JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO RAMKOLA INDANE GAS S

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

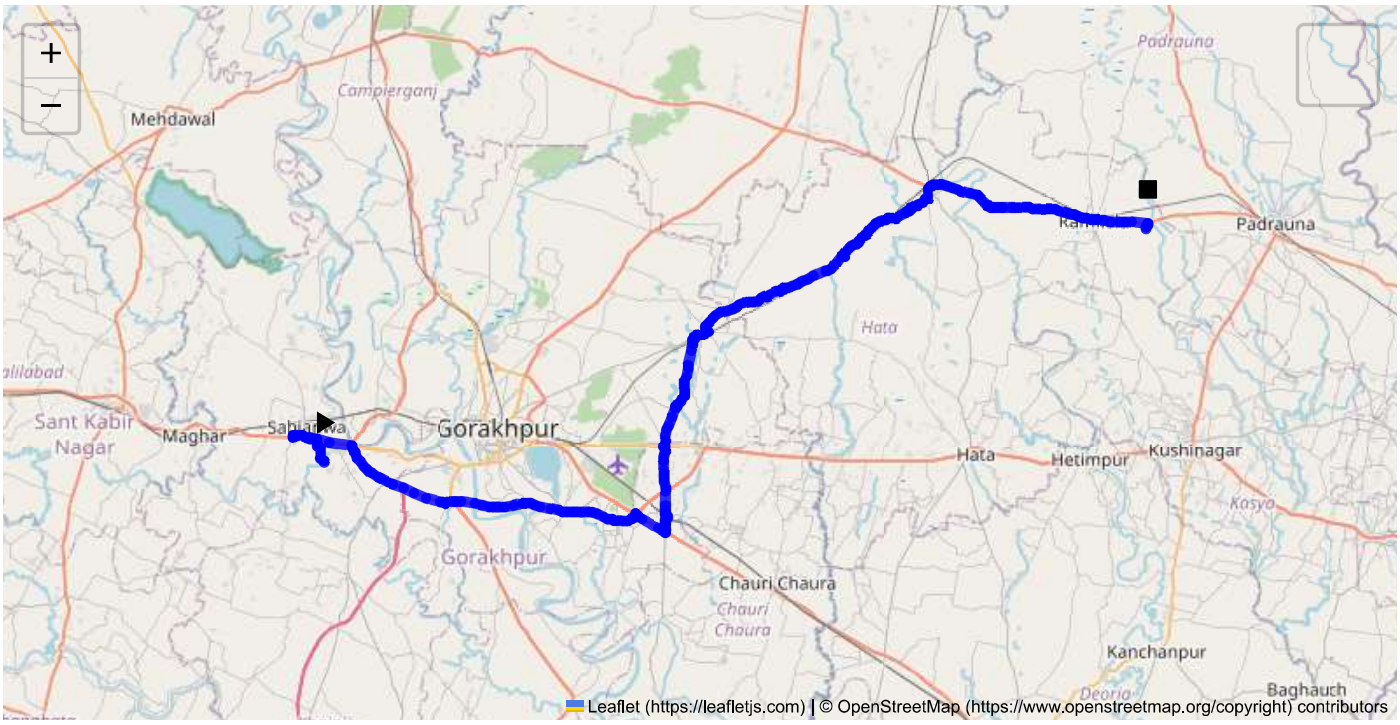
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 93.78 km
Estimated Duration: 2.3 hours
Adjusted Duration (Heavy Vehicle): 2.9 hours
Start: (26.735959, 83.229398)
End: (26.900554, 83.878448)

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 through Ramnagar Karjaha and Mujahana, Ghoda Deur, before reaching Mahdiganj, Uttar Pradesh. The journey mostly follows rural roads with occasional intersections and state highway connections. These roads are typically used for both local and through traffic.

2. **Typical Weather Conditions and Potential Weather-related Hazards:** Uttar Pradesh experiences a subtropical climate with hot summers, a monsoon season, and mild winters. During the monsoon (June to September), heavy rainfall can cause flooding, leading to road closures and landslides, especially in rural areas. Foggy conditions are common in winter (December to February), potentially affecting visibility.

3. **Traffic Patterns:** Congestion is often observed near local markets and areas with narrow roads, particularly in smaller towns and villages. Peak traffic hours typically occur in the mornings (8-10 AM) and evenings (5-7 PM) when local people commute. Agricultural activities can also lead to slow-moving traffic due to tractors and animal-driven carts.

4. **Assessment of Road Quality and Infrastructure:** The road quality varies, with certain stretches in rural areas being poorly maintained, featuring potholes and uneven surfaces. Urban sections may be relatively better maintained. Bridges and culverts could pose potential bottlenecks. Some roads may lack proper signage and lighting, especially in rural segments.

5. **Suggestions for Alternative Routes for Emergencies:** For diversions, using additional state highways that connect with major towns could serve as alternatives, especially if primary roads are obstructed. Local input and real-time traffic updates should be sought to determine the most viable detours.

