



Was average speed affected by the COVID-19 response measures? Findings from Athens, Greece



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Together with:

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Introduction

Katrakazas C., Michelaraki E., Sekadakis M., Chaziris A. & Yannis G.

- In the year 2020, COVID-19 pandemic dominated **every aspect of life globally** by infecting around 100 million individuals and leading to more than 2 million casualties
- When the spread of the coronavirus started increasing around the world, the majority of governments chose to impose lockdowns as a means of **restricting non-essential civilian movements**
- Several recreational or religious services, entertainment and cultural establishments were **instructed to cease operations**
- **Response measures** varied from country to country according to the fluctuation of number of cases and patients

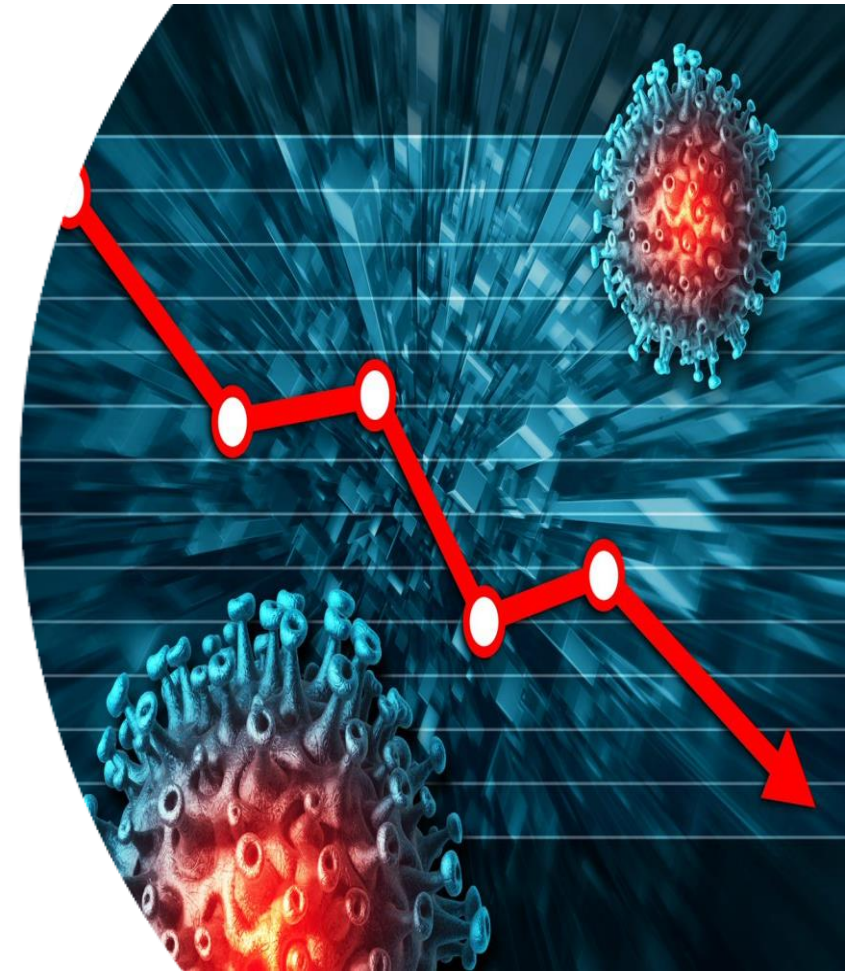


Objectives

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- This work aims at providing a detailed overview of how COVID-19 affected **average speed in Athens**, while accounting for the cases and casualties of COVID-19 countermeasures
- Driving **speed data and monthly crash data** for a long period in Athens were analyzed
- A **descriptive exploration** of 16 months (i.e. from November 2020 to February 2022) of data regarding average speed was presented in order to understand the effect of the COVID-19 pandemic on driving behavior



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Data Collection

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- Traffic data for a 16-month period (i.e. from 05/11/2020 to 28/02/2022) from several **major arterials in Athens** were collected and processed
- These data were extracted from the **Traffic Management Centre (TMC)** of Athens for Kifisias, Kallirois, Alexandras, Stadiou and Mesogeion avenues and descriptive statistics were implemented
- The estimation of average speed for each road section was made by the use of algorithms which took into account data of traffic flow and several **traffic and signalization characteristics**
- Exposure data related to road crashes were also extracted which were delivered from the **Hellenic Statistical Authority**



