



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP to ANKIT INDANE GRAMIN VITRAK

#### 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

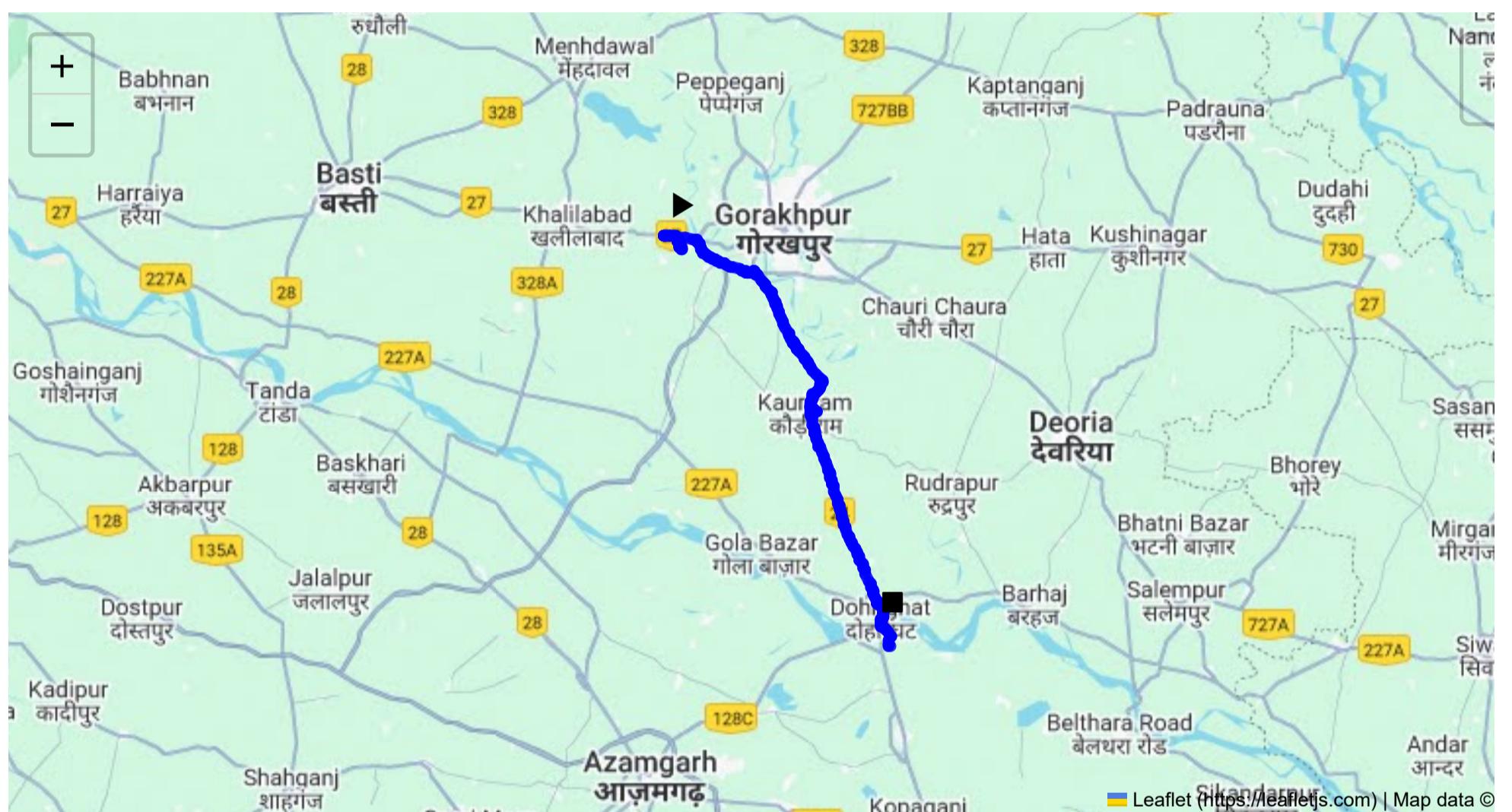
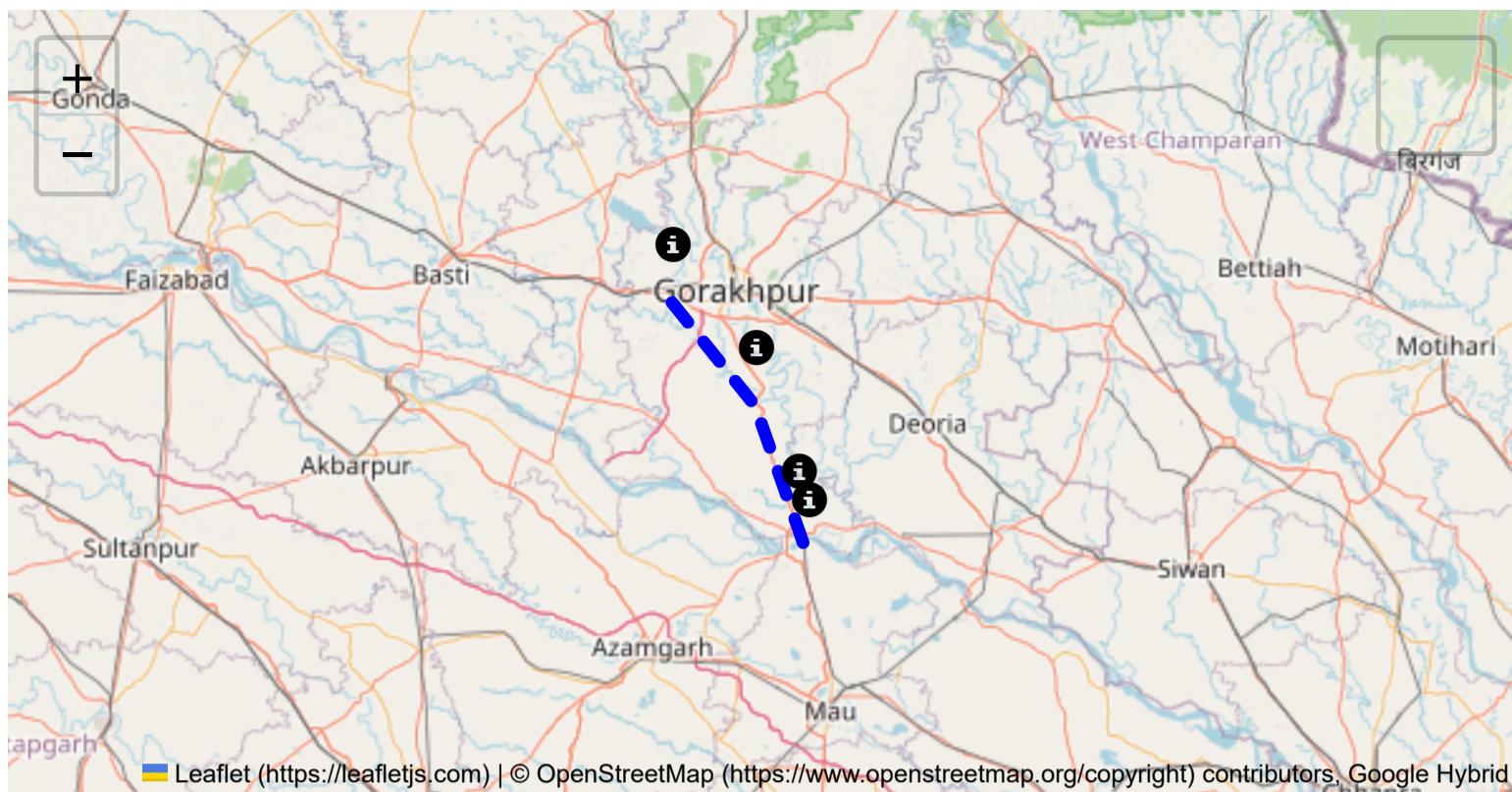
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 79.56 km**  
**Estimated Duration: 1.9 hours**  
**Adjusted Duration (Heavy Vehicle): 2.3 hours**  
**Start: (26.735959, 83.229398)**  
**End: (26.237972, 83.52238)**

