

# Arizona's Infrastructure Report Card

2020 Update

Did We Pass?



Jose Aguilar, PE, ENV SP

ASCE Arizona Section  
President-Elect &  
Report Card Chair

**ASCE**

ARIZONA SECTION





The background of the image is a photograph of the Arizona State Capitol building in Phoenix. The building is a large, classical-style structure with a central dome topped by a statue of a winged figure. The facade is made of light-colored stone and features many windows. The sky is blue with some clouds. Overlaid on the building is the word "zoom" in a large, blue, lowercase, sans-serif font.

# zoom

Released on September 16, 2020





# Our Infrastructure...







Our Infrastructure...





# Start the Conversation!

# United For **Infrastructure**

• • •

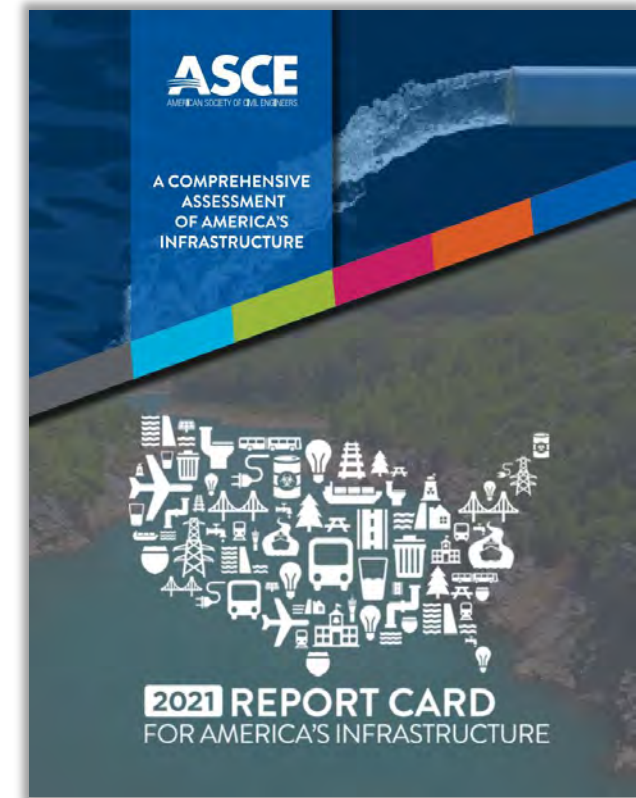
May 10-14, 2021

@United4Infra



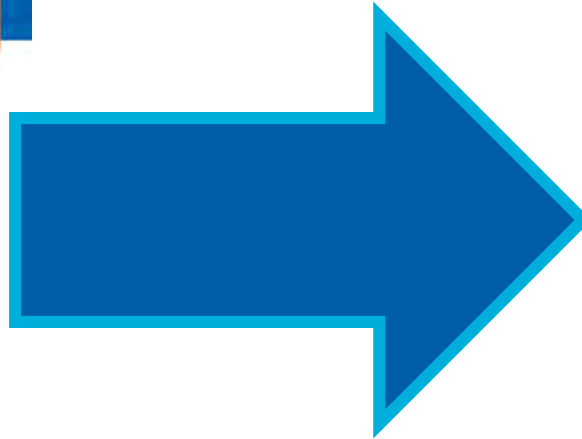


# 2021 National Infrastructure Report Card Update

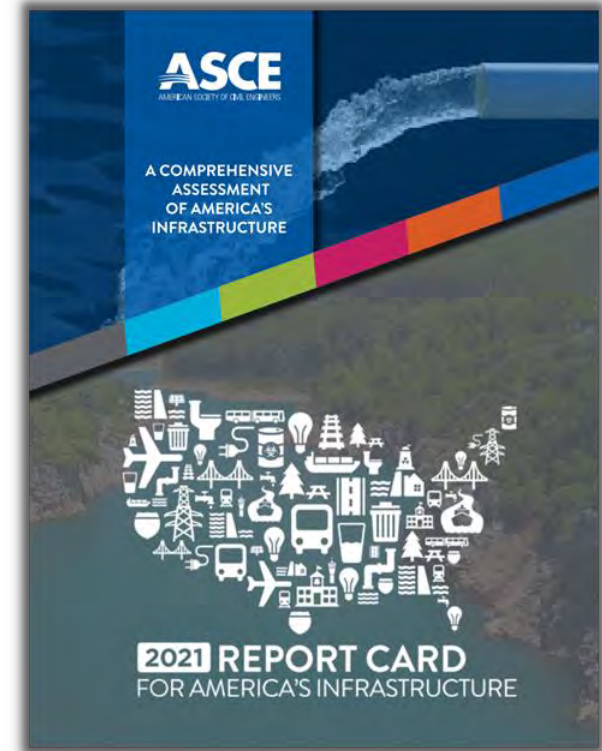




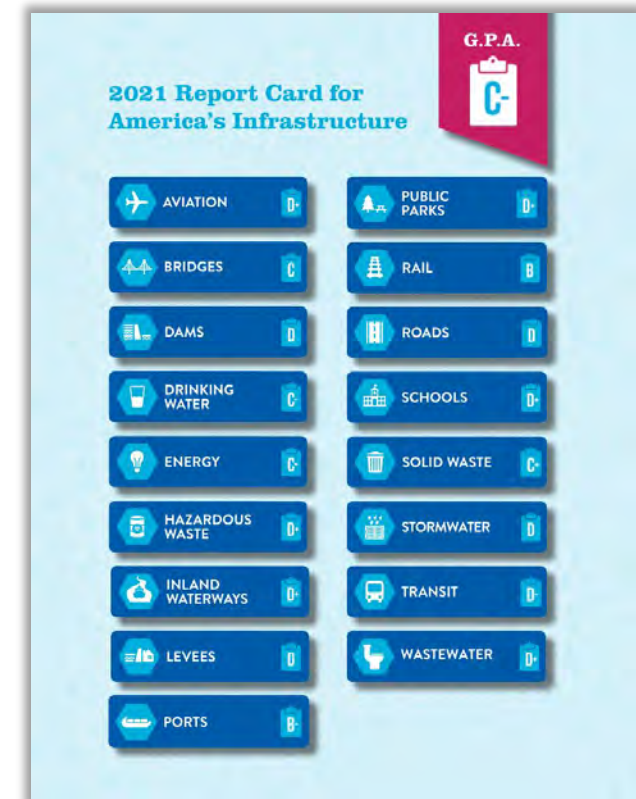
# 2017



# 2021

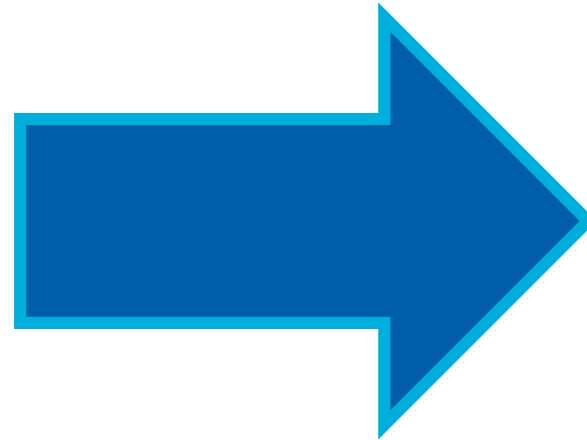


# 2021 National Infrastructure Report Card Grades

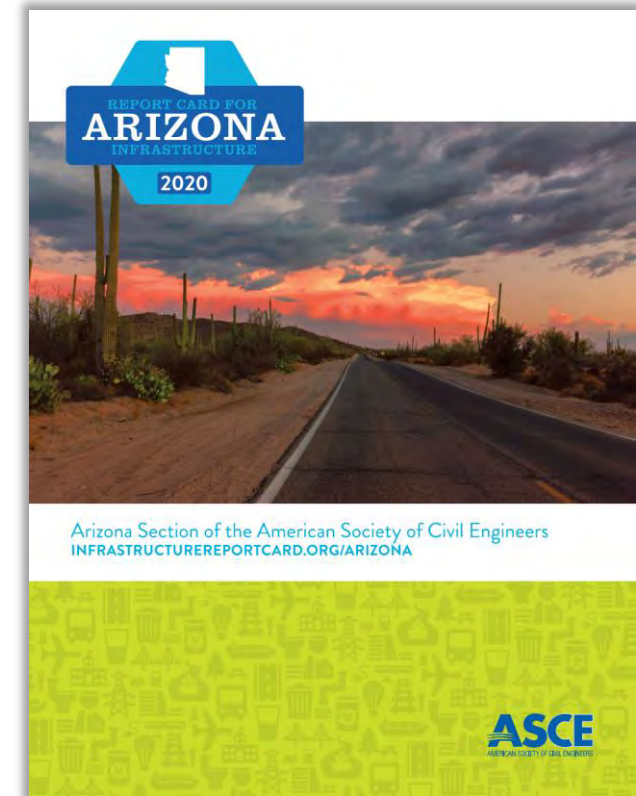




# 2015



# 2020



## 2020 REPORT CARD FOR ARIZONA'S INFRASTRUCTURE

 AVIATION **B**

 RAIL **C**

 BRIDGES **B+**

 ROADS **D+**

 DAMS **C-**

 TRANSIT **C**

 DRINKING  
WATER **C-**

 WASTEWATER **C**

 LEVEES **C-**

