



TA Board of Directors

Meeting of January 8, 2026

Correspondence as of December 12, 2025

Subject

1. An interesting article on gas tax alternative and the science behind it.

From: [Giuliano](#)
To: [cacsecretary \[@smcta.com\]](mailto:cacsecretary [@smcta.com]); [Public Comment](#); CityCouncil@belmont.gov
Subject: An interesting article on gas tax alternative and the science behind it.
Date: Wednesday, December 10, 2025 12:00:47 PM

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<https://cleantechnica.com/2025/12/06/how-outdated-engineering-models-distort-todays-ev-road-charges-debate/>

My take aways, some old, some new. One was so startling to me that I need to explore it further. Note: these are take aways from the article. Some that I have followed up on before, and that I believe are correct. Others, well, the are what the article claims, and the claims need further checking:

- Something that has been long known, but not well known: **The gas tax is a small part of the funds used to build and maintain our roads.** Drivers are heavily subsidized by the general population, in particular those who do not drive or drive very little. When folks whine about it being unfair that they have to pay for bike lanes, the fact they subsidize cars by 100 fold should be very upsetting.
- That said, as we inevitably shift to EVs, even **that small part of the funding is going away.** How do we replace it?
- One proposal: a **fee based on vehicle weight.**
- **The "science" that weight is a significant factor, that road damage follows the 4th power law, is wrong.** For me this was the shocker. Like a dolt I'd heard of this relation, and just believed it, and had not followed up on whether it is true. I now need to follow up and see which is correct, the article or the original claim.
- **Cars and light trucks, including every EV, cause no additional road impacts to modern roads compared to lighter cars.** including even the largest stupid Cybertruck ("Cyber", really???? 6000-7000 pounds), F150 (7000 pounds), and Hummer (9000 pounds).
- **Heavy trucks bear the vast majority of the responsibility for road damage.** Think semis and heavy utility vehicles. Even among them, varying designs significantly affect road damage. For example, a loaded semi with single axle trailer does far more damage than one with dual axles.
- Also long know and proven: **weight and speed are huge factors in the lethality of vehicles.** And design, both vehicle and roadway. Deaths and injuries are part of the social costs of driving vehicles, beyond the costs of building and maintaining roads. All social costs need to be accounted for. A 3 ton F150 with a massive vertical front profile traveling 50mph on a 25mph street in front of a school (Hello Ralston Ave at Ralston Middle School) has a [90% chance](#) of killing a pedestrian or cyclist. For a 1.5 ton car traveling 25 mph it's 10%.
- We should **replace the gas tax with one based primarily on distance traveled, and not include weight** as a factor. This is much too simplistic. We need a formula that includes distance traveled, a non linear weight factor (so that light vehicles are not subjected to this factor, while very heavy vehicles are), vehicle emissions (yes, gas vehicles will be around a good while, and pollution harms us and needs to be paid for), injury/lethality rates (yes a 3.5 ton vehicle with a 5 foot tall vertical front profile should be charged more than a 1.5 ton vehicle with a lower profile), and possible other factors.

Most importantly: all road building and repair funds should come from this fee. Why should those who drive less (or not at all) pay for those who do?

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Drive a bike a bit more often and cars a bit less. You'll be healthier and happier, and so will our world.

Reach out if you'd like to learn to cycle more safely ([LCI #7105](#)).

<https://bikesiliconvalley.org>

<https://www.peopleforbikes.org/news/your-bike-advocacy-playbook>