JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO JAJAULI INDANE GRAMI

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

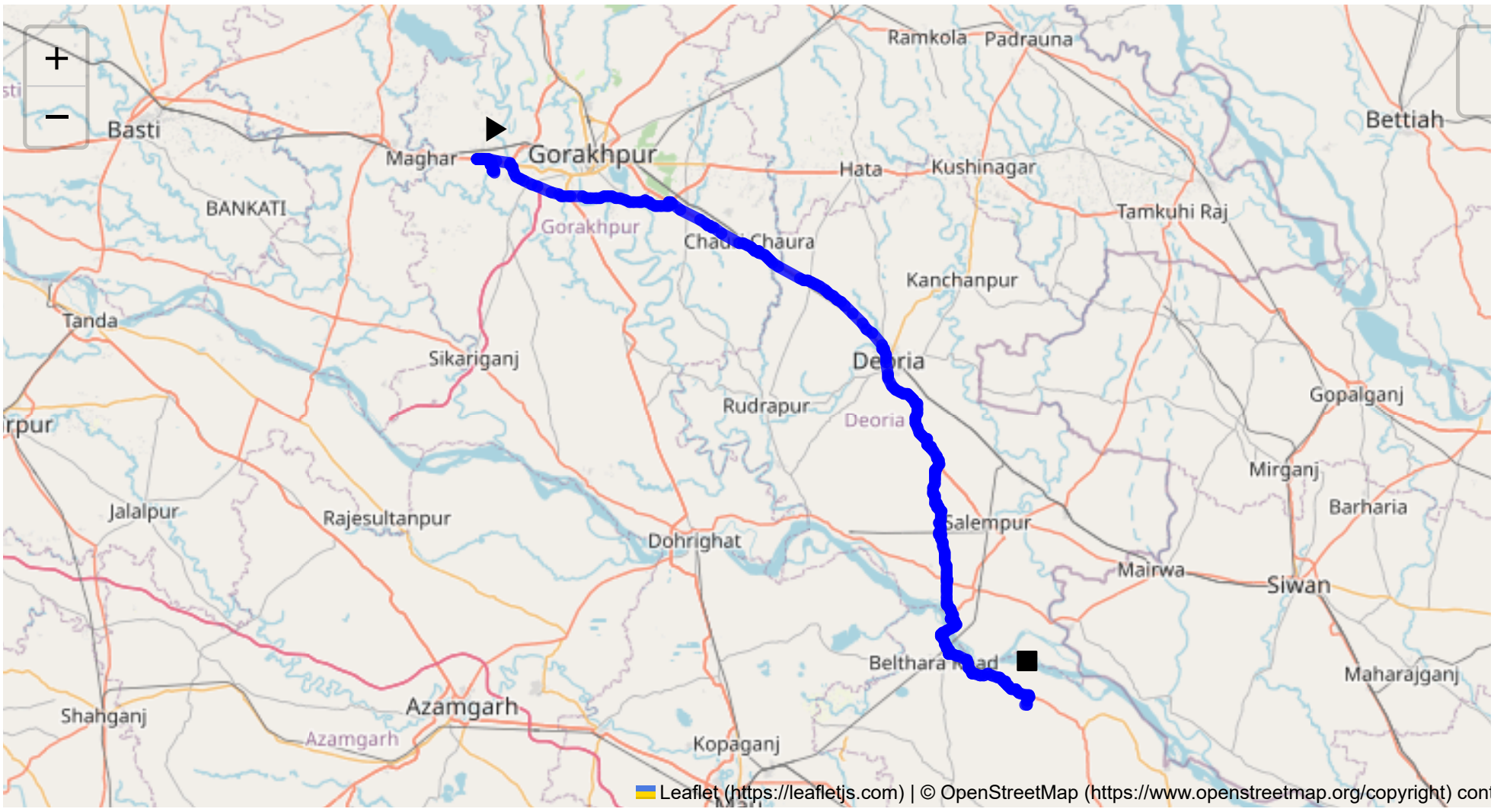
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 133.75 km
Estimated Duration: 3.1 hours
Adjusted Duration (Heavy Vehicle): 3.9 hours
Start: (26.735959, 83.229398)
End: (26.066471, 83.972885)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route begins at GIDA Industrial Area Phase 1 in Sahjanwa, travels to Sahjanwa, transitions through Rudrapur, and concludes at Jajooli Rajman, Sikandarpur. The journey mostly follows state highways and local roads, moving through both urban and rural environments within Uttar Pradesh.

