



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to SUNITA INDANE GAS 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

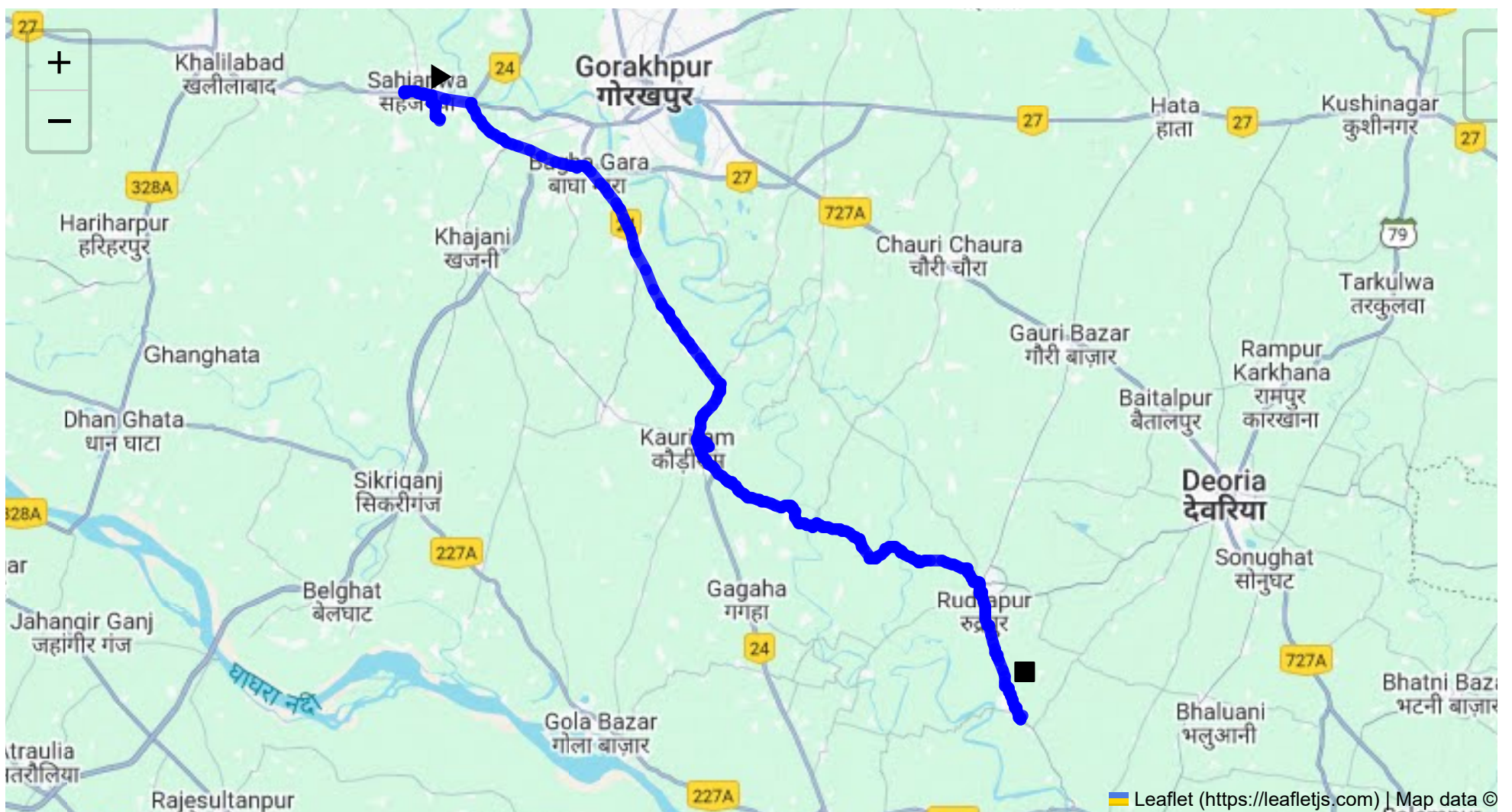
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 78.76 km
Estimated Duration: 2.0 hours
Adjusted Duration (Heavy Vehicle): 2.4 hours
Start: (26.735959, 83.229398)
End: (26.36353, 83.63741)

