JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO KRISHNA BHAGWAN INDA

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

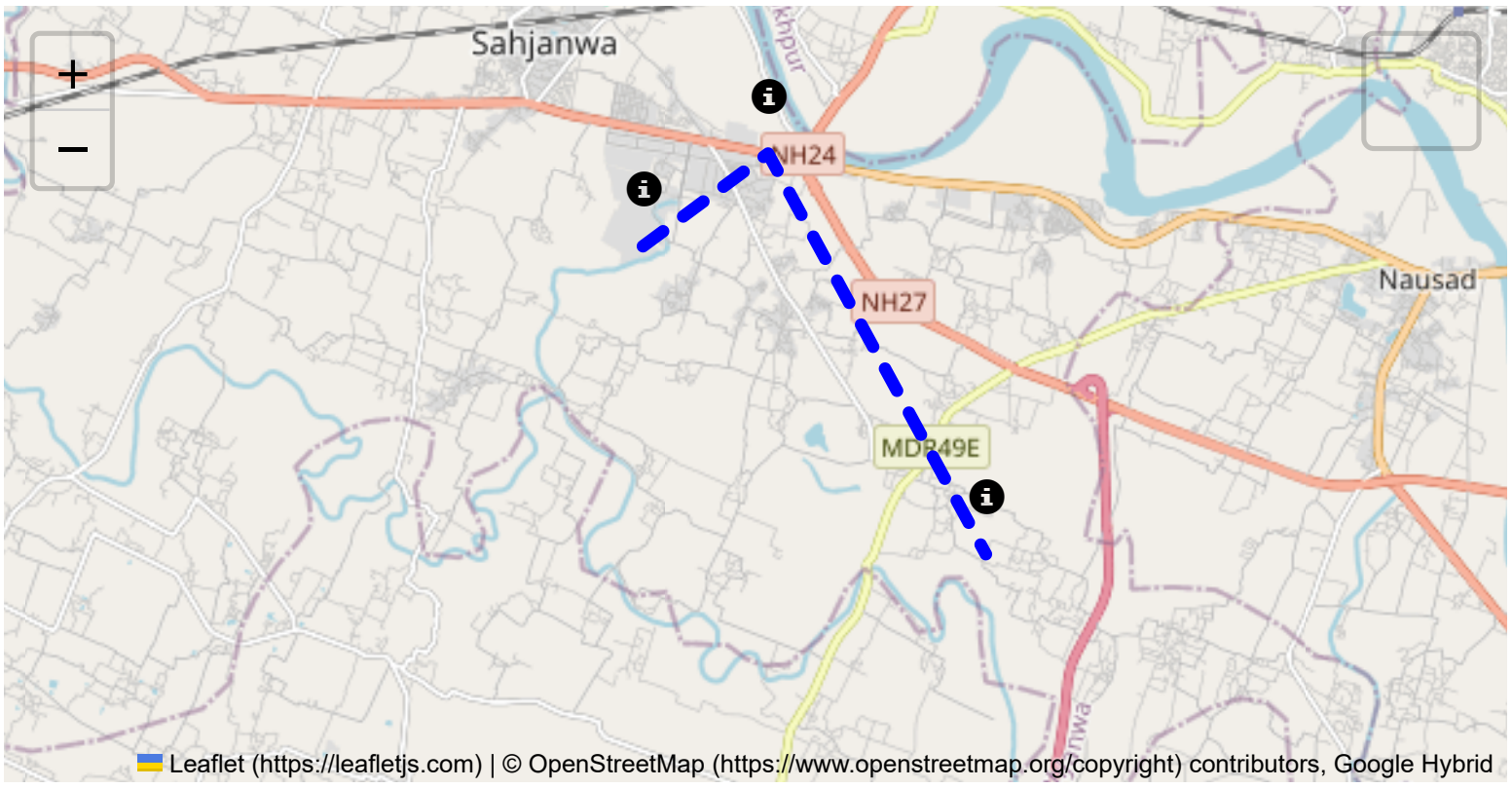
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

