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Office of Chief Counsel
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To Whom it May Concern,

This submission is supplemental to the timely comments submitted at 4:55 p.m. Eastern Time on November 18, 2026. The initial submission inadvertently did not include a certificate of service upon parties of record. A certificate of service is appended on the final page of the present submission. Aside from this, the present submission is identical to the first submission.



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November 18, 2026

BEFORE THE SURFACE TRANSPORTATION BOARD

Finance Docket No. 36873

UNION PACIFIC CORPORATION AND UNION PACIFIC RAILROAD COMPANY – CONTROL – NORFOLK SOUTHERN CORPORATION AND NORFOLK SOUTHERN RAILWAY COMPANY

COMMENTS OF SOLUTIONARY RAIL IN OPPOSITION TO THE PROPOSED UNION PACIFIC–NORFOLK SOUTHERN MERGER

The proposed acquisition of Norfolk Southern (NS) by Union Pacific (UP) is an endgame move by Wall Street to begin a final round of value extraction from critical national infrastructure. This step toward further monopolization comes precisely when we most need to reclaim the public purpose and potential of America's national rail system: to reconnect our communities, invigorate local economies and domestic industry, and support efficient, sustainable transportation for freight and people. The public needs rail service that is robust, resilient, and clean. That means rationalizing the balance of freight between road and rail and getting long-haul trucks off our highways; dedicated passenger capacity, honoring the bargain struck when the railroads were relieved of their passenger obligations through the creation of Amtrak; the return of service, for both passengers and freight, to the rural and urban places that have lost it; and electrification of motive power, the global standard. The proposed merger threatens to deepen a crisis that has been building for decades and to further postpone addressing it. But this proceeding also gives the Surface Transportation Board (the Board) an opportunity, and the impetus, to tell Wall Street, the rail carriers, Congress, and the American people that a new paradigm is truly needed to put our national rail system back on track.

This merger is not about increasing intermodal or intramodal competition. We wish it were about lowering rates, improving service, and moving more traffic from truck to rail, but it is not that either. Nothing in the current makeup of UP, NS, or any other Class I railroad prevents them from pursuing a greater share of the freight market today. What does prevent it is this: through a decades-old failure of national transportation policy, the United States has allowed the public purpose of its rail network to be hijacked by the insatiable appetite of predatory capital for ever more shareholder value. And so they merge. Ever since we abandoned the common carrier principle of non-discrimination, railroads have turned away and actively demarketed less

profitable shippers. Today, roughly a trillion ton-miles of long-haul freight (trips over 500 miles) crowd our public roads each year, imposing an estimated $59 billion in avoidable external costs: the net savings to the public if that freight moved back to rail.[1]

UP, NS, and the other Class I railroads have been able to push less profitable freight onto trucks while raising rates above inflation for two decades for one reason: earlier consolidations had already left rail-to-rail competition largely defunct, and no reassertion of the public purpose of this critical infrastructure checked that consolidation wave. When monopoly power lets a railroad extract extraordinary short-term profits, it has no incentive to pursue long-term growth. The way the Class Is have used their market power shows not only that a merger is unnecessary for growing modal share, but that Board approval would simply enable a counterproductive trajectory. Regardless of whether it created operating and administrative efficiencies, the savings would not be passed on to shippers or otherwise invested in long-term growth, because the Class I railroads are no longer in the long-term growth business.

The Board's own merger policy points to the same conclusion. Under 49 C.F.R. § 1180.1(a), the Board "does not favor consolidations that reduce the transportation alternatives available to shippers unless there are substantial and demonstrable public benefits to the transaction that cannot otherwise be achieved." Section 1180.1(c) directs the Board to consider "whether the benefits claimed by applicants could be realized by means other than the proposed consolidation." The benefits the applicants promise are moving freight from truck to rail, better service, and more efficient operations. Either railroad could pursue every one of them today by reinvesting in capacity, crews, and customer service instead of stock buybacks. None of them requires eliminating one of the nation's six remaining Class I railroads.

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[1]Solutionary Rail, True Cost of Trucking Mode Shift Calculator: United States. The calculator applies the midpoints of the Congressional Budget Office's per-ton-mile external cost estimates (Congressional Budget Office, Pricing Freight Transport to Account for External Costs, Working Paper 2015-03, March 2015), in 2025 dollars, with carbon dioxide valued at Washington State's social cost of carbon (about $102 per metric ton), to Freight Analysis Framework (FAF5.7.1) 2022 data on domestic truck freight moving 500 miles or more: about 950 billion ton-miles a year, excluding grain, coal and crude oil. The external costs of that trucking total about $66 billion a year; moving the freight to rail would reduce them by about $59 billion. This updates the $46 billion estimate Solutionary Rail presented at the Board's September 2024 hearing on growth in the freight rail industry (Docket No. EP 775), which used an earlier version of the calculator. Washington State's social cost of carbon is roughly half the $190 per ton the Environmental Protection Agency adopted in 2023 and well above the value implicit in CBO's 2015 estimates, a conservative middle ground. FAF data and projections show long-haul truck freight holding near one trillion ton-miles a year.

The external costs of long-haul trucking belong at the center of that inquiry. Attached as Exhibit A is Solutionary Rail's True Cost of Trucking Mode Shift Calculator, which documents, nationally and state by state, the pavement damage, congestion, crashes, air pollution, and carbon emissions that long-haul truck freight imposes on the public. Those costs are, in effect, a public subsidy for the railroads' business model of making more by doing less. Every shipment a railroad turns away or demarkets onto the highway is carried at the public's expense, while the savings accrue to shareholders. The Board's public interest standard requires it to weigh environmental safeguards, efficiency, and adequate service (49 C.F.R. § 1180.1(b)). The applicants claim the merger will remove more than two million truckloads a year from the highways. Even on long hauls, that is a small fraction of the roughly one trillion ton-miles documented in Exhibit A. And the claim deserves skepticism, coming as it does from the very railroads that pushed much of that freight onto trucks in the first place. Winning it back requires a level of service, capacity, and investment that no merger promises, and that only an industry-wide intervention can deliver. We ask the Board to weigh these external costs in judging the public benefits the applicants claim, and to recognize that the merger offers no credible plan to reduce them.

The return to merging smacks of desperation. At various points from 1920 to 2000, mergers were actively encouraged as a way to rescue struggling railroads. They were acceptable because dozens of Class I railroads (in 1920, more than 170) would go on competing after any given pair merged, and because a strong regulatory regime still held monopoly abuses in check. None of these conditions holds today. Class I railroads are earning record profits, little competition remains among them, and the Board finds itself blocked at nearly every turn when it tries to protect shippers from the railroads' market power. When the Board adopted its 2001 merger rules, setting the bar so high that many considered it nearly impossible to clear, it slammed on the emergency brake, sensing it had acted too late. It knew those rules would eventually force a reckoning and, we had hoped, a national conversation about what we need from this infrastructure. That was the moment to re-examine the Staggers Act, the abandonment of common carrier obligations, and the service exemptions, and to launch a national effort to harmonize road and rail, using the best attributes of each mode for maximum public benefit and

least harm. Instead, the federal government more or less washed its hands and invited a free-for-all.

This pivot of purpose, from growth through service to profit maximization through market control, was in some sense inevitable once deregulation and consolidation had run their course, leaving the United States with just seven Class I railroads by 2000. Each held monopolistic or duopolistic control over a vast swath of the country, with no effective regulatory mechanism safeguarding shippers' ability to access this critical infrastructure on reasonable terms. Predatory capital, in the form of activist investors, accelerated the shift and compounded its effects. To the extent that Class I railroad managers still harbored a sense of responsibility for the long-term health and resilience of their railroads, these investors disabused them of it, threatening CEOs' jobs and replacing those who resisted. They imposed practices aimed at making more by doing less: raising rates, demarketing less profitable freight, tearing up track, cutting headcount, and skimping on safety. Of the hundreds of billions of dollars this regime generated, more left the system through stock buybacks and dividends than was reinvested in the railroads themselves. This continues to be the case. In every year from 2022 through 2025, Union Pacific spent more on stock buybacks and dividends than on capital investment: $24.0 billion paid out to shareholders against $14.5 billion in capital expenditures, equal to 88 percent of its $27.3 billion in net income over those four years. In 2022 alone, UP paid shareholders $9.4 billion, 135 percent of that year's net income, and CSX and Norfolk Southern each paid out roughly a third more than they earned.[2]

These predatory financial forces are not only the would-be beneficiaries of the merger now before the Board; directly or indirectly, they are its instigators. The timing can be explained in part by the exhaustion of existing means for accelerating returns to shareholders. For several years, shippers have shown a waning ability to absorb further rate increases. Then a string of crises exposed an industry that had done everything in its power to operate with invisibility and impunity: the supply chain and service meltdowns of 2021–2022; the threatened and ultimately quashed national rail strike of 2022, driven by extreme stress on a workforce that had been

[2] Union Pacific Corporation, CSX Corporation and Norfolk Southern Corporation, Annual Reports on Form 10-K, 2022–2025 (net income, capital expenditures, share repurchases and dividends paid).

whittled down, overstretched, and mistreated; and the February 2023 derailment in East Palestine, Ohio, which brought home the true cost of greed and negligence. Together, these moments drew renewed public attention to our rail infrastructure, and to the failure of the companies that control it to steward it in the public and national interest. At its 2024 hearing on growth in the freight rail industry, the Board itself called for a pivot to growth, but the tools available to it have proven inadequate to bring one about. In short, the wells Wall Street has been drawing from are running dry.

The clearest sign that financial players want to return to the old playbook of consolidation came in September 2025, when CSX replaced CEO Joe Hinrichs after sustained pressure from the activist investor Ancora, which had faulted him for, among other things, failing to pursue a merger. UP CEO Jim Vena has hinted at openness to industry-wide reciprocal switching, sharing track without a regulatory mandate or a shipper complaint. That would be new, and it raises questions the merger application does not answer. Under what rules would it occur, and with what protections? Which operators could compete, and for which commodities? How would it resemble or differ from an open-access system? Whether or not Mr. Vena intends it, the idea points toward a paradigm shift in how U.S. railroads operate and in the social contract they hold with the public. Yet even as the head of the nation's largest railroad, he is constrained by activist investors. Any move that raised costs or worsened his operating ratio would be shut down, so the levers he can pull are few, and a merger is the one that lets him act on a national scale. These CEOs are far less empowered than they appear. Intended or not, his move has opened a national conversation broader than the industry is comfortable with, and the energy behind that conversation shows the appetite for it. But the questions it raises exceed the scope and capacity of this Board. They call for congressional leadership and action, including clearer direction for the Board. The national rail network is, as the Board itself has described it, a solution hiding in plain sight. How to harness it deserves all of our attention, so that the change we get is the change we need.

The Board's public process is meant to invite open comment, but fear of retaliation undermines frank public discussion. The recent video of Mr. Vena threatening rate increases for opponents of this merger is only the latest instance. The threat is not new, and it is not unique to

Mr. Vena. In January 2025, then-Chairman Robert Primus issued a statement opposing railroad retaliation, noting that it can take the form of "actual or threatened increases in rail transportation rates, cutbacks in local service, and refusals to provide new service upon request" (Surface Transportation Board, Statement of Chairman Robert E. Primus on Railroad Retaliation, PR-25-04). He proposed a policy statement on intimidation and retaliation, but the Board never adopted it; after the Vena video became public, he observed that had it been adopted, "there would be no hand-wringing today" (Robert Primus, LinkedIn post, November 2026). Ann Warner of the National Industrial Transportation League has repeatedly raised retaliation and urged Congress to protect shippers (Reconnect America podcast interview, December 28, 2025, https://solutionaryrail.substack.com/p/interview-congress-must-act-to-protect). Solutionary Rail agrees, and believes those protections must extend to short line railroads, which depend on their Class I connections and are just as exposed (see Solutionary Rail, "…To Teach You a Lesson": Union Pacific's Mask-Off Moment Puts the Ball in Congress' Court, November 2026, https://solutionaryrail.substack.com/p/to-teach-you-a-lesson-union-pacifics; and Interview: The American Short Line Railroad Predicament (w/ Chuck Baker), Reconnect America podcast, https://solutionaryrail.substack.com/p/interview-the-american-short-line). Many shippers who depend on a single railroad cannot afford to say publicly what they say privately.[3]

Consolidation in the U.S. railroad industry is a one-way street with a dead end. No new long-distance main line has been built in more than a century. Each merger makes the barrier to entry for would-be Class I competitors more insurmountable, so rail-to-rail competition is a finite and ever-diminishing resource. In adopting its 2001 rules, the Board recognized that this resource was already severely depleted. Rail-to-rail competition remains central to the Board's 2001 rules, and what little of it remains should be guarded zealously. But genuine rail-to-rail competition would require opening the tracks to the railroads that actually want to compete. Chief among them are the nation's more than 600 short line railroads, the retail railroads of the network, many of which want to grow but are held back by paper barriers that restrict whom they may interchange with. If the Board is serious about rail-to-rail competition, the path runs not through

[3] "Union Pacific releases video of CEO's rate remarks at shipper conference," Trains, November 2026. The remarks were made in Mr. Vena's keynote address to the Southwest Association of Rail Shippers in Houston in March 2026; Union Pacific had sought to keep the video confidential, and Canadian Pacific Kansas City sought its public release in this proceeding.

this merger but through working with Congress to open the network to all of its operators and to end the market control that has left this system underutilized. Approving this transaction would sharply reduce competition on its own terms, and it would likely trigger defensive mergers by the remaining Class I railroads, exactly the kind of cumulative and crossover effects the Board's rules require it to weigh (49 C.F.R. § 1180.1(i)). Approval would be a white-flag surrender: an admission that there is no competition left to preserve, let alone enhance, and a decision to cede our national rail system to private equity and activist investors so they can continue the slow-motion going-out-of-business sale already under way. That sale takes many forms: pushing away business, paying shareholders more than they earn, and underinvesting in infrastructure, service, and resilience, including the electrification of yards and main lines and the carload service that many shippers and communities depend on. Making more by doing less means draining resources from critical infrastructure. Yet the nation will always need its railroads. The more value is extracted from the national rail system and the less is invested in it, the more certain it becomes that the public will once again have to intervene, as it has repeatedly: federal control during World War I, the creation of Amtrak, the creation of Conrail, and the Staggers Act itself. Each intervention allowed the prevailing paradigm to soldier on without resolving the fundamental questions of whom this infrastructure exists to serve and what its highest purpose should be. Allowing the system to deteriorate further, so that the next intervention must rescue it from shambles, would be a costly and unnecessary delay. That is reason enough to act now.

Predatory expectations that reward and compel such self-destructive behavior will not go away of their own accord. Activist investors who have reaped unprecedented profits from the dysfunction of recent years remain hooked. They will not detach themselves from the Class I railroads as long as opportunities for extraction continue to be tolerated by the regulators and the government entrusted with railroad stewardship. If policymakers and regulators do not protect this infrastructure for future generations, no one will. Should the Board approve, it is this class of investors, not the American people, that would benefit, and the long-overdue reckoning over the fundamental purpose of this infrastructure would be put off again. A rejection would send a signal not only to Wall Street but to all of us: shippers, railroads, regulators, advocates, and Congress. It would say that the time has come to pivot the U.S. rail network to a new paradigm

of robust, resilient, and clean service, and that everyone involved needs the tools, the rules, and the resources to make that pivot.

In rejecting this merger, the Board should signal to Congress that seeing this pivot through will require Congress to clarify and expand the Board's role, authority, and capacity, and to join as a full partner in a paradigm shift toward an American rail renaissance. In that spirit, we note the reforms Congress should consider. Congress should address the corrosive practice of stock buybacks, which were effectively prohibited before 1982 and have since spread across industries, rail above all, so that the managers of railroads can actually manage railroads. It should protect shippers, short line railroads and other parties from retaliation. It should account for the external costs of freight transportation in national policy. The pending surface transportation reauthorization is the place to start. Rather than advance the earlier version of that bill, Congress should go back to the drawing board and treat reauthorization as a historic pivot: harmonizing road and rail so that each mode does what it does best, and committing dedicated funding to a moonshot mode shift of long-haul freight from trucks to trains, paired with the electrification of the railroads. That electrification should begin with rail yards. Yards are where changes in motive power have historically begun, and they are where diesel emissions concentrate in the communities that already bear an unfair share of freight's health burden. Shifting more freight onto rail without electrifying it would only deepen that injustice. Mode shift and electrification must go hand in hand. Senator Edward Markey's All Aboard Act already contains provisions that would fund rail yard electrification; Congress should include them in the reauthorization. The same bill offers a model for funding dedicated passenger track within the shared right-of-way of existing rail corridors. That is the most affordable way to deliver higher-speed passenger service, at 110 to 125 miles per hour, far cheaper than building new corridors for trains above 160 miles per hour, which cannot share right-of-way with freight. That dedicated track should be built to Class 6 or Class 7 standards and reserved for passenger trains. Heavy freight trains cause extreme wear on track, while passenger trains cause relatively little, so dedicated passenger track protects both safety and on-time performance. Congress should also continue to advance the co-location of high-voltage transmission on existing rail corridors, a national conversation that has been growing for years. Dedicated passenger track, transmission, and electrified trains fit naturally together: the same corridors can carry people, freight, and clean

power. Finally, Congress should restore the common carrier obligation and give it meaning, by defining what adequate service upon reasonable request actually requires, as Senator Tammy Baldwin's proposed Reliable Rail Service Act would do. It should direct the Board to review and, where warranted, revoke the commodity and service exemptions, extending that obligation to all commodities. And it should open trackage rights to other Class I railroads and to short lines hungry for business, so they can offer competitive service. Deeper reforms, such as separating infrastructure from operations to create an open-access system, deserve serious consideration. **Shippers, analysts, and elected officials have talked about revisiting the Staggers Act almost since it was signed into law in 1980. With public attention now on the predicament of America's national rail system, this is the moment for change. The Board should not simply reject the proposed merger of Union Pacific and Norfolk Southern. It should use this proceeding to tell Congress that the time has come for a paradigm shift in how this country approaches rail transportation: rebalancing private profit with public purpose and the national interest, and harnessing rail's unique potential to expand public benefits and dramatically reduce the externalized costs of our current regime, by shifting long-haul freight from trucks to trains and opening dedicated capacity for passengers, as was promised long ago.**

Respectfully submitted,

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November 18, 2026

Certificate of Service

I certify that on November 18, 2026, I served a copy of this document by electronic mail upon all parties of record in this proceeding.



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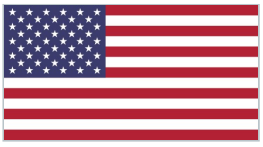
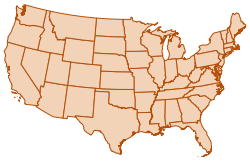




SOLUTIONARY RAIL · BACKBONE CAMPAIGN

True Cost of Trucking Mode Shift Calculator

External costs of long-haul truck freight and what a shift to rail would save: a national summary and reports for the lower 48 states.

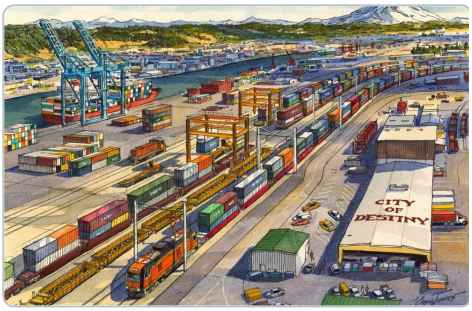
Supporting materials for Solutionary Rail's comments to the Surface Transportation Board on the proposed Union Pacific–Norfolk Southern merger.



Long-haul trucks on a U.S. interstate



Rolling highway: trucks carried by train in Switzerland



On-dock rail: containers go from ship to train at the port. Painting: J. Craig Thorpe

LONG-HAUL TRUCK FREIGHT

950.1 billion

ton-miles a year on U.S. roads, trips of 500+ miles

EXTERNAL COSTS TODAY

$66.4 billion

a year in crashes, road damage, congestion, air pollution and climate damage

SAVING FROM A 25% SHIFT

$14.7 billion

a year if a quarter of this freight moved to rail

What is in this document

National summary: costs by type, savings at 10%, 25% and 50%, and the top ten states	page 2
How to read the state reports: why there are two pages per state and how the commodities were chosen	page 3
Index of state reports, with each state's truck ton-miles, external costs and saving	pages 4–5
State reports in alphabetical order, two pages each: a 25% shift of all long-haul freight, then a 50% shift of the state's two most distinctive commodities on trips of 750+ miles	pages 5–101

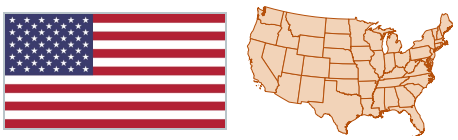
Companion files: a Google Earth map (.kmz), GIS shapefiles (.zip) and Excel tables (.xlsx) with the same numbers.

Try the interactive tool. Change the trip length, the commodities and the share of freight moved to rail, and open the roads, costs and savings for any state.
SolutionaryRail.org/maptool

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022) with external-cost rates from the Congressional Budget Office, not traffic counts. Savings assume the freight can move by rail and leave out the cost of any new rail capacity. Prepared by Solutionary Rail (Backbone Campaign) · November 18, 2026 · SolutionaryRail.org

True Cost of Trucking Mode Shift Calculator: United States

External Costs of Trucking & Mode Shift Calculator · National summary · External costs of long-haul truck freight and a 25% shift to rail · 500+ mile trips · November 18, 2026



On **500+ mile trips**, trucks move roughly **950.1 billion ton-miles** of freight on U.S. roads each year. This imposes an estimated **$66.4 billion a year** in external costs that we all pay for: crashes, road damage, congestion, air pollution and climate damage. Moving just **25%** of this freight to rail would save society about **$14.7 billion a year**.

