Zojila Tunnel

Prelims: *Current events of national and international importance | Infrastructure*

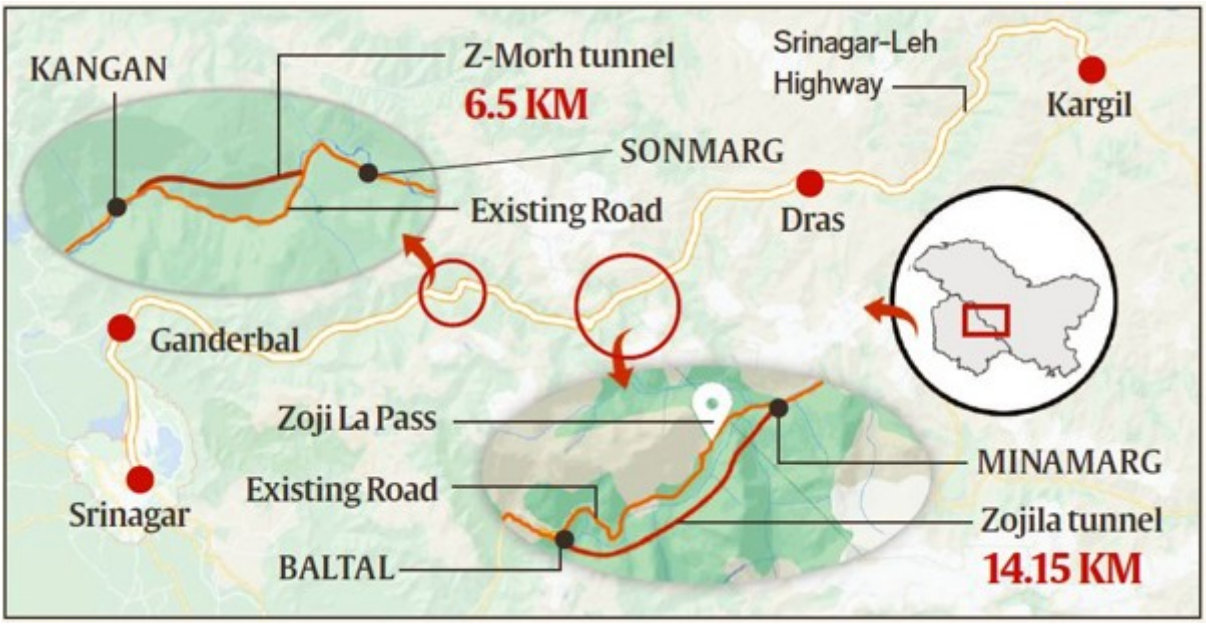
Why in News?

The Zojila tunnel in Ladakh witnesses a major break-through recently as it completes more than 13 kms of excavation work.

- The Zojila tunnel will be ***India's longest road tunnel***, and is expected to be Asia's longest bi-directional tunnel.
- It connects ***Sonmarg in Kashmir to Minamarg.***

Geography & Location

- **The Route -** The tunnel is being constructed on National Highway 1 (NH-1), the vital arterial road connecting Srinagar, Kargil, and Leh.
- **The Span -** It connects Baltal (near Sonamarg in the Ganderbal district of Jammu & Kashmir) with Minamarg/Meenamarg (near Drass in the Kargil district of Ladakh).
- **The Altitude -** Built in the geologically fragile Himalayan range at an altitude of approximately 11,578 feet (3,528 metres) above sea level.
- **Zojila Pass -** Historically, the Zojila Pass acts as a natural divide between the Kashmir Valley and the cold desert of Ladakh.
- It routinely shuts down for 3 to 4 months every winter due to heavy snowfall and avalanches, completely isolating Ladakh from the rest of the mainland.



Engineering & Technical Architecture

- **Record Classification -** Once fully operational, it will be ***Asia's longest bi-directional, single-tube road tunnel*** at this ultra-high altitude.
- **Dimensions -** The main tunnel spans 13.153 km in length. It is designed as a **horseshoe-shaped structure** (9.5 metres wide and 7.57 metres high).
- **The Broader Smart-Corridor -** The tunnel is part of a larger 31-km approach corridor that includes 8 cut-and-cover sections, snow galleries, catch dams, and avalanche protection walls to bypass hazard-prone zones.
- **Technological Method -** It is being excavated using the ***New Austrian Tunnelling Method (NATM)***.
- This modern technique treats the surrounding rock mass as an integral load-bearing component of the tunnel support structure rather than relying purely on heavy external scaffolding.

Implementing Agencies

- **Nodal Body -** The project is overseen by the ***National Highways and Infrastructure Development Corporation Limited (NHIDCL)***.
- **Nodal Ministry - Ministry of Road Transport and Highways (MoRTH)**.
- **Execution Partner -** The construction is being executed by Megha Engineering & Infrastructures Limited (MEIL).

Significance of the Project

- **All-Weather Connectivity -** It ensures 365-day seamless road access to

Ladakh, permanently mitigating winter containment.

- **Strategic & Defense Mobility-** The tunnel drastically speeds up logistics, heavy artillery movement, and troop deployment for the Indian Armed Forces along both the Line of Control (LoC) with Pakistan and the Line of Actual Control (LAC) with China.
- It slashes travel time across the treacherous pass from over *3 hours to just 15 minutes.*

Reference

The Indian Express | Zojila tunnel

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