

Our proposal to improve municipal sustainability is to establish more electric vehicle charging stations in areas that would benefit most from them. We can identify which areas would be most benefited by the introduction of more charging stations by analyzing the data in our database system. In our database system, we have collected for each New Jersey county the following data points: average gas prices, public transportation options for workers, percentage of population in poverty, housing units, EV station densities, population densities, people biking or walking to work, median household income, number of charging stations, and public transportation vs. housing. Each data point provides a piece of information on the selected county, all of which are relevant to whether or not EV charging stations should be established in that county. For instance, if you select Camden and check EV station densities, number of charging stations, median household income, and population densities, you can determine if more EV charging stations would be suitable for the population of Bergen County by measuring the average median household income and determining if it is high enough for people to own electric vehicles. Then, you can determine the current amount of EV stations and how much more you would need according to the population density. By leveraging insights like these provided by our database system, we can implement our proposal in a manner that is efficient and effective, with minimal risk of errors or resource wastage. Ultimately, our database system is a critical tool that empowers us to drive positive change and make a meaningful impact on municipal sustainability in New Jersey.

In addition to the intended purpose of our proposal, it is important that we assess and contemplate the potential ethical implications, both positive and negative, that may arise from its implementation. One of the most significant benefits of our proposal is the potential to reduce greenhouse gas emissions. By encouraging people to switch to electric vehicles, our proposal could significantly reduce the number of gas-powered cars on the road, leading to a decrease in

greenhouse gas emissions. It is well-known that burning gasoline and diesel fuel creates harmful byproducts, including nitrogen dioxide, carbon monoxide, hydrocarbons, benzene, and formaldehyde, all of which can be detrimental to both human health and the environment. Furthermore, vehicles emit carbon dioxide, which is the most common human-caused greenhouse gas. By reducing the number of gas-powered cars on the road, our proposal can help combat these harmful effects. This can help combat climate change and contribute to a healthier environment for everyone. Additionally, we must consider the impact that our proposal can have on communities. Electric vehicles produce significantly fewer harmful gasses than their gas-powered counterparts, which means that communities located near major highways and transportation hubs could benefit from decreased exposure to these gasses. Also, increased availability of electric charging stations could make electric vehicles more accessible to those living in areas that currently lack infrastructure. Furthermore, our proposal can also result in lower costs for individuals and businesses. Electric vehicles have lower operating costs and require less maintenance than traditional gasoline-powered vehicles. By encouraging the use of electric vehicles, we can help individuals and businesses save money on transportation costs, benefiting a wide range of stakeholders at the same time. According to the University of Michigan's Transportation Research Institute, the average cost to fuel an electric car is significantly lower than that of a gas-powered vehicle. This means that individuals who switch to electric vehicles could save a significant amount of money over time. Moreover, the growth of the electric vehicle market represents a huge opportunity for corporations to generate revenue and create jobs in the green energy sector.

Despite these benefits, there are negative ethical implications associated with the production of electric vehicles that are crucial to address. One of the most significant concerns is the sourcing of materials for EV batteries, particularly the use of cobalt, a critical component that is often obtained through unethical means. According to Berman (2019), cobalt is frequently mined in countries with poor labor standards, where children are often exploited for cheap labor. This raises concerns about the ethics of producing EVs, as their production is indirectly contributing to the exploitation of

vulnerable populations. Although efforts have been made to improve the ethical standards of cobalt mining, such as the implementation of the Cobalt Action Partnership, concerns about the EV supply chain persist. Despite the positive environmental impact of EVs and the increasing availability of charging stations, the ethical implications of the production of EV batteries cannot be ignored. Therefore, there is a need for continued scrutiny of the EV supply chain and ongoing efforts to ensure that EVs are produced in an ethical and sustainable manner.

Nevertheless, our solution will result in lower costs for individuals and businesses as electric vehicles have lower operating costs and require less maintenance than traditional gasoline-powered vehicles. Studies have shown that fueling an electric car is significantly less expensive than the cost of fueling a gas-powered vehicle. For example, the University of Michigan's Transportation Research Institute found that the average cost to fuel an electric car was \$485 per year, compared to \$1,117 for a gas-powered vehicle. Thus, even with the initial investment in purchasing an electric vehicle, individuals can save money in the long run by choosing electric vehicles. Additionally, our proposal to implement more electric charging stations has the potential to generate economic benefits for stakeholders that take part in owning this infrastructure as the electric vehicle market continues to grow. While we acknowledge that our proposal has the potential to disrupt current gas stations, we believe that the benefits of implementing more electric charging stations far outweigh any potential risks. In fact, with the right planning and execution, it is possible to minimize the impact on current gas stations and to find alternative locations for electric charging stations.

In summary, our proposal to increase the number of electric charging stations is a critical step towards achieving a more sustainable future. By doing so, we can significantly reduce greenhouse gas emissions, which are one of the primary contributors to climate change. Additionally, promoting the use of electric vehicles can help individuals and businesses save money on fuel costs, making it an economically viable option. This proposal also presents a significant opportunity for job creation and economic growth, as there will be a need for skilled workers to install and maintain these charging stations. While we acknowledge that there may be potential unintended risks and ethical

concerns, such as the environmental impact of producing batteries or the disposal of old batteries, we are confident that with careful planning and execution, we can address these issues effectively. It is crucial to remain vigilant about these concerns, but we believe that the benefits of increasing the number of electric charging stations far outweigh the potential drawbacks. With the right strategy, we can overcome these challenges and make a significant positive impact on the environment, society, and the economy.

Work Cited

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