Welcome to the Journey Risk Management Study

Route Overview

The route spans approximately 78.76 kilometers, starting from the GIDA Industrial Area Phase 1 in Sahjanwa, Uttar Pradesh, to Ganiyari, Kampura via Kauriram. The journey takes around 1.95 hours under typical conditions for heavy vehicles loaded with hazardous materials. This route primarily traverses regional highways and rural roads, which may vary in infrastructure quality.

Typical Weather Conditions and Hazards

The region typically experiences a subtropical climate with heavy monsoon rains from June to September, which can lead to road flooding and reduced visibility. During summer, intense heat can affect road surfaces and vehicle conditions. Monitor weather forecasts for real-time updates on conditions such as fog during winters, which can decrease visibility.

Traffic Patterns

Congestion can occur during morning and evening rush hours, particularly near industrial areas and urban centers such as Gorakhpur. Rural stretches might have sporadic traffic but be wary of local market days which can affect traffic flow. Monitor local traffic reports for peak congestion areas.

Road Quality and Infrastructure

The road quality varies; urban segments are generally well-paved. However, rural areas may have narrow roads with potholes or uneven surfaces, especially after monsoon rains. Guardrails, signage, and lighting might be inadequate in some segments leading to potential safety hazards.

Alternative Routes for Emergencies

In the case of major congestion or hazards, an alternative route could be taking the NH27 to Azamgarh and then via State Highways, although this would extend the travel time. It's wise to have GPS or mapping services for real-time rerouting.

Local Regulations on Hazardous Materials

Transport of hazardous materials requires adherence to regional regulations which might include specific permits, routing requirements, and timing restrictions such as avoidance of school zones during operating hours. Ensure compliance with the Motor Vehicles Act provisions regarding hazardous cargoes.

Historical Incidents

There haven't been significant reports of incidents specifically involving heavy vehicles or hazardous materials on this route. However, general traffic incidents do occur, often due to vehicle breakdowns or poor road conditions during adverse weather.

Environmental Considerations

The route passes near agricultural and populated areas where any hazardous material incident could affect local communities and ecosystems. Strict protocols for vehicle maintenance and emergency procedures should be in place to mitigate risks.

Communication Coverage

Overall communication coverage is expected to be good near urban areas but can be spotty in rural segments. Using a reliable mobile network is recommended, and it might be prudent to carry emergency

communication equipment for dead zones.

Emergency Response Times

Emergency response times vary by segment. Urban locations near Gorakhpur may see faster response, within 30-45 minutes, because of proximity to services. Rural areas might experience longer delays, potentially exceeding one hour, due to distance and road conditions. Work closely with local emergency services for proper guidance.

