

# **Highway System Performance:** Is North Carolina Really the Best of the Best? Is New Jersey Really the 34<sup>th</sup> Worst?

The Biased Rankings of the Reason Foundation

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Once again, the Reason Foundation has designated rural states as having the best highway systems. Their top 5 states are #1 North Carolina, #2 South Carolina, #3 North Dakota, #4 Virginia, and #5 Tennessee (Feigenbaum, 2025). Surprisingly, New Jersey, which had always been among the worst-of-the-worst in their rankings, escaped out of the worst-5 for the first time in three decades of rankings. New Jersey is currently ranked #34. The Garden State's rise in the ranking had little to do with NJDOT, state legislative actions, or the good work of New Jersey's construction and maintenance workers. Rather, the folks at the Reason Foundation have partially acceded to persistent criticism that their reports were biased against urban states. Consequently, they now recognize something pointed out to them in our last evaluation of their Reports—namely, urban roads cost more to build and maintain than rural roads (Feigenbaum, 2023; Philips, 2022).

Comparing the Road Systems and Population Densities of #1 North Carolina and #34 New Jersey

### New Jersey Highway System



### North Carolina Highway system



### **New Jersey Population Density**



North Carolina Population Density



Figure 1, published in our last evaluation of their report, provided evidence from the Federal Highway Agency that clearly showed what had heretofore been hidden in the Foundation's Reports over a span of 30 years. Urban roads cost more to build. Imagining that the cost differential in building and maintaining an urban road system compared to rural road systems was a new phenomenon, the Reason Foundation explained their reasons for changing their methodology as follows:

Using centerline-miles worked well for more than 20 years. However, as more-populated states widen their roadways and less-populated states do not, the average width (number of lanes) of a state roadway differs significantly from 2.06 in West Virginia to 3.66 in New Jersey. As a result, we think lane-miles is a better metric for today's state highway systems. (Feigenbaum, 2021)

The Reason Foundation's past ranking forced New Jersey to bear the brunt of this bias. Ranking New Jersey last was inaccurate, unfair, and unreliable. Building and maintaining urban road systems has always been more expensive. Nonetheless, regardless of how damaging their reports on New Jersey were in the past, we welcome their current improved methodology, which reduces the anti-urban bias in their reports.

## How Much More Expensive Is Urban Interstate Construction Compared to Flat Rural Interstate



Source: FHWA, Exhibit A-1, Typical Costs per Lane Mile by Type of Improvement, Status of Nations Highway, Bridges and Transit, Report Submitted to Congress, Nov. 22, 2019, <u>https://www.fhwa.dot.gov/policy/23cpr/index.cfm</u> and <u>https://www.fhwa.dot.gov/policy/23cpr/appendixa.cfm</u>

Figure 1: How much more expensive is it to build/maintain interstates in urban areas compared to comparable projects on a flat rural interstate? <u>https://www.fhwa.dot.gov/policy/23cpr/appendixa.cfm</u>

But, the job of squeezing bias out of the Foundations' evaluation of the cross-state highway system performance is not yet complete. Eleven biases remain that make their cross-state evaluation of highway system performance unreliable. These include:

#### • Urban Bias

• While their bias against urban road systems is reduced compared to past reports, we will show that the bias in a milder form nonetheless remains. This is probably because their adjustment for the differential cost of urban road construction is insufficient.

#### Rural Bias

• While the Reason Foundation has reduced its bias against urban states, it preserves a strong bias favoring rural states. States with lots of rural roads are favored, while states with fewer rural roads tend to be ranked poorly.

#### • Economic Density Bias:

• States with higher GDP per capita, higher personal income per capita, and higher population density per square mile tend to be ranked poorly, while poorer states are ranked better.

#### • Confounding Factor Bias

 The Foundation continues to ignore confounding factors beyond the influence of transportation policymakers, which nonetheless affect actual highway system performance. The relative performance of DOTs and others involved in designing, constructing, and maintaining highway systems should be assessed, controlling for terrain, climate, economic agglomeration, population density, and other factors beyond the influence of the state legislatures and DOTs.

#### Ranking Bias

- **Ranking**, as a method for assessing the relative performance of state highway systems, introduces overall bias due to three **component biases**.
  - Exaggeration bias: by ranking 50 states, the worst state appears 50 times worse than the best state. In reality, the 50<sup>th</sup> state might have a 4 times higher highway fatality rate or a 10 times greater congestion rate. But, by ranking, the worst state always appears to have a 50 times greater fatality rate or a 50 times greater congestion rate.
  - Mountains and molehills or leveling bias: the best state might be 5 times better than the second best state, and the second might be 3 times better than the third. The fourth, fifth, and sixth states are almost identical and should be tied (there are no ties in the Foundation's rankings). Then, the next ten are evenly spaced, but things get worse. By ranking 1 through 50, the Foundation levels out state scores, seeing differences where there are none and downplaying differences that might be really big.
  - Lost Information Bias: ranking loses track of the detailed, underlying, real data. For example, the Foundation ranks Alabama #22 on Capital and Bridge Disbursements Ratio but #1 on Maintenance Disbursement Ratio. How much money are we talking about here? How do these two expenditures compare? This becomes particularly opaque once the Foundation seeks to standardize its rankings. For instance:
- Bias Accumulation: the Reason Foundation Annual Reports always come with a punchline the "State Highway Performance Rankings." This is a ranking based on 13 other rankings. The overall ranking has its own inherent ranking biases based on the assumption of equal units of differentiation. The overall ranking also imports all the underlying rankings' biases associated with the absence of real measurement and lost information—leveling the mountains and raising the molehills.
- **Apples-to-Oranges Bias: r**anking states on the same list assumes you are comparing the same things. The Reason Foundation has never put DC into its rankings. Presumably, because DC is a

city and not a state. Or perhaps it is because DC has no rural area (after all, it is just a city). It seems reasonable not to compare DC to Wyoming—there is no city in Wyoming the size of DC, and there is no park in DC the size of Wyoming. Of course, their highway systems would be different. Perhaps you could compare Wyoming to Alaska—they both are cold and sparsely populated. But should you compare Alaska to Hawaii or New Jersey to North Dakota? Ranking states assumes that all states are comparable on the same dimensions. Leaving DC out, or Puerto Rico, suggests that the Foundation does not think everything is the same.

