



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MADANPUR INDANE GRAM

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

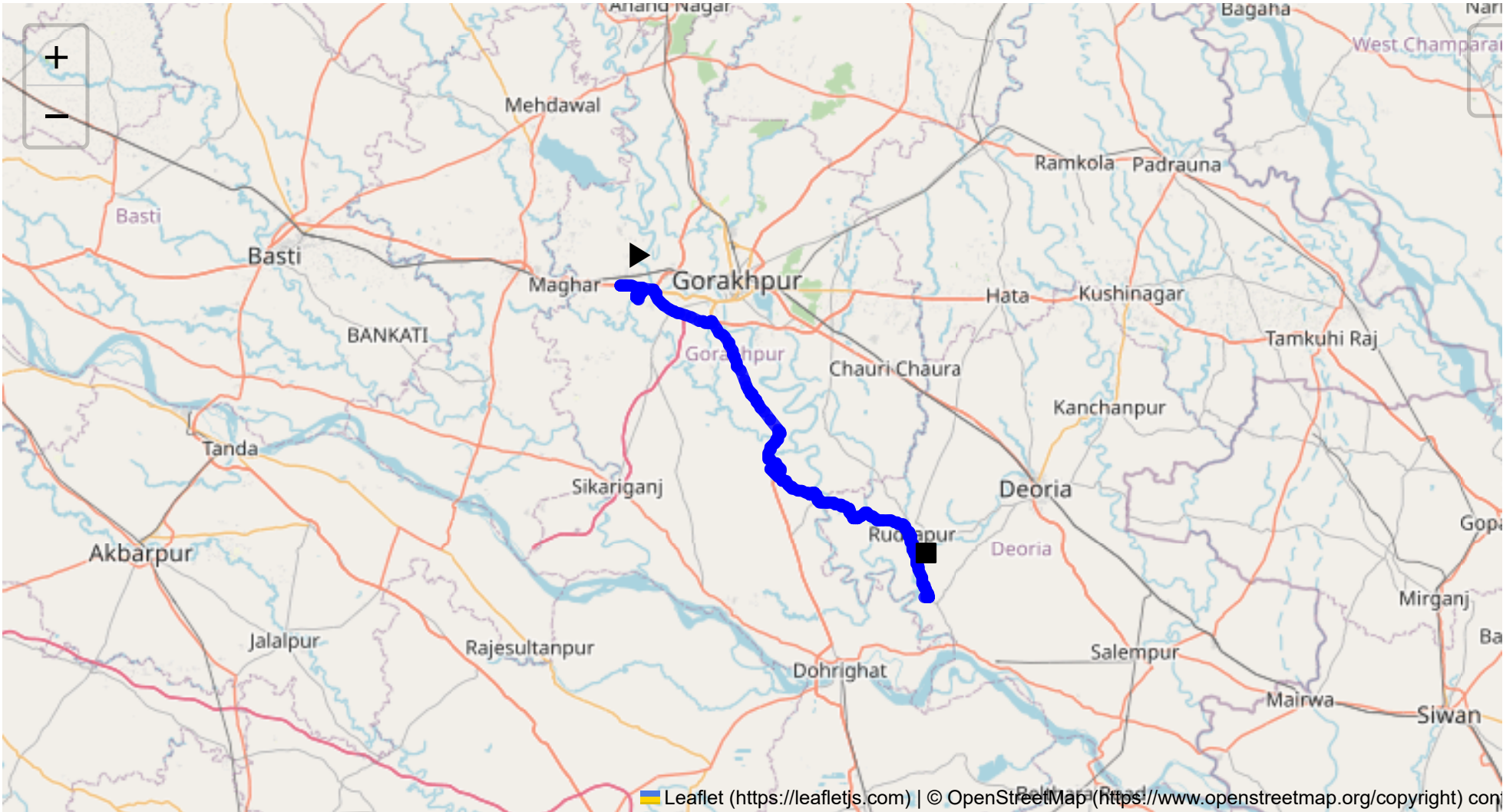
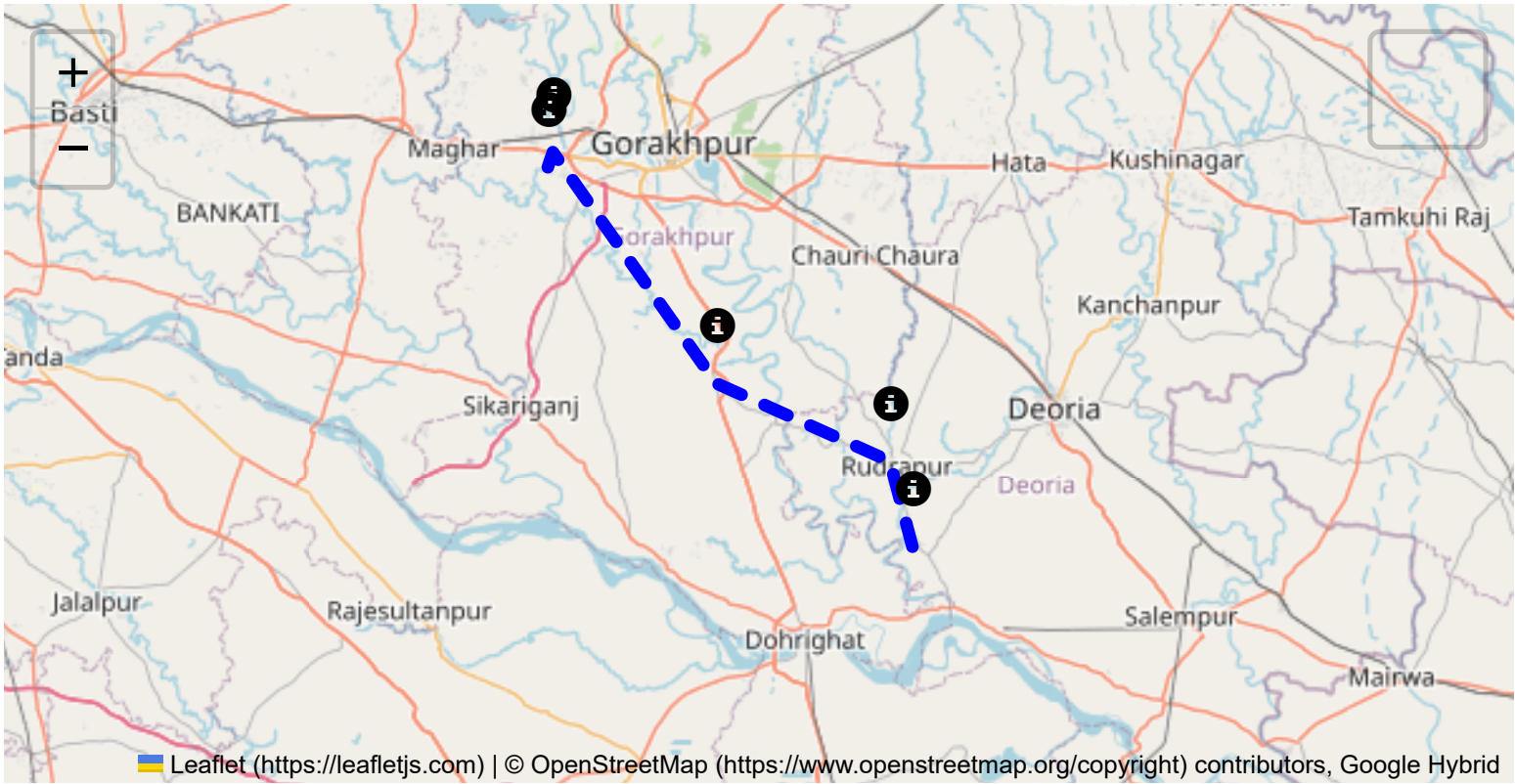
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 80.79 km
Estimated Duration: 2.0 hours
Adjusted Duration (Heavy Vehicle): 2.5 hours
Start: (26.735959, 83.229398)
End: (26.365355, 83.629141)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route begins at GIDA Industrial Area Phase 1, Sahjanwa, passing through Bokta via NH 27, then through Kauriram on Pachaladi Road, and reaches its destination in Deoria via Pidara Road and Adarsh Chauraha, Rudrapur. It spans approximately 80.79 kilometers and is primarily comprised of national and state highways interspersed with smaller roads.

