JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to DEORIA POLICE LINE 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

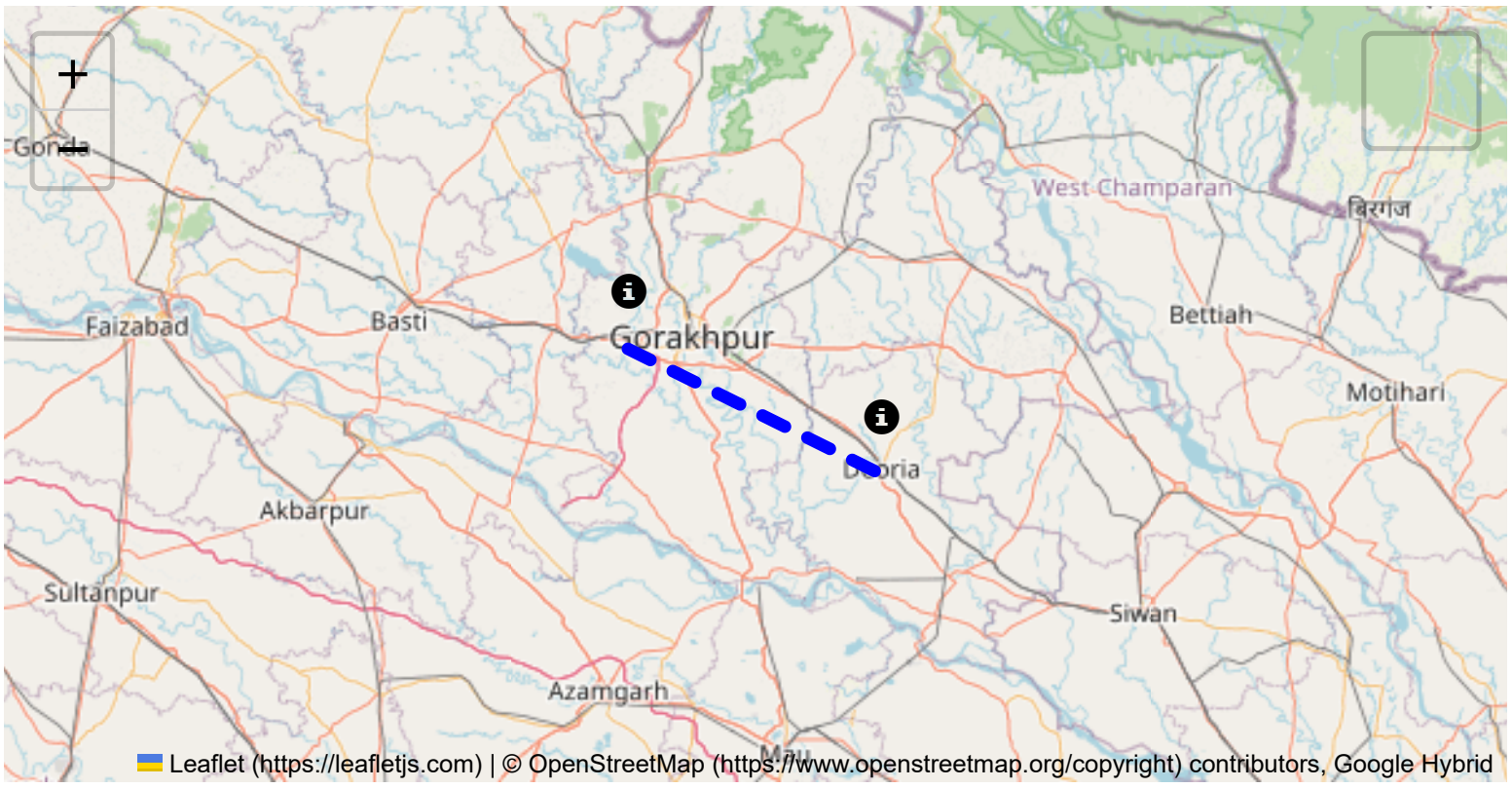
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