Methodological bias: there are many ways to account for state differences or break down the 50 states into more comparable subgroups. One approach is to use multivariate statistical analysis to account for other confounding factors beyond the control of the state legislatures and DOTs. In addition, other statistical methods can match similar states to one another to produce more relevant comparisons. Some of these methods include nearest neighbor and propensity score matching, among other similar methods. Each of these approaches has its strengths and weaknesses. However, they all would account for the differences between Alaska and New Jersey. Failing to adjust for the specific differences in these two states' terrain, climate, economic density, population density, cultures, construction industries, and other differentiating factors before comparing their relative performances is a bit of a silly and unreliable way to assess their relative performance.

This Report begins by looking at potholes and the challenges drivers face navigating New Jersey roads. We look at these roads through the eyes of bloggers who scraped Twitter to uncover pothole complaints across the US. In some ways, these amateurish bloggers have approached the problem of potholes the way the Reason Foundation has tackled the pitfalls of comparing road systems across states.

We then dissect the Reason Foundation's past evaluations of states in general and New Jersey in particular, exploring the biases that led the Foundation to unfairly pick on New Jersey for so many years. Nonetheless, we find reason to applaud the Reason Foundation for recently changing their methodology to take into account the obvious fact that urban roads cost more to build and maintain. This correction has caused New Jersey to move up the rankings from among the worst five to only the 34<sup>th</sup> worst state road system.

But the job of correcting the biases in their methodologies is not yet complete. The four major problems in their approach discussed above continue to put New Jersey in the dog house unfairly. Both individually and collectively, these biases make their current Report untrustworthy.

We hope the Reason Foundation will find reason to continue their effort to squeeze out the biases in their old and old-fashioned methodology. We suggest a range of modern statistical techniques that are significant improvements over the Reason Foundation's 30-year-old approach. Until these reforms are implemented and correctly applied, the Reports they issue will continue to be unfair and unreliable.

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"Epic" Traffic Jam Anchorage AK

### **"Most Jammed Stretch in America"** Interstate 95 in Fort Lee



Picture 1: Alaska and New Jersey traffic jams

## Picking on New Jersey—an introduction

It's not easy being New Jersey. It's not easy driving New Jersey roads. Being the New Jersey Department of Transportation is no fun either. But hey! It could be worse. Well, not really. Not according to the Reason Foundation. Their reports on the performance of all 50 states' highway systems rank New Jersey the worst of the worst (50<sup>th</sup>) in 9 of their 17 reports since 1998; see Table 1. (Feigenbaum, 2019, 2020, 2021, 2023, 2025; Hartgen, 2006, 2010, 2013, 2014, 2016, 2018; Reason Foundation, 2025).

Considering New York? Fuhgeddaboudit!—tied with Rhode Island for the third-worst. Hawaii—second worst. California and Massachusetts are no beauties, either. Somehow, Alaska got tossed into this rogue's gallery of pothole purgatory. Do you want a well-built and well-maintained road system? Think North Dakota. That's right. Reason ranked North Dakota number one in 12 out of their 17 reports since 1998 (Table 1**Error! Reference source not found.**).

Who is the Reason Foundation, you say? The Reason Foundation has been in the business of analyzing and ranking the efficiency of state road systems for more than three decades. From their latest 28<sup>th</sup> Annual Highway Report in their own words:

Reason Foundation's mission is to advance a free society by developing, applying, and promoting libertarian principles, including individual liberty, free markets, and the rule of law....Reason produces rigorous, peer-reviewed research and directly engages the policy process, seeking strategies that emphasize cooperation, flexibility, local knowledge, and results....Reason Foundation's 28th Annual Highway Report evaluates state highway systems on cost versus quality using a method developed in the early 1990s (Feigenbaum, 2025).

Table 1 shows their overall yearly rankings for the 50 states from 1998 to 2022 (there are a few years in which the annual report was not published). In Table 1, the states are ranked from worst (50<sup>th</sup>) to best (1<sup>st</sup>), based on the average annual ranking over these 17 reported years. But don't take their word for it. Let's talk potholes.

