



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to FERTILIZER NIGAM VETAN
BHOGI S

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

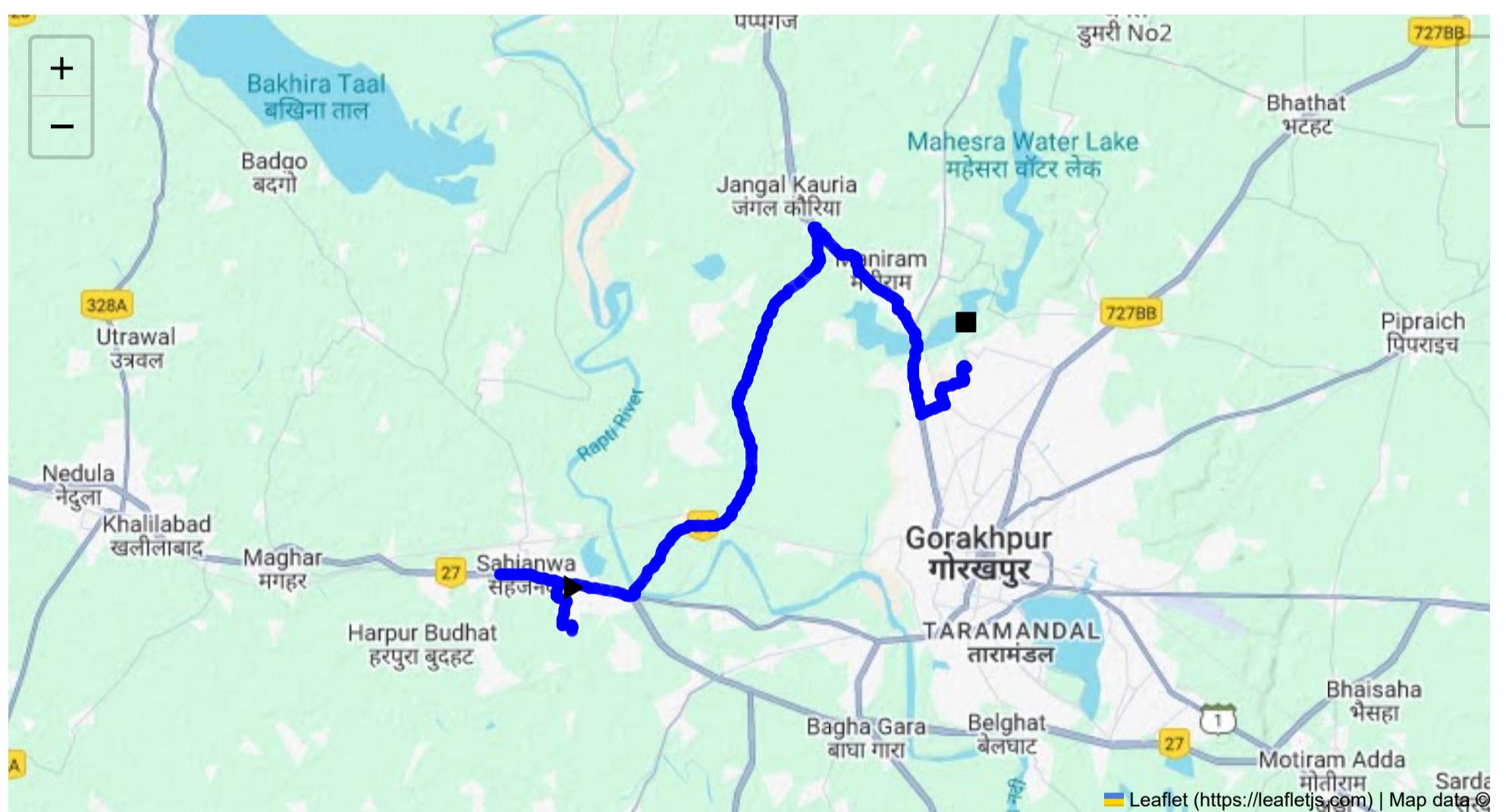
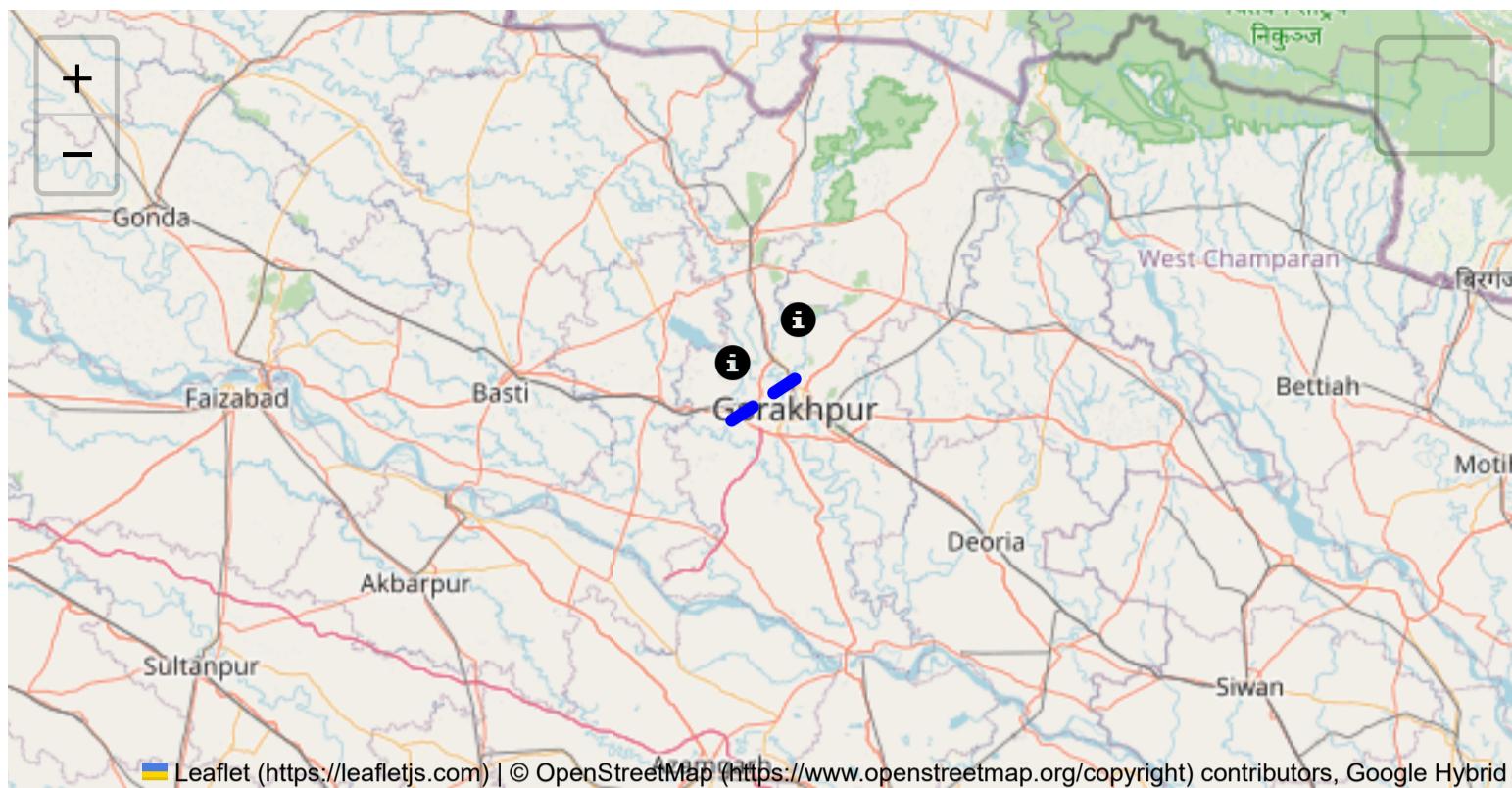
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 36.09 km
Estimated Duration: 0.9 hours
Adjusted Duration (Heavy Vehicle): 1.1 hours
Start: (26.735959, 83.229398)
End: (26.81902, 83.3677)

