JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MAA VAISHNAVI INDANE

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

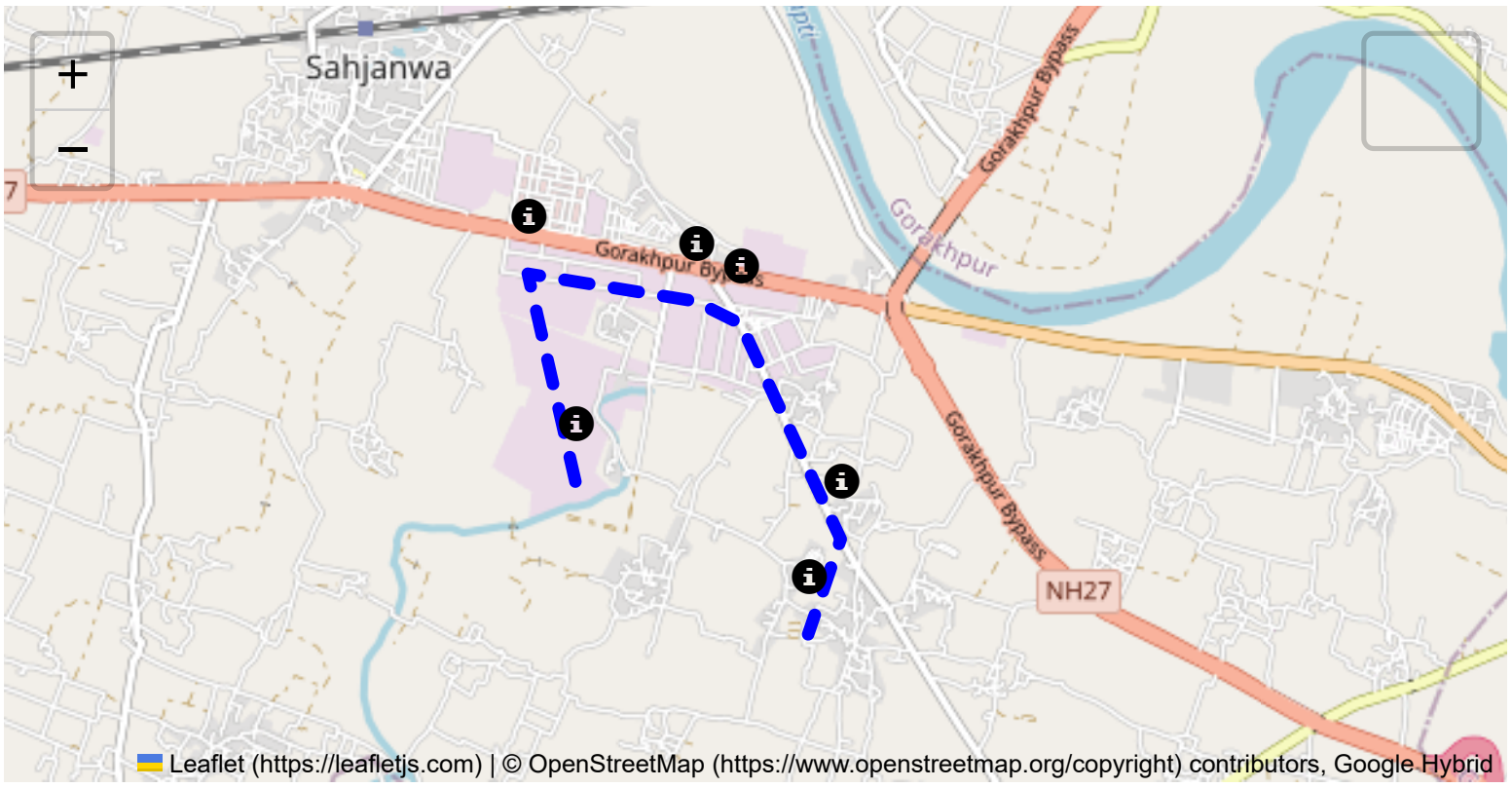
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