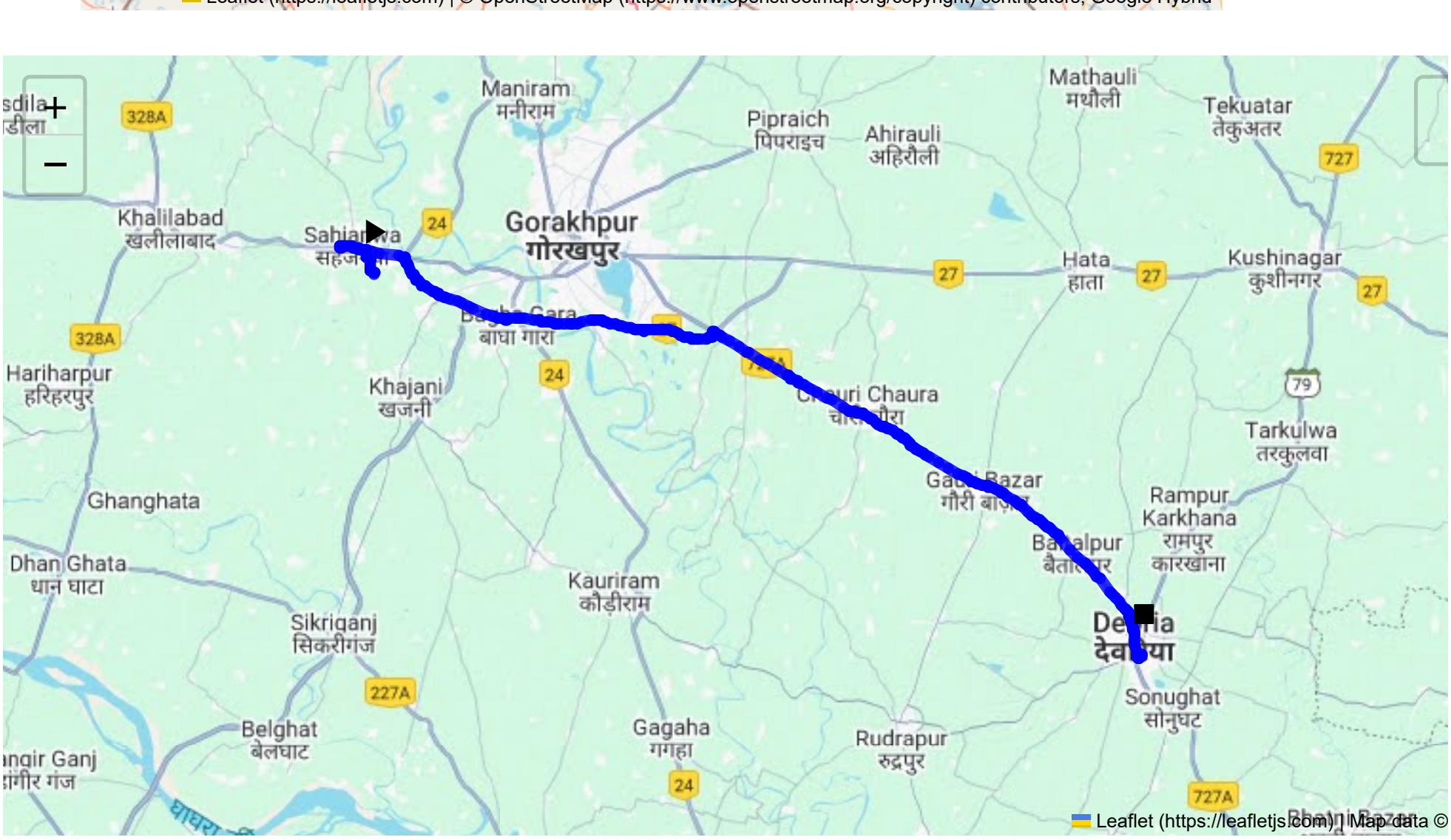
Journey Risk Mitigation

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: 73.73 km
Estimated Duration: 1.7 hours
Adjusted Duration (Heavy Vehicle): 2.1 hours
Start: (26.735959, 83.229398)
End: (26.48954, 83.784121)

Welcome to the Journey Risk Management Study

To provide a comprehensive analysis of the route from P6PH+9Q GIDA Industrial Area to Saket Nagar, Deoria, the following points have been considered to ensure the safety of truck drivers:

1. **Overview of the Route Map**: The route covers approximately 73.73 kilometers. Starting from the GIDA Industrial Area, the path likely follows a combination of major highways and local roads that are typical in the region, leading towards Deoria via Gorakhpur.

