JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO JAISWAL 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

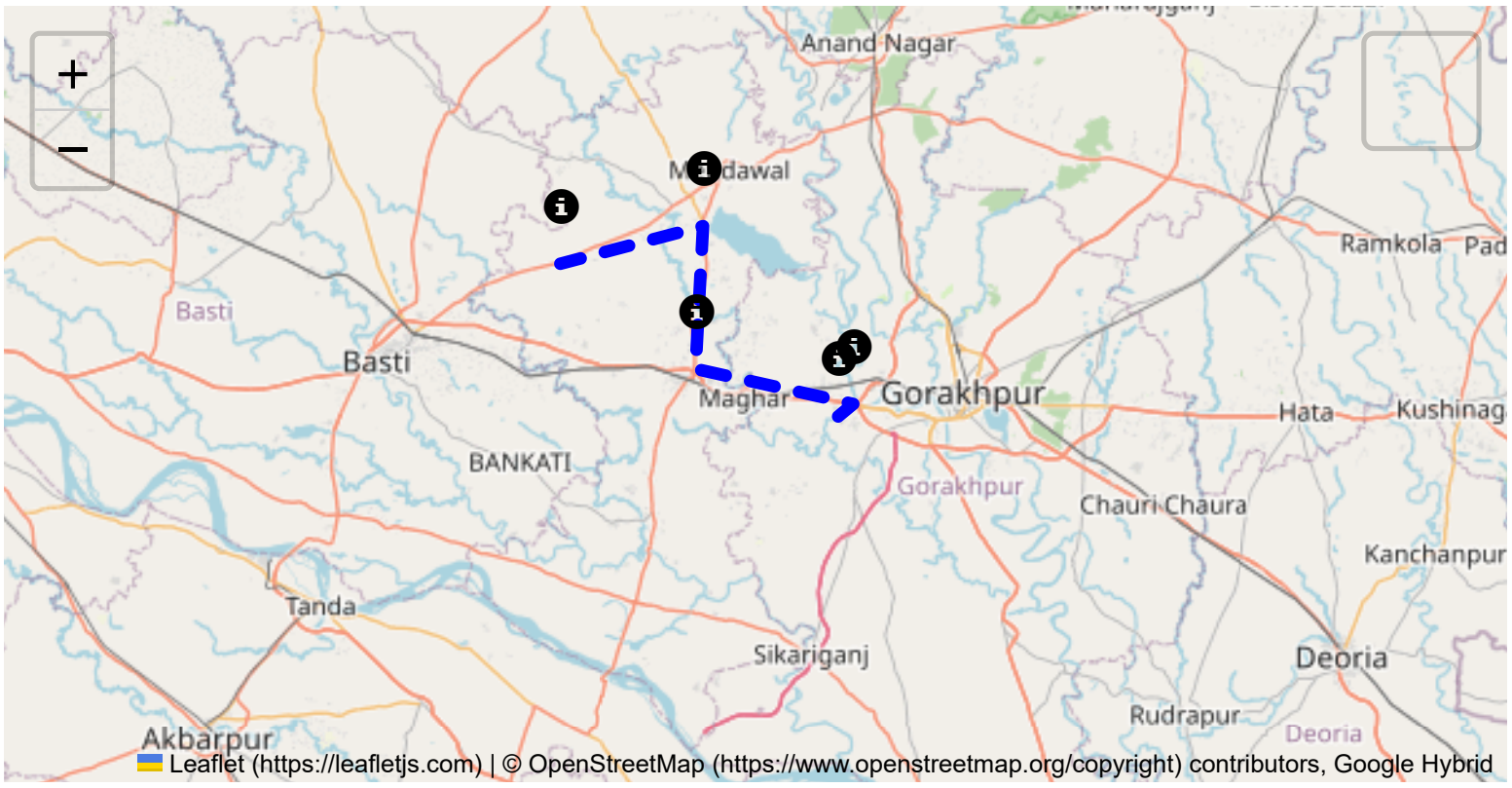
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

