JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MANIRAM INDANE SERVI

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

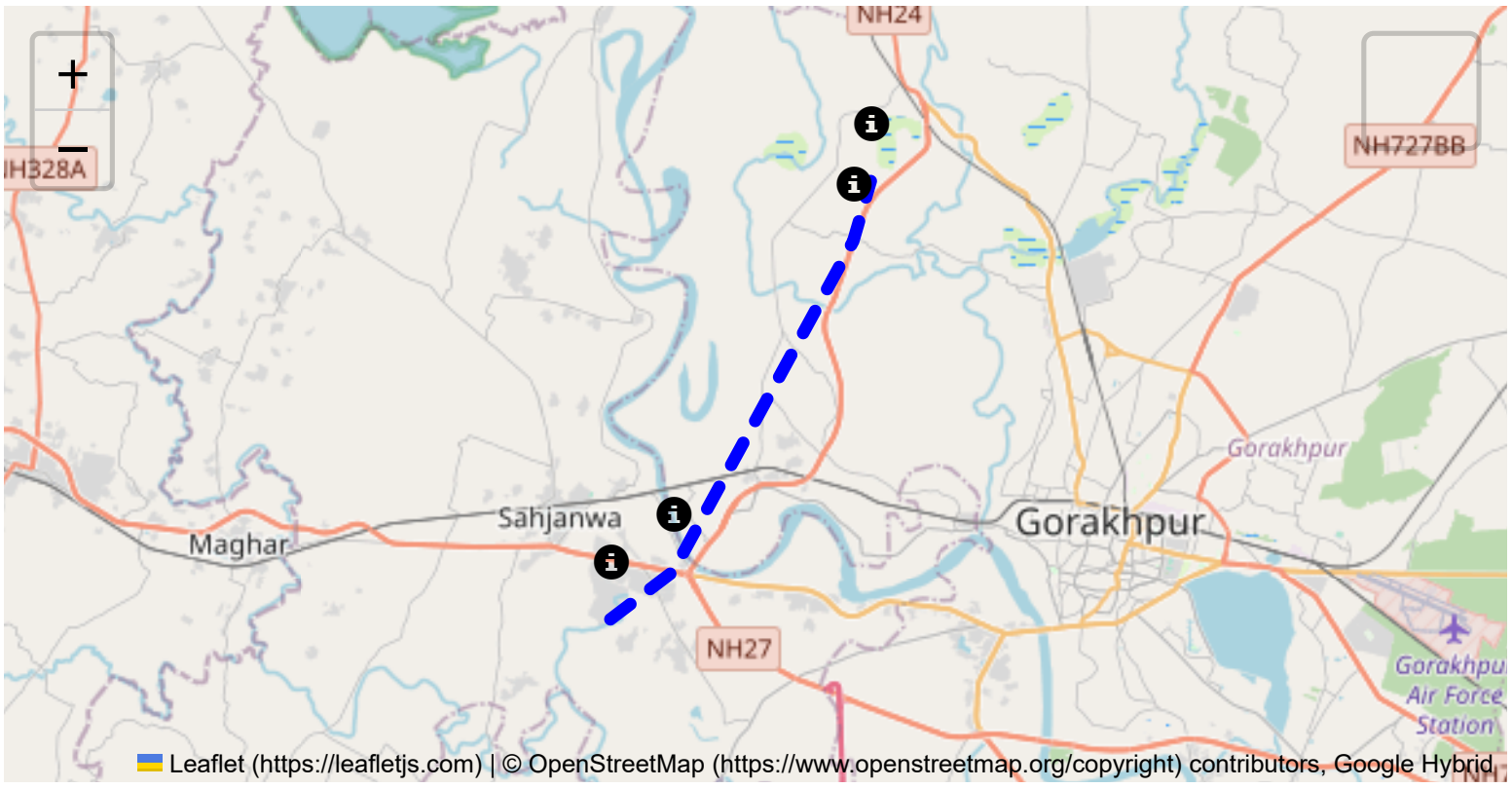
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

