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Automatic Occupancy Sensing And Navigation Through Hov Lanes

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AUTOMATIC OCCUPANCY SENSING AND NAVIGATION THROUGH HOV LANES

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ABSTRACT

A system and method for in-car navigation systems that could recommend using high occupancy vehicle (HOV) or carpool lanes when there is a passenger in the vehicle is disclosed. Accordingly, the vehicle control system may share the vehicle occupancy information with the navigation system that may recommend using the HOV lane when the vehicle occupancy is more than one. The system may include one or more sensors that detect the number of occupants in the vehicle and provide inputs to the vehicle control system architecture. The vehicle control system shares occupancy status with the in-car navigation system. The in-car navigation system may choose between a HOV lane and regular passing lane for better traffic flow and may recommend using the HOV lane when the vehicle occupancy is more than one. The advantages of the system include more efficient commuting without lane violation. The system may also be used in automated driving cars.

BACKGROUND

In-car navigation systems include a navigation device that could retrieve the location and time information from the navigation satellite system. These systems could enable users to find and get to destinations faster and easier. These systems could also include real-time traffic alerts and also include intelligent rerouting. However these systems fail to recommend using HOV lanes, when there is more than one person in a vehicle. This obviously may make it difficult for the driver to navigate to the HOV lane when there are one or more passengers in the vehicle.

DESCRIPTION

A system and method for in-car navigation systems that could recommend using high occupancy vehicle (HOV) or carpool lanes when there is a passenger in the vehicle is disclosed. Accordingly, the vehicle control system may share the vehicle occupancy information with the navigation system. The navigation system may show entrances and exits to HOV lanes and recommend using them when the vehicle occupancy is detected to be more than one. The system as shown in FIG. 1 may include one or more sensors that detect the number of occupants in the vehicle and provide inputs to the vehicle control system architecture. The vehicle control system shares occupancy status with the in-car navigation system. The in-car navigation system may choose between a HOV lane and regular passing lanes to take advantage of better traffic flow and may recommend using the HOV lane when the vehicle occupancy is more than one.

The advantages of the system include more efficient commuting without lane violations. The system could also be used in automated driving cars.

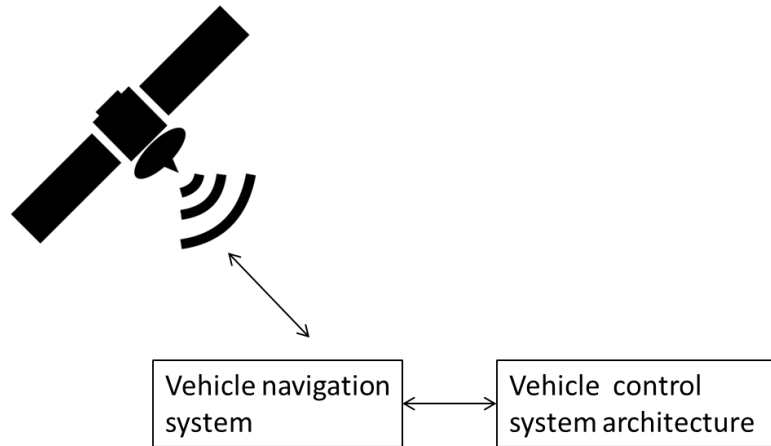


FIG. 1: System for navigating via HOV lanes