

ISSUE BRIEF: Q4 2020

THE TRANSPORTATION AND CLIMATE INITIATIVE

WHAT CAP AND INVEST COULD MEAN
FOR TRANSPORTATION INFRASTRUCTURE
IN THE NORTHEAST & MID-ATLANTIC

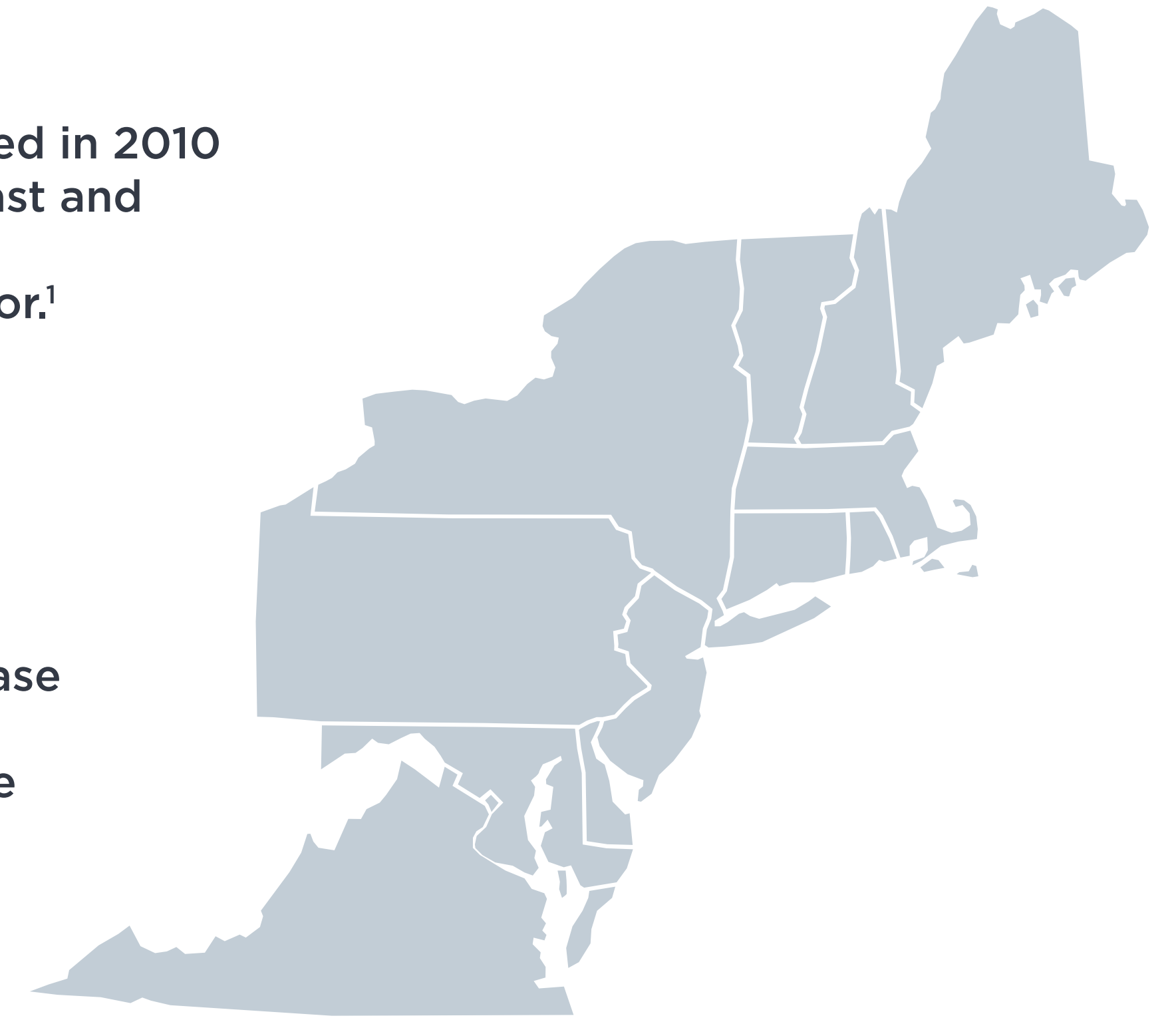
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FOUNDATION