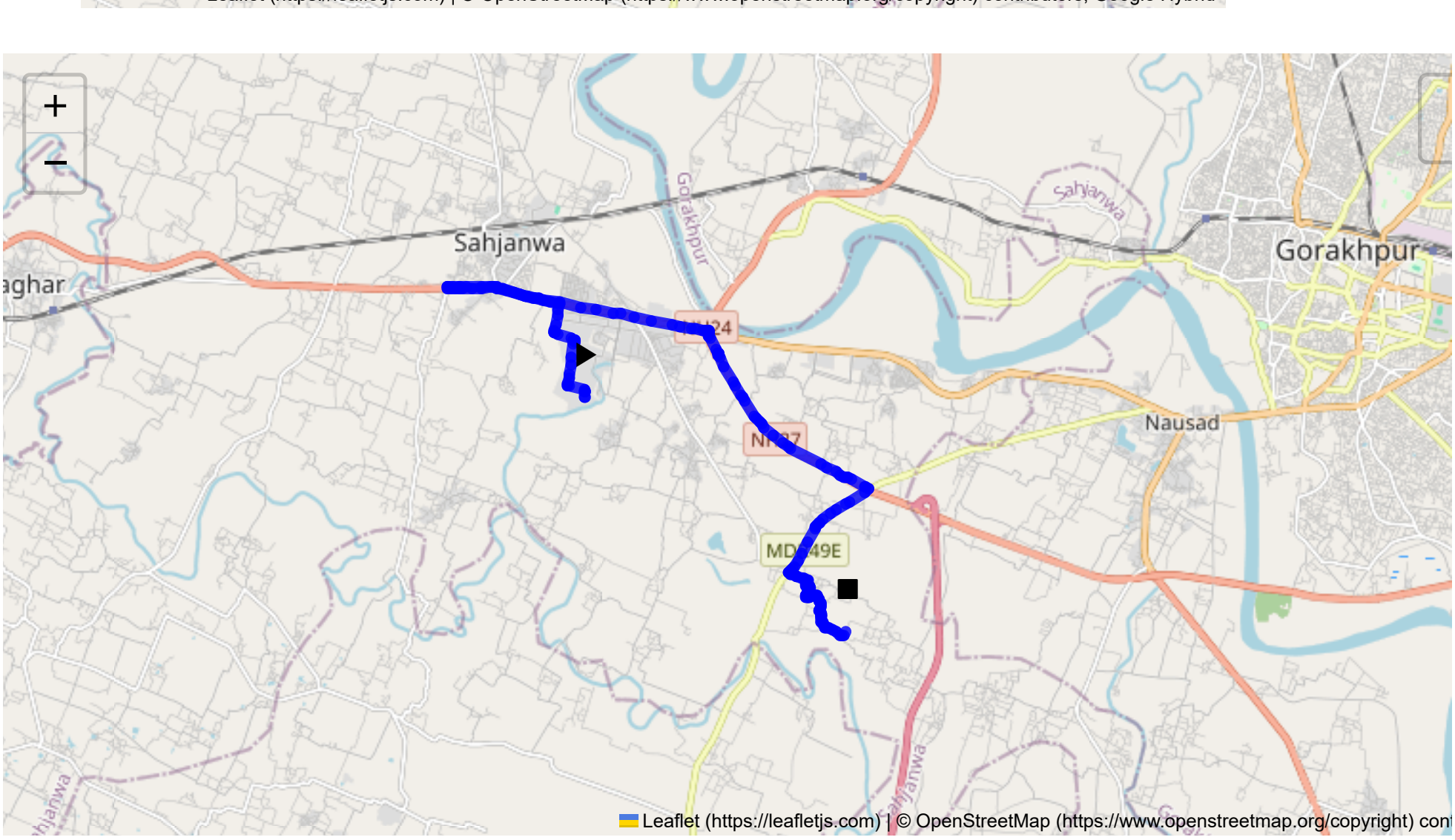
Journey Risk Mitigation

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: 17.39 km
Estimated Duration: 0.5 hours
Adjusted Duration (Heavy Vehicle): 0.7 hours
Start: (26.735959, 83.229398)
End: (26.69832, 83.2765)

Welcome to the Journey Risk Management Study

Route Safety Analysis: P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa to M7XG+8H Siar via Kaalesar, Uttar Pradesh

1. **Overview of the Route Map:**
    - The route extends approximately 17.39 kilometers, starting from the GIDA Industrial Area in Sahjanwa, going through Kaalesar at Zero Point, and terminating in Siar. It primarily follows local

roads, with possible intersections with major highways.