Welcome to the Journey Risk Management Study

Route Safety Analysis: GIDA Industrial Area Phase 1, Sahjanwa to FCI Administration Block, Gorakhpur

- Overview of the Route Map:** The route spans approximately 36.09 kilometers. It begins at GIDA Industrial Area in Sahjanwa and generally follows NH27, then transitions onto regional and local roads to reach the FCI Administration Block in Fertilizer Colony, Gorakhpur. The route is semi-urban, passing through both industrial and residential areas.

2. Typical Weather Conditions and Hazards:

- **Weather:** The area experiences a humid subtropical climate with hot summers, a monsoon season typically from June to September, and cool winters.
- **Potential Hazards:** Monsoon can lead to heavy rainfall causing waterlogging and poor visibility. Fog is common in winter, which can impair visibility.

3. Traffic Patterns and Congestion:

- **Peak Hours:** Typically, traffic peaks between 8-10 AM and 5-7 PM.
- **Congestion-Prone Areas:** The junctions near major industrial and residential zones, particularly around Gorakhpur city limits, experience high congestion.

4. Road Quality and Infrastructure:

- **NH27:** Generally well-maintained, but sections may have potholes, especially post-monsoon.
- **Local Roads into Gorakhpur:** May be narrower, with varying surface quality and potential for pedestrian and non-motorized vehicle interactions.

5. Alternative Routes for Emergencies:

- **Alternative Route 1:** If NH27 is congested, consider taking state highways like SH 72, though be wary of road conditions.
- **Alternative Route 2:** Utilize local roads through less populated areas, but ensure up-to-date navigation as these can have varying conditions.

6. Local Regulations Affecting Hazardous Material Transport:

- Restrictions during peak hours in urban areas.
- Requirement to carry necessary permits and follow designated routes for vehicles carrying hazardous materials.

7. Historical Incidents Involving Heavy Vehicles:

- Previous reports of accidents involving heavy vehicles mostly near Gorakhpur due to congestion and hurried traffic conditions.
- Spills and accidents related to hazardous materials have prompted strict enforcement of safety protocols.

8. Environmental Considerations and Sensitive Areas:

- Several small communities and agricultural zones along the route. Caution is advised to minimize environmental impact.
- Take special care near water bodies to avoid contamination during transport.

9. Communication Coverage:

- Most of the route has good mobile network coverage, but potential dead zones exist when transitioning between urban and rural segments.

10. Estimated Emergency Response Times:

- Urban Areas (Gorakhpur): Approximately 15-20 minutes.
- Rural Sections: Could range from 30 minutes to over an hour depending on location and time of day.

11. Overall Summary of Risk Assessment: The route from Sahjanwa to Gorakhpur has moderate risks primarily due to weather conditions, traffic congestion, and road quality variations. Drivers should prepare for reduced visibility during monsoon and winter months. Regular updates on traffic and weather conditions, adherence to local regulations, and preparedness for emergency response protocols are critical for safe transport of hazardous materials. It's advisable to have both vehicular and route-specific contingency plans in place.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 km
2	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
3	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
4	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
5	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.30 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
7	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
8	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 km
9	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
10	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
11	Turn	High	26.75381, 83.20466	15 KM/Hr	4.30 km
12	Turn	High	26.74708, 83.24935	15 KM/Hr	8.81 km
13	Turn	Medium	26.74712, 83.24938	30 KM/Hr	8.82 km
14	Turn	Medium	26.74703, 83.25096	30 KM/Hr	8.98 km
15	Turn	Medium	26.74767, 83.25139	30 KM/Hr	9.06 km
16	Turn	High	26.74769, 83.25146	15 KM/Hr	9.07 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.87 km
17	Blind Spot	Blind Spot	26.80409, 83.35261	10 KM/Hr	33.12 km
18	Turn	Medium	26.80687, 83.36038	30 KM/Hr	33.94 km
19	Turn	High	26.81721, 83.36687	15 KM/Hr	35.65 km
20	Turn	High	26.81830, 83.36732	15 KM/Hr	35.79 km
21	Blind Spot	Blind Spot	26.81864, 83.36860	10 KM/Hr	35.89 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
22	Turn	Medium	26.81923, 83.36796	30 KM/Hr	36.00 km
23	Turn	Medium	26.81925, 83.36786	30 KM/Hr	36.05 km

Emergency Locations

Found: 2 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Kanha Hospital	26.8035, 83.352362	30 km/h	Medium	33.12 km
1	hospital	Khetan Hospital	26.799969, 83.3540976	30 km/h	Medium	33.12 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: 4.30 km

Coordinates: 26.75381, 83.20466



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.81 km

Coordinates: 26.74708, 83.24935



Google

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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.82 km

Coordinates: 26.74712, 83.24938



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.98 km

Coordinates: 26.74703, 83.25096



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74767, 83.25139



Google

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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 9.07 km

Coordinates: 26.74769, 83.25146



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Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.87 km

Coordinates: 26.86209, 83.31517



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.12 km

Coordinates: 26.80409, 83.35261



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 33.94 km

Coordinates: 26.80687, 83.36038



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 35.65 km

Coordinates: 26.81721, 83.36687



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 35.79 km

Coordinates: 26.81830, 83.36732



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 35.89 km

Coordinates: 26.81864, 83.36860

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