



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to SURAJKUND GAS SERVICE

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

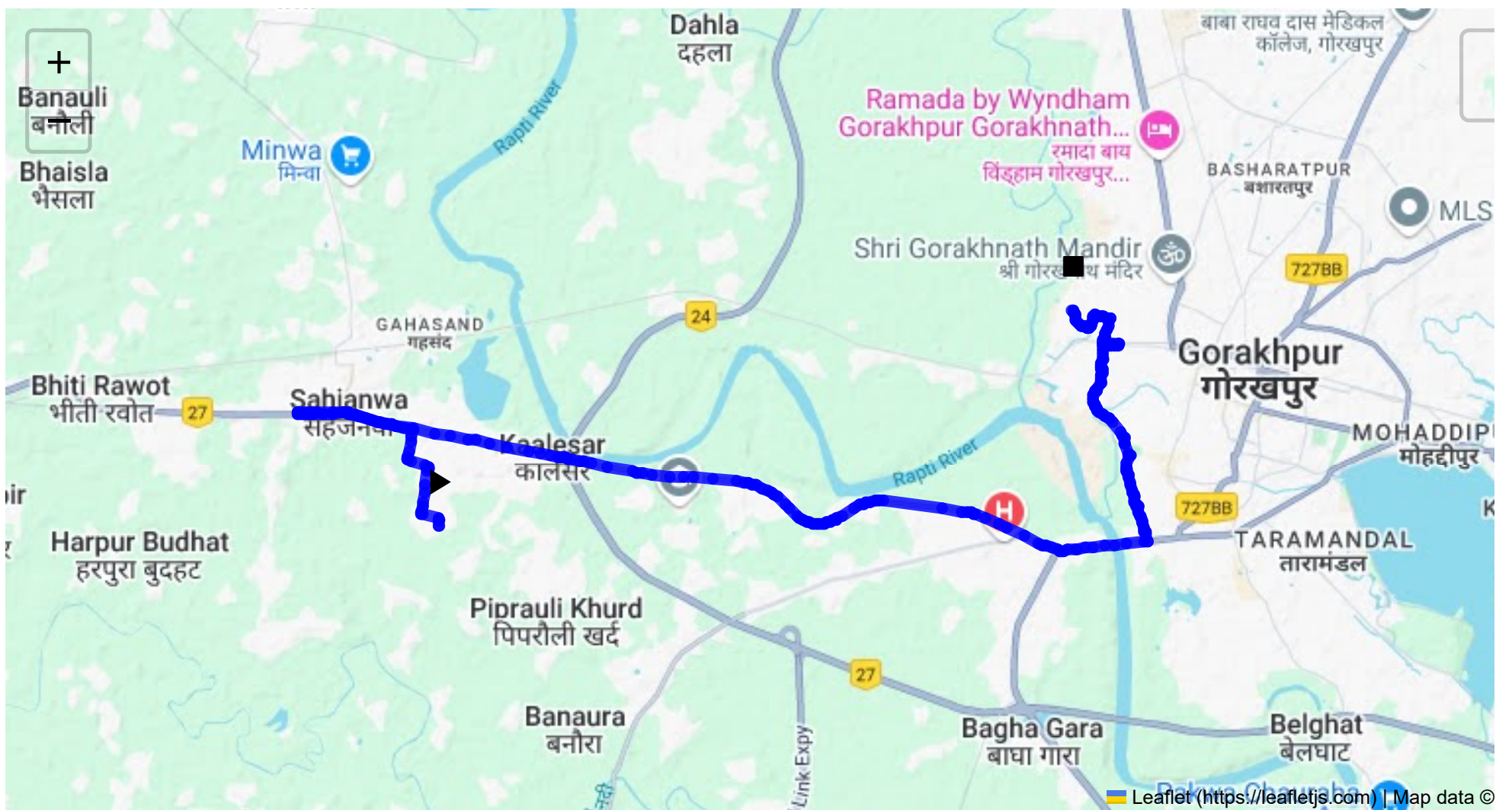
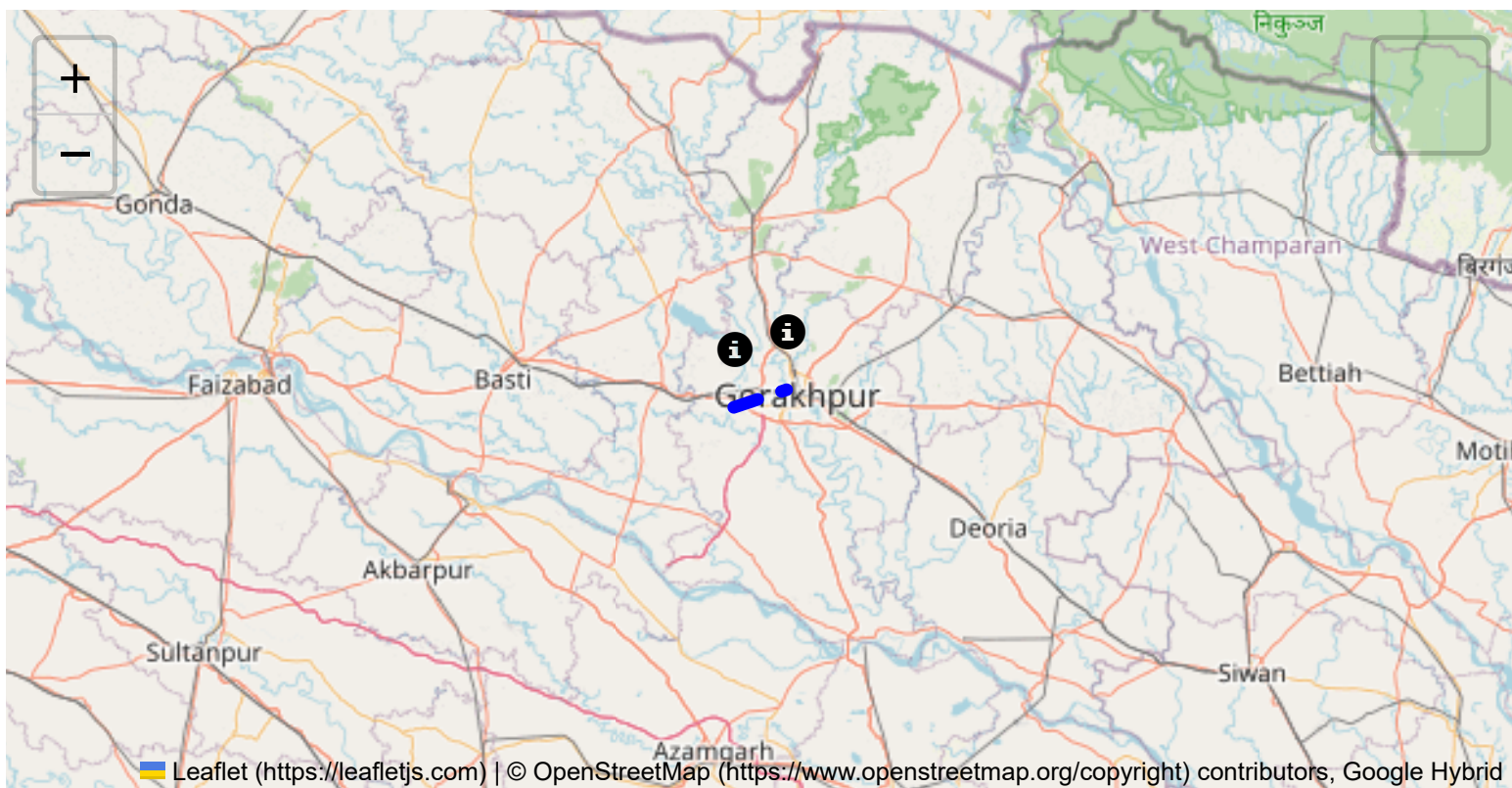
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 25.52 km
Estimated Duration: 0.8 hours
Adjusted Duration (Heavy Vehicle): 1.0 hours
Start: (26.735959, 83.229398)
End: (26.76996, 83.34037)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from GIDA Industrial Area in Sahjanwa to Sidharipur in Gorakhpur spans approximately 25.52 kilometers. This route generally takes heavy vehicles around 50 minutes. The journey primarily navigates regional roads and highways, connecting industrial areas with urban localities.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Uttar Pradesh experiences significant seasonal variations. During the summer months (March to June), the temperatures can rise considerably, while the monsoon season (July to September) brings heavy rainfall that can lead to flooding and reduced visibility. This could result in road blockages and increased accident risks. Winters (December to February) are generally mild but can occasionally involve foggy conditions, affecting visibility.