	1998	2003	2004	2005	2006	2007	2008	2009	2011	2012	2013	2015	2016	2018	2019	2020	2022	average
New Jersey	50	50	50	50	50	47	45	46	47	48	49	50	50	50	50	44	34	48
Hawaii	46	46	43	46	47	46	47	48	49	50	48	47	47	42	47	48	48	47
Rhode Island	43	40	46	47	48	49	50	49	50	47	47	49	49	46	49	42	42	47
New York	48	47	47	48	45	45	46	45	44	43	45	45	45	44	46	49	45	46
California	44	48	48	44	44	48	48	47	46	45	42	42	43	43	45	47	49	45
Alaska	21	12	44	49	49	50	49	50	48	49	50	48	49	49	48	50	50	45
Massachusetts	49	49	49	45	43	44	44	43	45	46	46	44	46	47	43	20	40	44
Maryland	37	37	42	38	37	41	43	40	38	39	38	40	39	41	38	24	32	38
Pennsylvania	33	33	32	36	36	38	38	39	40	41	39	41	35	39	39	41	37	37
Washington	24	29	38	32	39	35	33	24	42	42	43	43	37	45	30	46	47	37
Connecticut	41	42	41	39	35	37	41	44	43	44	44	46	44	35	31	5	13	37
Colorado	45	45	36	29	31	33	34	41	29	33	35	31	36	38	37	43	43	36
Louisiana	39	38	33	30	40	43	36	35	24	40	34	37	34	31	35	40	46	36
Florida	40	44	45	41	41	40	39	37	33	31	32	35	40	40	41	8	14	35
Michigan	42	43	40	42	42	31	35	30	36	32	31	32	30	24	34	27	23	34
Vermont	34	35	18	37	30	42	42	28	39	38	41	39	19	30	13	38	44	33
Illinois	36	32	35	33	34	36	40	34	30	27	29	28	28	37	40	29	36	33
Delaware	38	39	30	40	28	11	11	20	35	37	37	19	42	48	44	35	41	33
Oklahoma	27	30	20	24	33	34	37	38	32	22	17	33	41	34	36	45	39	32
Arkansas	47	41	31	28	27	32	29	36	37	35	33	29	32	9	17	13	28	30
West Virginia	22	24	14	26	24	27	30	32	34	34	25	36	36	33	29	39	33	29
Iowa	25	31	29	35	32	30	31	33	12	18	40	15	31	20	22	31	31	27
Indiana	23	19	25	14	15	22	23	22	41	36	36	34	33	32	32	23	20	26
Wisconsin	29	23	21	22	21	21	28	31	25	15	28	38	38	22	26	33	26	26
New Hampshire	16	25	19	34	46	39	27	18	23	23	26	30	30	29	19	14	19	26
Arizona	20	28	37	27	26	25	26	23	21	19	24	16	29	23	29	30	29	25
Alabama	10	13	39	43	29	25	20	27	28	21	20	17	10	19	28	15	17	22
Maine	12	27	17	23	22	29	32	29	18	16	5	23	4	25	33	32	21	22
Minnesota	32	14	16	13	18	15	25	42	31	28	27	25	22	15	18	12	7	21
Nevada	13	16	22	9	20	18	15	16	16	24	22	20	27	27	20	21	24	19
Utah	30	20	34	21	25	16	22	26	27	29	13	10	9	17	6	10	8	19
North Carolina	35	36	27	31	23	20	21	19	17	20	15	14	14	14	5	2	1	18
Ohio	28	17	23	16	17	13	24	25	19	14	9	26	18	13	24	17	10	18
Mississippi	19	26	26	25	38	28	16	10	10	8	10	11	25	8	15	18	18	18
Oregon	8	9	5	8	11	23	10	13	15	26	23	21	12	28	25	37	35	18
Tennessee	26	22	24	20	19	19	19	21	20	17	18	12	7	7	10	3	5	16
Virginia	18	21	11	18	16	12	18	15	22	25	30	27	2	21	2	1	4	15
Texas	7	6	9	15	12	17	13	11	14	11	19	22	23	18	16	19	25	15
New Mexico	31	5	4	4	3	2	4	4	6	7	11	24	24	16	27	36	38	14
Idaho	5	11	8	10	14	14	17	17	8	30	16	7	13	5	8	34	15	14
Missouri	14	34	28	17	13	24	8	8	13	12	12	9	3	2	3	11	9	13
Nebraska	17	18	15	19	8	7	5	6	2	2	4	4	15	12	21	26	30	12
Georgia	6	4	6	6	10	9	9	12	11	13	21	18	26	26	14	4	6	12
Kentucky	9	15	7	12	9	10	14	14	26	10	14	13	5	4	4	7	11	11
South Dakota	15	8	12	11	7	8	12	9	1	3	2	3	3	11	9	28	27	10
Wyoming	2	2	10	7	4	6	7	3	4	1	8	8	11	36	12	16	12	9
Montana	3	7	13	5	2	5	2	5	9	9	6	6	8	10	11	25	16	8
Kansas	11	10	3	3	5	3	3	2	3	5	3	2	6	3	7	22	22	7
South Carolina	4	3	2	2	6	4	6	7	5	4	1	5	5	6	23	6	2	5
North Dakota	1	1	1	1	1	1	1	1	7	6	7	1	1	1	1	9	3	3

Table 1: Reason Foundation's State Rankings 1998 to 2022 (some years no report was published)

## Potholes!

Back in 2021, some British bloggers decided to use Twitter to evaluate the pothole problems in Britain and the U.S. They scraped the internet, collecting complaints about local potholes. One Twitter critic of New Jersey roads asserted: "It's like a bad joke: New Jersey has so many potholes ... "How many?"... It has so many potholes that getting to the grocery store is "like off-roading" (Budzynski, 2022; The Clunker Junker, 2021).

Counting up Twitter complaints and dividing by the length of roads in New Jersey, the bloggers found that in 2021, New Jersey ranked 44<sup>th</sup> worst among locals complaining about potholes—with 16.5 pothole complaints for every 1,000 km of New Jersey roads. On the same metric, North Dakota ranked 8<sup>th</sup> best with 1.9 pothole complaints for every 1,000 km of road. These pothole results are not unlike the Reason Foundation's rankings for New Jersey and North Dakota.

The Federal Highway Administration publishes the annual average daily traffic (AADT) by state, a measure of road usage that affects the annual wear and tear on roads. (Federal Highway Administration, 2024). Figure 2 shows the general relationship between traffic usage and pothole complaints by state using the 2021 Twitter complaint data and 2022 Federal Highway Administration daily traffic (AADT) data. Not surprisingly, North Dakota's sparse traffic is associated with few pothole complaints, while New Jersey's heavy traffic usage is associated with a storm of complaints. Does this mean New Jersey's DOT is doing a lousy job handling potholes compared to North Dakota? Or does New Jersey's DOT simply have a harder job—with heavy traffic pounding their streets and roads? Figure 2 shows that heavy traffic contributes to potholes and light traffic makes the pothole problem easier. Every state with heavy traffic generates more complaints per road-mile compared to all the states with light traffic usage.







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The British web scrapers got their metric wrong and consequently provided a biased rating of how well states address potholes and their complaints. The Brits should not have ranked states by complaints-per-mile (or kilometers) but rather complaints per-road-usage per-mile to account for the wear and tear caused by traffic. The key takeaway from Figure 2 is that both North Dakota and New Jersey are close to the trend line, showing how traffic usage in their states affects pothole complaints. But these two states are dealing with their own pothole difficulties as best as one might expect. The point is—when ranking states, you should consider differential outcomes, but also consider differential challenges.

If you are a smaller, heavily urbanized state with lots of cars on a space-limited roadway system, the pounding those roads take will create more potholes per mile, and the many drivers on those roads will create lots of complaints on Twitter. This does not mean that smaller urbanized states are doing a worse job of filling potholes. It simply means they face a tougher job with more potholes to fill. To keep a cross-state assessment of how a state and its DOT handle their road system, analysts need to compare apples-to-apples. The Federal Highway Administration publishes a statistical series, *Selected Measures for Identifying Peer States*, that we will use to search out biases that can come from ranking states based on apples-to-oranges comparisons.

## The Foundation's Efforts to Squeeze Bias Out of Their Analysis

"The majority of comparisons between state transportation systems do not control for characteristics that may vary greatly between states (e.g., vehicle miles traveled). A shortcoming of such analyses is that a state's individual characteristics can be highly influential in determining how transportation policy is set and funds are spent."

