



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to TARANG GAS SERVICE

Objective of the JRM Report

This JRM report is designed to ensure compliance with the Central Motor Vehicle Rules, 1989 (CMVR), AIS 140 standards, and the Road Transport Safety Policy (RTSP). It provides a comprehensive risk assessment for the transportation of hazardous materials along specified routes. By integrating these legal frameworks, the report offers a broad strategy for identifying and mitigating route-specific risks.

Regulatory Compliance

The report complies with the Central Motor Vehicles (Eleventh Amendment) Rules, 2022, mandating safe transportation practices for N2 and N3 category vehicles carrying hazardous materials. These rules require detailed route assessments, especially regarding road conditions, speed limits, and risk areas, to ensure safety compliance.

Risk Management Strategy

This report categorizes transportation routes into high-risk and medium-risk areas, with a focus on factors such as sharp turns, accident-prone regions, and elevation changes. The goal is to provide actionable

recommendations to minimize these risks, including speed regulations, driver warnings for hazardous zones, and the option of alternate routes.

Compliance with the Road Transport Safety Policy (RTSP)

The report integrates RTSP provisions, including mandatory driving hours, rest periods, and nighttime driving restrictions. It ensures that drivers follow official guidelines, such as taking prescribed rest breaks and avoiding dangerous road conditions like poor visibility, heavy crowds, or high-traffic areas during peak hours.

Emergency Preparedness and Response

The report highlights the significance of predetermined emergency stops for refueling, rest, and overnight stays. It includes protocols for safe responses to road hazards, alternative routes, and rerouting processes if roads are closed or severe weather arises. This aligns with the RTSP emphasis on driver safety and rapid emergency response.

