



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to SABIHA INDANE GRAMIN VITRAK

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

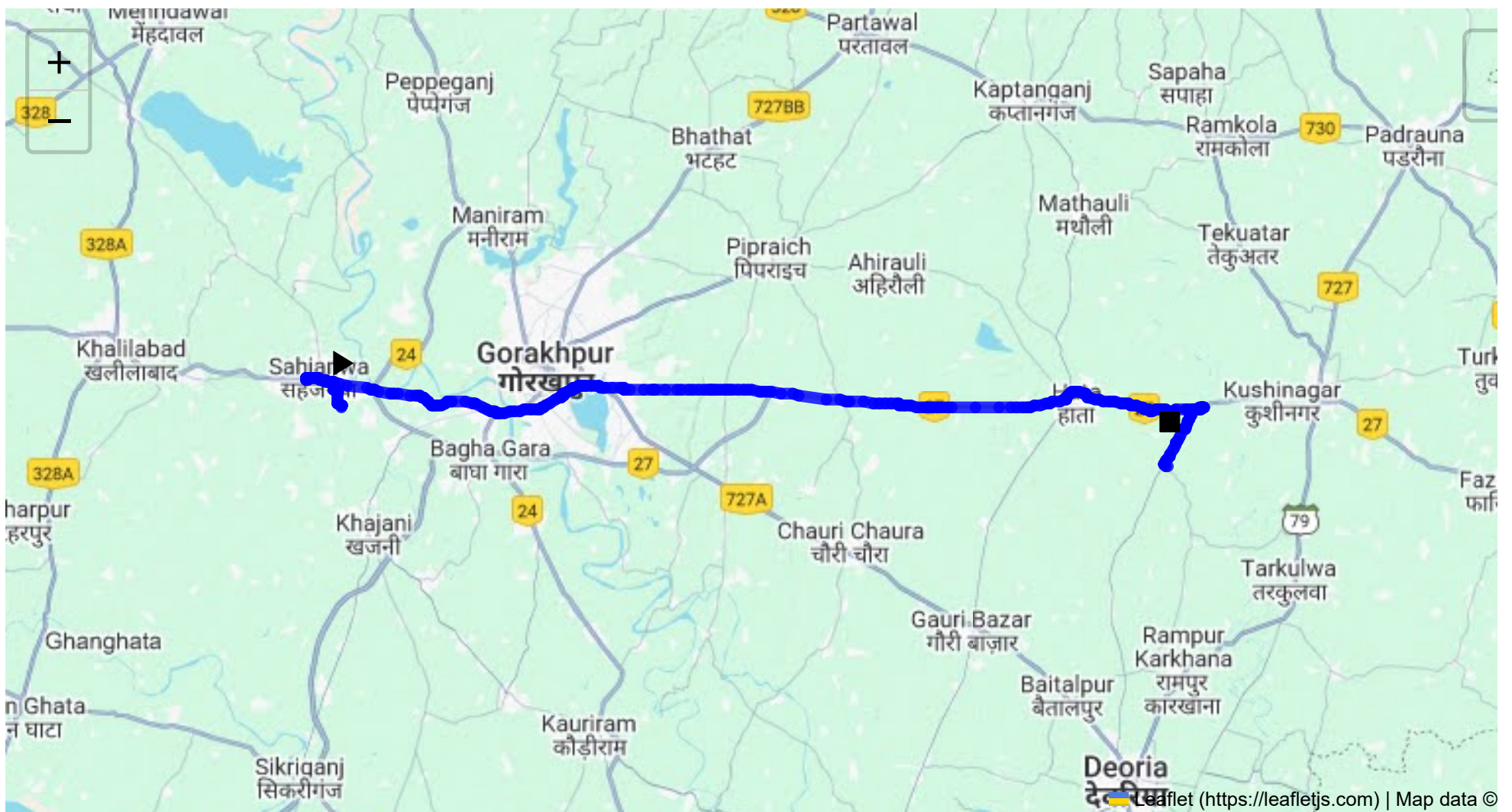
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 75.31 km
Estimated Duration: 1.9 hours
Adjusted Duration (Heavy Vehicle): 2.4 hours
Start: (26.735959, 83.229398)
End: (26.699136, 83.807355)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route spans approximately 75.31 kilometers and comprises several key transit points: starting at GIDA Industrial Area Phase 1 in Sahjanwa, passing through Khet in Shambhu Chak, Mohaddipur in Gorakhpur, and concluding at Deoria. This route follows primary and secondary highways, providing relatively direct access between the industrial and receiving areas.

