

GORILLA TECH PEARLS ROAD SAFETY



Project Name: WHEELS OF SAFETY

Big Idea: Safe roads are created when awareness, responsibility, and action come together.

Essential Question: Is road safety a matter of enforcement, education, or personal responsibility or all three?

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School/Organization Name: JDO RWABU
RESOURCE CENTER

Location (MUKONO, UGANDA)

Engage: What challenge does your project address?

Our project addresses the growing and complex challenge of road traffic accidents, injuries, and fatalities that continue to affect communities despite the presence of traffic laws and safety regulations. This challenge is driven by multiple interconnected factors including limited public awareness of road safety, unsafe road user behavior, weak enforcement of traffic rules, inadequate infrastructure, and negative attitudes toward responsible road use. Many road users lack sufficient knowledge of traffic signs, speed limits, pedestrian rights, and the dangers of alcohol, distraction, and overloading. Road crashes not only result in loss of life and long-term disabilities but also create social and economic burdens for families, communities, and national development. By addressing gaps in awareness, behavior, and community engagement, the project responds to the urgent need for a coordinated and sustainable approach to improving road safety and protecting all road users.



Engage: Why did your team select this topic or challenge?

Our team selected this topic because road traffic accidents have become a major public health and social challenge, affecting individuals, families, and communities across the country. Every year, countless lives are lost or permanently altered due to preventable accidents, and the consequences extend beyond the victims to include economic losses, healthcare burdens, and emotional trauma for families and communities.

We recognized that while laws and regulations exist to manage road use, many accidents result from a lack of knowledge, risky behaviors, and unsafe practices by road users, including drivers, motorcyclists, cyclists, and pedestrians. Vulnerable groups, such as children, youth, and pedestrians, are especially at risk. We believe that raising awareness about traffic rules, safe behavior, and accident prevention can significantly reduce road crashes and promote a culture of responsibility and safety on our roads. This topic also aligns with broader societal goals of saving lives, improving public safety, and fostering sustainable development by ensuring that roads are safe for everyone.



Engage: How is it a real world problem or concern?

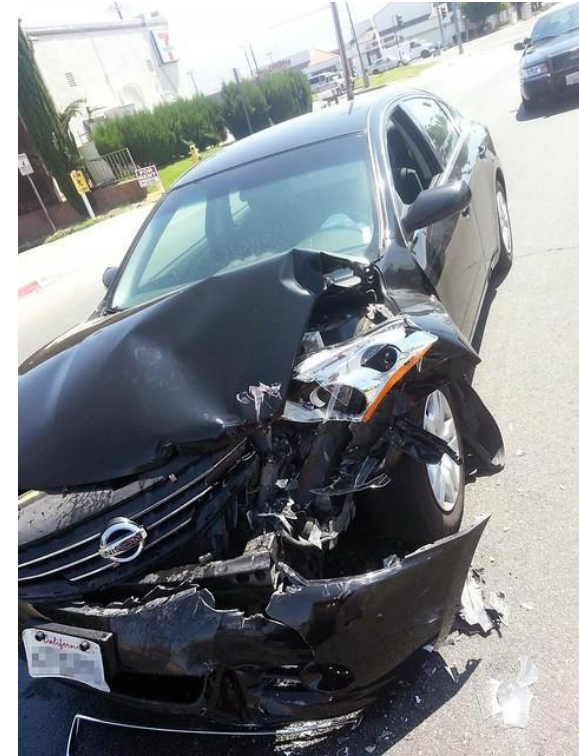
Road safety is a pressing real-world problem that affects millions of people worldwide every day. Around 1.19 million people die in road traffic crashes each year worldwide. Between 20 to 50 million suffer non fatal injuries from road accidents. Traffic accidents are among the leading causes of injury and death, particularly in developing countries, where poor infrastructure, unsafe road behavior, and limited enforcement of traffic laws contribute to high accident rates. The consequences of road crashes are far-reaching: they result in loss of life, long-term disabilities, emotional trauma, and financial burdens on families and communities. Beyond personal impacts, road accidents have economic and social implications. They increase healthcare costs, reduce workforce productivity, and strain public resources. Vulnerable groups, such as pedestrians, children, cyclists, and motorcycle riders, are disproportionately affected, highlighting inequalities in road safety. Raising awareness, promoting responsible behavior, and improving road conditions are essential real-world solutions to this urgent challenge.