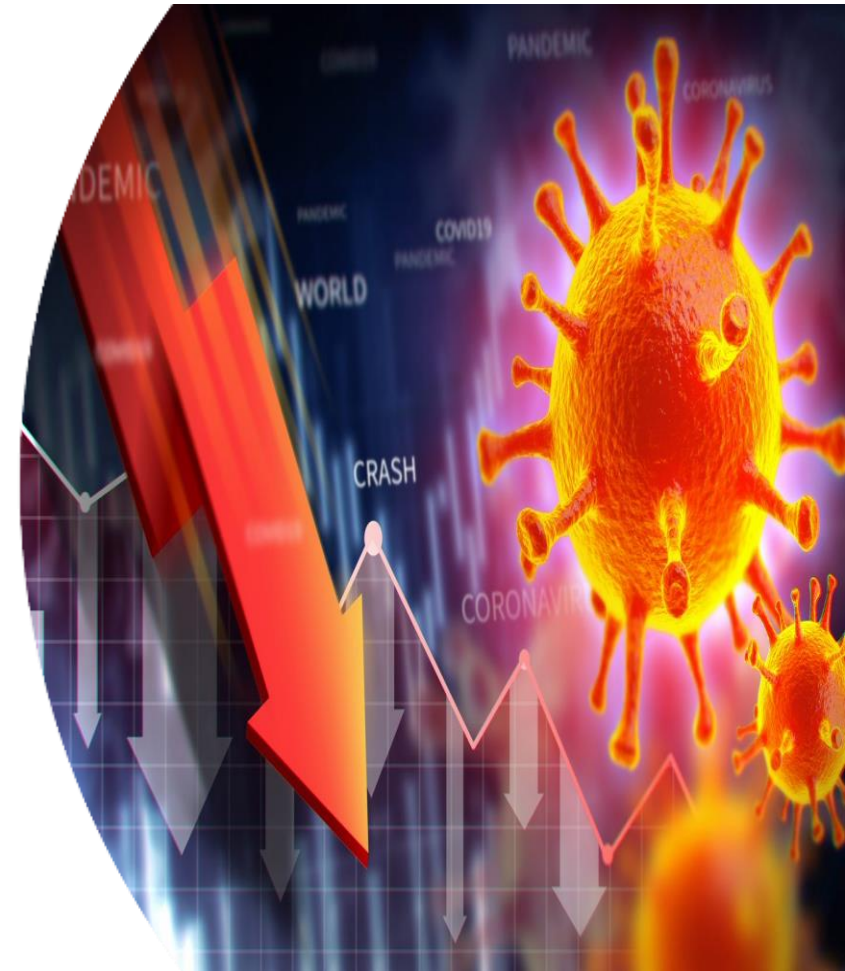
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Methodology

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- In order to provide an overview of the impact of COVID-19, average speed data were presented descriptively so as to **identify critical changes** throughout end-2020 up to first-2022 (i.e. from November 2020 to February 2022)
- **Comparisons were made** for the lockdown periods as well as periods with restrictions between the lockdown states
- Explanatory figures were provided in order to depict the status of **driving behavior and road safety indicators** in relation with COVID-19 cases and casualties