**GPA** **C**

# 2020 Grades





# Grade Scale



## **EXCEPTIONAL: FIT FOR THE FUTURE**

The infrastructure in the system or network is generally in excellent condition, typically new or recently rehabilitated, and meets capacity needs for the future. A few elements show signs of general deterioration that require attention. Facilities meet modern standards for functionality and are resilient to withstand most disasters and severe weather events.



## **GOOD: ADEQUATE FOR NOW**

The infrastructure in the system or network is in good to excellent condition; some elements show signs of general deterioration that require attention. A few elements exhibit significant deficiencies. Safe and reliable with minimal capacity issues and minimal risk.



## **MEDIOCRE: REQUIRES ATTENTION**

The infrastructure in the system or network is in fair to good condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies in conditions and functionality, with increasing vulnerability to risk.



## **POOR: AT RISK**

The infrastructure is in poor to fair condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Condition and capacity are of significant concern with strong risk of failure.

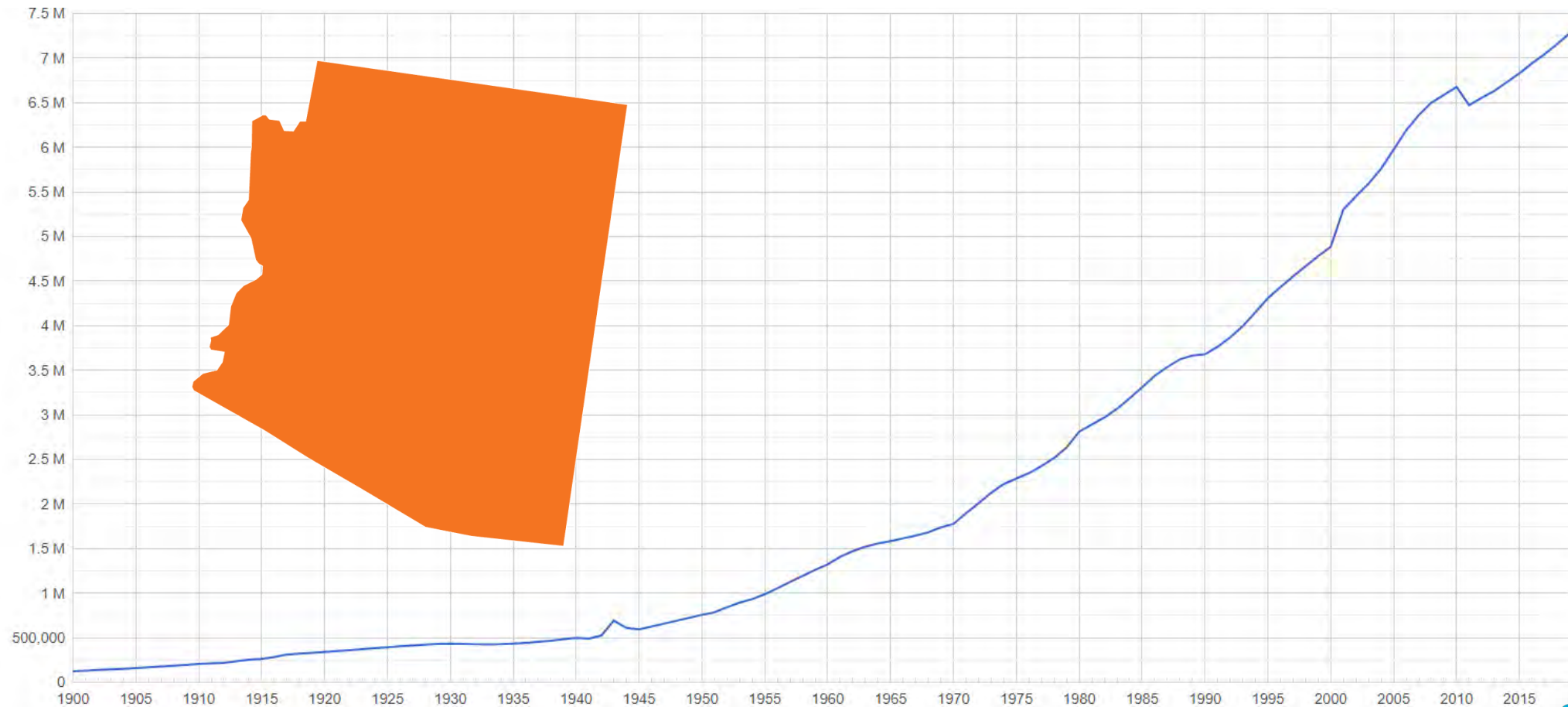


## **FAILING/CRITICAL: UNFIT FOR PURPOSE**

The infrastructure in the system is in unacceptable condition with widespread advanced signs of deterioration. Many of the components of the system exhibit signs of imminent failure.



