



## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP TO MARUTI NANDAN INDANE

#### 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

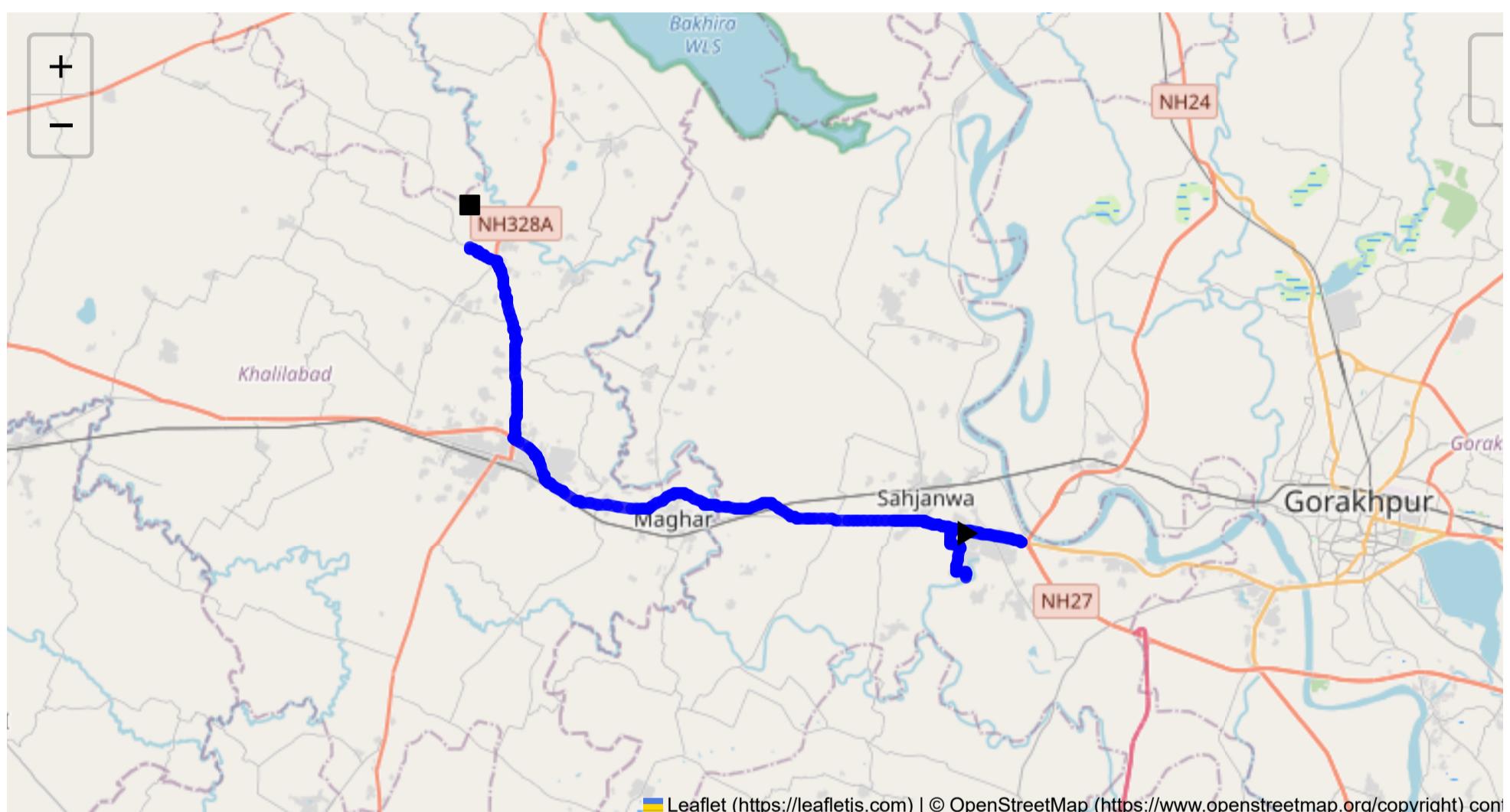
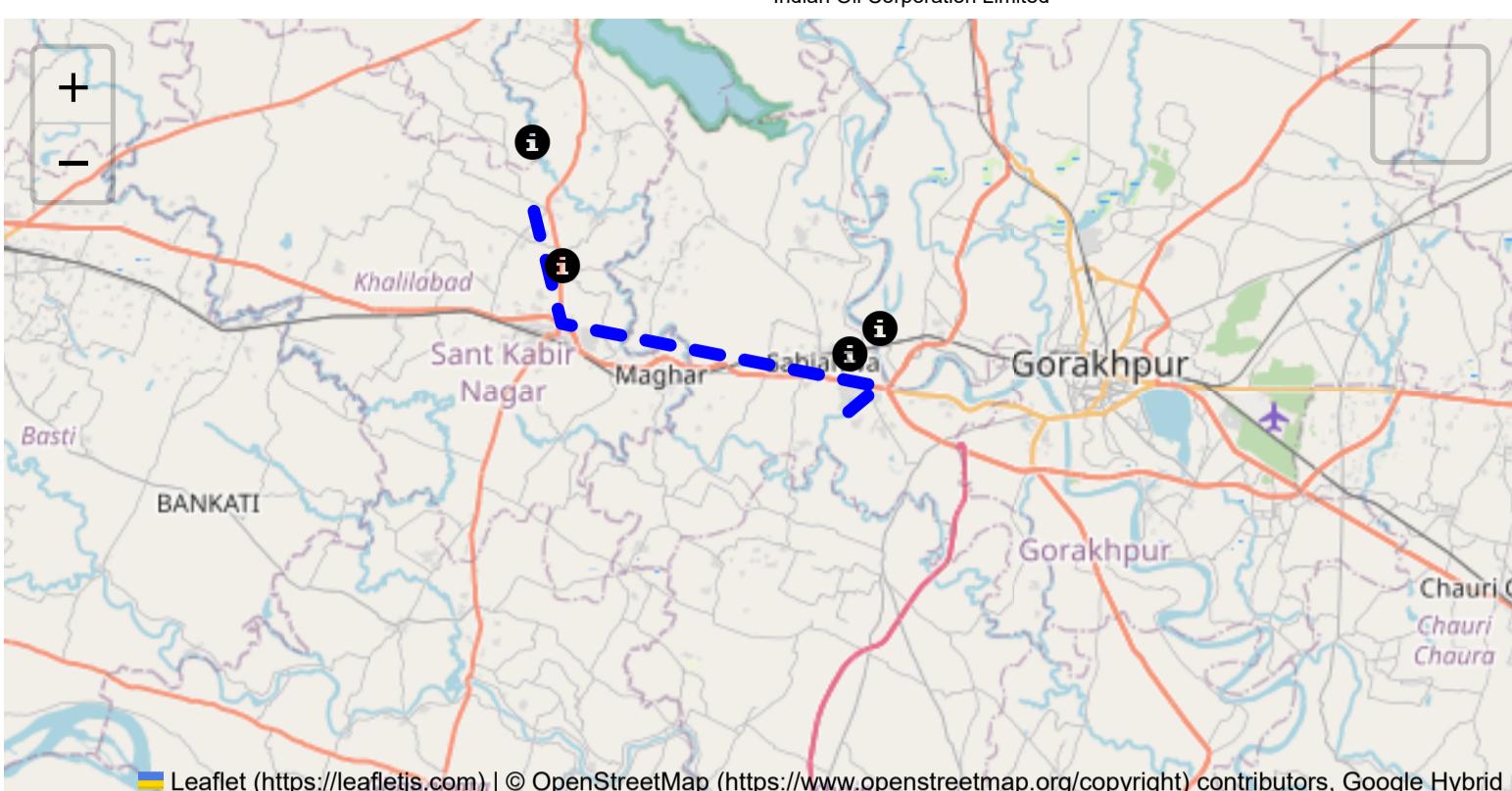
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 35.25 km**  
**Estimated Duration: 0.9 hours**  
**Adjusted Duration (Heavy Vehicle): 1.1 hours**  
**Start: (26.735959, 83.229398)**  
**End: (26.838268, 83.056289)**

