



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO KUNDAULI INDANE GRAM

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

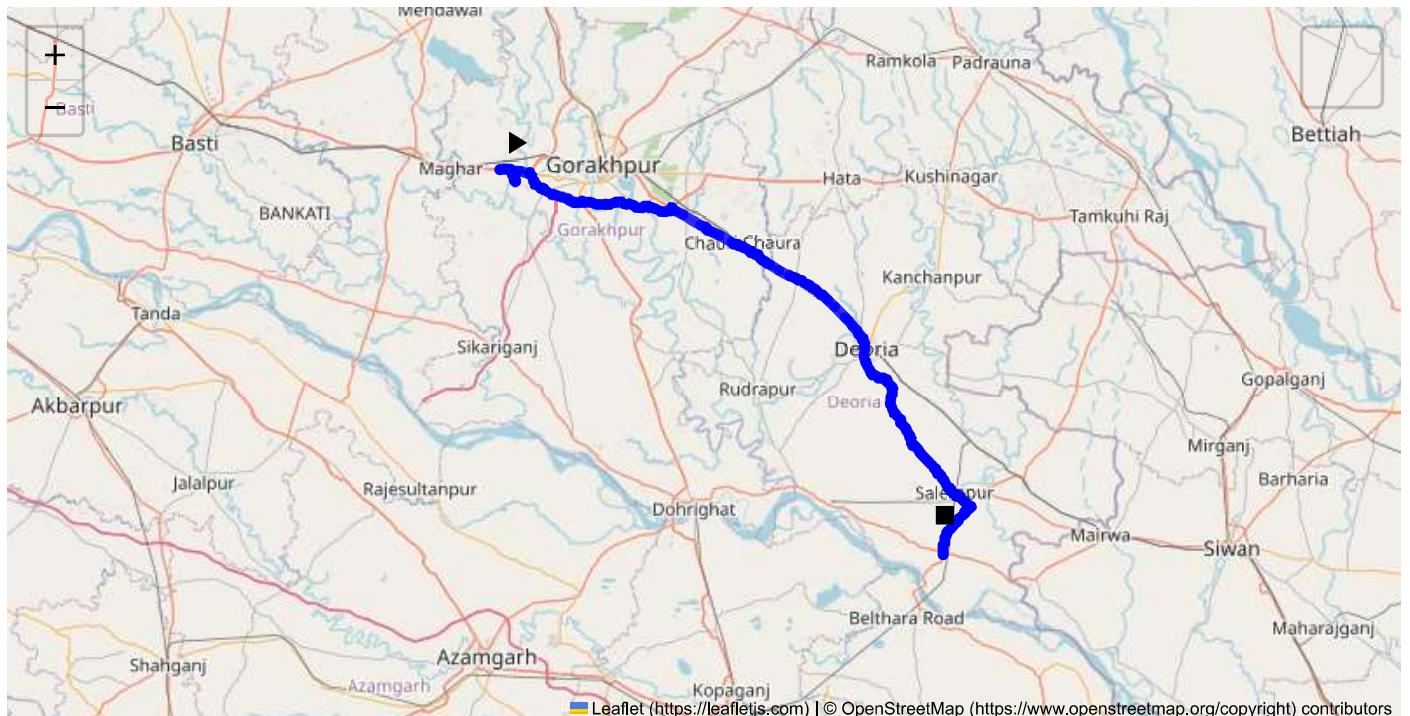
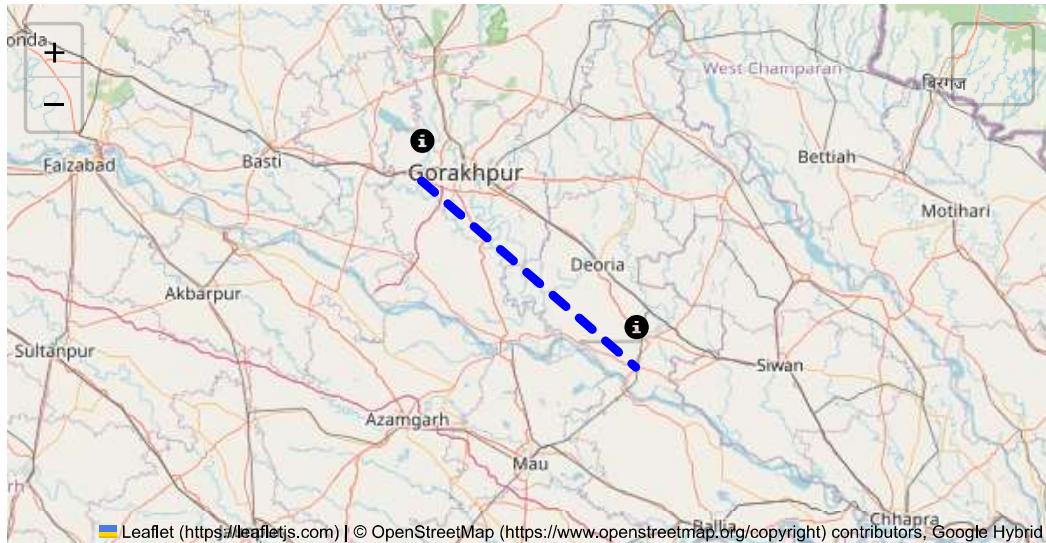
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 112.56 km
Estimated Duration: 2.5 hours
Adjusted Duration (Heavy Vehicle): 3.1 hours
Start: (26.735959, 83.229398)
End: (26.208846, 83.902827)

Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map

The route from P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa to 6W53+P24, Salempur Bhagalpur Road covers approximately 112.56 kilometers. Typically, this would involve traveling predominantly along state highways and district roads. The route passes through some densely populated areas as well as rural stretches, with the possibility of transitioning from urban to more rural road conditions.

