JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO VINDU INDANE 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

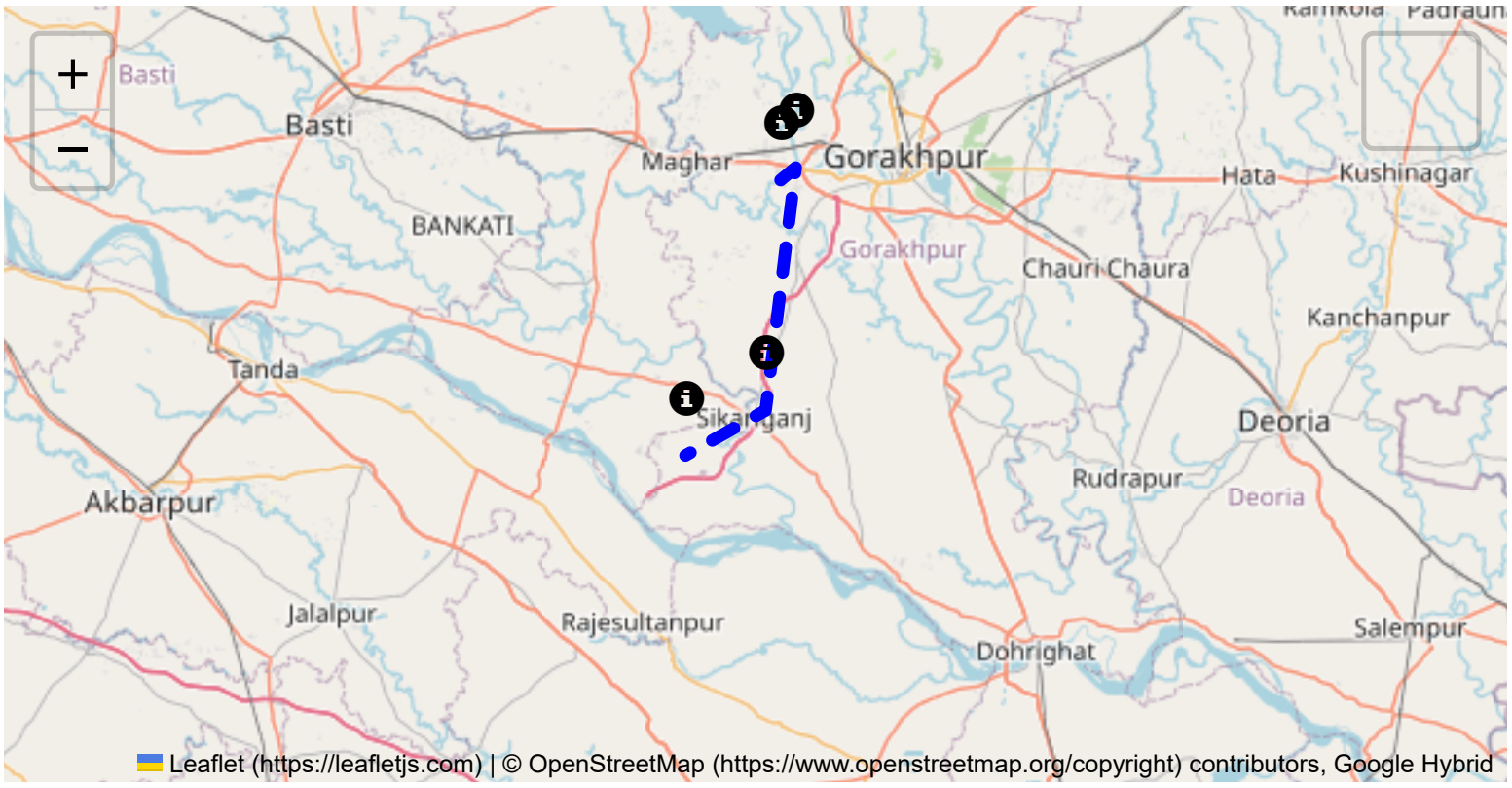
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