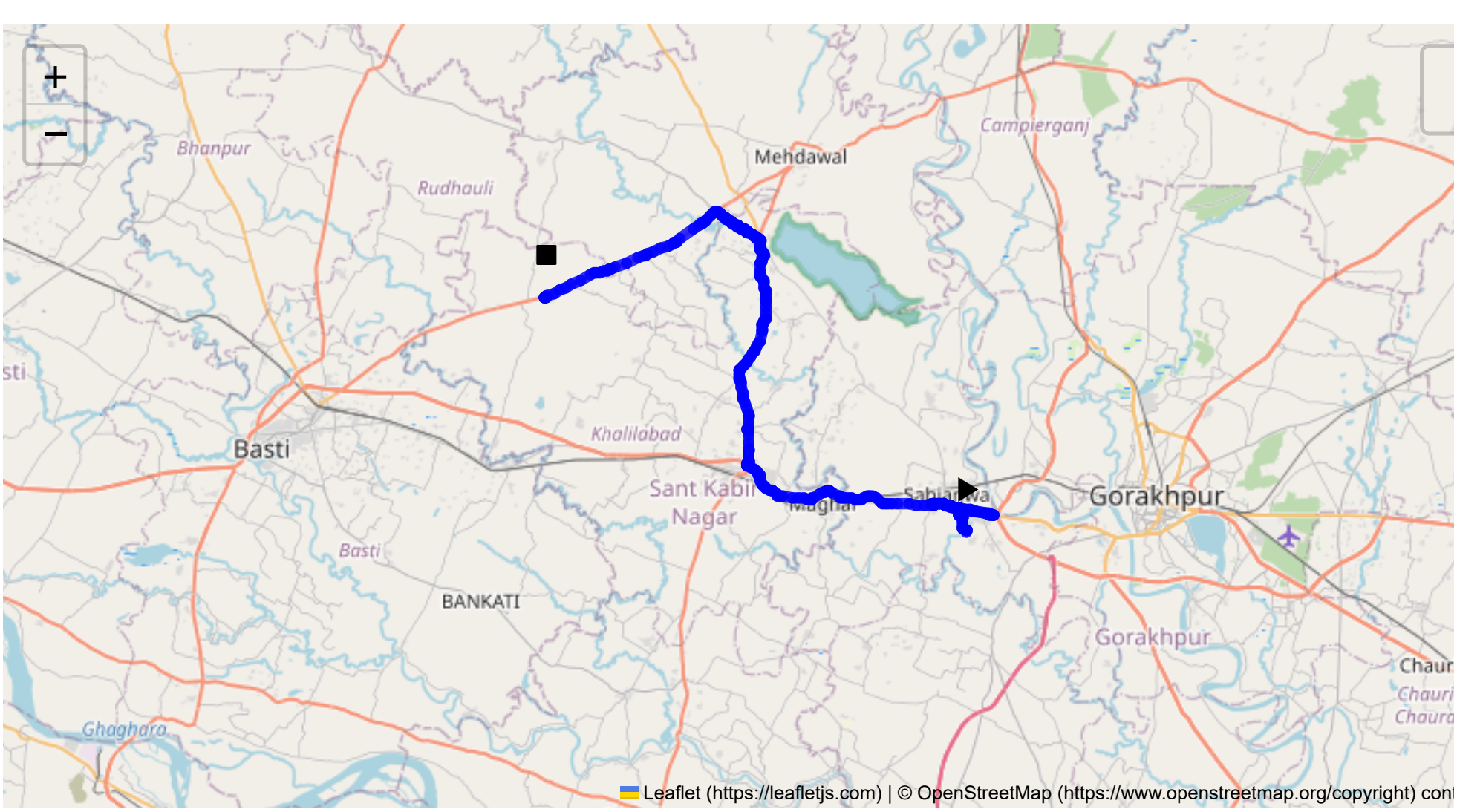
Journey Risk Mitigation

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: 62.70 km
Estimated Duration: 1.6 hours
Adjusted Duration (Heavy Vehicle): 2.1 hours
Start: (26.735959, 83.229398)
End: (26.885972, 82.925876)

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 VWPG+4FP Bus Stop, Dudhara, spans approximately 62.70 kilometers. It passes through several notable points: 01 Zero Point, Kaalesar; Q3JC+GW3, Mohaddipur, Khalilabad; and W3FJ+2R2, Menhdawal - Basti Rd, Chiraiyadand, Ledwa Mahua.

The route generally follows a mixture of industrial, semi-urban, and rural areas with varied road conditions.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Uttar Pradesh experiences a subtropical climate with significant variations. Summers (April-June) can be extremely hot, posing risks such as tire blowouts and overheating engines. The monsoon (July-September) often brings heavy rains, leading to flooding and slippery roads. Winters (December-February) can have fog, reducing visibility. Drivers should be aware of weather alerts, especially during monsoons.

3. Analysis of Traffic Patterns

Traffic congestion is likely near industrial areas around Sahjanwa and Khalilabad during peak hours (8-10 AM and 5-7 PM). Highway stretches between these areas might have less congestion but increased speed variations. Road works or local fairs can occasionally disrupt traffic. Truck drivers should plan travel during off-peak hours where possible.

