



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO TEKUATAR 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

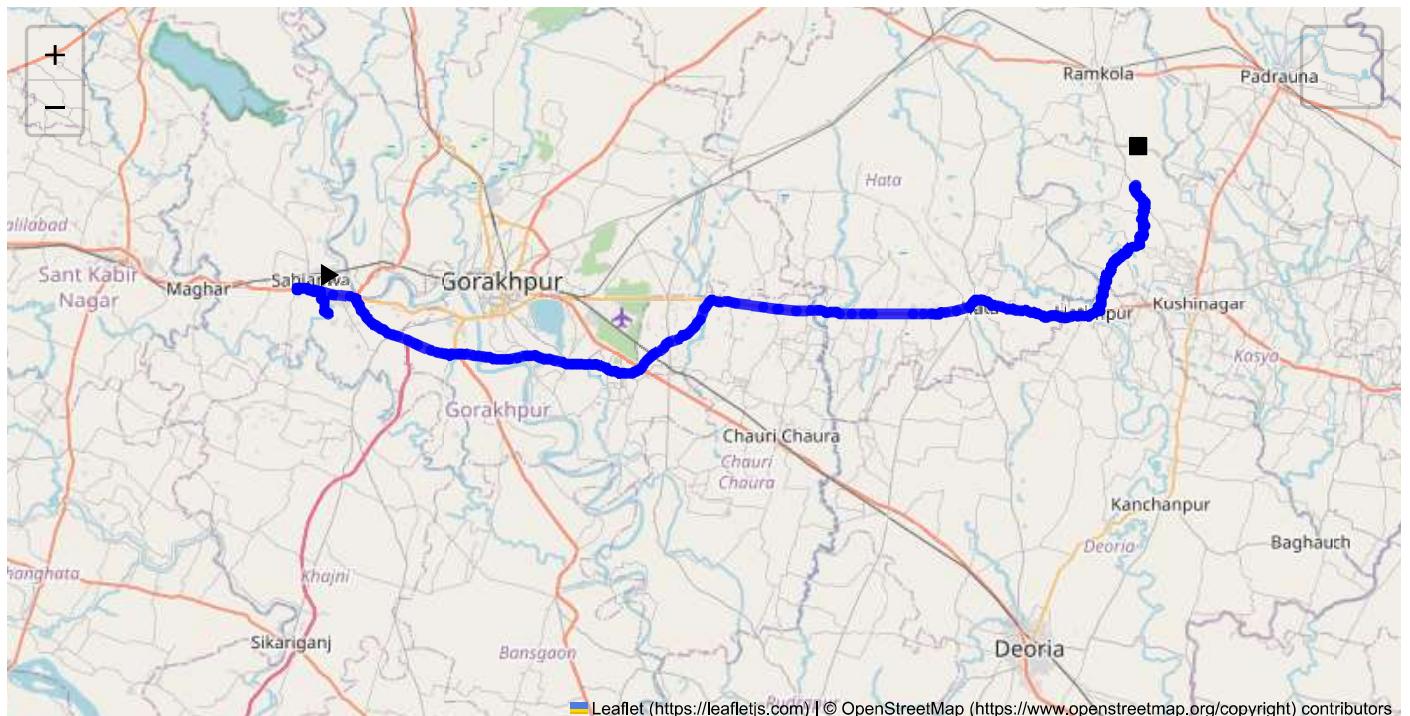
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 84.83 km
Estimated Duration: 1.8 hours
Adjusted Duration (Heavy Vehicle): 2.3 hours
Start: (26.735959, 83.229398)
End: (26.826195, 83.867392)

Welcome to the Journey Risk Management Study

Route Analysis Report

1. Overview of the Route Map

The route from GIDA Industrial Area Phase 1, Sahjanwa, Uttar Pradesh, to Kurahawa, Uttar Pradesh, covers approximately 84.83 kilometers. The journey is generally straightforward, passing through several districts and mainly using NH-28 and connecting roads that traverse rural and semi-urban areas.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather:** The region experiences a subtropical climate with hot summers, a monsoon season, and cooler winters.
- **Hazards:**
 - **Summer:** High temperatures can cause road surfaces to soften, increasing the risk of tire blowouts.
 - **Monsoon (July to September):** Heavy rainfall may lead to waterlogging, reduced visibility, and slippery roads.
 - **Winter (December to January):** Occasional fog can decrease visibility, particularly in early mornings and late evenings.

