**Why is this important?**

Self driving cars are a huge step in the technology world. This generation is very technology based and depends on it for everyday life. Now most of the world depends on their car to transport them to different locations daily. However if cars were able to drive by themselves more people could use cars as transportation especially for disabled people. They are also important because self driving cars will be able to sort many problems like traffic collisions and driver errors. The world will drastically change and will change many industries.
What are self driving cars?

- Self driving cars are a new innovative way for people to not do any work. These cars are able to drive without little to none human input. The car is able to detect the environment around it then being able to use that information it uses the combination of sensors and software to be able to drive without any human help.

- Right now there are self driving cars however there are no cars that are no fully self driving vehicles. Now there are models like teslas, nissans, google and uber that have certain abilities to self drive. But they need drivers to take over in certain times when alerted to.

- A fully self driving car will be able to drive and be able to respond in every capable situation.
Relating Back !!

Self Driving Cars are primarily based off of technology and will be created off of coding. Computer Technology is the base and without it there would be no way to make these cars.

Computer technology is responsible for processing inputs from the cars data and responding with a action all based off of sensors that detect the environment. Having to do this within real time, but if the technology is not correct it will delay the cars output and create a problem. Computer technology in transportation will make transportation more advanced.
Self-Driving Cars 101

Self Driving Cars are already common in 2020 and are not even fully developed yet. This will transform the transportation system worldwide. Automakers and technology companies are predicting that self driving cars will be on level 4 in a few years.

Layers of autonomy

Different cars are capable of different levels of self-driving, and are often described by researchers on a scale of 0-5.

- **Level 0**: All major systems are controlled by humans
- **Level 1**: Certain systems, such as cruise control or automatic braking, may be controlled by the car, one at a time
- **Level 2**: The car offers at least two simultaneous automated functions, like acceleration and steering, but requires humans for safe operation
- **Level 3**: The car can manage all safety-critical functions under certain conditions, but the driver is expected to take over when alerted
- **Level 4**: The car is fully-autonomous in some driving scenarios, though not all
- **Level 5**: The car is completely capable of self-driving in every situation
Summary

So how will it be possible that self driving cars can work? What is done in the background that can make it so easy for any driver to be able to use?

1. First the systems have a internal map of their surroundings that is based off of the many sensors in the car.
2. Then the software will process the inputs, creates a path and the immediately send instructions to the cars accurators(controls of the brakes, steering and acceleration) to perform what is needed. All having to be done within seconds and this would be done repeatedly.

   **However that is not all the car has to understand traffic rules and know what to do in any obstacles.**

3. The car then uses what was programmed to know rules, obstacle avoidance algorithms, predictions, and smart object discrimination (difference between a bicycle and a motorcycle) allowing the software to obey the laws like traffic rules and navigate obstacles.

   **There are many more steps to self driving cars but this is a general overview and is a high level of complexity.**
Summary

- Self driving cars will impact drivers, the economy, environment and especially safety.
- The safety for drivers is the main concern for all companies creating these new cars. There are many accidents that are caused by motor vehicles causing death or life threatening injuries in most cases. One of the goals for self driving cars is to reduce accidents and risks. The creators actually think it is possible because they believe the software is less error prone compared to humans.
- Then when looking at self driving cars and what it will do the world economy is a big effect. If cars are able to drive without a human that would take away many jobs just like machines did for humans in factories. There are so many jobs that provide for people that only concerns driving. Then leaving many people unemployed and creating more opportunities for people to go into poverty, debt and crisis.
- However on the other hand this could be wonderful because it could allow many disabled people who aren’t able to drive the chance to have a car and control their own transportation.
- Lastly the environment, might take a toll in ways if ran by gasoline then it could be a negative effect but if ran by electric it could possibly be a pro for the environment.
This article relates back to the topic of self driving cars by showing the importance of it. It discusses how these cars will change the world and create many different impacts. Showing the importance of them and to understand what will happen in the world. The article also shows that even though many people will want the car because its cool but that there will be benefits and challenges.
Self-driving cars are going to be a stepping stage into a new era of technology. However what will they do to the environment and people in the world. This article talks about the pros and cons of these cars and if they should really be considered to.
The effect of self driving cars will be really based on the creators of the car. Automated vehicles can reduce energy consumption for transportation by as much as 90%, or increase by more than 200%, according the Department of Energy (DOE). This would also affect the fact that more than a quarter of greenhouse gas emissions come from transportation. Overall they are saying that this can be really positive or create a huge increase in energy usage.

