



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP TO BELHAR KALA INDANE S

#### 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

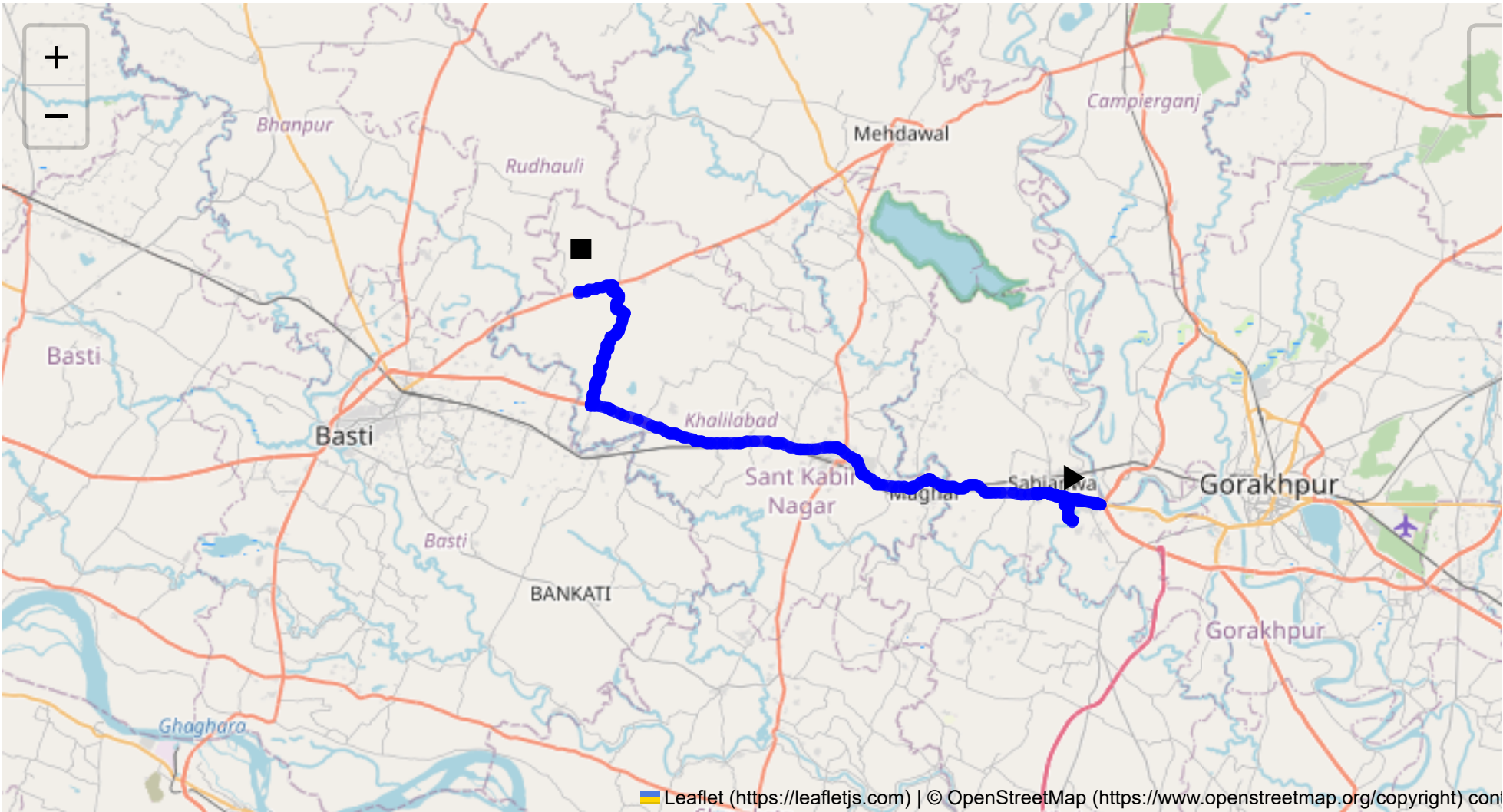
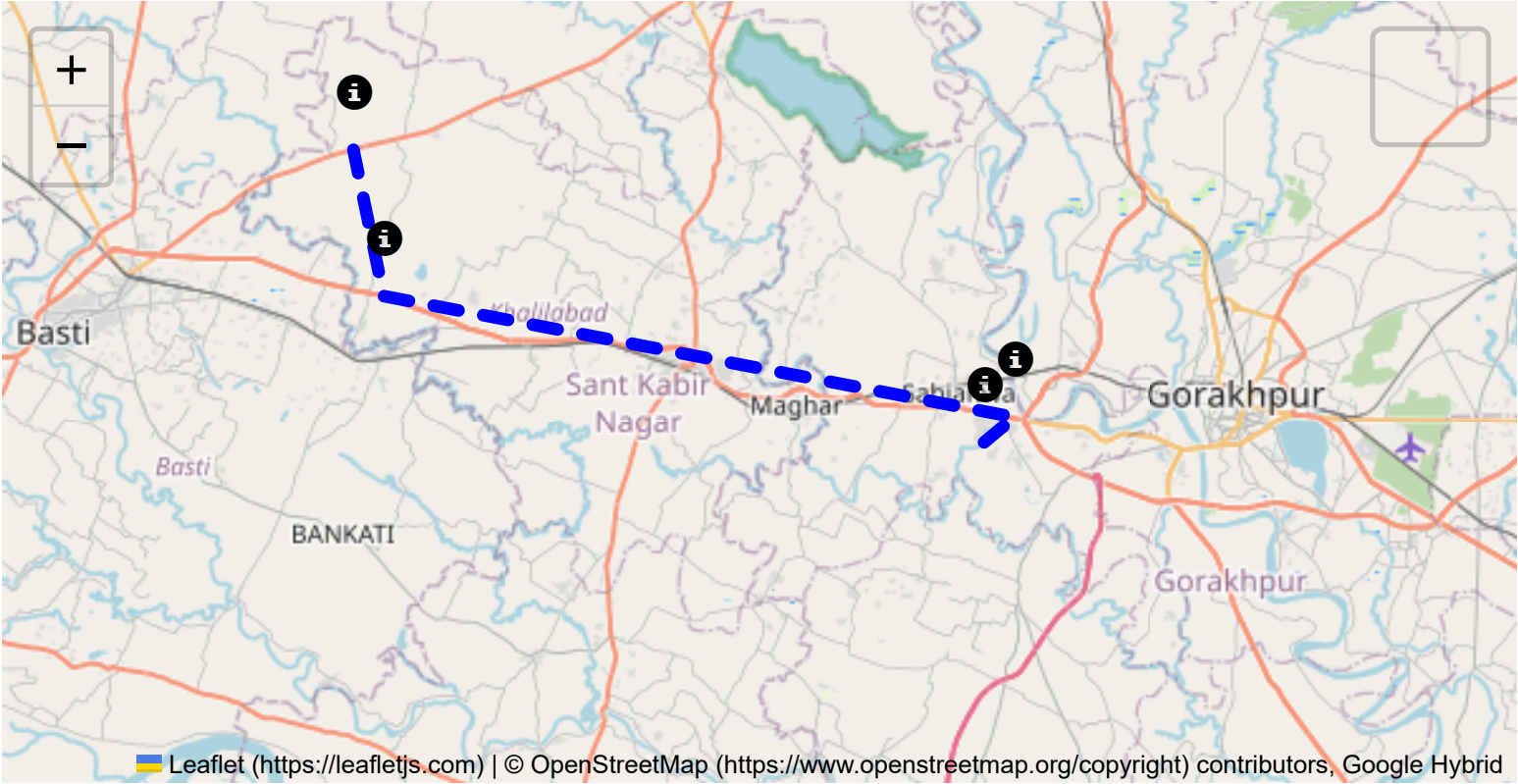
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 58.08 km**  
**Estimated Duration: 1.3 hours**  
**Adjusted Duration (Heavy Vehicle): 1.6 hours**  
**Start: (26.735959, 83.229398)**  
**End: (26.878077, 82.886681)**