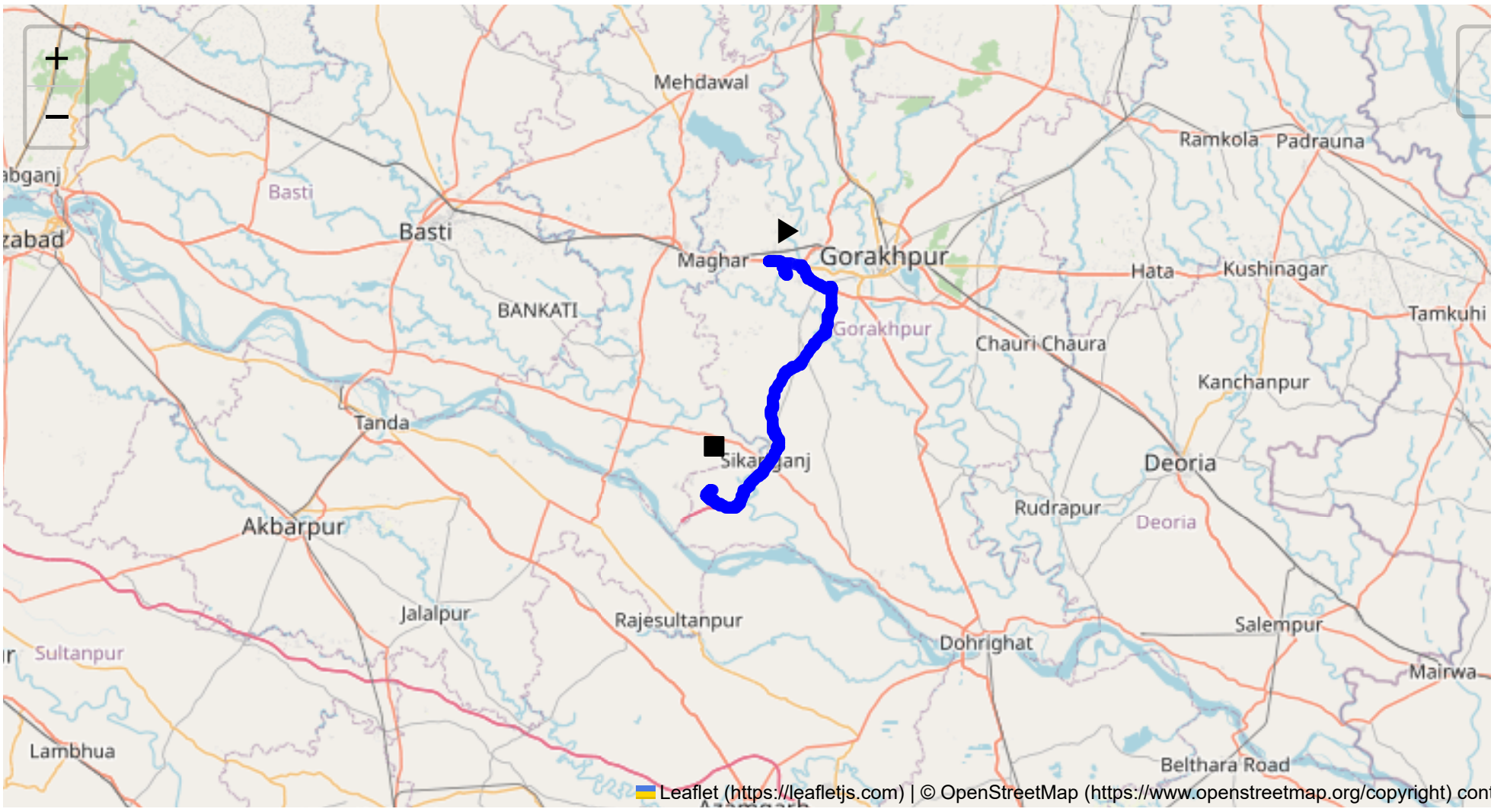
Journey Risk Mitigation

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: 56.47 km
Estimated Duration: 1.1 hours
Adjusted Duration (Heavy Vehicle): 1.4 hours
Start: (26.735959, 83.229398)
End: (26.466749, 83.124015)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1 in Sahjanwa to Balua Bhawani Baksasingh covers approximately 56.47 kilometers and typically requires about 1.09 hours to traverse with heavy vehicles carrying hazardous material. The main segments include a section on Gorakhpur - Purvanchal Link Expressway, passing through notable waypoints such as 01 Zero Point in Kaalesar and Imlidih Bujurg.