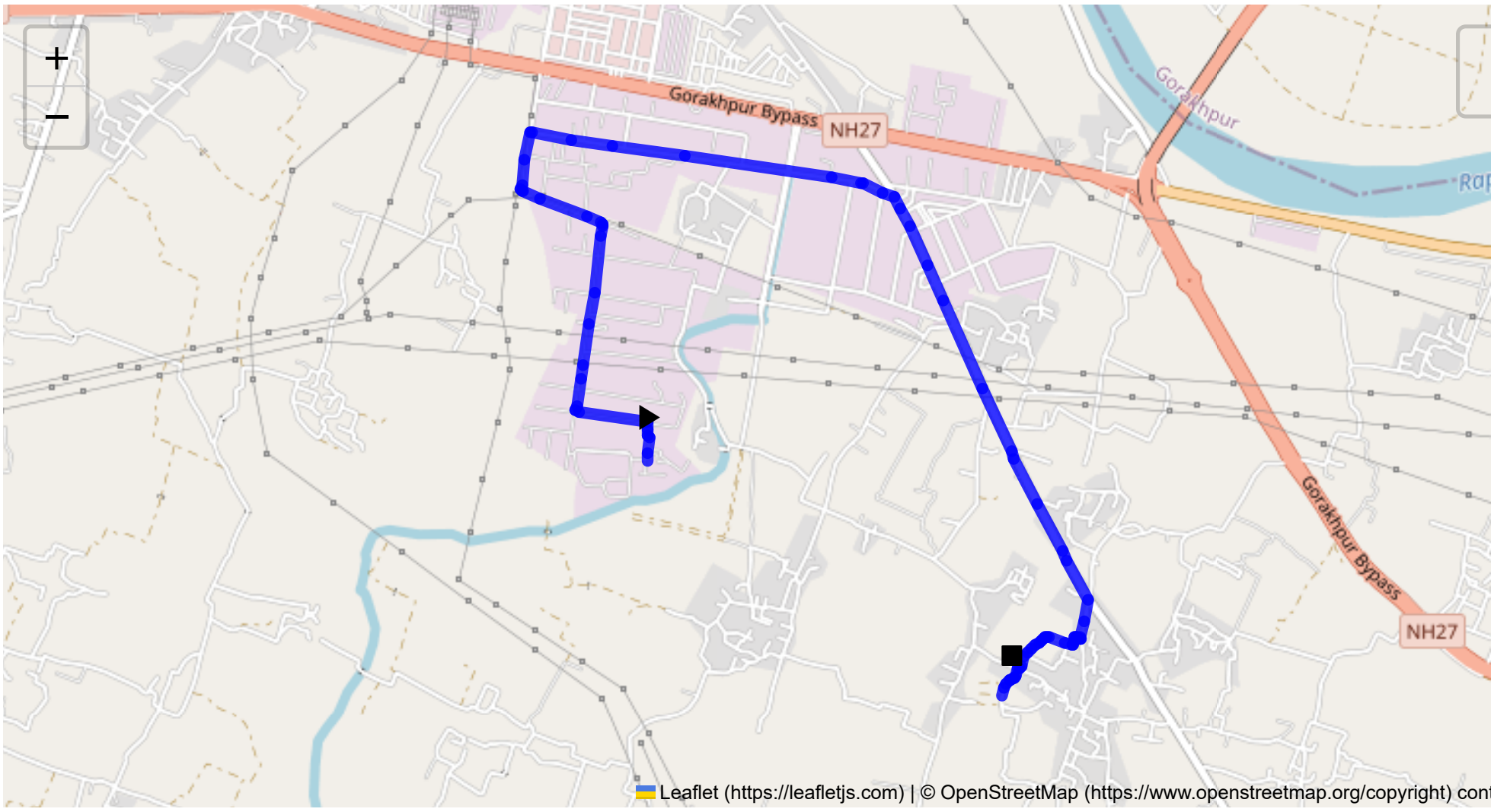
Journey Risk Mitigation

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: 6.21 km
Estimated Duration: 0.3 hours
Adjusted Duration (Heavy Vehicle): 0.3 hours
Start: (26.735959, 83.229398)
End: (26.72659, 83.24526)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1, Sahjanwa to Piprauli Bazar, Usaka is approximately 6.21 kilometers. It covers a series of industrial zones with connectivity to both local business environments and rural settings, which will impact traffic and potential hazards.

