



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO SHRI VATSAL INDANE G

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

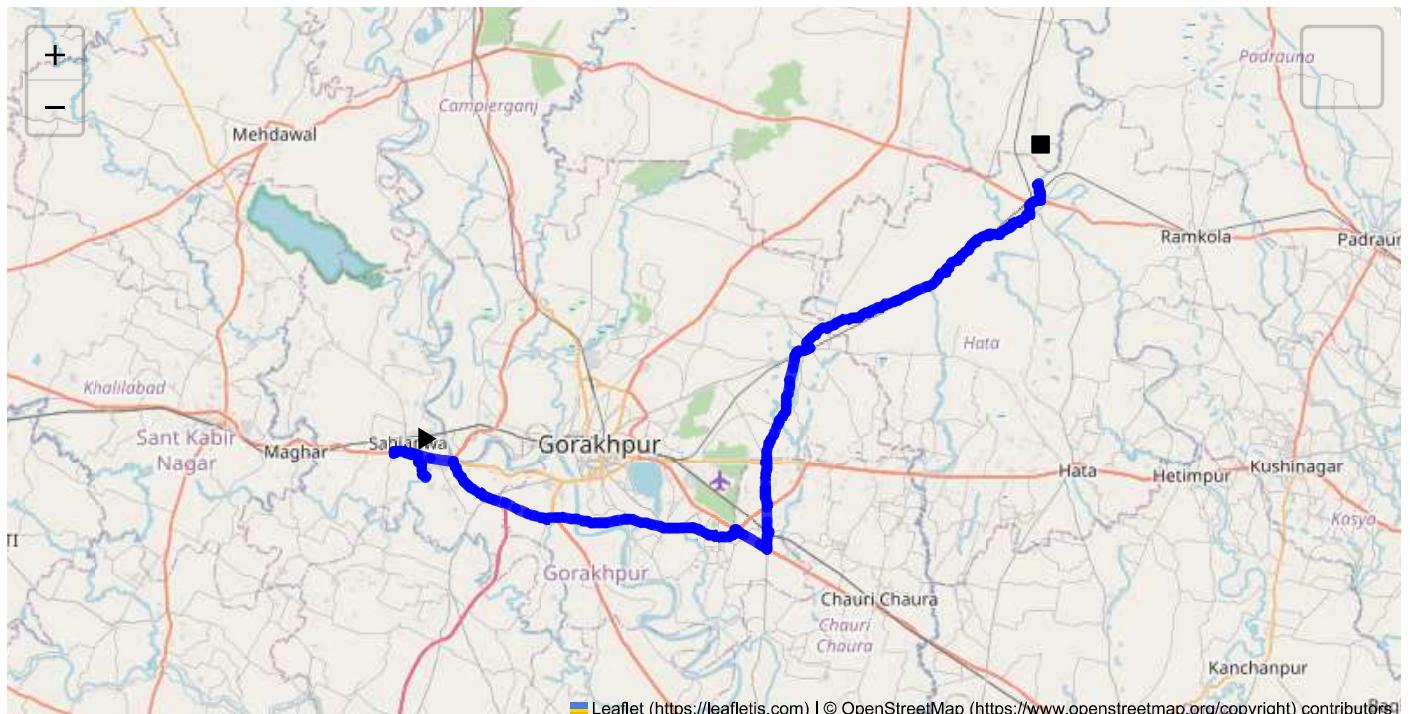
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 77.71 km
Estimated Duration: 2.0 hours
Adjusted Duration (Heavy Vehicle): 2.5 hours
Start: (26.735959, 83.229398)
End: (26.942399, 83.712545)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map:

The route spans approximately 77.71 kilometers, beginning at GIDA Industrial Area in Sahjanwa, traveling through Gorakhpur - Deoria Highway, Rampur, and then Pipraich Kushmahi Road, before reaching Kotwa.

This path primarily moves through industrial and semi-urban areas, with a mix of highways and local roads.

2. Typical Weather Conditions and Potential Weather-Related Hazards:

Uttar Pradesh experiences a subtropical climate, with hot summers, a monsoon season, and cold winters. The two major weather-related hazards are:

- **Monsoon Season (June-September):** Heavy rainfall can cause flooding and waterlogging, particularly on local roads.
- **Foggy Winters (December-January):** Dense fog can reduce visibility, especially during early morning and late-night hours.