Weather Conditions

Typical weather conditions in Uttar Pradesh are characterized by extreme temperatures, high humidity, and monsoons from June to September. During the monsoon season, heavy rains can lead to waterlogged roads and reduced visibility. Fog is common in winter months, potentially causing significant visibility issues.

Traffic Patterns

Traffic congestion is frequent near urban areas, particularly during morning (8:00-10:00 AM) and evening (5:00-7:00 PM) peak hours. Major congestion-prone areas include entry and exit points on the Gorakhpur - Purvanchal Link Expressway and intersections near Kaalesar and Imlidih Bujurg.

Road Quality and Infrastructure

The Gorakhpur - Purvanchal Link Expressway is the primary road segment and generally offers good surface conditions with multiple lanes. However, feeder roads leading into smaller villages may have variable quality with potential potholes and limited shoulders, possibly complicating navigation for large trucks.

Alternative Routes for Emergencies

In case of road closures or severe congestion, an alternative route could involve using state highways that parallel the expressway, although these alternatives may involve narrower roads and potentially poorer conditions. Continuous updates from local traffic authorities can help in real-time rerouting.

Local Regulations on Hazardous Material Transport

Transportation of hazardous materials in Uttar Pradesh requires compliance with strict regional and national guidelines. There are restrictions on heavy vehicle movement within city limits during peak congestion periods. Drivers must hold appropriate licenses for handling hazardous materials.

Historical Incidents

There have been past incidents involving heavy vehicles, often attributed to fog, mechanical failure, or poor road conditions. Regional accident data highlights expressway segments as higher-risk zones for severe accidents due to higher speeds.

Environmental Considerations

The route passes through several agricultural zones, requiring consideration for spill risk and potential environmental contamination. Sensitive areas should be identified clearly to ensure rapid response and containment in case of accidental release of hazardous materials.

Communication Coverage

Most of the route has decent mobile network coverage, but some rural parts, particularly near Imlidih Bujurg, may experience weak signals or dead zones. It is advisable to have satellite communication equipment for emergencies.

Emergency Response Times

Emergency services are reasonably well-equipped near urban centers but may take longer to reach more remote areas. Estimated response times range from 15-30 minutes near major hubs to 45 minutes or more in rural segments.

Overall Risk Assessment

The route presents moderate risk due to potential weather disruptions, traffic congestion, and road quality variability. Ensuring compliance with hazardous material transport regulations and maintaining constant communication will mitigate these risks. Special attention to weather conditions and preparedness for emergency rerouting are crucial for maintaining safety on this path.

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	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.90 km
11	Turn	Medium	26.74658, 83.25155	30 KM/Hr	9.04 km
12	Turn	Medium	26.74646, 83.25151	30 KM/Hr	9.06 km
13	Turn	Medium	26.44260, 83.14691	30 KM/Hr	51.54 km
14	Turn	High	26.45770, 83.11679	15 KM/Hr	55.05 km
15	Turn	High	26.46684, 83.12259	15 KM/Hr	56.21 km
16	Turn	Medium	26.46685, 83.12269	30 KM/Hr	56.25 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
17	Turn	High	26.46633, 83.12389	15 KM/Hr	56.38 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: 4.28 km

Coordinates: 26.75377, 83.20465

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.90 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.04 km

