JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO OM GANPATI INDANE SE

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

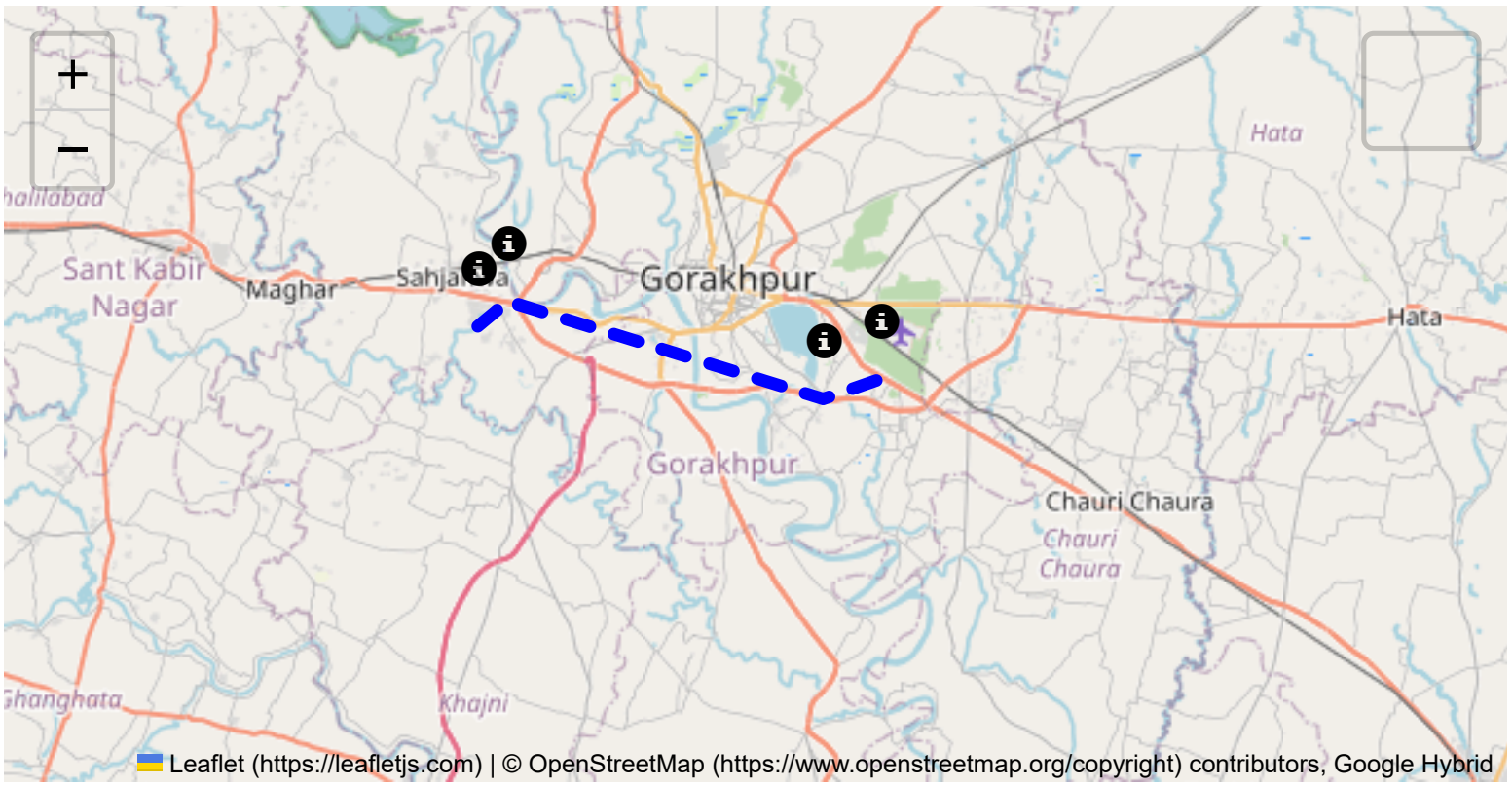
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