2. Typical Weather Conditions and Potential Hazards

The region generally experiences a humid subtropical climate. Typical weather hazards include:

- **Monsoon Season (June to September):** Heavy rains can lead to flooding and reduced visibility, affecting road conditions.
- **Summer Months (March to June):** High temperatures can lead to vehicle overheating.
- **Winter (December to February):** Fog can reduce visibility, particularly in early morning hours.

3. Traffic Patterns

- **Peak Hours:** 8:00 AM to 10:00 AM and 5:00 PM to 8:00 PM, primarily on NH 27 near cities.
- **Congestion-Prone Areas:** Near Sahjanwa, intersections at NH 27, and town centers like Rudrapur and Kauriram.

4. Road Quality and Infrastructure

- **NH 27:** Generally good, well-paved with adequate signage, but becoming narrow in spots.
- **Local Roads:** Varying quality, with some sections poorly maintained, potholes, and irregular shoulders.
- **Bridges and Overpasses:** Regularly monitored but subject to wear, particularly post-monsoon.

5. Alternative Routes for Emergencies

- In emergencies, consider rerouting via NH 28 if accessible, though it adds distance.
- Local roads through smaller villages may serve as temporary detours but require caution due to quality.

6. Local Regulations Affecting Hazardous Material Transport

- Specific licensing requirements and permits are mandatory for transporting hazardous materials.
- Restricted hours may apply within urban limits, particularly during peak traffic periods.

7. Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- Few incidents noted, although particular attention is needed nearing urban centers due to congestion.
- Past accidents around NH 27 often involved vehicular collisions due to overcrowded conditions.

8. Environmental Considerations and Sensitive Areas

- Proximity to agricultural land highlights the need for careful management to prevent spills.
- Rivers and small water bodies near Deoria require cautious crossing to prevent contamination risks.

9. Communication Coverage

- Generally good along NH 27 and in urban centers.
- Potential dead zones in rural stretches, particularly between Kauriram and Domardila.

10. Estimated Emergency Response Times

- Urban Areas: 20-30 minutes.
- Rural Segments: 30-60 minutes, response may increase during extreme weather due to accessibility issues.

12. Overall Risk Assessment Summary

The route contains manageable risks if precautions are followed diligently:

- Weather and road conditions require real-time monitoring, especially during monsoon and foggy conditions.
- Congestion management near towns is crucial for safety and timely transport.
- Local regulations mandate careful adherence to transport laws for hazardous materials.
- Communication infrastructure should be secured, possibly with additional satellite phone support in identified dead zones.
- Emergency services may experience delays; planning should consider worst-case scenarios for maximum preparedness.

