



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to MAA SARYU INDANE GAS

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

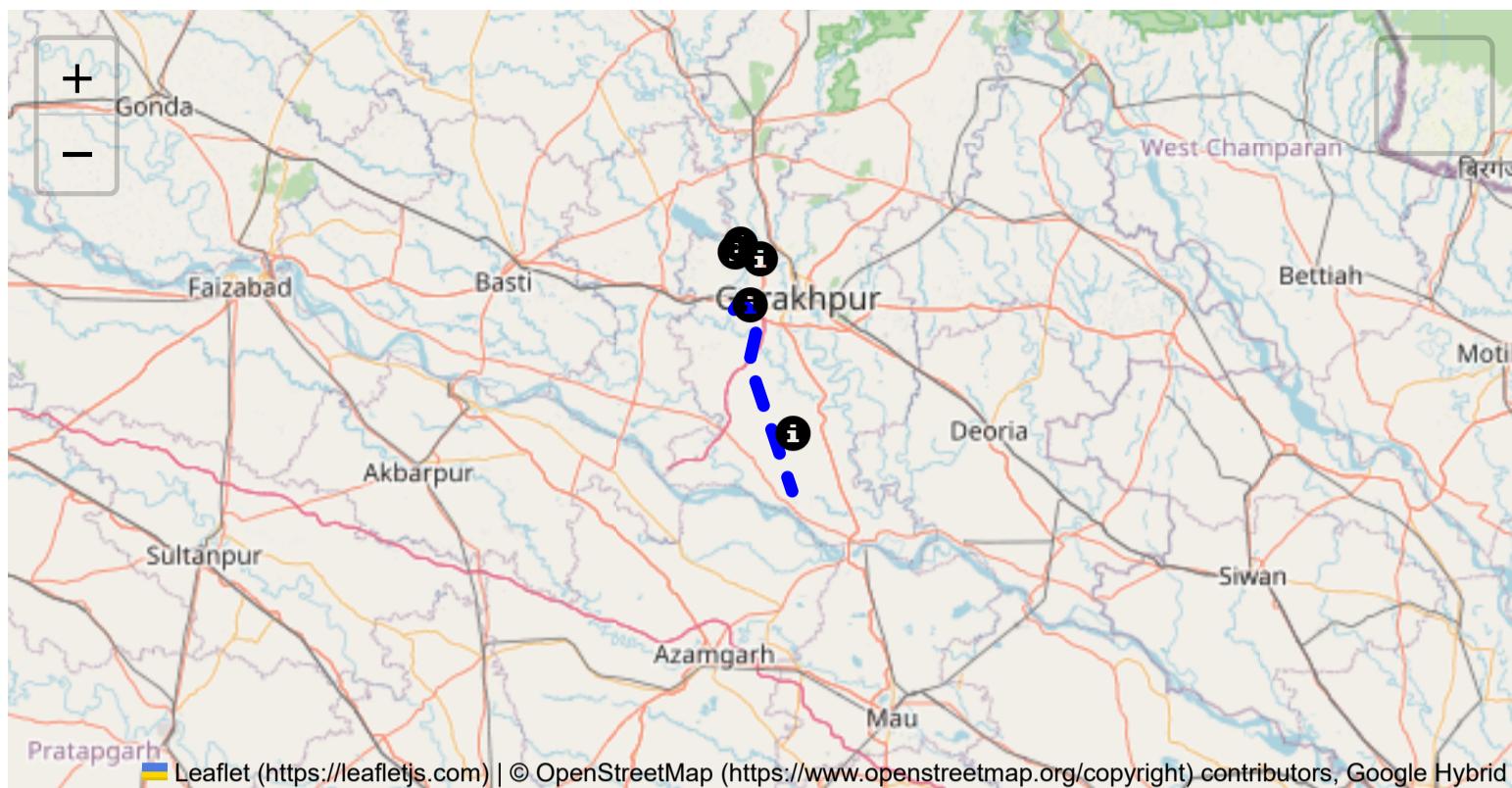
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 58.09 km
Estimated Duration: 1.7 hours
Adjusted Duration (Heavy Vehicle): 2.1 hours
Start: (26.735959, 83.229398)
End: (26.3831249, 83.354394)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map:

The designated route from P6PH+9Q GIDA Industrial Area to 99M3+6Q Bhaluni consists of multiple segments through a mix of industrial, rural, and semi-urban areas. Key waypoints include GIDA Industrial Area, Khanipur, and Doharia Basdeo. The route is predominantly a combination of state highways and local roads.

