



منتدى الاستراتيجيات الأردني
JORDAN STRATEGY FORUM

Investing in Traffic Safety to Unlock Economic Potential

May 2023





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Policy Papers: A policy paper is a research piece which focuses on a specific issue or problem and provides clear recommendations for policy makers

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1. Background

This Year (2023), the 7th “UN Global Road Safety Week” takes place from 15 to 21 May. The theme of this week (**sustainable transport**) is about the need for governments to “**facilitate a shift to walking, cycling, and using public transport**”.

Within the context of this year’s UN Global Road Safety Week, it is relevant to remember that His Majesty King Abdullah II launched the “**Economic Modernization Vision**” on Sunday 5 June 2022. The vision is based on five growth drivers including “high-value industries”, which includes “**transport, mobility, and logistics**”.

Under the transport, mobility, and logistics section, it is stated that “**while Jordan has a modern road network, yet there is a strong potential for enhancing transport networks, especially railway networks and linkages with other countries in the region**”. In addition, it is worth noting the following quotations from the strategic state of Transport, Mobility and Logistics:

1. **Poor Road and rail infrastructure.**
2. **High reliance on private cars is due to inadequate public transport causing congestion.**

In addition, **transport, mobility, and logistics** includes 15 initiatives whose expected amount of investments is JD 3.1 billion (2022-2033). This constitutes 7.5% of the total required capital financing of the vision (JD 41.4 billion). These initiatives include:

1. **Upgrade transport infrastructure and services.**
2. **Develop a comprehensive master plan for public transport across Jordan.**
3. **Establish traffic safety policies.**
4. **Strengthen regional transport links.**

The primary objectives of this Policy Paper, published by the Jordan Strategy Forum (JSF), are to outline the main causes of traffic crashes and few observations about human traffic accidents in Jordan, and in few other countries, and to highlight some lessons to improve road safety in the Kingdom.

2. Costs and Causes of Traffic Crashes

Motorized road transport is part and parcel of life. Most goods that people use and consume are transported by road. Indeed, and over time, people and businesses enjoy increasingly high-quality vehicles made by many famous brands.

The benefits / advantages of motorized road transport are achieved, however, at a high cost. Road traffic crashes, injuries, and deaths have a terrible impact on individuals, communities and countries' human, health, and financial resources. Based on the World Health Organization (**Road Traffic Injuries / June 2022 / Fact Sheet / WTO**), it is worth noting the following quotations:

1. "Road traffic injuries are the leading cause of death for children and young adults aged 5-29 years". Approximately 1.3 million people die each year as a result of road traffic crashes".
2. "93% of the world's fatalities on the roads occur in low- and middle-income countries, even though these countries have approximately 60% of the world's vehicles".
3. "Road traffic crashes cost most countries **3%** of their gross domestic product".

As far as traffic crashes / accidents are concerned, we outline below some of their main causes (Road Traffic Injuries / June 2022 / Fact Sheet / WTO).

1. Speeding

"Every 1% increase in mean speed produces a 4% increase in the fatal crash risk and a 3% increase in the serious crash risk".

2. Driving Under the Influence of Alcohol and Other Psychoactive Substances

"In the case of drink-driving, the risk of a road traffic crash starts at low levels of blood alcohol concentration (BAC) and increases significantly when the driver's BAC is ≥ 0.04 g/dl".

3. Use of Seat-Belts Motorcycle Helmets and Child Restraints

"Wearing a seat belt reduces the risk of death among drivers and front seat occupants by 45 - 50%, and the risk of death and serious injuries among rear seat occupants by 25%".

4. Distracted Driving

"Drivers using mobile phones are approximately 4 times more likely to be involved in a crash than drivers not using a mobile phone".

5. Road Infrastructure

“Ideally, roads should be designed keeping in mind the safety of all road users. This would mean making sure that there are adequate facilities for pedestrians, cyclists, and motorcyclists”.

6. Unsafe Vehicles

“There are a number of UN regulations on vehicle safety that, if applied to countries’ manufacturing and production standards, would potentially save many lives”.

7. Post-Crash Care

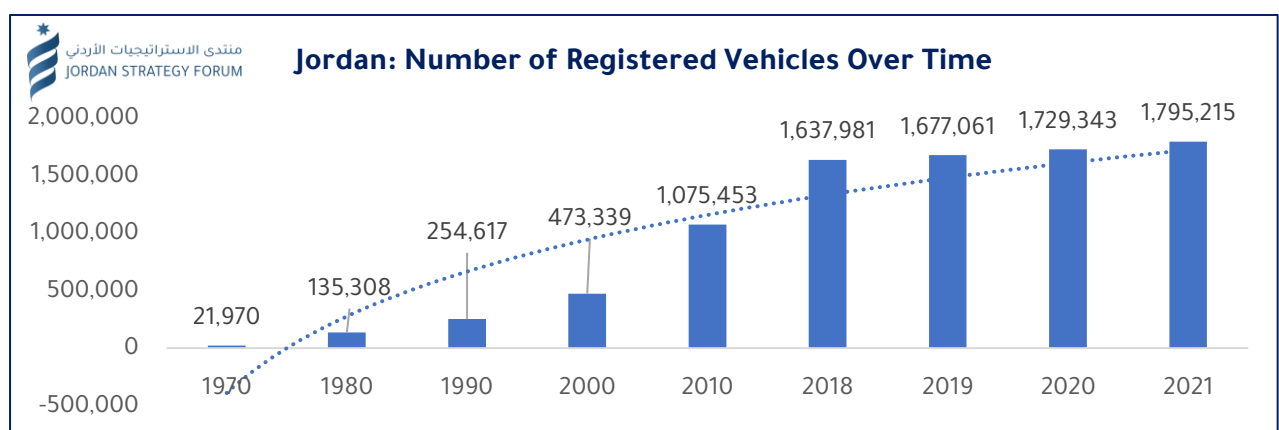
“Delays in detecting and providing care for those involved in a road traffic crash increase the severity of injuries” (Road Traffic Injuries / June 2022 / Fact Sheet / WTO).