3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic congestion is typically observed during morning (8 AM - 10 AM) and evening (5 PM - 8 PM) rush hours.
- **Congestion-Prone Areas:** Key congestion spots include market areas in Gorakhpur and intersections along NH-28, especially near city limits and toll plazas.

4. Assessment of Road Quality and Infrastructure

- **NH-28:** Generally well-maintained with significant truck traffic; however, road quality may vary with occasional potholes and uneven surfaces.
- **Connecting Roads:** Vary from single-lane to dual carriageways but may suffer from poor maintenance and inadequate signage in rural stretches.

5. Suggestions for Alternative Routes for Emergencies

- **Primary Alternative:** Use state highways SH-1 or SH-36, depending on the specific emergency location. These roads offer detours through alternate urban centers.
- **Secondary Routes:** Utilize local roads to rejoin NH-28 further down the line.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Require permits for transport within city limits, with restrictions on certain routes for hazardous materials during peak hours.

- **Checkpoints:** Mandatory stops may be enforced by local authorities for inspection and documentation verification.

7. Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- **Incidents:** Historical data show several incidents of overturned trucks primarily due to overloading and driver fatigue. Small-scale spills have been reported, often related to rain-induced skids or evasive maneuvers.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** Monitor areas near water bodies and agricultural zones for potential contamination from leaks or spills.
- **Protected Zones:** Be cautious near wildlife reserves or forested areas, if any.

9. Analysis of Communication Coverage

- **Coverage:** Most major network providers cover the route; however, sporadic dead zones are noted in more remote rural stretches.
- **Recommendations:** Carry a satellite phone or a secondary communication device for emergencies.

10. Estimated Emergency Response Times

- **Urban Areas (e.g., Gorakhpur):** 30-45 minutes due to better resources and proximity.
- **Rural Areas:** 60-90 minutes due to distance and variable road conditions.

12. Overall Summary of Risk Assessment

This route presents moderate risk, primarily influenced by weather conditions, road quality, and traffic congestion. Preparing for potential delays, understanding the route geography, and complying with local regulations are crucial for minimizing risks. Ensuring vehicles are well-maintained and drivers are trained for local conditions can mitigate most of the identified hazards.

This comprehensive assessment aims to equip a truck driver with essential insights and prepared strategies to safely navigate the route, ensuring efficient transport of hazardous materials.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
2	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
3	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
4	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
5	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
6	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
7	Turn	High	26.75377, 83.20465	15 KM/Hr	4.27 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.79 km
8	Blind Spot	Blind Spot	26.73814, 83.83765	10 KM/Hr	72.17 km
9	Turn	High	26.73807, 83.83635	15 KM/Hr	72.30 km
10	Turn	Medium	26.74185, 83.83857	30 KM/Hr	72.81 km
11	Turn	Medium	26.74795, 83.83970	30 KM/Hr	73.46 km
12	Turn	Medium	26.75176, 83.84024	30 KM/Hr	73.97 km
13	Blind Spot	Blind Spot	26.76018, 83.84174	10 KM/Hr	74.97 km
14	Blind Spot	Blind Spot	26.75965, 83.84403	10 KM/Hr	75.20 km
15	Turn	High	26.76379, 83.84375	15 KM/Hr	75.54 km
16	Turn	Medium	26.76978, 83.84822	30 KM/Hr	76.40 km
17	Turn	Medium	26.77571, 83.85407	30 KM/Hr	77.41 km
18	Turn	Medium	26.77837, 83.85742	30 KM/Hr	77.85 km
19	Turn	High	26.77822, 83.85811	15 KM/Hr	77.94 km
20	Turn	Medium	26.77970, 83.85934	30 KM/Hr	78.12 km
21	Turn	Medium	26.78113, 83.85959	30 KM/Hr	78.29 km
22	Turn	Medium	26.78400, 83.86367	30 KM/Hr	78.68 km
23	Turn	Medium	26.78476, 83.86820	30 KM/Hr	79.28 km
24	Turn	High	26.78481, 83.86947	15 KM/Hr	79.43 km
25	Turn	Medium	26.78770, 83.86915	30 KM/Hr	79.69 km
26	Turn	High	26.79064, 83.87013	15 KM/Hr	79.94 km
27	Turn	High	26.79120, 83.87170	15 KM/Hr	80.24 km
28	Turn	Medium	26.79812, 83.87327	30 KM/Hr	81.04 km
29	Turn	Medium	26.79976, 83.87229	30 KM/Hr	81.21 km
30	Turn	Medium	26.80323, 83.87143	30 KM/Hr	81.58 km
31	Turn	High	26.80892, 83.87312	15 KM/Hr	82.31 km
32	Turn	Medium	26.81035, 83.87276	30 KM/Hr	82.48 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
33	Turn	Medium	26.81345, 83.87364	30 KM/Hr	82.73 km
34	Blind Spot	Blind Spot	26.82516, 83.86525	10 KM/Hr	84.37 km
35	Turn	High	26.82492, 83.86689	15 KM/Hr	84.50 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	RG Hospital	26.7372178, 83.5824469	30 km/h	Medium	45.83 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: 8.79 km