Identifying peer states for transportation system evaluation & policy analyses, Transportation (Hendren, 2008)

The Reason Foundation has been criticized in the past for introducing bias into its analyses of states' highway systems by relying on apples-to-oranges comparisons. For instance:

In the Reason Foundation's 21<sup>st</sup> Annual Report (Hartgen, 2014) covering the year 2012 and published in 2014, Reason ranked Wyoming as the best overall road system and New Jersey the 48<sup>th</sup> worst. In evaluating that report, Peter Philips asserted:

When something sounds wrong, often it is wrong. In this case, the Reason Foundation is wrong simply because they treat a mile of one-lane country road in Wyoming as the same as a mile of four-lane turnpike in New Jersey. (Philips, 2015)

To drive this point home, Philips provided pictures comparing a Wyoming overpass to a New Jersey overpass, the former allowing pronghorns to migrate and the latter allowing trucks to migrate. Because the Reason Foundation emphasized a comparison of hours in traffic congestion, Philips provided a picture of a Wyoming traffic jam compared to a New Jersey traffic jam.

### Wyoming Overpass **Allowing Pronghorn to Migrate**

**Typical Wyoming Traffic Jam** 



Picture 2: Wyoming and New Jersey overpasses and traffic jams

Pictures may be worth a thousand words, but Philips' pictures did not immediately convince the Reason Foundation to change their ways. So, subsequently, Philips repeated his apples-to-oranges criticism in evaluating the Reason Foundation's 23<sup>rd</sup> Annual Highway Report covering the year 2015, a Report which ranked New Jersey last (50<sup>th</sup>) overall among all states (Hartgen, 2018):

The Reason Foundation thinks that New Jersey has the worst cost-effective highway system in the country. The Reason Foundation thinks that North Dakota is the best-of-the-best when it comes to building roads. But these conclusions are both silly and misleading. They are silly simply because the Reason Foundation unreasonably compares apples-to-oranges to arrive at their conclusions. Comparing a mile of country road to a mile of urban highway thinking that these two sections of road are equivalent flies in the face of common sense and driver experiences (Philips, 2018).

Possibly in response to this criticism, in their subsequent 24<sup>th</sup> report covering data from the year 2016, on page 12, the Reason Foundation changed their methodology calculating:





**Complex deck replacement and** rehabilitation of multi-span bridges in New Jersey



rankings using lane-miles, which is the length of the highway system multiplied by the number of lanes on a highway (a five-mile road with two lanes equals 10 lane-miles while a five-mile road with six lanes equals 30 lane-miles) instead of using centerline-miles, which is the length of the highway system (a five-mile road equals five centerline-miles regardless of number of lanes). Using centerline-miles worked well for more than 20 years. However, as more-populated states widen their roadways and less-populated states do not, the average width (number of lanes) of a state roadway differs significantly from 2.06 in West Virginia to 3.66 in New Jersey. As a result, we think lane-miles is a better metric for today's state highway systems. (Feigenbaum, 2021)

Actually, lane-miles were probably a better metric back in the day, but they have become a worse metric as the U.S. has become more urbanized. Between 2000 and 2020, the percentage of the population living in urban areas rose from 72.4 to 80.9 percent. States are indeed widening their roads. Lanes per mile rose from 2.20 in 2000 to 2.42 in 2022 (Federal Highway Administration, 2001, 2024). However, even in the early 2000s, using lane-miles rather than lanes-per-mile disadvantaged urban states in the Reason Foundation rankings.



Figure 3: Reason Foundation state rankings in 2003 by percentage of state population that was urban in 2000

Figure 3 shows that in the Foundation's rankings for the year 2003, 6 of the 10 worst-of-the-worst— New Jersey, Massachusetts, California, New York, Florida, and Rhode Island—were six of the seven most urbanized states. This persistent bias in the Foundation's ranking system conflates an urbanized state with a bad highway system.

Unfortunately, switching from road miles to lane miles in their 24<sup>th</sup> report for 2016 did not make much difference compared to 2016 to 2015. As Table 1 shows, just like the previous year (2015), New Jersey ranked

the worst (50<sup>th</sup>), and North Dakota was declared the best (1<sup>st</sup>). When roads are wider, access is typically limited either with traffic lights, ramps, or cloverleaf interchanges. Traffic is heavier, and roadbeds need to be firmer. So, while the change from centerline miles to lane miles accounts for the amount of road surface, it does not capture the true differences underlying urban and rural roadway systems.

Nonetheless, in their 25th report (2018 data), the lead author defended the Reason Foundation methodology:

"Although it is tempting to ascribe these ratings to geography or population [some of what Philips was doing], a more careful review suggests that numerous factors, including terrain, climate, truck traffic volumes, urbanization and congestion, system age, budget priorities, and management and maintenance practices all significantly impact state highway performance," says Baruch Feigenbaum, lead author of the report and managing director of transportation policy at Reason Foundation. "The states with the three largest highway systems—North Carolina, Texas, and Virginia—all rank in the top 21 this year. Meanwhile, states with the smallest amount of mileage to manage, like Hawaii, Rhode Island, and New Jersey, are some of the worst-performing states. Prioritizing maintenance, targeting and fixing problem areas, and reducing bottlenecks are among the successful strategies states can use to improve their quality and efficiency." (Reason Foundation, 2025)

Feigenbaum implies that large highway systems are hard to manage and maintain, while small highway systems are easier. This assertion ignores that these large highway systems are primarily rural, with less traffic per mile. The smaller systems he mentioned are primarily urban systems with substantially higher traffic usage. Scheduling maintenance, targeting and fixing problem areas, and reducing bottlenecks are more difficult in heavy urban traffic. Based on the FHWA *Selected Measures for Identifying Peer States (Federal Highway Administration, 2024),* Table 2 shows that in 2022, Hawaii, Rhode Island, and New Jersey had 6 times the population per square mile compared to North Carolina, Texas, and Virginia. In these three urbanized states, ranked poorly by Feigenbaum, 30 percent of all land was urban. In the Foundation's top-ranked North Carolina, Texas, and Virginia, 6 percent of all land in the state was urban. Ninety-two percent of the population in Hawaii, Rhode Island, and New Jersey is urban, compared to 75 percent in North Carolina, Texas, and Virginia. Traffic density measured as average, annual, and daily traffic was 2.4 times greater in the three urban states compared to the three relatively rural states. The Reason Foundation Reports have long had an anti-urban bias—they favor rural states in their rankings because they do not adjust for the challenges faced by operating highway systems in urban environments.

			percent of state	
	population per	percent of land in	population that is	annual average
	square mile	state that is urban	urban	daily traffic in state
all other states	166	6	71	8,333
NC TX VA	182	6	75	5,360
HI RI NJ	1,162	39	92	12,672
Total	207	7	72	8,328