2. Typical Weather Conditions and Potential Hazards

Uttar Pradesh experiences a humid subtropical climate. Summers (March-June) can be extremely hot, with temperatures sometimes reaching above 40°C (104°F). Monsoon (June-September) brings heavy rains, which can lead to flooding and reduced road visibility. Winters (December-February) are cold and foggy, particularly in rural areas, affecting visibility.

3. Traffic Patterns

Urban areas like Sahjanwa and Deoria can experience congestion, particularly during morning (8-10 AM) and evening (5-7 PM) peak hours. Rural segments usually have lighter traffic but are disrupted by slow-moving agricultural vehicles. Congestion hotspots often develop around market areas and where local events or festivals occur.

4. Road Quality and Infrastructure

The road surfaces are mixed, with some segments in good condition while others are prone to potholes and wear, especially in rural areas. Maintenance is inconsistent, meaning portions of the route may be under construction or in disrepair. Road signs and lighting can be sporadic.

5. Suggestions for Alternative Routes

For emergencies, consider bypassing highly congested or flooded areas by using NH 27, which runs parallel to parts of the route and offers better-maintained infrastructure.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials is regulated under Indian Motor Vehicles Act, which mandates clear labeling and use of proper containment. Restrictions may be enforced in densely populated or environmentally sensitive areas, including prohibitions during certain hours.

7. Overview of Historical Incidents

Historically, there have been traffic incidents primarily in urban centers, often due to collisions with slower local traffic, poor visibility, and maintenance issues. No significant hazardous material spill incidences have been recorded, but urban locations remain high-risk due to higher density.

8. Environmental Considerations and Sensitive Areas

The route intercepts areas close to waterways and agricultural fields, requiring extra caution to prevent contamination. Eco-sensitive zones should be noted around forests, particularly in rural stretches.

9. Analysis of Communication Coverage

Mobile network coverage is generally reliable in urban and semi-urban sections but may drop in rural areas. Notable potential signal dead zones include stretches between Rudrapur and Sikandarpur.

10. Estimated Emergency Response Times

In urban areas like Sahjanwa and Deoria, emergency response can be within 20-30 minutes. In rural stretches, this could extend up to an hour or more, particularly during adverse weather conditions or off-peak hours.

12. Overall Summary of Risk Assessment

The route presents moderate risk, primarily due to varying road quality, traffic congestion, weather variability, and potential communication issues. Proper preparation, real-time navigation updates, and adherence to local regulations are essential for managing risk effectively. Using alternative routes during adverse conditions, avoiding peak traffic times, and ensuring reliable communication gear can mitigate many challenges faced along this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.08 km
3	Turn	High	26.73788, 83.22642	15 KM/Hr	0.32 km
4	Turn	Medium	26.73812, 83.22630	30 KM/Hr	0.48 km
5	Turn	High	26.74524, 83.22746	15 KM/Hr	1.14 km
6	Turn	High	26.74679, 83.22391	15 KM/Hr	1.64 km
7	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.13 km
8	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.19 km
9	Turn	High	26.75377, 83.20465	15 KM/Hr	4.25 km
10	Turn	Medium	26.75378, 83.21338	30 KM/Hr	5.11 km
11	Turn	High	26.75386, 83.21352	15 KM/Hr	5.14 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.96 km
12	Turn	Medium	26.69639, 83.47492	30 KM/Hr	32.99 km
13	Turn	High	26.69721, 83.47551	15 KM/Hr	33.16 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.37 km
14	Blind Spot	Blind Spot	26.69857, 83.47481	10 KM/Hr	33.37 km
15	Turn	Medium	26.63758, 83.59702	30 KM/Hr	47.26 km
16	Turn	High	26.37012, 83.85260	15 KM/Hr	88.96 km
17	Turn	Medium	26.36069, 83.84695	30 KM/Hr	90.31 km
18	Turn	Medium	26.33293, 83.84433	30 KM/Hr	93.41 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
19	Turn	Medium	26.31071, 83.85590	30 KM/Hr	96.26 km
20	Turn	Medium	26.29506, 83.85417	30 KM/Hr	97.90 km
21	Turn	Medium	26.22484, 83.86507	30 KM/Hr	105.99 km
22	Turn	Medium	26.22122, 83.86421	30 KM/Hr	106.37 km
23	Turn	Medium	26.21790, 83.86499	30 KM/Hr	106.63 km
24	Turn	Medium	26.17918, 83.87161	30 KM/Hr	111.23 km
25	Turn	Medium	26.17552, 83.87052	30 KM/Hr	111.69 km
26	Turn	Medium	26.17009, 83.87602	30 KM/Hr	112.46 km
27	Turn	Medium	26.16849, 83.87659	30 KM/Hr	112.63 km
28	Turn	Medium	26.16692, 83.87621	30 KM/Hr	112.81 km
29	Turn	Medium	26.15714, 83.85745	30 KM/Hr	114.89 km
30	Turn	Medium	26.13901, 83.86402	30 KM/Hr	117.26 km
31	Turn	High	26.13148, 83.86717	15 KM/Hr	118.02 km
32	Turn	Medium	26.10291, 83.91585	30 KM/Hr	124.19 km
33	Turn	Medium	26.10504, 83.92279	30 KM/Hr	124.87 km
34	Turn	Medium	26.09637, 83.94539	30 KM/Hr	127.62 km
35	Turn	Medium	26.09156, 83.94864	30 KM/Hr	128.19 km
36	Blind Spot	Blind Spot	26.07782, 83.97991	10 KM/Hr	131.72 km
37	Turn	Medium	26.06776, 83.97602	30 KM/Hr	132.78 km