8. Law Enforcement of Traffic Laws

“If traffic laws on drink-driving, seat belt wearing, speed limits, helmets, and child restraints are not enforced, they cannot bring about the expected reduction in road traffic fatalities and injuries related to specific behaviors” (Road Traffic Injuries / June 2022 / Fact Sheet / WTO).

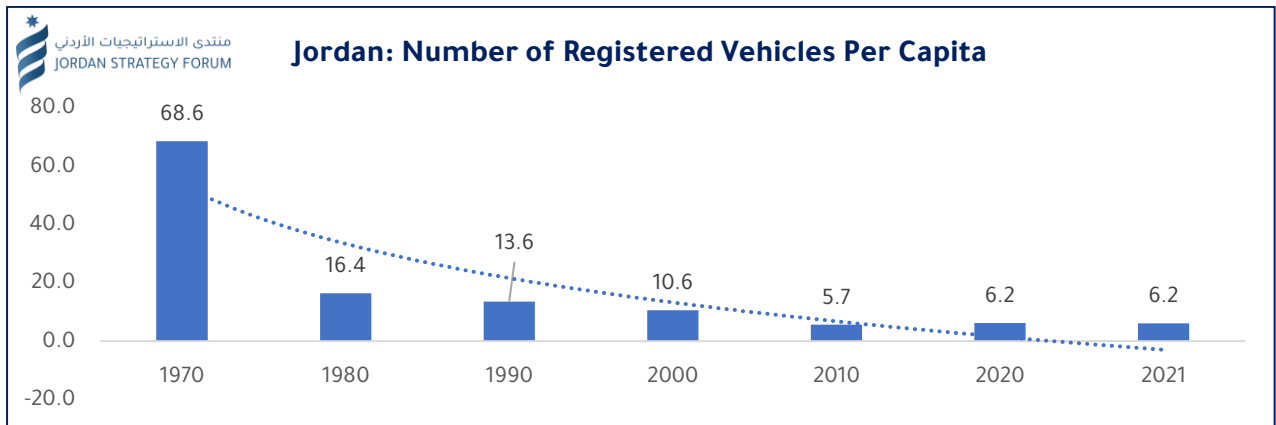
3. Human Traffic Accidents in Jordan: Some Local and International Observations

- A.** It is useful to note that the number of registered vehicles has increased tremendously.



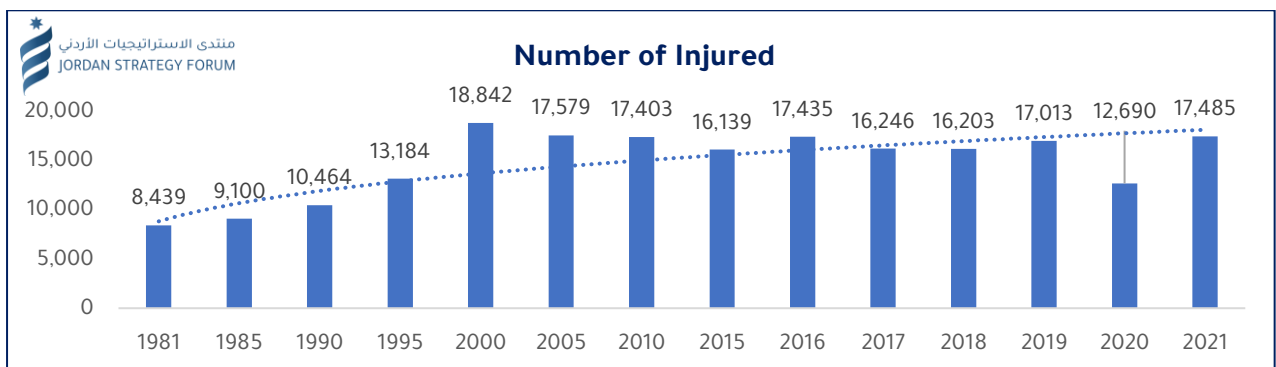
Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

- B.** The Kingdom has witnessed tremendous increases in the number of vehicles per population size. For example, in 1970, while the number of vehicles per capita was equal to 68.6, this number has fallen to 6.2 per person in 2021.