# 7.3 Million Arizonans... and counting!

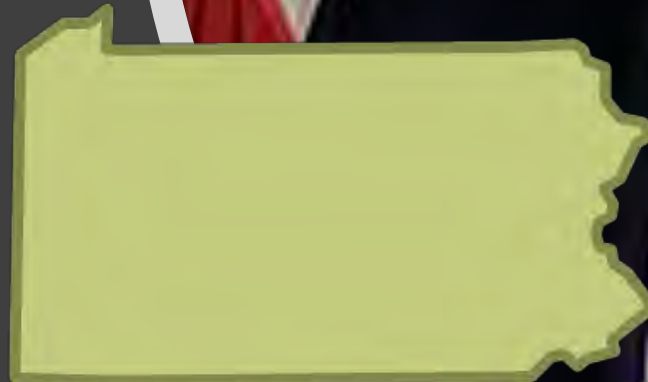




# Gov. Edward Rendell

[ Former PA Governor ]

*“You cannot expand your population without building out an infrastructure to handle the expanded population”*





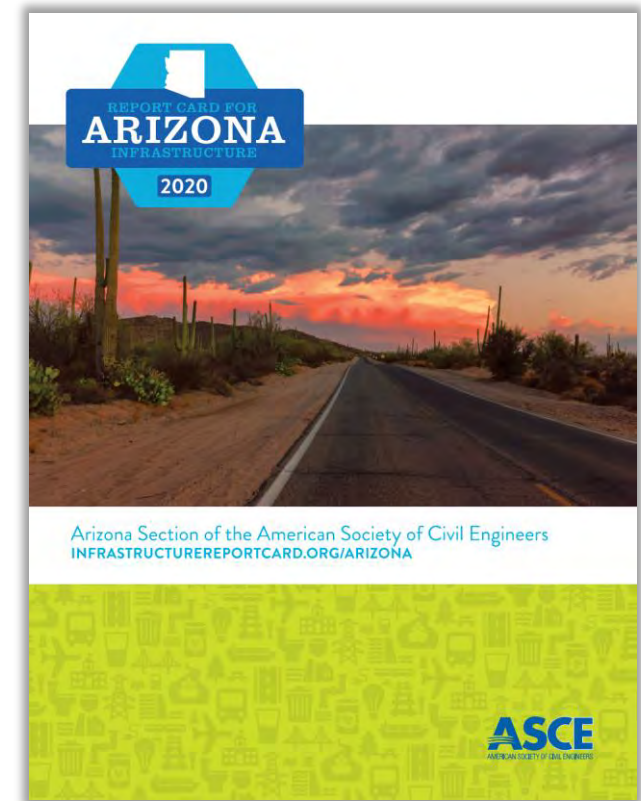
Infrastructure  
creates jobs!

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# 2020 Update



# Thank You!

## ASCE ARIZONA INFRASTRUCTURE REPORT CARD TEAM

### REPORT CARD CHAIR:

Jose A. Aguilar, PE, ENV SP  
[WSP USA]

### SPECIAL THANKS TO:

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Anna Denecke  
Alexa Lopez  
Christine Prouty  
Kevin Longley  
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### CHAPTER AUTHORS:

#### AVIATION:

Jose A. Aguilar, PE,  
ENV SP [WSP USA]  
(Chapter Chair)

Ronnie Thevenot  
[Stanley Consultants]

Samuel Hanna,  
PhD, PE, LEED AP  
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Grecia Falcon, PE  
[M3 Engineering &  
Technology Corp.]

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Kent Lall, PhD, PE  
[Portland State  
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Joel Amarillas,  
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(Chapter Chair)

Jose A. Aguilar, PE,  
ENV SP [WSP USA]

Mike Worlton, PE  
[GHD]





## COMPARISON OF 2015 AND 2020 GRADES

ARZONA			
Category	2015 Grade	2020 Grade	2017 National Grade
Aviation	B-	B	D
Bridges	B	B+	C+
Dam	C-	C-	D
Drinking Water	C-	C-	D
Levees	C-	C-	D
Rail	C+	C	B
Roads	D+	D+	D
Transit	C+	C	D-
Wastewater	C	C-	D+

