JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO SHAILESH INDANE GRAM

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

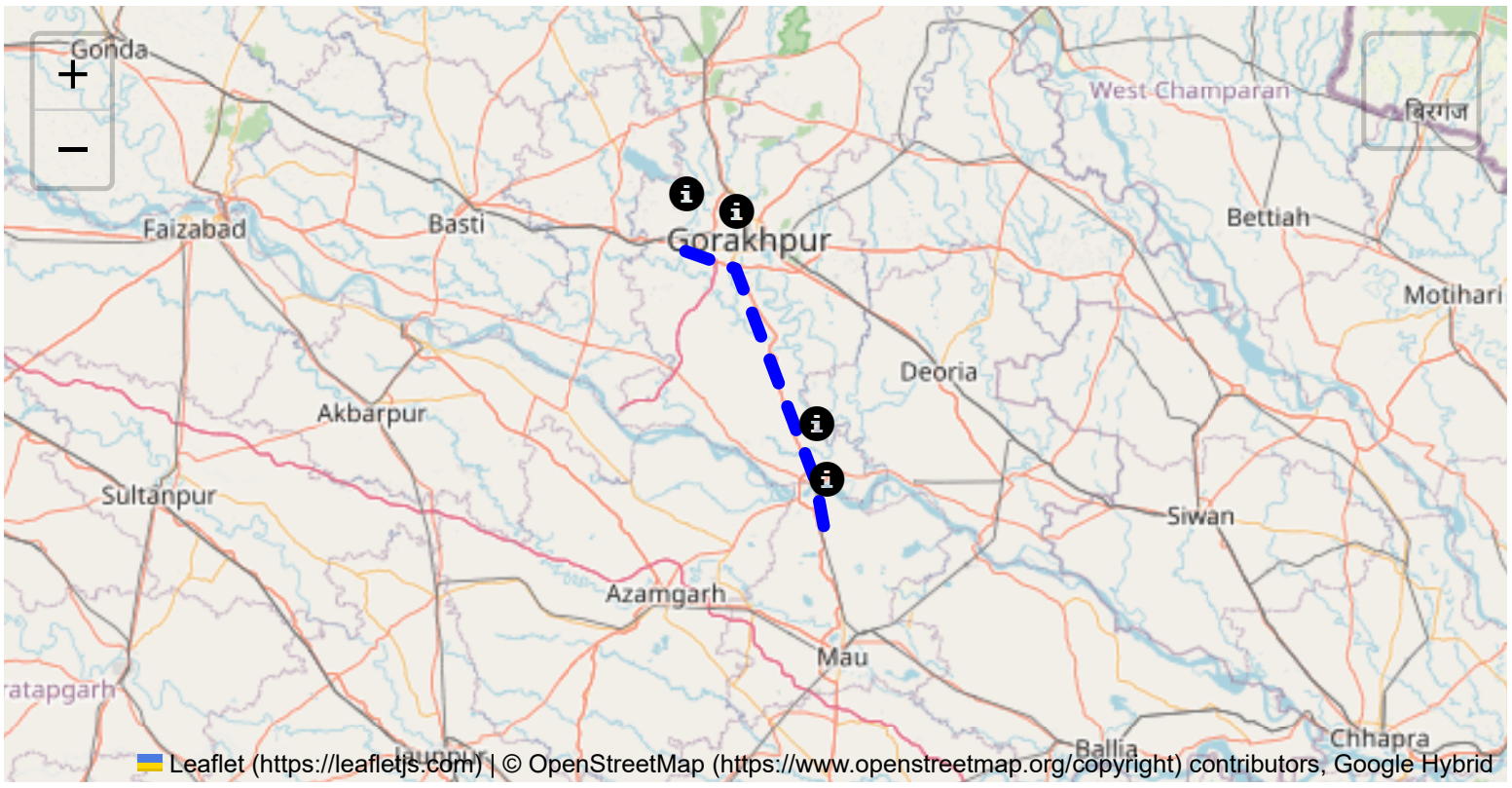
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