Try the interactive tool: change the trip length, commodities and share moved to rail, and open any state.
SolutionaryRail.org/maptool

TRUCK TON-MILES
950.1 billion
a year on U.S. roads

EXTERNAL COSTS TODAY
$66.4 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$14.7 billion
range $9.4 billion to $21.1 billion

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$10.5 billion	$7.9 billion	$171 million	$2.5 billion
Congestion	$8.2 billion	$6.1 billion	$47 million	$2.0 billion
Accident	$19.4 billion	$14.6 billion	$558 million	$4.3 billion
PM and NOx emissions	$8.6 billion	$6.5 billion	$574 million	$1.6 billion
CO2 emissions	$19.7 billion	$14.7 billion	$538 million	$4.4 billion
Total	**$66.4 billion**	**$49.8 billion**	**$1.9 billion**	**$14.7 billion**

A more modest shift

SHARE MOVED TO RAIL	NET SAVING A YEAR	RANGE	TRUCK-MILES AVOIDED
10%	$5.9 billion	$3.8 billion to $8.4 billion	5.9 billion truck-miles
25%	$14.7 billion	$9.4 billion to $21.1 billion	14.8 billion truck-miles
50%	$29.4 billion	$18.9 billion to $42.2 billion	29.7 billion truck-miles

Savings grow in proportion to the share shifted. Truck-miles avoided assume 16 tons a truck.

Ten states with the most long-haul truck freight

STATE	TRUCK TON-MILES	EXTERNAL COSTS	SAVING AT 25%
Texas	93.8 billion	$6.6 billion	$1.5 billion
Illinois	51.6 billion	$3.6 billion	$800 million
California	45.8 billion	$3.2 billion	$710 million
Ohio	40.6 billion	$2.8 billion	$629 million
Tennessee	36.7 billion	$2.6 billion	$568 million
Missouri	34.8 billion	$2.4 billion	$539 million
Arizona	31.9 billion	$2.2 billion	$494 million
Pennsylvania	31.7 billion	$2.2 billion	$491 million
Nebraska	30.7 billion	$2.1 billion	$475 million
Arkansas	29.6 billion	$2.1 billion	$459 million

- This summary adds up truck freight on the roads of every state. Each state report that follows shows its own roads, commodities and costs: first a 25% shift of all long-haul freight, then a 50% shift of the state's two most distinctive commodities on trips of 750 miles and more.
- Trucks and rail compete most on long trips, so these figures cover trips of 500 miles and more. External costs are the crashes, road damage, congestion, air pollution and climate damage that shippers and truckers do not pay.
- Savings assume the freight can move by rail; they leave out the cost of any new rail capacity.

Grain, coal and crude oil are left out of the truck freight counted here: they make up very little long-haul trucking and offer little or no possibility of mode shift. Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts. Truck ton-miles come from routing every FAF origin-destination flow over the FAF highway network and scaling each road to the FAF assignment. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars, applied the same way in every state. Prepared by Solutionary Rail. More information at SolutionaryRail.org. Listen to Reconnect America, the Solutionary Rail podcast, at solutionaryrail.substack.com.

How to read the state reports

Every state has two one-page reports, one after the other. Both are saved settings of that state's calculator on the website, and they answer two different questions.

FIRST PAGE OF EACH STATE

How big is the problem here?

A modest, broad shift: **25%** of all long-haul truck freight moves to rail, across every commodity, on trips of **500 miles and more**. This shows the scale of the external costs in the state and what a quarter of the freight would save.

SECOND PAGE OF EACH STATE

What could a focused effort do?

A bolder, narrower shift: **50%** of just **two commodities**, on trips of **750 miles and more**. The longer the trip, the more rail competes with trucks, so this shows what a targeted program could win for the freight that stands out in that state. The two commodities are named at the top of the page.

How the two commodities were chosen for each state

1. **Look only at long trips.** We count the state's truck freight on trips of 750 miles and more, leaving out grain, coal and crude oil. They make up little long-haul trucking and offer little chance of moving to rail.
2. **Sort the freight into 12 commodity groups:** farm products; food, beverages and tobacco; stone, sand, gravel and ores; liquids and gases; chemicals; logs and wood products; waste and scrap; consumer manufactured goods; durable goods, low tech; durable goods, high tech; motor vehicles; and mixed freight.
3. **Keep the groups that matter.** A group has to be at least 8% of the state's long-haul truck ton-miles, so each pick is enough freight to make a difference.
4. **Rank by what stands out.** We compare each group's share in the state with its share nationwide. A group that is a bigger part of a state's freight than of the nation's ranks higher.
5. **Take the top two.** The one exception is Texas, where we chose liquids and gases and chemicals by hand.

The picks follow each state's economy. Many Plains and Western states land on farm products and food, beverages and tobacco; several Southeastern states on stone, sand, gravel and ores and consumer manufactured goods; Michigan and Arkansas on motor vehicles or low-tech durable goods. They are a starting point, not a recommendation of which freight must move, and another commodity or trip length may suit a state better.

Experiment with the tool yourself.

Everything in these reports comes from the interactive calculator. On the website you can change the trip length, choose any commodities, set the share of freight moved to rail, see which roads carry the freight, and print a one-page report for your own settings. Start at **SolutionaryRail.org/maptool**.

Truck freight and costs by state

Lower 48 states and the District of Columbia. Same scenario as the national summary on page 2 (25% shift); the page column shows where each state report starts. Alaska and Hawaii are in the national totals but are not listed: they have almost no long-haul truck freight (Alaska 23 million ton-miles, Hawaii none). The District of Columbia is listed without a report page: it has almost no long-haul truck freight.

STATE	TRUCK TON-MILES	EXTERNAL COSTS	SAVING AT 25%	PAGES
Alabama	20.6 billion	$1.4 billion	$319 million	6–7
Arizona	31.9 billion	$2.2 billion	$494 million	8–9
Arkansas	29.6 billion	$2.1 billion	$459 million	10–11
California	45.8 billion	$3.2 billion	$710 million	12–13
Colorado	23.1 billion	$1.6 billion	$359 million	14–15
Connecticut	866 million	$61 million	$13 million	16–17
Delaware	787 million	$55 million	$12 million	18–19
District of Columbia	42 million	$3 million	$1 million	
Florida	18.4 billion	$1.3 billion	$286 million	20–21
Georgia	24.1 billion	$1.7 billion	$373 million	22–23
Idaho	9.2 billion	$641 million	$142 million	24–25
Illinois	51.6 billion	$3.6 billion	$800 million	26–27
Indiana	29.2 billion	$2.0 billion	$452 million	28–29
Iowa	28.2 billion	$2.0 billion	$437 million	30–31
Kansas	14.2 billion	$990 million	$219 million	32–33
Kentucky	18.0 billion	$1.3 billion	$278 million	34–35
Louisiana	18.4 billion	$1.3 billion	$285 million	36–37
Maine	1.4 billion	$97 million	$22 million	38–39
Maryland	6.3 billion	$441 million	$98 million	40–41
Massachusetts	3.2 billion	$224 million	$50 million	42–43
Michigan	10.6 billion	$741 million	$164 million	44–45
Minnesota	7.8 billion	$544 million	$121 million	46–47
Mississippi	15.9 billion	$1.1 billion	$246 million	48–49
Missouri	34.8 billion	$2.4 billion	$539 million	50–51
Montana	13.6 billion	$949 million	$210 million	52–53

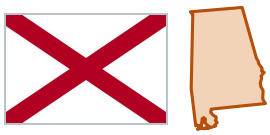
Truck freight and costs by state (continued)

Same scenario as the national summary on page 2 (25% shift); the pages column shows where each state report starts.

STATE	TRUCK TON-MILES	EXTERNAL COSTS	SAVING AT 25%	PAGES
Nebraska	30.7 billion	$2.1 billion	$475 million	54–55
Nevada	20.1 billion	$1.4 billion	$312 million	56–57
New Hampshire	256 million	$18 million	$4 million	58–59
New Jersey	7.1 billion	$495 million	$110 million	60–61
New Mexico	29.5 billion	$2.1 billion	$457 million	62–63
New York	10.7 billion	$745 million	$165 million	64–65
North Carolina	15.6 billion	$1.1 billion	$242 million	66–67
North Dakota	4.0 billion	$281 million	$62 million	68–69
Ohio	40.6 billion	$2.8 billion	$629 million	70–71
Oklahoma	28.3 billion	$2.0 billion	$439 million	72–73
Oregon	12.9 billion	$906 million	$201 million	74–75
Pennsylvania	31.7 billion	$2.2 billion	$491 million	76–77
Rhode Island	94 million	$7 million	$1 million	78–79
South Carolina	12.7 billion	$888 million	$197 million	80–81
South Dakota	10.3 billion	$718 million	$159 million	82–83
Tennessee	36.7 billion	$2.6 billion	$568 million	84–85
Texas	93.8 billion	$6.6 billion	$1.5 billion	86–87
Utah	27.2 billion	$1.9 billion	$422 million	88–89
Vermont	250 million	$17 million	$4 million	90–91
Virginia	26.2 billion	$1.8 billion	$406 million	92–93
Washington	6.6 billion	$464 million	$103 million	94–95
West Virginia	10.2 billion	$711 million	$157 million	96–97
Wisconsin	11.4 billion	$797 million	$177 million	98–99
Wyoming	25.9 billion	$1.8 billion	$401 million	100–101

Alabama: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
20.58 billion
a year on Alabama roads

EXTERNAL COSTS TODAY
$1.4 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$318.8 million
range $204.3 million to $456.9 million

FEWER LOADED TRUCK TRIPS
2.5 million
a year (6,737 a day), at 16 tons a truck; also 321.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$228.5 million	$171.3 million	$3.7 million	$53.5 million
Congestion	$177.4 million	$133.0 million	$1.0 million	$43.4 million
Accident	$420.6 million	$315.5 million	$12.1 million	$93.0 million
PM and NOx emissions	$186.8 million	$140.1 million	$12.4 million	$34.3 million
CO2 emissions	$425.6 million	$319.2 million	$11.6 million	$94.8 million
Total	**$1.4 billion**	**$1.1 billion**	**$40.9 million**	**$318.8 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 20	6.87 billion	about 2,750	about 2,050
I 65	3.61 billion	about 860	about 650
I 59	1.87 billion	about 1,400	about 1,050
I 22	1.50 billion	about 1,350	about 1,000
I 10	1.30 billion	about 1,650	about 1,250

Loaded trucks a day: modeled average along each road within Alabama, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	1.18 billion
Durable goods, low tech	18%	877 million
Stone, sand, gravel and ores	17%	790 million
Food, beverages and tobacco	9%	427 million
Farm products	7%	355 million
Chemicals	7%	316 million

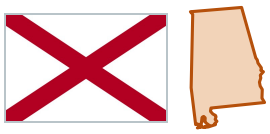
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,128 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Alabama), one trip being one truck on one haul.
- Only miles driven on Alabama roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Alabama: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.69 billion
a year on Alabama roads

EXTERNAL COSTS TODAY
$467.7 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$207.3 million
range $132.8 million to $297.0 million

FEWER LOADED TRUCK TRIPS
1.4 million
a year (3,959 a day), at 16 tons a truck; also 209 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$74.3 million	$37.1 million	$2.4 million	$34.8 million
Congestion	$57.7 million	$28.8 million	$0.7 million	$28.2 million
Accident	$136.7 million	$68.4 million	$7.9 million	$60.4 million
PM and NOx emissions	$60.7 million	$30.4 million	$8.1 million	$22.2 million
CO2 emissions	$138.3 million	$69.2 million	$7.6 million	$61.5 million
Total	**$467.7 million**	**$233.8 million**	**$26.6 million**	**$207.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 20	3.06 billion	about 1,200	about 610
I 65	857 million	about 210	about 100
I 59	494 million	about 370	about 190
I 459	474 million	about 1,250	about 610
I 22	348 million	about 310	about 160

Loaded trucks a day: modeled average along each road within Alabama, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	22%	1.66 billion
Stone, sand, gravel and ores	20%	1.46 billion
Durable goods, low tech	18%	—
Food, beverages and tobacco	9%	—
Farm products	7%	—
Chemicals	7%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,128 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Alabama), one trip being one truck on one haul.
- Only miles driven on Alabama roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Arizona: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
31.87 billion
a year on Arizona roads

EXTERNAL COSTS TODAY
$2.2 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$493.8 million
range $316.4 million to $707.7 million

FEWER LOADED TRUCK TRIPS
2.3 million
a year (6,314 a day), at 16 tons a truck; also 497.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$353.8 million	$265.4 million	$5.7 million	$82.7 million
Congestion	$274.7 million	$206.1 million	$1.6 million	$67.0 million
Accident	$651.5 million	$488.6 million	$18.7 million	$144.2 million
PM and NOx emissions	$289.3 million	$217.0 million	$19.3 million	$53.0 million
CO2 emissions	$659.2 million	$494.4 million	$18.0 million	$146.8 million
Total	**$2.2 billion**	**$1.7 billion**	**$63.3 million**	**$493.8 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 40	14.30 billion	about 3,400	about 2,550
I 10	9.20 billion	about 2,000	about 1,500
I 15	1.25 billion	about 3,650	about 2,750
I 17	821 million	about 490	about 370
I 8	808 million	about 390	about 290

Loaded trucks a day: modeled average along each road within Arizona, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	21%	1.50 billion
Durable goods, low tech	20%	1.42 billion
Farm products	15%	1.07 billion
Food, beverages and tobacco	14%	995 million
Durable goods, high tech	8%	592 million
Mixed freight	7%	529 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,785 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Arizona), one trip being one truck on one haul.
- Only miles driven on Arizona roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Arizona: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and durable goods, high tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.82 billion
a year on Arizona roads

EXTERNAL COSTS TODAY
$477.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$211.4 million
range $135.5 million to $303.0 million

FEWER LOADED TRUCK TRIPS
939,426
a year (2,574 a day), at 16 tons a truck; also 213.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$75.7 million	$37.9 million	$2.5 million	$35.3 million
Congestion	$58.8 million	$29.4 million	$0.7 million	$28.7 million
Accident	$139.5 million	$69.7 million	$8.0 million	$61.8 million
PM and NOx emissions	$61.9 million	$31.0 million	$8.2 million	$22.7 million
CO2 emissions	$141.1 million	$70.6 million	$7.7 million	$62.8 million
Total	**$477.0 million**	**$238.5 million**	**$27.1 million**	**$211.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 40	2.92 billion	about 700	about 350
I 10	2.29 billion	about 500	about 250
I 15	229 million	about 670	about 330
I 17	166 million	about 100	about 50
I 8	154 million	about 70	about 40

Loaded trucks a day: modeled average along each road within Arizona, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	21%	—
Durable goods, low tech	20%	—
Farm products	14%	1.97 billion
Food, beverages and tobacco	14%	—
Durable goods, high tech	8%	1.15 billion
Mixed freight	7%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,785 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Arizona), one trip being one truck on one haul.
- Only miles driven on Arizona roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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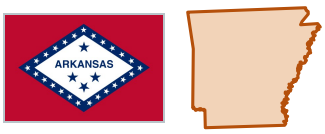
Arkansas: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
29.59 billion
a year on Arkansas roads

EXTERNAL COSTS TODAY
$2.1 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$458.6 million
range $293.8 million to $657.1 million

FEWER LOADED TRUCK TRIPS
2.9 million
a year (7,904 a day), at 16 tons a truck; also 462.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$328.6 million	$246.4 million	$5.3 million	$76.9 million
Congestion	$255.1 million	$191.3 million	$1.4 million	$62.4 million
Accident	$604.9 million	$453.7 million	$17.4 million	$133.8 million
PM and NOx emissions	$268.6 million	$201.5 million	$17.9 million	$49.2 million
CO2 emissions	$612.1 million	$459.1 million	$16.8 million	$136.2 million
Total	**$2.1 billion**	**$1.6 billion**	**$58.8 million**	**$458.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 40	13.51 billion	about 4,050	about 3,050
I 30	7.88 billion	about 4,700	about 3,550
I 55	3.12 billion	about 3,800	about 2,850
I 440	438 million	about 3,800	about 2,850
I 49	297 million	about 230	about 170

Loaded trucks a day: modeled average along each road within Arkansas, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	22%	1.45 billion
Durable goods, low tech	22%	1.42 billion
Food, beverages and tobacco	10%	678 million
Farm products	10%	646 million
Motor vehicles	8%	508 million
Stone, sand, gravel and ores	6%	408 million

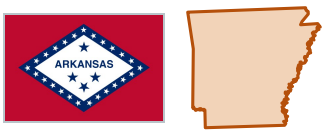
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,486 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Arkansas), one trip being one truck on one haul.
- Only miles driven on Arkansas roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Arkansas: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: durable goods, low tech and motor vehicles, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
7.79 billion
a year on Arkansas roads

EXTERNAL COSTS TODAY
$544.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$241.5 million
range $154.7 million to $346.1 million

FEWER LOADED TRUCK TRIPS
1.3 million
a year (3,449 a day), at 16 tons a truck; also 243.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$86.5 million	$43.3 million	$2.8 million	$40.4 million
Congestion	$67.2 million	$33.6 million	$0.8 million	$32.8 million
Accident	$159.3 million	$79.6 million	$9.2 million	$70.5 million
PM and NOx emissions	$70.7 million	$35.4 million	$9.4 million	$25.9 million
CO2 emissions	$161.2 million	$80.6 million	$8.8 million	$71.8 million
Total	**$544.9 million**	**$272.4 million**	**$31.0 million**	**$241.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 40	3.53 billion	about 1,050	about 530
I 30	2.28 billion	about 1,350	about 680
I 55	810 million	about 990	about 500
I 440	126 million	about 1,100	about 550
I 49	29 million	about 20	about 10

Loaded trucks a day: modeled average along each road within Arkansas, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Durable goods, low tech	22%	2.50 billion
Consumer manufactured goods	21%	–
Food, beverages and tobacco	10%	–
Farm products	9%	–
Motor vehicles	8%	960 million
Liquids and gases	7%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,486 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Arkansas), one trip being one truck on one haul.
- Only miles driven on Arkansas roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

California: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
45.84 billion
a year on California roads

EXTERNAL COSTS TODAY
$3.2 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$710.3 million
range $455.1 million to $1.0 billion

FEWER LOADED TRUCK TRIPS
2.5 million
a year (6,940 a day), at 16 tons a truck; also 716.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$508.9 million	$381.7 million	$8.2 million	$119.0 million
Congestion	$395.2 million	$296.4 million	$2.2 million	$96.6 million
Accident	$937.1 million	$702.8 million	$26.9 million	$207.4 million
PM and NOx emissions	$416.1 million	$312.1 million	$27.7 million	$76.3 million
CO2 emissions	$948.2 million	$711.1 million	$25.9 million	$211.2 million
Total	**$3.2 billion**	**$2.4 billion**	**$91.1 million**	**$710.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 5	9.99 billion	about 1,200	about 910
I 15	8.92 billion	about 3,100	about 2,300
I 40	5.13 billion	about 2,850	about 2,150
I 10	4.22 billion	about 1,750	about 1,300
I 80	2.98 billion	about 1,250	about 940

Loaded trucks a day: modeled average along each road within California, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	23%	2.32 billion
Durable goods, low tech	18%	1.75 billion
Food, beverages and tobacco	17%	1.69 billion
Farm products	15%	1.45 billion
Mixed freight	7%	695 million
Durable goods, high tech	7%	655 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 5,184 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through California), one trip being one truck on one haul.
- Only miles driven on California roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

California: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
12.50 billion
a year on California roads

EXTERNAL COSTS TODAY
$874.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$387.3 million
range $248.2 million to $555.1 million

FEWER LOADED TRUCK TRIPS
1.4 million
a year (3,747 a day), at 16 tons a truck; also 390.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$138.8 million	$69.4 million	$4.5 million	$64.9 million
Congestion	$107.7 million	$53.9 million	$1.2 million	$52.6 million
Accident	$255.5 million	$127.7 million	$14.7 million	$113.1 million
PM and NOx emissions	$113.5 million	$56.7 million	$15.1 million	$41.7 million
CO2 emissions	$258.5 million	$129.3 million	$14.1 million	$115.1 million
Total	**$874.0 million**	**$437.0 million**	**$49.7 million**	**$387.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 5	2.74 billion	about 330	about 170
I 15	2.32 billion	about 800	about 400
I 40	1.24 billion	about 680	about 340
I 10	1.15 billion	about 470	about 240
I 80	911 million	about 380	about 190

Loaded trucks a day: modeled average along each road within California, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	24%	—
Durable goods, low tech	18%	—
Food, beverages and tobacco	16%	2.86 billion
Farm products	15%	2.57 billion
Durable goods, high tech	7%	—
Mixed freight	7%	—

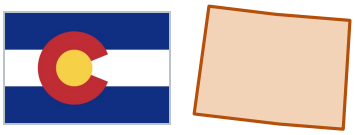
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 5,184 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through California), one trip being one truck on one haul.
- Only miles driven on California roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Colorado: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
23.15 billion
a year on Colorado roads

EXTERNAL COSTS TODAY
$1.6 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$358.7 million
range $229.8 million to $514.0 million

FEWER LOADED TRUCK TRIPS
1.5 million
a year (4,219 a day), at 16 tons a truck; also 361.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$257.0 million	$192.8 million	$4.2 million	$60.0 million
Congestion	$199.6 million	$149.7 million	$1.1 million	$48.8 million
Accident	$473.2 million	$354.9 million	$13.6 million	$104.7 million
PM and NOx emissions	$210.1 million	$157.6 million	$14.0 million	$38.5 million
CO2 emissions	$478.8 million	$359.1 million	$13.1 million	$106.6 million
Total	**$1.6 billion**	**$1.2 billion**	**$46.0 million**	**$358.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 70	11.49 billion	about 2,200	about 1,650
I 76	4.41 billion	about 2,050	about 1,550
I 25	2.83 billion	about 810	about 610
US 287	675 million	about 720	about 540
US 40	306 million	about 180	about 130