2020  
Grades

Airports

17% of all  
jobs in Arizona

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Aviation

7.6% of  
Arizona's Gross  
Domestic  
Product

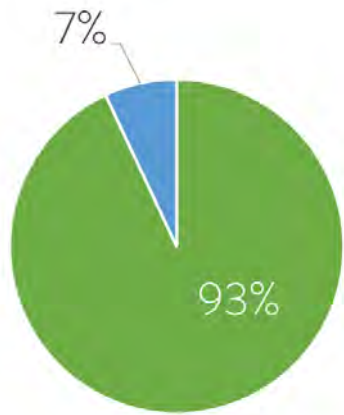




# \$1.5 Billion Dollars







30 Minutes  
away from an all-  
weather Runway





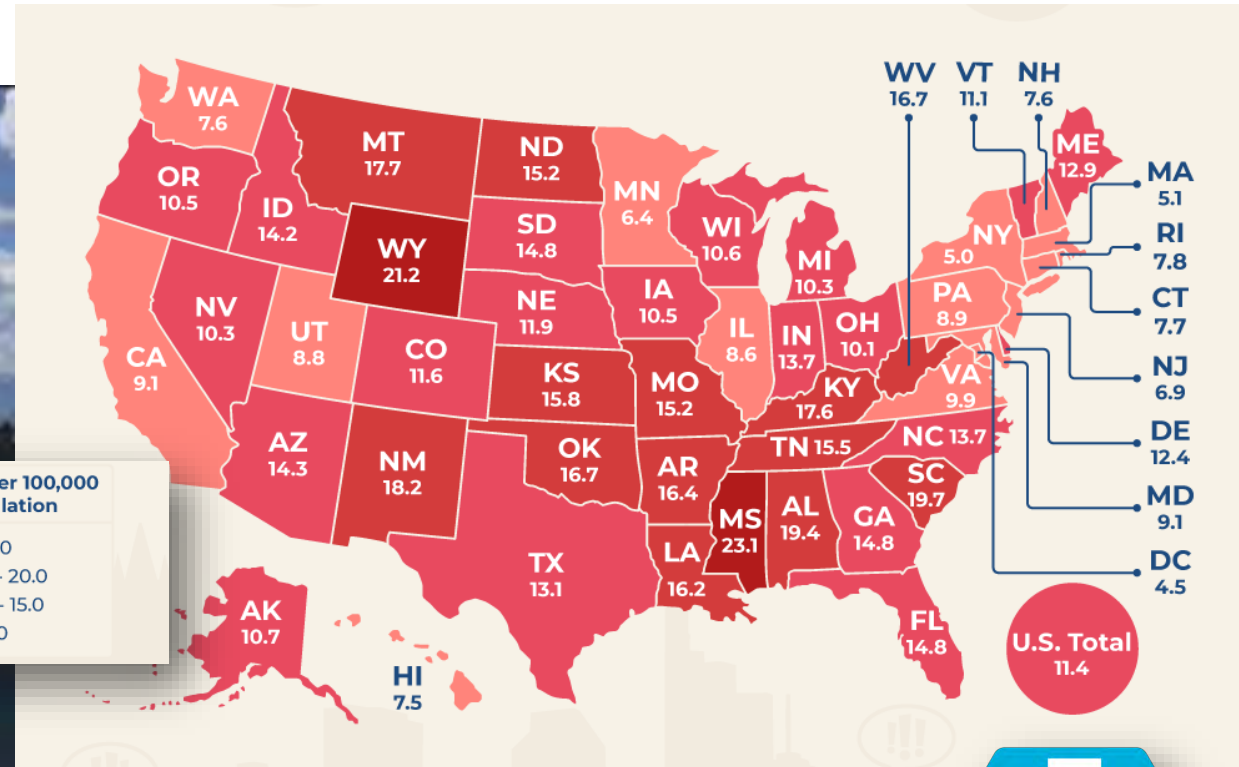


32% in vehicle travel





# Highway Fatality Rate





\$775 Million  
Annually



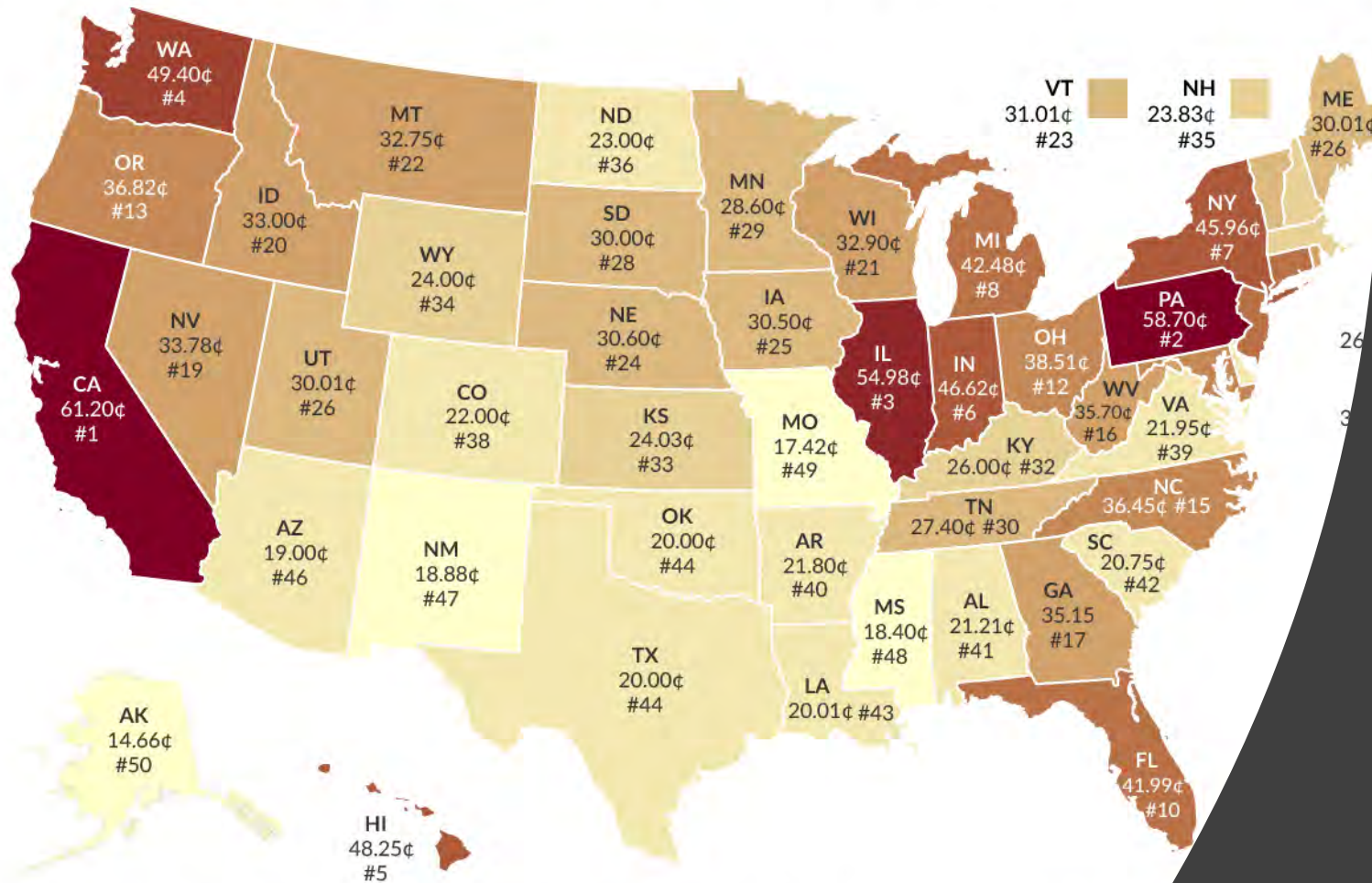


Was close  
to expiring!



# How High Are Gas Taxes in Your State?

Total State Taxes and Fees on Gasoline, as of July 2019 (cents per gallon)



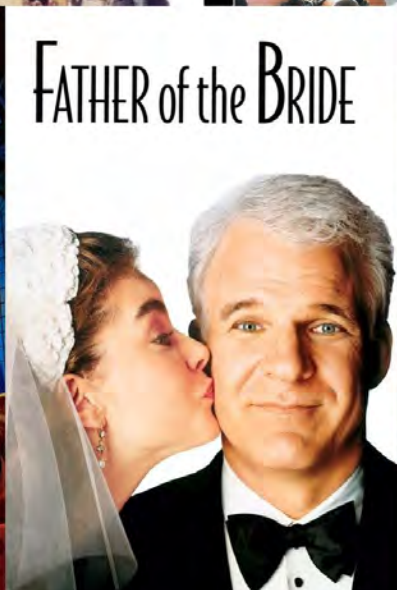
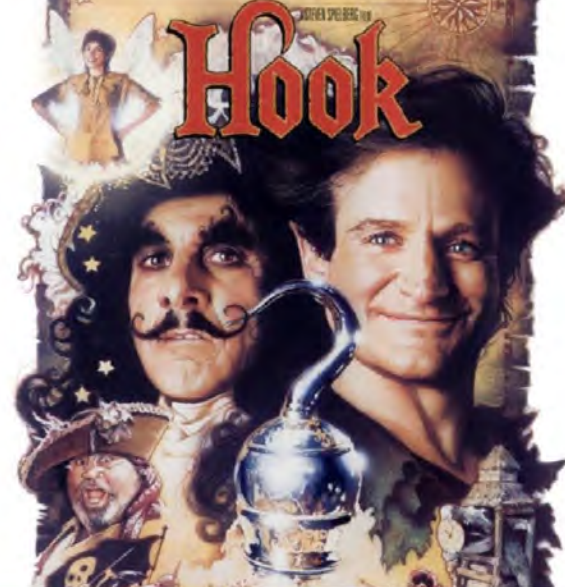
Gas Tax

