JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MAA KOTESHWARI INDAN

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

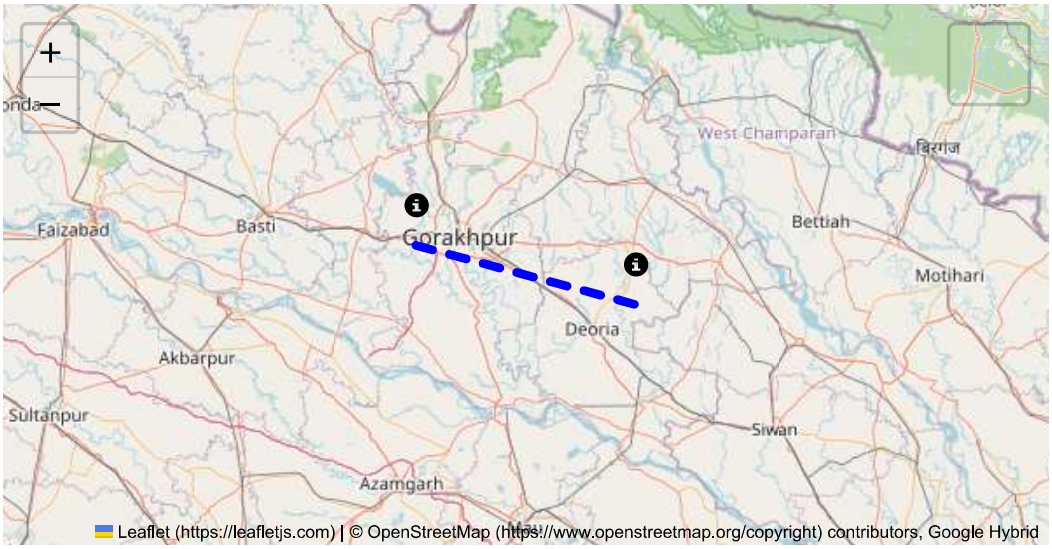
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