4. Assessment of Road Quality and Infrastructure

Roads vary from well-maintained highways to narrow rural roads. Potholes and uneven surfaces are common in rural sections, particularly during the rainy season. Regular upgrades and construction can lead to temporary detours. It's important for drivers to maintain moderate speeds and be wary of abrupt lane changes due to poor road conditions.

5. Suggestions for Alternative Routes for Emergencies

An alternative emergency route can be through NH27, which offers more consistent quality and better connectivity with emergency services, albeit potentially adding more time to the journey. If local conditions suggest an emergency, reaching out via local traffic apps for real-time suggestions is advisable.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Carrying hazardous materials in Uttar Pradesh requires adherence to national regulations, such as appropriate labeling and packaging and route compliance. Traveling through populated areas demands additional caution to minimize risks to surrounding communities.

7. Overview of Historical Incidents

There have been occasional incidents involving heavy vehicles and hazardous materials, mostly related to road conditions or driver fatigue. These stress the importance of regular vehicle checks and adherence to rest schedules for drivers.

8. Environmental Considerations and Sensitive Areas

Sections near rural or agricultural lands require careful navigation to avoid any hazardous spills which could disrupt local ecosystems. Drivers should ensure secure load handling to avoid leakage that could harm the environment or local economies dependent on agriculture.

9. Analysis of Communication Coverage

Mobile network coverage is generally reliable along major stretches but can be patchy in rural areas, particularly between Khalilabad and Chiraiyadand. Drivers should plan accordingly, keeping emergency contact numbers accessible and informing third parties about travel schedules in advance.

10. Estimated Emergency Response Times

Emergency response can vary from 30 minutes to over an hour, depending on proximity to urban centers like Sahjanwa and Khalilabad, compared to more remote segments near Ledwa Mahua. Coordination with local traffic patrols can help expedite response times if necessary.

12. Overall Summary of Risk Assessment

This route presents moderate risk for transporting hazardous materials due to diverse road conditions and variable weather. Key risks include weather-related hazards, potential mechanical failure on poor roads, and congestion near urban areas. Drivers should maintain awareness of the driving environment, adhere to regulations, and prepare for both expected and unexpected conditions. Proper route planning and communication with base operations are integral in mitigating risks.

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	1.28 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	4.23 km
10	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km
0	U-Turn	High	26.7471208, 83.2490873	10 KM/Hr	8.76 km
11	Blind Spot	Blind Spot	26.74712, 83.24909	10 KM/Hr	8.76 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
12	Turn	High	26.74703, 83.24907	15 KM/Hr	8.79 km
13	Turn	Medium	26.76249, 83.08902	30 KM/Hr	25.30 km
14	Turn	High	26.77909, 83.07207	15 KM/Hr	27.91 km
15	Turn	Medium	26.87266, 83.08526	30 KM/Hr	38.97 km
16	Turn	Medium	26.91393, 83.08364	30 KM/Hr	43.71 km
17	Turn	Medium	26.92250, 83.08192	30 KM/Hr	44.73 km
18	Turn	High	26.92321, 83.08173	15 KM/Hr	44.83 km
19	Turn	Medium	26.92450, 83.07843	30 KM/Hr	45.20 km
20	Turn	Medium	26.93307, 83.06425	30 KM/Hr	46.92 km
21	Turn	High	26.93320, 83.06423	15 KM/Hr	46.96 km
22	Turn	High	26.94201, 83.04972	15 KM/Hr	48.69 km
23	Turn	High	26.88683, 82.92572	15 KM/Hr	62.55 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: 4.28 km

Coordinates: 26.75377, 83.20465

Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 8.76 km

Coordinates: 26.7471208, 83.2490873

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 8.76 km

Coordinates: 26.74712, 83.24909

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.79 km

Coordinates: 26.74703, 83.24907

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 25.30 km

Coordinates: 26.76249, 83.08902

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 27.91 km

Coordinates: 26.77909, 83.07207

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 38.97 km

Coordinates: 26.87266, 83.08526

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 43.71 km

Coordinates: 26.91393, 83.08364

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 44.73 km

Coordinates: 26.92250, 83.08192

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 44.83 km

Coordinates: 26.92321, 83.08173

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 45.20 km

Coordinates: 26.92450, 83.07843

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 46.92 km

Coordinates: 26.93307, 83.06425

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 46.96 km

Coordinates: 26.93320, 83.06423

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 48.69 km

Coordinates: 26.94201, 83.04972

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 62.55 km

Coordinates: 26.88683, 82.92572

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