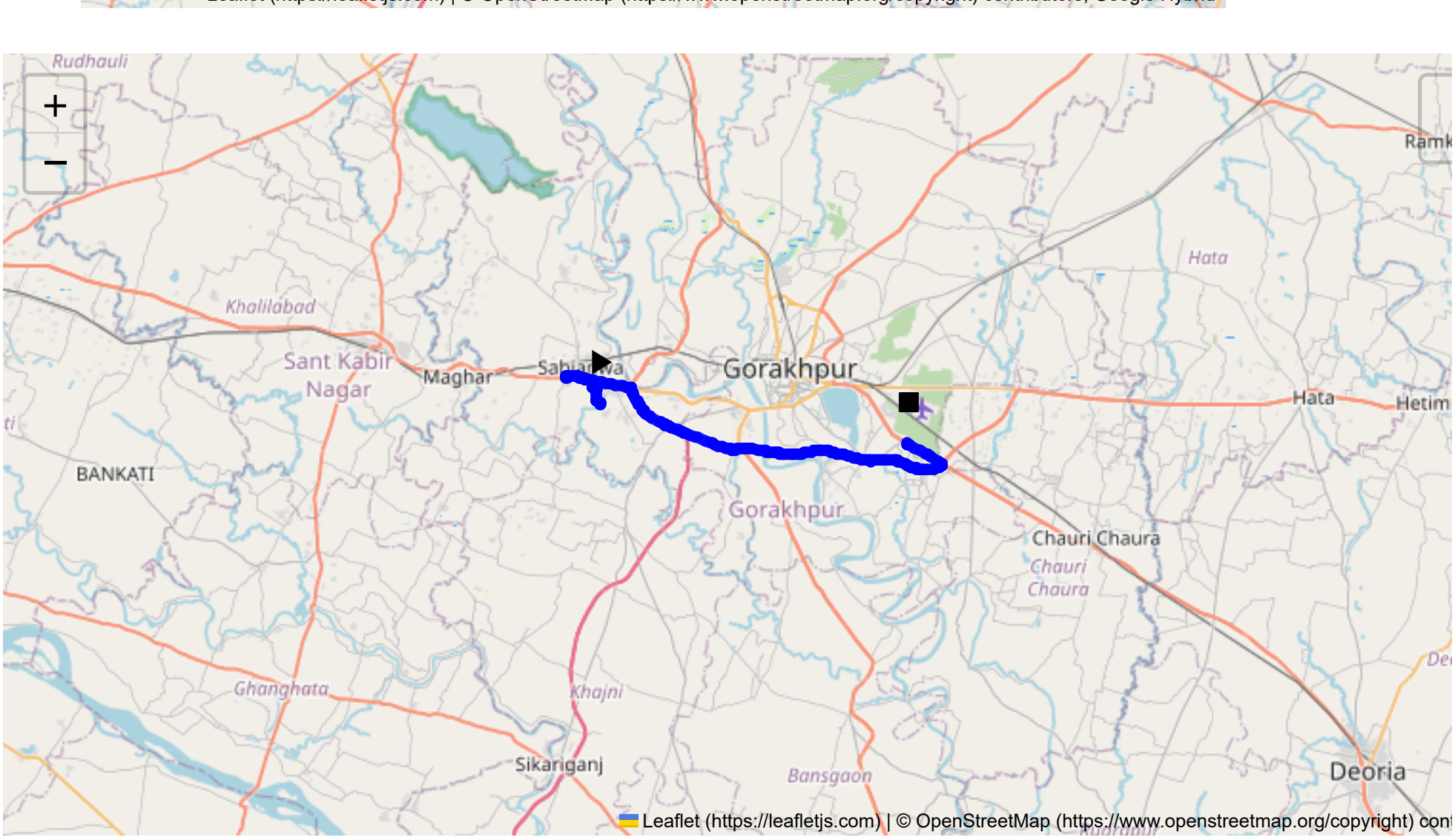
Journey Risk Mitigation

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: 36.34 km
Estimated Duration: 0.8 hours
Adjusted Duration (Heavy Vehicle): 1.0 hours
Start: (26.735959, 83.229398)
End: (26.709479, 83.450264)

Welcome to the Journey Risk Management Study

Route Map Overview

The route spans approximately 36.34 kilometers and connects the GIDA Industrial Area Phase 1 in Sahjanwa to the Jangalsikari Urf Khoraba area in Gorakhpur. It travels through notable waypoints such as Zero Point in Kaalesar and a segment in Khorabar. This requires navigating both industrial and semi-urban environments, primarily along regional highways and possibly state roads.