Table 2: Comparing groups of states based on urban environment and traffic

Unimpressed with the Foundation's methodological changes that did not make any difference in the rankings, Philips continued to press his apples-to-oranges criticism regarding the 2019 data in the Reason Foundation's 26<sup>th</sup> Annual Highway Report (Feigenbaum, 2021):

The Reason Foundation systematically ranks New Jersey as the worst of the worst in overall highway performance. The Foundation denies that their rankings are driven by geographic conditions. They further argue that rural states have only a slight advantage in their analysis. Yet, the average population density of the worst 10 states in their analysis is 5 times higher than the average population density of the top 30 states in their rankings.... The best state according to the Reason Foundation—North Dakota—has 3 percent urban roads while the worst state in their reasoning—New Jersey—has 87 percent urban roads. Compared to a flat rural interstate, one mile of resurfacing an existing lane is 3 times more expensive in a major urbanized area. The normal cost of adding a lane on an interstate in a major urbanized area is 7 times more expensive in a major urbanized area is 7 times more expensive in a major urbanized area is 7 times more expensive in a major urbanized area is 7 times more expensive in a major urbanized area is 7 times more expensive in a major urbanized area is 7 times more expensive in a major urbanized area is 7 times more expensive in a major urbanized area compared to a flat rural interstate. The Reason Foundation claims to rank states based on performance relative to available resources. What it does not do is adjust their rankings for population density, traffic, the mix of urban and rural roads, the capital-intensity of transportation infrastructure, terrain, climate or many of the other factors that affect road usage and costs. (Philips, 2022)

They say that the third time is the charm. And maybe it is. In any case, bending to this repeated criticism, in their next report—the 27<sup>th</sup> covering 2020 data—the Foundation changed their methods in a way that made a difference. They wrote in their methodological section on page 9:

The Annual Highway Report's goal is to provide an accurate, current evaluation of state highway systems. In order to meet that goal, we have made changes to some of our calculations.... [S]ince urban roads tend to cost more than rural roads, urban states are expected to spend more per lane-mile than rural states to build and maintain their highway networks. Using the national averages to calculate the performance ratios would punish urban states and reward rural states. The change is intended to correct this bias (Feigenbaum, 2023). [emphasis added]

So, the Foundation has used three distinct methods—road miles, road lane-miles, and expected cost per lane mile. While the concept "expected cost" will have to carry a lot of water in their analysis, this approach is an improvement because it recognizes, however imperfectly, that a mile of multi-land urban freeway is not directly comparable to a multi-lane rural road. Illustrating this, Picture 3 shows two lanes on I-80 near Cheyenne, Wyoming, and three lanes after the Bay Bridge heading into San Francisco.

### I-80 Ending in San Francisco

### I-80/I-25 Junction Cheyenne, Wyoming





#### Picture 3: Comparison of I-80 interstate San Francisco and Cheyenne, Wyoming

The Foundation's first method assumed that a mile of I-80 was the same everywhere. Their view was that for the early 2000s, this was good enough to compare California to Wyoming. Their second method recognized that I-80 has more lanes in San Fransisco than it does in Rock Springs Wyoming. Consequently, they assumed a mile of I-80 near Cheyenne would cost two-thirds as much as a mile near San Francisco. Finally, their third method recognizes that there is far more to building a mile of interstate in an urban area than there is to building a mile of interstate in a rural area, accounting for this using "expected costs" per mile.

It is not easy to accede to criticism, especially in public. So, Dr. Feigenbaum and the Reason Foundation deserve credit for seeing reason in this matter. The question now: is this "expected cost" adjustment sufficient to address the problem at hand? Figure 4 illustrates the importance of the Reason Foundation's recognition that "urban roads tend to cost more than rural roads..."



The change is intended to correct this bias.

#### Figure 4: The effect of the Reason Foundation methodological change in 2020 and thereafter<sup>1</sup>

Figure 4 uses FHWA's *Selected Measures for Identifying Peer States (Federal Highway Administration, 2024)* data on urban lane miles (horizontal axis) and the Reason Foundation's overall rankings from 2005 to 2022. Each line represents a regression line between the various states' urban lane miles and their ranking for the corresponding year. The thick black line represents all years before the Reason Foundation attempted to squeeze out the potential bias by recognizing that urban roads cost more than rural roads (2005-2019). This thick black line is basically flat. In medicine, a flat line can mean you are dead. In statistics, a flat line means there is no relationship between one thing and another. In this case, as you move from states with fewer urban lane miles to ones with more urban lane miles, the Reason Foundation's overall state rankings remained essentially unchanged before 2020. In contrast, the blue (2020) and red (2022) lines show that states with more urban lane-miles states ranked higher in these two years after Reason's methodological change.

Put another way, the Reason folks recently recognized that urban road construction and maintenance costs more. Statistically, the misleading comparisons between large, rural highway systems like North Carolina, Texas, and Virginia and smaller urban highway systems such as Hawaii, Rhode Island, and New Jersey are now downplayed. Figure 5 shows the effect of this useful change in the case of New Jersey.

<sup>&</sup>lt;sup>1</sup> While these are ordinary least squares regressions shown in Figure 4, unreported ordered logist regressions produce comparable results.



note: in 11 reports prior to 2020, NJ was always ranked worse than 44. In 6 of those 11 reports, NJ was ranked last (50) After ranked worst state in the nation, 4 reports in a row--2015 to 2019, in 2020, NJ falls to 44; in 2020 NJ falls to 34.

Figure 5: State Population Density Ranking and Reason Foundation Ranking for Road System Overall Efficiency, 2005-2019 vs 2020 + 2022

Figure 5 presents the relationship between state population density and Reason Foundation rankings before and after 2020. In both cases, a state's ranking rises (i.e. gets worse) as population density rises. However, the steepness of that rise is less after the methodological change in 2020. The blue dots show where New Jersey landed before 2020—the state was never ranked better than 45 and usually was in the 48<sup>th</sup> to 50<sup>th</sup> worst range. In 2020, New Jersey improved to a ranking of 44, and in 2022 (the most recent) report, New Jersey achieved its all-time best of 34<sup>th</sup> worst of all states! Statistically, the Reason Foundation is beginning to see New Jersey not doing so badly, given that it is the country's most heavily urbanized state with the most densely traveled highway system. Their new statistical method clearly makes their more recent rankings less biased. But still, the post-2020 line remains downward sloping, showing the Foundation's bias against urban road systems nonetheless remains.<sup>2</sup> Perhaps this is because their "expected" cost of urban roads adjustment is inadequate to the task.