## Welcome to the Journey Risk Management Study

### 1. Overview of the Route Map

The route spans approximately 79.56 kilometers, starting from GIDA Industrial Area Phase 1 in Sahjanwa, Uttar Pradesh, to Gautam Nagar, Gontha, Uttar Pradesh. It traverses primarily through rural and semi-urban regions, with notable waypoints at Kauriram and Barhalganj. The roads are mainly state highways and smaller roads connecting various towns and villages.

## 2. Typical Weather Conditions and Potential Weather-Related Hazards

In Uttar Pradesh, the climate can vary significantly:

- **Summer (March to June):** High temperatures often exceed 40°C, potentially causing heat-related vehicle issues.
- **Monsoon (July to September):** Heavy rainfall can lead to waterlogging and reduced visibility.
- **Winter (December to February):** Fog is prevalent, increasing the risk of accidents due to low visibility.

Weather hazards you may face include:

- Slippery roads during monsoons.
- Reduced traction in foggy conditions during winters.

## 3. Traffic Patterns and Congestion

- **Peak Hours:** Traffic congestion is typically higher between 8 AM to 10 AM and 5 PM to 7 PM due to local commuter traffic.
- **Congestion-Prone Areas:** Market areas in towns such as Kauriram and Barhalganj can experience bottlenecks, especially around the Kauriram - Bansgaon Rd.

## 4. Assessment of Road Quality and Infrastructure

- The quality of the roads can vary, with some areas on the rural road segments having potholes and uneven surfaces.
- Certain sections may lack proper signage and lighting, increasing risks during night travel.

## 5. Suggestions for Alternative Routes for Emergencies

- **Via NH-27:** Starting from Sahjanwa, heading towards Gorakhpur, and then using NH-27. This is a longer but faster option mainly when urgent deviation is needed.
- **Via Gorakhpur Bypass:** This may also offer a bypass around congested areas, though susceptible to similar weather impacts.

## 6. Summary of Local Regulations Affecting Hazardous Material Transport

- In Uttar Pradesh, transport of hazardous materials is regulated by strict guidelines regarding permissible times (generally at night), designated routes, and safety protocols like marking and containment.
- Regular checks and permits may be required for passing through certain urban areas.

## 7. Overview of Historical Incidents

- Historical data indicates an increasing trend of minor accidents involving heavy vehicles around market areas, often due to congestion and unregulated local traffic.
- Few incidents have involved hazardous materials, but caution is advised in densely populated areas.

## 8. Environmental Considerations and Sensitive Areas

- Sensitive ecological areas may be adjacent to rural parts of the route; emissions from heavy vehicles should be minimized.
- Punctual stops for checks are advised near environmentally sensitive zones to adhere to local regulations.

## 9. Analysis of Communication Coverage

- **Coverage:** Decent mobile network coverage exists, though some rural segments might experience gaps.
- Potential dead zones include stretches between Barhalganj and rural areas of Kauriram.

## 10. Estimated Emergency Response Times

- **Urban Areas:** Faster response times (15-30 minutes) due to proximity to local emergency services in towns.
- **Rural Segments:** This could be delayed significantly (45-60 minutes), dependent on road conditions and weather.