5<sup>th</sup> Lowest  
in the Country



Gas Tax has  
not been  
raised since

1991



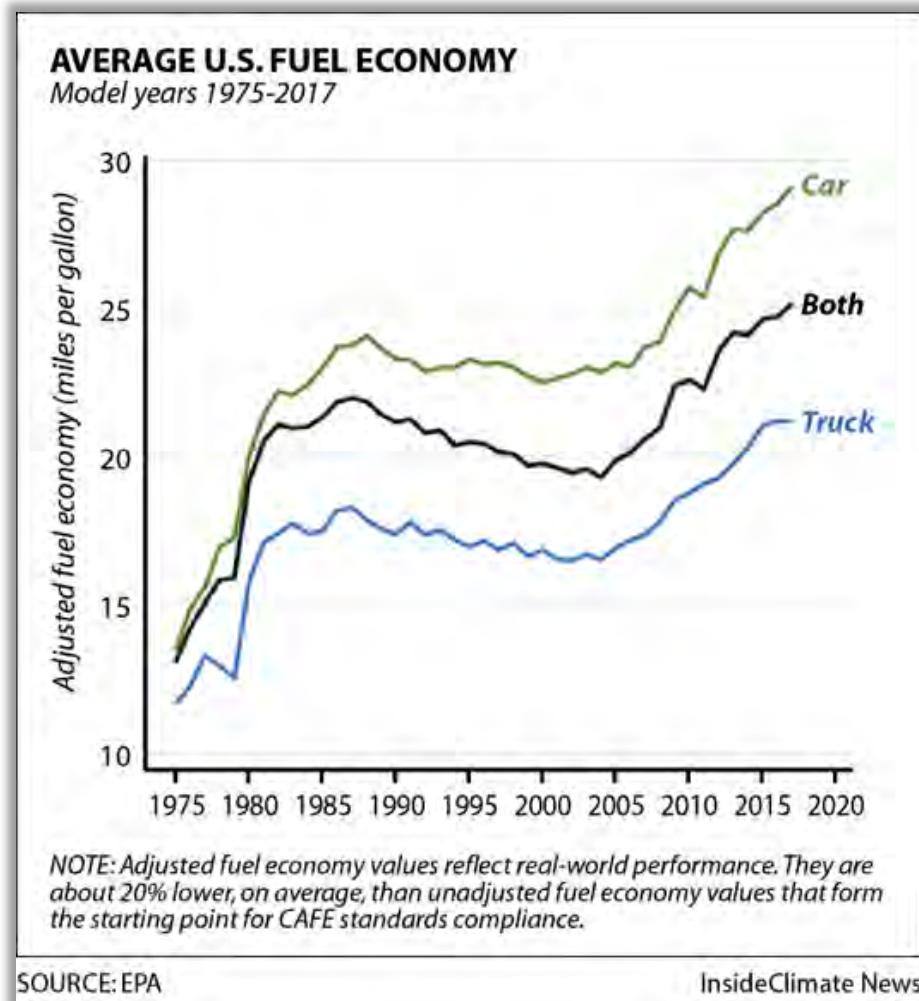
Gas Tax has  
not been  
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1991





Gas Tax has  
not been  
raised since  
**1991**



2020



BY POWERTRAIN

Gas 5,975,504 (94.78%)

Diesel 201,573 (3.20%)

Hybrid 103,672 (1.64%)

Electric 15,000 (0.24%)

Plug-In Hybrid 8,591 (0.14%)