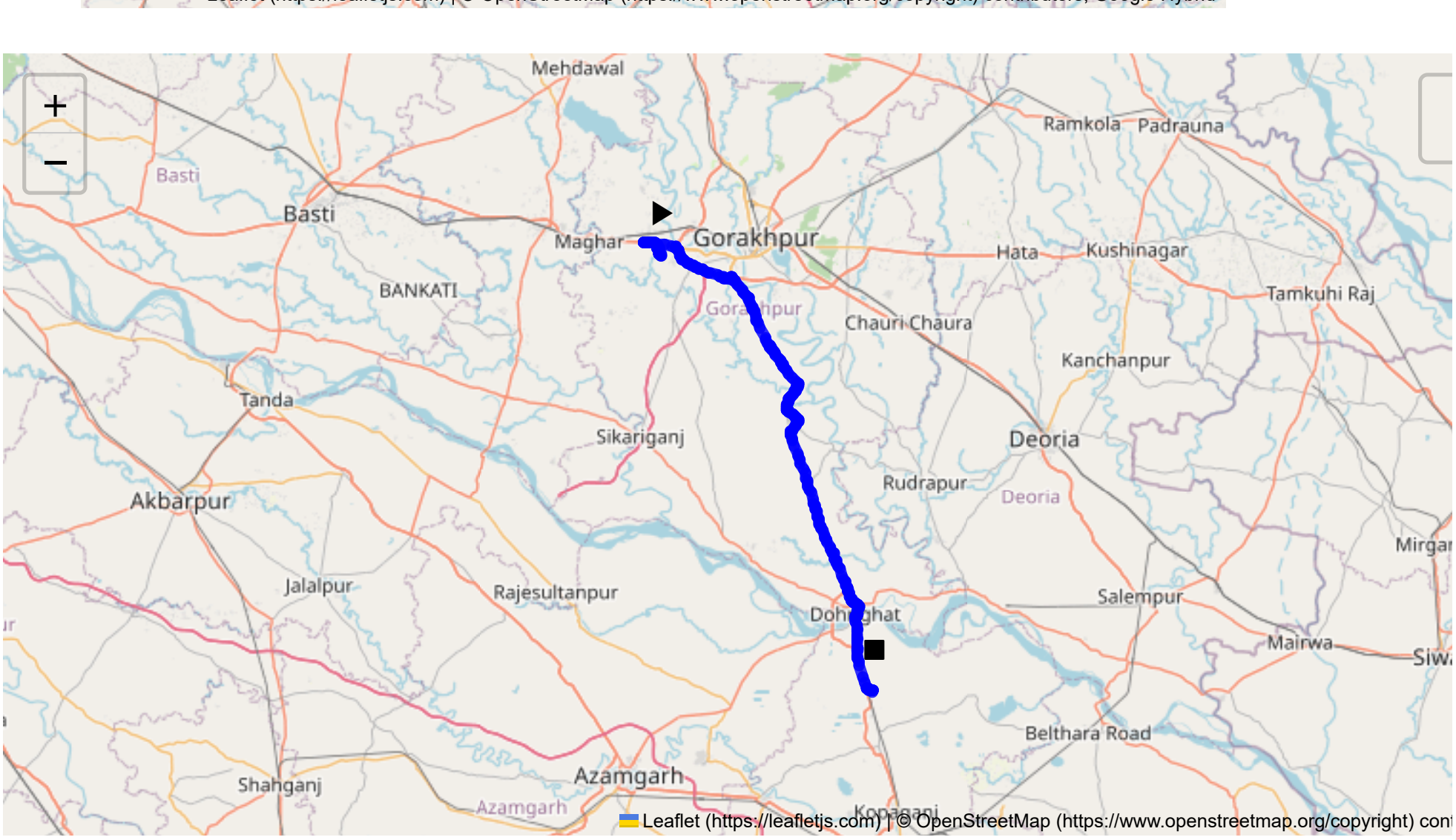
Journey Risk Mitigation

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: 85.82 km
Estimated Duration: 1.9 hours
Adjusted Duration (Heavy Vehicle): 2.4 hours
Start: (26.735959, 83.229398)
End: (26.173115, 83.533702)

Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map: The route spans approximately 85.82 kilometers and travels from GIDA Industrial Area Phase 1 in Sahjanwa to Hemay, passing through Bagha Gara and Barhalganj in Uttar Pradesh, India. It generally follows a series of regional roads, connecting industrial and rural areas.

2. Weather Conditions and Potential Weather-Related Hazards: The region typically experiences hot summers, monsoon rains, and cool winters. During the monsoon season (June to September), heavy rains can lead to waterlogged roads and reduced visibility. Consider the risk of flash flooding and disrupted travel during this period. Dust storms can occur in summer months, affecting visibility.

3. Traffic Patterns: Traffic congestion is more likely during early morning and late afternoon due to commuting workers. Urban areas near Sahjanwa and Barhalganj could see increased congestion. Rural roads might be less crowded but watch out for slow-moving agricultural vehicles.