Loaded trucks a day: modeled average along each road within Colorado, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Durable goods, low tech	17%	912 million
Consumer manufactured goods	17%	904 million
Food, beverages and tobacco	16%	842 million
Farm products	15%	784 million
Liquids and gases	9%	476 million
Mixed freight	7%	353 million

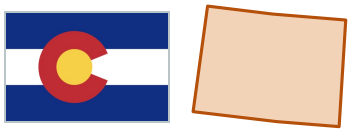
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,741 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Colorado), one trip being one truck on one haul.
- Only miles driven on Colorado roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Colorado: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and liquids and gases, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
5.41 billion
a year on Colorado roads

EXTERNAL COSTS TODAY
$378.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$167.5 million
range $107.3 million to $240.1 million

FEWER LOADED TRUCK TRIPS
741,565
a year (2,032 a day), at 16 tons a truck; also 168.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$60.0 million	$30.0 million	$1.9 million	$28.1 million
Congestion	$46.6 million	$23.3 million	$0.5 million	$22.8 million
Accident	$110.5 million	$55.2 million	$6.4 million	$48.9 million
PM and NOx emissions	$49.1 million	$24.5 million	$6.5 million	$18.1 million
CO2 emissions	$111.8 million	$55.9 million	$6.1 million	$49.8 million
Total	**$378.0 million**	**$189.0 million**	**$21.5 million**	**$167.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 70	2.40 billion	about 460	about 230
I 76	901 million	about 420	about 210
I 25	715 million	about 200	about 100
US 287	319 million	about 340	about 170
US 40	150 million	about 190	about 90

Loaded trucks a day: modeled average along each road within Colorado, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	18%	—
Durable goods, low tech	18%	—
Food, beverages and tobacco	16%	1.54 billion
Farm products	14%	—
Liquids and gases	9%	850 million
Mixed freight	7%	—

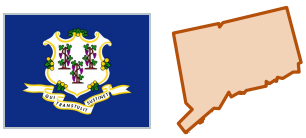
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,741 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Colorado), one trip being one truck on one haul.
- Only miles driven on Colorado roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Connecticut: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
866 million
a year on Connecticut roads

EXTERNAL COSTS TODAY
$60.6 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$13.5 million
range $8.6 million to $19.2 million

FEWER LOADED TRUCK TRIPS
191,239
a year (524 a day), at 16 tons a truck; also 13.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$9.6 million	$7.2 million	$0.2 million	$2.2 million
Congestion	$7.5 million	$5.6 million	$42 thousand	$1.9 million
Accident	$17.7 million	$13.3 million	$0.5 million	$3.9 million
PM and NOx emissions	$7.9 million	$5.9 million	$0.5 million	$1.5 million
CO2 emissions	$17.9 million	$13.4 million	$0.5 million	$4.0 million
Total	**$60.6 million**	**$45.4 million**	**$1.7 million**	**$13.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	235 million	about 270	about 200
WILBUR CROSS PKWY	64 million	about 260	about 190
I 91	49 million	about 150	about 110
CT 8	22 million	about 60	about 40
CT 15	18 million	about 290	about 220

Loaded trucks a day: modeled average along each road within Connecticut, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	31%	34 million
Durable goods, low tech	21%	23 million
Food, beverages and tobacco	12%	13 million
Mixed freight	7%	8 million
Farm products	7%	8 million
Waste and scrap	6%	7 million

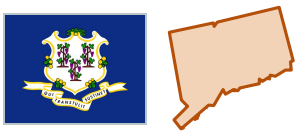
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 576 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Connecticut), one trip being one truck on one haul.
- Only miles driven on Connecticut roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Connecticut: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: consumer manufactured goods and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
348 million
a year on Connecticut roads

EXTERNAL COSTS TODAY
$24.3 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$10.7 million
range $6.9 million to $15.4 million

FEWER LOADED TRUCK TRIPS
153,745
a year (421 a day), at 16 tons a truck; also 10.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$3.9 million	$1.9 million	$0.1 million	$1.9 million
Congestion	$3.0 million	$1.5 million	$34 thousand	$1.5 million
Accident	$7.1 million	$3.6 million	$0.4 million	$3.1 million
PM and NOx emissions	$3.2 million	$1.6 million	$0.4 million	$1.2 million
CO2 emissions	$7.2 million	$3.6 million	$0.4 million	$3.2 million
Total	**$24.3 million**	**$12.2 million**	**$1.4 million**	**$10.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 95	96 million	about 110	about 60
WILBUR CROSS PKWY	23 million	about 90	about 50
I 91	17 million	about 50	about 30
CT 8	10 million	about 30	about 10
CT 15	7 million	about 110	about 50

Loaded trucks a day: modeled average along each road within Connecticut, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	29%	48 million
Durable goods, low tech	23%	38 million
Food, beverages and tobacco	11%	–
Farm products	8%	–
Mixed freight	7%	–
Durable goods, high tech	5%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 576 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Connecticut), one trip being one truck on one haul.
- Only miles driven on Connecticut roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Delaware: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES	EXTERNAL COSTS TODAY	MODE SHIFT TO RAIL	NET SAVING A YEAR	FEWER LOADED TRUCK TRIPS
787 million a year on Delaware roads	**$55.0 million** a year (7.0¢ per ton-mile)	**25%** of this truck freight moved to rail	**$12.1 million** range $7.8 million to $17.5 million	**936,707** a year (2,566 a day), at 16 tons a truck; also 12.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$8.7 million	$6.6 million	$0.1 million	$2.0 million
Congestion	$6.8 million	$5.1 million	$39 thousand	$1.7 million
Accident	$16.1 million	$12.1 million	$0.5 million	$3.5 million
PM and NOx emissions	$7.1 million	$5.4 million	$0.5 million	$1.2 million
CO2 emissions	$16.3 million	$12.2 million	$0.4 million	$3.7 million
Total	**$55.0 million**	**$41.3 million**	**$1.6 million**	**$12.1 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	229 million	about 1,200	about 890
I 295	93 million	about 1,550	about 1,150
I 495	43 million	about 320	about 240
KOREAN WAR VETERANS MEMORIAL HWY	13 million	about 30	about 20
US 113	12 million	about 50	about 40

Loaded trucks a day: modeled average along each road within Delaware, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	26%	28 million
Durable goods, low tech	18%	19 million
Food, beverages and tobacco	15%	16 million
Farm products	9%	10 million
Chemicals	8%	9 million
Mixed freight	6%	6 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 238 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Delaware), one trip being one truck on one haul.
- Only miles driven on Delaware roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Delaware: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: chemicals and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
204 million
a year on Delaware roads

EXTERNAL COSTS TODAY
$14.2 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$6.3 million
range $4.0 million to $9.0 million

FEWER LOADED TRUCK TRIPS
488,586
a year (1,339 a day), at 16 tons a truck; also 6.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$2.3 million	$1.1 million	$73 thousand	$1.1 million
Congestion	$1.8 million	$0.9 million	$20 thousand	$0.9 million
Accident	$4.2 million	$2.1 million	$0.2 million	$1.9 million
PM and NOx emissions	$1.8 million	$0.9 million	$0.2 million	$0.7 million
CO2 emissions	$4.2 million	$2.1 million	$0.2 million	$1.9 million
Total	**$14.2 million**	**$7.1 million**	**$0.8 million**	**$6.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 95	62 million	about 320	about 160
I 295	25 million	about 420	about 210
I 495	13 million	about 100	about 50
DE 18	1 million	about 20	fewer than 10
DE 404	633 thousand	about 20	fewer than 10

Loaded trucks a day: modeled average along each road within Delaware, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	39 million
Durable goods, low tech	18%	–
Food, beverages and tobacco	14%	–
Chemicals	9%	14 million
Farm products	9%	–
Liquids and gases	7%	–

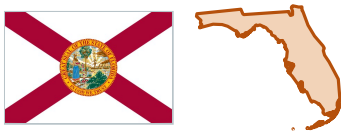
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 238 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Delaware), one trip being one truck on one haul.
- Only miles driven on Delaware roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Florida: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
18.44 billion
a year on Florida roads

EXTERNAL COSTS TODAY
$1.3 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$285.9 million
range $183.1 million to $409.6 million

FEWER LOADED TRUCK TRIPS
1.2 million
a year (3,264 a day), at 16 tons a truck; also 288.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$204.8 million	$153.6 million	$3.3 million	$47.9 million
Congestion	$159.0 million	$119.3 million	$0.9 million	$38.8 million
Accident	$377.0 million	$282.8 million	$10.8 million	$83.4 million
PM and NOx emissions	$167.4 million	$125.6 million	$11.1 million	$30.7 million
CO2 emissions	$381.5 million	$286.1 million	$10.4 million	$85.0 million
Total	**$1.3 billion**	**$967.3 million**	**$36.6 million**	**$285.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 10	4.85 billion	about 1,150	about 860
I 75	2.73 billion	about 680	about 510
I 95	2.35 billion	about 670	about 500
FLORIDA'S TPKE	1.78 billion	about 670	about 510
US 19	1.05 billion	about 1,100	about 840

Loaded trucks a day: modeled average along each road within Florida, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	20%	730 million
Durable goods, low tech	17%	636 million
Food, beverages and tobacco	17%	619 million
Farm products	12%	434 million
Stone, sand, gravel and ores	9%	319 million
Chemicals	6%	227 million

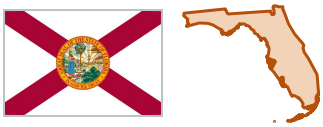
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,724 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Florida), one trip being one truck on one haul.
- Only miles driven on Florida roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Florida: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and stone, sand, gravel and ores, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
3.69 billion
a year on Florida roads

EXTERNAL COSTS TODAY
$258.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$114.3 million
range $73.3 million to $163.9 million

FEWER LOADED TRUCK TRIPS
408,448
a year (1,119 a day), at 16 tons a truck; also 115.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$41.0 million	$20.5 million	$1.3 million	$19.2 million
Congestion	$31.8 million	$15.9 million	$0.4 million	$15.5 million
Accident	$75.5 million	$37.7 million	$4.3 million	$33.5 million
PM and NOx emissions	$33.5 million	$16.8 million	$4.5 million	$12.2 million
CO2 emissions	$76.3 million	$38.2 million	$4.2 million	$33.9 million
Total	**$258.1 million**	**$129.1 million**	**$14.7 million**	**$114.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 10	1.06 billion	about 250	about 130
I 75	422 million	about 140	about 70
FLORIDA'S TPKE	411 million	about 160	about 80
I 95	400 million	about 120	about 60
US 19	284 million	about 300	about 150

Loaded trucks a day: modeled average along each road within Florida, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	18%	–
Durable goods, low tech	17%	–
Food, beverages and tobacco	17%	964 million
Farm products	12%	–
Stone, sand, gravel and ores	9%	523 million
Durable goods, high tech	6%	–

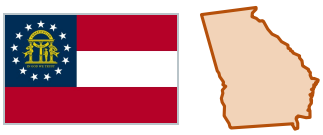
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,724 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Florida), one trip being one truck on one haul.
- Only miles driven on Florida roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Georgia: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
24.08 billion
a year on Georgia roads

EXTERNAL COSTS TODAY
$1.7 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$373.3 million
range $239.1 million to $534.8 million

FEWER LOADED TRUCK TRIPS
2.9 million
a year (8,033 a day), at 16 tons a truck; also 376.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$267.4 million	$200.5 million	$4.3 million	$62.6 million
Congestion	$207.6 million	$155.7 million	$1.2 million	$50.7 million
Accident	$492.3 million	$369.2 million	$14.2 million	$108.9 million
PM and NOx emissions	$218.6 million	$164.0 million	$14.5 million	$40.1 million
CO2 emissions	$498.1 million	$373.6 million	$13.6 million	$110.9 million
Total	**$1.7 billion**	**$1.3 billion**	**$47.8 million**	**$373.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 75	6.59 billion	about 1,700	about 1,250
I 20	2.97 billion	about 1,250	about 940
I 85	2.86 billion	about 1,650	about 1,200
I 95	2.28 billion	about 1,750	about 1,300
I 285	1.22 billion	about 1,650	about 1,250

Loaded trucks a day: modeled average along each road within Georgia, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	26%	1.25 billion
Durable goods, low tech	18%	867 million
Food, beverages and tobacco	13%	652 million
Farm products	11%	523 million
Stone, sand, gravel and ores	10%	499 million
Chemicals	6%	268 million

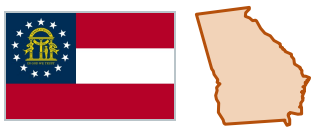
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 4,452 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Georgia), one trip being one truck on one haul.
- Only miles driven on Georgia roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Georgia: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.04 billion
a year on Georgia roads

EXTERNAL COSTS TODAY
$422.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$187.2 million
range $120.0 million to $268.4 million

FEWER LOADED TRUCK TRIPS
1.6 million
a year (4,401 a day), at 16 tons a truck; also 188.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$67.1 million	$33.5 million	$2.2 million	$31.4 million
Congestion	$52.1 million	$26.0 million	$0.6 million	$25.5 million
Accident	$123.5 million	$61.8 million	$7.1 million	$54.6 million
PM and NOx emissions	$54.9 million	$27.4 million	$7.3 million	$20.2 million
CO2 emissions	$125.0 million	$62.5 million	$6.8 million	$55.7 million
Total	**$422.5 million**	**$211.3 million**	**$24.0 million**	**$187.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 85	1.17 billion	about 670	about 330
I 20	1.11 billion	about 470	about 240
I 75	1.07 billion	about 280	about 140
I 95	439 million	about 340	about 170
I 285	400 million	about 550	about 270

Loaded trucks a day: modeled average along each road within Georgia, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	24%	1.61 billion
Durable goods, low tech	18%	—
Food, beverages and tobacco	13%	—
Stone, sand, gravel and ores	12%	813 million
Farm products	11%	—
Chemicals	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 4,452 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Georgia), one trip being one truck on one haul.
- Only miles driven on Georgia roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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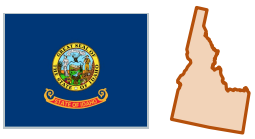
Idaho: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
9.17 billion
a year on Idaho roads

EXTERNAL COSTS TODAY
$641.4 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$142.2 million
range $91.1 million to $203.7 million

FEWER LOADED TRUCK TRIPS
975,377
a year (2,672 a day), at 16 tons a truck; also 143.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$101.8 million	$76.4 million	$1.6 million	$23.8 million
Congestion	$79.1 million	$59.3 million	$0.4 million	$19.4 million
Accident	$187.5 million	$140.6 million	$5.4 million	$41.5 million
PM and NOx emissions	$83.3 million	$62.4 million	$5.5 million	$15.4 million
CO2 emissions	$189.7 million	$142.3 million	$5.2 million	$42.2 million
Total	**$641.4 million**	**$481.0 million**	**$18.2 million**	**$142.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 84	5.26 billion	about 1,650	about 1,250
I 15	1.29 billion	about 560	about 420
I 90	979 million	about 1,150	about 850
US 95	170 million	about 80	about 60
I 86	167 million	about 230	about 170

Loaded trucks a day: modeled average along each road within Idaho, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	535 million
Farm products	20%	429 million
Food, beverages and tobacco	17%	366 million
Durable goods, low tech	14%	302 million
Mixed freight	6%	139 million
Chemicals	6%	138 million

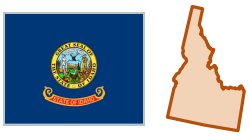
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,444 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Idaho), one trip being one truck on one haul.
- Only miles driven on Idaho roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Idaho: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
2.84 billion
a year on Idaho roads

EXTERNAL COSTS TODAY
$198.4 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$87.9 million
range $56.3 million to $126.0 million

FEWER LOADED TRUCK TRIPS
596,438
a year (1,634 a day), at 16 tons a truck; also 88.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$31.5 million	$15.7 million	$1.0 million	$14.8 million
Congestion	$24.5 million	$12.2 million	$0.3 million	$12.0 million
Accident	$58.0 million	$29.0 million	$3.3 million	$25.7 million
PM and NOx emissions	$25.8 million	$12.9 million	$3.4 million	$9.5 million
CO2 emissions	$58.7 million	$29.3 million	$3.2 million	$26.2 million
Total	**$198.4 million**	**$99.2 million**	**$11.3 million**	**$87.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 84	1.45 billion	about 450	about 230
I 15	449 million	about 200	about 100
I 90	291 million	about 340	about 170
US 30	73 million	about 180	about 90
SR 55	69 million	about 100	about 50

Loaded trucks a day: modeled average along each road within Idaho, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	—
Farm products	19%	693 million
Food, beverages and tobacco	17%	639 million
Durable goods, low tech	15%	—
Chemicals	7%	—
Mixed freight	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,444 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Idaho), one trip being one truck on one haul.
- Only miles driven on Idaho roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Illinois: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
51.63 billion
a year on Illinois roads

EXTERNAL COSTS TODAY
$3.6 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$800.0 million
range $512.6 million to $1.1 billion

FEWER LOADED TRUCK TRIPS
4.8 million
a year (13,161 a day), at 16 tons a truck; also 806.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$573.2 million	$429.9 million	$9.3 million	$134.0 million
Congestion	$445.1 million	$333.8 million	$2.5 million	$108.8 million
Accident	$1.1 billion	$791.6 million	$30.3 million	$233.5 million
PM and NOx emissions	$468.7 million	$351.5 million	$31.2 million	$86.0 million
CO2 emissions	$1.1 billion	$801.0 million	$29.2 million	$237.7 million
Total	**$3.6 billion**	**$2.7 billion**	**$102.6 million**	**$800.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 57	11.76 billion	about 2,850	about 2,150
I 80	8.54 billion	about 4,450	about 3,350
I 70	5.42 billion	about 3,250	about 2,450
I 55	4.16 billion	about 1,300	about 970
I 74	2.89 billion	about 1,200	about 880

Loaded trucks a day: modeled average along each road within Illinois, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	22%	2.55 billion
Durable goods, low tech	20%	2.32 billion
Food, beverages and tobacco	16%	1.81 billion
Farm products	13%	1.45 billion
Motor vehicles	7%	783 million
Mixed freight	6%	668 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 7,070 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Illinois), one trip being one truck on one haul.
- Only miles driven on Illinois roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Illinois: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
14.80 billion
a year on Illinois roads

EXTERNAL COSTS TODAY
$1.0 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$458.5 million
range $293.8 million to $657.2 million

FEWER LOADED TRUCK TRIPS
2.7 million
a year (7,408 a day), at 16 tons a truck; also 462.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$164.3 million	$82.1 million	$5.3 million	$76.9 million
Congestion	$127.6 million	$63.8 million	$1.4 million	$62.4 million
Accident	$302.5 million	$151.2 million	$17.4 million	$133.9 million
PM and NOx emissions	$134.3 million	$67.2 million	$17.9 million	$49.2 million
CO2 emissions	$306.1 million	$153.0 million	$16.8 million	$136.3 million
Total	**$1.0 billion**	**$517.4 million**	**$58.8 million**	**$458.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 57	3.23 billion	about 780	about 390
I 80	2.61 billion	about 1,350	about 680
I 70	1.66 billion	about 1,000	about 500
I 55	1.20 billion	about 370	about 190
I 74	696 million	about 280	about 140

Loaded trucks a day: modeled average along each road within Illinois, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	23%	–
Durable goods, low tech	20%	3.63 billion
Food, beverages and tobacco	15%	2.81 billion
Farm products	12%	–
Motor vehicles	7%	–
Mixed freight	6%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 7,070 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Illinois), one trip being one truck on one haul.
- Only miles driven on Illinois roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Indiana: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
29.20 billion
a year on Indiana roads

EXTERNAL COSTS TODAY
$2.0 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$452.5 million
range $289.9 million to $648.4 million

FEWER LOADED TRUCK TRIPS
3.9 million
a year (10,740 a day), at 16 tons a truck; also 456.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$324.2 million	$243.2 million	$5.2 million	$75.8 million
Congestion	$251.7 million	$188.8 million	$1.4 million	$61.5 million
Accident	$596.9 million	$447.7 million	$17.2 million	$132.0 million
PM and NOx emissions	$265.1 million	$198.8 million	$17.6 million	$48.7 million
CO2 emissions	$604.0 million	$453.0 million	$16.5 million	$134.5 million
Total	**$2.0 billion**	**$1.5 billion**	**$58.0 million**	**$452.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	9.53 billion	about 5,400	about 4,050
I 70	6.63 billion	about 3,650	about 2,750
I 65	2.87 billion	about 980	about 730
I 74	1.89 billion	about 1,050	about 800
I 94	1.60 billion	about 4,500	about 3,400

Loaded trucks a day: modeled average along each road within Indiana, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	1.77 billion
Durable goods, low tech	20%	1.42 billion
Food, beverages and tobacco	16%	1.12 billion
Farm products	11%	731 million
Mixed freight	6%	447 million
Motor vehicles	6%	431 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,816 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Indiana), one trip being one truck on one haul.
- Only miles driven on Indiana roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Indiana: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
9.26 billion
a year on Indiana roads

EXTERNAL COSTS TODAY
$647.3 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$286.9 million
range $183.8 million to $411.1 million