## 12. Overall Summary of Risk Assessment

The route spans across a complex array of rural and semi-urban infrastructure, with environmental and congestion challenges primarily impacting travel times and safety. The driver should be cautious of weather updates, especially during monsoon and winter for fog conditions. Deviating traffic patterns and maintaining adherence to safety regulations for hazardous materials is critical. Continuous communication with local enforcement and monitoring an emergency response strategy will mitigate many of the identified risks. Regular maintenance checks before journey commencement will ensure transport reliability and safety.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 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

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
6	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.16 km
7	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 km
8	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
9	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
10	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
11	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.95 km
12	Turn	Medium	26.74656, 83.25154	30 KM/Hr	9.04 km
13	Turn	Medium	26.74648, 83.25152	30 KM/Hr	9.06 km
14	Turn	High	26.70798, 83.33175	15 KM/Hr	18.60 km
15	Blind Spot	Blind Spot	26.53246, 83.41838	10 KM/Hr	41.80 km
1	U-Turn	High	26.5324639, 83.4183761	10 KM/Hr	41.80 km
16	Turn	High	26.53237, 83.41832	15 KM/Hr	41.81 km
17	Blind Spot	Blind Spot	26.53850, 83.41062	10 KM/Hr	42.85 km
18	Turn	Medium	26.53830, 83.41034	30 KM/Hr	42.89 km
19	Turn	Medium	26.50798, 83.41663	30 KM/Hr	46.23 km
20	Turn	Medium	26.50762, 83.41699	30 KM/Hr	46.38 km
21	Turn	High	26.50758, 83.41711	15 KM/Hr	46.41 km
23	Turn	Medium	26.29219, 83.50329	30 KM/Hr	71.90 km
22	Blind Spot	Blind Spot	26.29099, 83.50366	10 KM/Hr	72.02 km
24	Blind Spot	Blind Spot	26.29225, 83.50331	10 KM/Hr	72.22 km
25	Turn	Medium	26.26845, 83.50902	30 KM/Hr	75.53 km
26	Turn	High	26.26842, 83.50898	15 KM/Hr	75.56 km
27	Turn	High	26.26281, 83.51062	15 KM/Hr	76.19 km
28	Turn	Medium	26.24910, 83.52275	30 KM/Hr	78.14 km
29	Turn	High	26.23812, 83.52124	15 KM/Hr	79.37 km

## Emergency Locations

Found: 2 hospital(s), 2 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Zohra Hospital	26.285864, 83.5112429	30 km/h	Medium	73.15 km
1	clinic	Om Sai Nath Child Care Centre	26.2844295, 83.5124573	30 km/h	Medium	73.54 km
2	hospital	Ramdhani Hospital	26.2834401, 83.5139654	30 km/h	Medium	73.64 km
3	clinic	Sneha Nursing Home	26.2668388, 83.5054453	30 km/h	Medium	75.56 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:** 4.28 km

**Coordinates:** 26.75377, 83.20465



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**Risk Type:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 8.95 km

**Coordinates:** 26.74681, 83.25111



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 9.04 km

**Coordinates:** 26.74656, 83.25154



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 9.06 km

**Coordinates:** 26.74648, 83.25152



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**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 18.60 km

**Coordinates:** 26.70798, 83.33175



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**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 41.80 km

**Coordinates:** 26.53246, 83.41838



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**Risk Type:** U-Turn

**Risk Level:** High

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 41.80 km

**Coordinates:** 26.5324639, 83.4183761



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**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 41.81 km

**Coordinates:** 26.53237, 83.41832



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**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 42.85 km

**Coordinates:** 26.53850, 83.41062



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 42.89 km

**Coordinates:** 26.53830, 83.41034



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 46.23 km

**Coordinates:** 26.50798, 83.41663



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 46.38 km

**Coordinates:** 26.50762, 83.41699



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**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 46.41 km

**Coordinates:** 26.50758, 83.41711



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 71.90 km

**Coordinates:** 26.29219, 83.50329



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**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 72.02 km

**Coordinates:** 26.29099, 83.50366



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**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 72.22 km

**Coordinates:** 26.29225, 83.50331



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**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 75.53 km

**Coordinates:** 26.26845, 83.50902



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 75.56 km

Coordinates: 26.26842, 83.50898



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 76.19 km

Coordinates: 26.26281, 83.51062



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 78.14 km

**Coordinates:** 26.24910, 83.52275

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