3. Traffic Patterns

Traffic congestion is a common issue along this route, particularly during morning and evening peak hours, generally from 8:00 AM to 10:00 AM and 5:00 PM to 7:00 PM. Areas near urban centers and junctions, especially as you approach Gorakhpur, may experience slower movement.

4. Assessment of Road Quality and Infrastructure

The route has a mix of state highways and local roads. While the highways are well-maintained, local roads might have potholes and uneven surfaces. Be mindful near construction zones and railway crossings where infrastructure may be temporarily less stable.

5. Suggestions for Alternative Routes for Emergencies

In emergencies, consider using NH27 as an alternate route. Although it may add to the distance, it is a more major highway and might provide better infrastructure and services.

6. Local Regulations Affecting Hazardous Material Transport

Transporting hazardous materials requires compliance with local and national regulations, including the acquisition of necessary permits. There may be restrictions on transporting such materials through densely populated or environmentally sensitive areas during specific times.

7. Historical Incidents Involving Heavy Vehicles or Hazardous Materials

Though specific historical incidents along this route might not be well-documented, Uttar Pradesh's highways have occasionally witnessed accidents involving heavy vehicles due to overloading or driver fatigue. Ensure adherence to load limits and adequate driver rest.

8. Environmental Considerations and Sensitive Areas

The route crosses near agricultural lands and water bodies. Minimize risks of contamination by ensuring that materials are securely contained and that vehicles are well-maintained to prevent leaks or spills.

9. Analysis of Communication Coverage

Mobile coverage is generally reliable throughout the route with major telecom providers. However, there might be some dead zones in rural stretches. Utilizing multiple network providers could mitigate this issue.

10. Estimated Emergency Response Times for Route Segments

Emergency response times can vary significantly. Urban segments near Gorakhpur should have quicker access to emergency services, typically within 30 minutes. In contrast, rural areas might experience longer response times, potentially up to an hour or more depending on the severity of the incident.

11. Overall Summary of Risk Assessment

- **Traffic and Congestion:** Peak hours and urban centers present heightened risks of delays.
- **Weather Conditions:** Monsoon and foggy conditions in winter require caution.
- **Road Quality:** Mixed; with some areas in need of attention.
- **Emergency Preparedness:** Ensuring familiarity with alternate routes and maintaining vehicles in prime condition are crucial.
- **Hazmat Compliance:** Strict adherence to regulations and availability of safety equipment is essential.

This analysis offers a foundation for training and preparing drivers for safe navigation along this specific route, emphasizing safety, preparedness, and compliance.

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	Medium	26.74654, 83.22390	30 KM/Hr	1.69 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
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.97 km
12	Blind Spot	Blind Spot	26.73366, 83.35348	10 KM/Hr	19.65 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
13	Turn	High	26.73909, 83.35195	15 KM/Hr	20.29 km
14	Turn	High	26.74716, 83.35040	15 KM/Hr	21.26 km
15	Turn	Medium	26.75406, 83.34482	30 KM/Hr	22.24 km
16	Turn	Medium	26.75598, 83.34391	30 KM/Hr	22.46 km
17	Turn	High	26.76435, 83.34567	15 KM/Hr	23.44 km
18	Turn	High	26.76437, 83.34855	15 KM/Hr	23.72 km
19	Turn	High	26.76472, 83.34854	15 KM/Hr	23.79 km
20	Turn	Medium	26.76474, 83.34850	30 KM/Hr	23.80 km
21	Turn	Medium	26.76461, 83.34592	30 KM/Hr	24.04 km
22	Turn	Medium	26.76465, 83.34583	30 KM/Hr	24.06 km
23	Turn	Medium	26.76473, 83.34578	30 KM/Hr	24.07 km
24	Blind Spot	Blind Spot	26.76848, 83.34693	10 KM/Hr	24.49 km
25	Turn	Medium	26.76907, 83.34420	30 KM/Hr	24.75 km
26	Turn	Medium	26.76905, 83.34415	30 KM/Hr	24.79 km
27	Turn	Medium	26.76871, 83.34407	30 KM/Hr	24.82 km
28	Turn	Medium	26.76854, 83.34394	30 KM/Hr	24.84 km
29	Turn	High	26.76711, 83.34345	15 KM/Hr	25.01 km
30	Turn	Medium	26.76728, 83.34215	30 KM/Hr	25.13 km
31	Turn	Medium	26.76839, 83.34097	30 KM/Hr	25.30 km

Emergency Locations

Found: 1 clinic(s), 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	clinic	Agrahari Orthopedic Center	26.7569397, 83.3487357	30 km/h	Medium	22.74 km
4	hospital	Niramaya Hospital	26.7675764, 83.3442377	30 km/h	Medium	24.91 km

Crowded Spots

Found: 3 marketplace(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	marketplace	vegetable Market	26.7660864, 83.344704	30 km/h	Medium	24.15 km
2	marketplace	Market	26.7661662, 83.3455354	30 km/h	Medium	24.21 km
3	marketplace	Market Area	26.7661946, 83.3451626	30 km/h	Medium	24.21 km

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



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 8.97 km
Coordinates: 26.74681, 83.25111



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 19.65 km

Coordinates: 26.73366, 83.35348



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 21.26 km

Coordinates: 26.74716, 83.35040



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 23.44 km

Coordinates: 26.76435, 83.34567



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 23.72 km

Coordinates: 26.76437, 83.34855



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 23.79 km

Coordinates: 26.76472, 83.34854



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 23.80 km

Coordinates: 26.76474, 83.34850



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.04 km

Coordinates: 26.76461, 83.34592



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.06 km

Coordinates: 26.76465, 83.34583



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.07 km

Coordinates: 26.76473, 83.34578



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 24.49 km

Coordinates: 26.76848, 83.34693



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.75 km

Coordinates: 26.76907, 83.34420



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.79 km

Coordinates: 26.76905, 83.34415



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.82 km

Coordinates: 26.76871, 83.34407



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 24.84 km

Coordinates: 26.76854, 83.34394



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 25.01 km

Coordinates: 26.76711, 83.34345



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 25.13 km

Coordinates: 26.76728, 83.34215



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 25.30 km

Coordinates: 26.76839, 83.34097

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