FEWER LOADED TRUCK TRIPS
2.3 million
a year (6,236 a day), at 16 tons a truck; also 289.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$102.8 million	$51.4 million	$3.3 million	$48.1 million
Congestion	$79.8 million	$39.9 million	$0.9 million	$39.0 million
Accident	$189.2 million	$94.6 million	$10.9 million	$83.7 million
PM and NOx emissions	$84.0 million	$42.0 million	$11.2 million	$30.8 million
CO2 emissions	$191.5 million	$95.7 million	$10.5 million	$85.3 million
Total	**$647.3 million**	**$323.6 million**	**$36.8 million**	**$286.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	3.81 billion	about 2,150	about 1,100
I 70	1.98 billion	about 1,100	about 550
I 65	711 million	about 240	about 120
I 94	518 million	about 1,450	about 730
I 74	486 million	about 280	about 140

Loaded trucks a day: modeled average along each road within Indiana, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	2.73 billion
Durable goods, low tech	20%	—
Food, beverages and tobacco	16%	1.69 billion
Farm products	10%	—
Mixed freight	7%	—
Motor vehicles	6%	—

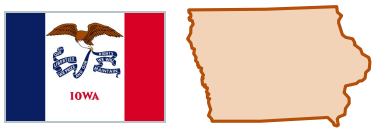
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,816 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Indiana), one trip being one truck on one haul.
- Only miles driven on Indiana roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Iowa: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
28.18 billion
a year on Iowa roads

EXTERNAL COSTS TODAY
$2.0 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$436.7 million
range $279.8 million to $625.9 million

FEWER LOADED TRUCK TRIPS
2.6 million
a year (7,235 a day), at 16 tons a truck; also 440.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$312.9 million	$234.7 million	$5.1 million	$73.1 million
Congestion	$243.0 million	$182.2 million	$1.4 million	$59.4 million
Accident	$576.1 million	$432.1 million	$16.6 million	$127.4 million
PM and NOx emissions	$255.9 million	$191.9 million	$17.0 million	$47.0 million
CO2 emissions	$583.0 million	$437.2 million	$16.0 million	$129.8 million
Total	**$2.0 billion**	**$1.5 billion**	**$56.0 million**	**$436.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	18.26 billion	about 5,100	about 3,850
I 35	2.02 billion	about 840	about 630
I 29	1.50 billion	about 860	about 640
I 235	420 million	about 3,000	about 2,250
US 218	312 million	about 290	about 220

Loaded trucks a day: modeled average along each road within Iowa, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	23%	1.40 billion
Food, beverages and tobacco	19%	1.19 billion
Durable goods, low tech	17%	1.06 billion
Farm products	16%	976 million
Mixed freight	6%	396 million
Durable goods, high tech	5%	286 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,762 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Iowa), one trip being one truck on one haul.
- Only miles driven on Iowa roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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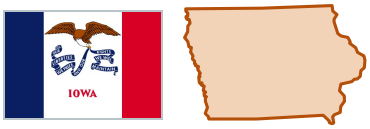
Iowa: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
7.87 billion
a year on Iowa roads

EXTERNAL COSTS TODAY
$550.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$244.0 million
range $156.3 million to $349.6 million

FEWER LOADED TRUCK TRIPS
1.4 million
a year (3,871 a day), at 16 tons a truck; also 246 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$87.4 million	$43.7 million	$2.8 million	$40.9 million
Congestion	$67.9 million	$33.9 million	$0.8 million	$33.2 million
Accident	$160.9 million	$80.5 million	$9.3 million	$71.1 million
PM and NOx emissions	$71.5 million	$35.7 million	$9.5 million	$26.3 million
CO2 emissions	$162.8 million	$81.4 million	$8.9 million	$72.5 million
Total	**$550.5 million**	**$275.2 million**	**$31.3 million**	**$244.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	5.48 billion	about 1,550	about 770
I 35	426 million	about 180	about 90
I 29	403 million	about 230	about 120
I 235	153 million	about 1,100	about 540
I 280	86 million	about 1,250	about 630

Loaded trucks a day: modeled average along each road within Iowa, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	24%	—
Food, beverages and tobacco	20%	2.07 billion
Durable goods, low tech	17%	—
Farm products	14%	1.47 billion
Mixed freight	6%	—
Durable goods, high tech	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,762 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Iowa), one trip being one truck on one haul.
- Only miles driven on Iowa roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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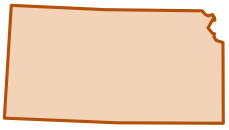
Kansas: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
14.16 billion
a year on Kansas roads

EXTERNAL COSTS TODAY
$990.2 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$219.4 million
range $140.6 million to $314.5 million

FEWER LOADED TRUCK TRIPS
1.4 million
a year (3,701 a day), at 16 tons a truck; also 221.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$157.2 million	$117.9 million	$2.5 million	$36.8 million
Congestion	$122.1 million	$91.6 million	$0.7 million	$29.8 million
Accident	$289.5 million	$217.1 million	$8.3 million	$64.1 million
PM and NOx emissions	$128.6 million	$96.4 million	$8.6 million	$23.6 million
CO2 emissions	$292.9 million	$219.7 million	$8.0 million	$65.2 million
Total	**$990.2 million**	**$742.7 million**	**$28.1 million**	**$219.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 70	7.18 billion	about 1,450	about 1,100
I 35	2.35 billion	about 850	about 640
I 135	1.16 billion	about 1,050	about 780
I 335	628 million	about 1,050	about 800
US 81	385 million	about 680	about 510

Loaded trucks a day: modeled average along each road within Kansas, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Durable goods, low tech	20%	644 million
Farm products	20%	628 million
Consumer manufactured goods	16%	502 million
Food, beverages and tobacco	14%	436 million
Mixed freight	7%	211 million
Stone, sand, gravel and ores	6%	204 million

Your mode-shift percentage applies to every commodity.

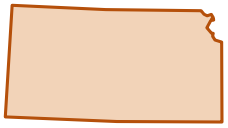
- Rail alternative: about 4,349 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Kansas), one trip being one truck on one haul.
- Only miles driven on Kansas roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Kansas: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
4.30 billion
a year on Kansas roads

EXTERNAL COSTS TODAY
$300.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$133.3 million
range $85.4 million to $191.1 million

FEWER LOADED TRUCK TRIPS
744,798
a year (2,041 a day), at 16 tons a truck; also 134.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$47.8 million	$23.9 million	$1.5 million	$22.4 million
Congestion	$37.1 million	$18.5 million	$0.4 million	$18.2 million
Accident	$88.0 million	$44.0 million	$5.1 million	$38.9 million
PM and NOx emissions	$39.1 million	$19.5 million	$5.2 million	$14.4 million
CO2 emissions	$89.0 million	$44.5 million	$4.9 million	$39.6 million
Total	**$300.9 million**	**$150.5 million**	**$17.1 million**	**$133.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 70	2.40 billion	about 490	about 240
I 35	641 million	about 230	about 120
I 135	398 million	about 360	about 180
I 335	162 million	about 280	about 140
US 81	126 million	about 220	about 110

Loaded trucks a day: modeled average along each road within Kansas, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Durable goods, low tech	21%	1.07 billion
Farm products	18%	933 million
Consumer manufactured goods	16%	—
Food, beverages and tobacco	13%	—
Liquids and gases	6%	—
Mixed freight	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 4,349 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Kansas), one trip being one truck on one haul.
- Only miles driven on Kansas roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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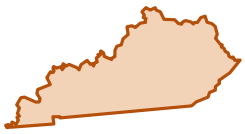
Kentucky: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
17.97 billion
a year on Kentucky roads

EXTERNAL COSTS TODAY
$1.3 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$278.5 million
range $178.4 million to $399.1 million

FEWER LOADED TRUCK TRIPS
2.6 million
a year (7,038 a day), at 16 tons a truck; also 280.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$199.6 million	$149.7 million	$3.2 million	$46.7 million
Congestion	$155.0 million	$116.2 million	$0.9 million	$37.9 million
Accident	$367.4 million	$275.6 million	$10.6 million	$81.2 million
PM and NOx emissions	$163.2 million	$122.4 million	$10.9 million	$29.9 million
CO2 emissions	$371.8 million	$278.8 million	$10.2 million	$82.8 million
Total	**$1.3 billion**	**$942.7 million**	**$35.7 million**	**$278.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 75	3.76 billion	about 1,700	about 1,300
I 65	3.36 billion	about 2,100	about 1,600
I 24	3.06 billion	about 2,800	about 2,100
I 64	2.23 billion	about 1,050	about 770
I 71	1.17 billion	about 1,400	about 1,050

Loaded trucks a day: modeled average along each road within Kentucky, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	27%	1.07 billion
Durable goods, low tech	22%	903 million
Food, beverages and tobacco	12%	505 million
Farm products	9%	365 million
Motor vehicles	8%	314 million
Chemicals	6%	228 million

Your mode-shift percentage applies to every commodity.

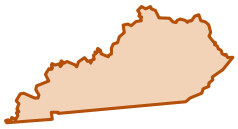
- Rail alternative: about 2,257 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Kentucky), one trip being one truck on one haul.
- Only miles driven on Kentucky roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Kentucky: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: consumer manufactured goods and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
5.13 billion
a year on Kentucky roads

EXTERNAL COSTS TODAY
$358.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$159.0 million
range $101.9 million to $227.9 million

FEWER LOADED TRUCK TRIPS
1.5 million
a year (4,161 a day), at 16 tons a truck; also 160.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$57.0 million	$28.5 million	$1.8 million	$26.7 million
Congestion	$44.2 million	$22.1 million	$0.5 million	$21.6 million
Accident	$104.9 million	$52.4 million	$6.0 million	$46.5 million
PM and NOx emissions	$46.6 million	$23.3 million	$6.2 million	$17.1 million
CO2 emissions	$106.1 million	$53.1 million	$5.8 million	$47.2 million
Total	**$358.8 million**	**$179.4 million**	**$20.4 million**	**$159.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 24	1.05 billion	about 970	about 480
I 65	1.02 billion	about 640	about 320
I 75	780 million	about 360	about 180
I 64	713 million	about 330	about 160
I 71	359 million	about 430	about 210

Loaded trucks a day: modeled average along each road within Kentucky, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	25%	1.24 billion
Durable goods, low tech	21%	1.04 billion
Food, beverages and tobacco	12%	—
Farm products	10%	—
Motor vehicles	7%	—
Chemicals	7%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,257 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Kentucky), one trip being one truck on one haul.
- Only miles driven on Kentucky roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Louisiana: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
18.39 billion
a year on Louisiana roads

EXTERNAL COSTS TODAY
$1.3 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$285.0 million
range $182.6 million to $408.4 million

FEWER LOADED TRUCK TRIPS
1.8 million
a year (4,837 a day), at 16 tons a truck; also 287.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$204.2 million	$153.1 million	$3.3 million	$47.8 million
Congestion	$158.5 million	$118.9 million	$0.9 million	$38.7 million
Accident	$375.9 million	$281.9 million	$10.8 million	$83.2 million
PM and NOx emissions	$166.9 million	$125.2 million	$11.1 million	$30.6 million
CO2 emissions	$380.4 million	$285.3 million	$10.4 million	$84.7 million
Total	**$1.3 billion**	**$964.4 million**	**$36.5 million**	**$285.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 10	5.63 billion	about 1,800	about 1,350
I 20	5.15 billion	about 2,350	about 1,750
I 12	2.84 billion	about 2,800	about 2,100
I 49	2.29 billion	about 810	about 600
I 55	292 million	about 360	about 270

Loaded trucks a day: modeled average along each road within Louisiana, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	20%	832 million
Stone, sand, gravel and ores	20%	828 million
Durable goods, low tech	16%	676 million
Food, beverages and tobacco	10%	400 million
Liquids and gases	9%	387 million
Farm products	7%	300 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,589 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Louisiana), one trip being one truck on one haul.
- Only miles driven on Louisiana roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Louisiana: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
5.92 billion
a year on Louisiana roads

EXTERNAL COSTS TODAY
$414.2 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$183.6 million
range $117.6 million to $263.1 million

FEWER LOADED TRUCK TRIPS
1.1 million
a year (3,046 a day), at 16 tons a truck; also 185.1 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$65.8 million	$32.9 million	$2.1 million	$30.8 million
Congestion	$51.1 million	$25.5 million	$0.6 million	$25.0 million
Accident	$121.1 million	$60.5 million	$7.0 million	$53.6 million
PM and NOx emissions	$53.8 million	$26.9 million	$7.2 million	$19.7 million
CO2 emissions	$122.5 million	$61.3 million	$6.7 million	$54.5 million
Total	**$414.2 million**	**$207.1 million**	**$23.5 million**	**$183.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 20	2.67 billion	about 1,200	about 600
I 10	1.28 billion	about 410	about 200
I 12	734 million	about 730	about 360
I 49	554 million	about 190	about 100
I 55	79 million	about 100	about 50

Loaded trucks a day: modeled average along each road within Louisiana, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Stone, sand, gravel and ores	23%	1.57 billion
Consumer manufactured goods	19%	–
Durable goods, low tech	16%	1.14 billion
Food, beverages and tobacco	10%	–
Farm products	7%	–
Liquids and gases	6%	–

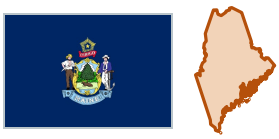
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,589 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Louisiana), one trip being one truck on one haul.
- Only miles driven on Louisiana roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Maine: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
1.39 billion
a year on Maine roads

EXTERNAL COSTS TODAY
$96.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$21.4 million
range $13.8 million to $30.8 million

FEWER LOADED TRUCK TRIPS
217,548
a year (596 a day), at 16 tons a truck; also 21.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$15.4 million	$11.5 million	$0.2 million	$3.7 million
Congestion	$12.0 million	$9.0 million	$68 thousand	$2.9 million
Accident	$28.3 million	$21.3 million	$0.8 million	$6.2 million
PM and NOx emissions	$12.6 million	$9.4 million	$0.8 million	$2.4 million
CO2 emissions	$28.7 million	$21.5 million	$0.8 million	$6.4 million
Total	**$96.9 million**	**$72.7 million**	**$2.8 million**	**$21.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	518 million	about 150	about 110
I 295	105 million	about 180	about 140
US 1	36 million	about 20	about 20
US 1 A	35 million	about 80	about 60
ME 3	14 million	about 70	about 60

Loaded trucks a day: modeled average along each road within Maine, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	34%	66 million
Food, beverages and tobacco	19%	37 million
Durable goods, low tech	14%	27 million
Motor vehicles	8%	15 million
Farm products	7%	13 million
Mixed freight	5%	10 million

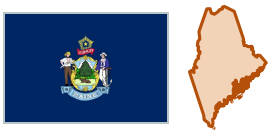
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,053 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Maine), one trip being one truck on one haul.
- Only miles driven on Maine roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Maine: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
434 million
a year on Maine roads

EXTERNAL COSTS TODAY
$30.4 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$13.5 million
range $8.6 million to $19.3 million

FEWER LOADED TRUCK TRIPS
131,499
a year (360 a day), at 16 tons a truck; also 13.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$4.8 million	$2.4 million	$0.2 million	$2.2 million
Congestion	$3.7 million	$1.9 million	$43 thousand	$1.8 million
Accident	$8.9 million	$4.4 million	$0.5 million	$4.0 million
PM and NOx emissions	$3.9 million	$2.0 million	$0.5 million	$1.4 million
CO2 emissions	$9.0 million	$4.5 million	$0.5 million	$4.0 million
Total	**$30.4 million**	**$15.2 million**	**$1.7 million**	**$13.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 95	166 million	about 50	about 30
I 295	32 million	about 60	about 30
US 1	11 million	about 20	about 10
US 1 A	10 million	about 30	about 10
ME 3	5 million	about 30	about 10

Loaded trucks a day: modeled average along each road within Maine, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	36%	89 million
Durable goods, low tech	15%	—
Food, beverages and tobacco	15%	37 million
Farm products	8%	—
Mixed freight	6%	—
Motor vehicles	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,053 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Maine), one trip being one truck on one haul.
- Only miles driven on Maine roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Maryland: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.31 billion
a year on Maryland roads

EXTERNAL COSTS TODAY
$441.6 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$97.9 million
range $62.7 million to $140.2 million

FEWER LOADED TRUCK TRIPS
1.7 million
a year (4,618 a day), at 16 tons a truck; also 98.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$70.1 million	$52.6 million	$1.1 million	$16.4 million
Congestion	$54.4 million	$40.8 million	$0.3 million	$13.3 million
Accident	$129.1 million	$96.8 million	$3.7 million	$28.6 million
PM and NOx emissions	$57.3 million	$43.0 million	$3.8 million	$10.5 million
CO2 emissions	$130.6 million	$98.0 million	$3.6 million	$29.0 million
Total	**$441.6 million**	**$331.2 million**	**$12.5 million**	**$97.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	1.11 billion	about 1,100	about 840
I 70	653 million	about 600	about 450
I 68	577 million	about 610	about 460
I 81	148 million	about 1,050	about 790
I 270	125 million	about 500	about 380

Loaded trucks a day: modeled average along each road within Maryland, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	26%	201 million
Durable goods, low tech	18%	140 million
Food, beverages and tobacco	14%	106 million
Farm products	9%	71 million
Mixed freight	8%	60 million
Chemicals	7%	52 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 805 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Maryland), one trip being one truck on one haul.
- Only miles driven on Maryland roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Maryland: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
1.84 billion
a year on Maryland roads

EXTERNAL COSTS TODAY
$128.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$56.9 million
range $36.5 million to $81.6 million

FEWER LOADED TRUCK TRIPS
949,073
a year (2,600 a day), at 16 tons a truck; also 57.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$20.4 million	$10.2 million	$0.7 million	$9.5 million
Congestion	$15.8 million	$7.9 million	$0.2 million	$7.7 million
Accident	$37.6 million	$18.8 million	$2.2 million	$16.6 million
PM and NOx emissions	$16.7 million	$8.3 million	$2.2 million	$6.2 million
CO2 emissions	$38.0 million	$19.0 million	$2.1 million	$16.9 million
Total	**$128.5 million**	**$64.3 million**	**$7.3 million**	**$56.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 95	369 million	about 450	about 220
I 70	146 million	about 130	about 70
I 68	146 million	about 150	about 80
I 81	50 million	about 360	about 180
I 83	25 million	about 70	about 30

Loaded trucks a day: modeled average along each road within Maryland, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	269 million
Durable goods, low tech	18%	—
Food, beverages and tobacco	15%	152 million
Farm products	9%	—
Mixed freight	9%	—
Chemicals	7%	—

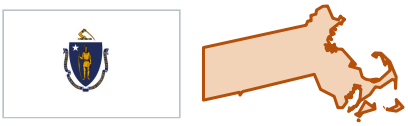
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 805 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Maryland), one trip being one truck on one haul.
- Only miles driven on Maryland roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Massachusetts: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
3.20 billion
a year on Massachusetts roads

EXTERNAL COSTS TODAY
$224.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$49.6 million
range $31.8 million to $71.2 million

FEWER LOADED TRUCK TRIPS
615,031
a year (1,685 a day), at 16 tons a truck; also 50.1 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$35.6 million	$26.7 million	$0.6 million	$8.3 million
Congestion	$27.6 million	$20.7 million	$0.2 million	$6.7 million
Accident	$65.5 million	$49.1 million	$1.9 million	$14.5 million
PM and NOx emissions	$29.1 million	$21.8 million	$1.9 million	$5.4 million
CO2 emissions	$66.3 million	$49.7 million	$1.8 million	$14.8 million
Total	**$224.1 million**	**$168.1 million**	**$6.4 million**	**$49.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
MASSACHUSETTS TPKE	1.16 billion	about 720	about 540
I 495	221 million	about 170	about 130
I 290	78 million	about 330	about 250
I 91	55 million	about 100	about 80
I 95	30 million	about 200	about 150

Loaded trucks a day: modeled average along each road within Massachusetts, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	103 million
Food, beverages and tobacco	16%	66 million
Liquids and gases	15%	60 million
Durable goods, low tech	14%	57 million
Farm products	8%	31 million
Mixed freight	6%	24 million

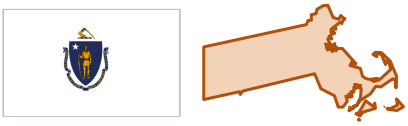
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,087 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Massachusetts), one trip being one truck on one haul.
- Only miles driven on Massachusetts roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Massachusetts: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: liquids and gases and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
1.05 billion
a year on Massachusetts roads

EXTERNAL COSTS TODAY
$73.3 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$32.4 million
range $20.8 million to $46.6 million

FEWER LOADED TRUCK TRIPS
361,503
a year (990 a day), at 16 tons a truck; also 32.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$11.6 million	$5.8 million	$0.4 million	$5.4 million
Congestion	$9.0 million	$4.5 million	$0.1 million	$4.4 million
Accident	$21.4 million	$10.7 million	$1.2 million	$9.5 million
PM and NOx emissions	$9.5 million	$4.8 million	$1.3 million	$3.4 million
CO2 emissions	$21.7 million	$10.8 million	$1.2 million	$9.7 million
Total	**$73.3 million**	**$36.7 million**	**$4.2 million**	**$32.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
MASSACHUSETTS TPKE	415 million	about 260	about 130
I 495	55 million	about 40	about 20
I 290	20 million	about 90	about 40
I 91	12 million	about 20	about 10
I 95	11 million	about 70	about 40

Loaded trucks a day: modeled average along each road within Massachusetts, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	25%	154 million
Liquids and gases	18%	113 million
Food, beverages and tobacco	14%	—
Durable goods, low tech	14%	—
Farm products	9%	—
Mixed freight	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,087 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Massachusetts), one trip being one truck on one haul.
- Only miles driven on Massachusetts roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Michigan: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
10.60 billion
a year on Michigan roads

EXTERNAL COSTS TODAY
$741.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$164.3 million
range $105.3 million to $235.5 million