4. Assessment of Road Quality and Infrastructure: The road quality varies, with urban areas typically having better-maintained roads compared to rural sections. Potholes, narrow lanes, and unmarked stretches are common, particularly in less populated areas. Be cautious when driving through construction zones or areas with historical maintenance complaints.

5. Suggestions for Alternative Routes for Emergencies: In case of road closures or significant delays:

- Consider using local state highways, if available, though they may be longer.
- Keep detailed maps for local detours around congested rural areas.
- Familiarize with smaller arterial roads linking major segments.

6. Summary of Local Regulations Affecting Hazardous Material Transport: Transporting hazardous materials in Uttar Pradesh involves strict adherence to local and national regulations. Permit requirements, especially for certain chemicals or large quantities, are enforced. Drivers must have necessary training and documentation available for inspection.

7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials: Incidents are commonly related to vehicle overturns and spillage on sharp turns or narrow roads. Past reports highlight mechanical failures and driver error in rural zones. Keep maintenance records current and ensure driver awareness of road conditions.

8. Environmental Considerations and Sensitive Areas: The route skirts several agricultural zones that may be sensitive to spills and contamination. Respect local biodiversity signs and avoid any actions that might pollute waterways.

9. Analysis of Communication Coverage: Mobile network coverage varies, with urban areas enjoying better connectivity. Expect potential dead zones in rural sections, particularly between Bagha Gara and Barhalganj. Equip drivers with communication aids like GPS systems with offline maps and emergency contacts.

10. Estimated Emergency Response Times: Emergency response may take 15-30 minutes in urban settings but could exceed an hour in remote rural areas. Precise times can fluctuate depending on local emergency facilities and availability.

11. Overall Summary of Risk Assessment:

- **High risk** during monsoon due to weather hazards.
- **Moderate congestion** in urban areas with potential delays.
- **Variable road conditions** necessitate caution and defensive driving.

- Ensure compliance with **transport regulations** and maintain **vehicle integrity** to minimize incident risks.
- Ensure drivers are prepared for possible **communication outages** and understand emergency protocols.
- Maintain awareness of surroundings to safeguard local environments.

In conclusion, thorough preparation and continuous monitoring of road and weather conditions are essential for minimizing risks on this route. Training drivers on local rules, potential hazards, and emergency procedures can effectively enhance safety during transport operations.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 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	1.16 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 km
7	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 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	4.22 km
10	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.79 km
11	Turn	Medium	26.74656, 83.25154	30 KM/Hr	9.04 km
12	Turn	Medium	26.74648, 83.25152	30 KM/Hr	9.06 km
13	Turn	High	26.70798, 83.33175	15 KM/Hr	18.60 km
14	Turn	Medium	26.26838, 83.50898	30 KM/Hr	73.99 km
15	Turn	Medium	26.22844, 83.51155	30 KM/Hr	78.46 km
16	Blind Spot	Blind Spot	26.22829, 83.51134	10 KM/Hr	78.50 km
17	Blind Spot	Blind Spot	26.17739, 83.52564	10 KM/Hr	83.96 km
18	Blind Spot	Blind Spot	26.17567, 83.53531	10 KM/Hr	85.33 km
19	Turn	High	26.17400, 83.53505	15 KM/Hr	85.46 km
20	Turn	High	26.17409, 83.53394	15 KM/Hr	85.61 km

Emergency Locations

Found: 2 hospital(s), 2 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Zohra Hospital	26.285864, 83.5112429	30 km/h	Medium	71.54 km
1	clinic	Om Sai Nath Child Care Centre	26.2844295, 83.5124573	30 km/h	Medium	71.96 km
2	hospital	Ramdhani Hospital	26.2834401, 83.5139654	30 km/h	Medium	72.17 km
3	clinic	Sneha Nursing Home	26.2668388, 83.5054453	30 km/h	Medium	73.99 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: 4.22 km

Coordinates: 26.75353, 83.20457

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.28 km

Coordinates: 26.75377, 83.20465

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.79 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.04 km

Coordinates: 26.74656, 83.25154

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74648, 83.25152

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 18.60 km

Coordinates: 26.70798, 83.33175

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 73.99 km

Coordinates: 26.26838, 83.50898

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 78.46 km

Coordinates: 26.22844, 83.51155

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 78.50 km

Coordinates: 26.22829, 83.51134

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 83.96 km

Coordinates: 26.17739, 83.52564

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 85.33 km

Coordinates: 26.17567, 83.53531

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