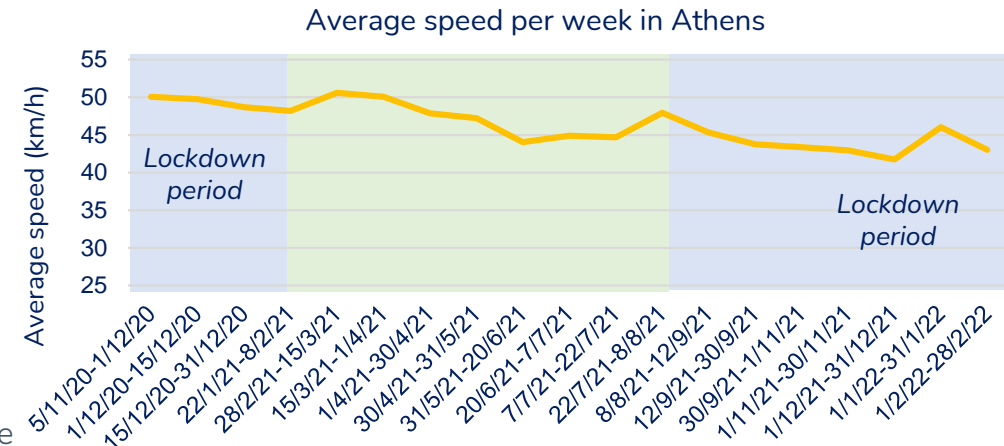
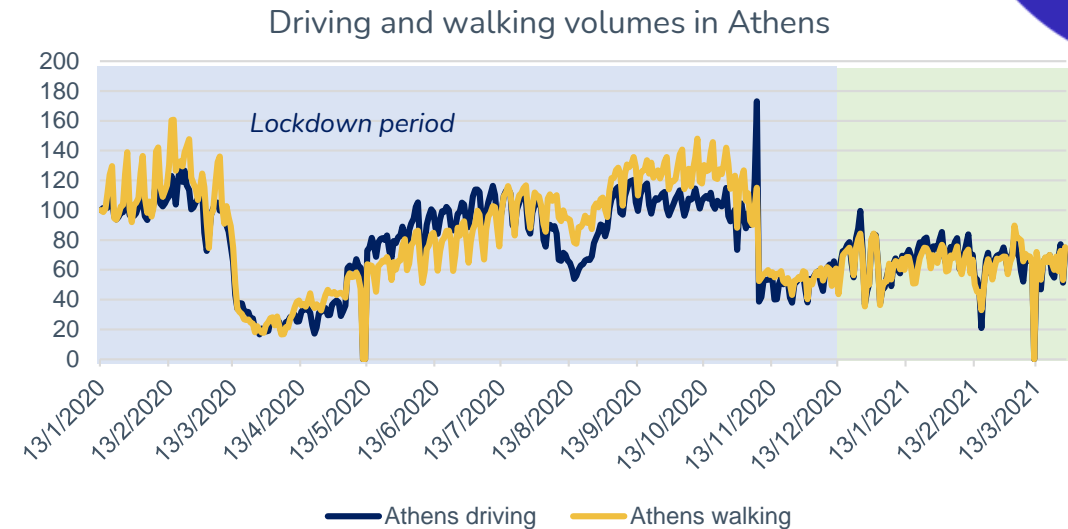


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Average Driving Speed (1/2)

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- When a **decrease in driving traffic volumes** was observed, drivers in Athens tended to increase their average driving speed
- During the lockdown period (i.e. November-December 2020) in Athens, an overall **increase in average speed by up to 8%** in several major arterials in Athens was identified compared to the period after, even when the restrictions of non-essential movements were dropped
- When the restrictions on non-essential movements were gradually lifted, the average speed gradually began to raise (especially in February and March 2021), but with more vehicles on city streets, **drivers managed to reduce their overall average speed**



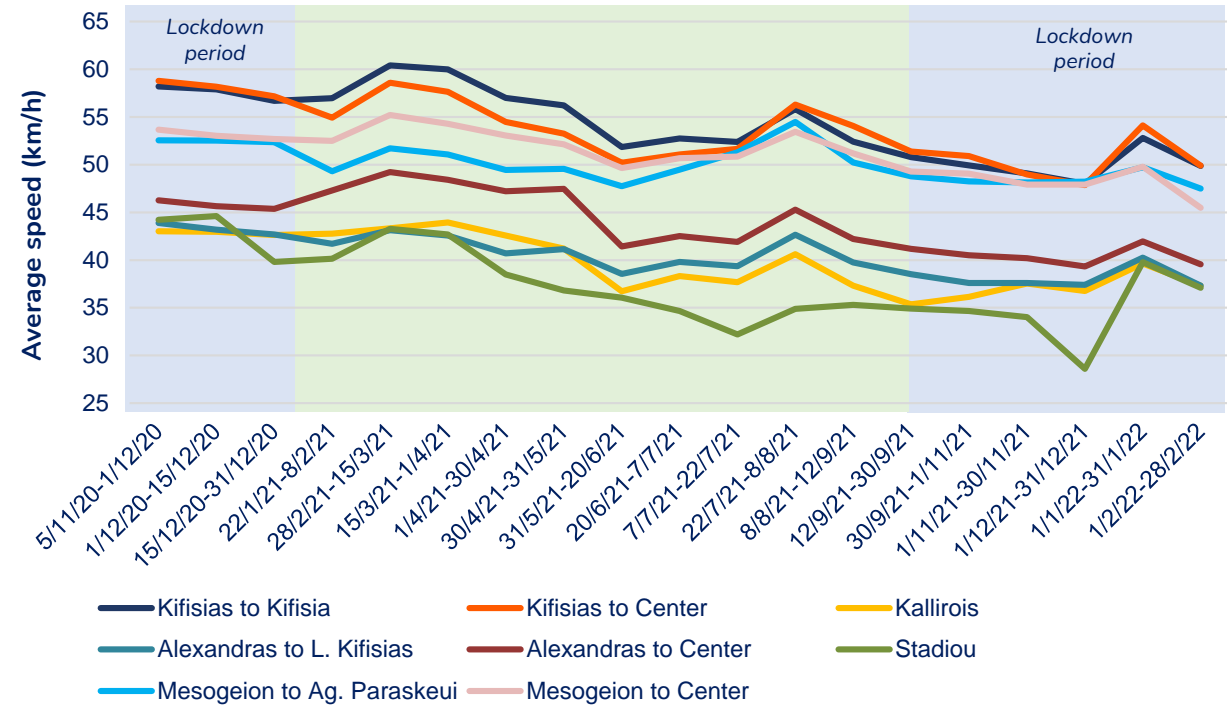
Average Driving Speed (2/2)

