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EVENING RUSH HOUR TRAFFIC ASSISTANT

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Technical task:
Within towns and cities, evening rush hour traffic or road works repeatedly lead to slow-moving traffic, which also influences roads that are not directly affected by traffic jams at intersections. Especially intersections that are not free for crossing vehicles pose a problem. Some inattentive drivers leave too much/unnecessary space to the vehicle in front, which increases the traffic jam situation .

Initial situation:
Non-passable intersections cause traffic jams to spread to roads that are not actually influenced. Too much space is left between the vehicles.

Solution:
A system uses GPS, radio traffic service or sensors installed in the vehicle to detect traffic jams. Information is usually available about areas in cities where there is a risk of traffic jams. This information can also be used. If a traffic jam is detected, the system should draw the driver's attention to the fact that he should be as close as possible to the preceding vehicle . If the vehicle is sufficiently autonomous, the active close driving can be done by the vehicle.

Advantages:
The space requirement of a traffic jam can be minimized. As a result, the traffic jam affects fewer intersections. The influence of the traffic jam can be kept down . Traffic flow at peak times is improved.

Possible application:
The vehicle detects an inner-city traffic jam via a car-to-x connection. Alternatively, it would be possible for a vehicle's internal algorithm to recognize "stop an go" driving as slow-moving traffic. The vehicle now detects the distance to the vehicle ahead. The sensors already installed in the vehicle (such as ultrasonic sensors) can be used for this purpose. The vehicle now compares on the basis of target values (e.g. 30cm), whether it is possible to drive closer. If this is the case, the driver is informed acoustically via speakers or optically with the instrument display that his vehicle can drive closer to the vehicle in front . The driver now drives closer to the vehicle in front. The driver is informed of the distance to the vehicle via the front parking sensors and warned of a rear-end collision. A sufficiently autonomous vehicle can carry out this procedure itself. It could be problematic if e.g. ambulance vehicles have to pass the stationary vehicles. For example, a free path for rescue vans could be implemented in such a way that a rescue van in use releases its route via car-to-x. If a vehicle is on the route of the rescue van , the described function of the vehicle is deactivated. Alternatively, the vehicle/driver could be advised to leave extra space.