



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to NAUTANWA 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

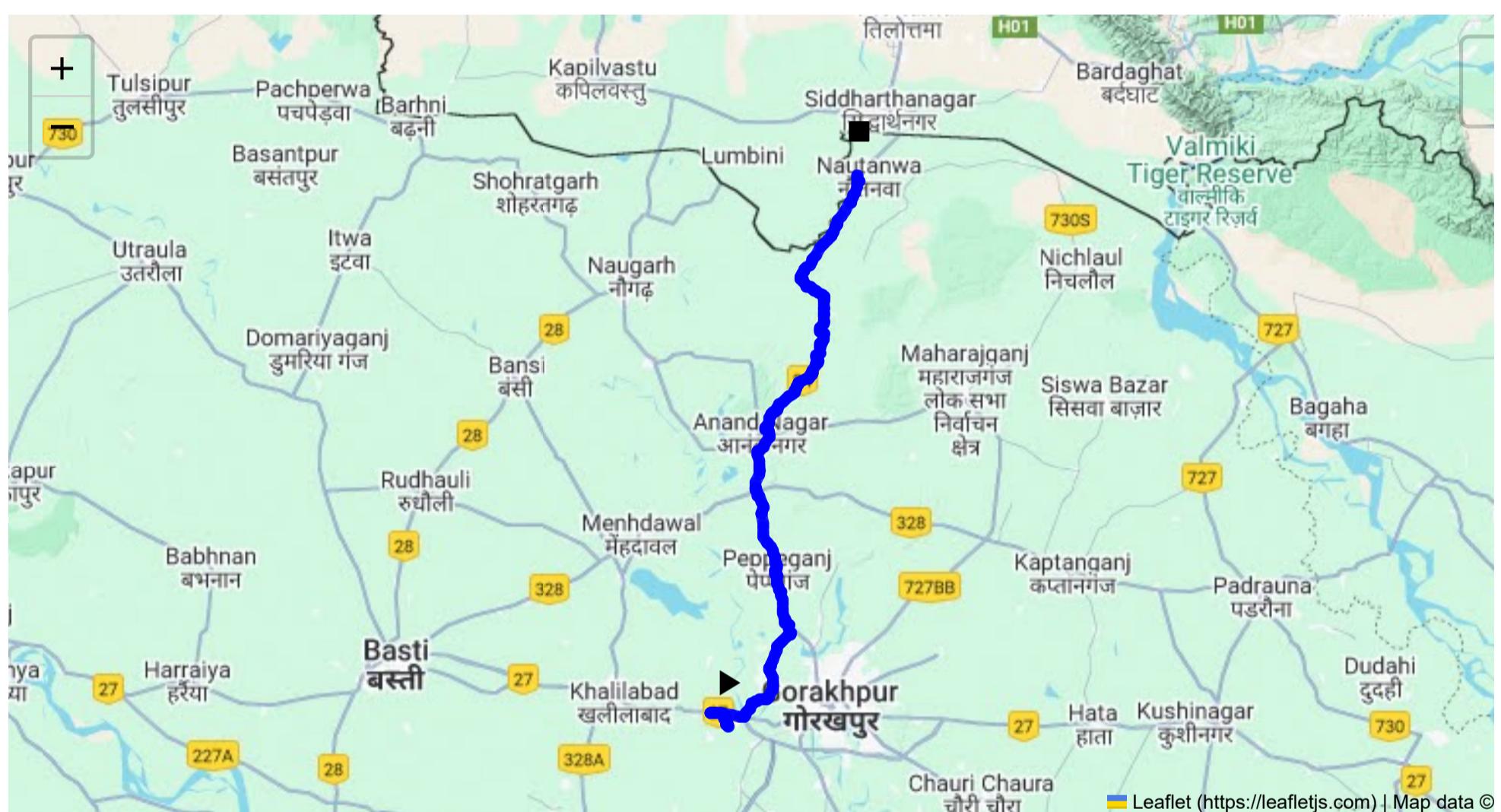
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 97.92 km
Estimated Duration: 2.4 hours
Adjusted Duration (Heavy Vehicle): 3.0 hours
Start: (26.735959, 83.229398)
End: (27.42511, 83.41051)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map:

The route begins at GIDA Industrial Area Phase 1 in Sahjanwa, continuing to the Gorakhpur - Sonauli Road in Nautanwa via Parsa Mahanth. The route primarily follows local roads until it joins major highways like NH 24/EW Road before diverting towards Nauatnwa. This path traverses both urban and rural areas, which may have varying road conditions and infrastructure needs.

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

Uttar Pradesh experiences a subtropical climate, characterized by:

- Hot summers (March to June) with temperatures frequently exceeding 40°C.
- Monsoon season (July to September) with heavy rainfall leading to potential flooding, waterlogging, and reduced visibility.
- Cool winters (December to February) where fog is common, particularly in the early mornings and late evenings, affecting visibility. These conditions necessitate preparedness for flooding and reduced visibility during monsoons and winters.

