JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to KRISHNA KANT INDANE GRAMIN VIT

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

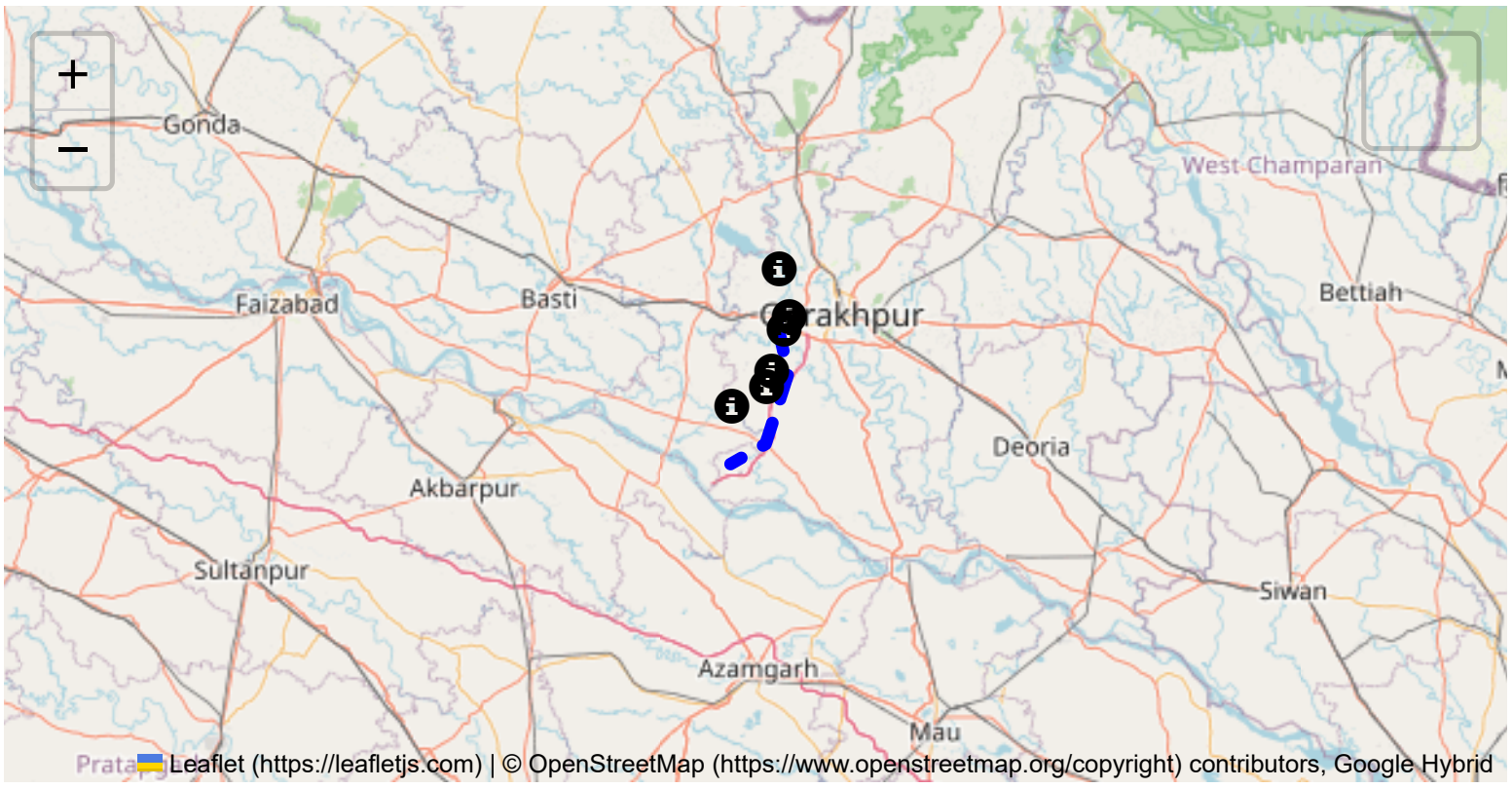
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

