



JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO KHEZIA INDANE GRAMIN

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

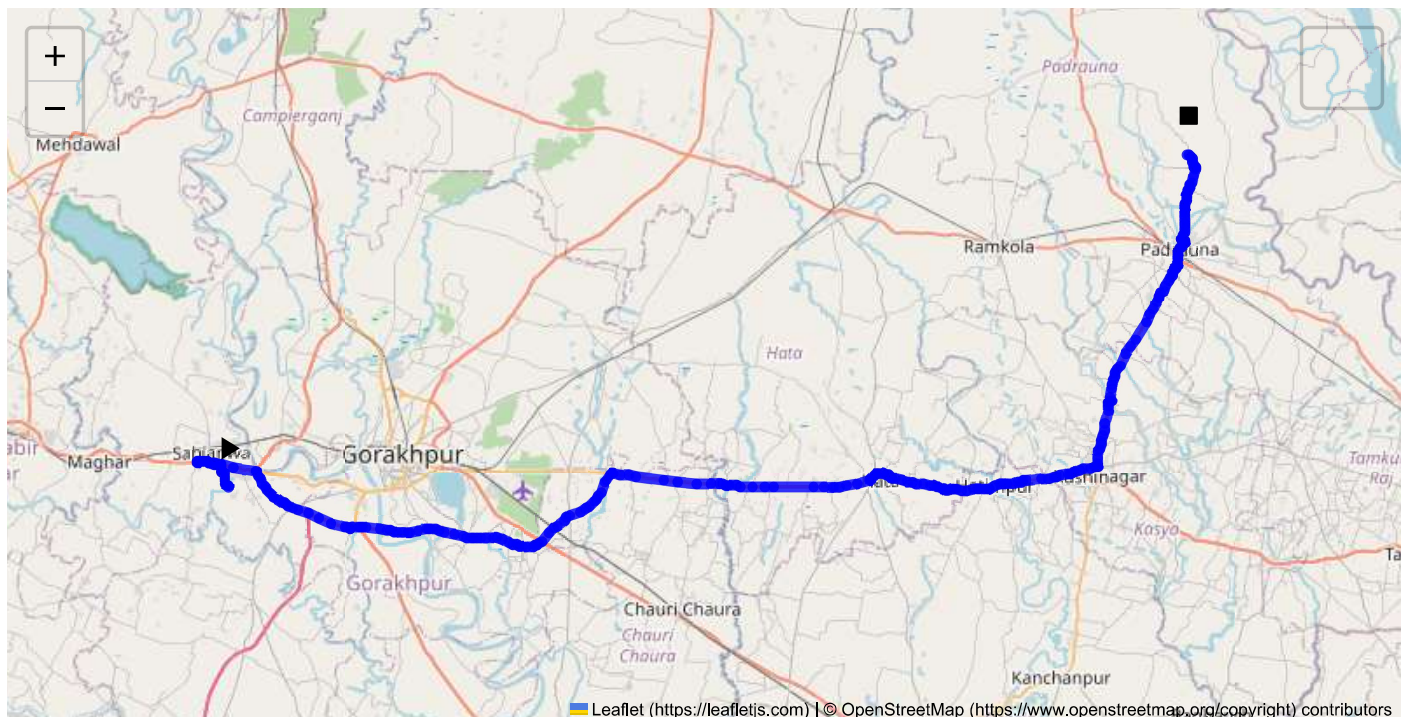
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 107.16 km

Estimated Duration: 2.4 hours

Adjusted Duration (Heavy Vehicle): 3.0 hours

Start: (26.735959, 83.229398)

End: (26.969265, 83.984748)

Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map

The route covers approximately 107.16 kilometers, starting from the GIDA Industrial Area in Sahjanwa to Jungle Nahar Chhapra, both in the state of Uttar Pradesh, India. The journey typically follows a combination of national highways and regional roads, potentially including NH 27 depending on exact pathing, leading through both urban and rural areas.

2. Weather Conditions

The region experiences a tropical climate with hot summers (March to June), a monsoon season from July to September, and cooler, dry winters (October to February). Potential weather-related hazards include:

- Monsoon-induced flooding and waterlogging, which can lead to road closures or damage.
- Reduced visibility during heavy rainstorms or fog in winters.

3. Traffic Patterns

- **Peak Hours:** Major congestion typically occurs during morning commuting hours (8-10 AM) and evening hours (5-7 PM), especially near urban centers like Gorakhpur.
- **Congestion-Prone Areas:** The approach to or exit from Gorakhpur city, local market areas, and highway intersections are notable bottlenecks.

4. Assessment of Road Quality and Infrastructure

- **Highways:** Generally good quality on NH 27, with smooth surfaces and regular maintenance. However, vigilance is required for sudden potholes or construction.
- **Regional Roads:** Vary significantly, with some segments poorly maintained, presenting risks of potholes and uneven surfaces that can be especially troublesome during the monsoon season.