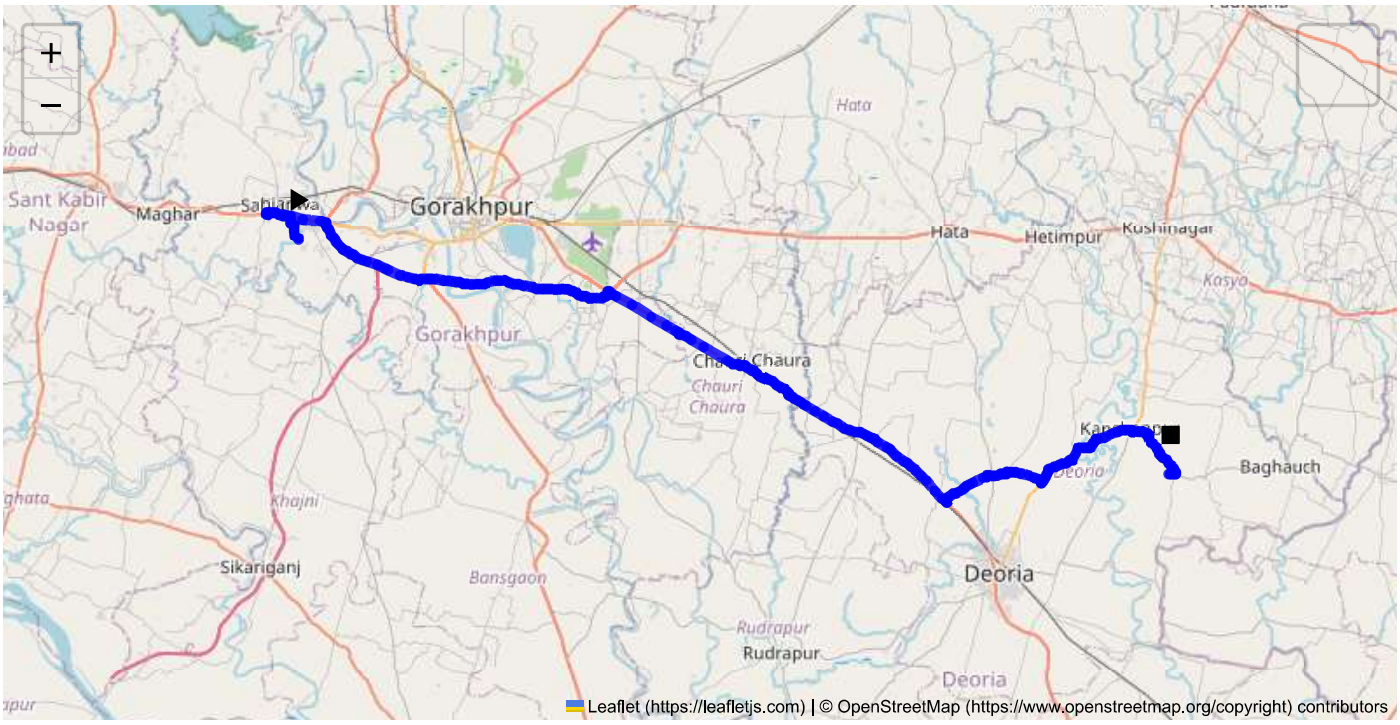
Journey Risk Mitigation

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: 87.99 km
Estimated Duration: 2.0 hours
Adjusted Duration (Heavy Vehicle): 2.5 hours
Start: (26.735959, 83.229398)
End: (26.569933, 83.916421)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1 in Sahjanwa to Deoria, Sidhawe Jobana spans approximately 87.99 kilometers. The journey typically takes around 1.96 hours for heavy vehicles, given the average road

conditions and traffic typical for this region. The route primarily follows major highways and roads through Uttar Pradesh's rural landscapes.

Typical Weather Conditions

- **Monsoon Season (June to September):** Expect heavy rainfall, which can cause flooding and mudslides. Roads might be slippery and visibility may be reduced.
- **Winter (November to February):** Fog is common, particularly in the early morning and late evening, leading to reduced visibility.
- **Summer (March to May):** High temperatures can lead to road surface damage, such as heat-induced asphalt softening.

Traffic Patterns

- **Peak Hours:** Expect increased traffic congestion during morning (8 AM to 10 AM) and evening (5 PM to 7 PM) hours, particularly near urban or industrial areas.
- **Congestion-Prone Areas:** Sahjanwa and Deoria town centers are prone to congestion due to narrow streets and high local traffic. Market days might see increased congestion near town centers.

Road Quality and Infrastructure

- **Highways:** Generally, the highways are in decent condition, but some segments may have potholes or uneven surfaces.
- **Rural Roads:** Quality may decrease, with narrower lanes and potential for unmarked speed bumps or potholes.

Alternative Routes

- If the primary route is obstructed, consider using alternate highways such as NH28, which might provide a detour around significant traffic. Stay updated on road conditions via local traffic reports for real-time information.

Local Regulations on Hazardous Material Transport

- Hazardous materials typically require special permits for transport through urban areas, particularly during the day. The local police stations along the route can offer guidance.
- Ensure compliance with safety regulations regarding the signage and documentation necessary for hazardous materials.

Historical Incidents

- There have been occasional reports of accidents involving trucks, often due to overloading or brake failure on steep sections. Ensure the vehicle is in good mechanical condition to prevent such occurrences.

Environmental Considerations

- Sensitive areas may include agricultural zones; spillage of hazardous materials could have significant environmental impacts.
- Avoid over-reliance on intervention-heavy transit through densely populated or ecologically sensitive areas when possible.

Communication Coverage

- **Potential Dead Zones:** Some rural stretches may experience reduced cellular network coverage. Local SIM cards are typically more reliable in maintaining basic communication lines.