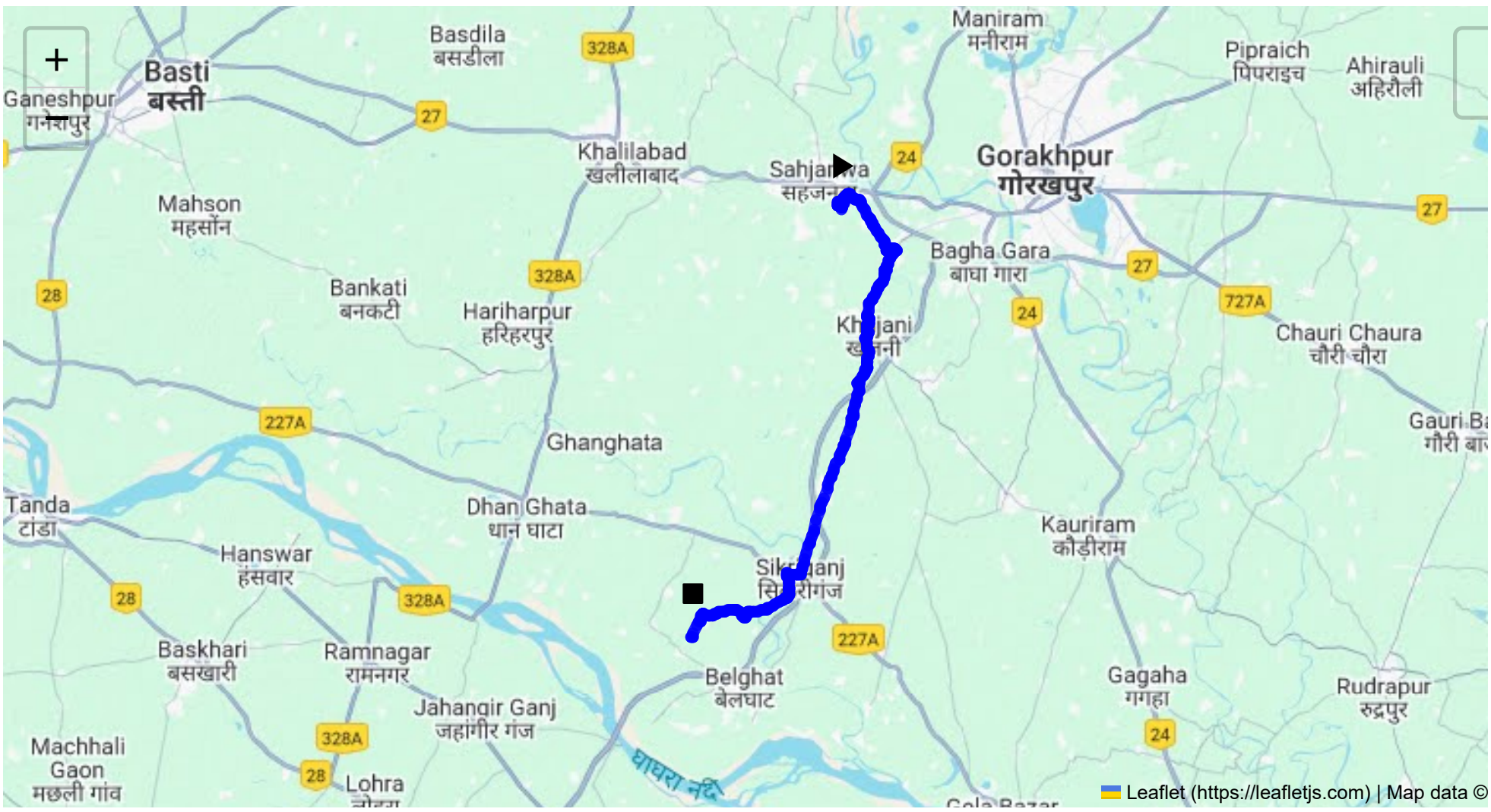
Journey Risk Mitigation

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: 43.27 km
Estimated Duration: 1.5 hours
Adjusted Duration (Heavy Vehicle): 1.8 hours
Start: (26.735959, 83.229398)
End: (26.46673012, 83.12404633)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from the GIDA Industrial Area Phase 1 in Sahjanwa to Balua Bhawani Baksasingh covers approximately 43.27 kilometers. It navigates through Gorakhpur-Sikariganj Road and includes several regional roads like Khajni-Sikriganj-Rajesultanpur Road and SH72. The route weaves through semi-urban, rural, and industrial landscapes, potentially with varying road conditions and traffic densities.

2. Typical Weather Conditions and Potential Weather-Related Hazards

The region typically experiences a humid subtropical climate. Summer months (April to June) can see temperatures ranging from 25°C to 45°C, which may lead to heat-related stress on both drivers and vehicles. The monsoon season (July to September) can cause heavy rains, leading to potential flooding, water-logging, and reduced visibility. Winter months (December to February) can bring fog, leading to reduced visibility and increased accident risk.

3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic is usually heavier in the morning (7 AM - 10 AM) and evening (5 PM - 8 PM) due to commute times.
- **Congestion-Prone Areas:** Expect congestion near major intersections, small townships, and market areas like Mau Mukatman and Sikriganj, particularly during market hours and festivals.

4. Assessment of Road Quality and Infrastructure

Road conditions vary from well-paved highways to poorly maintained rural roads. Certain stretches, especially in rural areas, might have potholes and inadequate signage. Lighting on some segments may be sparse, necessitating cautious driving, especially at night.

5. Suggestions for Alternative Routes for Emergencies

In emergencies, rerouting could include:

- Using the NH27 for faster movement in the initial phase before joining smaller roads.
- Alternative routes via NH730 and SH1 can be considered, though they might add distance, they often offer better road conditions and facilities.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials requires compliance with the Indian Motor Vehicles Act. Certain times or areas may restrict heavy or hazardous vehicles. Ensure all permits and documentation are secured and adhere to vehicle emission standards.