Car Repairs  
\$576 per  
Driver Annually







8,320 bridges







6 Million square miles



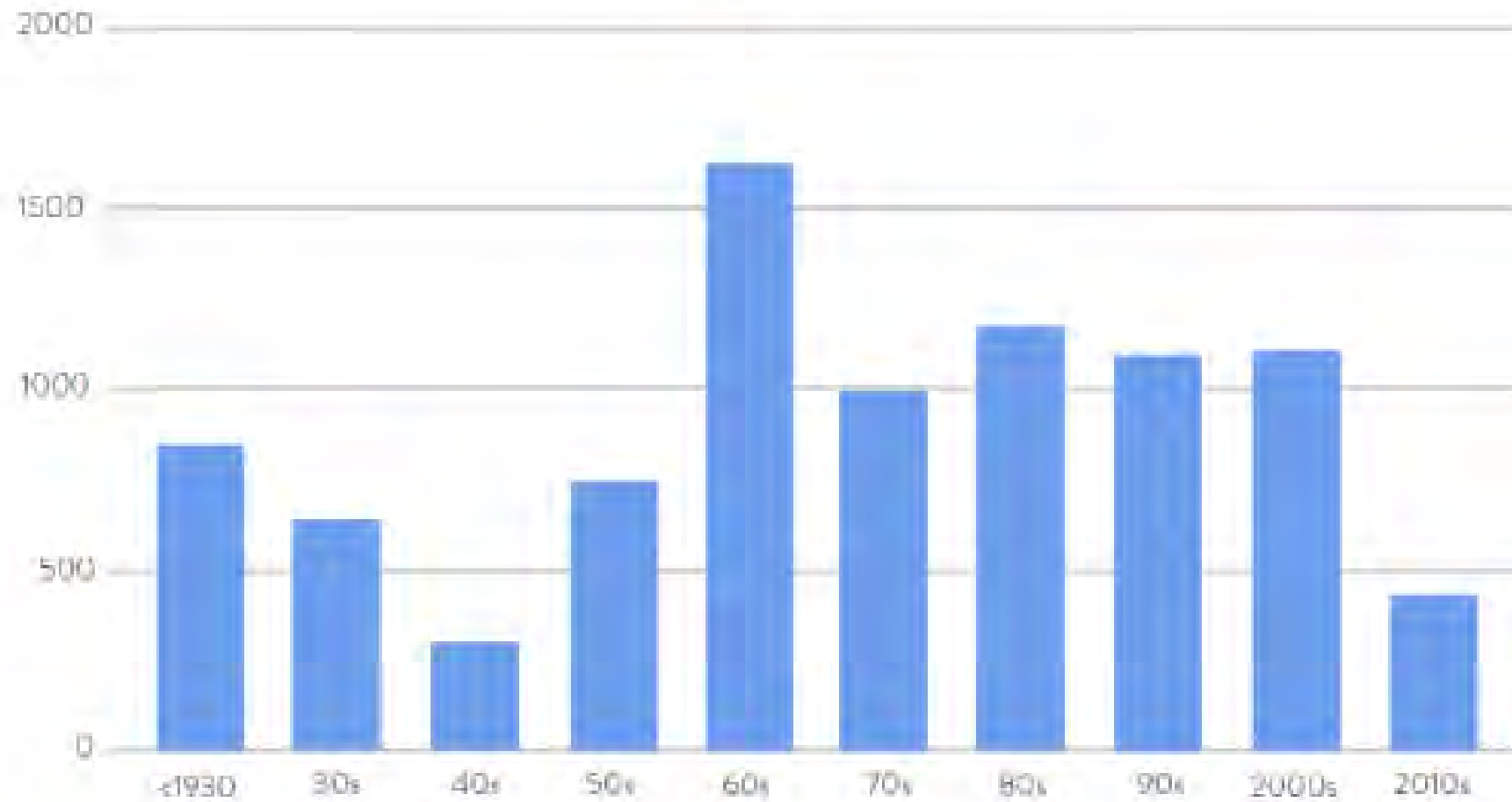


1.6% of all  
bridges in Arizona  
were classified as  
poor in 2019

137 bridges



## Arizona Bridges By Year Built





“The state bridge inventory is steadily increasing with the expansion and upgrade of the highway system. However, funding levels remain the same.”



1,789 bridges  
requiring repairs

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# Dams and Levees





# Levees

Protect  
345,000 People  
\$60 Billion  
in Property

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Levees

8%

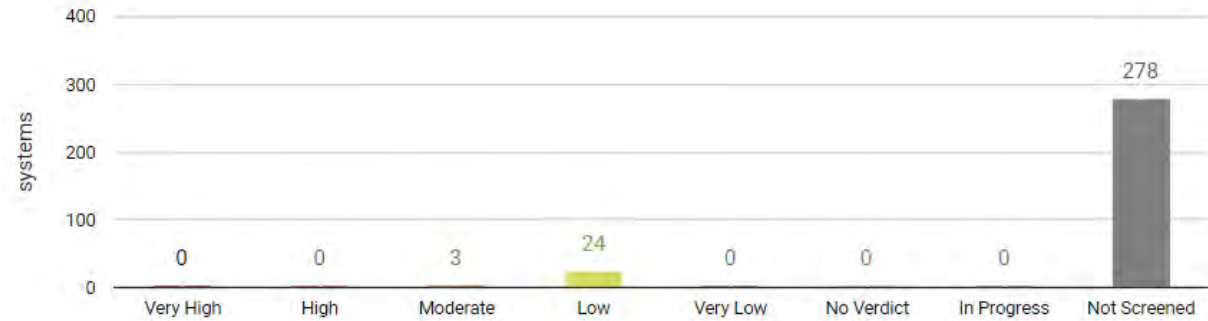
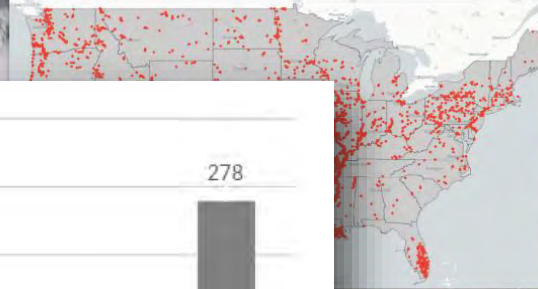
Screened

# National Levee Database

SEARCH DASHBOARD MAP MORE ▾

Find a levee by name, location and more...

Levees of the Nation 8,714 Levee Systems 28,773 Miles of Levee 46,340 Levee Structures







# Dams

## < \$1 Billion

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# Dams

# 164

# High Hazard

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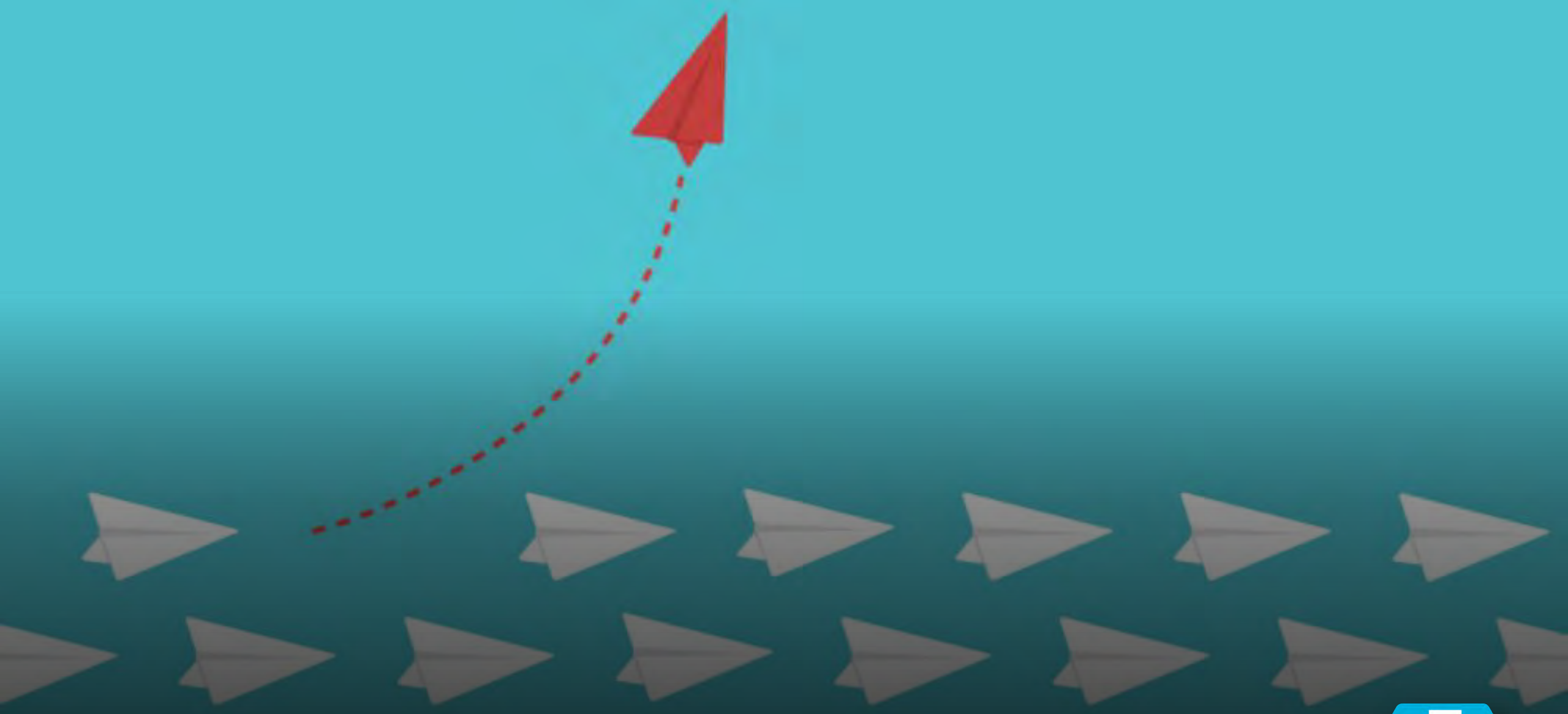