Typical Weather Conditions and Potential Weather-Related Hazards

- **Climate:** Uttar Pradesh has a tropical monsoon climate, with hot summers, a monsoon season, and mild winters. Summer temperatures can exceed 40°C.
- **Hazards:** During monsoons (June to September), roads may experience flooding, reducing visibility and road traction. This can lead to increased risks of accidents and slow movement, particularly in low-lying rural areas.

Traffic Patterns and Congestion Areas

- **Peak Hours:** Generally, peak traffic occurs between 8:00 - 10:00 AM and 5:00 - 7:00 PM. Industrial areas may see shifts in congestion based on shift changes at factories.
- **Congestion Hotspots:** The GIDA industrial region might experience congestion due to heavy vehicular movement, especially near entry and exit points of factories.

Road Quality and Infrastructure

- **Road Conditions:** The route within the industrial area is expected to have well-paved roads, but transitioning to rural areas, roads might be narrower with potential potholes.
- **Infrastructure:** Industrial segments are likely better maintained, while rural stretches may lack regular upkeep.

Alternative Routes for Emergencies

- Only a few parallel rural roads exist. If major congestion or an incident occurs, consider using local service roads but be mindful of road quality.
- Real-time GPS services could further assist in finding any ad-hoc detours.

Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Ensure compliance with Uttar Pradesh's state transportation laws on hazardous materials. This often involves specific routing permissions, load limits, and safety equipment.
- **Checkpoints/Permits:** Industrial routes may require periodic checks or special permits, especially when passing through checkpoints.

Historical Incidents

- **Accidents:** Frequent use of truck routes for industrial deliveries may have historical incidents of both vehicle breakdowns and material spills.
- **Records:** Lack of comprehensive public incident databases, but it's advisable to check with local authorities for latest accident data.

Environmental Considerations

- **Sensitive Areas:** Nearby agricultural fields and water bodies should be avoided in case of hazardous spills to prevent contamination.
- **Emissions:** Movement of heavy vehicles can contribute to local emissions; adhere to vehicle emission standards.

Communication Coverage

- **Signal Strength:** Suburban areas within the industrial zones usually have good signal coverage. However, rural areas may have weak signals or dead zones.
- **Backup Communications:** Equip vehicles with VHF/UHF radios for emergencies and remote communication.

Estimated Emergency Response Times

- **Industrial Area:** Expect quicker response times due to proximity to medical and fire facilities in GIDA.
- **Rural Segments:** Response could be slower, with an estimated time of around 30-45 minutes due to distance and road conditions.

Overall Summary of Risk Assessment

The route is moderately risky, primarily due to variable road conditions and congestion in industrial areas. Monsoons present significant hazards due to potential flooding and poor road traction. Regulatory compliance is critical for transporting hazardous materials. Emergency management must include up-to-date communication equipment and awareness of local environmental considerations. Continuous monitoring of weather forecasts and real-time traffic updates can help mitigate risks effectively.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 km
1	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
3	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
4	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.30 km
5	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
6	Turn	Medium	26.74654, 83.22390	30 KM/Hr	1.69 km
7	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 km
8	Turn	High	26.74884, 83.22427	15 KM/Hr	1.89 km
9	Turn	Medium	26.74630, 83.24023	30 KM/Hr	3.54 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
10	Turn	Medium	26.73054, 83.24873	30 KM/Hr	5.42 km
11	Turn	High	26.72901, 83.24842	15 KM/Hr	5.69 km
12	Turn	Medium	26.72905, 83.24824	30 KM/Hr	5.70 km
13	Turn	Medium	26.72903, 83.24817	30 KM/Hr	5.71 km
14	Turn	High	26.72877, 83.24804	15 KM/Hr	5.74 km
15	Turn	Medium	26.72907, 83.24689	30 KM/Hr	5.86 km
16	Turn	High	26.72779, 83.24572	15 KM/Hr	6.04 km
17	Turn	High	26.72781, 83.24564	15 KM/Hr	6.06 km
18	Turn	Medium	26.72742, 83.24546	30 KM/Hr	6.11 km

Route Photos of Risky Spots

No relevant street view images available for the identified risky spots.

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