



White Topping of Roads

Source: TOI

The Union government is **developing a policy to reinforce aging national highways using a technique known as white-topping**, aimed at extending their lifespan.

- The [National Highways Authority of India \(NHAI\)](#) has been instructed to prioritise the upgrading of national highways to address maintenance concerns.
 - **NHAI** was established under the **NHAI Act of 1988** under the **Ministry of Road Transport and Highways**.
 - It oversees the [National Highways Development Project \(NHDP\)](#) and other projects.
 - India's national highway network covers about **146,000 kilometers**.
- **Whitetopping** is the process of **applying an 100-200 mm overlay of cement concrete** (bonded or unbonded) to existing **bituminous roads** (made using a mixture of asphalt and aggregate materials) for **rehabilitation or structural strengthening**.
 - **Cement Concrete** is a construction material made by mixing **cement, water, aggregates** (like sand and gravel), and often additives for building roads, bridges and other structures due to its strength, durability, and versatility.
- The technique offers fuel savings as vehicles consume less fuel on concrete roads, **reduces carbon emissions**, mitigates the urban heat island effect, and improves safety by enhancing the reflection of vehicle lights.
 - It also **requires less energy for external lighting** due to its reflective properties.

WHITE-TOPPING | A whitetop is a cement concrete layer placed over an existing asphalt pavement. It is stronger than asphalt overlay, and thus more resistant to rutting and surface initiated cracking

ULTRA-THIN WHITE-TOPPING
A type of whitetopping in which a concrete overlay of 50mm to 100mm thickness is placed over a distressed asphalt pavement

ADVANTAGES

- ▶ Long life, low maintenance and low life-cycle cost
- ▶ Improved safety and environmental benefits
- ▶ Can help reduce rutting and cracking considerably
- ▶ Improves structural capacity of existing asphalt roads

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