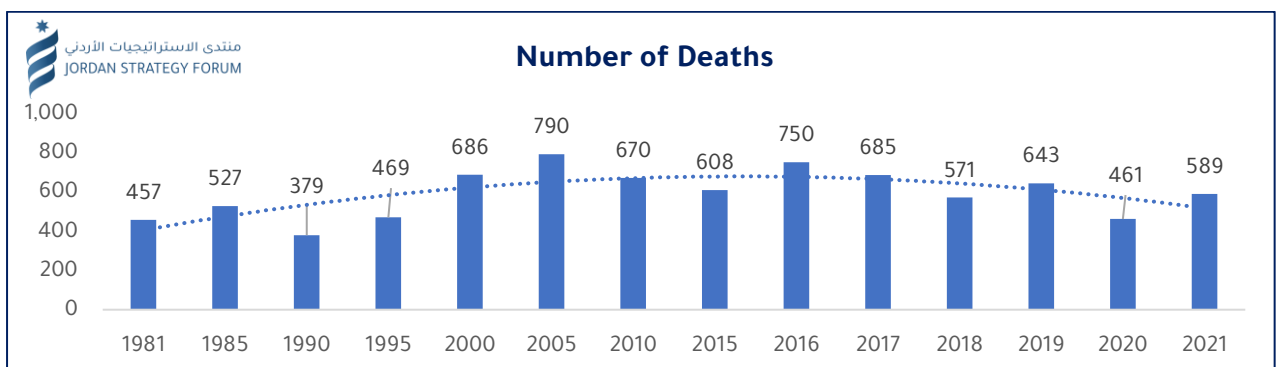


Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

- C. Relative to the increases in the number of vehicles, one would expect reciprocal increases in human traffic accidents. Indeed, the number of injured persons as a result of traffic accidents increased from 8,439 cases in 1981 to more than 17,000 cases in 2021. The number of deaths, however, peaked at 790 cases in 2005, and since then, this number has decreased to 589 cases in 2021.



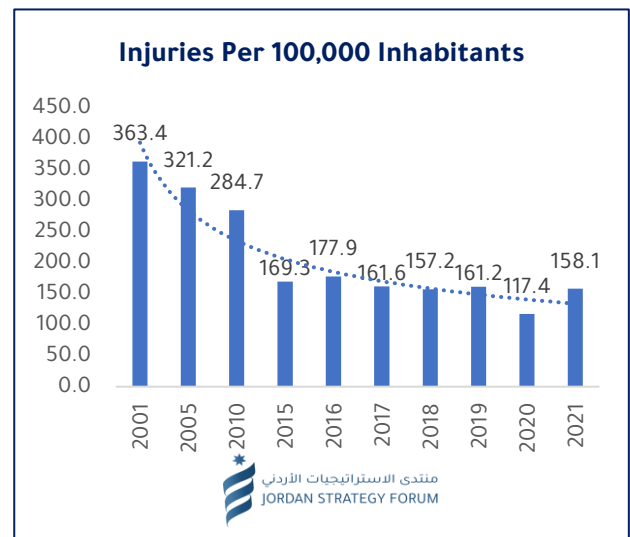
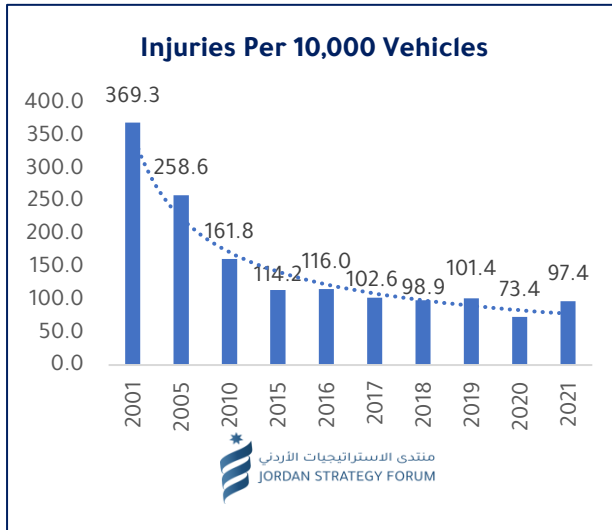
Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.



