



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO BANSHRAJI INDANE GRA

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

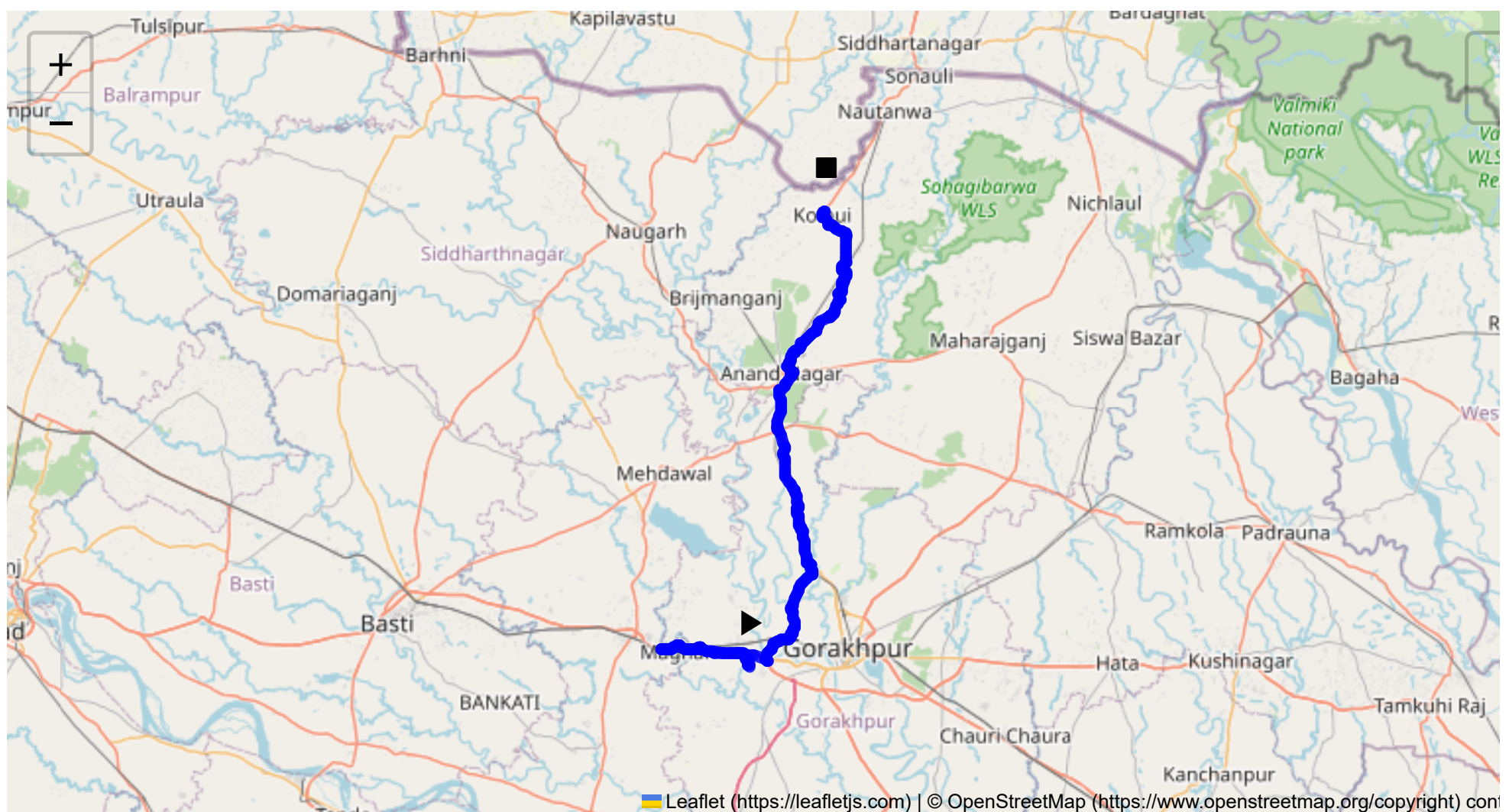
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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



End: (27.30277, 83.33489)

3/22

2. Typical Weather Conditions and Potential Weather-Related Hazards

Uttar Pradesh experiences extreme weather conditions. Summers can be very hot, with temperatures exceeding 40°C (104°F), potentially affecting vehicle performance and driver fatigue. The monsoon season, from June to September, can bring heavy rain, leading to water-logged roads, reduced visibility, and slippery surfaces. Fog can occur in winter, from December to February, impacting visibility and increasing the risk of accidents.