<sup>&</sup>lt;sup>2</sup> Technical note: The lines in Figure 5 are derived from ordinary least squares regressions. The Foundation's ranking data are count data (i.e. integers). Consequently, we also tested poisson regressions and negative binomial regressions on their rankings before and after their introduction of a methodological change. In all three regression models, the slopes of the relationship between population density and ranking results were the same—a bias exists ranking more urbanized road systems worse, but that bias was less in the two Reports after 2020 compared to before. In all three models, the biases were statistically significant, and the difference in biases was statistically significant.

## Confounding Factors Bias

"Actual performance levels are dictated or determined by both controllable and uncontrollable variables: the distinction is made on the basis of whether the determining variables are within or beyond the influence of the transit provider."

Peer Comparisons in Transit Performance Evaluation (Azihi, 1983)

Imagine you were tasked to determine which of two individuals was a better runner. You decide to set up a race, and whoever wins you will rank higher. However, runner A has a tailwind, is running downhill, and runs a half-mile course. Runner B faces a headwind and runs uphill on a mile-long course. Runner A wins. Obviously, you would be wrong to conclude that A was the better runner because you did not consider other confounding factors, such as tailwinds and longer courses. This problem of confounding factors is widespread in the Reason Foundation's methodology and rankings. We will illustrate this using their approach to traffic fatalities.

### The "Utah Donut"

States Ranked by Fatality Rates per 100 Million Vehicle-Miles, 2012





Picture 4: fatality rate per 100 million vehicle-miles traveled by state, 2012 and 2022(Feigenbaum, 2025; Hartgen, 2014)

Picture 4 reproduces maps from the Reason Foundation's 21<sup>st</sup> and 28<sup>th</sup> Reports showing the fatality rates across states from traffic ten years apart—2012 and 2022. The color scales are slightly different, with four categories in 2012 and five categories in 2022. But one thing has been consistently shown in all their reports—Utah is a safe place to drive. In fact, Utah is exceptionally safe compared to surrounding states. This is known as the "Utah donut".



Picture 5: the Utah donut--in the Foundation's Reports Utah is typically ranked safer than the surrounding states

In both panels in Picture 4, Utah stands out as far safer than the surrounding states (green is safer). Also, except for Utah, the Rocky Mountain states running down the Continental Divide from Montana to New Mexico form a band of relatively dangerous states. The dangers associated with winding roads combined with steep ascents and descents partially account for this. However, the surrounding Rocky Mountain states also have winding roads with steep grades. More must be involved.

Since the early 1990s, it has been known that the dangers of driving in the Rocky Mountain states, with the exception of Utah, are associated with the interaction between alcohol consumption at high altitudes (Fowles, 1992). Utah is the only state that sets the blood alcohol concentration limit at 0.5%. All other states in the U.S. set the DUI level at 0.8% (World Population Review, 2025). It turns out that the interaction of alcohol and altitude is a double whammy, causing mayhem in all of the Rocky Mountain states except Utah. The point is that Utah ranks high in the Reason Foundation's traffic safety metric, not because Utah's road system is safer, but because of the influence of the Mormon Church. The predominant culture in Utah discourages alcohol consumption, and DUI standards are stricter. The altitude of the Rocky Mountain states brings these cultural differences into sharp relief.

Factors contributing to road fatalities are widely studied. DUI penalties that restrict future vehicle use and open container/zero-tolerance laws reduce alcohol-induced fatal crashes (Wright, 2021). More indirect policies like higher state minimum wage laws have an impact. Higher minimum wages provide greater disposable income among teenagers, which is correlated with state highway fatalities (Bai, 2025). Interestingly, the prevalence of ride-sharing in an area reduces traffic fatalities, especially during nights and on weekends presumably because intoxicated persons become riders rather than drivers (Anderson, 2023).

State cultures, altitude, terrain, the prevalence of ride-sharing, and minimum wage laws are not directly under the control of state departments of transportation. Even drunk driving laws and state maximum speed limits are set by legislatures rather than the state DOT. When comparing state highway systems' budgets and performances, it is essential to separate out what factors can be controlled by funding and road design and what factors are state-specific advantages or headwinds beyond the control of each state's DOT. By lumping

together what states can fix into what states cannot fix, the Reason Foundation's ranking gives little helpful guidance to policymakers.

## **Ranking Bias**

"Overall death rates should not be used as a basis for judging the effectiveness (or ineffectiveness) of specific highway-safety countermeasures or to assess overall highway-safety policies, especially across jurisdictions. There can be no substitute for the use of carefully designed scientific evaluations of highway-safety interventions that use outcome measures directly related to the intervention..."

Use and misuse of motor-vehicle crash death rates in assessing highway-safety performance (O'Neill, 2006)

Ranking states from 1 to 50 can be inherently biased. Ranking fatality rates from lowest to highest can obscure the actual differences between state safety outcomes. Ranking only provides information about the order of the values, not the magnitude of the differences between them. This approach introduces three types of biases:

- 1. Exaggeration Bias: When you rank values, you lose the original measurement scale.
- 2. **Mountains and Molehills Bias**: Rankings suggest equal spacing between ranks, which does not reflect the actual differences.
- 3. **Information Bias**: Detailed information about important issues, such as fatality rates or traffic congestion, is lost.
- 4. **Bias Accumulation**: Piling one ranking on top of another ranking to get an overall ranking brings with it each category's ranking bias. In subtle and not-so-subtle ways, combining rankings amplifies biases, making eliminating them difficult.

Figure 6 illustrates the effects of these ranking biases in the case of the Foundation's use of fatality rates in their 25<sup>th</sup> report. In this report, states were ranked based on their rural road fatality rate per 100 million miles driven and urban fatality rate per 100 million miles driven. Minnesota was #1 for rural safety, and New Mexico was #50. Maryland was #1 for urban safety, and Hawaii was #50. The "box and whiskers" plot in Figure 6 shows the complete state distribution of actual fatality rates for rural and urban roads. The colored boxes represent half of all states, while each whisker contains 25% of all states. So, all states fall within the whiskers *except* when a state is a real outlier. Then, they become a dot in the figure beyond the whiskers. There are no exceptional outliers in the case of rural fatality rates, but in the case of urban fatality rates, Hawaii, Delaware, and Alaska are way out in the upper tail of the distribution.