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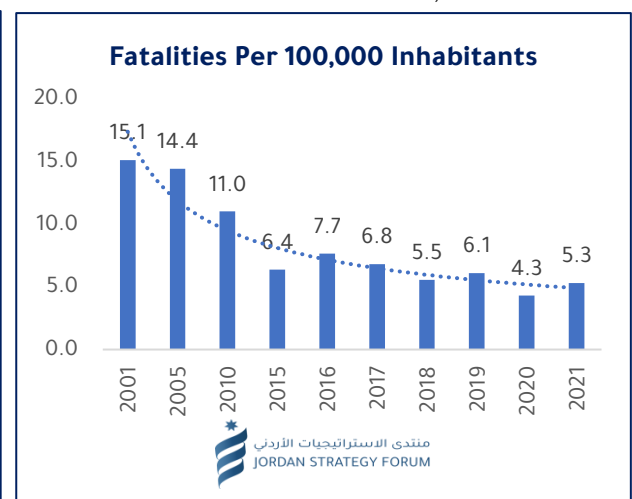
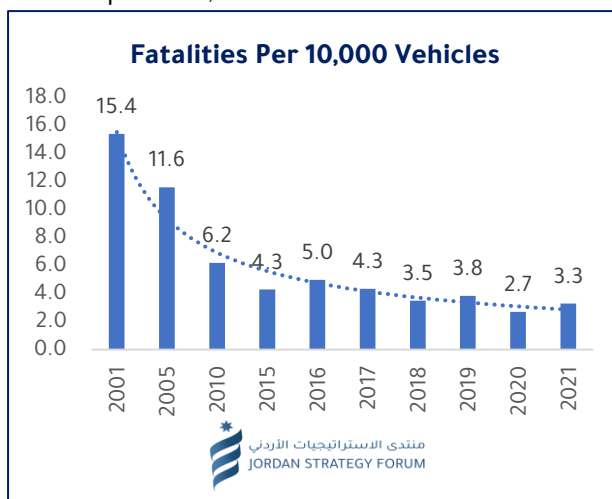
- D. Based on the above-mentioned observations about injuries and deaths one cannot make any definitive evaluation of "road safety". On needs further information.

1. It is encouraging to note that the numbers of injuries per 10,000 vehicles and per 100,000 inhabitants have been, over time, falling. The number of injuries per 10,000 vehicles has come down from 369.3 in 2001 to 116.0 in 2016, and to 97.4 in 2021. The number of injuries per 100,000 inhabitants has come down from 363.4 in 2001 to 177.9 in 2016, and to 158.1 in 2021.



Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

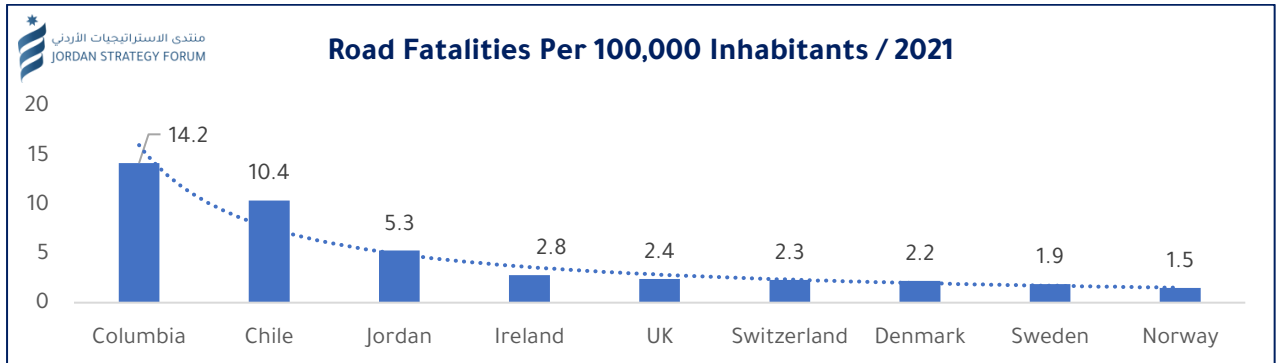
2. It is equally encouraging to note that the numbers of deaths per 10,000 vehicles and per 100,000 inhabitants have been, over time, falling. The number of fatalities per 10,000 vehicles has come down from 15.4 in 2001 to 5.0 in 2016, and to 3.3 in 2021. The number of fatalities per 100,000 inhabitants has come down from 15.1 in 2001 to 7.7 in 2016, and to 5.3 in 2021.



in 2021.

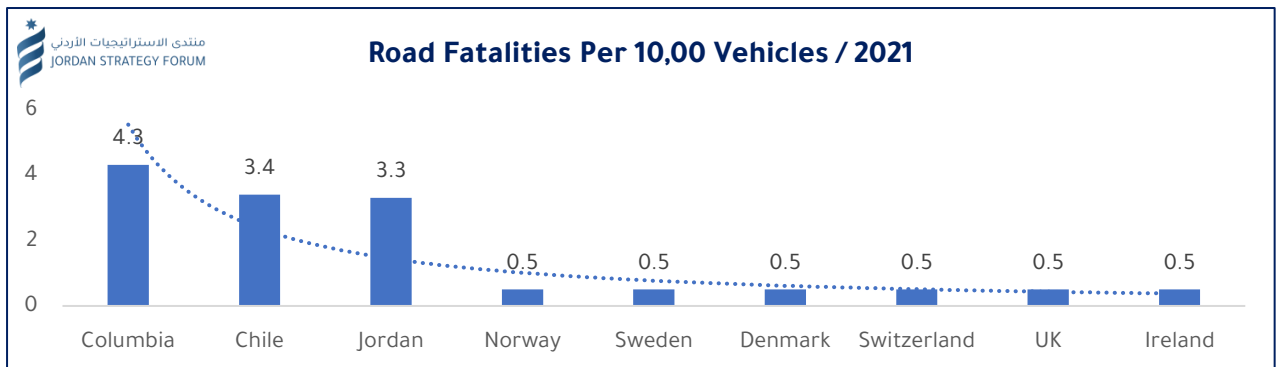
Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

3. Relative to some of the more advanced economies, the Jordanian case is not satisfactory. Road fatalities per 100,000 inhabitants in Jordan (5.3) is much higher than in Norway (1.5), Sweden (1.9), Denmark (2.2), and others.