3. Traffic Patterns, Peak Hours, and Congestion-Prone Areas

The route passes through several busy towns and villages. Traffic congestion is typical during peak hours (8-10 AM and 5-7 PM), particularly around Sahjanwa, Maghar, and Maharajganj. These areas might see slowed traffic due to marketplaces and local commuter traffic. The roads can also be crowded near industrial zones, especially in the mornings and late afternoons when shifts change.

4. Road Quality and Infrastructure

Road quality varies significantly along the route. Urban sections are relatively well-maintained, but rural stretches might suffer from potholes and uneven surfaces due to inadequate maintenance, especially after the monsoon. The infrastructure, such as signage and street lighting, may be lacking in rural areas, increasing navigation difficulty at night or during foggy conditions.

5. Suggestions for Alternative Routes for Emergencies

In emergencies, detours via larger highways such as the NH27 might be advisable, though they may add extra distance. Keeping aware of local road conditions through traffic apps or local advisories can help determine viable alternate routes.

6. Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials is subject to regulations by the Government of India, requiring dedicated routes for dangerous goods, especially during peak traffic or through sensitive areas. Check for specific rules applicable in Uttar Pradesh, which might include restrictions on crossing densely populated areas or operating during specific hours.

7. Historical Incidents Involving Heavy Vehicles or Hazardous Materials

While not exhaustive, past incidents involving heavy vehicles have typically been associated with poor road conditions and weather-related factors. Accidents involving hazardous materials are less documented but require adherence to safety protocols to mitigate risks.

8. Environmental Considerations and Sensitive Areas

The route traverses semi-urban and rural landscapes, where environmental sensitivity may be a concern. Protecting local water bodies and agricultural land from contamination should be prioritized, particularly when transporting hazardous materials.

9. Communication Coverage and Potential Dead Zones

While most of the route should have mobile network coverage, rural segments might experience poor reception or dead zones. Drivers should be prepared with alternative communication methods, like

satellite phones or two-way radios, especially when navigating less populated areas.

10. Estimated Emergency Response Times

Emergency response times can vary; urban areas like Sahjanwa may witness quicker response times compared to remote rural areas like stretches near Kaalesar. It's prudent to be aware of the nearest healthcare facilities and emergency services along the route and maintain contacts for local authorities.