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- After the end of the lockdown period (from November to December 2020), a 7% and 9% drop in average driving speed was identified in the avenue “**Kifisias to Kifisia**” and “**Kifisias to Center**”, respectively
- The second wave of COVID-19 pandemic led to a 9% decrease in average driving speed in “**Kallirois**” avenue, compared to after lockdown restrictions period
- A significant 15% reduction in average driving speed in “**Stadiou**” avenue was observed compared to the lockdown period
- An 8% and 5% drop in average driving speed was found in the avenue “**Alexandras to L. Kifisias**” and “**Alexandras to Center**”, respectively

Average speed per week in several major arterials in Athens

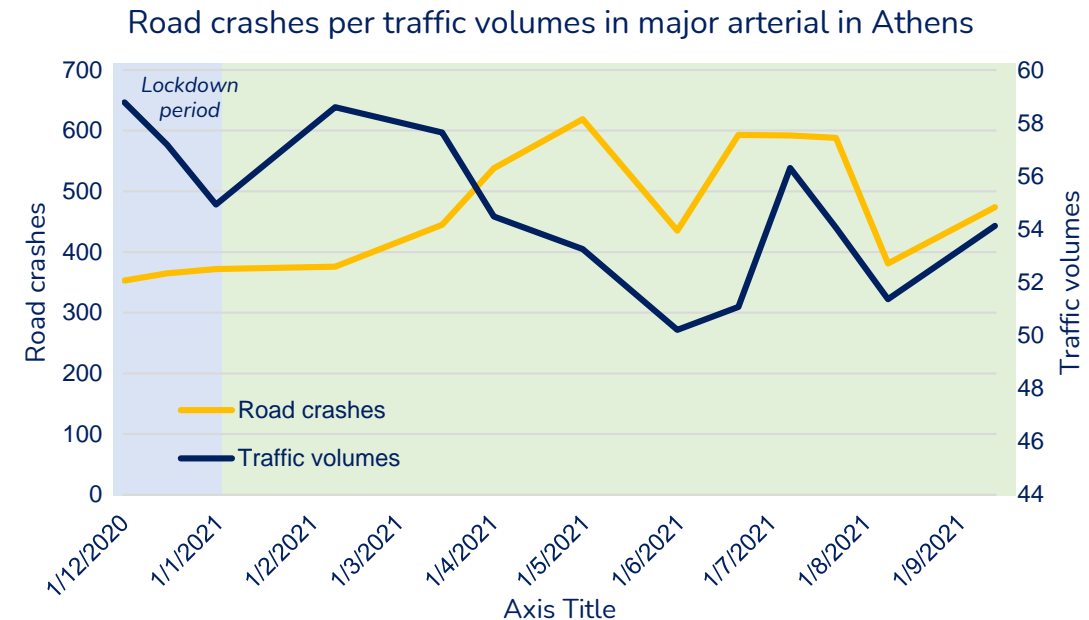


Road Crashes

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- Reductions in crash rates were in association with average speed enforcement, particularly in relation to **fatal and serious injury crashes**
- A more **comprehensive picture** of the effect of COVID-19 pandemic on average speed and, therefore, road safety was drawn from the high-quality data on total number of road crashes
- During the lockdown period (November – December 2020), a **remarkable 37% increase in the total number of road crashes** was observed compared to the period after the lockdown restrictions



