



JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO RAMAWATI 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

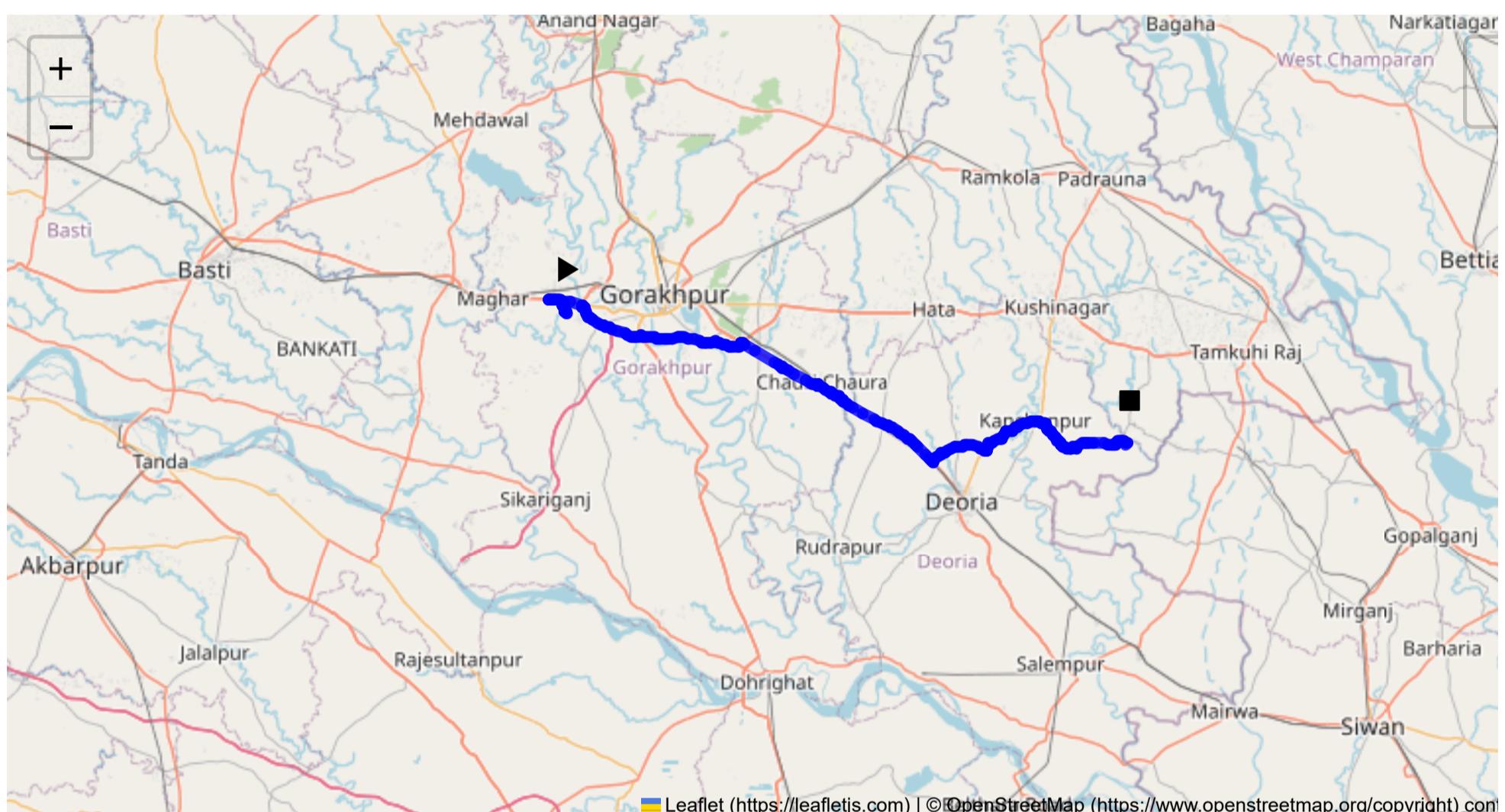
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 98.86 km
Estimated Duration: 2.3 hours
Adjusted Duration (Heavy Vehicle): 2.8 hours
Start: (26.735959, 83.229398)
End: (26.57199, 84.01391)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1 in Sahjanwa to Pakahan Baghauchghat Rd in Baghauch spans approximately 98.86 kilometers and involves travel via several key points including Kaalesar, Dumari Khurd, and Kanchanpur. This journey typically takes about 2.26 hours for heavy vehicles carrying hazardous materials.