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

While specific data for this route may be limited, rural roads in India sometimes see accidents due to poor lighting, road conditions, and driver fatigue. Incidents involving overturns or spills are often due to poor road infrastructure and overloading.

8. Environmental Considerations and Sensitive Areas

Be cautious around populated areas and near water bodies to prevent contamination and environmental harm. Areas near forests or wildlife reserves should be traversed carefully due to the risk of animal crossings.

9. Analysis of Communication Coverage

Mobile network coverage may be inconsistent, with potential dead zones, especially in more remote or rural segments of the route. It is advisable to have a backup communication device, such as a satellite phone or radio.

10. Estimated Emergency Response Times

- **Urban/Industrial Segments:** 30 to 45 minutes due to proximity to facilities and traffic.
- **Rural Areas:** 60 to 90 minutes depending on accessibility and network reach.

12. Overall Summary of Risk Assessment

This route, while essential for transportation, poses various risks such as variable road conditions, inconsistent traffic patterns, and potential weather-related challenges. However, with proper precaution, including adherence to regulations, vehicle maintenance, and vigilant driving, these risks can be effectively managed. Emergency plans and alternative route planning are vital components for minimizing potential hazards while traversing these areas.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 km
1	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
3	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
4	Turn	High	26.74025, 83.22668	15 KM/Hr	0.72 km
5	Blind Spot	Blind Spot	26.73980, 83.23089	10 KM/Hr	1.12 km
6	Turn	Medium	26.74090, 83.23093	30 KM/Hr	1.29 km
7	Turn	Medium	26.74270, 83.23144	30 KM/Hr	1.46 km
8	Turn	High	26.74278, 83.23154	15 KM/Hr	1.51 km
9	Turn	High	26.74257, 83.23244	15 KM/Hr	1.57 km
10	Turn	High	26.74568, 83.23387	15 KM/Hr	1.96 km
11	Blind Spot	Blind Spot	26.74505, 83.23505	10 KM/Hr	2.12 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
12	Turn	High	26.74525, 83.23510	15 KM/Hr	2.14 km
13	Blind Spot	Blind Spot	26.74526, 83.23517	10 KM/Hr	2.15 km
14	Blind Spot	Blind Spot	26.74318, 83.23473	10 KM/Hr	2.32 km
15	Turn	Medium	26.74147, 83.24217	30 KM/Hr	3.09 km
16	Turn	High	26.74168, 83.24266	15 KM/Hr	3.19 km
17	Turn	High	26.71013, 83.26081	15 KM/Hr	7.20 km
18	Turn	Medium	26.71105, 83.26667	30 KM/Hr	7.80 km
19	Turn	Medium	26.71106, 83.26688	30 KM/Hr	7.82 km
20	Blind Spot	Blind Spot	26.71037, 83.26808	10 KM/Hr	7.96 km
21	Turn	Medium	26.69717, 83.26008	30 KM/Hr	9.65 km
22	Turn	Medium	26.66820, 83.24780	30 KM/Hr	13.13 km
23	Turn	Medium	26.66789, 83.24789	30 KM/Hr	13.20 km
24	Turn	Medium	26.66328, 83.24770	30 KM/Hr	13.78 km
25	Turn	High	26.65810, 83.24834	15 KM/Hr	14.36 km
26	Turn	High	26.50631, 83.20024	15 KM/Hr	32.10 km
27	Turn	High	26.50685, 83.19163	15 KM/Hr	33.03 km
28	Turn	High	26.49747, 83.19194	15 KM/Hr	34.12 km
29	Blind Spot	Blind Spot	26.47928, 83.16165	10 KM/Hr	38.18 km
30	Turn	Medium	26.48125, 83.13188	30 KM/Hr	41.44 km

Emergency Locations

Found: 1 hospital(s), 1 police(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Government. hospital khajni	26.6652993, 83.2497154	30 km/h	Medium	13.44 km
1	police	Sikriganj Police Station	26.5030254, 83.2004017	30 km/h	Medium	32.24 km

Crowded Spots

Route Photos of Risky Spots

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.65 km

Coordinates: 26.69717, 83.26008

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 13.13 km

Coordinates: 26.66820, 83.24780

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 13.20 km

Coordinates: 26.66789, 83.24789

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 13.78 km

Coordinates: 26.66328, 83.24770

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 14.36 km

Coordinates: 26.65810, 83.24834

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 32.10 km

Coordinates: 26.50631, 83.20024

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.03 km

Coordinates: 26.50685, 83.19163

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 34.12 km

Coordinates: 26.49747, 83.19194

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 38.18 km

Coordinates: 26.47928, 83.16165

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 41.44 km

Coordinates: 26.48125, 83.13188

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