Alternative Transportation

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Abstract

When discussing alternatives of transportation, replacing one's car is the first idea that comes to mind but how does someone use their car less and still get around effectively? With a bit of help from internet strangers you can build your own motorized bike and use that as a proper form of transportation and reduce your carbon footprint. With an average of 16 tons of CO2 put into the air by each American with 28.5 million people without a vehicle there are plenty of people who this could be useful for.

Keywords: Alternative Transportation, 2 stroke motor, fuel economy, carbon emmisions

Alternative Transportation

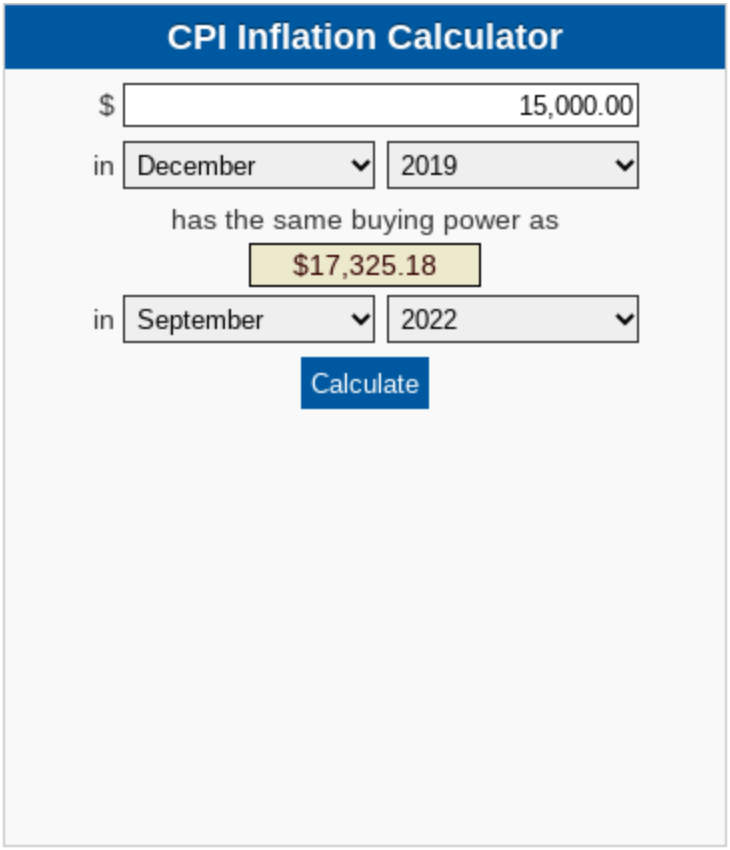
Did you know that the average american emits around 16 tons of C02 which is about 4 times the global average and with the prices of automobiles going up all the time not everyone is able to afford a car nowadays and not every town offers public transportation so why not build your own motorized bike? My driving question for this project is “How can I use my automotive skills to create a two stroke assisted bicycle?” I can use my automotive skills to assemble a two stroke assisted bicycle as an alternative form of transportation.

First off, who does something like this really affect and to answer that we have to look at the most recent census which according to the U.S. Census of 2020 roughly 91.5% of households have access to at least one car with 8.5% without a car and you might think that 8.5% isn’t that high for the U.S. population that's about 28.5 million people without access to a vehicle.

Of course the problem of not having access to reliable transportation doesn’t just happen in Colorado, it happens all across the country. The usefulness of creating your own motorized bike depends on the area you live in such as Canon City where everything isn’t right next to each other making walking places more difficult. Therefore, a motorized bike is a viable replacement for a car. For somewhere like Los Angeles where it's a massive city and is a viable alternative.

According to the U.S Census 2020 New York has the 2nd highest percentage of non-car ownership per household at 29% only beaten by the District of Columbia at 35% while Colorado has 2.5% of households without cars. This shows that in other states it might be more effective for transport than others with lower amounts of cars per household as well in New York the car insurance rates can end up being a hefty sum of up to 5 thousand dollars per year overall reducing someone’s living cost.

Living in cities and towns that aren't built around public transportation systems while also not living in urban environments it can be difficult to get around town without a car and with ever increasing car prices it'll be harder to afford even something basic to get you from point A to point B. According to U.S. Bureau of Labor Statistics the cost of a new car is 17.30% higher than in 2019 with an average of 5.46% per year with the average cost of a used car 1-5 years old is $34,291 as per KDVR. This statistic is important as it shows the increasing issues someone can face when they're potentially in the market for a car and why buying a car might not be in someone's budget.