INTRODUCTION

The Transportation and Climate Initiative (TCI) is a regional collaboration that was founded in 2010 and is facilitated by the Georgetown Climate Center. It is a partnership among 12 Northeast and mid-Atlantic states, plus the District of Columbia. Participating states share data, best practices, and policy solutions for limiting carbon emissions from the transportation sector.¹

In the TCI region, the transportation sector accounts for 43% of carbon emissions -- and traffic congestion is a significant problem. By reimagining transit infrastructure, TCI seeks to improve traffic congestion, shorten commute times, reduce emissions, improve air quality, and promote public health.²

TCI has proposed a cap and invest program for gas and diesel suppliers that would increase incentives for commuters and local businesses to switch to more fuel efficient vehicles. While the proposal remains in draft form, economists and transportation experts estimate that by 2032, it could reduce emissions by as much as 25%. The earliest this program could start is 2022.³



Business Forward has organized hundreds of briefings on clean energy, climate change, and energy security. These briefings have included two secretaries of energy, two EPA administrators, dozens of U.S. senators and members of Congress, and hundreds of other officials. More than 47,000 business leaders have participated in our climate and clean energy programming, and they have seen their comments reflected in the Clean Power Plan, several state clean power rules, and the Paris Climate Agreement. We have worked with more than 48,000 local business leaders across the TCI region.

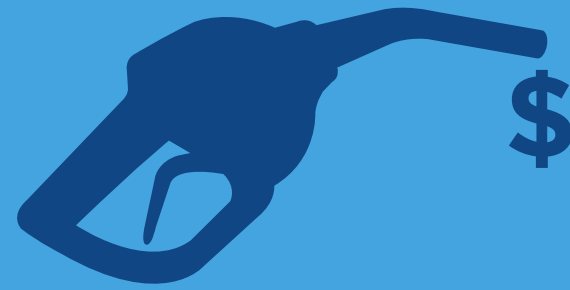
47,000+
BUSINESS LEADERS
PARTICIPATED IN OUR
CLIMATE & CLEAN
ENERGY PROGRAMMING

TOPLINE

1. **TCI's cap and invest program requires large gasoline and diesel fuel suppliers to buy "allowances" to cover the carbon emissions that result from the combustion of the fuels they sell.** Some of this cost is absorbed by the fuel companies, and another portion is passed on to consumers, which encourages them to spend less on carbon-intensive fuels and purchase more efficient vehicles.
2. **States invest the program's proceeds into a comprehensive modern infrastructure: better roads, mass transit, sidewalks and bike lanes, and electric vehicles.** A cap on transportation emissions could raise more than \$5 billion in its first year, which could go toward further reducing air pollution and carbon emissions, which would improve public health and save money down the road.
3. **The program aims to reduce emissions and air pollution. It also lowers the hours traveled on our roads by improving traffic congestion and shortening commute times.** Cap and invest would help accelerate the region toward zero-emission vehicles and infrastructure, by modernizing transportation and incentivizing new technologies.
4. **With 52 million registered vehicles, the transportation sector accounts for 43% of the region's carbon emissions. TCI states rely heavily on their infrastructure - but it's outdated.** According to the American Society of Civil Engineers, the U.S. earns a D- on transit infrastructure. In key areas, states in the TCI region score poorly, and this program would force an upgrade.⁴
5. **TCI cap and invest does more than reduce emissions: it encourages investment that helps generate billions of dollars in public health benefits.** Health outcomes associated with better air quality and more physical activity include fewer asthma attacks and respiratory illnesses. Many TCI states have poor air quality, insufficient public health funding, and major health disparities.
6. **The result is a cleaner, more accessible transportation system that works for everyone, everywhere. It promotes equity of access, public health, and economic activity.** TCI prioritizes smart land-use planning and affordable housing near efficient public transit, accessible for all communities. Whether you live in a suburban, urban, or rural community - regardless of your race and socioeconomic status - this modern, sustainable transportation system will help you.
7. **The regional approach is a more efficient market strategy for all.** States across the Northeast and Mid-Atlantic could not execute this program as effectively on their own. Regional collaboration for markets and auctions works best.