3. Analysis of Traffic Patterns:

- **Peak Hours:** Commuter traffic is typically heavy from 8:00-10:00 AM and 5:00-7:00 PM. Gorakhpur, being a major city, experiences congestion, especially at city exits and intersections.
- **Congestion-Prone Areas:** Markets and school zones along the route, particularly in Gorakhpur, experience heavy traffic and pedestrian movement.

4. Assessment of Road Quality and Infrastructure:

The roads vary in quality, with urban segments generally well-maintained but rural parts potentially uneven and narrow. Potholes and lack of road markings in some areas can present hazards. Additional caution is needed at construction zones or near ongoing local projects.

5. Suggestions for Alternative Routes for Emergencies:

Truck drivers should be familiar with NH 29 and SH 81 as alternative routes. These highways offer reasonable road conditions and bypass some smaller towns, potentially reducing delays in emergencies.

6. Summary of Local Regulations Affecting Hazardous Material Transport:

Transport of hazardous materials is governed by local and national regulations that include:

- Transport permits specific to the materials.
- Compliance with “Hazardous Wastes Management” protocols.
- Adherence to time-based restrictions within city limits. Ensure all documentation and protocols are in place before transport.

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

Incidents, while sporadic, often occur due to weather-related causes, road conditions, or human errors. Past occurrences have included overturned trucks due to evasive maneuvers in densely populated areas or sharp turns on poorly marked roads.

8. Environmental Considerations and Sensitive Areas:

The region includes agricultural zones sensitive to chemical exposure from spills. Drivers should avoid idling and unnecessary detours through these areas and adhere strictly to designated routes to minimize impact.

9. Analysis of Communication Coverage:

The majority of the route has mobile coverage; however, rural or deeply vegetated areas may experience connectivity issues. Drivers should be equipped with alternate communication means like satellite phones or walkie-talkies.

10. Estimated Emergency Response Times for Different Route Segments:

Response times vary, being quicker (15-30 minutes) near urban areas like Gorakhpur, but can take up to an hour in remote sections near Parsa Mahanth or Nautanwa. Availability of services like ambulances or fire trucks may be limited in rural zones.

11. Overall Summary of Risk Assessment:

The journey involves moderate risks, primarily related to weather conditions, road quality, and traffic congestion. Preparation should focus on real-time navigation tools, especially during peak weather seasons, adequate vehicle checks, knowledge of alternate routes, and strict adherence to local regulations concerning hazardous material transport. Continuous monitoring of environmental conditions and dedicated communication plans will further mitigate these risks.

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	Turn	High	26.73788, 83.22642	15 KM/Hr	0.32 km
3	Turn	Medium	26.73812, 83.22630	30 KM/Hr	0.48 km
4	Turn	High	26.74524, 83.22746	15 KM/Hr	1.14 km
5	Turn	High	26.74654, 83.22390	15 KM/Hr	1.63 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.15 km
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.21 km
8	Turn	High	26.75377, 83.20465	15 KM/Hr	4.26 km
9	Turn	Medium	26.74700, 83.25085	30 KM/Hr	8.89 km
10	Turn	Medium	26.74715, 83.25109	30 KM/Hr	8.96 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.80 km
11	Turn	Medium	26.86410, 83.31420	30 KM/Hr	25.00 km
12	Turn	Medium	26.91497, 83.29817	30 KM/Hr	30.84 km
13	Turn	Medium	26.92539, 83.29837	30 KM/Hr	32.26 km
14	Turn	Medium	26.93475, 83.29777	30 KM/Hr	33.32 km
15	Turn	High	27.08028, 83.27122	15 KM/Hr	50.36 km
16	Turn	Medium	27.11070, 83.28282	30 KM/Hr	54.53 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
17	Turn	Medium	27.17797, 83.34725	30 KM/Hr	64.84 km
18	Turn	Medium	27.17810, 83.34782	30 KM/Hr	64.90 km
19	Turn	Medium	27.20065, 83.35413	30 KM/Hr	67.56 km
20	Turn	Medium	27.22622, 83.36430	30 KM/Hr	70.60 km
21	Turn	Medium	27.27389, 83.36408	30 KM/Hr	76.54 km
22	Turn	High	27.29868, 83.33001	15 KM/Hr	81.04 km
23	Turn	High	27.42455, 83.41116	15 KM/Hr	97.57 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	hospital	Government Hospital Babupaisiya	27.3655301, 83.3844656	30 km/h	Medium	90.32 km

Crowded Spots

Found: 1 school(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	school	Nav Jeevan Mission School	27.1125489, 83.2814738	30 km/h	Medium	54.68 km

Route Photos of Risky Spots



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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.15 km

Coordinates: 26.75126, 83.22476



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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.21 km