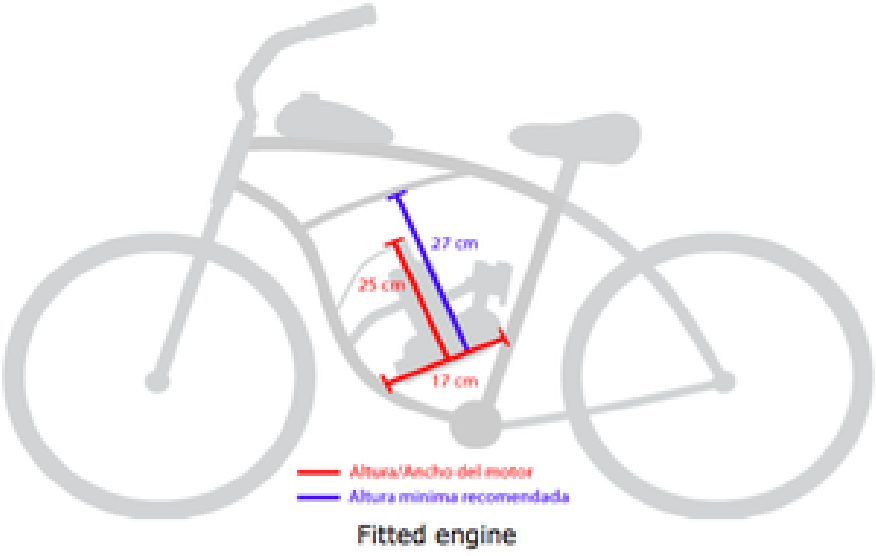


Depending on the brand and quality of the motor, and with some minor adjustments and upgrades, a motorized bike can go as far as 100 miles per gallon which compared to a car is about 4 times the gas mileage and can used effectively to save money on gas while still giving a good way to transport yourself from home to the store or work.On a thread posted to motoredbikes.com an anonymous user posted saying he was able get 55 miles on 2 liters of gas which is roughly half a gallon going 22-28 mph the whole way This goes to prove that motor

assisted bikes get extremely good gas mileage and can be used for small city travel or you can even use it for biking on trails based on the bike you get.

The initial investment cost of building your own motorized bike is significantly lower than buying a car and can only cost a couple hundred dollars while giving a good way to save on gas. On the site CDHpower.com their cheapest kit can be as low as 100 dollars making the project possible for anyone and easy for someone to do. They even sell motor kits fully assembled so you might not even have to put the motor together depending on how much you want to pay and work on the bike. This shows that even if it might not be the right thing for you the initial cost isn't going to make you go under and can let you sell it to someone else for a return on your money

And the topic of the ease of being able to put everything together for someone who is mechanically inexperienced there are plenty of videos on YouTube showing the entire process that you can follow along with some are more in depth while others are very surface level for experienced builders. Some examples of this are on the channel RCexperiemental he goes over building a bike in 6 minutes while the channel BikeBerrycom they go over the full process in 20 minutes



giving an in depth explanation of how to assemble the motor. This means that there is a huge community out there that is always willing to help first time builders and give good examples of them putting them together themselves as a step by step guide for the less experienced.

How exactly can we fix the problem of people that either don't have a vehicle in their home or have one that is unreliable? We can accomplish this goal by building a motor assisted bike. The completion of the motor bike is surprisingly easier than one might expect and that makes this project doable for anyone. It could potentially help out struggling families that can't afford a car for less than 1000 dollars. For a small investment you get a cheaper and more emissions friendly form of transportation that in the right circumstance could replace your typical commute. If you're environmentally aware this might be a great solution to help you reduce your carbon footprint and add a fun way to get around.

References

30571, M. (2020, June 18). How far can you go on 2L OF GAS ? Motored Bikes | Motorized Bicycle Forum. Retrieved November 1, 2022, from https://motoredbikes.com/threads/how-far-can-you-go-on-2l-of-gas.57170/

YouTube. (2018, April 12). Build a motorized bike at home - tutorial. YouTube. Retrieved November 1, 2022, from https://www.youtube.com/watch?v=6wS6LtGvmfA

CDH-PK80 Motor Combo. CDHpower. (n.d.). Retrieved November 1, 2022, from https://www.cdhpower.com/cdh-pk80-motor-combo.html

KBO Bike. (2022, August 20). Can an Ebike replace your car? KBO Bike. Retrieved November 1, 2022, from https://kbobike.com/blogs/news/can-an-ebike-replace-your-car