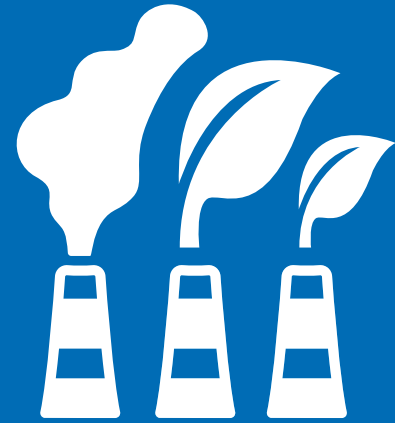
HOW TCI'S CAP & INVEST WORKS

1



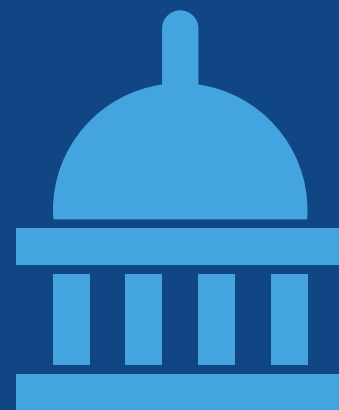
Each year, fuel suppliers purchase allowances at auction to cover the carbon emissions generated by the gasoline and diesel fuel they sell. A portion of this cost is passed onto car and truck owners at the pump, which encourages them to spend less on carbon-heavy fuels and purchase more fuel efficient vehicles.

2



TCI reduces the total number of allowances each year, so the cost of doing nothing keeps rising and emissions keep falling. Auction proceeds are allocated for investments in a cleaner, more efficient transportation infrastructure.

3

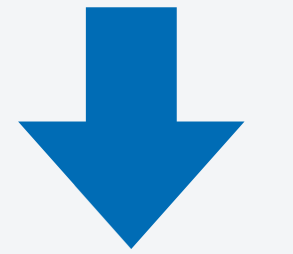


States invest the program's proceeds into a comprehensive and modern infrastructure: better roads, transit, sidewalks, bike lanes, electric vehicles, and more. Traffic congestion improves and commute times shrink.

MODELING

The proposed cap and invest model has been adapted from the National Energy Modeling System (NEMS), and Cambridge Systematics developed the TCI Investment Tool to analyze impacts of investments. Other analysis has been done by the Georgetown Climate Center and Harvard T.H. Chan School of Public Health.

REFERENCE CASE (2022-2032)



19%

**PROJECTED REDUCTION
IN EMISSIONS⁵**

Modeling for the program simulated both high and low emissions cases, accounting for high and low oil prices, EV prices, and both restricted and extended federal vehicle standards.

The results showed a projected emissions reductions range from roughly 3% to 30%.⁶

POLICY CASE (2022-2032)

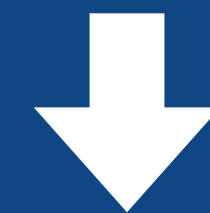
There are 3 policy case scenarios, each with a different annual reduction for the emissions cap.⁷

