Wastewater	Electricity	Airports	Inland Waterways & Marine Ports	Aggregate Economic Impact of All Sectors
Investment Funding Gap—2016 through 2025						
Total Needs	$2,042	$150	$934	$157	$37	$3,320
Funded	$941	$45	$757	$115	$22	$1,880
Funding Gap	$1,101	$105	$177	$42	$15	$1,440
Investment Funding Gap—2016 through 2040						
Total Needs	$7,646	$204	$2,458	$376	$112	$10,796
Funded	$3,312	$52	$1,893	$288	$69	$5,614
Funding Gap	$4,334	$152	$565	$88	$43	$5,182

To prevent these costs, we know we need to close the gap and invest the $1.8 trillion we were planning to spend as well as an additional $1.4 trillion by 2025.

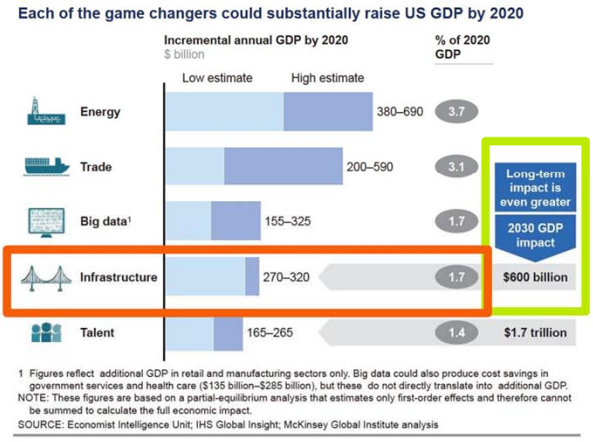
And as you can see here, Surface Transportation Infrastructure's funding gap is the overall driver of the total investment gap, comprising more than three-quarters of the overall gap across these five infrastructure sectors. Just by tackling surface transportation infrastructure, we would significantly raise our infrastructure GPA.

Between the federal, state, and local levels, we're already prepared to spend about $1.8 trillion which means we're half way there, but this leaves us with a $1.4 trillion dollar investment. However, this represents a cost of only $3 dollars per day per household which is an insignificant cost compared to the GDP lost, jobs lost, and $3,400 per year lost by families.

With $144 billion more per year between federal, state, local and private owners, we could prevent these economic consequences and get our infrastructure into the B GPA range.

The problem is that we haven't invested, and we keep stalling taking what once cost a little, now is costing a whole lot more.

Economic Game Changers



SOURCE: Economist Intelligence Unit; IHS Global Insight; McKinsey Global Institute analysis

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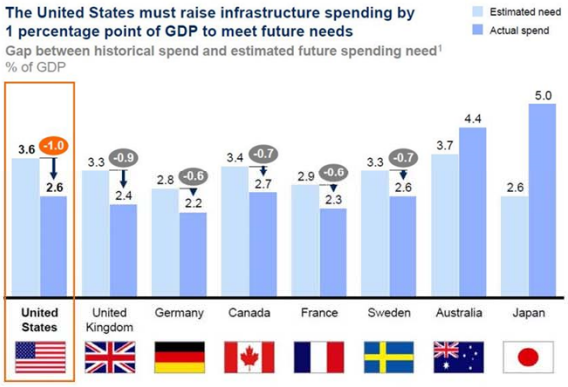
We're not the only ones who both see the need and see the opportunity that infrastructure presents for the U.S.

In a recent report by McKinsey & Company, they chose infrastructure investment as one of the top 5 "game changers" that could turn the U.S. economy around by 2020, and we agree – we have lot to lose and even more to gain with today's investment.

According to McKinsey, in the short run, infrastructure could add substantially to our GDP, and the long term gains are going to rival some of these other economic game changers over time, as you can see from the green box.

A Solvable Issue at 1% of GDP



SOURCE: McKinsey Global Institute analysis

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When you look at this as a percentage of GDP, you see that the U.S. has a more significant gap than its developed counterparts.

However, it's also worth noting that we are only 1 percentage point of GDP away from making up the infrastructure gap that the Report Card highlights.

This is a solvable problem at 1% of GDP and certainly an opportunity to get the economy really moving.

ASCE believes that while we've got a $1.4 trillion dollar problem on our hands, there are 3 solutions that we believe will help us improve the grades in every infrastructure category:

First, America's infrastructure needs BOLD LEADERSHIP AND A COMPELLING VISION.

- That strong national vision must originate with strong leadership at all levels of government – national, state and local – to find solutions such as creating partnerships with the private sector to fund and build infrastructure projects.

Second, WE NEED TO BUILD IN SUSTAINABILITY AND RESILIENCE TO OUR INFRASTRUCTURE

- It must be an integral part of improving the nation's infrastructure.

- As infrastructure is built or rehabilitated, life-cycle cost analysis should be performed for all infrastructure systems.

- Both structural and management methods must be applied to meet challenges so that future generations can use and enjoy what we build today.

