



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO PIPRA BAGHEL INDANE

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

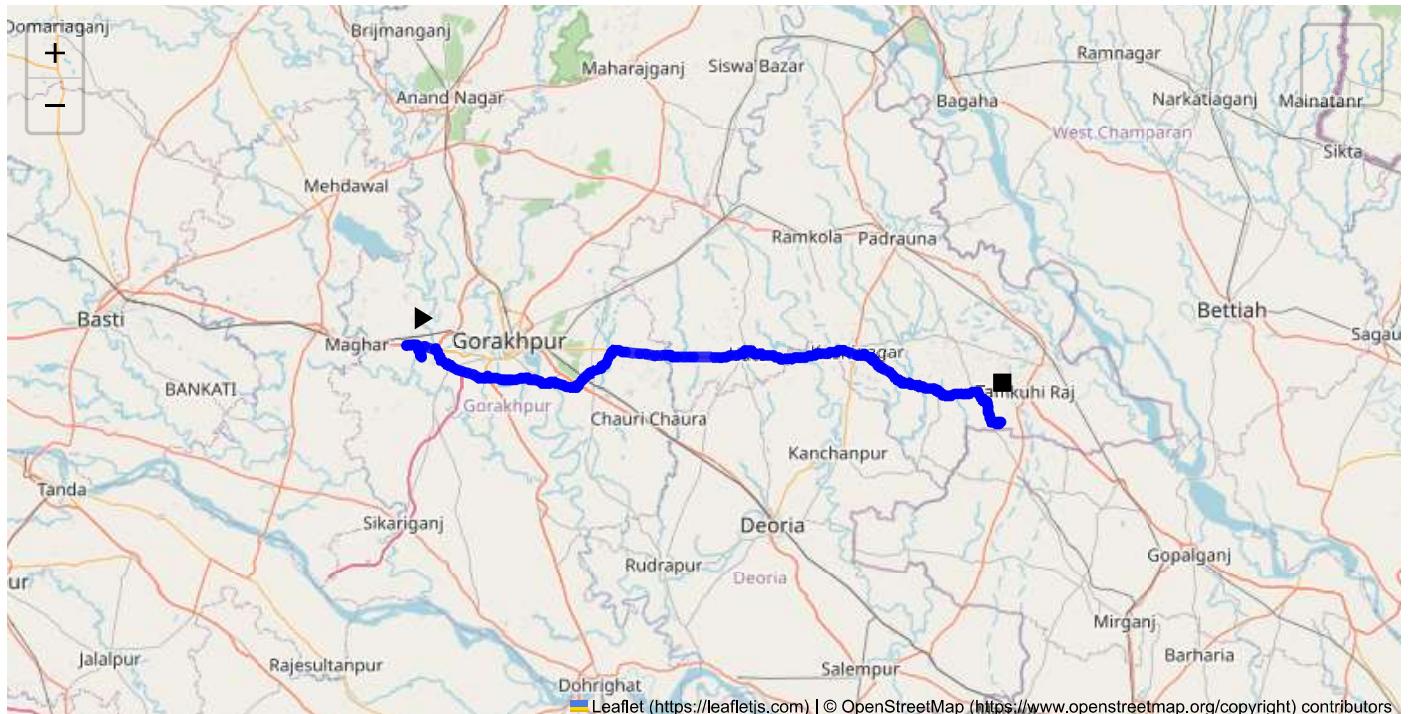
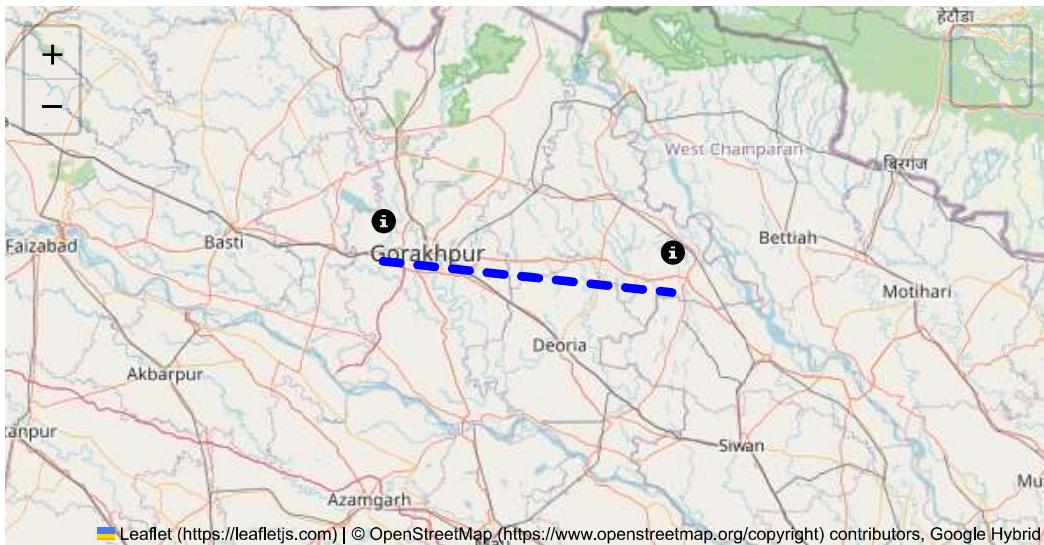
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 108.03 km
Estimated Duration: 2.1 hours
Adjusted Duration (Heavy Vehicle): 2.6 hours
Start: (26.735959, 83.229398)
End: (26.646069, 84.140977)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1, Sahjanwa to J4WR+9CW in Uttar Pradesh, India, spans approximately 108 kilometers and typically takes about 2.12 hours for heavy vehicles. The journey will

primarily involve traveling on state highways and potentially some national highways, depending on the exact road network.

