# Article information:

Coordinated lane-changing scheduling of multilane CAV platoons in heterogeneous scenarios - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0968090X22004053>

# Article summary:

1. Connected and automated vehicles (CAVs) can improve traffic efficiency, reduce energy consumption, and improve safety and comfort of driving.

2. Platooning is a promising direction for CAV implementations, as it reduces aerodynamic drag force, improves road capacity, and simplifies traffic controls.

3. Coordinated lane-changing scheduling of multilane CAV platoons in heterogeneous scenarios is necessary to optimize the permutation of vehicles in parallel platoons from the initial state to the target state with minimum cost.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Coordinated lane-changing scheduling of multilane CAV platoons in heterogeneous scenarios” provides an overview of the potential benefits of platooning for connected and automated vehicles (CAVs). The article presents several advantages of platooning such as reducing aerodynamic drag force, improving road capacity, and simplifying traffic controls. It also discusses the need for coordinated lane-changing scheduling of multilane CAV platoons in heterogeneous scenarios to optimize the permutation of vehicles in parallel platoons from the initial state to the target state with minimum cost.

The article is generally reliable and trustworthy as it provides evidence for its claims by citing relevant research studies throughout its text. However, there are some points that could be improved upon. For example, while the article mentions various advantages of platooning such as reducing fuel consumption and emission pollution, it does not provide any evidence or data to support these claims. Additionally, while it mentions various scenarios where coordinated lane-changing scheduling may be necessary, it does not explore any potential risks associated with this approach or discuss any counterarguments that may exist against this approach. Furthermore, while it cites several research studies throughout its text, most of them are from recent years which may indicate a bias towards more recent research findings rather than providing a comprehensive overview of all relevant research on this topic.

In conclusion, while this article provides an overview of the potential benefits associated with platooning for connected and automated vehicles (CAVs), there are some areas where further exploration is needed such as providing evidence for its claims regarding fuel consumption and emission pollution reduction due to platooning as well as exploring potential risks associated with coordinated lane-changing scheduling and discussing counterarguments against this approach.

# Topics for further research:

* Fuel consumption reduction due to platooning
* Emission pollution reduction due to platooning
* Risks associated with coordinated lane-changing scheduling
* Counterarguments against coordinated lane-changing scheduling
* Comprehensive overview of research on platooning
* Benefits of platooning for connected and automated vehicles

# Report location:

<https://www.fullpicture.app/item/1f09db207aa144c8bae33632dfd9f560>