## Welcome to the Journey Risk Management Study

Certainly! Here's a comprehensive risk assessment for the route you specified:

### 1. Overview of the Route Map

- The route spans approximately 35.25 kilometers, starting from GIDA Industrial Area Phase 1 in Sahjanwa, Uttar Pradesh, and heading to Jangal Gaighat, Uttar Pradesh.

- Key waypoints include 01 Zero Point in Kaalesar and a segment on Gorakhpur Road in Khalilabad.
- The path primarily includes state highways and connecting roads with moderate urban and semi-urban stretches.

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

- **Monsoon Season (June to September):** Heavy rains may lead to water-logging and flooding, especially in low-lying areas, which could severely disrupt travel.
- **Winter (December to February):** Fog is a significant issue, reducing visibility and increasing the risk of accidents.
- **Summer (March to May):** High temperatures and dust storms may affect vehicle performance and road visibility.

## 3. Analysis of Traffic Patterns

- **Peak Hours:** Typically, traffic congestion is higher in the morning (8:00-10:00 AM) and evening (5:00-8:00 PM).
- **Congestion-Prone Areas:** Expect high traffic near urban centers like Gorakhpur and Khalilabad. Junctions and narrow stretches may also frequently experience slowdowns.

## 4. Assessment of Road Quality and Infrastructure

- **General Condition:** The roads are generally motorable but can be compromised by potholes, especially post-monsoon.
- **Infrastructure:** There are adequate signage and dividers on major roads. However, some rural link roads may lack proper marking.
- **Bridges and Underpasses:** Must be approached cautiously as they might be affected by structural weaknesses during monsoons due to water stagnation.

## 5. Suggestions for Alternative Routes for Emergencies

- **Alternative Route 1:** Consider the NH27 for a segment replacement, which is broader and well-maintained.
- **Alternative Route 2:** The Gorakhpur Bypass can bypass the city congestion if approaching from Sahjanwa to Jangal Gaighat.

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

- **Permits:** Ensure all necessary permits for transporting hazardous materials are secured.
- **Time Restrictions:** Movement might be restricted during peak hours within city limits.
- **Special Routes:** Designated routes for hazardous material transport must be adhered to, where applicable.

## 7. Overview of Historical Incidents

- **Accident Record:** Past records indicate occasional incidents involving trucks during foggy and monsoon seasons.
- **Hazardous Material:** Limited historical data on hazardous material incidents, suggesting low frequency but requiring maximum caution in transport.

## 8. Environmental Considerations and Sensitive Areas

- **Sensitive Zones:** Proximity to agricultural lands calls for caution, as spillages could have adverse effects.
- **Wildlife Crossings:** Infrequent but possible forested stretches; maintain vigilance to prevent accidents with animals.

## 9. Analysis of Communication Coverage

- **Coverage Gaps:** Expect potential dead zones, especially in less populated rural areas; it's advisable to have alternative communication means like satellite phones.
- **Network Reliability:** Generally good near urban centers but patchy in remote sections.

## 10. Estimated Emergency Response Times

- **Urban Segments:** Within 30 minutes due to proximity to Gorakhpur and Khalilabad.
- **Rural/Semi-Rural Segments:** Could exceed 45 minutes depending on visibility and road conditions.

## 12. Overall Summary of Risk Assessment

This route presents moderate risk levels for transporting hazardous materials, largely attributable to variable weather conditions, mixed road quality, and potential congestion. However, with appropriate scheduling to avoid peak times, constant communication, and readiness for weather fluctuations, these risks can be managed. Ensuring compliance with local regulations and maintaining a vigilant approach to road and environmental conditions will further mitigate potential hazards.

In conclusion, exercising caution, adhering to regulations, and preparing for seasonal weather impacts are key to safely navigating this route.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 km
2	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
3	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
4	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
5	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.30 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
7	Turn	Medium	26.74654, 83.22390	30 KM/Hr	1.69 km
8	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 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	26.75381, 83.20466	15 KM/Hr	4.30 km
12	Blind Spot	Blind Spot	26.74712, 83.24909	10 KM/Hr	8.76 km
0	U-Turn	High	26.7471208, 83.2490873	10 KM/Hr	8.76 km
13	Turn	High	26.74703, 83.24907	15 KM/Hr	8.80 km
14	Turn	High	26.76250, 83.08905	15 KM/Hr	25.31 km
15	Turn	High	26.77909, 83.07207	15 KM/Hr	27.90 km
16	Turn	High	26.83426, 83.06597	15 KM/Hr	34.15 km

## Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	District Combind Hospital St. Kabir Nagar	26.7956756, 83.0715014	30 km/h	Medium	29.77 km

## Crowded Spots

## 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:** 2.17 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:** 4.23 km**Coordinates:** 26.75353, 83.20457



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**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 4.30 km

**Coordinates:** 26.75381, 83.20466



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**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 8.76 km

**Coordinates:** 26.74712, 83.24909



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**Risk Type: U-Turn****Risk Level: High****Speed Limit: 10 KM/Hr****Distance from Start: 8.76 km****Coordinates: 26.7471208, 83.2490873**

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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 8.80 km****Coordinates: 26.74703, 83.24907**



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 25.31 km****Coordinates: 26.76250, 83.08905**

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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 27.90 km****Coordinates: 26.77909, 83.07207**



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 34.15 km****Coordinates: 26.83426, 83.06597**

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