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And finally, we must agree on how to PRIORITIZE and FUND strategic new investments in infrastructure that strongly position our nation for future success.

- While infrastructure investment must be increased at all levels, it must also be prioritized and executed according to well-conceived plans that both complement the national vision and focus on system-wide outputs.

- The good news for the US is that the grades did improve in a number of categories which is evidence that these key solutions are being put into action across the country.

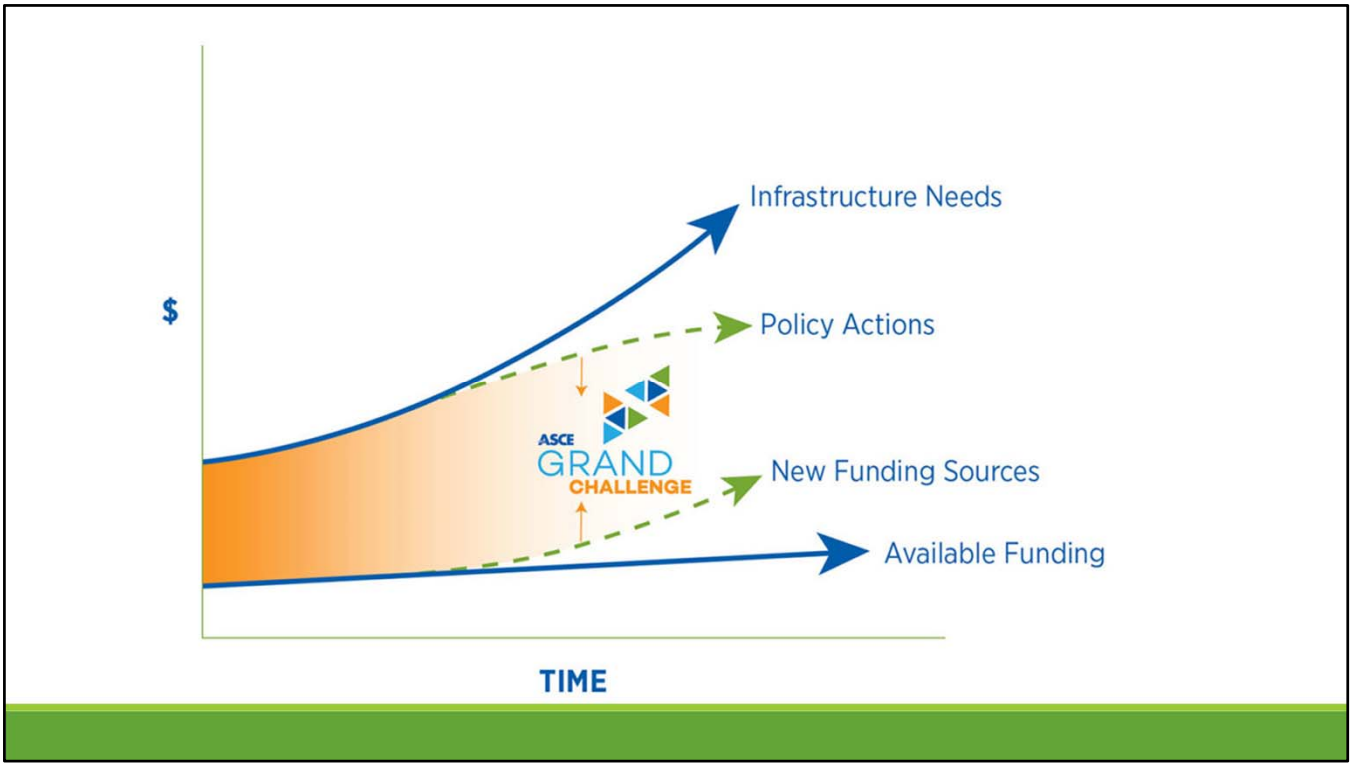
- There may be a lot of catching up to do, but the trends are promising.

Beyond preparing the Report Card for America's Infrastructure and advocating for increased investment in our infrastructure with federal, state, and local policymakers, ASCE has also recognized the civil engineering profession's unique role in addressing our nation's infrastructure challenges, including closing the infrastructure investment gap.

Like you all, we're interested in doing more than just securing more funding, though we certainly need that!

We've established the ASCE "Grand Challenge," a call to action for the entire civil engineering profession to increase the value and capacity of infrastructure and increase and optimize infrastructure investments by transforming the way we plan, deliver, operate and maintain our nation's infrastructure.

It's a commitment to rethinking what's possible through life cycle cost assessments, innovation, performance-based standards and enhanced resiliency. We believe that by doing so, we will be better able to meet the challenges of tomorrow.



The Report Card makes it clear: our infrastructure is struggling to efficiently meet today's needs, impacting all elements of society and the economy. And our infrastructure investment needs are significant.

As the builders, managers, and users of infrastructure, it's on all of us to continue to make the compelling case for infrastructure funding, from traditional sources like the gas tax and transportation trusts funds to new approaches. But that alone can't close the gap.