FEWER LOADED TRUCK TRIPS
1 million
a year (2,860 a day), at 16 tons a truck; also 165.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$117.7 million	$88.3 million	$1.9 million	$27.5 million
Congestion	$91.4 million	$68.6 million	$0.5 million	$22.3 million
Accident	$216.8 million	$162.6 million	$6.2 million	$48.0 million
PM and NOx emissions	$96.3 million	$72.2 million	$6.4 million	$17.7 million
CO2 emissions	$219.3 million	$164.5 million	$6.0 million	$48.8 million
Total	**$741.5 million**	**$556.1 million**	**$21.1 million**	**$164.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 94	3.03 billion	about 1,100	about 810
I 69	1.46 billion	about 650	about 480
I 75	1.18 billion	about 260	about 200
US 23	565 million	about 540	about 400
I 196	449 million	about 500	about 380

Loaded trucks a day: modeled average along each road within Michigan, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	21%	465 million
Durable goods, low tech	19%	421 million
Food, beverages and tobacco	15%	328 million
Motor vehicles	15%	326 million
Farm products	11%	242 million
Durable goods, high tech	4%	91 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,455 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Michigan), one trip being one truck on one haul.
- Only miles driven on Michigan roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Michigan: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: durable goods, low tech and motor vehicles, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
2.43 billion
a year on Michigan roads

EXTERNAL COSTS TODAY
$170.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$75.3 million
range $48.3 million to $108.0 million

FEWER LOADED TRUCK TRIPS
442,569
a year (1,213 a day), at 16 tons a truck; also 76 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$27.0 million	$13.5 million	$0.9 million	$12.6 million
Congestion	$21.0 million	$10.5 million	$0.2 million	$10.3 million
Accident	$49.7 million	$24.8 million	$2.9 million	$22.0 million
PM and NOx emissions	$22.1 million	$11.0 million	$2.9 million	$8.2 million
CO2 emissions	$50.3 million	$25.1 million	$2.8 million	$22.4 million
Total	**$170.0 million**	**$85.0 million**	**$9.7 million**	**$75.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 94	801 million	about 290	about 150
I 69	389 million	about 170	about 90
I 75	164 million	about 40	about 20
I 196	135 million	about 150	about 80
I 96	116 million	about 60	about 30

Loaded trucks a day: modeled average along each road within Michigan, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	20%	—
Durable goods, low tech	19%	579 million
Motor vehicles	15%	441 million
Food, beverages and tobacco	14%	—
Farm products	13%	—
Durable goods, high tech	5%	—

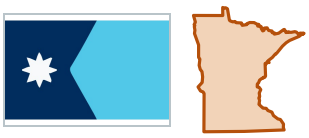
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,455 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Michigan), one trip being one truck on one haul.
- Only miles driven on Michigan roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Minnesota: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
7.78 billion
a year on Minnesota roads

EXTERNAL COSTS TODAY
$544.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$120.5 million
range $77.2 million to $172.8 million

FEWER LOADED TRUCK TRIPS
941,146
a year (2,578 a day), at 16 tons a truck; also 121.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$86.4 million	$64.8 million	$1.4 million	$20.2 million
Congestion	$67.1 million	$50.3 million	$0.4 million	$16.4 million
Accident	$159.0 million	$119.3 million	$4.6 million	$35.1 million
PM and NOx emissions	$70.6 million	$53.0 million	$4.7 million	$12.9 million
CO2 emissions	$160.9 million	$120.7 million	$4.4 million	$35.8 million
Total	**$544.0 million**	**$408.0 million**	**$15.5 million**	**$120.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 94	2.33 billion	about 820	about 620
I 90	1.63 billion	about 510	about 380
I 35	692 million	about 280	about 210
I 694	220 million	about 830	about 620
MN 23	132 million	about 90	about 60

Loaded trucks a day: modeled average along each road within Minnesota, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	20%	298 million
Food, beverages and tobacco	19%	294 million
Durable goods, low tech	17%	263 million
Farm products	16%	235 million
Liquids and gases	6%	88 million
Mixed freight	5%	76 million

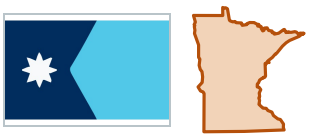
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 4,121 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Minnesota), one trip being one truck on one haul.
- Only miles driven on Minnesota roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Minnesota: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
1.99 billion
a year on Minnesota roads

EXTERNAL COSTS TODAY
$139.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$61.6 million
range $39.5 million to $88.3 million

FEWER LOADED TRUCK TRIPS
473,543
a year (1,297 a day), at 16 tons a truck; also 62.1 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$22.1 million	$11.0 million	$0.7 million	$10.4 million
Congestion	$17.1 million	$8.6 million	$0.2 million	$8.3 million
Accident	$40.6 million	$20.3 million	$2.3 million	$18.0 million
PM and NOx emissions	$18.0 million	$9.0 million	$2.4 million	$6.6 million
CO2 emissions	$41.1 million	$20.6 million	$2.3 million	$18.2 million
Total	**$139.0 million**	**$69.5 million**	**$7.9 million**	**$61.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 94	578 million	about 200	about 100
I 90	529 million	about 160	about 80
I 35	144 million	about 60	about 30
I 694	53 million	about 200	about 100
MN 23	34 million	about 30	about 10

Loaded trucks a day: modeled average along each road within Minnesota, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	20%	—
Food, beverages and tobacco	20%	477 million
Durable goods, low tech	18%	—
Farm products	14%	324 million
Liquids and gases	6%	—
Mixed freight	5%	—

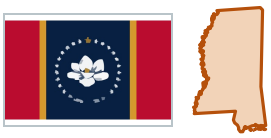
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 4,121 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Minnesota), one trip being one truck on one haul.
- Only miles driven on Minnesota roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Mississippi: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
15.87 billion
a year on Mississippi roads

EXTERNAL COSTS TODAY
$1.1 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$246.0 million
range $157.6 million to $352.4 million

FEWER LOADED TRUCK TRIPS
2.2 million
a year (6,026 a day), at 16 tons a truck; also 248 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$176.2 million	$132.2 million	$2.9 million	$41.1 million
Congestion	$136.8 million	$102.6 million	$0.8 million	$33.4 million
Accident	$324.4 million	$243.3 million	$9.3 million	$71.8 million
PM and NOx emissions	$144.1 million	$108.1 million	$9.6 million	$26.4 million
CO2 emissions	$328.3 million	$246.2 million	$9.0 million	$73.1 million
Total	**$1.1 billion**	**$832.4 million**	**$31.5 million**	**$246.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 20	4.18 billion	about 2,350	about 1,750
I 55	2.51 billion	about 740	about 560
I 10	1.89 billion	about 2,100	about 1,550
I 59	1.82 billion	about 1,050	about 790
I 22	1.80 billion	about 1,450	about 1,100

Loaded trucks a day: modeled average along each road within Mississippi, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	24%	799 million
Stone, sand, gravel and ores	17%	579 million
Durable goods, low tech	17%	560 million
Farm products	10%	340 million
Food, beverages and tobacco	9%	295 million
Chemicals	7%	251 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,272 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Mississippi), one trip being one truck on one haul.
- Only miles driven on Mississippi roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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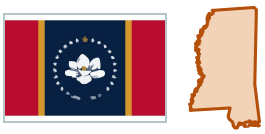
Mississippi: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
4.93 billion
a year on Mississippi roads

EXTERNAL COSTS TODAY
$344.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$152.9 million
range $97.9 million to $219.0 million

FEWER LOADED TRUCK TRIPS
1.4 million
a year (3,841 a day), at 16 tons a truck; also 154.1 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$54.8 million	$27.4 million	$1.8 million	$25.6 million
Congestion	$42.5 million	$21.3 million	$0.5 million	$20.7 million
Accident	$100.8 million	$50.4 million	$5.8 million	$44.6 million
PM and NOx emissions	$44.8 million	$22.4 million	$6.0 million	$16.4 million
CO2 emissions	$102.0 million	$51.0 million	$5.6 million	$45.4 million
Total	**$344.9 million**	**$172.4 million**	**$19.6 million**	**$152.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 20	2.10 billion	about 1,150	about 590
I 55	639 million	about 190	about 90
I 10	525 million	about 580	about 290
I 59	455 million	about 260	about 130
I 22	423 million	about 340	about 170

Loaded trucks a day: modeled average along each road within Mississippi, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	22%	1.13 billion
Stone, sand, gravel and ores	20%	1.06 billion
Durable goods, low tech	16%	–
Farm products	10%	–
Food, beverages and tobacco	8%	–
Chemicals	7%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,272 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Mississippi), one trip being one truck on one haul.
- Only miles driven on Mississippi roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Missouri: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
34.80 billion
a year on Missouri roads

EXTERNAL COSTS TODAY
$2.4 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$539.3 million
range $345.5 million to $772.8 million

FEWER LOADED TRUCK TRIPS
3.5 million
a year (9,522 a day), at 16 tons a truck; also 543.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$386.4 million	$289.8 million	$6.3 million	$90.3 million
Congestion	$300.0 million	$225.0 million	$1.7 million	$73.3 million
Accident	$711.4 million	$533.5 million	$20.5 million	$157.4 million
PM and NOx emissions	$315.9 million	$236.9 million	$21.0 million	$58.0 million
CO2 emissions	$719.8 million	$539.9 million	$19.7 million	$160.2 million
Total	**$2.4 billion**	**$1.8 billion**	**$69.1 million**	**$539.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 44	11.51 billion	about 3,400	about 2,550
I 70	7.38 billion	about 2,550	about 1,900
I 55	4.44 billion	about 1,850	about 1,400
I 29	2.46 billion	about 1,650	about 1,250
I 35	1.45 billion	about 1,150	about 860

Loaded trucks a day: modeled average along each road within Missouri, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	21%	1.76 billion
Durable goods, low tech	20%	1.66 billion
Food, beverages and tobacco	14%	1.13 billion
Farm products	13%	1.08 billion
Mixed freight	7%	577 million
Motor vehicles	6%	532 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,701 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Missouri), one trip being one truck on one haul.
- Only miles driven on Missouri roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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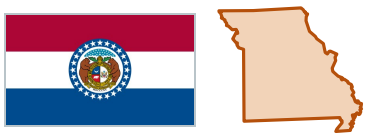
Missouri: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
9.41 billion
a year on Missouri roads

EXTERNAL COSTS TODAY
$657.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$291.6 million
range $186.8 million to $417.8 million

FEWER LOADED TRUCK TRIPS
1.7 million
a year (4,756 a day), at 16 tons a truck; also 294 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$104.5 million	$52.2 million	$3.4 million	$48.9 million
Congestion	$81.1 million	$40.6 million	$0.9 million	$39.6 million
Accident	$192.3 million	$96.2 million	$11.1 million	$85.0 million
PM and NOx emissions	$85.4 million	$42.7 million	$11.4 million	$31.3 million
CO2 emissions	$194.6 million	$97.3 million	$10.7 million	$86.6 million
Total	**$657.9 million**	**$328.9 million**	**$37.4 million**	**$291.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 44	3.10 billion	about 910	about 460
I 70	2.25 billion	about 780	about 390
I 55	1.18 billion	about 490	about 240
I 29	742 million	about 500	about 250
I 35	365 million	about 290	about 140

Loaded trucks a day: modeled average along each road within Missouri, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	21%	—
Durable goods, low tech	21%	2.83 billion
Food, beverages and tobacco	13%	—
Farm products	12%	1.67 billion
Mixed freight	7%	—
Motor vehicles	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,701 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Missouri), one trip being one truck on one haul.
- Only miles driven on Missouri roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Montana: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
13.57 billion
a year on Montana roads

EXTERNAL COSTS TODAY
$948.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$210.2 million
range $134.7 million to $301.3 million

FEWER LOADED TRUCK TRIPS
643,180
a year (1,762 a day), at 16 tons a truck; also 212 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$150.7 million	$113.0 million	$2.4 million	$35.3 million
Congestion	$117.0 million	$87.7 million	$0.7 million	$28.6 million
Accident	$277.4 million	$208.0 million	$8.0 million	$61.4 million
PM and NOx emissions	$123.2 million	$92.4 million	$8.2 million	$22.6 million
CO2 emissions	$280.7 million	$210.5 million	$7.7 million	$62.5 million
Total	**$948.9 million**	**$711.7 million**	**$27.0 million**	**$210.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 90	7.51 billion	about 1,150	about 870
US 212	1.28 billion	about 1,250	about 920
I 94	1.24 billion	about 420	about 320
I 15	704 million	about 160	about 120
SR 200	200 million	about 80	about 60

Loaded trucks a day: modeled average along each road within Montana, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Farm products	22%	656 million
Consumer manufactured goods	20%	602 million
Food, beverages and tobacco	17%	501 million
Durable goods, low tech	15%	439 million
Mixed freight	7%	211 million
Liquids and gases	5%	148 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,188 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Montana), one trip being one truck on one haul.
- Only miles driven on Montana roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Montana: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
4.44 billion
a year on Montana roads

EXTERNAL COSTS TODAY
$310.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$137.7 million
range $88.2 million to $197.2 million

FEWER LOADED TRUCK TRIPS
456,172
a year (1,250 a day), at 16 tons a truck; also 138.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$49.3 million	$24.6 million	$1.6 million	$23.1 million
Congestion	$38.3 million	$19.1 million	$0.4 million	$18.8 million
Accident	$90.8 million	$45.4 million	$5.2 million	$40.2 million
PM and NOx emissions	$40.3 million	$20.2 million	$5.4 million	$14.7 million
CO2 emissions	$91.8 million	$45.9 million	$5.0 million	$40.9 million
Total	**$310.5 million**	**$155.2 million**	**$17.6 million**	**$137.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 90	2.47 billion	about 380	about 190
US 212	476 million	about 460	about 230
I 94	411 million	about 140	about 70
I 15	176 million	about 40	about 20
SR 41	40 million	about 170	about 80

Loaded trucks a day: modeled average along each road within Montana, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	22%	—
Farm products	20%	977 million
Food, beverages and tobacco	19%	920 million
Durable goods, low tech	17%	—
Mixed freight	5%	—
Motor vehicles	4%	—

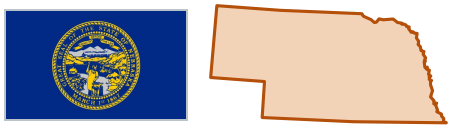
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,188 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Montana), one trip being one truck on one haul.
- Only miles driven on Montana roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Nebraska: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
30.67 billion
a year on Nebraska roads

EXTERNAL COSTS TODAY
$2.1 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$475.2 million
range $304.5 million to $681.0 million

FEWER LOADED TRUCK TRIPS
1.9 million
a year (5,244 a day), at 16 tons a truck; also 479.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$340.5 million	$255.4 million	$5.5 million	$79.6 million
Congestion	$264.4 million	$198.3 million	$1.5 million	$64.6 million
Accident	$626.9 million	$470.2 million	$18.0 million	$138.7 million
PM and NOx emissions	$278.4 million	$208.8 million	$18.5 million	$51.1 million
CO2 emissions	$634.3 million	$475.8 million	$17.4 million	$141.1 million
Total	**$2.1 billion**	**$1.6 billion**	**$60.9 million**	**$475.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	25.58 billion	about 5,000	about 3,750
SR 2	780 million	about 370	about 270
US 30	761 million	about 790	about 590
US 81	523 million	about 430	about 320
US 83	189 million	about 170	about 130

Loaded trucks a day: modeled average along each road within Nebraska, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	23%	1.71 billion
Food, beverages and tobacco	20%	1.44 billion
Farm products	16%	1.16 billion
Durable goods, low tech	15%	1.13 billion
Mixed freight	7%	491 million
Durable goods, high tech	5%	352 million

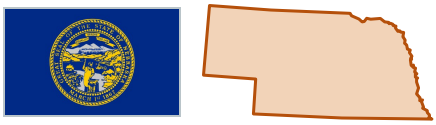
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,992 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Nebraska), one trip being one truck on one haul.
- Only miles driven on Nebraska roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Nebraska: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
9.78 billion
a year on Nebraska roads

EXTERNAL COSTS TODAY
$684.2 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$303.2 million
range $194.3 million to $434.6 million

FEWER LOADED TRUCK TRIPS
1.2 million
a year (3,220 a day), at 16 tons a truck; also 305.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$108.6 million	$54.3 million	$3.5 million	$50.8 million
Congestion	$84.4 million	$42.2 million	$1.0 million	$41.2 million
Accident	$200.0 million	$100.0 million	$11.5 million	$88.5 million
PM and NOx emissions	$88.8 million	$44.4 million	$11.8 million	$32.6 million
CO2 emissions	$202.4 million	$101.2 million	$11.1 million	$90.1 million
Total	**$684.2 million**	**$342.1 million**	**$38.9 million**	**$303.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	8.46 billion	about 1,650	about 830
SR 2	246 million	about 120	about 60
US 30	217 million	about 230	about 110
US 81	104 million	about 80	about 40
US 83	47 million	about 40	about 20

Loaded trucks a day: modeled average along each road within Nebraska, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	24%	—
Food, beverages and tobacco	20%	2.74 billion
Durable goods, low tech	15%	—
Farm products	14%	1.97 billion
Mixed freight	7%	—
Durable goods, high tech	5%	—

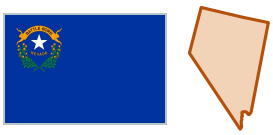
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,992 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Nebraska), one trip being one truck on one haul.
- Only miles driven on Nebraska roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Nevada: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
20.14 billion
a year on Nevada roads

EXTERNAL COSTS TODAY
$1.4 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$312.1 million
range $200.0 million to $447.2 million

FEWER LOADED TRUCK TRIPS
1.7 million
a year (4,686 a day), at 16 tons a truck; also 314.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$223.6 million	$167.7 million	$3.6 million	$52.3 million
Congestion	$173.6 million	$130.2 million	$1.0 million	$42.4 million
Accident	$411.7 million	$308.8 million	$11.8 million	$91.1 million
PM and NOx emissions	$182.8 million	$137.1 million	$12.2 million	$33.5 million
CO2 emissions	$416.6 million	$312.4 million	$11.4 million	$92.8 million
Total	**$1.4 billion**	**$1.1 billion**	**$40.0 million**	**$312.1 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	10.89 billion	about 2,250	about 1,700
I 15	5.16 billion	about 3,550	about 2,700
US 95	1.19 billion	about 530	about 400
US 50	258 million	about 130	about 100
US 6	156 million	about 90	about 70

Loaded trucks a day: modeled average along each road within Nevada, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	1.17 billion
Food, beverages and tobacco	20%	948 million
Farm products	15%	678 million
Durable goods, low tech	13%	627 million
Mixed freight	6%	299 million
Stone, sand, gravel and ores	5%	210 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,262 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Nevada), one trip being one truck on one haul.
- Only miles driven on Nevada roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Nevada: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.24 billion
a year on Nevada roads

EXTERNAL COSTS TODAY
$436.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$193.5 million
range $123.9 million to $277.2 million

FEWER LOADED TRUCK TRIPS
968,421
a year (2,653 a day), at 16 tons a truck; also 195 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$69.3 million	$34.6 million	$2.2 million	$32.5 million
Congestion	$53.8 million	$26.9 million	$0.6 million	$26.3 million
Accident	$127.6 million	$63.8 million	$7.3 million	$56.5 million
PM and NOx emissions	$56.7 million	$28.3 million	$7.5 million	$20.9 million
CO2 emissions	$129.1 million	$64.6 million	$7.1 million	$57.4 million
Total	**$436.5 million**	**$218.2 million**	**$24.8 million**	**$193.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	3.70 billion	about 770	about 390
I 15	1.45 billion	about 1,000	about 500
US 95	369 million	about 160	about 80
US 50	62 million	about 30	about 20
SR 361	37 million	about 100	about 50

Loaded trucks a day: modeled average along each road within Nevada, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	—
Food, beverages and tobacco	20%	1.68 billion
Farm products	15%	1.23 billion
Durable goods, low tech	13%	—
Mixed freight	6%	—
Durable goods, high tech	4%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,262 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Nevada), one trip being one truck on one haul.
- Only miles driven on Nevada roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New Hampshire: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
256 million
a year on New Hampshire roads

EXTERNAL COSTS TODAY
$17.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$4.0 million
range $2.5 million to $5.7 million

FEWER LOADED TRUCK TRIPS
264,119
a year (724 a day), at 16 tons a truck; also 4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$2.8 million	$2.1 million	$46 thousand	$0.7 million
Congestion	$2.2 million	$1.7 million	$13 thousand	$0.5 million
Accident	$5.2 million	$3.9 million	$0.2 million	$1.1 million
PM and NOx emissions	$2.3 million	$1.7 million	$0.2 million	$0.4 million
CO2 emissions	$5.3 million	$4.0 million	$0.1 million	$1.2 million
Total	**$17.9 million**	**$13.4 million**	**$0.5 million**	**$4.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
BLUE STAR TPKE	75 million	about 400	about 300
FRANKLIN PIERCE HWY	33 million	about 120	about 90
NH 9	12 million	about 180	about 130
I 93	9 million	about 10	fewer than 10
US 3	5 million	about 20	about 10

Loaded trucks a day: modeled average along each road within New Hampshire, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	31%	14 million
Food, beverages and tobacco	20%	9 million
Durable goods, low tech	16%	7 million
Mixed freight	8%	3 million
Durable goods, high tech	5%	2 million
Motor vehicles	5%	2 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 398 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New Hampshire), one trip being one truck on one haul.
- Only miles driven on New Hampshire roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New Hampshire: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: consumer manufactured goods and mixed freight, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
72 million
a year on New Hampshire roads

EXTERNAL COSTS TODAY
$5.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$2.3 million
range $1.4 million to $3.2 million