Source: Road Safety Annual Report 2022 / OECD / ITF

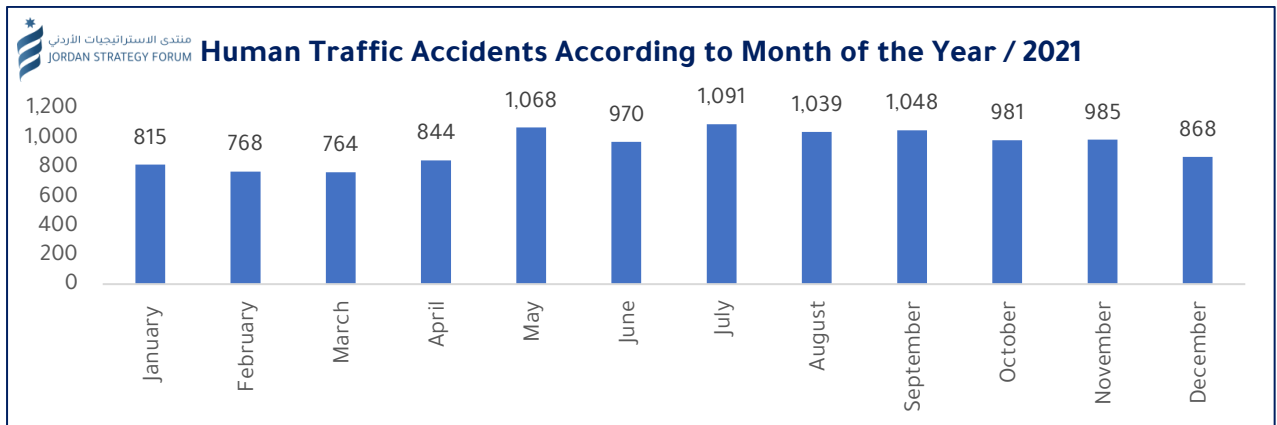
4. It is also worth noting that Jordan's road fatalities per 10,000 vehicles (3.3) is close to those in Chile and Columbia. However, it is much higher than in Ireland, the UK, Switzerland, Denmark, Sweden, and Norway. These countries' road fatalities per 10,000 vehicles are less than 0.5.



Source: Road Safety Annual Report 2022 / OECD / ITF

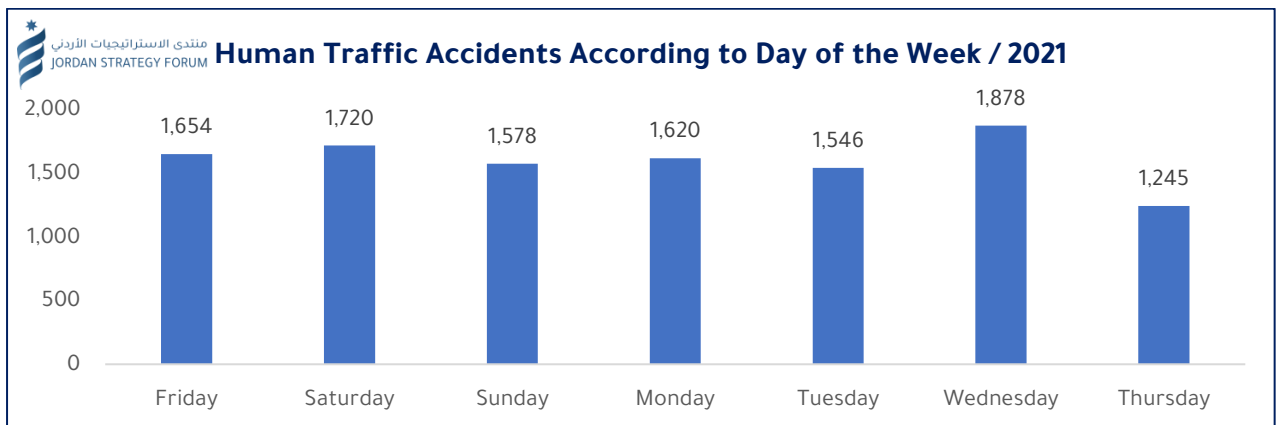
In addition to the above-mentioned observations about Jordan, it is useful, based on the 2018 and 2021 Jordan Traffic Institute's Annual Reports of Traffic Accidents, to raise few more observations.

1. On average, the number of human traffic accidents varies, and some in some cases significantly, between the months of the year.



Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

- Human traffic accidents during Fridays and Saturday are not lower than the rest of the weekdays.