Environmental Considerations

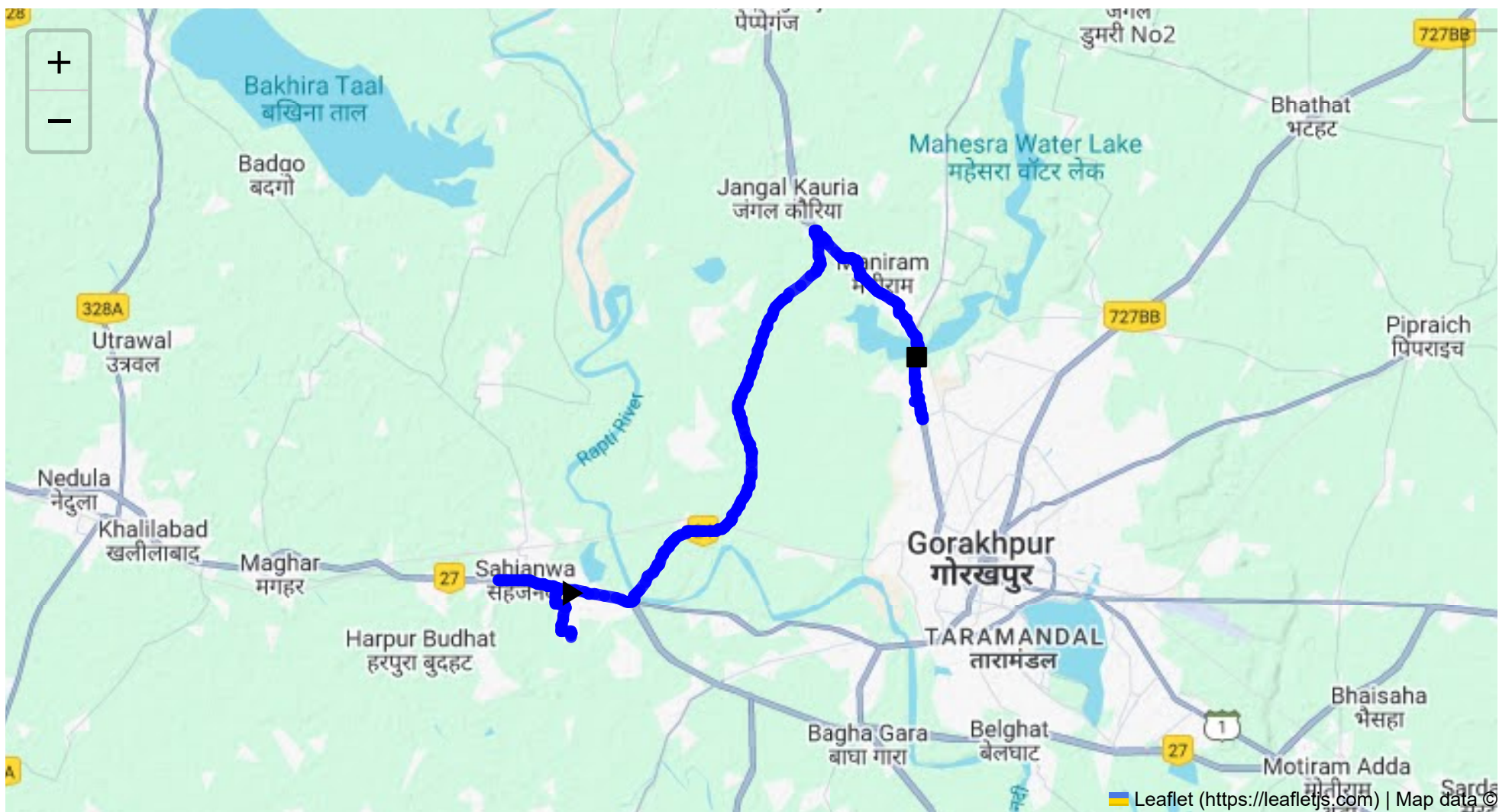
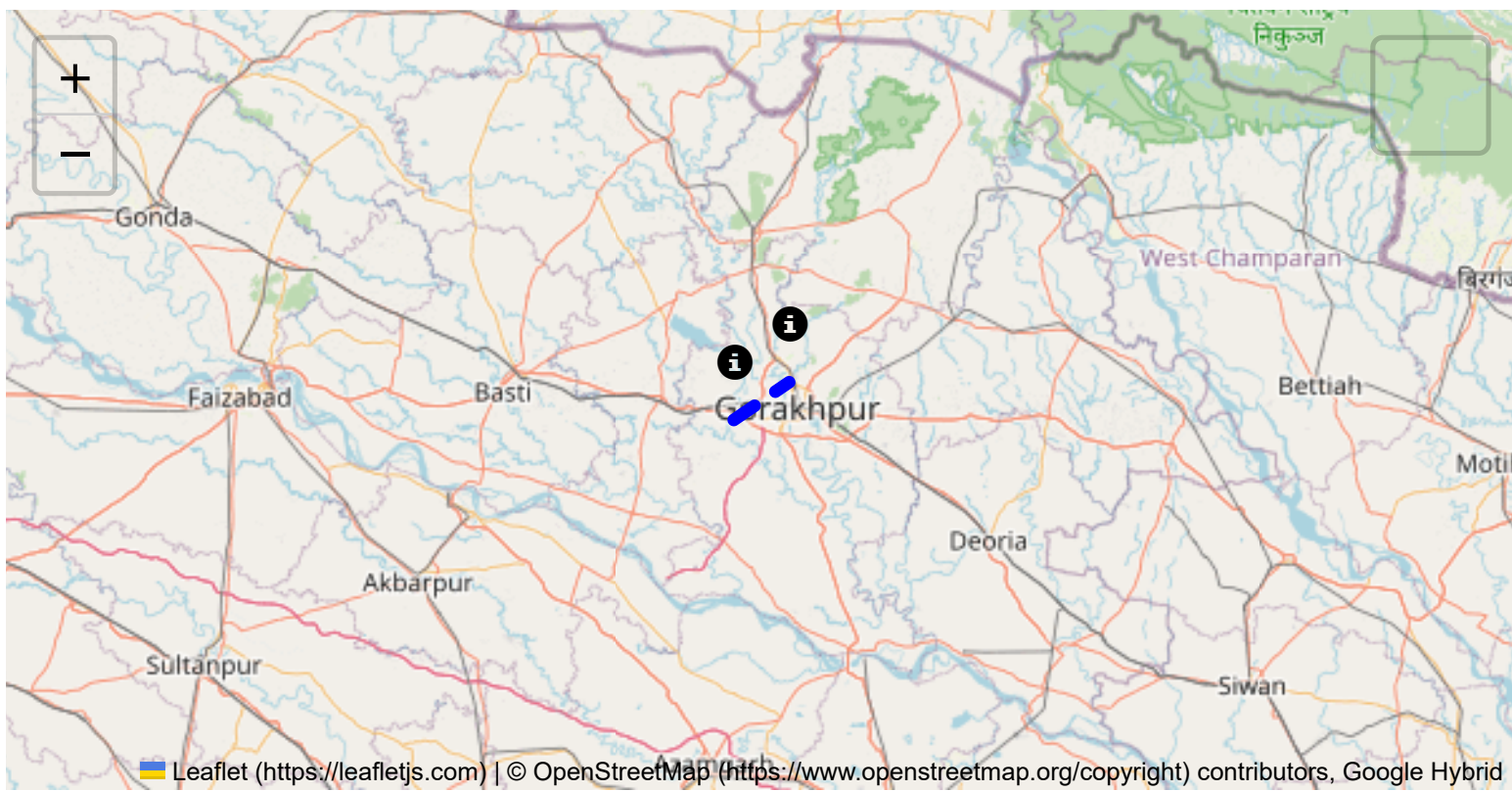
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

Journey Risk Mitigation

The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety norms.