FEWER LOADED TRUCK TRIPS
132,279
a year (362 a day), at 16 tons a truck; also 2.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$0.8 million	$0.4 million	$26 thousand	$0.4 million
Congestion	$0.6 million	$0.3 million	$7 thousand	$0.3 million
Accident	$1.5 million	$0.7 million	$85 thousand	$0.7 million
PM and NOx emissions	$0.7 million	$0.3 million	$88 thousand	$0.3 million
CO2 emissions	$1.5 million	$0.7 million	$82 thousand	$0.7 million
Total	**$5.1 million**	**$2.5 million**	**$0.3 million**	**$2.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
BLUE STAR TPKE	21 million	about 110	about 60
FRANKLIN PIERCE HWY	9 million	about 30	about 20
NH 9	3 million	about 50	about 30
I 93	3 million	fewer than 10	fewer than 10
US 3	1 million	fewer than 10	fewer than 10

Loaded trucks a day: modeled average along each road within New Hampshire, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	32%	19 million
Food, beverages and tobacco	19%	—
Durable goods, low tech	17%	—
Mixed freight	9%	5 million
Durable goods, high tech	6%	—
Farm products	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 398 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New Hampshire), one trip being one truck on one haul.
- Only miles driven on New Hampshire roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New Jersey: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
7.08 billion
a year on New Jersey roads

EXTERNAL COSTS TODAY
$494.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$109.6 million
range $70.2 million to $157.1 million

FEWER LOADED TRUCK TRIPS
1.8 million
a year (4,829 a day), at 16 tons a truck; also 110.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$78.6 million	$58.9 million	$1.3 million	$18.4 million
Congestion	$61.0 million	$45.7 million	$0.3 million	$15.0 million
Accident	$144.6 million	$108.5 million	$4.2 million	$31.9 million
PM and NOx emissions	$64.2 million	$48.2 million	$4.3 million	$11.7 million
CO2 emissions	$146.4 million	$109.8 million	$4.0 million	$32.6 million
Total	**$494.8 million**	**$371.1 million**	**$14.1 million**	**$109.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
NEW JERSEY TPKE	1.48 billion	about 1,450	about 1,100
I 80	1.33 billion	about 2,050	about 1,500
I 78	225 million	about 360	about 270
I 295	66 million	about 80	about 60
NJ 31	52 million	about 230	about 170

Loaded trucks a day: modeled average along each road within New Jersey, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	26%	220 million
Durable goods, low tech	17%	148 million
Food, beverages and tobacco	17%	143 million
Farm products	8%	67 million
Liquids and gases	6%	51 million
Mixed freight	6%	48 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,006 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New Jersey), one trip being one truck on one haul.
- Only miles driven on New Jersey roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New Jersey: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
2.30 billion
a year on New Jersey roads

EXTERNAL COSTS TODAY
$161.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$71.3 million
range $45.7 million to $102.3 million

FEWER LOADED TRUCK TRIPS
1.1 million
a year (3,082 a day), at 16 tons a truck; also 72 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$25.6 million	$12.8 million	$0.8 million	$12.0 million
Congestion	$19.9 million	$9.9 million	$0.2 million	$9.8 million
Accident	$47.1 million	$23.5 million	$2.7 million	$20.9 million
PM and NOx emissions	$20.9 million	$10.5 million	$2.8 million	$7.6 million
CO2 emissions	$47.7 million	$23.8 million	$2.6 million	$21.3 million
Total	**$161.1 million**	**$80.6 million**	**$9.2 million**	**$71.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
NEW JERSEY TPKE	499 million	about 480	about 240
I 80	436 million	about 670	about 330
I 78	52 million	about 80	about 40
I 295	23 million	about 40	about 20
NJ 31	18 million	about 80	about 40

Loaded trucks a day: modeled average along each road within New Jersey, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	333 million
Durable goods, low tech	18%	–
Food, beverages and tobacco	17%	223 million
Farm products	8%	–
Liquids and gases	7%	–
Mixed freight	6%	–

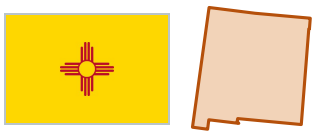
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,006 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New Jersey), one trip being one truck on one haul.
- Only miles driven on New Jersey roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New Mexico: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
29.52 billion
a year on New Mexico roads

EXTERNAL COSTS TODAY
$2.1 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$457.4 million
range $293.1 million to $655.6 million

FEWER LOADED TRUCK TRIPS
2 million
a year (5,369 a day), at 16 tons a truck; also 461.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$327.8 million	$245.9 million	$5.3 million	$76.6 million
Congestion	$254.5 million	$190.9 million	$1.4 million	$62.2 million
Accident	$603.5 million	$452.7 million	$17.4 million	$133.4 million
PM and NOx emissions	$268.0 million	$201.0 million	$17.8 million	$49.2 million
CO2 emissions	$610.7 million	$458.0 million	$16.7 million	$136.0 million
Total	**$2.1 billion**	**$1.5 billion**	**$58.7 million**	**$457.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 40	18.23 billion	about 4,200	about 3,150
I 10	4.45 billion	about 2,300	about 1,750
I 25	1.65 billion	about 310	about 230
US 550	589 million	about 690	about 520
SR 39	311 million	about 570	about 430

Loaded trucks a day: modeled average along each road within New Mexico, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	20%	1.33 billion
Durable goods, low tech	19%	1.25 billion
Farm products	13%	901 million
Food, beverages and tobacco	13%	873 million
Durable goods, high tech	7%	505 million
Mixed freight	7%	458 million

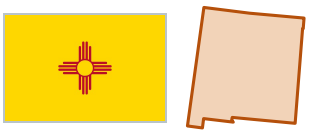
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,155 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New Mexico), one trip being one truck on one haul.
- Only miles driven on New Mexico roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New Mexico: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
8.97 billion
a year on New Mexico roads

EXTERNAL COSTS TODAY
$627.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$277.9 million
range $178.1 million to $398.3 million

FEWER LOADED TRUCK TRIPS
1.2 million
a year (3,205 a day), at 16 tons a truck; also 280.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$99.6 million	$49.8 million	$3.2 million	$46.6 million
Congestion	$77.3 million	$38.7 million	$0.9 million	$37.7 million
Accident	$183.3 million	$91.7 million	$10.5 million	$81.1 million
PM and NOx emissions	$81.4 million	$40.7 million	$10.8 million	$29.9 million
CO2 emissions	$185.5 million	$92.8 million	$10.2 million	$82.5 million
Total	**$627.1 million**	**$313.6 million**	**$35.6 million**	**$277.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 40	5.51 billion	about 1,250	about 630
I 10	1.70 billion	about 890	about 440
I 25	443 million	about 80	about 40
US 56	110 million	about 200	about 100
US 550	105 million	about 120	about 60

Loaded trucks a day: modeled average along each road within New Mexico, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	20%	–
Durable goods, low tech	19%	2.40 billion
Farm products	14%	1.75 billion
Food, beverages and tobacco	13%	–
Durable goods, high tech	8%	–
Mixed freight	7%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,155 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New Mexico), one trip being one truck on one haul.
- Only miles driven on New Mexico roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New York: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
10.66 billion
a year on New York roads

EXTERNAL COSTS TODAY
$745.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$165.2 million
range $105.8 million to $236.7 million

FEWER LOADED TRUCK TRIPS
1.8 million
a year (4,982 a day), at 16 tons a truck; also 166.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$118.4 million	$88.8 million	$1.9 million	$27.7 million
Congestion	$91.9 million	$68.9 million	$0.5 million	$22.5 million
Accident	$217.9 million	$163.4 million	$6.3 million	$48.2 million
PM and NOx emissions	$96.8 million	$72.6 million	$6.4 million	$17.8 million
CO2 emissions	$220.5 million	$165.4 million	$6.0 million	$49.1 million
Total	**$745.5 million**	**$559.1 million**	**$21.2 million**	**$165.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
NEW YORK STATE THWY	2.11 billion	about 500	about 370
SOUTHERN TIER EXPY	668 million	about 280	about 210
BERKSHIRE CONNECTOR	99 million	about 350	about 260
I 81	98 million	about 50	about 40
ADIRONDACK NORTHWAY	67 million	about 90	about 70

Loaded trucks a day: modeled average along each road within New York, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	24%	214 million
Food, beverages and tobacco	22%	199 million
Durable goods, low tech	19%	173 million
Farm products	8%	75 million
Stone, sand, gravel and ores	8%	70 million
Motor vehicles	5%	49 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,805 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New York), one trip being one truck on one haul.
- Only miles driven on New York roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

New York: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and liquids and gases, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
1.96 billion
a year on New York roads

EXTERNAL COSTS TODAY
$136.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$60.6 million
range $38.8 million to $86.9 million

FEWER LOADED TRUCK TRIPS
597,847
a year (1,638 a day), at 16 tons a truck; also 61.1 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$21.7 million	$10.9 million	$0.7 million	$10.1 million
Congestion	$16.9 million	$8.4 million	$0.2 million	$8.3 million
Accident	$40.0 million	$20.0 million	$2.3 million	$17.7 million
PM and NOx emissions	$17.8 million	$8.9 million	$2.4 million	$6.5 million
CO2 emissions	$40.5 million	$20.2 million	$2.2 million	$18.1 million
Total	**$136.8 million**	**$68.4 million**	**$7.8 million**	**$60.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
NEW YORK STATE THWY	276 million	about 70	about 30
SOUTHERN TIER EXPY	79 million	about 40	about 20
BERKSHIRE CONNECTOR	19 million	about 70	about 30
I 81	15 million	fewer than 10	fewer than 10
US 11	12 million	about 10	fewer than 10

Loaded trucks a day: modeled average along each road within New York, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	23%	—
Food, beverages and tobacco	21%	228 million
Durable goods, low tech	18%	—
Farm products	10%	—
Stone, sand, gravel and ores	8%	—
Motor vehicles	5%	—
Liquids and gases	1%	16 million

Only the commodities you chose are shifted to rail. Others stay on trucks.

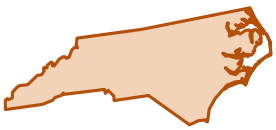
- Rail alternative: about 3,805 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through New York), one trip being one truck on one haul.
- Only miles driven on New York roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

North Carolina: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
15.63 billion
a year on North Carolina roads

EXTERNAL COSTS TODAY
$1.1 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$242.2 million
range $155.2 million to $347.2 million

FEWER LOADED TRUCK TRIPS
2.1 million
a year (5,697 a day), at 16 tons a truck; also 244.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$173.6 million	$130.2 million	$2.8 million	$40.6 million
Congestion	$134.8 million	$101.1 million	$0.8 million	$32.9 million
Accident	$319.6 million	$239.7 million	$9.2 million	$70.7 million
PM and NOx emissions	$141.9 million	$106.4 million	$9.4 million	$26.1 million
CO2 emissions	$323.4 million	$242.5 million	$8.8 million	$72.1 million
Total	**$1.1 billion**	**$819.9 million**	**$31.1 million**	**$242.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	3.29 billion	about 1,550	about 1,150
I 40	2.69 billion	about 700	about 530
I 77	2.09 billion	about 1,700	about 1,250
I 85	1.69 billion	about 750	about 560
CHARLOTTE BELTWAY	513 million	about 680	about 510

Loaded trucks a day: modeled average along each road within North Carolina, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	24%	724 million
Stone, sand, gravel and ores	21%	619 million
Durable goods, low tech	17%	509 million
Food, beverages and tobacco	11%	340 million
Farm products	9%	262 million
Chemicals	5%	145 million

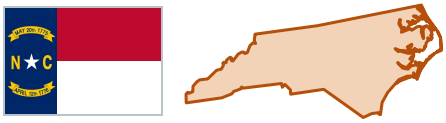
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,147 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through North Carolina), one trip being one truck on one haul.
- Only miles driven on North Carolina roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

North Carolina: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
5.61 billion
a year on North Carolina roads

EXTERNAL COSTS TODAY
$392.4 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$173.9 million
range $111.4 million to $249.2 million

FEWER LOADED TRUCK TRIPS
1.1 million
a year (3,123 a day), at 16 tons a truck; also 175.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$62.3 million	$31.2 million	$2.0 million	$29.1 million
Congestion	$48.4 million	$24.2 million	$0.5 million	$23.7 million
Accident	$114.7 million	$57.4 million	$6.6 million	$50.7 million
PM and NOx emissions	$50.9 million	$25.5 million	$6.8 million	$18.6 million
CO2 emissions	$116.1 million	$58.0 million	$6.4 million	$51.7 million
Total	**$392.4 million**	**$196.2 million**	**$22.3 million**	**$173.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 40	1.45 billion	about 380	about 190
I 85	958 million	about 420	about 210
I 95	731 million	about 350	about 170
I 77	389 million	about 330	about 160
CHARLOTTE BELTWAY	183 million	about 240	about 120

Loaded trucks a day: modeled average along each road within North Carolina, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Stone, sand, gravel and ores	27%	1.14 billion
Consumer manufactured goods	21%	904 million
Durable goods, low tech	15%	—
Food, beverages and tobacco	11%	—
Farm products	8%	—
Chemicals	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

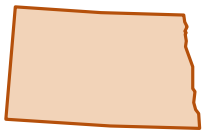
- Rail alternative: about 3,147 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through North Carolina), one trip being one truck on one haul.
- Only miles driven on North Carolina roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

North Dakota: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
4.02 billion
a year on North Dakota roads

EXTERNAL COSTS TODAY
$281.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$62.3 million
range $39.9 million to $89.2 million

FEWER LOADED TRUCK TRIPS
407,777
a year (1,117 a day), at 16 tons a truck; also 62.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$44.6 million	$33.5 million	$0.7 million	$10.4 million
Congestion	$34.6 million	$26.0 million	$0.2 million	$8.4 million
Accident	$82.1 million	$61.6 million	$2.4 million	$18.1 million
PM and NOx emissions	$36.5 million	$27.4 million	$2.4 million	$6.7 million
CO2 emissions	$83.1 million	$62.3 million	$2.3 million	$18.5 million
Total	**$281.0 million**	**$210.7 million**	**$8.0 million**	**$62.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 94	2.15 billion	about 520	about 390
I 29	507 million	about 310	about 230
US 2	295 million	about 140	about 110
US 52	254 million	about 230	about 170
US 83	78 million	about 100	about 80

Loaded trucks a day: modeled average along each road within North Dakota, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	19%	167 million
Durable goods, low tech	18%	162 million
Farm products	16%	148 million
Food, beverages and tobacco	15%	137 million
Liquids and gases	10%	92 million
Motor vehicles	5%	45 million

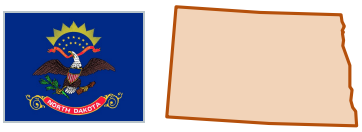
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,321 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through North Dakota), one trip being one truck on one haul.
- Only miles driven on North Dakota roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

North Dakota: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
1.05 billion
a year on North Dakota roads

EXTERNAL COSTS TODAY
$73.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$32.5 million
range $20.9 million to $46.7 million

FEWER LOADED TRUCK TRIPS
204,935
a year (561 a day), at 16 tons a truck; also 32.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$11.7 million	$5.8 million	$0.4 million	$5.5 million
Congestion	$9.1 million	$4.5 million	$0.1 million	$4.5 million
Accident	$21.5 million	$10.7 million	$1.2 million	$9.6 million
PM and NOx emissions	$9.5 million	$4.8 million	$1.3 million	$3.4 million
CO2 emissions	$21.8 million	$10.9 million	$1.2 million	$9.7 million
Total	**$73.5 million**	**$36.8 million**	**$4.2 million**	**$32.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 94	622 million	about 150	about 80
I 29	85 million	about 50	about 30
US 2	57 million	about 30	about 10
US 52	43 million	about 40	about 20
US 85	19 million	about 20	about 10

Loaded trucks a day: modeled average along each road within North Dakota, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Durable goods, low tech	20%	–
Consumer manufactured goods	19%	–
Food, beverages and tobacco	15%	223 million
Farm products	15%	220 million
Liquids and gases	10%	–
Motor vehicles	5%	–

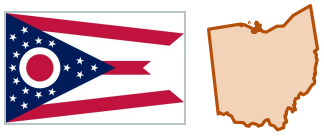
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,321 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through North Dakota), one trip being one truck on one haul.
- Only miles driven on North Dakota roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Ohio: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
40.59 billion
a year on Ohio roads

EXTERNAL COSTS TODAY
$2.8 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$629.2 million
range $403.0 million to $901.5 million

FEWER LOADED TRUCK TRIPS
3.8 million
a year (10,458 a day), at 16 tons a truck; also 634.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$450.7 million	$338.0 million	$7.3 million	$105.4 million
Congestion	$350.0 million	$262.5 million	$2.0 million	$85.5 million
Accident	$829.9 million	$622.4 million	$23.9 million	$183.6 million
PM and NOx emissions	$368.5 million	$276.4 million	$24.5 million	$67.6 million
CO2 emissions	$839.7 million	$629.8 million	$23.0 million	$186.9 million
Total	**$2.8 billion**	**$2.1 billion**	**$80.6 million**	**$629.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	15.83 billion	about 5,750	about 4,300
I 70	5.10 billion	about 2,000	about 1,500
I 71	4.81 billion	about 1,700	about 1,300
I 75	2.31 billion	about 960	about 720
I 90	1.69 billion	about 1,450	about 1,100

Loaded trucks a day: modeled average along each road within Ohio, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	2.39 billion
Durable goods, low tech	20%	1.91 billion
Food, beverages and tobacco	17%	1.56 billion
Farm products	9%	809 million
Mixed freight	6%	566 million
Motor vehicles	6%	559 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 4,772 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Ohio), one trip being one truck on one haul.
- Only miles driven on Ohio roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Ohio: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
11.49 billion
a year on Ohio roads

EXTERNAL COSTS TODAY
$803.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$356.1 million
range $228.1 million to $510.3 million

FEWER LOADED TRUCK TRIPS
2.1 million
a year (5,627 a day), at 16 tons a truck; also 359 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$127.6 million	$63.8 million	$4.1 million	$59.7 million
Congestion	$99.1 million	$49.5 million	$1.1 million	$48.5 million
Accident	$234.9 million	$117.4 million	$13.5 million	$104.0 million
PM and NOx emissions	$104.3 million	$52.2 million	$13.9 million	$38.2 million
CO2 emissions	$237.7 million	$118.8 million	$13.0 million	$105.9 million
Total	**$803.5 million**	**$401.7 million**	**$45.7 million**	**$356.1 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	5.83 billion	about 2,100	about 1,050
I 70	1.33 billion	about 520	about 260
I 71	985 million	about 350	about 170
I 90	503 million	about 490	about 240
US 35	391 million	about 240	about 120

Loaded trucks a day: modeled average along each road within Ohio, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	3.27 billion
Durable goods, low tech	18%	–
Food, beverages and tobacco	16%	2.09 billion
Farm products	10%	–
Mixed freight	7%	–
Motor vehicles	5%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 4,772 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Ohio), one trip being one truck on one haul.
- Only miles driven on Ohio roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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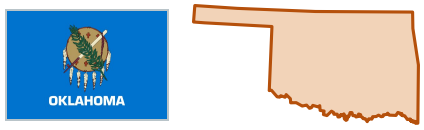
Oklahoma: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
28.30 billion
a year on Oklahoma roads

EXTERNAL COSTS TODAY
$2.0 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$438.5 million
range $280.9 million to $628.4 million

FEWER LOADED TRUCK TRIPS
2.6 million
a year (7,232 a day), at 16 tons a truck; also 442.1 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$314.2 million	$235.6 million	$5.1 million	$73.5 million
Congestion	$244.0 million	$183.0 million	$1.4 million	$59.6 million
Accident	$578.5 million	$433.9 million	$16.6 million	$128.0 million
PM and NOx emissions	$256.9 million	$192.7 million	$17.1 million	$47.1 million
CO2 emissions	$585.4 million	$439.0 million	$16.0 million	$130.4 million
Total	**$2.0 billion**	**$1.5 billion**	**$56.2 million**	**$438.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 40	8.60 billion	about 2,250	about 1,650
I 44	6.74 billion	about 1,800	about 1,350
I 35	3.88 billion	about 1,450	about 1,100
US 69	3.01 billion	about 1,750	about 1,300
US 412	393 million	about 310	about 240

Loaded trucks a day: modeled average along each road within Oklahoma, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	20%	1.28 billion
Durable goods, low tech	20%	1.27 billion
Food, beverages and tobacco	13%	798 million
Farm products	11%	716 million
Mixed freight	7%	464 million
Durable goods, high tech	7%	419 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,128 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Oklahoma), one trip being one truck on one haul.
- Only miles driven on Oklahoma roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Oklahoma: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: consumer manufactured goods and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
10.42 billion
a year on Oklahoma roads

EXTERNAL COSTS TODAY
$728.6 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$322.9 million
range $206.9 million to $462.7 million

FEWER LOADED TRUCK TRIPS
1.8 million
a year (5,062 a day), at 16 tons a truck; also 325.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$115.7 million	$57.8 million	$3.7 million	$54.2 million
Congestion	$89.8 million	$44.9 million	$1.0 million	$43.9 million
Accident	$213.0 million	$106.5 million	$12.2 million	$94.3 million
PM and NOx emissions	$94.6 million	$47.3 million	$12.6 million	$34.7 million
CO2 emissions	$215.5 million	$107.8 million	$11.8 million	$95.9 million
Total	**$728.6 million**	**$364.3 million**	**$41.4 million**	**$322.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 40	3.62 billion	about 940	about 470
I 44	2.78 billion	about 750	about 370
I 35	1.04 billion	about 390	about 200
US 69	1.02 billion	about 590	about 300
US 412	130 million	about 120	about 60

Loaded trucks a day: modeled average along each road within Oklahoma, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	21%	2.35 billion
Durable goods, low tech	21%	2.25 billion
Food, beverages and tobacco	13%	–
Farm products	11%	–
Mixed freight	8%	–
Durable goods, high tech	7%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,128 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Oklahoma), one trip being one truck on one haul.
- Only miles driven on Oklahoma roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Oregon: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
12.95 billion
a year on Oregon roads

