



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP to SURAJ INDANE 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**

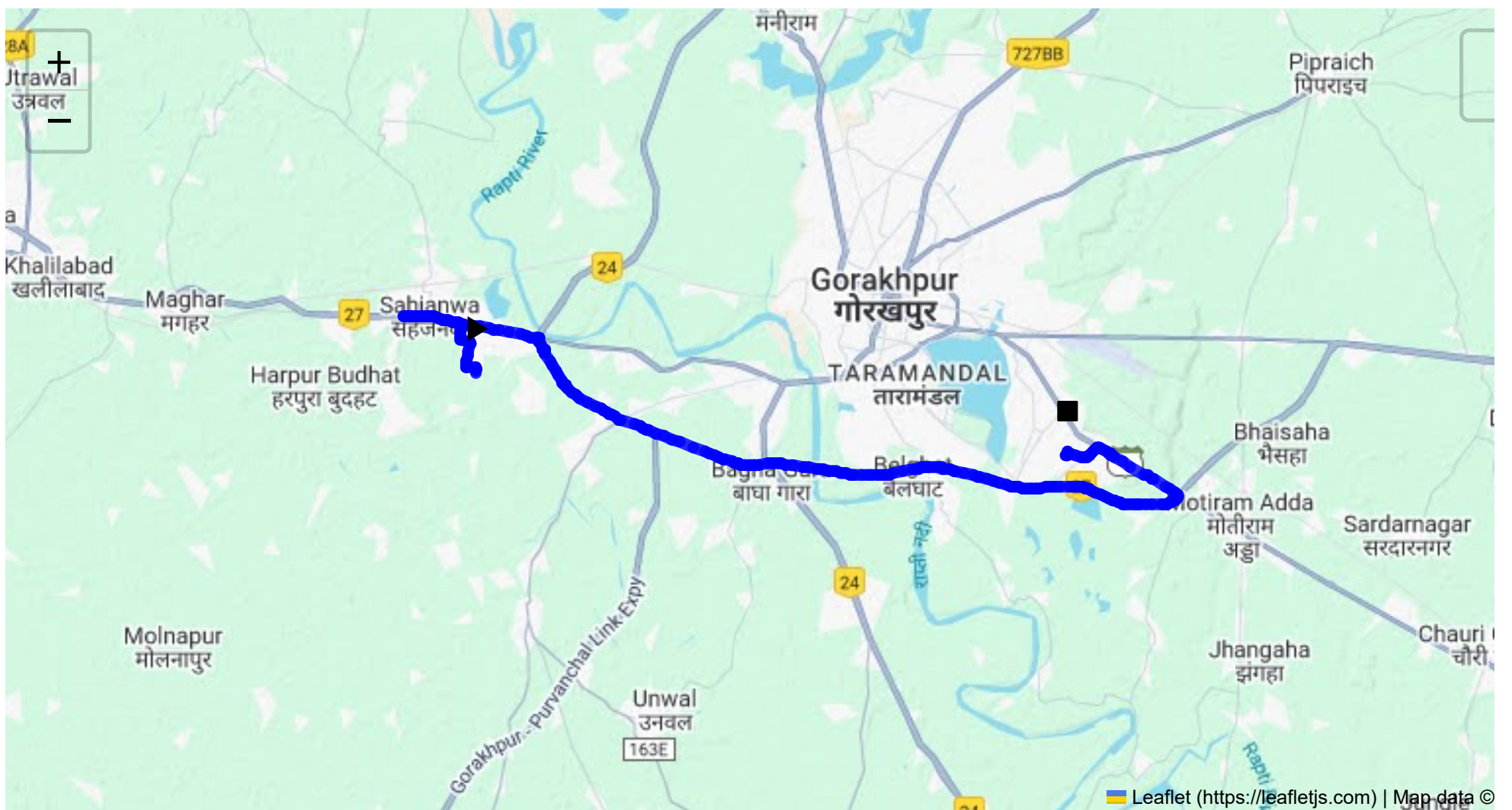
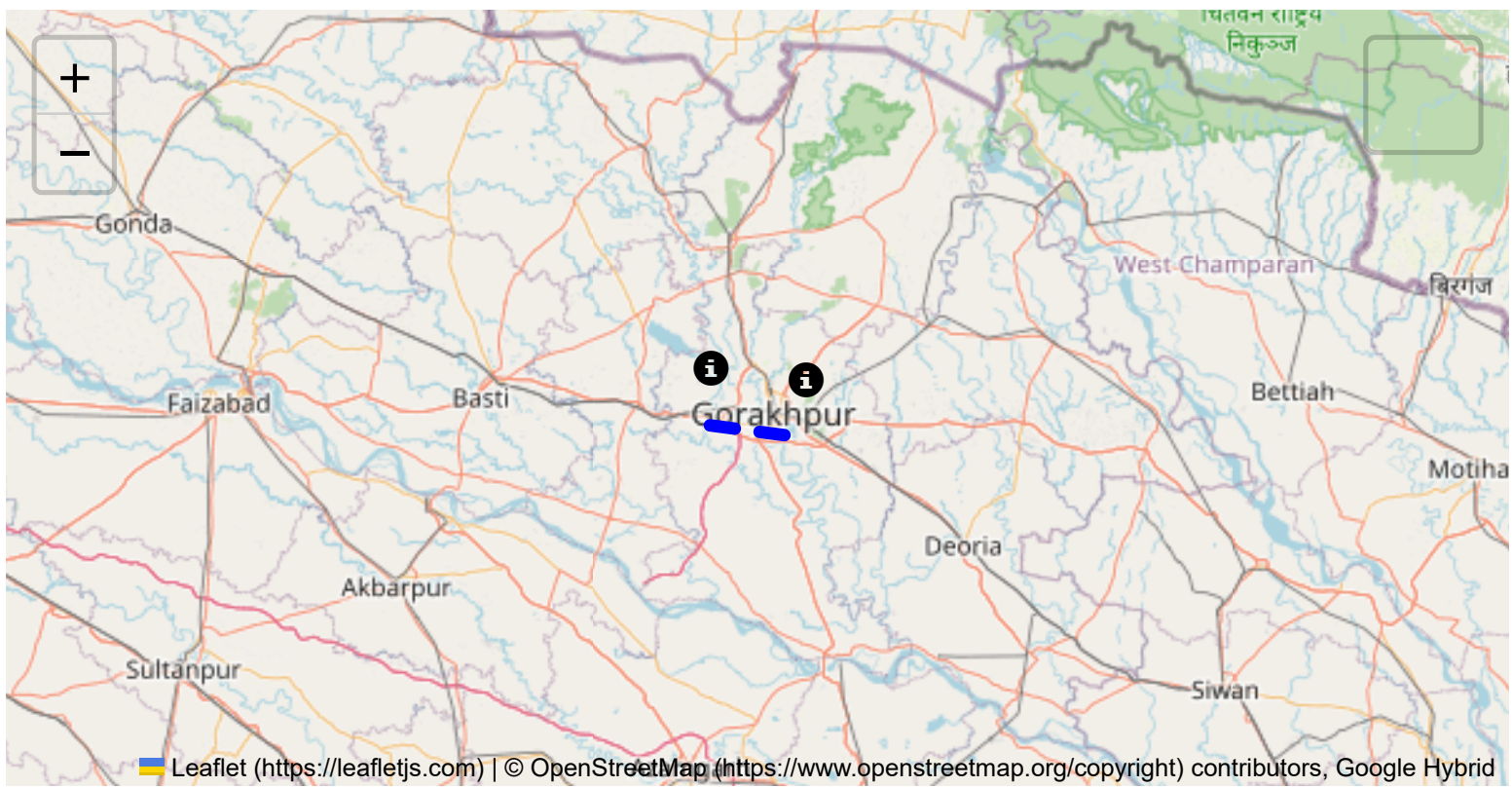
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 37.91 km**  
**Estimated Duration: 0.9 hours**  
**Adjusted Duration (Heavy Vehicle): 1.1 hours**  
**Start: (26.735959, 83.229398)**  
**End: (26.70985, 83.43667)**