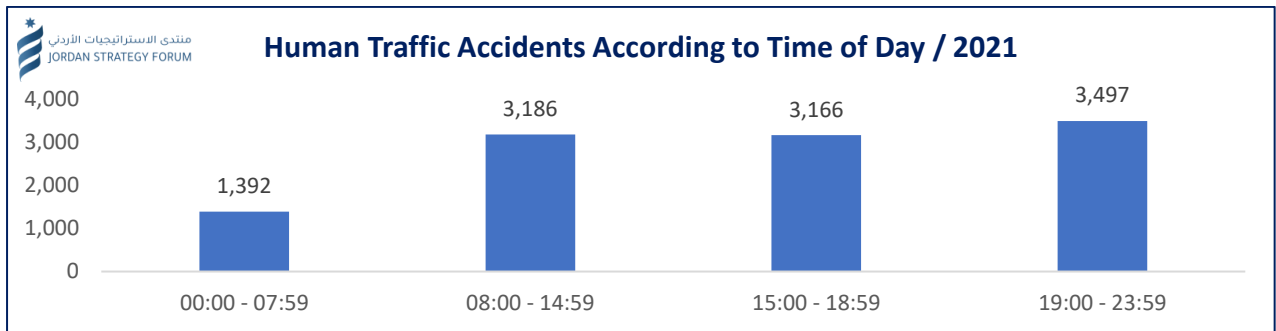
Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

- Most of the human traffic accidents occur in “clear days”.



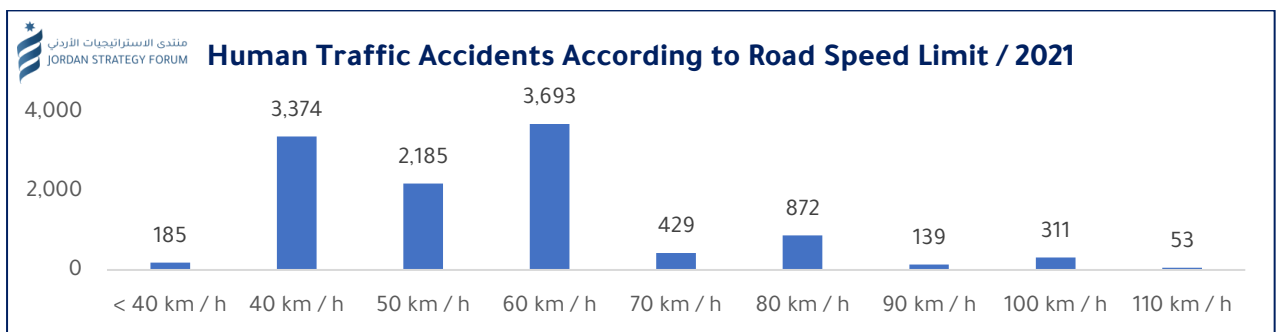
Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

- Human traffic accidents occur less frequently in the morning (00:00 - 7:59).



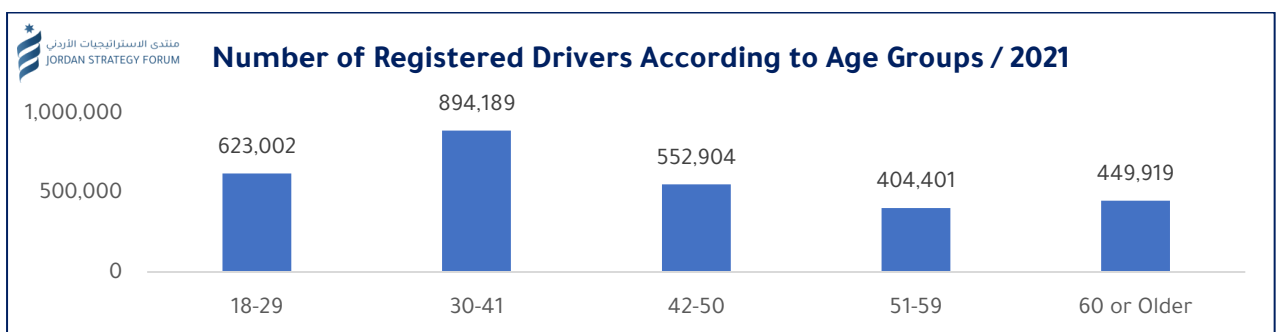
Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