6. **Summary of Local Regulations Affecting Hazardous Material Transport:** Regulations require that vehicles carrying hazardous materials follow prescribed routes, adhere to speed limits, and display appropriate warning signs. Local transport offices can provide specific rules that must be followed, and compliance with safety norms is critical to prevent fines and ensure safety.

7. **Overview of Historical Incidents:** Historical data regarding incidents involving heavy vehicles or hazardous materials in this region is limited. However, incidents related to truck overturns and spills could be related to poor road conditions and lack of driver compliance with traffic norms.

8. **Environmental Considerations and Sensitive Areas:** Environmental sensitivity increases near water bodies and agricultural lands. Ensure that spills are handled with care to prevent contamination. Awareness of local wildlife crossings is also essential to avoid accidents.

9. **Analysis of Communication Coverage:** Mobile network coverage in urban areas is generally strong, but dead zones may be found in less populated, rural stretches. It's advisable to verify network quality along the specific route with local service providers.

10. **Estimated Emergency Response Times:** In urban and peri-urban areas, emergency response could take 30 to 60 minutes, while response times in rural areas may exceed one hour, depending on accessibility and available resources. Knowing local emergency contacts is crucial for swift action.

11. **Overall Summary of Risk Assessment:** The primary risks along this route include poor road conditions, severe weather during monsoons, and limited emergency response in rural zones. Proper preparation such as equipping vehicles with necessary gear for weather and emergency resources, as well as educating drivers about the specific route challenges, will mitigate most risks. Compliance with local transport laws ensures smoother operations, and alternative routes should be planned in advance for any contingencies.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
3	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
4	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
5	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
8	Turn	High	26.75377, 83.20465	15 KM/Hr	4.27 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.13 km
9	Turn	Medium	26.69741, 83.47552	30 KM/Hr	33.24 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.41 km
10	Blind Spot	Blind Spot	26.69857, 83.47481	10 KM/Hr	33.41 km
11	Blind Spot	Blind Spot	26.68607, 83.49881	10 KM/Hr	36.09 km
12	Turn	Medium	26.69516, 83.49895	30 KM/Hr	37.08 km
13	Turn	High	26.69734, 83.50032	15 KM/Hr	37.44 km
14	Blind Spot	Blind Spot	26.74662, 83.49914	10 KM/Hr	42.97 km
15	Blind Spot	Blind Spot	26.74659, 83.49782	10 KM/Hr	43.08 km
16	Turn	Medium	26.82139, 83.52137	30 KM/Hr	51.78 km
17	Turn	Medium	26.82168, 83.52128	30 KM/Hr	51.91 km
18	Turn	High	26.82411, 83.52193	15 KM/Hr	52.12 km
19	Blind Spot	Blind Spot	26.82741, 83.53262	10 KM/Hr	53.28 km
20	Turn	High	26.82760, 83.53150	15 KM/Hr	53.43 km
21	Turn	High	26.83147, 83.53004	15 KM/Hr	53.92 km
22	Turn	Medium	26.88048, 83.63813	30 KM/Hr	65.89 km
23	Turn	Medium	26.88064, 83.63915	30 KM/Hr	66.28 km
24	Turn	Medium	26.90709, 83.67596	30 KM/Hr	71.11 km
25	Turn	Medium	26.91435, 83.69301	30 KM/Hr	73.08 km
26	Turn	High	26.92140, 83.70568	15 KM/Hr	74.50 km
27	Blind Spot	Blind Spot	26.92872, 83.70591	10 KM/Hr	75.40 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
28	Turn	High	26.90401, 83.87858	15 KM/Hr	92.62 km
29	Turn	High	26.90288, 83.87924	15 KM/Hr	93.34 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.97 km

Crowded Spots

Route Photos of Risky Spots

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.16 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: 4.27 km

Coordinates: 26.75377, 83.20465

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.13 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 33.24 km

Coordinates: 26.69741, 83.47552

Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.698439, 83.4747268

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.69857, 83.47481

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 36.09 km

Coordinates: 26.68607, 83.49881

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 37.08 km

Coordinates: 26.69516, 83.49895

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 37.44 km

Coordinates: 26.69734, 83.50032

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 42.97 km

Coordinates: 26.74662, 83.49914

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 43.08 km

Coordinates: 26.74659, 83.49782

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.78 km

Coordinates: 26.82139, 83.52137

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.91 km

Coordinates: 26.82168, 83.52128

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 52.12 km

Coordinates: 26.82411, 83.52193

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 53.28 km

Coordinates: 26.82741, 83.53262

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 53.43 km

Coordinates: 26.82760, 83.53150

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 53.92 km

Coordinates: 26.83147, 83.53004

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 71.11 km

Coordinates: 26.90709, 83.67596

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 73.08 km

Coordinates: 26.91435, 83.69301

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 74.50 km

Coordinates: 26.92140, 83.70568

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 75.40 km

Coordinates: 26.92872, 83.70591

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 92.62 km

Coordinates: 26.90401, 83.87858

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 93.34 km

Coordinates: 26.90288, 83.87924

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