## Welcome to the Journey Risk Management Study

### Route Safety Analysis Report

#### 1. Overview of the Route Map

The route from P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa, to C- 192, Divya Nagar Vistar, Khorabar, covers approximately 37.91 kilometers. The route generally follows major roads through the region and is



primarily an eastward journey towards Gorakhpur. The path likely includes a combination of local roads and rural highways, typically traversing industrial and residential areas.

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

The region experiences a humid subtropical climate, with hot summers, a monsoon season (June to September), and mild winters. Potential weather-related hazards include:

- **Heavy rainfall during the monsoon**, which may result in flooding and poor road conditions.
- **Fog during the winter months**, affecting visibility, particularly in the early mornings and late evenings. -Regular dust storms can also reduce visibility and make driving conditions challenging.

## 3. Analysis of Traffic Patterns

Traffic congestion is common in urban areas and around industrial zones. Peak hours typically occur between:

- **8:00 AM to 10:00 AM and 5:00 PM to 8:00 PM** during weekdays.
- Key congestion-prone areas likely include the initial industrial complex and major intersections as you approach Gorakhpur.

## 4. Assessment of Road Quality and Infrastructure

- **Varied road quality**: Major roads are likely in good condition, but rural and connecting roads may have potholes or uneven surfaces.
- **Infrastructure improvements** could be ongoing in urban areas, which might lead to temporary disruptions or detours.

## 5. Suggestions for Alternative Routes for Emergencies

- **NH27** is a significant highway that can be used as an alternative if direct routes become inaccessible due to weather, accidents, or other reasons.
- **Avoid smaller roads and shortcuts** during adverse conditions as they can be difficult to navigate in heavy vehicles.

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

- Require permits for hazardous material transportation, especially in urban areas.
- **Restrictions during peak hours** to ease congestion.
- Ensure compliance with signage and markings as per the state's guidelines for hazardous material transport.

## 7. Overview of Historical Incidents

- Previous incidents might involve **heavy vehicle collisions** at urban-rural junctions.
- Occasional leaks or spills from trucks carrying liquid chemicals have been reported, stressing the need for strict adherence to safety protocols.

## 8. Environmental Considerations and Sensitive Areas

- The route may pass near agricultural lands requiring caution to prevent contamination from potential spills.
- Awareness of local wildlife crossings is essential in rural sections of the journey to prevent accidents.

## 9. Analysis of Communication Coverage

- Network coverage in urban and most rural areas is generally good, but **patchy coverage may be experienced** in remote sections, particularly near agricultural lands or dense tree cover.
- Maintaining a communication plan with scheduled check-ins is advisable.

## 10. Estimated Emergency Response Times

- Urban areas like Gorakhpur typically have a **faster emergency response time** (20-30 minutes).
- Response times may increase to **45-60 minutes** in rural sectors, depending on the distance from the nearest town with emergency services.

## 12. Overall Summary of Risk Assessment

The route is generally safe but poses certain risks due to:

- **Weather conditions**, especially during the monsoon and winter months.
- **Traffic congestion and road quality variations** need careful navigation, especially for hazardous material transport.
- Adequate planning and adherence to local regulations are essential for reduced risks.

Overall, with the right precautions, regular updates on weather and traffic conditions, and adherence to safety guidelines, this route can be navigated safely by a well-trained truck driver. Leveraging local knowledge and technology such as real-time GPS with traffic updates will enhance safety further.

### 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
3	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
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
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.97 km
12	Turn	Medium	26.74644, 83.25150	30 KM/Hr	9.07 km
13	Turn	Medium	26.74306, 83.25344	30 KM/Hr	9.49 km
14	Turn	Medium	26.74300, 83.25343	30 KM/Hr	9.50 km
15	Turn	High	26.69632, 83.47492	15 KM/Hr	33.14 km
16	Turn	High	26.69639, 83.47492	15 KM/Hr	33.17 km
17	Turn	Medium	26.69835, 83.47489	30 KM/Hr	33.41 km
18	Turn	High	26.71257, 83.44780	15 KM/Hr	36.54 km
19	Turn	Medium	26.70926, 83.44286	30 KM/Hr	37.14 km
20	Turn	High	26.71100, 83.43709	15 KM/Hr	37.73 km

## Route Photos of Risky Spots



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot



**Speed Limit: 10 KM/Hr**  
**Distance from Start: 2.17 km**  
**Coordinates: 26.75126, 83.22476**



**Risk Type: Blind Spot**  
**Risk Level: Blind Spot**  
**Speed Limit: 10 KM/Hr**  
**Distance from Start: 4.23 km**  
**Coordinates: 26.75353, 83.20457**



**Risk Type: Turn**  
**Risk Level: High**  
**Speed Limit: 15 KM/Hr**  
**Distance from Start: 4.30 km**  
**Coordinates: 26.75381, 83.20466**



**Risk Type:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 8.97 km

**Coordinates:** 26.74681, 83.25111



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 9.07 km

**Coordinates:** 26.74644, 83.25150





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 9.49 km

**Coordinates:** 26.74306, 83.25344



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 9.50 km

**Coordinates:** 26.74300, 83.25343



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 33.14 km

**Coordinates:** 26.69632, 83.47492



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 33.17 km

**Coordinates:** 26.69639, 83.47492





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 33.41 km

**Coordinates:** 26.69835, 83.47489



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 36.54 km

**Coordinates:** 26.71257, 83.44780





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 37.14 km

**Coordinates:** 26.70926, 83.44286



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 37.73 km

**Coordinates:** 26.71100, 83.43709

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