Coordinates: 26.74658, 83.25155

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74646, 83.25151

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.54 km

Coordinates: 26.44260, 83.14691

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 55.05 km

Coordinates: 26.45770, 83.11679

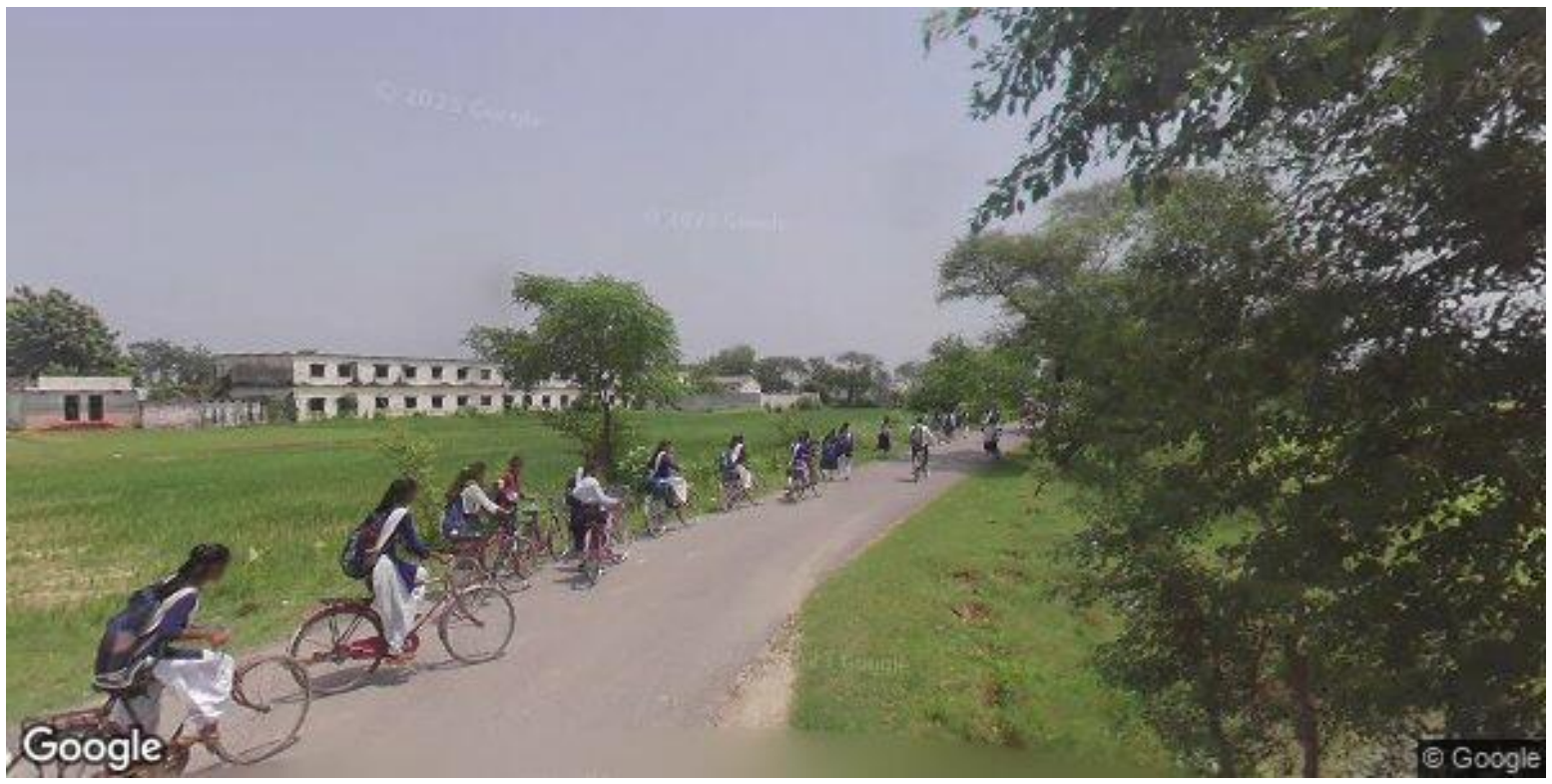
Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 56.21 km

Coordinates: 26.46684, 83.12259



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 56.25 km

Coordinates: 26.46685, 83.12269

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 56.38 km

Coordinates: 26.46633, 83.12389

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