Overall Risk Assessment

The primary risks on this route include adverse weather conditions, road infrastructure quality, and potential traffic congestion, especially in urban or market areas. Communication coverage is generally reliable but prepare for possible dead zones. By complying with regulations and maintaining clear emergency procedures, risks can be effectively managed. Drivers should remain vigilant and adaptive to real-time traffic and weather updates to ensure 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	0.14 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
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.13 km
9	Turn	High	26.70798, 83.33175	15 KM/Hr	18.54 km
10	Turn	Medium	26.53252, 83.41829	30 KM/Hr	41.47 km
1	U-Turn	High	26.5324639, 83.4183761	10 KM/Hr	41.47 km
11	Blind Spot	Blind Spot	26.53237, 83.41832	10 KM/Hr	41.79 km
12	Blind Spot	Blind Spot	26.53847, 83.41056	10 KM/Hr	42.78 km
13	Turn	Medium	26.53830, 83.41034	30 KM/Hr	42.85 km
14	Turn	Medium	26.52883, 83.41170	30 KM/Hr	43.75 km
15	Turn	Medium	26.52532, 83.41370	30 KM/Hr	44.28 km
16	Turn	Medium	26.49363, 83.46886	30 KM/Hr	51.08 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
17	Turn	Medium	26.49535, 83.47366	30 KM/Hr	51.60 km
18	Turn	High	26.49395, 83.47530	15 KM/Hr	51.83 km
19	Turn	Medium	26.49284, 83.47751	30 KM/Hr	52.05 km
20	Turn	Medium	26.48411, 83.48129	30 KM/Hr	53.15 km
21	Turn	Medium	26.48430, 83.48193	30 KM/Hr	53.20 km
22	Turn	Medium	26.48208, 83.49105	30 KM/Hr	54.15 km
23	Turn	Medium	26.48395, 83.49297	30 KM/Hr	54.42 km
24	Turn	Medium	26.47874, 83.51310	30 KM/Hr	56.51 km
25	Turn	Medium	26.47463, 83.52277	30 KM/Hr	57.57 km
26	Turn	Medium	26.46679, 83.55273	30 KM/Hr	61.74 km
27	Turn	Medium	26.46566, 83.55285	30 KM/Hr	61.88 km
28	Turn	Medium	26.46532, 83.55311	30 KM/Hr	61.93 km
29	Turn	Medium	26.46037, 83.56317	30 KM/Hr	63.00 km
30	Turn	Medium	26.45524, 83.59861	30 KM/Hr	66.74 km
31	Turn	Medium	26.44780, 83.60323	30 KM/Hr	67.68 km
32	Turn	High	26.44700, 83.60659	15 KM/Hr	68.04 km
33	Blind Spot	Blind Spot	26.44045, 83.60720	10 KM/Hr	68.75 km
34	Turn	High	26.44048, 83.60900	15 KM/Hr	68.96 km
35	Turn	Medium	26.38029, 83.62727	30 KM/Hr	75.88 km
36	Turn	Medium	26.36270, 83.63490	30 KM/Hr	78.04 km
37	Blind Spot	Blind Spot	26.36108, 83.63659	10 KM/Hr	78.27 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: 8.13 km

Coordinates: 26.74681, 83.25111



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 18.54 km

Coordinates: 26.70798, 83.33175



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 41.47 km

Coordinates: 26.53252, 83.41829



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 41.47 km

Coordinates: 26.5324639, 83.4183761



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 41.79 km

Coordinates: 26.53237, 83.41832



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 42.78 km

Coordinates: 26.53847, 83.41056



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 42.85 km

Coordinates: 26.53830, 83.41034



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 43.75 km

Coordinates: 26.52883, 83.41170



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 44.28 km

Coordinates: 26.52532, 83.41370



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.08 km

Coordinates: 26.49363, 83.46886



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.60 km

Coordinates: 26.49535, 83.47366



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 51.83 km

Coordinates: 26.49395, 83.47530



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 52.05 km

Coordinates: 26.49284, 83.47751



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 54.15 km

Coordinates: 26.48208, 83.49105



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 54.42 km

Coordinates: 26.48395, 83.49297



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 56.51 km

Coordinates: 26.47874, 83.51310



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 57.57 km

Coordinates: 26.47463, 83.52277



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 61.74 km

Coordinates: 26.46679, 83.55273



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 61.88 km

Coordinates: 26.46566, 83.55285



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 61.93 km

Coordinates: 26.46532, 83.55311



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 63.00 km

Coordinates: 26.46037, 83.56317



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 66.74 km

Coordinates: 26.45524, 83.59861



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 67.68 km

Coordinates: 26.44780, 83.60323



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 68.04 km

Coordinates: 26.44700, 83.60659



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 68.75 km

Coordinates: 26.44045, 83.60720



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 68.96 km

Coordinates: 26.44048, 83.60900



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 75.88 km

Coordinates: 26.38029, 83.62727



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 78.04 km

Coordinates: 26.36270, 83.63490



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 78.27 km

Coordinates: 26.36108, 83.63659

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