JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to ASHISH INDANE GAS SERVICE

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

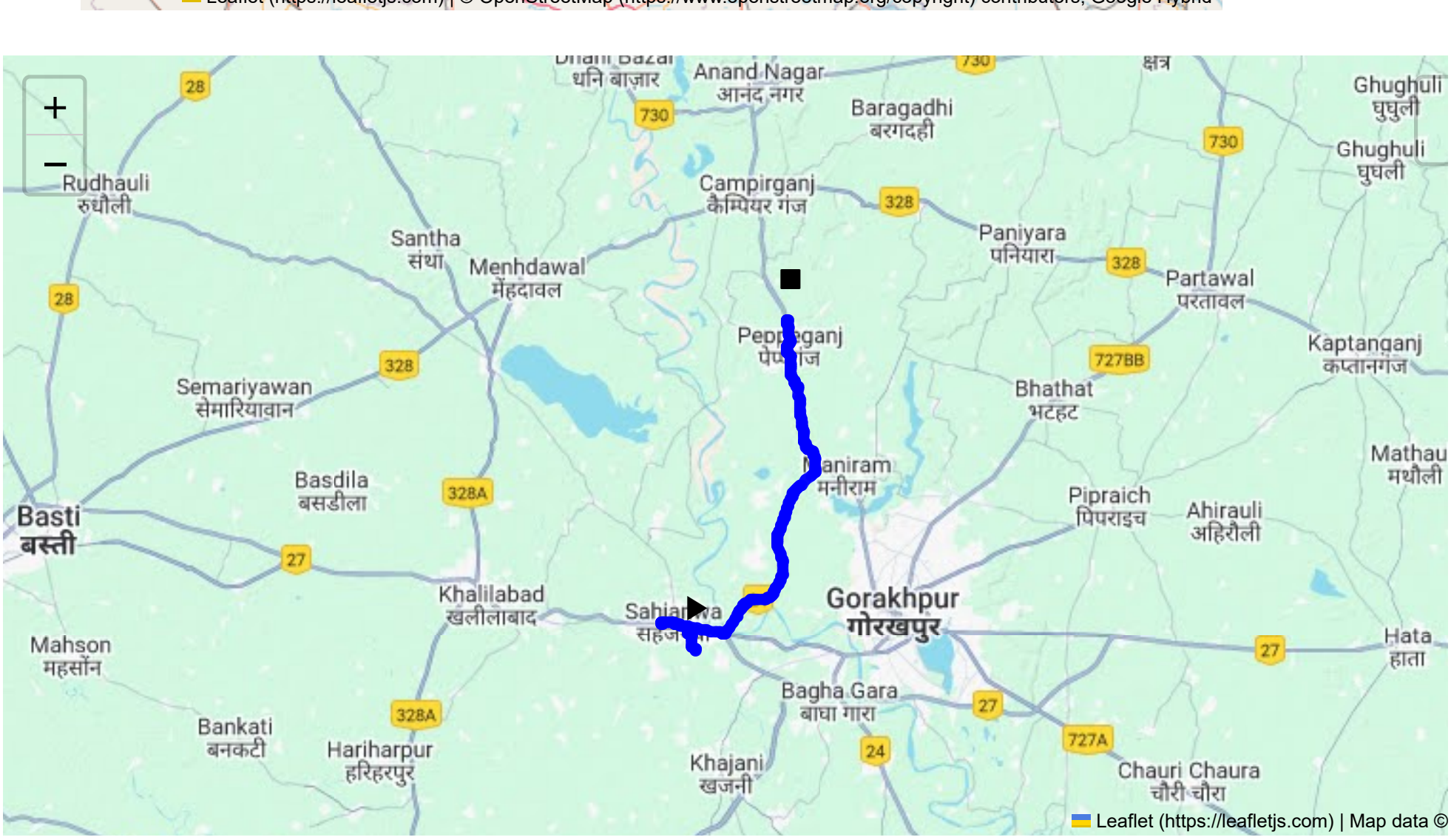
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 35.28 km
Estimated Duration: 0.9 hours
Adjusted Duration (Heavy Vehicle): 1.1 hours
Start: (26.735959, 83.229398)
End: (26.948043, 83.296718)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from GIDA Industrial Area Phase 1, Sahjanwa, Uttar Pradesh to Jangal Bihuli, Uttar Pradesh spans approximately 35.28 kilometers and follows a primarily northeast trajectory. Starting from the industrial hub, the route likely involves several state highways and regional roads, passing through semi-urban and rural areas.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather Conditions**: The region experiences a subtropical climate with hot summers (March to June), a monsoon season (June to September), and mild winters (November to February).
- **Potential Hazards**: During the monsoon, heavy rains can lead to waterlogged roads, decreasing visibility and potentially damaging road surfaces. Fog is common in winter, especially in early mornings and late evenings, which could significantly impact visibility.