# Dams

95%







# Forward Thinking





# Innovative Construction Methods



# Water Usage per Year



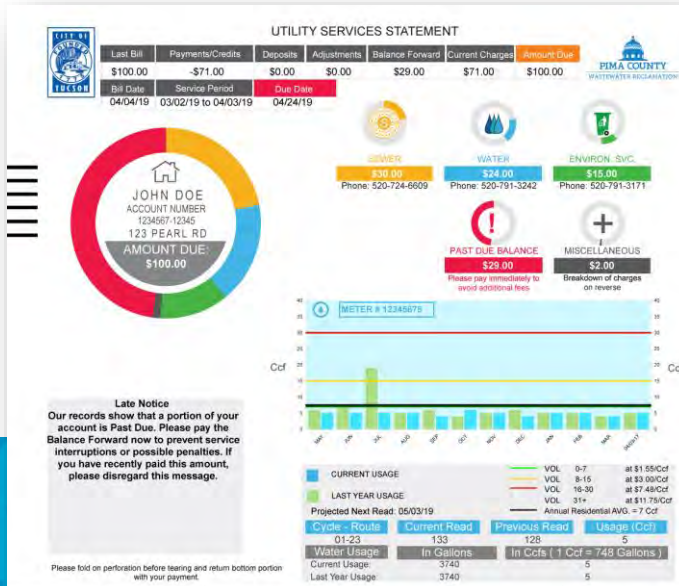
Arizonan



Average  
American

# Water

# \$16 Billion Needed







Wastewater  
50% of collection networks & 10% of treatment plants require rehabilitation





Wastewater  
\$1.4 Billion funding gap over the next 5 years



PEORIA TRANSIT  
623.773.5150  
peoriaaz.gov/transit



NOVOYA

066M835

# Innovation





Room for Growth...





# Key Recommendations



1

# Statewide Asset Database



2

# Adjust Tax Structures

3

# Educate the Public



4

# Sustainability

5

# Regular Inspections





# Call to Action!



Educate

Connect

Continue the  
Conversation



# Failure to Act

## FAILURE TO ACT

Economic Impacts of Status Quo  
Investment Across Infrastructure Systems

OVER THE NEXT 20 YEARS, AMERICA'S  
OVERDUE INFRASTRUCTURE BILL WILL  
COST THE AVERAGE AMERICAN HOUSEHOLD

**\$3,300**  
A YEAR



When we fail to invest in our infrastructure, we pay the price. Poor roads and airports mean travel times increase. An aging electric grid and inadequate water distribution make utilities unreliable. Problems like these translate into higher costs for businesses to manufacture and distribute goods and provide services. These higher costs, in turn, get passed along to workers and families.

The average AMERICAN HOUSEHOLD LOSES \$63 A WEEK due to CHRONIC UNDERINVESTMENT in infrastructure. What could you buy with \$63 a week, or \$275 a month?



TAKEOUT DINNER  
FOR A FAMILY OF  
FOUR EACH WEEK.



STARTING  
A COLLEGE  
FUND.



DOING A  
HOME RENOVATION  
PROJECT.

We are already paying the price, but IF WE FAIL TO ACT NOW, OUR COSTS WILL MOUNT EXPONENTIALLY. Of the total economic impacts projected in our 20-year study, more than three-quarters occur during the second decade (2030-2039).

If we don't act, by 2039 we are forecasted to lose:

**\$10.3**  
TRILLION  
in GDP from  
2020-2039,  
nearly half  
of the annual U.S.  
GDP in 2019.

**\$2.4**  
TRILLION  
in exports from  
2020-2039, or  
more than all of the  
Fortune 500  
companies generated  
in profits in 2019.

**3**  
MILLION  
jobs, two times  
the number of  
Walmart  
employees  
in the U.S.



**47%**

of the projected  
jobs lost in 2039  
will be in high  
wage and high  
production jobs  
like manufacturing  
and healthcare.

The good news is we can ACT NOW to mitigate the harm to our GDP, trade volumes, and declines in personal income. Let's reverse the decade of underinvestment in our infrastructure and help all communities thrive.

LEARN MORE AT  
[WWW.ASCE.ORG/FAILURETOACT](http://WWW.ASCE.ORG/FAILURETOACT)

ASCE

REPORT CARD FOR  
**ARIZONA**  
INFRASTRUCTURE  
2020

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Issues & Advocacy

Advocacy

KEY PROGRAMS

Infrastructure

- 2017 Report Card
- Failure to Act Reports
- Infrastructure Policy Reports
- Life Cycle Cost Analysis Report

Engineer Tomorrow

Sustainability

- Sustainability at ASCE
- Sustainability Resources
- Sustainability Project Profiles
- Envision
- Sustainable Infrastructure Certificate Program
- Sustainability Roadmap

ASCE Grand Challenge

Advocacy

- Public Policy Statements

ADVOCACY

Advocacy for issues like infrastructure renewal is a priority objective for ASCE. Find out how you, your Section, Branch or your Region can get involved in influencing policy decisions at the state and federal levels.

ASCE KEY CONTACT PROGRAM

Gain the knowledge you need to develop relationships with your elected officials and influence the policy process at the state and federal levels.

"CLICK & CONNECT WITH CONGRESS"

Get started on learning about policy issues that affect your profession and identifying your elected officials through ASCE's "Click & Connect with Congress" advocacy website.

MONITOR LEGISLATION IN YOUR HOME STATE

In addition to contacting elected officials on specific issues, stay informed by searching for pending legislation or regulatory proposals in your state. Access ASCE's state legislative tracking service for the latest details.

BACK HOME VISITS

Request one of these meetings with your legislator face-to-face at a local office, or attend a town hall meeting or other event close to home. Tips for a successful meeting.

LEGISLATIVE FLY-IN

GET INVOLVED!

Participate in our Key Contact program for members!

FOR MORE INFORMATION

on ASCE's State Government Relations programs contact:

Caroline Sevier  
202-789-7855

Maria Matthews  
202-789-7845

ASCE  
TOOLS



## All Eyes on Senate to Pass Federal Budget and FAST Act Extension

Inbox x



**ASCE Government Relations** <govwash@message.asce.org> [Unsubscribe](#)

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9:54 AM (42 minutes ago)



This Week in Washington | [View Online](#)



**This Week in Washington**  
September 25, 2020

News & Information from ASCE Government Relations

### Welcome Jose, In this issue:

- » Advocacy Shout Out: Puerto Rico Section Reacts to FEMA Award
- » Transportation Funding Gap Costs Households \$625 per Year
- » House Votes on Funding Resolution & Extends FAST Act
- » ASCE Urges Congress to Prioritize PreDevelopment Funding
- » \$1 Billion in BUILD Grants Awarded Coast to Coast
- » Senate Democrats Introduce WOTUS Resolution
- » Joint House Hearing Tackles Low-Carbon Economic Recovery
- » House Democrats Unveil Clean Energy Package
- » California & Utah Cities Receive WIFIA Loans
- » Be a Better Advocate: ASCE Advocacy Tools & Resources
- » Infrastructure in the News
- » State News

# ASCE TOOLS

[HOME](#)[STATES](#)[ASCE ISSUES & ADVOCACY](#)

### Infrastructure Investment Must Be a Key Component of Emergency Relief

Posted: May 15, 2020

With State and local government losing revenues from transit ridership, motor fuel taxes, now is the time for Congress to provide immediate and necessary relief to ensure that all sectors of our infrastructure remain safe and reliable.