5. Human traffic accidents occur on roads with lower speed limits.



Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

6. The largest number of registered drivers belong to the age groups 18 - 29 years old and the age 30 - 41 years old.



Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

7. The distribution of registered drivers according to age reveals few interesting observations.

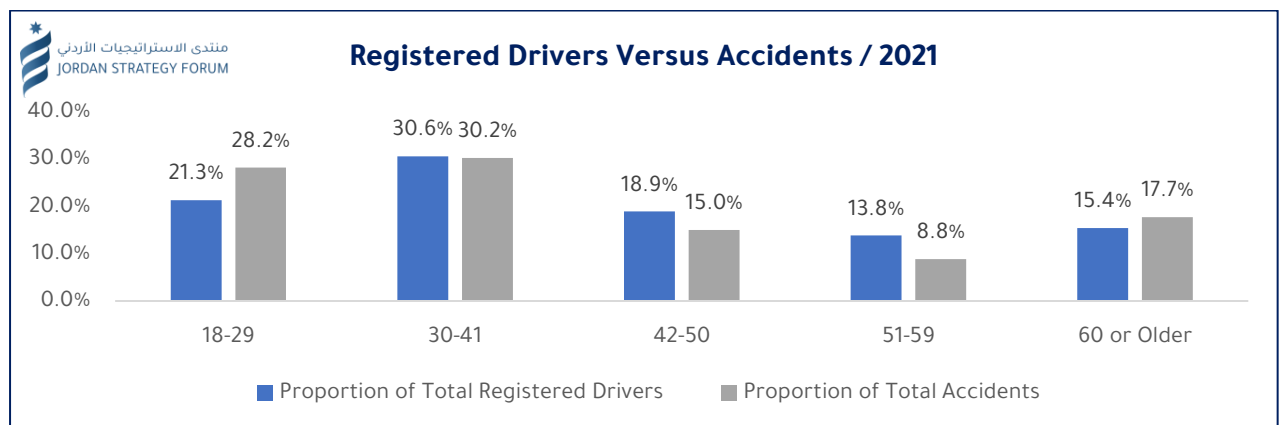
The age group 18 - 29 years old accounts for **21.3%** of the total number of registered drivers. However, this group accounts for **28.2%** of total accidents.

The age group 30 - 41 years old accounts for **30.6%** of the total number of registered drivers. However, this group accounts for **30.2%** of total accidents.

The age group 42 - 50 years old accounts for **18.9%** of the total number of registered drivers. However, this group accounts for **15.0%** of total accidents.

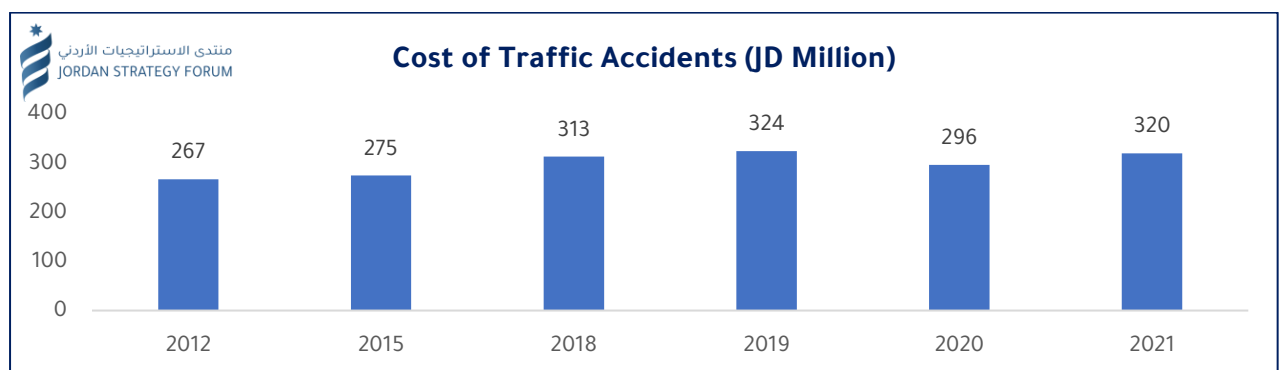
The age group 51 - 59 years old accounts for **13.8%** of the total number of registered drivers. However, this group accounts for **8.8%** of total accidents.

The age group 60 years old and more accounts for **15.4%** of the total number of registered drivers. However, this group accounts for **17.7%** of total accidents.



Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

8. Finally, it is worth noting that the financial cost of human traffic accidents is not insignificant.



Source: Jordan Traffic Institute: Annual Report of Traffic Accidents in Jordan / 2021.

4. Jordan Strategy Forum Policy Recommendations

While we all hope that the implementation of the Economic Modernization Vision in general, and the six initiatives of the transport, mobility, and logistics in particular, will make road transport more effective, efficient, and sustainable and reduce the human and economic

costs of human traffic accidents in Jordan, we outline below a number of policy recommendations.

1. Road Markings: This should be adopted comprehensively. In addition, the paints used to make lines on roads (longitudinal, broken, and others) must reflect enough light to be clearly visible at night. For example, the aim of longitudinal marking is to drive and navigate the driver moving forward and to restrict overtaking maneuvering at particularly hazardous areas to neglect sideswiping and head-on collision accidents.

2. Install Cameras: The fact that the overwhelming majority of the human traffic accidents occur on roads with speed limit between 40 km / h to 60 km / h, it is imperative for the government to enable all of the Governorates to install cameras on these roads. Naturally, relevant fines should be adopted.

3. Insurance: The fact that the age group 18 - 29 years old accounts for **21.3%** of the total number of registered drivers, and **28.2%** of total accidents, the insurance premium paid by this group should be re-examined accordingly. Within this context, it is also worth noting that car insurance in Jordan provides drivers with two main types of insurance. These are **“compulsory insurance”** and the optional **“comprehensive insurance”**. Here, all stakeholders should look at the impact of compulsory insurance on the number of traffic accidents and the “financial performance” of the insurance companies. In other words, does the existing premium (JD 92) make the insurance companies realize losses, especially from the insured age group 18 - 29 years old? If this is the case, then there is a strong case for not only increasing this amount, but also increasing it by more on the people who happen to be involved in traffic accidents.