### Distribution of Fatality Rates by State, 2022

#### Figure 6: Ranking bias comparing rural and urban fatality rates to fatality rankings

There are two scales on the left-hand side of Figure 6. The actual fatality rate runs from 0 to 4, while the ranking fatality rate runs from 0 to 50. **This illustrates the loss of scale effect**. In the case of rural fatality rates, the highest rate, 1.88, is 3.8 times higher than the lowest fatality rate, 0.49. In the case of urban fatality rates, the highest rate, 4.04, is 31 times higher than the lowest urban rate, 0.13. However, when the Reason Foundation translates these rates into rankings, they suggest that the highest rural and urban fatality rates are 50 times higher than the lowest of rural rates, New Mexico is 4 times worse than Minnesota but 50 times worse when the Foundation ranks these two states. This is an inherent **exaggeration bias** in the Foundation's methodology.

The **equal spacing assumption** can introduce differences where there are none and can hide differences even when they are substantial. For instance, in the case of urban fatality rates in 2002, New Jersey's fatality rate was 0.73, Wisconsin's 0.74, Iowa's 0.74, and Vermont's 0.79. These states were ranked 5, 6, 7, and 8, respectively. Yet, there was no difference between Wisconsin and Iowa. The Foundation does not explain why Wisconsin was ranked better than Iowa. The difference between Iowa and Vermont was 0.005 while the difference between New Jersey and Wisconsin was 0.01. Similarly, the large gap between Hawaii, Delaware, Alaska, and the rest of the pack in terms of urban fatality rate is implicitly deemphasized.

Figure 7 shows how the Foundation's ranking system introduces a **mountain-and-molehill bias**. At the tails of the Foundation's urban fatality rate rankings distribution, changes in fatality rates are substantial. The differences between states are slight in the middle of the ranking distribution. By conflating these distinctions through ranking, the Reason Foundation is making mountains out of molehills in the middle of their rankings and molehills out of mountains at the low and high end of their rankings. This bias is amplified when the safety

rankings are fed into the overall rankings, with whatever biases are embedded in their other component rankings due to the equal spacing assumption.



Figure 7: Ignoring mountains and focusing on molehills—differences in fatality rates at the tails vs. the middle of the ranking distribution

The **exaggeration and mountains-to-molehills biases** are made worse by a **loss-of-information** bias. Figure 6 compares the rural and urban fatality rate distributions across states for 2022. The line inside each colored box represents the two median fatality rates, one for rural and the other for urban fatalities. In the Foundation's ranking system, the median rank is 25.5, with 1 through 25 better states and 26 through 50 worse states. The median is 25.5 for rural fatality rates, and the median is 25.5 for urban fatality rates. In fact, the Foundation's various ranking schemes have exactly the same median ranking—25.5. Reducing these measures to ranks obscures the scale and distribution of the underlying measures.

The actual median for rural fatality rates shown in Figure 6 is lower than the actual median urban fatality rate. Rural roads have fewer fatalities per 100 million miles driven. This makes sense when you think about it, but it is hidden in the Foundation's ranking system. Furthermore, the distribution of urban fatality rates is more spread out than the distribution for rural rates. So, while urban roads are more dangerous, some urban states have lower urban fatality rates than the safest rural roads. This may be surprising, but using rankings hides this surprise.

This **exaggeration, mountains-and-molehills**, and **lost-information** biases are not unique to road safety issues. To the extent that any of these biases exist in any of the other component rankings, biases will accumulate in invisible ways as the rankings are aggregated into an overall ranking. This makes the overall ranking mysterious (as unknown biases enter the final ranking) and misleading because rankings are inherently prone to exaggeration, mountains-molehills, and lost-information biases.

## Economic and Population Density Bias

Only four countries in the world are more urbanized than New Jersey, where the population density is 10 times that of the United States as a whole.

#### Tim Evans, If New Jersey Were a Country (Evans, 2010)

The largest metropolitan area in the country is the metropolitan statistical area of New York-Newark-Jersey City, with 20 million people. Philadelphia-Camden-Wilmington is the 7<sup>th</sup> largest metropolitan statistical area with 6 million people (Wikipedia, 2025). The 21<sup>st</sup> Century will be the century of cities. Urban economic growth and density are the products of economies of agglomeration.

Economies of agglomeration refer to the benefits that firms and individuals gain when they are located near each other in cities or industrial clusters. These benefits include reducing transportation and communication costs, creating a symbiotic skilled-labor market where employers can find talented workers and workers can find well-paying jobs, reducing downtime for employers as they shift production focus, reducing unemployment for workers as they change jobs, and accelerating productivity and economic growth.

Economies of agglomeration stimulate knowledge-based economic activity in three ways: 1) sharing infrastructure, suppliers, workers, and consumers; 2) pooling labor markets, thereby accelerating job matches while reducing the costs of labor market flexibility; 3) creating knowledge spillovers that exploit economic density to facilitate the transfer of information, skills and new ideas; 4) creating a rich neo-apprenticeship system where both younger workers and startup firms can learn from each other experiencing faster wage growth and earlier startup success (Bolter, 2020).

In 2022, New Jersey ranked 37<sup>th</sup> worst overall highway system in the country by the Reason Foundation. At the same time, New Jersey had the third-highest income per capita in the U.S. at \$77,199. In contrast, North Carolina, ranked by the Foundation as the best state highway system in the country, had the 15<sup>th</sup> lowest income per capita at \$58,109 (Federal Highway Administration, 2024). Economies of agglomeration bring benefits such as robust economic growth and higher personal incomes. But economies of agglomeration also bring the challenges associated with density. This is something the Reason Foundation does not recognize.



### Best 10 Compared to Worst 10 States 28th Report, 2022 Data

note: differences are statistically significant at the 10% level (pop per sq mile) and 5% level (income per capita) from Reason Foundation Annual Report on the Performance of State Highway Systems and the Federal Highway Admin. Selected Measures for Identifying Peer States - 2022.

#### Figure 8: demographic and economic density bias

Figure 8 shows that in their 2022 rankings (the recent 28<sup>th</sup> Annual Report data), the worst ten highway systems had, on average, about \$7,000 more income per capita compared to the best 10 state highway systems. In tandem, the worst ten highway systems had almost twice the population density of the best ten state highway systems (Federal Highway Administration, 2024; Feigenbaum, 2025). These results stem from the Reason Foundation's simple failure to consider that economic and population density shape the challenges that a highway system confronts.