Emergency Locations

Found: 5 hospital(s), 1 police(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.75 km
3	hospital	Deoria Eye Hospital	26.5011867, 83.7750448	30 km/h	Medium	71.18 km
5	hospital	Aditya Hospital, Deoria	26.501938, 83.774963	30 km/h	Medium	71.18 km
2	hospital	DWH Deoria	26.4955581, 83.7819431	30 km/h	Medium	71.70 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
4	hospital	Mahadeva Hospital and Maternity Home	26.4993, 83.7754301	30 km/h	Medium	71.70 km
6	police	Ubhaon Police Station	26.132733, 83.8669181	30 km/h	Medium	118.02 km

Crowded Spots

Found: 1 college(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	college	BRD PG college	26.5161416, 83.7720277	30 km/h	Medium	69.77 km

Route Photos of Risky Spots

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.13 km

Coordinates: 26.75126, 83.22476

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.19 km

Coordinates: 26.75353, 83.20457

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.25 km

Coordinates: 26.75377, 83.20465

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 5.11 km

Coordinates: 26.75378, 83.21338

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 5.14 km

Coordinates: 26.75386, 83.21352

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.96 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 32.99 km

Coordinates: 26.69639, 83.47492

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.16 km

Coordinates: 26.69721, 83.47551

Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.37 km

Coordinates: 26.698439, 83.4747268

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.37 km

Coordinates: 26.69857, 83.47481

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.26 km

Coordinates: 26.63758, 83.59702

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 93.41 km

Coordinates: 26.33293, 83.84433

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 96.26 km

Coordinates: 26.31071, 83.85590

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 97.90 km

Coordinates: 26.29506, 83.85417

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 105.99 km

Coordinates: 26.22484, 83.86507

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 106.37 km

Coordinates: 26.22122, 83.86421

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 106.63 km

Coordinates: 26.21790, 83.86499

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 111.23 km

Coordinates: 26.17918, 83.87161

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 111.69 km

Coordinates: 26.17552, 83.87052

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 112.46 km

Coordinates: 26.17009, 83.87602

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 112.63 km

Coordinates: 26.16849, 83.87659

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 112.81 km

Coordinates: 26.16692, 83.87621

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 114.89 km

Coordinates: 26.15714, 83.85745

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 117.26 km

Coordinates: 26.13901, 83.86402

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 118.02 km

Coordinates: 26.13148, 83.86717

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 124.19 km

Coordinates: 26.10291, 83.91585

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 124.87 km

Coordinates: 26.10504, 83.92279

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 127.62 km

Coordinates: 26.09637, 83.94539

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 128.19 km

Coordinates: 26.09156, 83.94864

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 131.72 km

Coordinates: 26.07782, 83.97991

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 132.78 km

Coordinates: 26.06776, 83.97602

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