Investigation: Our team made research about road safety

Road accidents are a major global public safety and public health concern, causing millions of deaths and injuries every year. They occur when road users fail to follow traffic rules, engage in risky behavior, or when roads and vehicles are unsafe. Road accidents not only result in loss of life but also lead to long-term disabilities, emotional trauma, and economic hardship for individuals, families, and communities.

It is on record that in 2024, Uganda registered **25,107** road crashes, with **25,808** casualties (deaths + injuries), including **4,434** fatal crashes. Police data shows **5,144** people died in road traffic crashes in 2024, up from **4,806** in 2023. Motorcyclists were particularly affected, with **1,720** deaths. This translates to roughly about 14 Ugandans killed every day in 2024 due to road accidents. Crashes are increasing even when some traffic offenses decline, meaning unsafe behavior remains a key issue. Pedestrians and motorcyclists continue to be among the most vulnerable road users in Kampala and nationwide.



Investigation:

It has come to our attention that road accidents usually occur due to a combination of factors, not a single cause. Our team made research about the causes of road accidents and several factors and these include Human Factors, Vehicle Related Factors, Environmental / Road Conditions, Systemic / Enforcement Issues, Pedestrian & Vulnerable Road User Behavior. However, human behavior remains the leading contributor and the causes are explained as follows;

Speeding: Driving above the speed limit increases crash severity. When a vehicle is driven at high speed, the driver has less time to react to unexpected situations such as pedestrians crossing, sudden stops, sharp bends, or obstacles on the road. This reduced reaction time greatly increases the likelihood of a crash.

Lack of Experience: Inexperienced drivers often have poor judgment, limited hazard awareness, and slower reaction times. They may misjudge speed, distance, and road conditions, leading to risky decisions and loss of control.

Weak enforcement of traffic laws and regulations: Encourages road users to ignore rules without fear of punishment, leads to speeding, drunk driving, and reckless behavior becoming common, increasing the number of preventable road accidents and fatalities.

Limited public awareness campaigns on road safety: This leaves many road users uninformed about traffic rules, risks, and safe behavior. Without regular education, people continue unsafe practices like speeding and ignoring signs, leading to preventable road accidents.

Poor Road Design: This creates sharp bends, blind corners, narrow lanes, and unclear junctions. These features confuse drivers, limit visibility, and reduce reaction time, increasing the risk of collisions, especially at high speeds.

Investigation:

Here's a comprehensive list of practical solutions for road accidents, these solutions are realistic, implementable, and directly linked to the causes we discussed:

Strengthening Road Safety Education and Awareness: Regular road safety education helps road users understand traffic rules, road signs, and safe behavior. Awareness campaigns through schools, media, and community programs can change attitudes, discourage risky behavior such as speeding and drunk driving, and promote responsible road use.

Strict Enforcement of Traffic Laws: Effective enforcement of traffic laws reduces violations. When speed limits, drink-driving laws, helmet use, and seat-belt regulations are strictly enforced, road users are more likely to obey rules due to fear of penalties. Consistent enforcement saves lives.

Improving Road Infrastructure: Well-designed and maintained roads reduce accidents. This includes clear road markings, visible signs, proper lighting, pedestrian crossings, sidewalks, speed humps, and safe junctions. Repairing potholes and dangerous curves also lowers accident risks.

Community Involvement and Responsibility: Communities play a vital role in road safety by reporting dangerous roads, promoting safe behavior, and supporting awareness programs. When communities take ownership of road safety, accidents reduce significantly.

In conclusion, road accidents are preventable when education, enforcement, infrastructure, and community responsibility work together. Implementing these practical solutions can greatly reduce road crashes, protect lives, and create safer roads for all.

Action: We created Google slides to compared road signs from different countries to understand global road safety standards.

https://docs.google.com/presentation/d/1_rFITC4fbC8Phs7h6Mt3ryT_U2jAhyBn/edit?usp=sharing&oid=111438001424796867193&rtopof=true&sd=true



Action: We created Google sites Google Site dedicated to road safety awareness, which serves as a digital hub for educational content.

<https://sites.google.com/view/roadguardian?usp=sharing>