Weather Conditions

- **Typical Weather:** Uttar Pradesh generally experiences three main seasons: summer (extremely hot), monsoon (heavy rains), and winter (cool and foggy conditions).
- **Potential Hazards:** During the summer, high temperatures could affect vehicle performance and driver fatigue. The monsoon season may lead to flooded roads and poor visibility. Winter fog may significantly reduce visibility, especially in the early mornings and late evenings.

Traffic Patterns

- **Peak Hours:** Typically, peak traffic hours are between 8-10 AM and 6-8 PM, especially near urban centers like Gorakhpur and regional hubs.
- **Congestion-Prone Areas:** Expect congestion near Gorakhpur and any major intersections or marketplaces along the route. Roadworks and local events can also temporarily affect traffic flow.

Road Quality and Infrastructure

- **State and National Highways:** Generally well-maintained but can have sections with potholes or under construction. Smaller rural roads may have uneven surfaces and limited signage.
- **Bridges and Overpasses:** Ensure the truck's weight and height comply with regulations as some bridges may have restrictions.

Alternative Routes

For emergencies, routes via smaller state highways and country roads might serve as alternatives, although these might increase travel time due to poorer road conditions.

Local Regulations on Hazardous Material Transport

- **Vehicle Permits:** Ensure correct permits for transporting hazardous materials.
- **Time Restrictions:** Some areas may have time restrictions for the movement of heavy or hazardous vehicles, especially through congested urban areas.
- **Safety Protocols:** Compliance with safety protocols such as securing loads and marking vehicles appropriately is mandatory.

Historical Incidents

- **Traffic Accidents:** There have been instances of heavy vehicle accidents on highways, often linked to poor road conditions or driver error.
- **Hazardous Material Spills:** Incidents involving spills are rare but can have significant environmental and safety impacts.

Environmental Considerations

- Sensitive Areas:** Watch for any forested regions or protected areas along the route where hunting or any form of pollution is strictly regulated.
- Water Bodies:** Special care should be taken to prevent contamination when near rivers or lakes.

Communication Coverage

- Mobile Networks:** Most major routes are well-covered by mobile networks, but there may be dead zones in rural or less populated areas.
- Emergency Contacts:** Ensure you have emergency contacts for police and medical facilities along the route.

Emergency Response Times

- Urban Areas:** Emergency services generally respond quicker in urban areas like Gorakhpur.
- Rural Areas:** Response times may be longer in rural sections due to distance and road conditions.

Overall Risk Assessment Summary

- Moderate to High Risk:** The route presents moderate to high risk primarily due to weather conditions, road quality, and traffic congestion. Monsoon and winter conditions can exacerbate these risks.
- Mitigation:** Preparedness for these risks through carefully planned routes, allowing for extra travel time, and adherence to safety regulations can mitigate potential hazards.

In sum, while the route is generally manageable, careful attention to weather updates, vehicle maintenance, and local traffic advisories will be crucial for safe transport of hazardous materials.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
2	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
3	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
4	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
5	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
6	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
7	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
8	Turn	High	26.68621, 84.10559	15 KM/Hr	101.03 km
9	Turn	Medium	26.68386, 84.10647	30 KM/Hr	101.34 km
10	Turn	Medium	26.67288, 84.11918	30 KM/Hr	103.13 km
11	Turn	Medium	26.66397, 84.12270	30 KM/Hr	104.19 km
12	Turn	Medium	26.65095, 84.12473	30 KM/Hr	105.63 km
13	Turn	High	26.64453, 84.12828	15 KM/Hr	106.49 km
14	Turn	Medium	26.64417, 84.12969	30 KM/Hr	106.60 km
15	Turn	High	26.64404, 84.12979	15 KM/Hr	106.67 km
16	Turn	High	26.64312, 84.13808	15 KM/Hr	107.49 km

Emergency Locations

Found: 2 hospital(s)

	type	name		coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Star Hospital, Kushinagar		26.6831917, 84.0478785	30 km/h	Medium	95.17 km
1	hospital	Pawanagar Mahavir Hospital and Research Center		26.6832018, 84.0485296	30 km/h	Medium	95.17 km

Crowded Spots

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



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 4.27 km**Coordinates:** 26.75377, 83.20465

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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: 101.03 km

Coordinates: 26.68621, 84.10559



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 107.49 km

Coordinates: 26.64312, 84.13808

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