2. **Weather Conditions and Hazards:**
    - **Typical Weather:** The region experiences a subtropical climate with hot summers, monsoon rains, and cool winters. Summer months can lead to road surface issues, while the monsoon can cause waterlogging and reduced visibility.
    - **Weather Hazards:** Primarily, the monsoon (June to September) poses a threat of flooding and slippery roads. Fog in winter months (November to January) can severely limit visibility.
3. **Traffic Patterns:**
    - **Peak Hours:** Morning (8:00 AM - 10:00 AM) and evening (5:00 PM - 7:00 PM) might experience higher traffic volumes due to local commuting. Industrial areas like GIDA typically have higher outbound traffic in the evening.
    - **Congestion Zones:** Near market areas and during intersections with national highways, traffic can be dense. The area around Zero Point Kaalesar is another potential congestion point.
4. **Road Quality and Infrastructure:**
    - Roads are generally maintained, but local roads may have inconsistencies like potholes or narrow stretches. Highway segments are usually in better condition, with signage and marked lanes. Off-highway sections may lack adequate street lighting.
5. **Alternative Routes for Emergencies:**
    - In case of major hold-ups, alternate routing through other district roads should be evaluated based on real-time traffic conditions and road closures. Utilizing highways, if practical, might offer quicker detours but should be analyzed based upon upcoming destinations.
6. **Local Regulations on Hazardous Material Transport:**
    - Transport of hazardous materials is regulated by The Motor Vehicles Act and specific state guidelines requiring placards, safety equipment, and documentation. Restrictions often apply during festivals and in densely populated areas.
7. **Historical Incidents:**
    - Current databases or records may not cite specific hazardous material incidents along this short route segment. However, general caution is advised, considering any road infrastructure weakness or local accident reports.
8. **Environmental Considerations:**
    - Sensitive areas may include any local water bodies or reserves. Spills and leaks in these areas can have significant ecological impacts as well as legal consequences for the transport company.
9. **Communication Coverage:**
    - Major network providers generally have extensive coverage in Uttar Pradesh, though dead zones might exist in rural stretches between the urban centers and smaller localities like Kaalesar.
10. **Estimated Emergency Response Times:**
    - Emergency services in urban areas typically have response times ranging from 10-20 minutes, but this might increase to 30 minutes or more in rural segments, particularly if communication

infrastructure is lacking.

11. **Overall Summary of Risk Assessment:**
    - **Key Risks:**
        - Weather-related disruptions, particularly during the monsoon and winter fog.
        - Traffic congestion at known hotspots around industrial areas and intersections.
        - Infrastructure variability with narrow, poorly lit roads posing risks.
    - **Mitigation Measures:**
        - Adhere to weather forecasts routinely.
        - Schedule transit outside of peak hours when possible.
        - Praise familiarity with local regulations and ensure compliance.
        - Develop a contingency plan including alternative routes and readily accessible emergency contact numbers.

This route, while relatively short, requires diligent monitoring for weather conditions, mapping for peak traffic situations, and maintaining awareness of environmental and safety regulations. Preparing for these contingencies can ensure safer and more effective transportation of hazardous materials.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 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	1.30 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
7	Turn	Medium	26.74654, 83.22390	30 KM/Hr	1.69 km
8	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 km
9	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
10	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
11	Turn	High	26.75381, 83.20466	15 KM/Hr	4.30 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.99 km
12	Turn	Medium	26.74644, 83.25150	30 KM/Hr	9.07 km
13	Turn	Medium	26.74310, 83.25343	30 KM/Hr	9.49 km
14	Turn	Medium	26.74298, 83.25343	30 KM/Hr	9.51 km
15	Turn	High	26.72312, 83.27632	15 KM/Hr	12.75 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
16	Turn	High	26.72324, 83.27640	15 KM/Hr	12.79 km
17	Blind Spot	Blind Spot	26.72125, 83.28059	10 KM/Hr	13.22 km
18	Blind Spot	Blind Spot	26.70785, 83.26600	10 KM/Hr	15.37 km
19	Turn	High	26.70672, 83.26937	15 KM/Hr	15.74 km
20	Turn	High	26.70590, 83.26913	15 KM/Hr	15.85 km
21	Turn	Medium	26.70556, 83.26987	30 KM/Hr	15.93 km
22	Turn	Medium	26.70550, 83.26988	30 KM/Hr	15.94 km
23	Turn	Medium	26.70406, 83.26929	30 KM/Hr	16.11 km
24	Turn	High	26.70399, 83.26930	15 KM/Hr	16.12 km
25	Turn	Medium	26.70436, 83.27084	30 KM/Hr	16.28 km
26	Blind Spot	Blind Spot	26.69762, 83.27595	10 KM/Hr	17.29 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: 4.30 km

Coordinates: 26.75381, 83.20466

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.99 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.07 km

Coordinates: 26.74644, 83.25150

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.49 km

Coordinates: 26.74310, 83.25343

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.51 km

Coordinates: 26.74298, 83.25343

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 12.75 km

Coordinates: 26.72312, 83.27632

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 12.79 km

Coordinates: 26.72324, 83.27640

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 13.22 km

Coordinates: 26.72125, 83.28059

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 15.37 km

Coordinates: 26.70785, 83.26600

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