3. Analysis of Traffic Patterns

- **Peak Hours**: Typically, peak traffic occurs during morning hours (8:00 AM - 10:00 AM) and evening hours (5:00 PM - 7:00 PM). Industrial areas might have additional vehicle congestion during shift changes.
- **Congestion-Prone Areas**: Areas near marketplaces, school zones, and intersections close to rail crossings, if any, are prone to congestion.

4. Assessment of Road Quality and Infrastructure

- **Road Quality**: Regional roads may vary significantly in quality, with possible potholes and uneven surfaces in less maintained areas.
- **Infrastructure**: Bridges and flyovers are generally adequate but could have weight restrictions, particularly for heavy vehicles.

5. Suggestions for Alternative Routes for Emergencies

Identify bypass roads or parallel highways that can be used in case of road closures or traffic jams. Local roads connecting smaller towns may serve as diversions, although check for their suitability for heavy vehicles.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Time Restrictions**: Movement might be restricted to specific hours to prevent congestion.
- **Route Permits**: Special permits may be required for transporting hazardous materials, particularly when navigating close to populous areas.

7. Overview of Historical Incidents

- **Historical Incidents**: Incidents involving heavy vehicles are not uncommon due to road quality issues and weather conditions. Specific data on hazardous materials may require local transport or police authority insights.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas**: Near any wildlife sanctuaries or reserve forests, where speed limits and honking restrictions are common to minimize environmental impact.
- **Water Bodies**: Exercise caution near lakes or rivers as waterlogged areas are prone to accidents during monsoon.

9. Analysis of Communication Coverage

- **Coverage**: Cellular network coverage is generally reliable but might have gaps in less developed rural areas. Dead zones might occur in dense foliage or depressions.

10. Estimated Emergency Response Times

- **Urban Areas**: 15-20 minutes
- **Rural Areas**: May exceed 30 minutes due to distance from towns and available resources.

12. An Overall Summary of Risk Assessment

The route poses moderate risk primarily due to weather conditions during certain seasons and varying road quality. Careful planning and monitoring weather reports can mitigate risks significantly. Traffic patterns can vary widely; therefore, adherence to off-peak travel hours is advised. Understanding local regulations and emergency contacts is crucial for the transportation of hazardous materials. Lastly, continuous communication with dispatch and local authorities will help minimize delays and ensure safety.

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	High	26.74654, 83.22390	15 KM/Hr	1.65 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
12	Turn	High	26.74708, 83.24935	15 KM/Hr	8.81 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
13	Turn	Medium	26.74712, 83.24938	30 KM/Hr	8.82 km
14	Turn	Medium	26.74703, 83.25096	30 KM/Hr	8.98 km
15	Turn	Medium	26.74767, 83.25139	30 KM/Hr	9.06 km
16	Turn	High	26.74769, 83.25146	15 KM/Hr	9.07 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.87 km
17	Turn	Medium	26.91808, 83.29806	30 KM/Hr	31.56 km
18	Blind Spot	Blind Spot	26.94870, 83.29539	10 KM/Hr	35.07 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: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.81 km

Coordinates: 26.74708, 83.24935

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.82 km

Coordinates: 26.74712, 83.24938

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.98 km

Coordinates: 26.74703, 83.25096

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74767, 83.25139

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 9.07 km

Coordinates: 26.74769, 83.25146

Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.87 km

Coordinates: 26.86209, 83.31517

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 31.56 km

Coordinates: 26.91808, 83.29806

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 35.07 km

Coordinates: 26.94870, 83.29539

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