**20% CAP
REDUCTION**



**20%
REDUCTION
IN EMISSIONS**

**22% CAP
REDUCTION**



**22%
REDUCTION
IN EMISSIONS**

**25% CAP
REDUCTION**



**25%
REDUCTION
IN EMISSIONS**

INVESTMENT STRATEGY

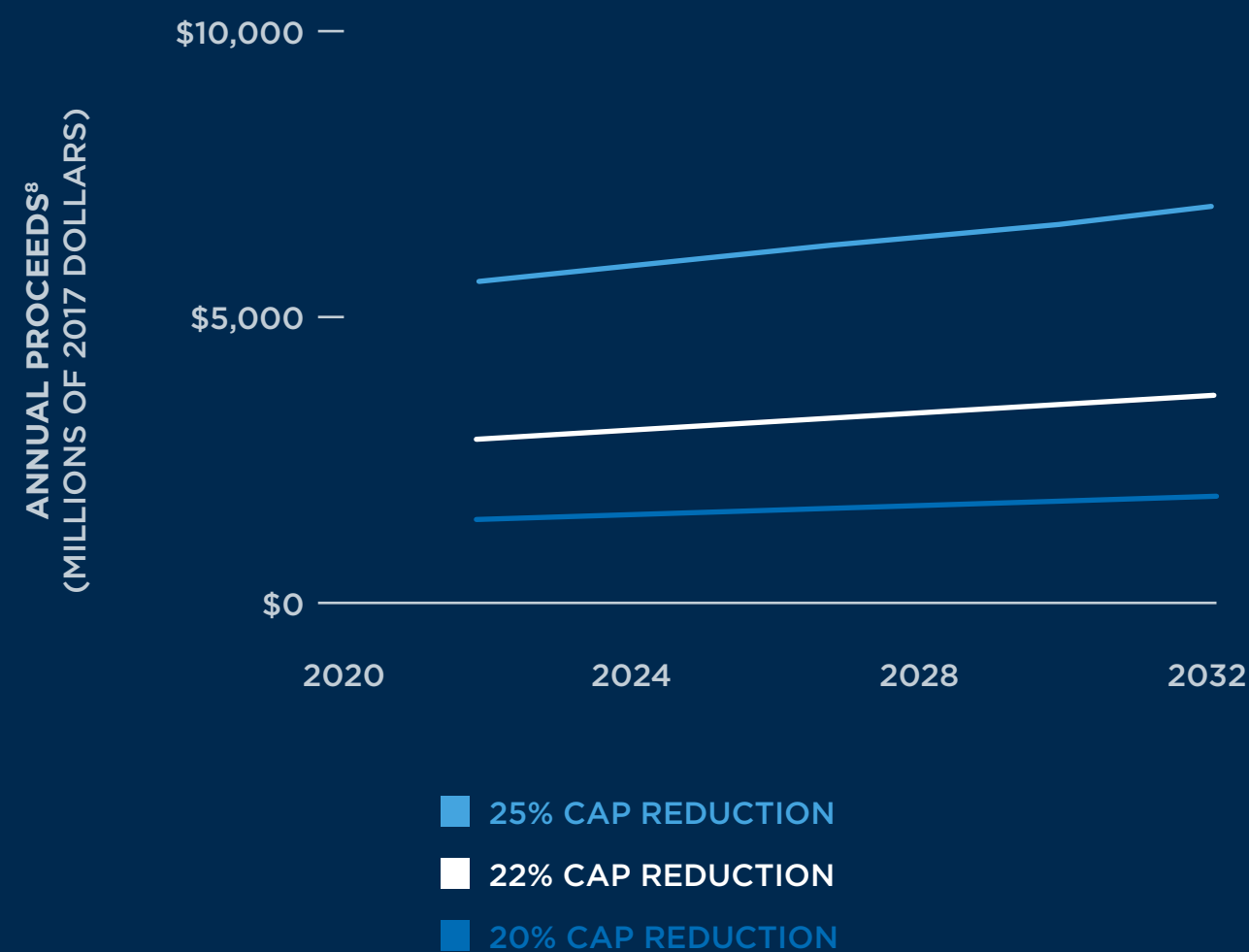
PROCEEDS

In the 25% case, initial annual proceeds could be

\$5.6 BILLION







and in 2032, annual proceeds could reach:

\$6.9 BILLION



INVESTMENTS

Participating states developed three investment scenarios: one to maximize emissions reductions, one to maximize diversity of investments, and one that balances the two priorities, shown below:

- 30%**  **ELECTRIC CARS, LIGHT TRUCKS & VANS**
- 23%**  **LOW & ZERO-EMISSION BUSES & TRUCKS**
- 18%**  **TRANSIT EXPANSION AND UPKEEP**
- 14%**  **PEDESTRIAN AND BIKE SAFETY, RIDE SHARING**
- 8%**  **SYSTEM EFFICIENCY**
- 8%**  **INDIRECT / OTHER**

In practice, most states will have to establish investment strategies specific to their needs.⁹

IMPACTS

TCI cap and invest would do much more than simply reduce emissions. The program generates billions of dollars in benefits to public health, commute times, vehicle maintenance, etc.