The Grand Challenge is an opportunity for the civil engineering profession and those involved in designing, building, maintaining, and modernizing our infrastructure to embrace our unique leadership role and rethink, advocate, and deliver critical improvements to the way our country approaches infrastructure. We must look for innovative financing mechanisms, and we must transform our engineering and business practices to deliver better value in exchange for greater investment.

While infrastructure funding and policy changes require the support of others, civil engineers control project delivery. Can we find lower cost or longer lasting materials? Can we dramatically shorten the time it takes to put new projects into service?

With the Grand Challenge, ASCE has committed to leading significant improvement in the delivery and life cycle performance of infrastructure investments, through innovation spurred on by:

performance based standards;

increased focus on life cycle performance, especially through life cycle cost analysis;

and enhanced resilience of our country's infrastructure assets.

Central to the Grand Challenge, we've set the goal of reducing the life cycle cost of infrastructure by 50 percent by 2025.

ASCE believes that considering the full cost of an infrastructure project throughout its lifespan is essential if we want to make the best investment with the limited funding available.

By using life-cycle cost analysis, we take steps to ensure we choose the right project and design options so that our infrastructure solutions meet today's and tomorrow's needs.

In addition to urging our industry to join the pledge to fulfill the Grand Challenge, the ASCE Innovation Contest looks for the next big ideas to reshape our nation's infrastructure, with creative thinking from professionals, educators, and students.

First begun in 2016, the contest drew entries from across the globe, and submissions were judged by a panel of 22 experts spanning the industry. There were 15 winners, with four proposals honored with special awards, from drones that help make our coasts more resilient to using the Internet of Things to promote water conservation.

Contest winners will have the opportunity to network and discuss their ideas with industry leaders and be considered for research grants to take these groundbreaking ideas from imagination to reality.

The 2017 contest is looking for the best thinking in:

Innovative Business Models and Technologies,

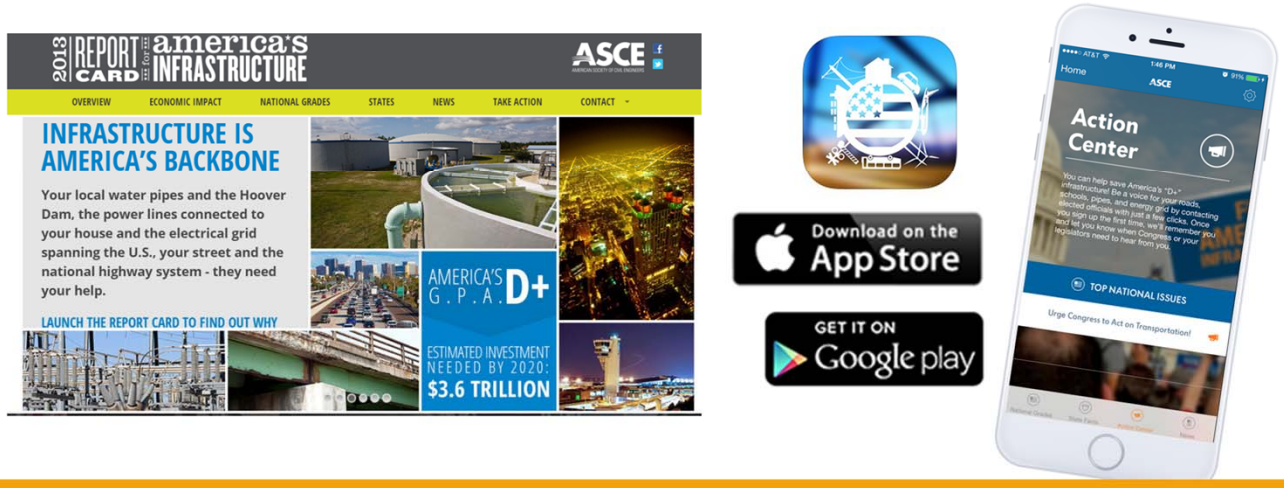
The Internet of Things,

Sustainable (Green) Engineering,

Resilience, and

Next-Generation Transportation.

Learn More



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The bottom line is that making needed investments in infrastructure will help save American families and businesses billions of dollars, but without action, it could cost us if we do not.

I'll close by encouraging you to visit our website, InfrastructureReportCard.org, and download our Save America's Infrastructure mobile app to learn more about the national Report Card for America's Infrastructure, as well as to see facts and Report Cards for your state, more information on the economic impact of our infrastructure, the latest infrastructure news, and opportunities to tell our elected officials why we need to act to improve America's aging infrastructure.

Given our mutual interest in maintaining our infrastructure and ensuring it works for the future, I hope you'll join us in our efforts.

Through leadership, innovative thinking, adequate funding, and smart asset management, the Report Card for America's Infrastructure won't always give our infrastructure a poor grade.

And stay tuned for March 2017 when we release the new national Report Card!