2. Typical Weather Conditions and Potential Weather-Related Hazards

This region in Uttar Pradesh experiences a subtropical climate with distinct summer, monsoon, and winter seasons:

- **Summer (March to June):** Hot and dry conditions, with temperatures soaring above 40°C.
- **Monsoon (July to September):** Heavy rainfall can lead to waterlogging and reduced road visibility. Risk of landslides in hilly sections and flooding in low-lying areas.
- **Winter (November to February):** Milder temperatures, but fog is common and can severely reduce visibility, especially in the early mornings and evenings.

3. Analysis of Traffic Patterns

- **Peak Hours:** Typically morning (8 AM - 10 AM) and evening (5 PM - 7 PM).
- **Congestion-Prone Areas:** Urban centers like Gorakhpur and approaching district headquarters, where local traffic is higher.

4. Assessment of Road Quality and Infrastructure

- **State Highways:** Generally good quality, though some sections may be under maintenance or repair.
- **District Roads:** Variable quality, with potential for potholes and unpaved segments, especially after monsoon rains.
- **Bridges and Flyovers:** Critical structures should be checked for load-bearing capacity and maintenance status.

5. Suggestions for Alternative Routes

In emergencies, consider using alternate state highways or bypass roads around major towns to avoid congestion and ensure faster travel. Local agricultural roads may provide additional options but check for suitability for heavy vehicles.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Permits Required:** Specific permits are needed for hazardous material transport.
- **Time Restrictions:** Often restricted during daytime hours in congested urban centers.
- **Safety Measures:** Compliance with safety norms and signage displaying the type of hazardous materials being transported is required.

7. Overview of Historical Incidents

No specific historical data available on incidents involving hazardous materials on this exact route. However, general reports suggest occasional accidents due to road quality issues and adverse weather conditions, particularly during the monsoon.

8. Environmental Considerations and Sensitive Areas

- Forest Areas:** Any nearby protected areas require regulated transit and noise control.
- Water Bodies:** Ensure no spillage of hazardous materials near rivers, canals, and ponds commonly found along the way.

9. Analysis of Communication Coverage

The route generally has good communication coverage in urban and semi-urban areas, but there may be dead zones in rural parts, particularly where the terrain becomes more varied and remote.

10. Estimated Emergency Response Times

- Urban Centers:** Approximately 15-30 minutes due to proximity to emergency services.
- Rural Areas:** Response times can vary significantly, ranging from 45 minutes to over an hour depending on accessibility and communication capabilities.

11. (Numbering Error: 12) Overall Summary of Risk Assessment

The route presents a medium risk level for transporting hazardous materials primarily due to the quality of road infrastructure and weather-related hazards. Adequate preparation for communication issues and awareness of local traffic patterns and regulations are essential for aiming to minimize risks. Regular updates on weather conditions and road maintenance status should be monitored closely to mitigate potential hazards.

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

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
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	Medium	26.69741, 83.47552	30 KM/Hr	33.25 km
10	Blind Spot	Blind Spot	26.69844, 83.47473	10 KM/Hr	33.41 km
1	U-Turn	High	26.698439, 83.4747268	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	Turn	Medium	26.63761, 83.59795	30 KM/Hr	47.46 km
14	Turn	Medium	26.29409, 83.92225	30 KM/Hr	100.12 km
15	Turn	Medium	26.29365, 83.92376	30 KM/Hr	100.37 km
16	Blind Spot	Blind Spot	26.27606, 83.94517	10 KM/Hr	103.38 km
17	Turn	Medium	26.24561, 83.91559	30 KM/Hr	107.73 km
18	Turn	Medium	26.21768, 83.90127	30 KM/Hr	111.15 km
19	Turn	Medium	26.21160, 83.90290	30 KM/Hr	112.04 km
20	Blind Spot	Blind Spot	26.20895, 83.90250	10 KM/Hr	112.36 km

Emergency Locations

Found: 5 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.99 km
2	hospital	Deoria Eye Hospital	26.5011867, 83.7750448	30 km/h	Medium	71.44 km
3	hospital	Aditya Hospital, Deoria	26.501938, 83.774963	30 km/h	Medium	71.44 km
5	hospital	K D Hospital, Deoria	26.4826171, 83.7821031	30 km/h	Medium	73.55 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
4	hospital	Sanjeevani Hospital, Deoria	26.4796329, 83.780432	30 km/h	Medium	74.01 km

Crowded Spots

Found: 1 college(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	college	BRD PG college	26.5161416, 83.7720277	30 km/h	Medium	69.63 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: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 33.25 km
Coordinates: 26.69741, 83.47552



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 33.41 km**Coordinates:** 26.69844, 83.47473

Google

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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: 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: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.46 km

Coordinates: 26.63761, 83.59795



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 100.12 km

Coordinates: 26.29409, 83.92225



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 100.37 km

Coordinates: 26.29365, 83.92376



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 103.38 km

Coordinates: 26.27606, 83.94517



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 107.73 km

Coordinates: 26.24561, 83.91559



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 111.15 km

Coordinates: 26.21768, 83.90127



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 112.04 km

Coordinates: 26.21160, 83.90290



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 112.36 km

Coordinates: 26.20895, 83.90250

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