Compliance with Government Directives

This report fully adheres to governmental directives regarding hazardous material transportation, implementing mandatory speed limits, nighttime driving restrictions, and comprehensive driver briefings and real-time alerts about route-related risks.



Route Summary:
Total Distance: 33.93 km
Estimated Duration: 0.8 hours
Adjusted Duration (Heavy Vehicle): 1.0 hours
Start: (26.735959, 83.229398)
End: (26.80927, 83.34992)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

- The route from GIDA Industrial Area Phase 1, Sahjanwa to Bargadwa, Gorakhpur spans approximately 33.93 kilometers. It primarily follows National Highway 27 and integrates several local roads to reach the final destination. The journey typically takes about 0.80 hours for heavy vehicles under normal conditions.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather Conditions:** The region experiences a sub-tropical climate with hot summers, a monsoon season, and cool winters.
- **Weather-Related Hazards:** During the monsoon season (June to September), heavy rainfall can lead to waterlogging and poor visibility, increasing accident risk. Fog is a common winter hazard, reducing visibility significantly.

3. Traffic Patterns, Peak Hours, and Congestion-Prone Areas

- **Traffic Patterns:** Peak traffic hours are generally observed in the morning (8:00 - 10:00 AM) and evening (5:00 - 8:00 PM).
- **Congestion-Prone Areas:** Areas around major intersections and market zones in Gorakhpur may experience congestion, particularly during peak hours.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** The national highway is well-maintained, but local roads connecting smaller towns may have varying surface conditions, with potential potholes and uneven surfaces.
- **Infrastructure:** Road infrastructure supporting heavy vehicles is generally adequate but includes some narrow passages in rural areas that require cautious driving.

5. Suggestions for Alternative Routes for Emergencies

- A potential alternative route involves taking NH27, bypassing heavy traffic areas through rural roads that connect back to the highway closer to the destination. These should be used with caution and checked for updated road conditions.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Transporting hazardous materials requires adherence to national safety standards. This includes proper labeling, documentation, and adherence to designated transport times to minimize risks during peak traffic hours.

7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- **Historical Incidents:** There have been incidents involving overturned trucks due to sharp turns and poor road conditions during monsoon. Knowledge of such hotspots from local authorities can aid in preparing for similar situations.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** Proximity to residential zones in Gorakhpur necessitates cautious handling of hazardous materials to prevent contamination risks. Major intersections and wildlife crossing zones need careful monitoring.

9. Analysis of Communication Coverage

- **Communication:** Generally, good mobile network coverage along NH27. Dead zones may exist in rural stretches or under dense foliage. It is advisable to have alternative communication plans, such as satellite phones or radios.

10. Estimated Emergency Response Times for Different Route Segments

- **Emergency Response:** Closer to urban areas like Gorakhpur, response times may be within 15-30 minutes. In rural stretches, this might extend up to 45 minutes to an hour. Coordination with local emergency services for assistance is recommended.

11. An Overall Summary of Risk Assessment

- **Risk Assessment:** The route presents moderate risk due to weather and road conditions, particularly during monsoon and peak traffic times. Regularly updated local information and adherence to safety protocols for transporting hazardous materials are essential to mitigate risks.

By following these guidelines, truck drivers carrying hazardous materials can navigate the route more safely, minimizing potential hazards associated with both transportation and the transported substances themselves. Frequent communication with local authorities and real-time data are crucial for adapting to sudden changes in conditions.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 km
3	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
4	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
5	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
6	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.30 km
7	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
8	Turn	Medium	26.74654, 83.22390	30 KM/Hr	1.69 km
9	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 km
10	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
11	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
12	Turn	High	26.75381, 83.20466	15 KM/Hr	4.30 km
13	Turn	High	26.74708, 83.24935	15 KM/Hr	8.81 km
14	Turn	Medium	26.74712, 83.24938	30 KM/Hr	8.82 km
15	Turn	Medium	26.74703, 83.25096	30 KM/Hr	8.98 km
16	Turn	Medium	26.74767, 83.25139	30 KM/Hr	9.06 km
17	Turn	High	26.74769, 83.25146	15 KM/Hr	9.07 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.87 km
1	U-Turn	High	26.8040893, 83.3526053	10 KM/Hr	33.12 km
18	Blind Spot	Blind Spot	26.80409, 83.35261	10 KM/Hr	33.12 km
19	Turn	High	26.80407, 83.35252	15 KM/Hr	33.15 km
20	Turn	High	26.80948, 83.35126	15 KM/Hr	33.66 km
21	Blind Spot	Blind Spot	26.80959, 83.34996	10 KM/Hr	33.83 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Kanha Hospital	26.8035, 83.352362	30 km/h	Medium	33.15 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.17 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.23 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.30 km