Coordinates: 26.74681, 83.25111



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 72.17 km

Coordinates: 26.73814, 83.83765



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 72.30 km**Coordinates:** 26.73807, 83.83635

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 77.94 km**Coordinates:** 26.77822, 83.85811



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 78.12 km

Coordinates: 26.77970, 83.85934



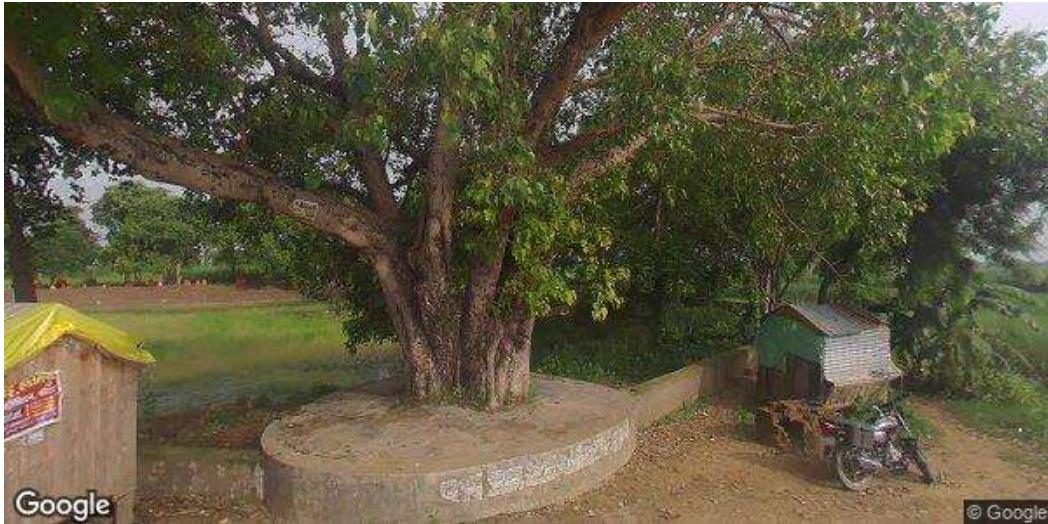
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 78.29 km

Coordinates: 26.78113, 83.85959



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 78.68 km

Coordinates: 26.78400, 83.86367



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 79.28 km

Coordinates: 26.78476, 83.86820



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 79.43 km

Coordinates: 26.78481, 83.86947



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 79.69 km

Coordinates: 26.78770, 83.86915



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 79.94 km

Coordinates: 26.79064, 83.87013



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 80.24 km

Coordinates: 26.79120, 83.87170



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 81.04 km**Coordinates:** 26.79812, 83.87327

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 81.21 km**Coordinates:** 26.79976, 83.87229



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 81.58 km**Coordinates:** 26.80323, 83.87143

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 82.31 km**Coordinates:** 26.80892, 83.87312



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 82.48 km

Coordinates: 26.81035, 83.87276



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 82.73 km

Coordinates: 26.81345, 83.87364



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 84.37 km**Coordinates:** 26.82516, 83.86525

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 84.50 km**Coordinates:** 26.82492, 83.86689

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