2. Weather Conditions and Potential Hazards:

Uttar Pradesh experiences a humid subtropical climate with extreme temperatures. The primary weather-related hazard includes monsoons between June and September that bring heavy rainfall, potentially causing road flooding and reducing visibility. Fog is a consideration during the winter months, impacting visibility significantly.

3. Traffic Patterns and Congestion:

The route experiences varying traffic patterns:

- **Morning and evening peaks:** Congestion is higher during work commute times, particularly around industrial zones like GIDA.
- **Markets and school areas:** Expect slow-moving traffic near local markets and schools.
- **Congestion-prone areas:** Areas in and around Sahjanwa and Khanipur can experience bottlenecks due to narrow roads and local traffic.

4. Road Quality and Infrastructure:

The road quality varies:

- **State highways:** Generally well-maintained, but prone to potholes in monsoon.
- **Local roads:** Some stretches may be narrow and less maintained, requiring caution for heavy vehicles.
- **Signage:** Pay attention to insufficient signage, especially near rural junctions.

5. Alternative Routes for Emergencies:

- **Via NH27:** A major highway offering alternative routes in emergencies, bypassing local traffic but may increase the distance traveled.
- **Route diversions:** Familiarize with local diversions around construction areas, primarily during monsoon-related repairs.

6. Local Regulations on Hazardous Material Transport:

- Permit requirements for transporting hazardous materials must be adhered to, especially over state-managed roads.
- Compliance with the Central Motor Vehicle Rules regarding signage, speed, and escort vehicles is mandatory.

7. Historical Incidents:

- The area has seen isolated incidents with heavy vehicles, predominantly attributed to driver error and road conditions. Proper adherence to speed limits and safety checks can help mitigate risks.

8. Environmental Considerations and Sensitive Areas:

- Industrial runoff and agricultural zones can be sensitive areas requiring adherence to environmental regulations.
- Ensure no spilling or leakage of hazardous materials in proximity to agricultural fields.

9. Communication Coverage:

- Major parts of the route enjoy relatively stable cellular coverage.
- Potential dead zones could be encountered in rural stretches; pre-plan communication check-ins.

10. Emergency Response Times:

- Urban sectors near Sahjanwa and GIDA:** Faster due to proximity to services—estimated 20-30 minutes.
- Rural areas near Doharia and Khanipur:** Slower response times, potentially 45-60 minutes, given limited emergency facilities.