EXTERNAL COSTS TODAY
$905.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$200.7 million
range $128.6 million to $287.7 million

FEWER LOADED TRUCK TRIPS
817,097
a year (2,239 a day), at 16 tons a truck; also 202.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$143.8 million	$107.9 million	$2.3 million	$33.6 million
Congestion	$111.7 million	$83.8 million	$0.6 million	$27.3 million
Accident	$264.8 million	$198.6 million	$7.6 million	$58.6 million
PM and NOx emissions	$117.6 million	$88.2 million	$7.8 million	$21.6 million
CO2 emissions	$267.9 million	$201.0 million	$7.3 million	$59.6 million
Total	**$905.8 million**	**$679.4 million**	**$25.7 million**	**$200.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 84	5.89 billion	about 1,350	about 1,000
I 5	4.01 billion	about 1,100	about 840
THE DALLES-CALIFORNIA HWY	900 million	about 570	about 430
US 95	234 million	about 330	about 250
KLAMATH FALLS-LAKEVIEW HWY	102 million	about 190	about 140

Loaded trucks a day: modeled average along each road within Oregon, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	28%	847 million
Food, beverages and tobacco	18%	527 million
Durable goods, low tech	16%	476 million
Farm products	13%	376 million
Mixed freight	7%	197 million
Chemicals	6%	177 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,228 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Oregon), one trip being one truck on one haul.
- Only miles driven on Oregon roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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Oregon: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
4.90 billion
a year on Oregon roads

EXTERNAL COSTS TODAY
$342.4 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$151.7 million
range $97.2 million to $217.4 million

FEWER LOADED TRUCK TRIPS
635,581
a year (1,741 a day), at 16 tons a truck; also 153 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$54.4 million	$27.2 million	$1.8 million	$25.4 million
Congestion	$42.2 million	$21.1 million	$0.5 million	$20.6 million
Accident	$100.1 million	$50.0 million	$5.8 million	$44.3 million
PM and NOx emissions	$44.4 million	$22.2 million	$5.9 million	$16.3 million
CO2 emissions	$101.3 million	$50.6 million	$5.5 million	$45.2 million
Total	**$342.4 million**	**$171.2 million**	**$19.5 million**	**$151.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 84	2.35 billion	about 540	about 270
I 5	1.32 billion	about 370	about 180
THE DALLES-CALIFORNIA HWY	368 million	about 230	about 120
US 95	83 million	about 120	about 60
KLAMATH FALLS-LAKEVIEW HWY	56 million	about 110	about 50

Loaded trucks a day: modeled average along each road within Oregon, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	28%	1.41 billion
Durable goods, low tech	17%	—
Food, beverages and tobacco	17%	824 million
Farm products	13%	—
Chemicals	7%	—
Mixed freight	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

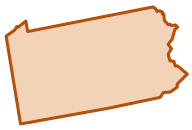
- Rail alternative: about 2,228 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Oregon), one trip being one truck on one haul.
- Only miles driven on Oregon roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Pennsylvania: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
31.66 billion
a year on Pennsylvania roads

EXTERNAL COSTS TODAY
$2.2 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$490.6 million
range $314.3 million to $703.1 million

FEWER LOADED TRUCK TRIPS
2.7 million
a year (7,469 a day), at 16 tons a truck; also 494.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$351.5 million	$263.6 million	$5.7 million	$82.2 million
Congestion	$272.9 million	$204.7 million	$1.6 million	$66.6 million
Accident	$647.2 million	$485.4 million	$18.6 million	$143.2 million
PM and NOx emissions	$287.4 million	$215.6 million	$19.1 million	$52.7 million
CO2 emissions	$654.9 million	$491.2 million	$17.9 million	$145.8 million
Total	**$2.2 billion**	**$1.7 billion**	**$62.9 million**	**$490.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	13.29 billion	about 3,650	about 2,750
PENNSYLVANIA TPKE	4.99 billion	about 1,300	about 980
I 81	1.75 billion	about 650	about 490
I 90	927 million	about 1,700	about 1,300
I 70	866 million	about 900	about 680

Loaded trucks a day: modeled average along each road within Pennsylvania, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	25%	1.58 billion
Durable goods, low tech	18%	1.17 billion
Food, beverages and tobacco	18%	1.12 billion
Farm products	8%	528 million
Mixed freight	6%	352 million
Chemicals	5%	340 million

Your mode-shift percentage applies to every commodity.

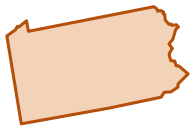
- Rail alternative: about 4,664 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Pennsylvania), one trip being one truck on one haul.
- Only miles driven on Pennsylvania roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Pennsylvania: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
9.39 billion
a year on Pennsylvania roads

EXTERNAL COSTS TODAY
$656.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$291.1 million
range $186.5 million to $417.1 million

FEWER LOADED TRUCK TRIPS
1.6 million
a year (4,253 a day), at 16 tons a truck; also 293.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$104.3 million	$52.1 million	$3.4 million	$48.8 million
Congestion	$81.0 million	$40.5 million	$0.9 million	$39.6 million
Accident	$192.0 million	$96.0 million	$11.0 million	$85.0 million
PM and NOx emissions	$85.3 million	$42.6 million	$11.3 million	$31.4 million
CO2 emissions	$194.3 million	$97.1 million	$10.6 million	$86.6 million
Total	**$656.8 million**	**$328.4 million**	**$37.3 million**	**$291.1 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	4.36 billion	about 1,200	about 600
PENNSYLVANIA TPKE	1.15 billion	about 300	about 150
I 81	539 million	about 210	about 100
I 90	258 million	about 480	about 240
I 78	224 million	about 250	about 120

Loaded trucks a day: modeled average along each road within Pennsylvania, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	24%	2.14 billion
Food, beverages and tobacco	18%	1.59 billion
Durable goods, low tech	17%	—
Farm products	10%	—
Liquids and gases	7%	—
Mixed freight	6%	—

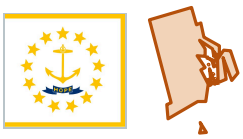
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 4,664 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Pennsylvania), one trip being one truck on one haul.
- Only miles driven on Pennsylvania roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Rhode Island: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
94 million
a year on Rhode Island roads

EXTERNAL COSTS TODAY
$6.5 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$1.4 million
range $0.9 million to $2.1 million

FEWER LOADED TRUCK TRIPS
66,931
a year (183 a day), at 16 tons a truck; also 1.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$1.0 million	$0.8 million	$17 thousand	$0.2 million
Congestion	$0.8 million	$0.6 million	$5 thousand	$0.2 million
Accident	$1.9 million	$1.4 million	$55 thousand	$0.4 million
PM and NOx emissions	$0.8 million	$0.6 million	$56 thousand	$0.1 million
CO2 emissions	$1.9 million	$1.5 million	$53 thousand	$0.3 million
Total	**$6.5 million**	**$4.9 million**	**$0.2 million**	**$1.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	77 million	about 170	about 130
RI 138	4 million	about 30	about 20
I 195	4 million	about 100	about 70
RI 4	863 thousand	about 30	about 20
RI 102	833 thousand	about 20	about 10

Loaded trucks a day: modeled average along each road within Rhode Island, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	37%	8 million
Durable goods, low tech	16%	4 million
Food, beverages and tobacco	10%	2 million
Mixed freight	8%	2 million
Farm products	7%	2 million
Chemicals	6%	1 million

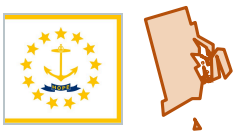
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 68 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Rhode Island), one trip being one truck on one haul.
- Only miles driven on Rhode Island roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Rhode Island: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: consumer manufactured goods and mixed freight, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
29 million
a year on Rhode Island roads

EXTERNAL COSTS TODAY
$2.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$1.0 million
range $0.6 million to $1.3 million

FEWER LOADED TRUCK TRIPS
41,790
a year (114 a day), at 16 tons a truck; also 918,250 fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$0.3 million	$0.2 million	$11 thousand	$0.1 million
Congestion	$0.3 million	$0.1 million	$3 thousand	$0.2 million
Accident	$0.6 million	$0.3 million	$35 thousand	$0.3 million
PM and NOx emissions	$0.3 million	$0.1 million	$36 thousand	$0.2 million
CO2 emissions	$0.6 million	$0.3 million	$33 thousand	$0.3 million
Total	**$2.1 million**	**$1.0 million**	**$0.1 million**	**$1.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 95	24 million	about 50	about 30
RI 138	1 million	fewer than 10	fewer than 10
I 195	1 million	about 30	about 10
RI 102	267 thousand	fewer than 10	fewer than 10
RI 4	263 thousand	fewer than 10	fewer than 10

Loaded trucks a day: modeled average along each road within Rhode Island, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	33%	11 million
Durable goods, low tech	18%	—
Mixed freight	8%	3 million
Farm products	8%	—
Food, beverages and tobacco	8%	—
Waste and scrap	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 68 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Rhode Island), one trip being one truck on one haul.
- Only miles driven on Rhode Island roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

South Carolina: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
12.70 billion
a year on South Carolina roads

EXTERNAL COSTS TODAY
$888.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$196.8 million
range $126.1 million to $282.0 million

FEWER LOADED TRUCK TRIPS
1.7 million
a year (4,752 a day), at 16 tons a truck; also 198.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$141.0 million	$105.8 million	$2.3 million	$32.9 million
Congestion	$109.5 million	$82.1 million	$0.6 million	$26.8 million
Accident	$259.6 million	$194.7 million	$7.5 million	$57.4 million
PM and NOx emissions	$115.3 million	$86.5 million	$7.7 million	$21.1 million
CO2 emissions	$262.7 million	$197.0 million	$7.2 million	$58.5 million
Total	**$888.1 million**	**$666.1 million**	**$25.2 million**	**$196.8 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 95	4.26 billion	about 1,850	about 1,400
I 85	2.64 billion	about 2,100	about 1,600
I 26	1.78 billion	about 700	about 520
I 20	1.14 billion	about 690	about 520
I 77	945 million	about 890	about 670

Loaded trucks a day: modeled average along each road within South Carolina, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	28%	779 million
Durable goods, low tech	18%	519 million
Food, beverages and tobacco	13%	369 million
Stone, sand, gravel and ores	11%	313 million
Farm products	8%	239 million
Chemicals	6%	164 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,337 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through South Carolina), one trip being one truck on one haul.
- Only miles driven on South Carolina roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

South Carolina: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
3.45 billion
a year on South Carolina roads

EXTERNAL COSTS TODAY
$241.3 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$106.9 million
range $68.5 million to $153.3 million

FEWER LOADED TRUCK TRIPS
1.1 million
a year (2,964 a day), at 16 tons a truck; also 107.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$38.3 million	$19.2 million	$1.2 million	$17.9 million
Congestion	$29.7 million	$14.9 million	$0.3 million	$14.5 million
Accident	$70.5 million	$35.3 million	$4.1 million	$31.1 million
PM and NOx emissions	$31.3 million	$15.7 million	$4.2 million	$11.4 million
CO2 emissions	$71.4 million	$35.7 million	$3.9 million	$31.8 million
Total	**$241.3 million**	**$120.7 million**	**$13.7 million**	**$106.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 85	1.25 billion	about 1,000	about 500
I 95	883 million	about 380	about 190
I 26	343 million	about 130	about 70
I 20	291 million	about 180	about 90
I 77	165 million	about 160	about 80

Loaded trucks a day: modeled average along each road within South Carolina, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	998 million
Durable goods, low tech	17%	—
Stone, sand, gravel and ores	14%	534 million
Food, beverages and tobacco	13%	—
Farm products	8%	—
Chemicals	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,337 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through South Carolina), one trip being one truck on one haul.
- Only miles driven on South Carolina roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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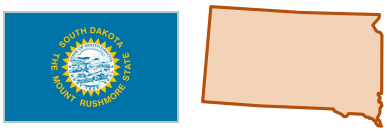
South Dakota: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
10.27 billion
a year on South Dakota roads

EXTERNAL COSTS TODAY
$718.2 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$159.1 million
range $102.0 million to $228.1 million

FEWER LOADED TRUCK TRIPS
780,358
a year (2,138 a day), at 16 tons a truck; also 160.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$114.0 million	$85.5 million	$1.8 million	$26.7 million
Congestion	$88.5 million	$66.4 million	$0.5 million	$21.6 million
Accident	$210.0 million	$157.5 million	$6.0 million	$46.5 million
PM and NOx emissions	$93.2 million	$69.9 million	$6.2 million	$17.1 million
CO2 emissions	$212.4 million	$159.3 million	$5.8 million	$47.3 million
Total	**$718.2 million**	**$538.7 million**	**$20.4 million**	**$159.1 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 90	5.86 billion	about 1,200	about 910
I 29	1.29 billion	about 440	about 330
US 85	197 million	about 310	about 230
US 212	153 million	about 240	about 180
SR 34	127 million	about 80	about 60

Loaded trucks a day: modeled average along each road within South Dakota, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	20%	439 million
Farm products	18%	398 million
Durable goods, low tech	18%	394 million
Food, beverages and tobacco	17%	369 million
Mixed freight	6%	130 million
Durable goods, high tech	4%	96 million

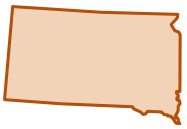
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,699 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through South Dakota), one trip being one truck on one haul.
- Only miles driven on South Dakota roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

South Dakota: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
3.25 billion
a year on South Dakota roads

EXTERNAL COSTS TODAY
$227.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$100.6 million
range $64.5 million to $144.2 million

FEWER LOADED TRUCK TRIPS
495,855
a year (1,359 a day), at 16 tons a truck; also 101.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$36.0 million	$18.0 million	$1.2 million	$16.8 million
Congestion	$28.0 million	$14.0 million	$0.3 million	$13.7 million
Accident	$66.4 million	$33.2 million	$3.8 million	$29.4 million
PM and NOx emissions	$29.5 million	$14.7 million	$3.9 million	$10.9 million
CO2 emissions	$67.1 million	$33.6 million	$3.7 million	$29.8 million
Total	**$227.0 million**	**$113.5 million**	**$12.9 million**	**$100.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 90	2.03 billion	about 420	about 210
I 29	303 million	about 100	about 50
US 85	71 million	about 110	about 60
SR 34	53 million	about 40	about 20
US 212	52 million	about 80	about 40

Loaded trucks a day: modeled average along each road within South Dakota, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	21%	—
Durable goods, low tech	19%	—
Farm products	17%	687 million
Food, beverages and tobacco	17%	679 million
Mixed freight	6%	—
Durable goods, high tech	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,699 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through South Dakota), one trip being one truck on one haul.
- Only miles driven on South Dakota roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Tennessee: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
36.68 billion
a year on Tennessee roads

EXTERNAL COSTS TODAY
$2.6 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$568.3 million
range $364.1 million to $814.5 million

FEWER LOADED TRUCK TRIPS
3.9 million
a year (10,683 a day), at 16 tons a truck; also 573 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$407.2 million	$305.4 million	$6.6 million	$95.2 million
Congestion	$316.2 million	$237.1 million	$1.8 million	$77.3 million
Accident	$749.8 million	$562.3 million	$21.6 million	$165.9 million
PM and NOx emissions	$333.0 million	$249.7 million	$22.2 million	$61.1 million
CO2 emissions	$758.6 million	$569.0 million	$20.8 million	$168.8 million
Total	**$2.6 billion**	**$1.9 billion**	**$72.9 million**	**$568.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 40	15.24 billion	about 2,850	about 2,150
I 24	6.05 billion	about 2,900	about 2,150
I 75	3.41 billion	about 2,050	about 1,550
I 81	2.77 billion	about 3,150	about 2,350
I 65	1.83 billion	about 1,300	about 990

Loaded trucks a day: modeled average along each road within Tennessee, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	24%	1.81 billion
Durable goods, low tech	20%	1.52 billion
Food, beverages and tobacco	12%	932 million
Farm products	9%	699 million
Stone, sand, gravel and ores	8%	589 million
Chemicals	6%	499 million

Your mode-shift percentage applies to every commodity.

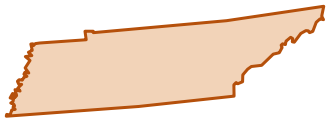
- Rail alternative: about 2,545 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Tennessee), one trip being one truck on one haul.
- Only miles driven on Tennessee roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Tennessee: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: stone, sand, gravel and ores and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
8.24 billion
a year on Tennessee roads

EXTERNAL COSTS TODAY
$576.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$255.3 million
range $163.6 million to $365.9 million

FEWER LOADED TRUCK TRIPS
1.6 million
a year (4,421 a day), at 16 tons a truck; also 257.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$91.5 million	$45.7 million	$3.0 million	$42.8 million
Congestion	$71.0 million	$35.5 million	$0.8 million	$34.7 million
Accident	$168.4 million	$84.2 million	$9.7 million	$74.5 million
PM and NOx emissions	$74.8 million	$37.4 million	$10.0 million	$27.4 million
CO2 emissions	$170.4 million	$85.2 million	$9.3 million	$75.9 million
Total	**$576.0 million**	**$288.0 million**	**$32.7 million**	**$255.3 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 40	4.23 billion	about 800	about 400
I 24	918 million	about 440	about 220
I 81	567 million	about 640	about 320
I 75	512 million	about 310	about 150
I 65	330 million	about 240	about 120

Loaded trucks a day: modeled average along each road within Tennessee, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	23%	–
Durable goods, low tech	19%	2.32 billion
Food, beverages and tobacco	12%	–
Farm products	9%	–
Stone, sand, gravel and ores	9%	1.06 billion
Chemicals	7%	–

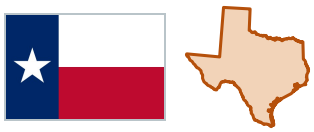
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,545 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Tennessee), one trip being one truck on one haul.
- Only miles driven on Tennessee roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Texas: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
93.80 billion
a year on Texas roads

EXTERNAL COSTS TODAY
$6.6 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$1.5 billion
range $931.2 million to $2.1 billion

FEWER LOADED TRUCK TRIPS
4.6 million
a year (12,619 a day), at 16 tons a truck; also 1,465.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$1.0 billion	$781.1 million	$16.8 million	$243.5 million
Congestion	$808.6 million	$606.5 million	$4.6 million	$197.5 million
Accident	$1.9 billion	$1.4 billion	$55.1 million	$424.3 million
PM and NOx emissions	$851.5 million	$638.6 million	$56.7 million	$156.2 million
CO2 emissions	$1.9 billion	$1.5 billion	$53.1 million	$431.9 million
Total	**$6.6 billion**	**$4.9 billion**	**$186.3 million**	**$1.5 billion**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 10	19.63 billion	about 1,900	about 1,450
I 20	10.12 billion	about 1,350	about 1,000
I 40	7.39 billion	about 3,550	about 2,700
US 59	6.60 billion	about 2,000	about 1,500
I 35	5.27 billion	about 1,100	about 840

Loaded trucks a day: modeled average along each road within Texas, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Durable goods, low tech	21%	4.23 billion
Consumer manufactured goods	17%	3.43 billion
Liquids and gases	11%	2.14 billion
Farm products	11%	2.12 billion
Food, beverages and tobacco	11%	2.11 billion
Durable goods, high tech	6%	1.23 billion

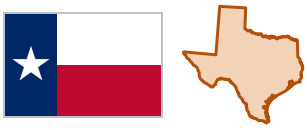
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 9,877 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Texas), one trip being one truck on one haul.
- Only miles driven on Texas roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Texas: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: liquids and gases and chemicals, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
11.53 billion
a year on Texas roads

EXTERNAL COSTS TODAY
$806.3 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$357.4 million
range $228.9 million to $512.1 million

FEWER LOADED TRUCK TRIPS
983,996
a year (2,696 a day), at 16 tons a truck; also 360.3 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$128.0 million	$64.0 million	$4.1 million	$59.9 million
Congestion	$99.4 million	$49.7 million	$1.1 million	$48.6 million
Accident	$235.7 million	$117.8 million	$13.6 million	$104.3 million
PM and NOx emissions	$104.7 million	$52.3 million	$13.9 million	$38.5 million
CO2 emissions	$238.5 million	$119.2 million	$13.1 million	$106.2 million
Total	**$806.3 million**	**$403.1 million**	**$45.8 million**	**$357.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 10	2.31 billion	about 230	about 110
US 59	939 million	about 290	about 140
US 287	754 million	about 350	about 170
I 35	588 million	about 130	about 60
US 84	579 million	about 380	about 190

Loaded trucks a day: modeled average along each road within Texas, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Durable goods, low tech	21%	—
Consumer manufactured goods	18%	—
Farm products	11%	—
Food, beverages and tobacco	11%	—
Liquids and gases	10%	3.27 billion
Motor vehicles	6%	—
Chemicals	5%	1.54 billion

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 9,877 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Texas), one trip being one truck on one haul.
- Only miles driven on Texas roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Utah: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
27.23 billion
a year on Utah roads

EXTERNAL COSTS TODAY
$1.9 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$422.0 million
range $270.4 million to $604.8 million

FEWER LOADED TRUCK TRIPS
2.2 million
a year (5,941 a day), at 16 tons a truck; also 425.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$302.4 million	$226.8 million	$4.9 million	$70.7 million
Congestion	$234.8 million	$176.1 million	$1.3 million	$57.4 million
Accident	$556.7 million	$417.5 million	$16.0 million	$123.2 million
PM and NOx emissions	$247.2 million	$185.4 million	$16.5 million	$45.3 million
CO2 emissions	$563.3 million	$422.5 million	$15.4 million	$125.4 million
Total	**$1.9 billion**	**$1.4 billion**	**$54.1 million**	**$422.0 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 15	9.84 billion	about 2,100	about 1,550
I 70	7.19 billion	about 2,650	about 2,000
I 80	5.99 billion	about 2,650	about 2,000
I 84	1.55 billion	about 1,600	about 1,200
US 6	488 million	about 360	about 270