This is not to say that departments of transportation in economically and demographically dense places cannot or should not extend every effort to improve their transportation systems. They should. Harvesting the benefits of economies of agglomeration requires continuing efforts to mitigate the transportation challenges that come with density. But a fair comparison of New Jersey's highway system with North Carolina's highway system would include calculating the benefits and costs of an economically dense economy (New Jersey) with the costs and benefits of an economically sparse economy (North Carolina).

The Reason Foundation's density bias is revealed by its failure to consider the costs to North Carolina of a sparse economy and the benefits to New Jersey's dense economy. Currently, the Foundation's calculations only include the costs of economic density and the benefits of economic sparseness.

## Rural Road Bias

As discussed above, the Reason Foundation eventually responded to the criticism that their rankings were biased against urban road systems by altering how they measured the extent of urban roads by including lanes per mile and expected cost modifications to their ranking methodology. While this did not eliminate the urban road bias in their analysis, it improved it. However, it turns out that the Foundation's methodology also has a serious bias in favor of rural roads. These bias problems are two sides of the same coin. Just because a road system has disproportionately **urban** roads, that, by itself, should not favor or disfavor that system's overall ranking. Correspondingly, just because a road system has disproportionately **rural** roads, that, by itself, should not favor or disfavor that system's overall ranking.



### Best 10 Compared to Worst 10 States 28th Report, 2022 Data

note: differences are statistically significant at the 10% level (rural lane miles traveled) and 1% (rural lane miles.) 2022 data, from Reason Foundation 28th Annual Report on the Performance of State Highway Systems, and the Federal Highway Admin. Selected Measures for Identifying Peer States - 2022.

#### Figure 9: the extent of rural roads and the ranking of state highway systems--the best 10 states and the worst 10 states, 2022

However, the Reason Foundation's overall rankings have a peculiar fondness for rural road systems. Figure 9 compares the extent of rural roads and rural road travel between the best 10 states and the worst 10 states in the Foundation's 2022 rankings. The right panel in Figure 9 shows that the best 10 states have slightly more than twice as many miles of rural roads compared to the average for the worst 10 states. The left panel shows that almost twice as many miles are driven on the more extensive rural roads compared to the miles driven on rural roads in the worst 10 states. The average comparisons are statistically significant at the 10% level for miles traveled and the 1% for miles of road. Together, they tell a story of rural bias in the Foundation's rankings. In the introduction to Part 1, State Highway Performance Rankings in the most recent 28<sup>th</sup> Annual Report, the authors state:

To determine relative performance across the country, state highway system budgets (per mile of responsibility) are compared with system performance, state by state. States with high rankings typically have better-than-average system conditions (good for road users) along with relatively low per-mile expenditures (also good for taxpayers).

But in reality, states with lots of rural roads have high rankings. The roots of this rural bias are a combination of confounding factors bias and ranking bias. Factors such as system age, budget priorities, management, and

maintenance practices significantly impact state highway performance and are modifiable by the policies of state DOT's and state legislatures. These are policy variables, not confounding factors.

However, there are other factors such as terrain, climate, altitude, population density, business/economic density, urbanization, and culture that are given—basically unchangeable challenges—that differ by state and should not be used to say that one state is doing a good job and another is doing a bad job. Rural states are going to have rural roads. You cannot ask an urban state to build more rural roads to get a higher ranking from the Reason Foundation. The Foundation's rankings are biased because they do not account for these confounding factors. Compounding this bias of not distinguishing the distinct given challenges various states confront is the practice of ranking differences rather than describing them. Reducing state differences to ranking differences creates stick-figure comparisons between states that obscure what states might best do under their own circumstances to improve their highway systems.

The Reason Foundation says of itself:

Reason produces rigorous, peer-reviewed research and directly engages the policy process, seeking strategies that emphasize cooperation, flexibility, local knowledge, and results.

Ironically, the Foundation's ranking system is inflexible. Reason's biases favoring rural road systems downplay local knowledge. To its credit, Reason has responded to criticism by acknowledging that because

*urban roads tend to cost more than rural roads, urban states are expected to spend more per lanemile* than rural states to build and maintain their highway networks. Using the national averages to calculate the performance ratios would punish urban states and reward rural states. (Feigenbaum, 2023)

Correspondingly, as we have seen, they changed their urban road metrics with the intention of eliminating this bias. This change reflects a principled commitment to engage in the policy process with integrity and respect for facts. However, we have also seen that their efforts had only partial success, and the anti-urban bias, while not as strong, remains. And a pro-rural bias remains as well.

## Conclusion

It is encouraging to see the Reason Foundation take a positive step by adjusting its methodology to better account for the cost differences between urban and rural road systems. Still, much remains to be done. Significant biases persist within their state highway system rankings. Rankings innately import unwanted biases that can only be exorcised by their abandonment in favor of analysis of the underlying data. These remaining biases continue to undermine the reliability of their evaluations, including:

- Anti-Urban Bias: While reduced, an underestimation of the challenges and costs associated with urban road systems remains.
- **Pro-Rural Bias**: A continued favoring of states with extensive rural road networks, which does not necessarily equate to superior performance
- Anti-Economic Density Bias: A failure to adequately consider the impact of economic and population density on highway systems, penalizing states with thriving economies and dense populations

- **Confounding Factor Bias**: Neglecting factors beyond the control of state DOTs, such as terrain, climate, and cultural influences (e.g., alcohol consumption), all of which can significantly affect highway performance.
- **Ranking Bias**: The inherent distortions introduced by ranking methodologies, including exaggeration of differences, obscuring of actual magnitudes, and loss of detailed data

These biases collectively paint an incomplete and misleading picture of state highway system performance. Simple rankings obscure more than they reveal. Presenting the underlying multi-dimensional system performance measures would be a significant improvement that would provide a clearer image of each state's highway system.

The Foundation's commitment to a methodology developed thirty years ago lacks the current statistical techniques commonly used by analysts to control for confounding factors and matching comparable states when assessing and advising on policy. Techniques such as multivariate analysis, group matching, pair matching, and propensity score matching offer promising avenues for creating more reliable comparisons and generating insights that are genuinely useful for policy decisions. The Reason Foundation Reports do not provide a dependable source for assessing the performance of state highway systems, their managers, policies, or practices as currently constructed.

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