11. Overall Summary of Risk Assessment

The route presents various challenges, including variable road conditions, weather extremes, and traffic congestion, all of which require careful planning and adherence to safety protocols. The transportation of hazardous materials demands extra caution with respect to local regulations and environmental preservation. Preparedness in communication and emergency protocols is essential to manage potential risks effectively. Regular updates on local conditions and maintaining alternatives for routes and communication will aid in ensuring safety.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
3	Turn	High	26.73746, 83.22938	15 KM/Hr	0.08 km
4	Turn	High	26.73788, 83.22642	15 KM/Hr	0.32 km
5	Turn	Medium	26.73812, 83.22630	30 KM/Hr	0.48 km
6	Turn	High	26.74524, 83.22746	15 KM/Hr	1.14 km
7	Turn	High	26.74654, 83.22390	15 KM/Hr	1.63 km
8	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.15 km
2	U-Turn	High	26.7582614, 83.10490449999999	10 KM/Hr	14.56 km
9	Blind Spot	Blind Spot	26.75838, 83.10492	10 KM/Hr	14.56 km
12	Turn	High	26.75386, 83.21352	15 KM/Hr	25.63 km
10	Blind Spot	Blind Spot	26.75386, 83.21352	10 KM/Hr	25.63 km
11	Blind Spot	Blind Spot	26.75407, 83.21347	10 KM/Hr	25.82 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	28.90 km
13	Blind Spot	Blind Spot	26.74298, 83.25343	10 KM/Hr	30.02 km
14	Turn	High	26.74285, 83.25304	15 KM/Hr	30.20 km
1	Roundabout	High	26.86209, 83.31517	15 KM/Hr	46.54 km
15	Turn	Medium	26.86398, 83.31428	30 KM/Hr	46.74 km
16	Turn	Medium	26.86610, 83.31043	30 KM/Hr	47.22 km
17	Turn	Medium	26.92527, 83.29842	30 KM/Hr	53.87 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
18	Turn	Medium	26.93461, 83.29771	30 KM/Hr	55.12 km
19	Turn	Medium	27.01029, 83.27850	30 KM/Hr	64.02 km
20	Turn	Medium	27.08029, 83.27113	30 KM/Hr	71.89 km
21	Turn	Medium	27.08069, 83.27132	30 KM/Hr	72.23 km
22	Turn	High	27.10269, 83.28820	15 KM/Hr	75.24 km
24	Turn	High	27.10269, 83.28820	15 KM/Hr	75.24 km
23	Blind Spot	Blind Spot	27.10277, 83.28936	10 KM/Hr	75.40 km
25	Turn	Medium	27.10969, 83.28282	30 KM/Hr	76.43 km
26	Turn	Medium	27.11110, 83.28294	30 KM/Hr	76.57 km
27	Turn	Medium	27.17234, 83.34277	30 KM/Hr	85.98 km
28	Turn	Medium	27.17797, 83.34725	30 KM/Hr	86.79 km
29	Turn	Medium	27.17830, 83.34804	30 KM/Hr	86.89 km
30	Turn	Medium	27.19248, 83.35489	30 KM/Hr	88.55 km
31	Turn	Medium	27.20026, 83.35409	30 KM/Hr	89.22 km
32	Turn	Medium	27.27452, 83.36399	30 KM/Hr	98.53 km
33	Turn	Medium	27.29659, 83.33155	30 KM/Hr	102.72 km
34	Turn	High	27.29893, 83.33002	15 KM/Hr	103.04 km
35	Turn	High	27.30318, 83.33414	15 KM/Hr	103.56 km

Emergency Locations

Crowded Spots

Found: 1 school(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	school	Nav Jeevan Mission School	27.1125489, 83.2814738	30 km/h	Medium	76.71 km

Route Photos of Risky Spots



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 2.15 km
Coordinates: 26.75126, 83.22476



Risk Type: U-Turn
Risk Level: High
Speed Limit: 10 KM/Hr
Distance from Start: 14.56 km
Coordinates: 26.7582614, 83.10490449999999



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 14.56 km
Coordinates: 26.75838, 83.10492



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 25.63 km
Coordinates: 26.75386, 83.21352



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 25.63 km
Coordinates: 26.75386, 83.21352



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 25.82 km
Coordinates: 26.75407, 83.21347



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 28.90 km
Coordinates: 26.74681, 83.25111



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 30.02 km
Coordinates: 26.74298, 83.25343



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 30.20 km
Coordinates: 26.74285, 83.25304



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 46.54 km
Coordinates: 26.86209, 83.31517



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 46.74 km

Coordinates: 26.86398, 83.31428



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.22 km

Coordinates: 26.86610, 83.31043



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 53.87 km

Coordinates: 26.92527, 83.29842



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 55.12 km

Coordinates: 26.93461, 83.29771



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 71.89 km
Coordinates: 27.08029, 83.27113



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 72.23 km
Coordinates: 27.08069, 83.27132



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 75.24 km
Coordinates: 27.10269, 83.28820



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 75.24 km
Coordinates: 27.10269, 83.28820



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 75.40 km
Coordinates: 27.10277, 83.28936



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 76.43 km
Coordinates: 27.10969, 83.28282



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 76.57 km
Coordinates: 27.11110, 83.28294



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 85.98 km
Coordinates: 27.17234, 83.34277



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 86.79 km

Coordinates: 27.17797, 83.34725



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 86.89 km

Coordinates: 27.17830, 83.34804



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 88.55 km
Coordinates: 27.19248, 83.35489



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 89.22 km
Coordinates: 27.20026, 83.35409



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 98.53 km
Coordinates: 27.27452, 83.36399



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 102.72 km
Coordinates: 27.29659, 83.33155



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 103.04 km

Coordinates: 27.29893, 83.33002



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 103.56 km

Coordinates: 27.30318, 83.33414

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