Loaded trucks a day: modeled average along each road within Utah, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	21%	1.42 billion
Food, beverages and tobacco	18%	1.20 billion
Durable goods, low tech	16%	1.08 billion
Farm products	13%	884 million
Mixed freight	7%	484 million
Durable goods, high tech	5%	340 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,460 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Utah), one trip being one truck on one haul.
- Only miles driven on Utah roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Utah: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
7.83 billion
a year on Utah roads

EXTERNAL COSTS TODAY
$547.7 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$242.8 million
range $155.5 million to $347.8 million

FEWER LOADED TRUCK TRIPS
1.3 million
a year (3,560 a day), at 16 tons a truck; also 244.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$87.0 million	$43.5 million	$2.8 million	$40.7 million
Congestion	$67.5 million	$33.8 million	$0.8 million	$32.9 million
Accident	$160.1 million	$80.1 million	$9.2 million	$70.8 million
PM and NOx emissions	$71.1 million	$35.6 million	$9.5 million	$26.0 million
CO2 emissions	$162.0 million	$81.0 million	$8.9 million	$72.1 million
Total	**$547.7 million**	**$273.8 million**	**$31.1 million**	**$242.8 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 15	2.80 billion	about 600	about 300
I 70	2.10 billion	about 780	about 390
I 80	1.99 billion	about 870	about 440
I 84	426 million	about 450	about 220
US 6	76 million	about 60	about 30

Loaded trucks a day: modeled average along each road within Utah, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	22%	–
Food, beverages and tobacco	18%	2.19 billion
Durable goods, low tech	16%	–
Farm products	14%	1.65 billion
Mixed freight	6%	–
Durable goods, high tech	5%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,460 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Utah), one trip being one truck on one haul.
- Only miles driven on Utah roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Vermont: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES	EXTERNAL COSTS TODAY	MODE SHIFT TO RAIL	NET SAVING A YEAR	FEWER LOADED TRUCK TRIPS
250 million a year on Vermont roads	**$17.5 million** a year (7.0¢ per ton-mile)	**25%** of this truck freight moved to rail	**$3.9 million** range $2.5 million to $5.6 million	**85,770** a year (235 a day), at 16 tons a truck; also 3.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$2.8 million	$2.1 million	$45 thousand	$0.7 million
Congestion	$2.2 million	$1.6 million	$12 thousand	$0.6 million
Accident	$5.1 million	$3.8 million	$0.1 million	$1.2 million
PM and NOx emissions	$2.3 million	$1.7 million	$0.2 million	$0.4 million
CO2 emissions	$5.2 million	$3.9 million	$0.1 million	$1.2 million
Total	**$17.5 million**	**$13.1 million**	**$0.5 million**	**$3.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 91	77 million	about 40	about 30
US 7	33 million	about 80	about 60
I 89	29 million	about 20	about 20
SR 105	8 million	about 20	about 10
SR 100	8 million	about 30	about 20

Loaded trucks a day: modeled average along each road within Vermont, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Food, beverages and tobacco	25%	12 million
Consumer manufactured goods	19%	9 million
Farm products	16%	8 million
Stone, sand, gravel and ores	14%	7 million
Durable goods, low tech	12%	6 million
Mixed freight	4%	2 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 558 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Vermont), one trip being one truck on one haul.
- Only miles driven on Vermont roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Vermont: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and stone, sand, gravel and ores, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
83 million
a year on Vermont roads

EXTERNAL COSTS TODAY
$5.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$2.6 million
range $1.6 million to $3.7 million

FEWER LOADED TRUCK TRIPS
46,262
a year (127 a day), at 16 tons a truck; also 2.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$0.9 million	$0.5 million	$30 thousand	$0.4 million
Congestion	$0.7 million	$0.4 million	$8 thousand	$0.3 million
Accident	$1.7 million	$0.8 million	$97 thousand	$0.8 million
PM and NOx emissions	$0.8 million	$0.4 million	$0.1 million	$0.3 million
CO2 emissions	$1.7 million	$0.9 million	$94 thousand	$0.7 million
Total	**$5.8 million**	**$2.9 million**	**$0.3 million**	**$2.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 91	20 million	about 10	fewer than 10
US 7	12 million	about 30	about 10
I 89	10 million	about 10	fewer than 10
SR 100	3 million	about 10	fewer than 10
SR 105	3 million	about 10	fewer than 10

Loaded trucks a day: modeled average along each road within Vermont, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Food, beverages and tobacco	26%	19 million
Farm products	19%	—
Consumer manufactured goods	16%	—
Stone, sand, gravel and ores	14%	11 million
Durable goods, low tech	12%	—
Mixed freight	3%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 558 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Vermont), one trip being one truck on one haul.
- Only miles driven on Vermont roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Virginia: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026





TRUCK TON-MILES
26.19 billion
a year on Virginia roads

EXTERNAL COSTS TODAY
$1.8 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$405.9 million
range $260.0 million to $581.6 million

FEWER LOADED TRUCK TRIPS
2.3 million
a year (6,419 a day), at 16 tons a truck; also 409.2 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$290.8 million	$218.1 million	$4.7 million	$68.0 million
Congestion	$225.8 million	$169.3 million	$1.3 million	$55.2 million
Accident	$535.4 million	$401.5 million	$15.4 million	$118.5 million
PM and NOx emissions	$237.8 million	$178.3 million	$15.8 million	$43.7 million
CO2 emissions	$541.7 million	$406.3 million	$14.8 million	$120.6 million
Total	**$1.8 billion**	**$1.4 billion**	**$52.0 million**	**$405.9 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 81	12.26 billion	about 3,250	about 2,450
I 95	2.59 billion	about 1,350	about 1,050
I 77	2.05 billion	about 2,950	about 2,200
I 64	1.17 billion	about 410	about 310
I 66	686 million	about 910	about 680

Loaded trucks a day: modeled average along each road within Virginia, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	27%	1.39 billion
Durable goods, low tech	19%	1.00 billion
Food, beverages and tobacco	14%	721 million
Farm products	8%	439 million
Chemicals	8%	404 million
Mixed freight	5%	264 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 2,946 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Virginia), one trip being one truck on one haul.
- Only miles driven on Virginia roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Virginia: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: chemicals and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.46 billion
a year on Virginia roads

EXTERNAL COSTS TODAY
$451.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$200.2 million
range $128.3 million to $287.0 million

FEWER LOADED TRUCK TRIPS
1 million
a year (2,811 a day), at 16 tons a truck; also 201.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$71.8 million	$35.9 million	$2.3 million	$33.6 million
Congestion	$55.7 million	$27.9 million	$0.6 million	$27.2 million
Accident	$132.1 million	$66.1 million	$7.6 million	$58.4 million
PM and NOx emissions	$58.7 million	$29.3 million	$7.8 million	$21.6 million
CO2 emissions	$133.7 million	$66.8 million	$7.3 million	$59.6 million
Total	**$451.9 million**	**$226.0 million**	**$25.7 million**	**$200.2 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 81	3.51 billion	about 930	about 460
I 95	569 million	about 300	about 150
I 77	399 million	about 570	about 290
I 66	190 million	about 250	about 130
I 64	178 million	about 60	about 30

Loaded trucks a day: modeled average along each road within Virginia, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	1.97 billion
Durable goods, low tech	19%	—
Food, beverages and tobacco	14%	—
Chemicals	8%	641 million
Farm products	8%	—
Liquids and gases	6%	—

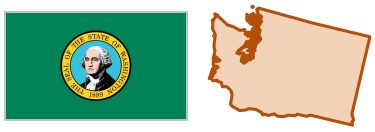
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 2,946 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Virginia), one trip being one truck on one haul.
- Only miles driven on Virginia roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Washington State: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
6.63 billion
a year on Washington roads

EXTERNAL COSTS TODAY
$463.9 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$102.7 million
range $65.9 million to $147.3 million

FEWER LOADED TRUCK TRIPS
532,461
a year (1,459 a day), at 16 tons a truck; also 103.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$73.7 million	$55.2 million	$1.2 million	$17.3 million
Congestion	$57.2 million	$42.9 million	$0.3 million	$14.0 million
Accident	$135.6 million	$101.7 million	$3.9 million	$30.0 million
PM and NOx emissions	$60.2 million	$45.2 million	$4.0 million	$11.0 million
CO2 emissions	$137.2 million	$102.9 million	$3.8 million	$30.5 million
Total	**$463.9 million**	**$348.0 million**	**$13.2 million**	**$102.7 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 90	2.63 billion	about 760	about 570
I 5	1.79 billion	about 550	about 420
I 82	694 million	about 450	about 340
US 395	267 million	about 290	about 220
US 2	114 million	about 200	about 150

Loaded trucks a day: modeled average along each road within Washington, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	26%	401 million
Food, beverages and tobacco	18%	285 million
Durable goods, low tech	18%	277 million
Farm products	15%	233 million
Mixed freight	8%	128 million
Durable goods, high tech	4%	57 million

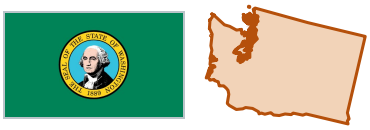
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,301 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for freight that starts or ends in Washington, one trip being one truck on one haul.
- Only miles driven on Washington roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus Washington's social cost of carbon, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Washington State: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
1.88 billion
a year on Washington roads

EXTERNAL COSTS TODAY
$131.8 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$58.4 million
range $37.4 million to $83.7 million

FEWER LOADED TRUCK TRIPS
322,389
a year (883 a day), at 16 tons a truck; also 58.9 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$20.9 million	$10.5 million	$0.7 million	$9.7 million
Congestion	$16.2 million	$8.1 million	$0.2 million	$7.9 million
Accident	$38.5 million	$19.3 million	$2.2 million	$17.0 million
PM and NOx emissions	$17.1 million	$8.6 million	$2.3 million	$6.2 million
CO2 emissions	$39.0 million	$19.5 million	$2.1 million	$17.4 million
Total	**$131.8 million**	**$65.9 million**	**$7.5 million**	**$58.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 90	679 million	about 200	about 100
I 5	542 million	about 170	about 80
I 82	181 million	about 120	about 60
US 395	65 million	about 70	about 40
US 2	48 million	about 80	about 40

Loaded trucks a day: modeled average along each road within Washington, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	26%	–
Durable goods, low tech	18%	–
Food, beverages and tobacco	17%	453 million
Farm products	16%	424 million
Mixed freight	7%	–
Durable goods, high tech	4%	–

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,301 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for freight that starts or ends in Washington, one trip being one truck on one haul.
- Only miles driven on Washington roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus Washington's social cost of carbon, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

West Virginia: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
10.16 billion
a year on West Virginia roads

EXTERNAL COSTS TODAY
$710.4 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$157.4 million
range $100.9 million to $225.6 million

FEWER LOADED TRUCK TRIPS
2.1 million
a year (5,881 a day), at 16 tons a truck; also 158.7 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$112.8 million	$84.6 million	$1.8 million	$26.4 million
Congestion	$87.6 million	$65.7 million	$0.5 million	$21.4 million
Accident	$207.7 million	$155.8 million	$6.0 million	$45.9 million
PM and NOx emissions	$92.2 million	$69.2 million	$6.1 million	$16.9 million
CO2 emissions	$210.1 million	$157.6 million	$5.8 million	$46.7 million
Total	**$710.4 million**	**$532.8 million**	**$20.2 million**	**$157.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 77	3.71 billion	about 1,700	about 1,250
I 79	1.80 billion	about 960	about 720
I 64	1.26 billion	about 870	about 650
US 19	660 million	about 1,500	about 1,100
I 68	360 million	about 960	about 720

Loaded trucks a day: modeled average along each road within West Virginia, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	28%	622 million
Durable goods, low tech	23%	495 million
Food, beverages and tobacco	12%	271 million
Farm products	9%	203 million
Chemicals	6%	136 million
Mixed freight	5%	101 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,963 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through West Virginia), one trip being one truck on one haul.
- Only miles driven on West Virginia roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

West Virginia: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: consumer manufactured goods and durable goods, low tech, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
2.73 billion
a year on West Virginia roads

EXTERNAL COSTS TODAY
$191.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$84.6 million
range $54.3 million to $121.4 million

FEWER LOADED TRUCK TRIPS
1.1 million
a year (3,072 a day), at 16 tons a truck; also 85.4 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$30.3 million	$15.2 million	$1.0 million	$14.1 million
Congestion	$23.6 million	$11.8 million	$0.3 million	$11.5 million
Accident	$55.9 million	$27.9 million	$3.2 million	$24.8 million
PM and NOx emissions	$24.8 million	$12.4 million	$3.3 million	$9.1 million
CO2 emissions	$56.5 million	$28.3 million	$3.1 million	$25.1 million
Total	**$191.1 million**	**$95.6 million**	**$10.9 million**	**$84.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 77	901 million	about 410	about 210
I 79	521 million	about 280	about 140
I 64	364 million	about 250	about 130
US 19	189 million	about 420	about 210
I 68	96 million	about 260	about 130

Loaded trucks a day: modeled average along each road within West Virginia, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	28%	670 million
Durable goods, low tech	21%	507 million
Food, beverages and tobacco	13%	—
Farm products	10%	—
Chemicals	7%	—
Mixed freight	5%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,963 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through West Virginia), one trip being one truck on one haul.
- Only miles driven on West Virginia roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Wisconsin: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
11.39 billion
a year on Wisconsin roads

EXTERNAL COSTS TODAY
$796.6 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$176.5 million
range $113.1 million to $253.0 million

FEWER LOADED TRUCK TRIPS
1.2 million
a year (3,319 a day), at 16 tons a truck; also 178 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$126.5 million	$94.9 million	$2.0 million	$29.6 million
Congestion	$98.2 million	$73.7 million	$0.6 million	$23.9 million
Accident	$232.9 million	$174.7 million	$6.7 million	$51.5 million
PM and NOx emissions	$103.4 million	$77.6 million	$6.9 million	$18.9 million
CO2 emissions	$235.6 million	$176.7 million	$6.4 million	$52.5 million
Total	**$796.6 million**	**$597.5 million**	**$22.6 million**	**$176.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 94	2.48 billion	about 980	about 740
I 39	2.36 billion	about 1,100	about 830
I 90	1.87 billion	about 1,650	about 1,250
I 43	207 million	about 100	about 70
I 41	151 million	about 110	about 90

Loaded trucks a day: modeled average along each road within Wisconsin, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	24%	521 million
Durable goods, low tech	20%	434 million
Food, beverages and tobacco	18%	400 million
Farm products	14%	295 million
Motor vehicles	5%	116 million
Mixed freight	5%	107 million

Your mode-shift percentage applies to every commodity.

- Rail alternative: about 3,274 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Wisconsin), one trip being one truck on one haul.
- Only miles driven on Wisconsin roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Wisconsin: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: food, beverages and tobacco and consumer manufactured goods, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
3.79 billion
a year on Wisconsin roads

EXTERNAL COSTS TODAY
$265.1 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$117.5 million
range $75.3 million to $168.4 million

FEWER LOADED TRUCK TRIPS
827,401
a year (2,267 a day), at 16 tons a truck; also 118.5 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$42.1 million	$21.0 million	$1.4 million	$19.7 million
Congestion	$32.7 million	$16.3 million	$0.4 million	$16.0 million
Accident	$77.5 million	$38.7 million	$4.5 million	$34.3 million
PM and NOx emissions	$34.4 million	$17.2 million	$4.6 million	$12.6 million
CO2 emissions	$78.4 million	$39.2 million	$4.3 million	$34.9 million
Total	**$265.1 million**	**$132.5 million**	**$15.1 million**	**$117.5 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 39	775 million	about 360	about 180
I 94	719 million	about 280	about 140
I 90	565 million	about 500	about 250
I 43	62 million	about 30	about 10
I 41	51 million	about 40	about 20

Loaded trucks a day: modeled average along each road within Wisconsin, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	24%	773 million
Durable goods, low tech	19%	—
Food, beverages and tobacco	19%	598 million
Farm products	12%	—
Mixed freight	5%	—
Motor vehicles	5%	—

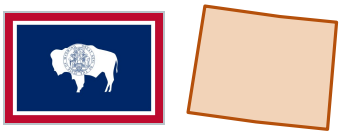
Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 3,274 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Wisconsin), one trip being one truck on one haul.
- Only miles driven on Wisconsin roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Wyoming: external costs of truck freight and a 25% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: all commodities, 500+ mile trips · **25% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
25.90 billion
a year on Wyoming roads

EXTERNAL COSTS TODAY
$1.8 billion
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
25%
of this truck freight moved to rail

NET SAVING A YEAR
$401.4 million
range $257.1 million to $575.1 million

FEWER LOADED TRUCK TRIPS
1.6 million
a year (4,266 a day), at 16 tons a truck; also 404.6 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 25% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$287.5 million	$215.7 million	$4.7 million	$67.1 million
Congestion	$223.3 million	$167.4 million	$1.3 million	$54.6 million
Accident	$529.4 million	$397.1 million	$15.2 million	$117.1 million
PM and NOx emissions	$235.1 million	$176.3 million	$15.6 million	$43.2 million
CO2 emissions	$535.7 million	$401.8 million	$14.7 million	$119.2 million
Total	**$1.8 billion**	**$1.4 billion**	**$51.4 million**	**$401.4 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 25% SHIFTED
I 80	21.00 billion	about 4,500	about 3,350
I 25	1.29 billion	about 370	about 280
I 90	679 million	about 280	about 210
US 30	420 million	about 450	about 340
SR 220	353 million	about 950	about 710

Loaded trucks a day: modeled average along each road within Wyoming, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 25%
Consumer manufactured goods	24%	1.52 billion
Food, beverages and tobacco	18%	1.14 billion
Farm products	16%	1.04 billion
Durable goods, low tech	13%	819 million
Liquids and gases	8%	504 million
Mixed freight	6%	407 million

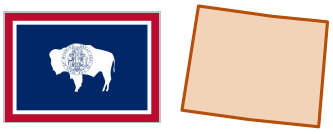
Your mode-shift percentage applies to every commodity.

- Rail alternative: about 1,786 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Wyoming), one trip being one truck on one haul.
- Only miles driven on Wyoming roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

Modeled estimates from the FHWA Freight Analysis Framework 5 (2022), not traffic counts; modeled truck volumes are about 40% of counted trucks on matched roads, so figures are likely a floor. Congestion costs use a national average and are likely understated on busy urban roads. Savings assume the freight can move by rail and exclude the cost of new capacity. Boundaries: U.S. Census Bureau 2025. Prepared with the External Costs of Trucking & Mode Shift Calculator by Solutionary Rail. More information at SolutionaryRail.org.

Wyoming: external costs of truck freight and a 50% shift to rail

External Costs of Trucking & Mode Shift Calculator · Scenario: farm products and food, beverages and tobacco, 750+ mile trips · **50% of truck freight shifted to rail** · November 18, 2026



TRUCK TON-MILES
8.54 billion
a year on Wyoming roads

EXTERNAL COSTS TODAY
$597.0 million
a year (7.0¢ per ton-mile)

MODE SHIFT TO RAIL
50%
of this truck freight moved to rail

NET SAVING A YEAR
$264.6 million
range $169.5 million to $379.1 million

FEWER LOADED TRUCK TRIPS
993,076
a year (2,721 a day), at 16 tons a truck; also 266.8 million fewer truck-miles

External costs, by type

EXTERNAL COSTS	TRUCK TODAY	TRUCK AFTER 50% SHIFTED	RAIL, SHIFTED FREIGHT	SAVING
Pavement	$94.8 million	$47.4 million	$3.1 million	$44.3 million
Congestion	$73.6 million	$36.8 million	$0.8 million	$36.0 million
Accident	$174.5 million	$87.3 million	$10.0 million	$77.2 million
PM and NOx emissions	$77.5 million	$38.7 million	$10.3 million	$28.5 million
CO2 emissions	$176.6 million	$88.3 million	$9.7 million	$78.6 million
Total	**$597.0 million**	**$298.5 million**	**$33.9 million**	**$264.6 million**

Busiest roads today (estimate before any shift to rail)

ROAD	TRUCK TON-MILES A YEAR	LOADED TRUCKS A DAY TODAY	AFTER 50% SHIFTED
I 80	6.88 billion	about 1,450	about 730
I 25	262 million	about 70	about 40
US 30	237 million	about 260	about 130
I 90	236 million	about 100	about 50
SR 220	128 million	about 340	about 170

Loaded trucks a day: modeled average along each road within Wyoming, at 16 tons a truck, for the commodities and trip lengths you chose. The blue column applies your mode-shift percentage to every road equally.

What the trucks carry today (share of ton-miles, before any shift)

COMMODITY	SHARE OF TON-MILES	TON-MILES MOVED TO RAIL AT 50%
Consumer manufactured goods	25%	—
Food, beverages and tobacco	18%	2.18 billion
Farm products	17%	2.02 billion
Durable goods, low tech	13%	—
Liquids and gases	6%	—
Mixed freight	6%	—

Only the commodities you chose are shifted to rail. Others stay on trucks.

- Rail alternative: about 1,786 route miles of mainline rail cross the state (miles of mapped rail line, not miles of track).
- Truck trips avoided are counted statewide, for the freight direction you chose (including freight passing through Wyoming), one trip being one truck on one haul.
- Only miles driven on Wyoming roads are counted. Costs use midpoint rates from the Congressional Budget Office (Working Paper 2015-03) plus the social cost of carbon used in Washington State, in 2025 dollars.

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