2. **Typical Weather Conditions and Potential Weather-Related Hazards**:
    - The area experiences a subtropical climate. Summers (March to June) can be extremely hot, while monsoons (July to September) bring heavy rains, which can lead to flooding and poor visibility. Winters (December to February) are cooler and generally dry.
    - Potential hazards include reduced visibility during heavy rain, slippery road conditions, and possible fog during the winter months.
3. **Analysis of Traffic Patterns**:
    - Peak hours are usually in the morning between 7:00 - 9:00 AM and evening from 5:00 - 7:00 PM, especially near Gorakhpur.
    - Congestion-prone areas include city limits and intersections near Gorakhpur, especially around marketplaces and railway crossings.
4. **Assessment of Road Quality and Infrastructure**:
    - The roads connecting major towns are generally in fair condition, but rural segments can have potholes and are less maintained.
    - Infrastructure such as road lighting and clear signages are better within city limits but might be sparse in less populated areas.
5. **Suggestions for Alternative Routes for Emergencies**:
    - An alternative could bypass densely populated areas, taking less frequented but longer routes through SH01 or parallel routes to avoid city congestion.
    - Utilize secondary routes through local villages if major highways are blocked due to accidents or other unforeseen events.
6. **Summary of Local Regulations Affecting Hazardous Material Transport**:
    - Transport of hazardous materials is regulated; vehicles must have proper signage and documentation.
    - Restrictions may be in place during certain hours in populated areas. It is advisable to check for any region-specific ordinances.
7. **Overview of Historical Incidents**:
    - This region has seen occasional incidents involving heavy vehicles due to traffic congestion and road quality issues. Notably, mishaps during monsoon seasons over the years have highlighted vulnerabilities.
8. **Environmental Considerations and Sensitive Areas**:
    - There are stretches along the route that are near agricultural lands, necessitating caution regarding spills.
    - Being a populous area, wildlife interactions are minimal; however, care must be taken near water bodies to prevent contamination.
9. **Analysis of Communication Coverage**:
    - Most urban areas along the route generally have good communication network coverage.
    - There might be potential dead zones in rural or less populated stretches; drivers should be briefed on areas with reliable network coverage.

10. **Estimated Emergency Response Times for Different Route Segments**:
    - Cities and larger towns can have emergency responses within 20-30 minutes.
    - Rural stretches farther from city centers may experience longer response times, upwards of 45 minutes to an hour.
11. **Overall Summary of Risk Assessment**:
    - The primary risks involve weather-related disruptions, congestion at peak hours, and poor road conditions in certain stretches.
    - The driver should be aware of the monsoon season's impact on driving, plan travel times to avoid peak congestion, and ensure all communications equipment is functional.
    - Contingency plans, including alternative routes and emergency contacts, should be established prior to departure.

By following these outlined measures, the risk can be substantially mitigated, enhancing the safety of transportation along this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 km
3	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
4	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
5	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
6	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.28 km
7	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 km
8	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 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	26.75377, 83.20465	15 KM/Hr	4.28 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.95 km
12	Turn	Medium	26.74656, 83.25154	30 KM/Hr	9.04 km
13	Turn	Medium	26.74648, 83.25152	30 KM/Hr	9.06 km
14	Turn	High	26.69632, 83.47492	15 KM/Hr	33.13 km
15	Turn	High	26.69639, 83.47492	15 KM/Hr	33.16 km
16	Blind Spot	Blind Spot	26.69844, 83.47473	10 KM/Hr	33.43 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.43 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
17	Turn	High	26.69857, 83.47481	15 KM/Hr	33.45 km
18	Turn	Medium	26.63752, 83.59723	30 KM/Hr	47.42 km
19	Turn	High	26.48904, 83.78018	15 KM/Hr	73.06 km
20	Turn	High	26.48807, 83.78219	15 KM/Hr	73.32 km
21	Turn	High	26.48916, 83.78241	15 KM/Hr	73.41 km
22	Turn	High	26.48919, 83.78247	15 KM/Hr	73.46 km
23	Turn	High	26.48971, 83.78245	15 KM/Hr	73.49 km
24	Turn	Medium	26.48975, 83.78251	30 KM/Hr	73.52 km
25	Turn	High	26.48977, 83.78399	15 KM/Hr	73.64 km

Emergency Locations

Found: 3 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	34.10 km
3	hospital	Mahadeva Hospital and Maternity Home	26.4993, 83.7754301	30 km/h	Medium	71.77 km
2	hospital	DWH Deoria	26.4955581, 83.7819431	30 km/h	Medium	72.10 km

Crowded Spots

Found: 1 college(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	college	BRD PG college	26.5161416, 83.7720277	30 km/h	Medium	69.84 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: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.95 km

Coordinates: 26.74681, 83.25111

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.04 km

Coordinates: 26.74656, 83.25154

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74648, 83.25152

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.13 km

Coordinates: 26.69632, 83.47492

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.16 km

Coordinates: 26.69639, 83.47492

Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.43 km

Coordinates: 26.69844, 83.47473

Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.43 km

Coordinates: 26.698439, 83.4747268

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.45 km

Coordinates: 26.69857, 83.47481

Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.42 km

Coordinates: 26.63752, 83.59723

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 73.06 km

Coordinates: 26.48904, 83.78018

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 73.32 km

Coordinates: 26.48807, 83.78219

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