Coordinates: 26.75353, 83.20457



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.26 km

Coordinates: 26.75377, 83.20465



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.89 km

Coordinates: 26.74700, 83.25085



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.96 km

Coordinates: 26.74715, 83.25109



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.80 km

Coordinates: 26.86209, 83.31517



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 25.00 km

Coordinates: 26.86410, 83.31420



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 30.84 km

Coordinates: 26.91497, 83.29817



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 32.26 km

Coordinates: 26.92539, 83.29837



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 33.32 km

Coordinates: 26.93475, 83.29777



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 50.36 km

Coordinates: 27.08028, 83.27122



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 54.53 km

Coordinates: 27.11070, 83.28282



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 64.84 km

Coordinates: 27.17797, 83.34725



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 64.90 km

Coordinates: 27.17810, 83.34782



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 67.56 km

Coordinates: 27.20065, 83.35413



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.60 km

Coordinates: 27.22622, 83.36430



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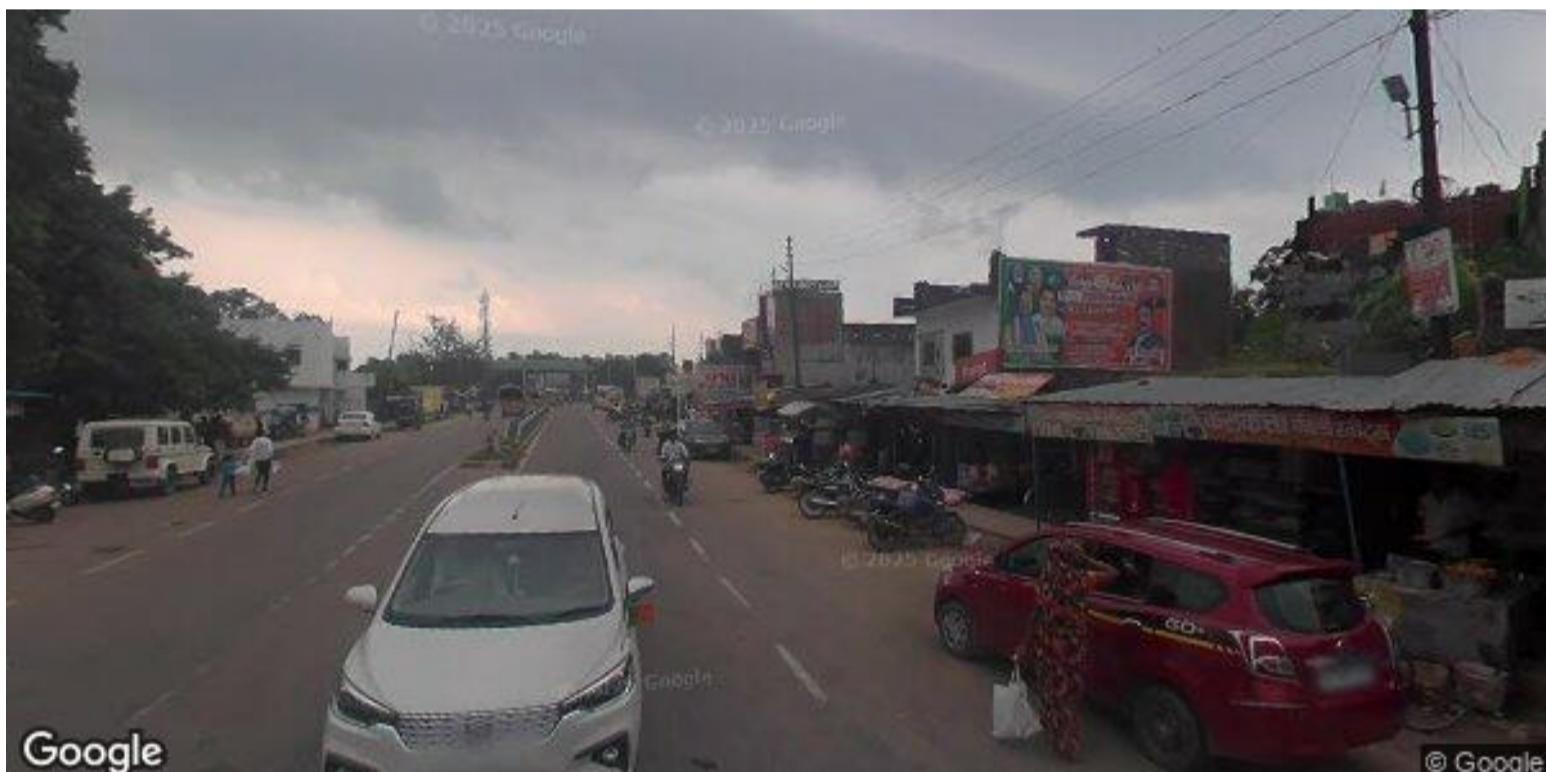
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 76.54 km

Coordinates: 27.27389, 83.36408



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 81.04 km

Coordinates: 27.29868, 83.33001



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 97.57 km

Coordinates: 27.42455, 83.41116

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