3. Analysis of Traffic Patterns:

- **Peak Hours:** Traffic is generally heavier during morning (8:00-10:00 AM) and evening (5:00-7:00 PM) rush hours, especially near Gorakhpur and major intersections.
- **Congestion-Prone Areas:** Expect slowdowns around Gorakhpur, particularly on the Gorakhpur - Deoria Highway due to commercial activities and high vehicle volume.

4. Assessment of Road Quality and Infrastructure:

- **Road Quality:** Major highways are generally in good condition, though some stretches of local roads, particularly Pipraich Kushmahi Rd, may have potholes or uneven surfaces. Regular maintenance is not always consistent.
- **Infrastructure:** Limited roadside amenities in rural stretches; service stations and rest areas are sparse outside of urban centers.

5. Suggestions for Alternative Routes for Emergencies:

In case of severe weather or roadblocks:

- Consider taking NH 27 as an alternate highway route for parts of the journey.
- Local country roads can be used to bypass short obstructions but should be checked for flood conditions during monsoons.

6. Summary of Local Regulations Affecting Hazardous Material Transport:

- **Transport Permit:** Ensure compliance with Uttar Pradesh travel permits for hazardous materials.
- **Time Restrictions:** Some routes may have time-bound restrictions on heavy vehicles, typically during rush hours in urban areas.
- **Safety Protocols:** Adherence to safety markings and placards as per regional safety guidelines is mandatory.

7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials:

- Occasional road accidents involving heavy vehicles have been reported, typically due to driver fatigue or poor road conditions.

- No significant hazardous material spill incidents noted recently, but vigilance is required.

8. Environmental Considerations and Sensitive Areas:

- Forested Areas:** Minimize noise and emissions in rural segments near forested patches.
- Water Bodies:** Some sections may run adjacent to rivers or lakes; extra caution is advised to avoid contaminating water sources.

9. Analysis of Communication Coverage, Noting Potential Dead Zones:

- Urban Centers:** Generally good mobile and data coverage.
- Rural Areas:** Potential dead zones may occur in sparsely populated stretches between Rampur and Sighauli, potentially limiting communication access.

10. Estimated Emergency Response Times for Different Route Segments:

- Urban Areas:** Quick response times, approximately 15-20 minutes.
- Rural Areas:** Slower response times, potentially 30-45 minutes due to lesser proximity to emergency services.

11. Overall Summary of Risk Assessment:

While the route is largely manageable, key risks include variable weather conditions, road quality, and potential communication gaps in rural segments. Drivers should be prepared with emergency plans, particularly during adverse weather conditions, and maintain strict adherence to safety and local regulatory requirements. Ensuring thorough vehicle checks and equipping trucks with necessary communication devices are recommended preventive measures to mitigate risks.

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	Medium	26.69741, 83.47552	30 KM/Hr	33.25 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
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	Blind Spot	Blind Spot	26.68607, 83.49881	10 KM/Hr	36.11 km
13	Turn	Medium	26.69511, 83.49893	30 KM/Hr	37.09 km
14	Turn	High	26.69722, 83.50035	15 KM/Hr	37.43 km
15	Turn	Medium	26.69913, 83.49898	30 KM/Hr	37.70 km
16	Blind Spot	Blind Spot	26.74662, 83.49914	10 KM/Hr	42.99 km
17	Blind Spot	Blind Spot	26.74659, 83.49782	10 KM/Hr	43.10 km
18	Turn	Medium	26.78331, 83.51396	30 KM/Hr	47.53 km
19	Turn	High	26.82411, 83.52193	15 KM/Hr	52.17 km
20	Turn	Medium	26.82505, 83.52428	30 KM/Hr	52.46 km
21	Turn	Medium	26.82476, 83.52706	30 KM/Hr	52.71 km
22	Blind Spot	Blind Spot	26.82741, 83.53262	10 KM/Hr	53.37 km
23	Turn	High	26.82760, 83.53150	15 KM/Hr	53.49 km
24	Turn	High	26.83139, 83.52997	15 KM/Hr	53.94 km
25	Turn	Medium	26.88048, 83.63813	30 KM/Hr	66.16 km
26	Turn	Medium	26.88064, 83.63915	30 KM/Hr	66.31 km
27	Turn	Medium	26.90718, 83.67550	30 KM/Hr	71.10 km
28	Turn	High	26.90703, 83.67575	15 KM/Hr	71.14 km
29	Turn	Medium	26.91435, 83.69301	30 KM/Hr	73.13 km
30	Turn	High	26.92140, 83.70568	15 KM/Hr	74.55 km
31	Blind Spot	Blind Spot	26.92872, 83.70591	10 KM/Hr	75.44 km
32	Turn	High	26.93114, 83.71387	15 KM/Hr	76.26 km
33	Turn	Medium	26.93631, 83.71420	30 KM/Hr	76.83 km