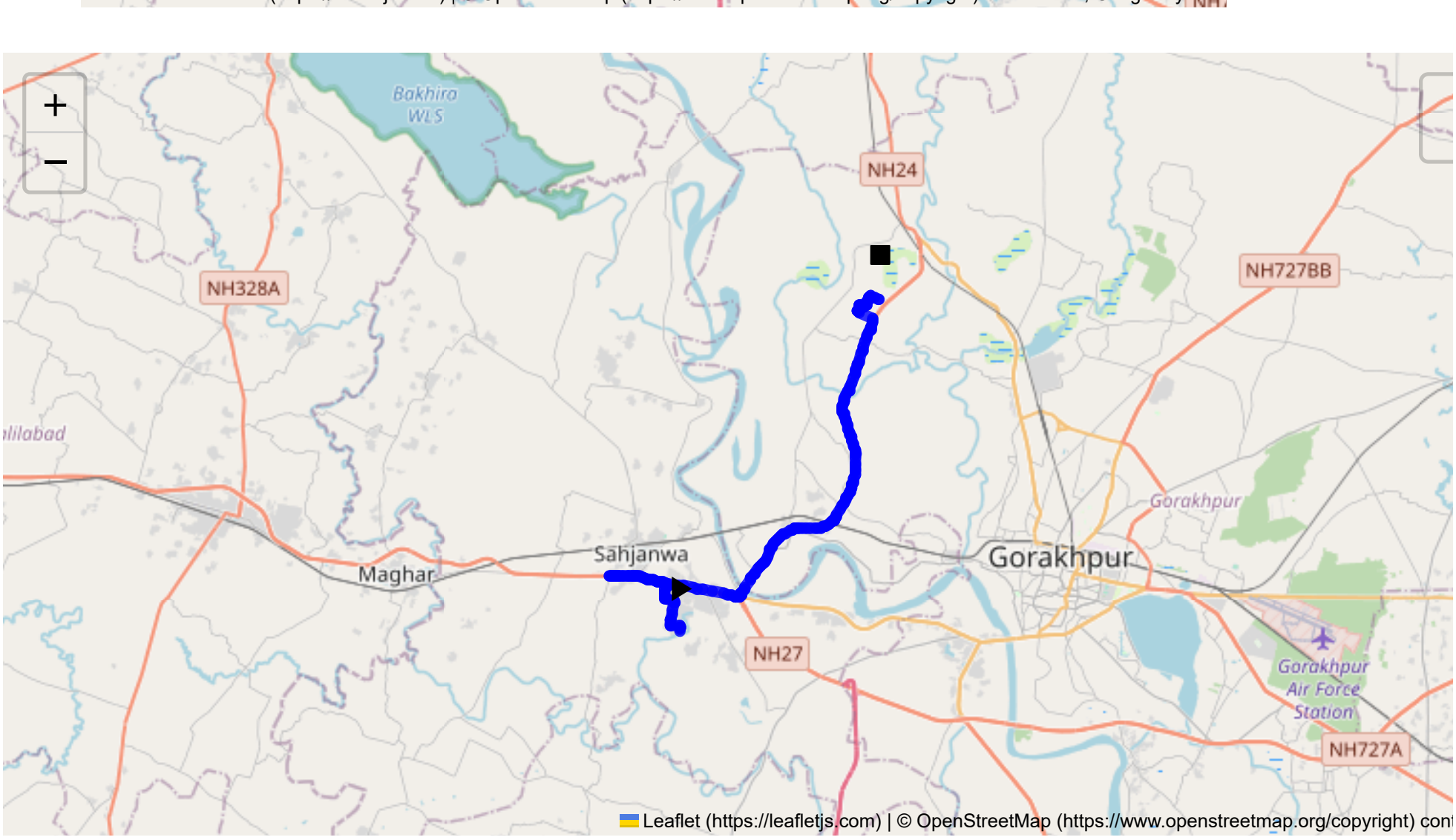
Journey Risk Mitigation

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: 23.04 km
Estimated Duration: 0.6 hours
Adjusted Duration (Heavy Vehicle): 0.7 hours
Start: (26.735959, 83.229398)
End: (26.84281, 83.30123)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa to R8V2+4F Sakhi Urf Mehdariya includes multiple connecting regions, particularly passing through 01 Zero Point, Kaalesar, and R7HW+6C Deokali. This route encompasses both rural and semi-urban landscapes, featuring a mix of highway and smaller

roads. The entire journey covers approximately 23.04 kilometers and typically takes about 35 minutes for heavy vehicles.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Uttar Pradesh generally experiences a subtropical climate with three distinct seasons: summer (March to June), monsoon (July to September), and winter (October to February). During the monsoon season, heavy rainfall can lead to waterlogged roads and poor visibility. In winter, foggy conditions are frequent, particularly in the morning and evening, posing a risk to visibility and vehicle control.

3. Analysis of Traffic Patterns

The route traverses through some busy areas, especially near industrial zones and marketplaces. Peak traffic hours are typically from 8:00 to 10:00 AM and 5:00 to 7:00 PM due to local commuting patterns. Congestion-prone areas are predominantly near market hubs and industrial exits.

4. Assessment of Road Quality and Infrastructure

The main highways are generally well-maintained, but secondary roads may have varying conditions with potential potholes or uneven surfaces. Signage may be sparse in rural stretches. Occasional construction activities could affect traffic flow, particularly in rapidly developing areas or near industrial sites.