Researchers are saying one of the biggest downside could dramatically increase the number of miles driven. Drivers will go everywhere in there car even if a short walk and make extra trips because they know that they could possibly do something else as the car is driving.

There are upsides to these cars to though like how the car can travel faster in a more safely manner compared to human drivers because of the fact that computers have a quicker reaction. Now some might say they are great drivers but computers are faster and really helps because fuel economy typically decreases at speeds over 50 miles per hour.
Summary

- These vehicles will be equipped with so much of safety equipment that will make accidents very much less rare. Allowing drivers to feel a more sense of security and the deaths related to accidents will drop tremendously.

- Then looking at the effects of what will happen on the outside of these cars will be huge too. For example there are many business that rely on automobiles for transportation. Uber, lyft, taxis, truck drivers and etc. People will be out of jobs and will have to search for new occupancies. Possible creating a financial crisis throughout America.

- Another main concern is safety to because even though the environment is important you have to have people willing to let the car have full control. Are we ready to allow technology to control our transportation and safety of our lives?
Relation
This article relates to the topic by explaining how self driving cars could still be harmful even if ran by computers. This is important due to the fact that more power would probably have to be used. Then also how it will affect humans on the dependency on the cars. Making researchers look into how cars will be used everywhere and people will not walk as much. Possibly taking a toll on people and their health. Self driving cars will be fully developed in a few years and will be everywhere. However there will be a negative or positive affect.
Self driving cars will be here no matter what and can’t be avoided. However it is good to know the pros and cons or self driving cars. Now in the future there still we cars that you can drive by yourself and not have to depend on a robot. However some people will want self driving cars but to know which choice. You have to know what you are getting yourself into when investing into their new gadget.
Summary

Pro: One pro of self driving cars is how they will be more safer. For example self driving cars will allow drivers to be able to get drunk or go on a cellphone to text or call. When fully self driving cars are released you will be able to hop into your own car and not have to worry if drunk or if you want to text someone. Not having to worry about your safety or endangering others.

Con: One con of self driving cars is that jobs will vanish. The taxi industry is already struggling with ubers and lyft. Then also the possibility of loss of jobs for bus and truck drivers. Many people might think why should a pay another person to drive me when the computer could do all the work.

Pro: A second pro of self driving is that self driving cars will not be distracted. Humans get distracted very easy and won’t be able to react as fast as the computer. Computers won’t be tempted and when the cars hit the market. The accidents that involved distractions of the driver will drop tremendously low.

Con: A second con of self driving cars is that even though the accidents will be less likely to happen. It will happen because it is a computer and technology is not perfect. Making people question if they want to trust a computer to drive for them. Even though the casualty rate of accidents will be lower from self driving cars, people will still be skeptical.
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<th><strong>Pro:</strong></th>
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<td>One pro of self driving cars will be less problematic. Humans average attention span is 8 seconds. Not being able to have a fast rate of reaction. The cars will be able to respond within seconds and not have any distractions. Also with a wide range of vision, it can be able to react right in the beginning of the accident.</td>
<td>One con of self driving cars is that driving won't be as special for people anymore. It is possible that you won't even have to attain a driver license. Which can be very trick because if you need to take over the car and don’t know how to correctly drive. It can cause more accidents and just become a huge mess.</td>
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<td>A second pro of self driving is that self driving cars will have a lower rate of errors. Human errors are one of the main causes of accidents. 94% of accidents are caused by human error. Most accidents are caused by failure of planning ahead or focusing.</td>
<td>A second con of self driving cars is that regulations will be horrible. How is it possible for a car to follow the rules for the road when every state is different. There will be conflicts regarding that and will also cause safety problems.</td>
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This article relates back to the topic because it shares the pro and cons of self driving cars. It might seem very cool to have a self driving car but it is good to know the good and bad. In this age everyone relies on technology and considers it trustworthy in many aspects. However now placing the trust of technology into driving is a risky subject. If you trust technology with everything else in your life should you immediately trust with a car.
Works cited

Self-Driving Cars 101

Self-Driving Cars: Researchers Study Environmental Impact

Will Self Driving Cars Cause More Harm or Good? (4 Pros and Cons of Autonomous Cars)