[TAKE ACTION ►](#)

#### Top Issues Before the U.S. Congress

Take action now on these top issues being considered by your U.S. Representative and/or U.S. Senators:

##### Infrastructure Investment Must Be a Key Component of Emergency Relief

With State and local government losing revenues from transit ridership, motor fuel taxes, now is the time for Congress to provide immediate and necessary relief to ensure that all sectors of our infrastructure remain safe and reliable.

##### Support State DOT Revenue Needs Amid COVID-19 Pandemic

State DOTs are being impacted by COVID-19. With revenue shortfalls expected to increase in the coming

#### Find your elected officials

Lookup your elected officials and candidates. Just enter your ZIP code to get started.

# ASCE TOOLS





## Tell Elected Officials About the 2017 Infrastructure Report Card Grades

Posted: March 9, 2017



Our nation is at a crossroads. Deteriorating infrastructure is impeding our ability to compete in the thriving global economy, and improvements are necessary to ensure our country is built for the future. The 2017 Infrastructure Report Card gives an overall grade of D+ across 16 categories of infrastructure. While we have made some progress, reversing the trajectory after decades of underinvestment in our infrastructure requires transformative action.

Share with your elected officials that our nation's infrastructure challenges are significant but solvable. Through strategic, sustained investment, bold leadership, comprehensive planning, and careful preparation for the needs of the future, America's infrastructure

...  
Continue Reading

Please enter the address where you are registered to vote.

\* First Name

### Infrastructure Investment Must Be a Key Component of Emergency Relief

With State and local government losing revenues from transit ridership, motor fuel taxes, now is the time for Congress to provide immediate and necessary relief to ensure that all sectors of our infrastructure remain safe and reliable.

### Support State DOT Revenue Needs Amid COVID-19 Pandemic

State DOTs are being impacted by COVID-19. With revenue shortfalls expected to increase in the coming months, urge your Members of Congress to provide immediate, and necessary relief to ensure that state transportation projects continue as scheduled.

### Tell Elected Officials About the 2017 Infrastructure Report Card Grades

While we have made some progress, reversing the trajectory after decades of underinvestment in our infrastructure requires transformative action.

### Tell Congress to Pass WRDA 2020

Our dams, levees, ports, and inland waterways provide essential benefits, but are quickly reaching the end of their design life. Let's close the investment gap to ensure our

# ASCE TOOLS

## Compose Message(s)

### Message 1 - Donald Trump, Mi...

#### Recipients

##### President

☒ **President  
Donald Trump (R)**

##### Vice President

☒ **Vice President  
Mike Pence (R)**

##### U.S. Senate

☒ **Sen. Kyrsten  
Sinema (D-AZ)**

☒ **Sen. Martha  
McSally (R-AZ)**

##### U.S. House of Representatives

☒ **Rep. Raul  
Grijalva (D-AZ)**

##### Governor

☒ **Gov. Doug  
Ducey (R-AZ)**

##### State Senator

☒ **Sen. Sally Ann  
Gonzales (D-AZ)**

##### State House of Representatives

☒ **Rep. Alma**

#### \* Message Subject:

The 2017 Infrastructure Report Card Grades Are In

Dear [Recipients],

#### \* Your Message:

Our nation is at a crossroads. The American Society of Civil Engineers 2017 Infrastructure Report Card gives an overall grade of D+ across 16 categories. Our deteriorating infrastructure is impeding our ability to compete in the thriving global economy, and improvements are necessary to ensure our country is built for the future. While we have made some progress, reversing the trajectory after decades of underinvestment in our infrastructure requires transformative action.

Our nation's infrastructure challenges are significant but solvable. Through strategic, sustained investment, bold leadership, comprehensive planning, and careful preparation for the needs of the future, America's infrastructure will be improved and restored.

For the U.S. economy to be the most competitive in the world, we need a first-

# ASCE TOOLS



Allison Sadow, EIT

[ ASCE Arizona Section  
Legislative Public Affairs  
Co-Chair ]

**ASCE**

ARIZONA SECTION



Caitlyn Hall, MS

[ ASCE Arizona Section  
Legislative Public Affairs  
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# Legislative Drive-In



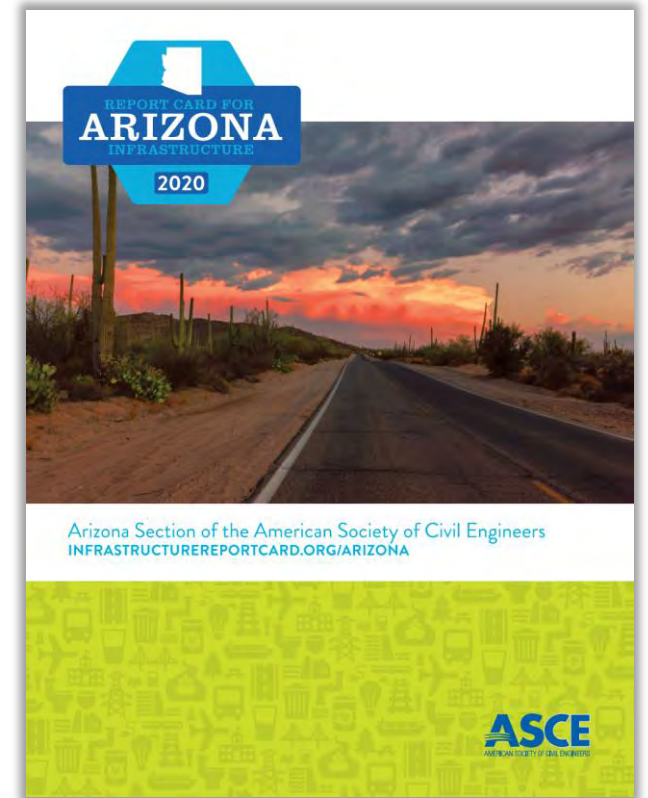




reportcard@asce.org



InfrastructureReportCard.org/Arizona





# Q&A

 [joseaguilar.asce@gmail.com](mailto:joseaguilar.asce@gmail.com)

 [linkedin.com/in/jose-aguilar-pe](https://www.linkedin.com/in/jose-aguilar-pe)