Emergency Locations

Found: 1 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

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



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: U-Turn**Risk Level:** High**Speed Limit:** 10 KM/Hr**Distance from Start:** 33.41 km**Coordinates:** 26.698439, 83.4747268

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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



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 33.43 km**Coordinates:** 26.69857, 83.47481

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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 36.11 km**Coordinates:** 26.68607, 83.49881



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 37.09 km

Coordinates: 26.69511, 83.49893



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 37.43 km

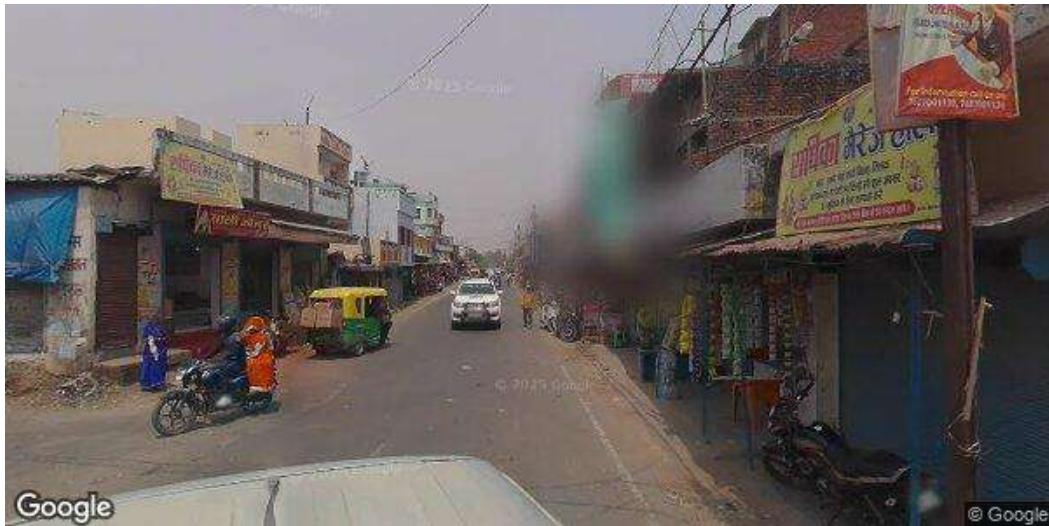
Coordinates: 26.69722, 83.50035



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 37.70 km
Coordinates: 26.69913, 83.49898



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 42.99 km
Coordinates: 26.74662, 83.49914



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 43.10 km**Coordinates:** 26.74659, 83.49782

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 47.53 km**Coordinates:** 26.78331, 83.51396



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Risk Type: Turn**Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 52.17 km****Coordinates: 26.82411, 83.52193**

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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 52.46 km****Coordinates: 26.82505, 83.52428**



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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 52.71 km****Coordinates: 26.82476, 83.52706**

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Risk Type: Blind Spot**Risk Level: Blind Spot****Speed Limit: 10 KM/Hr****Distance from Start: 53.37 km****Coordinates: 26.82741, 83.53262**



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 53.49 km**Coordinates:** 26.82760, 83.53150

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 53.94 km**Coordinates:** 26.83139, 83.52997



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 71.10 km

Coordinates: 26.90718, 83.67550



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 71.14 km

Coordinates: 26.90703, 83.67575



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 73.13 km

Coordinates: 26.91435, 83.69301



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 74.55 km

Coordinates: 26.92140, 83.70568



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 75.44 km**Coordinates:** 26.92872, 83.70591

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