1. Weather Conditions

Typical weather in Uttar Pradesh features hot summers, a monsoon season, and mild winters. Potential weather-related hazards include:

- **Monsoon Season (June to September):** Heavy rains cause flooding and poor visibility, increasing the risk of accidents and road damage.
- **Summer Heat (April to June):** High temperatures can lead to road surface deterioration and tire issues.

2. Traffic Patterns

- **Peak Hours:** Morning (7:00 AM - 10:00 AM) and evening (5:00 PM - 8:00 PM) see increased traffic.
- **Congestion Areas:** Urban areas near Gorakhpur and Deoria tend to have significant congestion, particularly around marketplace localities and intersections.

3. Road Quality and Infrastructure

- **Variable Road Conditions:** The road quality can vary significantly, with some newly paved sections and others suffering from potholes and wear. Rural roads may be narrower with limited shoulder space.
- **Infrastructure:** Limited signage and street lighting, especially in rural areas. Watch for unmarked intersections and pedestrian traffic.

4. Alternative Routes for Emergencies

- **Eastern Champaran Rd:** Provides a bypass for major urban traffic but may add significant distance.
- **NH 28:** Although a longer route, it might offer more consistent road quality and infrastructure in emergencies.

5. Local Regulations for Hazardous Materials

- **Permits:** Transporting hazardous materials requires specific permits and adherence to strict guidelines.
- **Curfews:** Some areas restrict heavy vehicle movement during night hours; it's crucial to verify with local transport authorities beforehand.

6. Historical Incidents

While specific incidents are not extensively documented, typical issues have involved:

- **Overtures and Spills:** Primarily due to road quality or weather.
- **Collisions:** Often occurring in congested or poorly marked areas, typically involving smaller vehicles.

7. Environmental Considerations

- **Sensitive Areas:** Proximity to agricultural lands means any spill could severely impact local ecosystems.
- **Water Bodies:** Care around rivers and canals is crucial, especially during the monsoon when levels rise.

8. Communication Coverage

- **Potential Dead Zones:** Rural segments may experience network drop-offs, notably between Kaalesar and Dumari Khurd. It's advisable to have alternative communication methods such as satellite phones.

9. Emergency Response Times

- **Urban Areas:** Typically quicker with emergency services available within 30 minutes.
- **Rural Areas:** Response can take longer, potentially exceeding an hour, due to distance and road conditions.

10. Overall Risk Assessment

Overall, the route presents moderate risk, mainly due to weather conditions, road quality variability, and regional traffic congestion. Effective planning and real-time monitoring of road conditions, weather, and traffic can mitigate some of these risks. Emergency preparedness, including a thorough understanding of alternative routes and communication infrastructure, is essential for addressing potential issues efficiently.