CAP AND INVEST WOULD:

- REDUCE EMISSIONS**
- RAISE FUNDS TO INVEST IN INFRASTRUCTURE**
- PROMOTE PUBLIC HEALTH THROUGH CLEANER AIR, PEDESTRIAN- AND BIKE-FRIENDLY COMMUNITIES**
- CREATE SAFER ROADS WITH FEWER ACCIDENTS AND LESS VEHICLE DAMAGE**

Across benefits, the program's goal is to direct resources toward communities who need them most.

IMPACT ON TRANSPORTATION, PUBLIC HEALTH, AND THE REGIONAL ECONOMY

TRANSPORTATION

ESTIMATED IMPROVEMENTS
IN CLEAN TRANSPORTATION,
BY 2032¹⁰

44,000 ELECTRIC TRANSIT BUSES

\$1.1 BILLION MORE EACH YEAR FOR BUS
SERVICE AND TRANSIT IMPROVEMENTS

42,000 ELECTRIC SCHOOL BUSES

84,000 ELECTRIC TRUCKS

\$5.6 BILLION FOR
BIKE LANES AND SIDEWALKS

PUBLIC HEALTH

ESTIMATED HEALTH BENEFITS, BY 2032¹¹



CHILDHOOD ASHMTHA CASES AVOIDED

4,700 CASES

AVOIDED PREMATURE DEATHS

1,100 DEATHS

VALUE OF PUBLIC HEALTH OUTCOMES

\$11.1 BILLION VALUE

ECONOMY

The modeling projects a positive impact on GDP, income, and jobs, which would all be greater than the reference case in 2032 and substantially net positive from 2022 to 2040.¹²

25% POLICY CASE
VERSUS REFERENCE CASE:

GDP:

2032

\$2.86B
GREATER

2040

\$5.59B
GREATER

JOB YEARS:

2032

8,900
MORE

2040

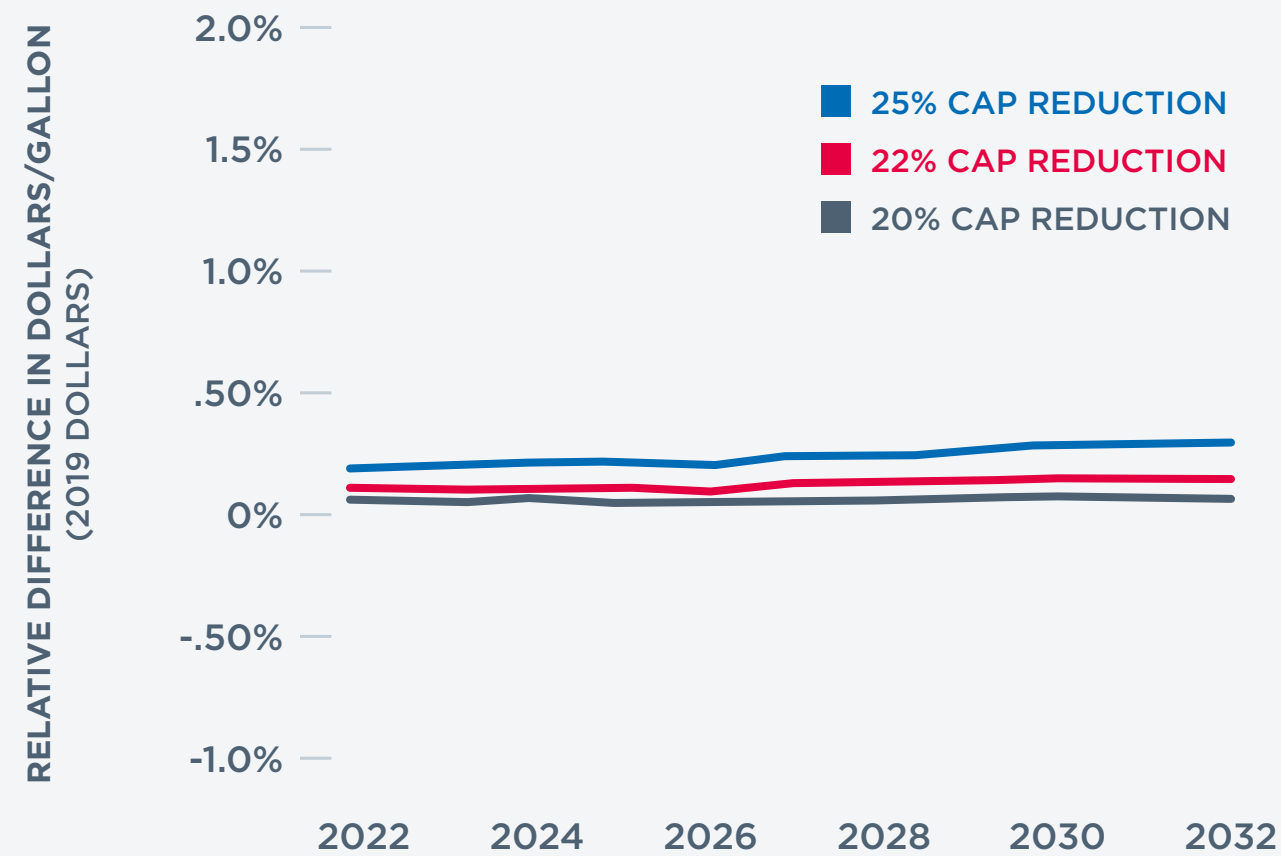
25,600
MORE

A RELIABLE WAY TO FUND INFRASTRUCTURE INVESTMENTS

PUBLIC HEALTH AND PRODUCTIVITY

The additional cost for fuel companies could increase the price of gasoline in 2022 by \$0.09 per gallon, in the 22% cap reduction scenario.¹³

PROJECTED CHANGE IN GASOLINE PRICES
RELATIVE TO REFERENCE CASE*



Note: this is simply a prediction of the allowance cost's impact on prices, not a prediction of gasoline prices in the future.

LONG-TERM, STEADY INVESTMENT

Infrastructure projects have been funded largely by the federal gas tax, which has not been updated for 26 years.

Since 1993, highway construction costs have increased 170%, buying power of the gas tax has fallen 71%.¹⁴

PURCHASING POWER OF FEDERAL
GAS TAX RATE HAS FALLEN BY MORE
THAN TWO-THIRDS BECAUSE OF
INFLATION AND FUEL-EFFICIENCY GAINS



SOURCE: INSTITUTE ON TAXATION AND ECONOMIC POLICY

EACH \$100 SPENT ON
INFRASTRUCTURE COULD
POTENTIALLY BOOST
ECONOMIC OUTPUT BY \$160.¹⁵

1.6x
ROI

EACH \$1 BILLION SPENT
ON INFRASTRUCTURE
CREATES 10,000 FTE JOBS.¹⁶

TCI COULD REPAIR THE REGION'S CRUMBLING INFRASTRUCTURE

According to the American Society of Civil Engineers, the U.S. earns a D- on transit infrastructure, D on roads, and C+ on bridges.¹⁷ We cannot just keep filling potholes; we have to build a modern transit system, but gridlock in government continues to leave us billions of dollars short for needed repairs. States across the TCI region score poorly on key sectors of infrastructure.

NEW JERSEY

D- TRANSIT INFRASTRUCTURE	D+ INFRASTRUCTURE
#1 MOST DENSELY POPULATED STATE	#2 HIGHEST % OF COMMUTERS ON TRANSIT
> 40% BRIDGES MUST BE IMPROVED OR REPLACED	36th IN AIR QUALITY ^{18 19}

MARYLAND

D+ TRANSIT INFRASTRUCTURE	C INFRASTRUCTURE
#5 MOST DENSELY POPULATED STATE	> \$8 BILLION FUNDING GAP TO MODERNIZE RAIL SYSTEM
45% DAMS AT SIGNIFICANT HAZARD POTENTIAL	30th IN AIR QUALITY ^{20 21 22}

NEW YORK

C- INFRASTRUCTURE	7th MOST DENSELY POPULATED STATE
#1	HIGHEST % OF COMMUTERS WHO RIDE TRANSIT ^{23 24}

VIRGINIA

C- INFRASTRUCTURE	14th MOST DENSELY POPULATED STATE
35th	IN PUBLIC HEALTH FUNDING ^{25 26}

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