Coordinates: 26.75381, 83.20466



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.81 km

Coordinates: 26.74708, 83.24935



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.82 km

Coordinates: 26.74712, 83.24938



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.98 km

Coordinates: 26.74703, 83.25096



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74767, 83.25139



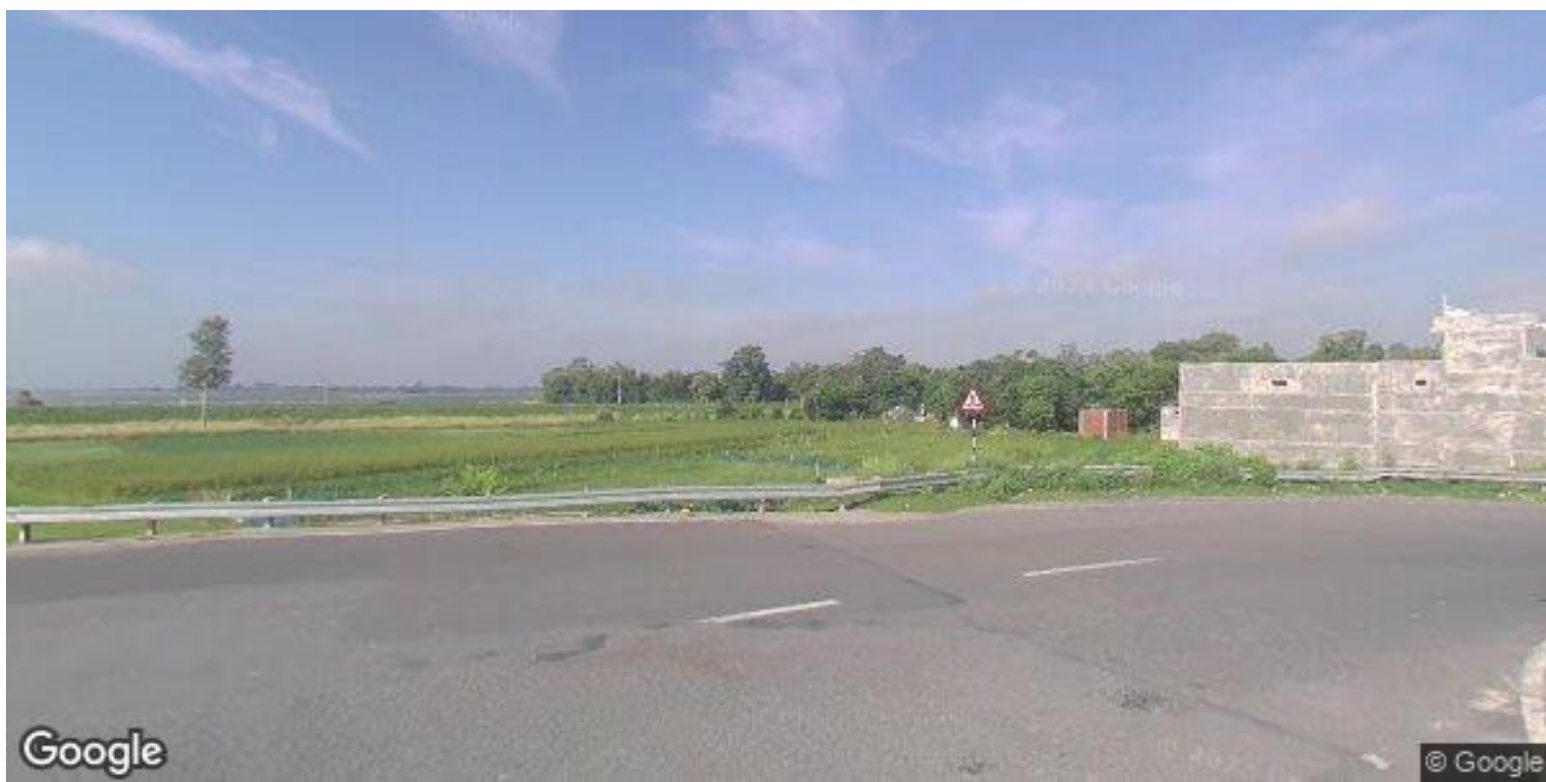
Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 9.07 km

Coordinates: 26.74769, 83.25146



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.87 km

Coordinates: 26.86209, 83.31517



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.12 km

Coordinates: 26.8040893, 83.3526053



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.12 km

Coordinates: 26.80409, 83.35261



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.15 km

Coordinates: 26.80407, 83.35252



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.66 km

Coordinates: 26.80948, 83.35126



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.83 km

Coordinates: 26.80959, 83.34996

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