Emergency Response Times

- **Urban Areas (e.g., Sahjanwa, Deoria):** Estimated response time is about 20-30 minutes.
- **Rural Stretches:** Response time could extend to 45 minutes or more due to distance from major services.

Overall Risk Assessment Summary

This route poses typical hazards associated with rural transportation in India: weather-related issues, fluctuating road quality, and peak-hour congestion. For a journey carrying hazardous materials, these are amplified by regulatory constraints and the necessity for rigorous safety compliance.

Continuous monitoring of weather forecasts, up-to-date traffic information, and ensuring all vehicle safety protocols are adhered to are essential for mitigating risks. Prior knowledge of emergency response points, communication facilities, and having clear alternative routes planned out will greatly assist safe transit.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
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	0.47 km
4	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
5	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
8	Turn	High	26.75377, 83.20465	15 KM/Hr	4.27 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.79 km
9	Turn	Medium	26.69741, 83.47552	30 KM/Hr	33.25 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.41 km
10	Blind Spot	Blind Spot	26.69844, 83.47473	10 KM/Hr	33.41 km
11	Turn	High	26.69857, 83.47481	15 KM/Hr	33.43 km
12	Turn	Medium	26.63752, 83.59723	30 KM/Hr	47.40 km
13	Blind Spot	Blind Spot	26.55003, 83.74185	10 KM/Hr	64.88 km
14	Turn	High	26.55390, 83.74297	15 KM/Hr	65.30 km
15	Turn	Medium	26.57010, 83.78584	30 KM/Hr	70.07 km
16	Turn	Medium	26.57061, 83.78830	30 KM/Hr	70.34 km
17	Turn	Medium	26.57181, 83.78936	30 KM/Hr	70.50 km
18	Turn	Medium	26.57191, 83.78959	30 KM/Hr	70.57 km
19	Blind Spot	Blind Spot	26.56413, 83.81619	10 KM/Hr	73.42 km
20	Turn	Medium	26.58809, 83.84511	30 KM/Hr	77.60 km
21	Turn	Medium	26.58805, 83.85322	30 KM/Hr	78.28 km
22	Turn	Medium	26.60134, 83.88187	30 KM/Hr	81.60 km
23	Turn	Medium	26.57090, 83.92148	30 KM/Hr	87.27 km
24	Turn	High	26.57001, 83.92121	15 KM/Hr	87.36 km
25	Turn	Medium	26.57014, 83.92054	30 KM/Hr	87.43 km
26	Turn	Medium	26.57001, 83.92016	30 KM/Hr	87.47 km
27	Turn	High	26.57028, 83.91792	15 KM/Hr	87.70 km
28	Turn	High	26.56966, 83.91768	15 KM/Hr	87.76 km
29	Turn	Medium	26.56963, 83.91760	30 KM/Hr	87.80 km

Route Photos of Risky Spots

Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 2.16 km
Coordinates: 26.75126, 83.22476

Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 4.22 km
Coordinates: 26.75353, 83.20457

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.27 km

Coordinates: 26.75377, 83.20465

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.79 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 33.25 km

Coordinates: 26.69741, 83.47552

Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.698439, 83.4747268

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.69844, 83.47473

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.43 km

Coordinates: 26.69857, 83.47481

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.40 km

Coordinates: 26.63752, 83.59723

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 64.88 km

Coordinates: 26.55003, 83.74185

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 65.30 km

Coordinates: 26.55390, 83.74297

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.07 km

Coordinates: 26.57010, 83.78584

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.34 km

Coordinates: 26.57061, 83.78830

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.50 km

Coordinates: 26.57181, 83.78936

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.57 km

Coordinates: 26.57191, 83.78959

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 73.42 km

Coordinates: 26.56413, 83.81619

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 81.60 km

Coordinates: 26.60134, 83.88187

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 87.27 km

Coordinates: 26.57090, 83.92148

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