5. Suggestions for Alternative Routes for Emergencies

In case of emergencies, it might be advantageous to detour through neighboring towns with more developed infrastructure. The NH27 offers an alternative northeast route, providing a more direct but busy connection to major towns with emergency facilities.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials requires adherence to Indian regulations, including proper labeling, documentation, and restricted travel times. Daytime travel is often recommended to avoid visibility issues, and strict measures on leak-proof transport and containment must be observed.

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

Historically, the region reports occasional accidents involving heavy vehicles due to speeding, overloading, or poor visibility conditions. Accidents involving hazardous materials are rarer but can have severe environmental impacts; thus, strict compliance with regulations is critical.

8. Environmental Considerations and Sensitive Areas

The route crosses agricultural areas, necessitating careful handling of hazardous materials to prevent contamination. Preservation of water bodies and local wildlife areas should be prioritized, especially near

the Kaalesar region.

9. Analysis of Communication Coverage

Most parts of the route have adequate mobile network coverage, though rural stretches might experience intermittent signals. Preparing for potential communication gaps by using satellite phones or pre-installed vehicles communication systems is recommended for emergencies.

10. Estimated Emergency Response Times for Different Route Segments

Emergency response can vary, with more populated areas near Sahjanwa and Deokali having faster response times (estimated around 20-30 minutes). Response could be delayed in remote stretches due to road conditions and distance from facilities.

11. Overall Summary of Risk Assessment

The route presents moderate risk primarily from weather conditions, road quality variations, and potential communication gaps. Steps to mitigate risk include selecting travel times to avoid peak traffic, ensuring vehicles are equipped for adverse conditions, and maintaining strict adherence to hazardous material regulations. Emergency preparedness and environmental considerations should be prioritized to reduce the potential impact of incidents. Training drivers on local conditions and providing comprehensive support tools can significantly enhance safety outcomes.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 km
1	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
3	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
4	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.30 km
5	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
6	Turn	Medium	26.74654, 83.22390	30 KM/Hr	1.69 km
7	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 km
8	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
9	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
10	Turn	High	26.75381, 83.20466	15 KM/Hr	4.30 km
11	Turn	High	26.74708, 83.24935	15 KM/Hr	8.77 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
12	Turn	Medium	26.74714, 83.24943	30 KM/Hr	8.82 km
13	Turn	Medium	26.74707, 83.25103	30 KM/Hr	8.98 km
14	Turn	Medium	26.74765, 83.25136	30 KM/Hr	9.05 km
15	Turn	High	26.74769, 83.25146	15 KM/Hr	9.07 km
16	Turn	High	26.83289, 83.29822	15 KM/Hr	20.84 km
17	Turn	High	26.83583, 83.29936	15 KM/Hr	21.19 km
18	Turn	High	26.83859, 83.29387	15 KM/Hr	21.86 km
19	Turn	Medium	26.83950, 83.29403	30 KM/Hr	21.97 km
20	Turn	Medium	26.83976, 83.29392	30 KM/Hr	22.00 km
21	Turn	High	26.83989, 83.29395	15 KM/Hr	22.02 km
22	Turn	Medium	26.83991, 83.29401	30 KM/Hr	22.03 km
23	Turn	High	26.84057, 83.29440	15 KM/Hr	22.10 km
24	Turn	Medium	26.84058, 83.29444	30 KM/Hr	22.11 km
25	Turn	Medium	26.84089, 83.29642	30 KM/Hr	22.34 km
26	Turn	Medium	26.84090, 83.29644	30 KM/Hr	22.36 km
27	Turn	High	26.84088, 83.29663	15 KM/Hr	22.38 km
28	Turn	High	26.84281, 83.29747	15 KM/Hr	22.61 km
29	Turn	Medium	26.84286, 83.29772	30 KM/Hr	22.63 km
30	Turn	High	26.84344, 83.29812	15 KM/Hr	22.68 km
31	Turn	High	26.84235, 83.30085	15 KM/Hr	22.93 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: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.77 km

Coordinates: 26.74708, 83.24935

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.82 km

Coordinates: 26.74714, 83.24943

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.98 km

Coordinates: 26.74707, 83.25103

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.05 km

Coordinates: 26.74765, 83.25136

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 9.07 km

Coordinates: 26.74769, 83.25146

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 21.86 km

Coordinates: 26.83859, 83.29387

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 21.97 km

Coordinates: 26.83950, 83.29403

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 22.00 km

Coordinates: 26.83976, 83.29392

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 22.02 km

Coordinates: 26.83989, 83.29395

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 22.03 km

Coordinates: 26.83991, 83.29401

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 22.68 km

Coordinates: 26.84344, 83.29812

Download Reports

📊 Download Excel Report

🗺️ Download Interactive Map