



## ADVANCE INDICATOR FOR VECHILES TO AVOID ROAD ACCIDENTS

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### Introduction:

Technological change (TC) or technological development is the overall process of invention, innovation and diffusion of technology or processes. A technological innovation is a new or improved product or process whose technological characteristics are significantly different from before. Implemented technological product innovations are new products (product innovations) or processes in application (process innovations) that have been brought to market.

Yes, here as my project I have innovated an idea "**ADVANCE INDICATOR**".

**Keywords:** Automatic turn off, Bike indicator, Navigation, Emergency.

### Existing method:

The manual mode is operated by the individual whose is riding the bike. The rider can turn on/off the bike indicators whenever the rider needs to turn on/off (depends up on the situation). Usually, the manual mode of operation is the thumb operated one, already the switch to turn on/off the bike indicators is fixed in the bike's handle itself. Some models of bikes have a different specification like to turn on the right indicator of the bike, the control of that indicator will be on the right side of the bike's handle and vice versa. The bike riders have to use the indicators to inform other road users when they intend to change the direction. To use the bike indicators in right time, have to give the plenty of time to other road users to react and adapt to the signal. Once the turn is completed make sure the indicators are cancelled otherwise it may confuse other road users.

### About my project:

In the present modern world, most of the people are using the roadways for transportation purposes. The utilization of roadways increases by one side, on the other side the road accidents are also escalating. The current assessment shows that the reasons for the road accidents are not obeying the traffic rules, inappropriate usage of indicators while turning right or left while driving the vehicles and so on. In peak hours and in traffic times people are speeding up with their vehicle and forgot to turn off their indicator. This leads to an accident while

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sudden turning and braking without a proper indication. In order to overcome these types of difficulties, an automatic turning off bike indicators is proposed. User can turn off automatically and manually. Let's discuss this in detail with 3 cases.

### Case: 1

This case is applicable for the two wheelers. Till today while driving, people are turning on/off the indicators manually. The bike riders forgot to use the indicators in the right time. This resulted in many accidents. As per my project, let's fix a "**BIKE INDICATOR**" which works **AUTOMATICALLY**. This indicator will sense the angle of the handlebar in bike and navigates automatically by doing the work of indication.

Manually rider have to turn on the indicator but the indicator will turn off automatically. This sensor will sense the angle and turns off automatically once the turning angle retains to normal angle. It will be turning off automatically after crossing (approx."10 meters) of indication. This will result with a safety ride.

### Case: 2

While starting ride for an urgent work most of the people fails to check whether indicator is in on or off. In some cases, indicator of the bike which is in rest may turn on. Person who is going to start the same bike again may fail to check the indicator. As a solution our "**ADVANCE INDICATOR**" will turn off the indicator automatically once the bike gets started. This is will sure help the person to avoid terrific accidents. Emergency works could be easily done here after without the pressure of checking indicators.

### Case: 3

This is applicable for all vehicles. At highways most of vehicles like lorry, trucks even cars fail to turn off the indicators. Often those indicators are turned ' on ' especially travelling on highway roads. This may result in heavy accidents. As per our project, in this case when a vehicle's steering or handle bar is in same position continuously moving for (approx. 500 meters) this indicator will be turned off automatically. Our "**ADVANCE INDICATOR**" will sense the travelling distance and position of the steering or handle bar.

### The limitations of the manual mode are:

- The bike riders are forgot to turn off the indicator in the right time.
- Confusing the other road users by not turning on the bike indicators in the right time and viceversa.
- Number of accidents are increased.

In two-wheelers a turn is initiated by a cool concept called as counter-steering, we momentarily turn the handle bar in the opposite direction and use this as an anchor to change direction.

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If the turn is fast enough the movement of handlebar is very small and the tilt of the bike should also be considered to know if the bike has completed the turn. Therefore, a simple system similar to that in a car is not quite feasible (cost-effective).

Yes, it is possible to implement auto-cancelling indicators with inputs of gyroscope that can accurately measure this tilt angle as well, but such system would not be cheap and hence the responsibility is given to the rider.

Just being a rider, one is susceptible to an accident **35 times** more than a passenger car. So, bikers need to be alert and it is naturally expected to have the presence of mind to cancel the indicators.

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