Overall, the route can be safely navigated with appropriate measures to address environmental and infrastructural challenges.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
2	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
3	Turn	High	26.74025, 83.22668	15 KM/Hr	0.72 km
4	Blind Spot	Blind Spot	26.73980, 83.23089	10 KM/Hr	1.12 km
5	Turn	Medium	26.74048, 83.23070	30 KM/Hr	1.22 km
6	Turn	High	26.74278, 83.23154	15 KM/Hr	1.46 km
7	Turn	High	26.74257, 83.23244	15 KM/Hr	1.56 km
8	Turn	High	26.74568, 83.23387	15 KM/Hr	1.95 km
9	Blind Spot	Blind Spot	26.74505, 83.23505	10 KM/Hr	2.11 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
10	Turn	Medium	26.74920, 83.23584	30 KM/Hr	2.58 km
11	Turn	Medium	26.74932, 83.23573	30 KM/Hr	2.60 km
12	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	5.61 km
13	Turn	High	26.75377, 83.20465	15 KM/Hr	5.77 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	10.38 km
14	Turn	Medium	26.74644, 83.25150	30 KM/Hr	10.55 km
15	Turn	High	26.70798, 83.33175	15 KM/Hr	20.10 km
16	Turn	Medium	26.53866, 83.41073	30 KM/Hr	42.12 km
17	Turn	Medium	26.53754, 83.41118	30 KM/Hr	42.30 km
18	Blind Spot	Blind Spot	26.51679, 83.42326	10 KM/Hr	45.21 km
19	Blind Spot	Blind Spot	26.52458, 83.41452	10 KM/Hr	46.63 km
20	Turn	Medium	26.49533, 83.47376	30 KM/Hr	53.76 km
21	Turn	Medium	26.49451, 83.47509	30 KM/Hr	53.92 km
22	Turn	High	26.49401, 83.47522	15 KM/Hr	53.99 km
23	Turn	Medium	26.49277, 83.47753	30 KM/Hr	54.22 km
24	Turn	Medium	26.48447, 83.48064	30 KM/Hr	55.08 km
25	Turn	Medium	26.48411, 83.48134	30 KM/Hr	55.30 km
26	Turn	Medium	26.48430, 83.48199	30 KM/Hr	55.37 km
27	Turn	High	26.48401, 83.49308	15 KM/Hr	56.60 km
28	Turn	Medium	26.47869, 83.51319	30 KM/Hr	58.68 km
29	Turn	Medium	26.47455, 83.52286	30 KM/Hr	59.76 km
30	Turn	Medium	26.46224, 83.53431	30 KM/Hr	61.72 km
31	Turn	Medium	26.46671, 83.55278	30 KM/Hr	63.92 km
32	Turn	Medium	26.46555, 83.55290	30 KM/Hr	64.06 km
33	Turn	Medium	26.46528, 83.55318	30 KM/Hr	64.10 km
34	Turn	Medium	26.46037, 83.56317	30 KM/Hr	65.04 km
35	Turn	Medium	26.45543, 83.59834	30 KM/Hr	68.80 km
36	Turn	Medium	26.44774, 83.60333	30 KM/Hr	69.86 km
37	Turn	High	26.44700, 83.60659	15 KM/Hr	70.21 km
38	Blind Spot	Blind Spot	26.44045, 83.60720	10 KM/Hr	70.91 km
39	Turn	High	26.44048, 83.60900	15 KM/Hr	71.12 km
40	Turn	Medium	26.38029, 83.62727	30 KM/Hr	78.04 km
41	Blind Spot	Blind Spot	26.36397, 83.63451	10 KM/Hr	80.06 km

Route Photos of Risky Spots



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 2.58 km

Coordinates: 26.74920, 83.23584



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 2.60 km

Coordinates: 26.74932, 83.23573



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 5.61 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 5.77 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 10.38 km
Coordinates: 26.74681, 83.25111



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 10.55 km
Coordinates: 26.74644, 83.25150



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 20.10 km
Coordinates: 26.70798, 83.33175



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 42.12 km
Coordinates: 26.53866, 83.41073



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 42.30 km
Coordinates: 26.53754, 83.41118



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 45.21 km
Coordinates: 26.51679, 83.42326



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 46.63 km
Coordinates: 26.52458, 83.41452



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 53.76 km
Coordinates: 26.49533, 83.47376



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 53.92 km
Coordinates: 26.49451, 83.47509



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 53.99 km
Coordinates: 26.49401, 83.47522



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 54.22 km
Coordinates: 26.49277, 83.47753



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 55.08 km
Coordinates: 26.48447, 83.48064



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 56.60 km
Coordinates: 26.48401, 83.49308



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 58.68 km
Coordinates: 26.47869, 83.51319



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 59.76 km
Coordinates: 26.47455, 83.52286



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 61.72 km
Coordinates: 26.46224, 83.53431



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 63.92 km
Coordinates: 26.46671, 83.55278



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 64.06 km
Coordinates: 26.46555, 83.55290



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 64.10 km
Coordinates: 26.46528, 83.55318



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 65.04 km
Coordinates: 26.46037, 83.56317



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 68.80 km
Coordinates: 26.45543, 83.59834



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 69.86 km
Coordinates: 26.44774, 83.60333



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 70.21 km

Coordinates: 26.44700, 83.60659



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 70.91 km

Coordinates: 26.44045, 83.60720



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 71.12 km

Coordinates: 26.44048, 83.60900



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 78.04 km

Coordinates: 26.38029, 83.62727



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 80.06 km

Coordinates: 26.36397, 83.63451

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