4. Traffic Safety Awareness:

Whilst it is encouraging that the Public Security Directorate has activated the traffic point system in 2022, educating people in general, and the youth in particular, about traffic safety issues is important. At the national level, the governments must develop and use programs to improve road behavior through campaigns to increase awareness of road safety risks and the need for safety measures such as seatbelts, helmets, drunk driving, speeding, and other risky behaviors. Indeed, raising public awareness in road safety awareness sessions must be held at all schools in the Kingdom. **The Annual Reports of Traffic Accidents in Jordan**, which are published by the Public Security Directorate, contains rich data and information. These reports should be used in any public awareness initiative.

5. Improve Road Infrastructure: All roads should be designed according to public safety standards, and allocate safe passages for pedestrians, place necessary traffic signs and

signals, in addition to preserving, expanding, and maintaining the existing roads on a regular basis.

6. Strengthen Law Enforcement: Strict enforcement of laws, and increased monitoring of traffic violations, such as speeding and driving under the influence of drugs or alcohol, with strict penalties for offenders, should be followed.

7. Develop Public transport System: By providing a convenient, timely, and efficient public transport system, people will prefer to choose these means instead of their vehicles, and hence, reducing the number of private vehicles on the road.

8. Promote Alternative and Sustainable Transportation: Promote alternative transportation, such as walking, cycling, and carpooling. These means can help reduce the number of vehicles on the roads, and hence, reduce the risk of accidents. They can also cause healthier lifestyles.

9. Invest in Technology and Innovation: Adopt and invest in the latest technological developments in this field, such as lane departure warning systems and speed control in vehicles. In addition, relevant stakeholders should employ artificial intelligence applications to monitor roads and pedestrian paths, and develop preventive mechanisms to predict traffic accidents and enhance road safety.

10. Research and Analysis: All relevant and collected data on traffic accidents should be analyzed to determine their patterns and contributing factors. Such analysis should be useful in directing the design of policies and strategies to mitigate the human and economic losses of traffic accidents.

11. Enhance Cooperation Between Stakeholders: Enhance the joint and coordinated actions between all relevant governmental and legal agencies, transport authorities, health care providers, insurance companies, and community organizations within an integrated, rational governance system to implement effective strategies and contingency plans to mitigate traffic accidents and their negative impact.

TO SUM UP, road traffic crashes, injuries, and deaths have a terrible impact on individuals, communities and countries' human, health, and financial resources. Therefore, we all share the responsibility to preserve the lives of Jordanians, and ensure a brighter, healthier and safer future for all of them.

Some Observations on Road Safety Globally



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Traffic Accidents ...



Are the leading cause of death for children and young adults aged 29-5 years.

Cause 1.3 million deaths annually.

In low- and middle- income countries cause 93% of the world's fatalities on the roads.

Road accidents cost most countries 3% of the gross domestic product



Drivers using mobile phones are approximately **4 times** more likely to be involved in a crash than drivers not using a mobile phone.



Wearing a seat belt reduces the risk of death among drivers and front seat occupants by **45 - 50%**, and the risk of death and serious injuries among rear seat occupants by **25%**.



Every %1 increase in average speed produces a **4% increase in the fatal crash risk**, and a **3% increase in the serious crash risk**.

Road Fatalities per 10,000 Vehicles/ 2021



Traffic Accidents in Jordan



The number of vehicles in Jordan has increased **8000%** over the past fifty years, from **22,000 vehicles in 1970** to **1,800,000 vehicles in 2021**.

17,500

people were injured because of traffic accidents in 2021

589

people died because of traffic accidents in 2021



Important Observations on Traffic Accidents in Jordan



Most human traffic accidents occur on clear weather days (**10,889 out of 11,241 accidents**)



Most human traffic accidents occur on roads at low speeds (**40-60 km/h**) (**9,252 out of 11,241 accidents**)



Most human traffic accidents occur with **drivers under the age of 41**



The cost of traffic accidents was **approximately JD 320 million** in 2021

Jordan Strategy Forum Recommendations to Improve Traffic Safety in Jordan

Installing cameras and adopting a system of fines to deter drivers away from traffic violations

Linking vehicle insurance premiums to the age group and those causing frequent accidents

Develop campaigns to raise awareness of road safety risks and the importance of adhering to safety measures



Improving, expanding, and maintaining the road infrastructure

Strengthening law enforcement and applying strict penalties to violators

Developing an effective public transportation system and encourage people to use it in order to reduce the number of vehicles



Employ artificial intelligence and technology in preventive mechanisms to enhance road safety

Investing in research and analysis of traffic data to guide the design of policies to mitigate traffic accidents

Enhancing cooperation between the various stakeholders to implement strategies and contingency plans with regards to traffic safety





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