Weather Conditions

Uttar Pradesh experiences a humid subtropical climate. Summers can be extremely hot with temperatures often exceeding 40°C (104°F), while winters can be cool, with occasional fog. Monsoon months (June to September) bring heavy rainfall, which could lead to waterlogging and reduced visibility.

Weather-related Hazards:

- **Rain and Waterlogging:** Potential for road damage and reduced visibility during the monsoon.
- **Fog:** Winter months may have dense fog, especially early in the mornings, reducing visibility further.

Traffic Patterns

The route is likely frequented by both commuter and industrial traffic, which could result in congestion during key times:

- **Peak Hours:** Morning (7:00 AM - 10:00 AM) and evening (5:00 PM - 8:00 PM) are typically congested due to work-related travel.
- **Congestion-prone Areas:** Particularly near major intersections and urban centers in Gorakhpur.

Road Quality and Infrastructure

- **Mixed Road Conditions:** The quality can vary from excellent in urban regions to poorer in rural stretches. Watch for potholes and poorly marked lanes.
- **Infrastructure Improvements:** Look for ongoing roadwork or construction, which can pose further hazards.

Alternative Routes

In emergencies, consider:

- **Gorakhpur Bypass:** Depending on the specific location, using bypasses to avoid densely populated areas can be quicker and safer.
- **Local Roads:** Seek assistance from local authorities to discover smaller roads that bypass problematic sections.

Regulatory Considerations

Transport of hazardous materials is subject to strict regulations in India:

- Ensure proper permits are obtained.
- Adhere to designated routes for hazardous material transport.
- Comply with weight and container restrictions to avoid fines or legal issues.

Historical Incidents

- **Safety Records:** Review historical incidents of accidents involving heavy vehicles in the region, particularly involving rollovers or spills.
- **High-risk Areas:** Pay attention to areas reported for frequent incidents, often related to road conditions or sharp turns.

Environmental Considerations

- **Protected Areas:** Look out for natural reserves or areas of ecological significance near the route. Noise and emissions could face scrutiny.
- **Local Communities:** Drive cautiously through populated regions to minimize disturbance.

Communication Coverage

- While urban areas typically provide strong cellular coverage, rural segments might experience weak signals or dead zones. Plan communication accordingly.

Emergency Response Times

- **Urban Segments:** Faster response times, likely within 15-30 minutes.
- **Rural Segments:** Response times might extend to over an hour due to accessibility issues.

Overall Risk Assessment Summary

The journey from GIDA Industrial Area to Jangalsikari Urf Khoraba spans a manageable distance but traverses regions with varying conditions. Speed management, particularly in adverse weather, and heightened awareness in high-traffic or environmentally sensitive areas will be critical. Heavy vehicles transporting hazardous materials should ensure robust contingency planning, and consistently adhere to safety and regulatory standards to mitigate risks effectively. Regular maintenance checks, updated weather forecasts, and real-time traffic updates should be integral to every trip on 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
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

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
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	8.99 km
12	Turn	Medium	26.74644, 83.25150	30 KM/Hr	9.07 km
13	Turn	Medium	26.74310, 83.25343	30 KM/Hr	9.49 km
14	Turn	Medium	26.74298, 83.25343	30 KM/Hr	9.51 km
15	Turn	High	26.69632, 83.47492	15 KM/Hr	33.16 km
16	Turn	High	26.69640, 83.47492	15 KM/Hr	33.17 km
17	Turn	Medium	26.69835, 83.47489	30 KM/Hr	33.41 km
18	Turn	High	26.71078, 83.45118	15 KM/Hr	36.12 km
19	Turn	Medium	26.70962, 83.45041	30 KM/Hr	36.31 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: 8.99 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: 26.74310, 83.25343

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.51 km

Coordinates: 26.74298, 83.25343

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.16 km

Coordinates: 26.69632, 83.47492

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.17 km

Coordinates: 26.69640, 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: 36.12 km

Coordinates: 26.71078, 83.45118

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 36.31 km

Coordinates: 26.70962, 83.45041

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