In summary, the key to safely navigating this route with hazardous materials is thorough preparation, including the anticipation of traffic patterns, environmental considerations, and understanding local regulations and emergency protocols.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
4	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
5	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
6	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
7	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
8	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
9	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
10	Turn	High	26.75377, 83.20465	15 KM/Hr	4.27 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.13 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
11	Turn	Medium	26.69733, 83.47552	30 KM/Hr	33.24 km
12	Turn	Medium	26.69783, 83.47533	30 KM/Hr	33.30 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.39 km
13	Turn	High	26.69844, 83.47473	15 KM/Hr	33.39 km
14	Turn	High	26.69857, 83.47481	15 KM/Hr	33.42 km
15	Blind Spot	Blind Spot	26.64578, 83.58271	10 KM/Hr	45.70 km
2	U-Turn	High	26.6458564, 83.5827353	10 KM/Hr	45.70 km
3	U-Turn	High	26.6469671, 83.5764974	10 KM/Hr	46.22 km
16	Blind Spot	Blind Spot	26.64697, 83.57650	10 KM/Hr	46.22 km
17	Turn	Medium	26.63753, 83.59718	30 KM/Hr	48.66 km
18	Blind Spot	Blind Spot	26.55012, 83.74193	10 KM/Hr	66.19 km
19	Turn	High	26.55388, 83.74296	15 KM/Hr	66.54 km
20	Turn	Medium	26.57061, 83.78830	30 KM/Hr	71.52 km
21	Turn	Medium	26.57181, 83.78936	30 KM/Hr	71.71 km
22	Turn	Medium	26.57193, 83.78965	30 KM/Hr	71.82 km
23	Turn	Medium	26.56590, 83.81507	30 KM/Hr	74.39 km
24	Blind Spot	Blind Spot	26.56413, 83.81619	10 KM/Hr	74.67 km
25	Turn	Medium	26.58047, 83.84068	30 KM/Hr	77.74 km
26	Turn	High	26.58819, 83.84529	15 KM/Hr	78.83 km
27	Turn	Medium	26.58803, 83.85312	30 KM/Hr	79.56 km
28	Turn	Medium	26.60135, 83.88185	30 KM/Hr	82.84 km
29	Turn	Medium	26.57090, 83.92148	30 KM/Hr	88.38 km
30	Turn	Medium	26.57047, 83.92205	30 KM/Hr	88.56 km
31	Turn	Medium	26.57573, 84.00242	30 KM/Hr	97.18 km
32	Turn	Medium	26.57552, 84.00512	30 KM/Hr	97.39 km
33	Turn	High	26.57735, 84.00801	15 KM/Hr	97.79 km
34	Turn	High	26.57264, 84.01409	15 KM/Hr	98.53 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.94 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.16 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.22 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.27 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.13 km

Coordinates: 26.74681, 83.25111



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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 33.24 km****Coordinates: 26.69733, 83.47552**

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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 33.30 km****Coordinates: 26.69783, 83.47533**



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Risk Type: U-Turn**Risk Level: High****Speed Limit: 10 KM/Hr****Distance from Start: 33.39 km****Coordinates: 26.698439, 83.4747268**

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Risk Type: Turn**Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 33.39 km****Coordinates: 26.69844, 83.47473**



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.42 km

Coordinates: 26.69857, 83.47481



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 45.70 km

Coordinates: 26.64578, 83.58271



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 45.70 km

Coordinates: 26.6458564, 83.5827353



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 46.22 km

Coordinates: 26.6469671, 83.5764974



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 46.22 km**Coordinates:** 26.64697, 83.57650

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 48.66 km**Coordinates:** 26.63753, 83.59718



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 66.19 km

Coordinates: 26.55012, 83.74193



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 66.54 km

Coordinates: 26.55388, 83.74296



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 71.52 km**Coordinates:** 26.57061, 83.78830

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 71.71 km**Coordinates:** 26.57181, 83.78936



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 71.82 km**Coordinates:** 26.57193, 83.78965

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 74.39 km**Coordinates:** 26.56590, 83.81507



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 74.67 km**Coordinates:** 26.56413, 83.81619

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 82.84 km**Coordinates:** 26.60135, 83.88185



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 88.38 km**Coordinates:** 26.57090, 83.92148

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 88.56 km**Coordinates:** 26.57047, 83.92205



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 97.39 km**Coordinates:** 26.57552, 84.00512

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 97.79 km**Coordinates:** 26.57735, 84.00801



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 98.53 km

Coordinates: 26.57264, 84.01409

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