2. Typical Weather Conditions and Potential Weather-Related Hazards

The region experiences a humid subtropical climate with three distinct seasons: hot summers, a monsoon season, and mild winters. Between June and September, monsoon rains can result in waterlogging and reduced visibility, potentially causing delays and increasing accident risks. Fog is a frequent hazard during the winter months, particularly from December to January, which can hinder visibility.

3. Analysis of Traffic Patterns

- **Sahjanwa to Shambhu Chak:** This segment is usually less congested, except during local market days.
- **Shambhu Chak to Mohaddipur:** Traffic congestion is common near Gorakhpur city limits, especially during morning (8-10 AM) and evening (5-7 PM) peak hours.
- **Mohaddipur to Deoria:** Increasing congestion is observable as you approach Deoria. Expect occasional traffic due to local events and markets.

4. Assessment of Road Quality and Infrastructure

The primary roads between these destinations are generally in moderate condition but may have potholes and uneven surfaces in some rural stretches. Infrastructure such as signage and road lighting varies, with better conditions observed near urban centers like Gorakhpur.

5. Suggestions for Alternative Routes for Emergencies

In the event of severe congestion or roadblocks, outline the following alternatives:

- For Sahjanwa to Shambhu Chak, use local roads through smaller towns.
- For reaching Deoria, one may consider approaching from the north via NH29 if traffic issues persist on SH1.

6. Summary of Local Regulations Affecting Hazardous Material Transport

In Uttar Pradesh, transporting hazardous materials requires adherence to strict regulations, including proper labeling, vehicle permits, and driver certification. Night transportation is usually discouraged for hazardous goods, emphasizing day-time travel for safety reasons.

7. Overview of Historical Incidents

Records indicate that road incidents involving heavy vehicles frequently occur in this region, mainly due to overloading and poor vehicle maintenance. Specific data on incidents involving hazardous materials is sparse, but accidents are more frequent near Gorakhpur.

8. Environmental Considerations and Sensitive Areas

- The route includes agricultural zones, particularly around Shambhu Chak. Accidental spills could harm soil and crop health.
- Awareness is needed near any proximate water bodies along the route to prevent contamination from hazardous materials.

9. Analysis of Communication Coverage

The cellular network coverage is generally reliable throughout major parts of the route except in rural stretches between towns where it becomes intermittent, potentially hindering communication during emergencies.

10. Estimated Emergency Response Times

- **Sahjanwa to Shambhu Chak:** Estimated 20-30 minutes response time due to proximity to urban centers.
- **Shambhu Chak to Mohaddipur:** 40-50 minutes, given denser traffic and rural transit.
- **Mohaddipur to Deoria:** 30-40 minutes, slower owing to congestion near Deoria.