**Welcome to the Journey Risk Management Study**

**1. Overview of the Route Map**

The route from P6PH+9Q GIDA Industrial Area Phase 1 in Sahjanwa to VVHP+8MV in Usra Shaheed spans approximately 58.08 kilometers. It passes through notable waypoints such as 01 Zero Point in Kaalesar and RW43+95G in Chagera Mangera. This route primarily traverses state highways and local roads, with variations in road width and quality, potentially impacting travel time and safety.



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

Uttar Pradesh experiences a subtropical climate, with high temperatures in the summer (March-June) and cooler temperatures in winter (November-February). Monsoon season (July-September) brings heavy rainfall, which can lead to flooding and poor visibility. The potential weather-related hazards include waterlogged roads and reduced traction, increasing the risk of accidents, particularly for heavy vehicles.

## 3. Traffic Patterns: Peak Hours and Congestion-Prone Areas

Traffic congestion is significant in industrial areas, especially during morning (8:00-10:00 AM) and evening (5:00-7:00 PM) commute hours. Sahjanwa is a major traffic node, particularly around the industrial areas and market zones. Ensure careful navigation in compact intersections and densely populated regions to avoid delays.

## 4. Assessment of Road Quality and Infrastructure

The road infrastructure varies along the route, with some stretches having well-maintained highways and others, particularly rural roads, showing signs of wear and tear, such as potholes or uneven surfaces. Regular maintenance work can cause temporary disruptions, so updates on road conditions are advisable before departure.

## 5. Suggestions for Alternative Routes for Emergencies

In case of significant roadblocks or emergencies, an alternate route via regional highways that connect directly to each waypoint can be used. Local road networks can often provide detours but may be narrow and not suitable for heavy vehicles, so advanced planning is necessary.

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

Transporting hazardous materials is subject to regulations including specific travel hours, required permits, and safety checks. Heavy vehicles must adhere to designated routes and use protective measures, such as proper signage and containment.

## 7. Overview of Historical Incidents

Historically, the region has seen instances of road accidents involving heavy vehicles, mostly attributed to driver error, adverse weather conditions, and congested areas. Monitoring such trends can inform preventive measures to avoid similar occurrences.

## 8. Environmental Considerations and Sensitive Areas

The route cuts across agricultural land and small water bodies, so care must be taken to prevent spills that could harm local ecosystems. Compliance with environmental regulations is critical to reduce the impact on these sensitive areas.

## 9. Analysis of Communication Coverage

Mobile network coverage is generally adequate along the major parts of the route, though certain rural segments may have weak signals or dead zones. It is advisable to equip drivers with communication tools, such as satellite phones, ensuring consistent contact.

## 10. Estimated Emergency Response Times

Emergency services in urban areas like Sahjanwa can respond within 15-30 minutes, while rural parts may experience delays up to 45 minutes or more due to road conditions and distance. Having a map of the nearest healthcare centers and emergency services is critical.