**Monthly data for road crashes in 2/2021, 5/2021 and 11/2021 were not available for Athens*



Discussion

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- The COVID-19 pandemic upset **normal operations** in arguably all aspects of life for citizens worldwide
- Driving speed was significantly increased during the periods when lockdowns were imposed, due to the **heavily reduced traffic volumes** for motorized traffic
- The first wave of the pandemic took governments and citizens by surprise, but at present, two years into the pandemic, signs of **adjustment to the new reality** are becoming apparent
- The **positive attitudes of Greek drivers** immediately after the imposition of a second lockdown were not reflected in the frequency of road crashes

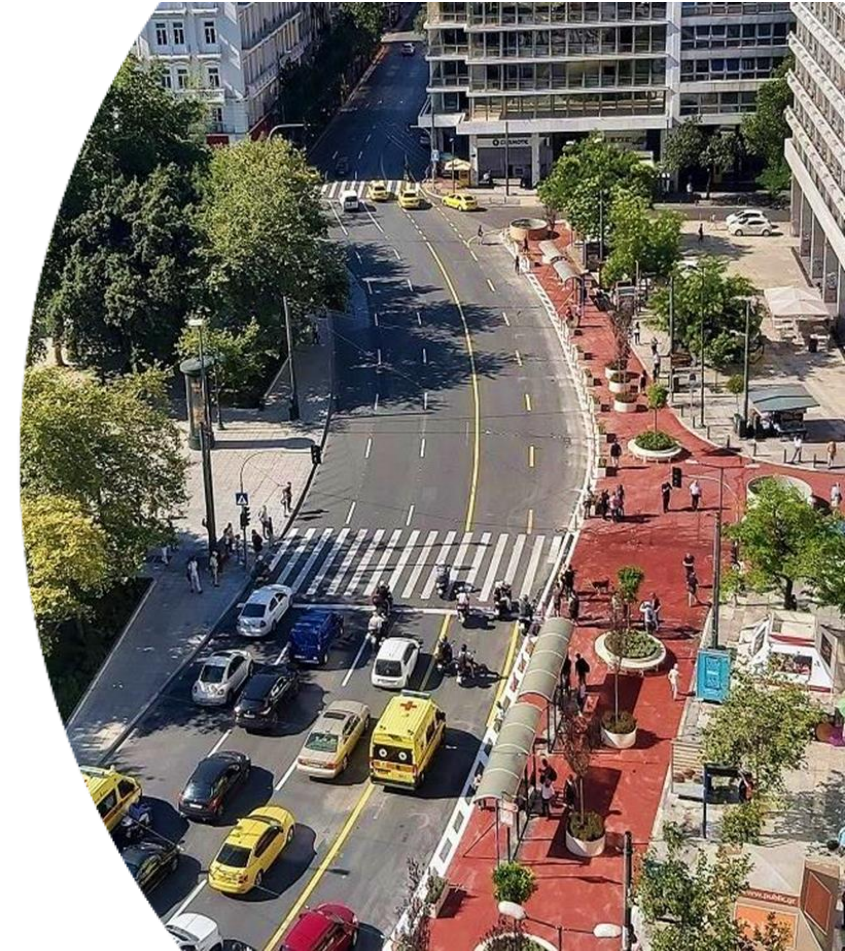


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Conclusions

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- Significant benefits in mobility in the center of Athens were identified with an extraordinary **rise in walking and cycling**
- The completion of the **Athens Great Walk** made the center of Athens even more attractive, improving road safety and developing a new culture for safer behavior of all road users
- **Stricter speed limits (20 or 30 km/h)** can permanently support the establishment of residential areas and streets in which priority is given to pedestrians and cyclists
- Athens should be a living example of **continuous sustainable mobility** and quality of life improvement
- Cities must build on the **successes and innovation** born out of the pandemic to catalyze progress towards ensuring the right to health for all





Thank you!

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