12. Overall Summary of Risk Assessment

The route presents moderate risks due to congestion, variable weather conditions, and the quality of rural roads. Extra caution is recommended during monsoon and winter months due to weather-related challenges. Adherence to local traffic laws and regulations concerning hazardous materials is crucial for minimizing risks. Finally, drivers should be alert to the rural stretches where communication signals may be weak, impacting coordination during emergencies.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
4	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 km
5	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
6	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
7	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
8	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.28 km
9	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 km
10	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
11	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
12	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
13	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.95 km
1	Roundabout	High	26.74441, 83.38540	15 KM/Hr	23.18 km
14	Blind Spot	Blind Spot	26.74956, 83.39708	10 KM/Hr	24.42 km
2	U-Turn	High	26.7495584, 83.39708019999999	10 KM/Hr	24.42 km
15	Turn	High	26.74947, 83.39710	15 KM/Hr	24.50 km
16	Blind Spot	Blind Spot	26.74694, 83.39063	10 KM/Hr	25.15 km
3	U-Turn	High	26.7469436, 83.3906251	10 KM/Hr	25.15 km
17	Turn	High	26.74702, 83.39060	15 KM/Hr	25.22 km
18	Turn	High	26.74981, 83.39758	15 KM/Hr	25.97 km
19	Turn	Medium	26.74741, 83.42766	30 KM/Hr	28.99 km
20	Turn	Medium	26.74708, 83.44767	30 KM/Hr	30.91 km
21	Turn	Medium	26.74703, 83.44774	30 KM/Hr	30.98 km
22	Turn	Medium	26.73620, 83.83250	30 KM/Hr	69.83 km
23	Turn	Medium	26.73618, 83.83266	30 KM/Hr	69.85 km
24	Turn	High	26.73581, 83.83288	15 KM/Hr	69.90 km
25	Turn	Medium	26.73517, 83.83086	30 KM/Hr	70.11 km
26	Turn	Medium	26.73520, 83.83070	30 KM/Hr	70.13 km
27	Turn	High	26.73481, 83.82589	15 KM/Hr	70.55 km
28	Blind Spot	Blind Spot	26.69976, 83.80509	10 KM/Hr	75.03 km

Emergency Locations

Found: 10 hospital(s), 5 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
4	hospital	Sangam Eye Hospital	26.7343271, 83.3640482	30 km/h	Medium	20.53 km
6	hospital	Amrawati Hospital	26.7372636, 83.3626921	30 km/h	Medium	20.53 km
0	hospital	Sanjay Fracture Clinic and Maternity Centre	26.7342168, 83.3665873	30 km/h	Medium	20.95 km
2	hospital	The Pride Hospital	26.734908, 83.3669987	30 km/h	Medium	20.95 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
8	hospital	Excel Ortho Care, Shri Hari Pathology	26.7310723, 83.3688339	30 km/h	Medium	21.09 km
3	hospital	Medispring Hospital & Research Centre	26.7327713, 83.3700866	30 km/h	Medium	21.16 km
7	hospital	Spectra Eye Centre	26.7366834, 83.3682564	30 km/h	Medium	21.16 km
5	clinic	Apollo Clinic	26.738647, 83.367827	30 km/h	Medium	21.23 km
1	hospital	Jagdish Hospital	26.7348828, 83.3712637	30 km/h	Medium	21.40 km
10	clinic	Dr. S K Sharma Eye Clinic	26.7412138, 83.3686995	30 km/h	Medium	21.40 km
12	hospital	Park Hospital	26.7403626, 83.3690208	30 km/h	Medium	21.40 km
9	clinic	Ehsaas De-Addiction Cum Rehabilitation Centre	26.7398014, 83.3749512	30 km/h	Medium	21.77 km
11	hospital	Aryan Hospital	26.7386077, 83.3733599	30 km/h	Medium	21.77 km
13	clinic	Sardar Patel Clinic	26.7454607, 83.3793117	30 km/h	Medium	22.57 km
14	clinic	Pragati Maternity Home and Surgical Clinic	26.7477134, 83.4132269	30 km/h	Medium	27.51 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.17 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.23 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.28 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.95 km

Coordinates: 26.74681, 83.25111



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 24.42 km

Coordinates: 26.74956, 83.39708



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 24.42 km

Coordinates: 26.7495584, 83.39708019999999



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.50 km

Coordinates: 26.74947, 83.39710



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 25.15 km

Coordinates: 26.74694, 83.39063



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 25.15 km

Coordinates: 26.7469436, 83.3906251



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 25.97 km

Coordinates: 26.74981, 83.39758



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 28.99 km

Coordinates: 26.74741, 83.42766



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 30.91 km

Coordinates: 26.74708, 83.44767



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 30.98 km

Coordinates: 26.74703, 83.44774



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 69.83 km

Coordinates: 26.73620, 83.83250



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 69.85 km

Coordinates: 26.73618, 83.83266



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 69.90 km

Coordinates: 26.73581, 83.83288



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.11 km

Coordinates: 26.73517, 83.83086



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 70.13 km

Coordinates: 26.73520, 83.83070



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 70.55 km

Coordinates: 26.73481, 83.82589



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 75.03 km

Coordinates: 26.69976, 83.80509

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