## 12. Overall Summary of Risk Assessment

The journey from Sahjanwa to Usra Shaheed involves moderate risks stemming from weather patterns, variable road quality, and congestion. By proactively addressing congestion points, staying updated on weather forecasts, and ensuring compliance with regulations, these risks can be mitigated. Equipped with alternative routing options and robust communication tools, drivers can confidently manage unforeseen emergencies. Monitoring historical incident data will further guide safety protocols, particularly for hazardous material transport.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 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
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	1.28 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 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	2.17 km
9	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
10	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km
0	U-Turn	High	26.7471208, 83.2490873	10 KM/Hr	8.76 km
11	Blind Spot	Blind Spot	26.74712, 83.24909	10 KM/Hr	8.76 km
12	Turn	High	26.74703, 83.24907	15 KM/Hr	8.79 km
13	Blind Spot	Blind Spot	26.80855, 82.89492	10 KM/Hr	46.01 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
14	Turn	Medium	26.81095, 82.89587	30 KM/Hr	46.42 km
15	Turn	High	26.81131, 82.89563	15 KM/Hr	46.46 km
16	Turn	Medium	26.81412, 82.89660	30 KM/Hr	46.78 km
17	Turn	Medium	26.81464, 82.89633	30 KM/Hr	46.86 km
18	Turn	Medium	26.82278, 82.89893	30 KM/Hr	47.81 km
19	Turn	Medium	26.83918, 82.90386	30 KM/Hr	49.76 km
20	Turn	Medium	26.84010, 82.90453	30 KM/Hr	49.85 km
21	Turn	Medium	26.84388, 82.90632	30 KM/Hr	50.35 km
22	Turn	High	26.84556, 82.90584	15 KM/Hr	50.54 km
23	Turn	Medium	26.86567, 82.91776	30 KM/Hr	53.07 km
24	Turn	Medium	26.86609, 82.91765	30 KM/Hr	53.17 km
25	Turn	Medium	26.86966, 82.91202	30 KM/Hr	53.89 km
26	Turn	Medium	26.87554, 82.91437	30 KM/Hr	54.54 km
27	Turn	High	26.87965, 82.91019	15 KM/Hr	55.23 km
28	Turn	Medium	26.88034, 82.91033	30 KM/Hr	55.31 km
29	Turn	Medium	26.88172, 82.90945	30 KM/Hr	55.46 km
30	Blind Spot	Blind Spot	26.88343, 82.90977	10 KM/Hr	55.68 km

## Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Patel Hospital, Sant Kabir Nagar	26.7882737, 82.9600798	30 km/h	Medium	38.95 km

## Crowded Spots



# Route Photos of Risky Spots



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Distance from Start:** 2.17 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:** 4.28 km

**Coordinates:** 26.75377, 83.20465



**Risk Type:** U-Turn

**Risk Level:** High

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 8.76 km

**Coordinates:** 26.7471208, 83.2490873





**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Distance from Start:** 8.76 km  
**Coordinates:** 26.74712, 83.24909



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Distance from Start:** 8.79 km  
**Coordinates:** 26.74703, 83.24907



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Distance from Start:** 46.01 km  
**Coordinates:** 26.80855, 82.89492



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 46.42 km  
**Coordinates:** 26.81095, 82.89587





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 46.46 km

**Coordinates:** 26.81131, 82.89563



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 46.78 km

**Coordinates:** 26.81412, 82.89660





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 46.86 km  
**Coordinates:** 26.81464, 82.89633



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 47.81 km  
**Coordinates:** 26.82278, 82.89893





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 49.76 km

**Coordinates:** 26.83918, 82.90386



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 49.85 km

**Coordinates:** 26.84010, 82.90453





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 50.35 km  
**Coordinates:** 26.84388, 82.90632



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Distance from Start:** 50.54 km  
**Coordinates:** 26.84556, 82.90584





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 53.07 km  
**Coordinates:** 26.86567, 82.91776



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 53.17 km  
**Coordinates:** 26.86609, 82.91765





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 53.89 km

**Coordinates:** 26.86966, 82.91202



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 54.54 km

**Coordinates:** 26.87554, 82.91437





**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Distance from Start:** 55.23 km  
**Coordinates:** 26.87965, 82.91019



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 55.31 km  
**Coordinates:** 26.88034, 82.91033





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 55.46 km

**Coordinates:** 26.88172, 82.90945



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 55.68 km

**Coordinates:** 26.88343, 82.90977

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