11. Overall Summary of Risk Assessment:

The predominantly rural setting of the route presents challenges such as poor road maintenance in some areas, limited emergency response, and potential communication dead zones. Weather conditions, especially during monsoons and winters, add to the risks. Ensuring vehicle readiness, following driving schedules to avoid peak traffic, and thorough local knowledge of regulations will significantly aid in safe transportation of hazardous materials. Emergency preparedness and route flexibility remain critical components of risk management for this journey.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 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
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	26.72312, 83.27632	15 KM/Hr	12.73 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
9	Turn	High	26.72324, 83.27640	15 KM/Hr	12.77 km
10	Blind Spot	Blind Spot	26.72125, 83.28059	10 KM/Hr	13.21 km
11	Turn	Medium	26.69724, 83.26010	30 KM/Hr	16.66 km
12	Turn	High	26.66804, 83.24781	15 KM/Hr	20.15 km
13	Turn	Medium	26.66699, 83.24879	30 KM/Hr	20.39 km
14	Turn	Medium	26.66405, 83.24865	30 KM/Hr	20.71 km
15	Turn	Medium	26.66335, 83.24775	30 KM/Hr	20.80 km
16	Turn	Medium	26.64078, 83.25517	30 KM/Hr	23.48 km
17	Blind Spot	Blind Spot	26.63441, 83.25740	10 KM/Hr	24.19 km
19	Turn	High	26.63441, 83.25740	15 KM/Hr	24.19 km
18	Blind Spot	Blind Spot	26.63458, 83.25753	10 KM/Hr	24.26 km
20	Turn	Medium	26.57568, 83.28377	30 KM/Hr	31.28 km
21	Turn	Medium	26.48507, 83.29296	30 KM/Hr	41.94 km
22	Turn	Medium	26.43780, 83.30618	30 KM/Hr	47.41 km
23	Turn	High	26.39167, 83.31852	15 KM/Hr	52.74 km
24	Blind Spot	Blind Spot	26.39150, 83.32187	10 KM/Hr	53.14 km
25	Turn	Medium	26.39174, 83.32184	30 KM/Hr	53.18 km
26	Turn	Medium	26.39506, 83.32319	30 KM/Hr	53.55 km
27	Turn	High	26.39557, 83.32377	15 KM/Hr	53.63 km
28	Blind Spot	Blind Spot	26.39509, 83.32580	10 KM/Hr	53.82 km
29	Turn	High	26.39495, 83.32576	15 KM/Hr	53.89 km
30	Turn	High	26.39469, 83.32633	15 KM/Hr	53.95 km
31	Turn	High	26.39453, 83.32806	15 KM/Hr	54.11 km
32	Turn	Medium	26.39530, 83.32855	30 KM/Hr	54.23 km
33	Turn	High	26.39603, 83.32880	15 KM/Hr	54.30 km
34	Turn	Medium	26.39356, 83.33756	30 KM/Hr	55.23 km
35	Turn	High	26.39407, 83.33794	15 KM/Hr	55.28 km
36	Turn	Medium	26.39423, 83.33890	30 KM/Hr	55.39 km
37	Turn	High	26.39447, 83.33911	15 KM/Hr	55.43 km
38	Turn	High	26.39277, 83.34313	15 KM/Hr	55.88 km
39	Turn	Medium	26.39265, 83.34313	30 KM/Hr	55.90 km
40	Turn	Medium	26.39254, 83.34323	30 KM/Hr	55.91 km
41	Turn	High	26.39217, 83.34433	15 KM/Hr	56.03 km
42	Turn	Medium	26.39239, 83.34457	30 KM/Hr	56.06 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
43	Turn	Medium	26.39252, 83.34508	30 KM/Hr	56.10 km
44	Turn	High	26.39121, 83.34927	15 KM/Hr	56.51 km
45	Turn	High	26.39151, 83.34946	15 KM/Hr	56.59 km
46	Turn	High	26.39084, 83.35222	15 KM/Hr	56.80 km
47	Turn	High	26.38289, 83.35254	15 KM/Hr	57.62 km
48	Blind Spot	Blind Spot	26.38283, 83.35306	10 KM/Hr	57.81 km
49	Turn	High	26.38253, 83.35303	15 KM/Hr	57.86 km
50	Turn	High	26.38245, 83.35372	15 KM/Hr	57.92 km
51	Turn	High	26.38271, 83.35382	15 KM/Hr	57.95 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Government. hospital khajni	26.6652993, 83.2497154	30 km/h	Medium	20.51 km

Crowded Spots

Route Photos of Risky Spots



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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.16 km

Coordinates: 26.75126, 83.22476



Google

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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



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 12.73 km

Coordinates: 26.72312, 83.27632



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 12.77 km

Coordinates: 26.72324, 83.27640



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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 13.21 km

Coordinates: 26.72125, 83.28059



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 16.66 km

Coordinates: 26.69724, 83.26010



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 20.15 km

Coordinates: 26.66804, 83.24781



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 20.39 km

Coordinates: 26.66699, 83.24879



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 20.80 km

Coordinates: 26.66335, 83.24775



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 23.48 km

Coordinates: 26.64078, 83.25517



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 24.19 km

Coordinates: 26.63441, 83.25740



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.19 km

Coordinates: 26.63441, 83.25740



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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 24.26 km

Coordinates: 26.63458, 83.25753



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 31.28 km

Coordinates: 26.57568, 83.28377



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 41.94 km

Coordinates: 26.48507, 83.29296



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.41 km

Coordinates: 26.43780, 83.30618



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 52.74 km

Coordinates: 26.39167, 83.31852



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 56.80 km

Coordinates: 26.39084, 83.35222



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 57.62 km

Coordinates: 26.38289, 83.35254



Google

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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 57.81 km

Coordinates: 26.38283, 83.35306



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 57.86 km

Coordinates: 26.38253, 83.35303

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