Smart highways are the road to the future

What is the issue?

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Smart highways will make road transport safe, smart and as a comfortable experience.

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What are smart highways?

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- ‘Smart roads’ or ‘Smart highways’ will use digital sensors to acquire data pertaining to landslides, accidents, traffic jams and weather conditions.
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- It will activate warning systems in time and enabling active LED displays on roads and highways.
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- Which can monitor traffic with an array of intelligent transport systems and is also able to assist motorists in distress.
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- The Eastern Peripheral Expressway is India’s first smart highway with highway traffic management systems (HTMS) and video detection systems (VIDS) to relay the information collected.
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What are the thematic approaches of smart highways?

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- **Communication -** Smart-road-to-vehicle communication will serve as the foundation for safe, connected, autonomous vehicles of the future.
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- Cameras and sensors will allow digital signage allowing drivers to vary their speed accordingly or take alternative routes.
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- **Convenience -** The idea of smart lighting solutions for roadways relies on

piezoelectric crystals placed below the surface of asphalt used on roadways.
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- The electrical energy harvested is sufficient to power smart lighting poles on highways, freeways and rural roads, and are extremely helpful in foggy or heavy monsoon-prone areas.
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- **Safety -** In a quest to improve safety on highly risky mountain roads and highways in India, ‘Smart Life’ poles were developed.
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- The system uses these poles to communicate with each other and exchange data on incoming traffic just before sharp turns and hairpin bends.
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- These poles gauge the speed of vehicles and alert drivers of approaching traffic by sounding a horn.
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What are the advantages of smart highways?

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- Smart highways are a crucial link in improving road transportation landscape in the country.
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- It is a splendid solution for less-travelled highways, providing night visibility on demand and proving the best for road safety.
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- It promises to fight against congestion and carbon emissions and can serve as viable sources of renewable energy.
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- It can yield significant improvements in the driving experience.
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Source: Business Line

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