5. Alternative Routes for Emergencies

- **Primary Alternative:** Service roads and parallel state highways can provide alternatives in the case of major road blockages.
- **Urban Diversions:** Inner city roads in Gorakhpur may serve as detours but may still experience significant congestion.

6. Local Regulations on Hazardous Material Transport

- **Permits:** Ensure all necessary permits for hazardous materials are obtained.
- **Time Restrictions:** Transporting hazardous materials is often restricted during peak hours and through densely populated areas.
- **Safety Requirements:** Compliance with signage, labeling, and safety equipment on board is mandatory.

7. Historical Incidents

- **Heavy Vehicle Incidents:** Accidents involving trucks are occasionally reported owing to speeding and road quality issues.
- **Hazardous Material Spills:** There is no significant history of spills, but vigilance is maintained due to potential risks at loading/unloading racks at industrial zones.

8. Environmental Considerations and Sensitive Areas

- **Protected Areas:** Be aware of any wildlife sanctuaries or environmentally sensitive zones along the route; noise and emissions regulations may apply.
- **Ecologically Sensitive Zones:** The region near forest covers needs careful navigation to avoid disturbances.

9. Communication Coverage

- **Network Availability:** Generally good coverage along NH 27 and in cities; however, potential dead zones exist in rural stretches between major towns.
- **Emergency Services:** Ensure use of mobile networks (BSNL, Jio, Airtel) known for the best coverage in more remote sections.

10. Estimated Emergency Response Times

- Near urban centers like Gorakhpur: 15-30 minutes.
- Rural sections: Response can be delayed up to 45 minutes to an hour due to road conditions and accessibility.

11. Overall Summary of Risk Assessment

The route poses moderate risk primarily due to variable road conditions, weather impacts, and traffic congestion, particularly near urban areas. Compliance with local regulations for hazardous material transport is critical to mitigate risks. Preparation for weather-related contingencies and ensuring robust communication for emergency situations will bolster safety. Ongoing monitoring of road conditions, especially in adverse weather, and proactive route adjustment based on real-time traffic updates is advised for effective risk mitigation.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
2	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
3	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
4	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
5	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
6	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
7	Turn	High	26.75377, 83.20465	15 KM/Hr	4.27 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.13 km
8	Blind Spot	Blind Spot	26.74993, 83.91435	10 KM/Hr	79.99 km
9	Turn	Medium	26.79372, 83.92374	30 KM/Hr	84.78 km
10	Turn	High	26.79593, 83.92328	15 KM/Hr	85.23 km
11	Turn	High	26.79698, 83.92524	15 KM/Hr	85.40 km
12	Turn	Medium	26.79738, 83.92537	30 KM/Hr	85.50 km
13	Turn	High	26.90471, 83.97911	15 KM/Hr	98.75 km
14	Turn	Medium	26.90464, 83.97991	30 KM/Hr	98.91 km
15	Turn	High	26.90963, 83.98350	15 KM/Hr	99.61 km
16	Blind Spot	Blind Spot	26.91045, 83.98096	10 KM/Hr	99.85 km
17	Turn	Medium	26.93029, 83.98327	30 KM/Hr	102.12 km
18	Turn	Medium	26.93209, 83.98420	30 KM/Hr	102.35 km
19	Blind Spot	Blind Spot	26.96136, 83.99127	10 KM/Hr	105.68 km
20	Turn	High	26.96137, 83.99083	15 KM/Hr	105.79 km
21	Turn	High	26.96170, 83.99077	15 KM/Hr	105.83 km
22	Turn	High	26.96170, 83.99022	15 KM/Hr	105.88 km
23	Turn	High	26.96913, 83.98737	15 KM/Hr	106.65 km

Emergency Locations

Found: 3 hospital(s), 1 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Gautam Budha National Hospital	26.744396, 83.9016042	30 km/h	Medium	78.43 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	clinic	Qazi Poly Clinic	26.7503799, 83.9126991	30 km/h	Medium	79.65 km
2	hospital	Kodai Shukla Nidaan Kendra	26.8920488, 83.9769186	30 km/h	Medium	97.35 km
3	hospital	Government Hospital	26.9021839, 83.9763688	30 km/h	Medium	98.49 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.16 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.22 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.27 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 8.13 km
Coordinates: 26.74681, 83.25111



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 79.99 km
Coordinates: 26.74993, 83.91435



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 84.78 km

Coordinates: 26.79372, 83.92374



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 85.23 km

Coordinates: 26.79593, 83.92328



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 85.40 km

Coordinates: 26.79698, 83.92524



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.50 km

Coordinates: 26.79738, 83.92537



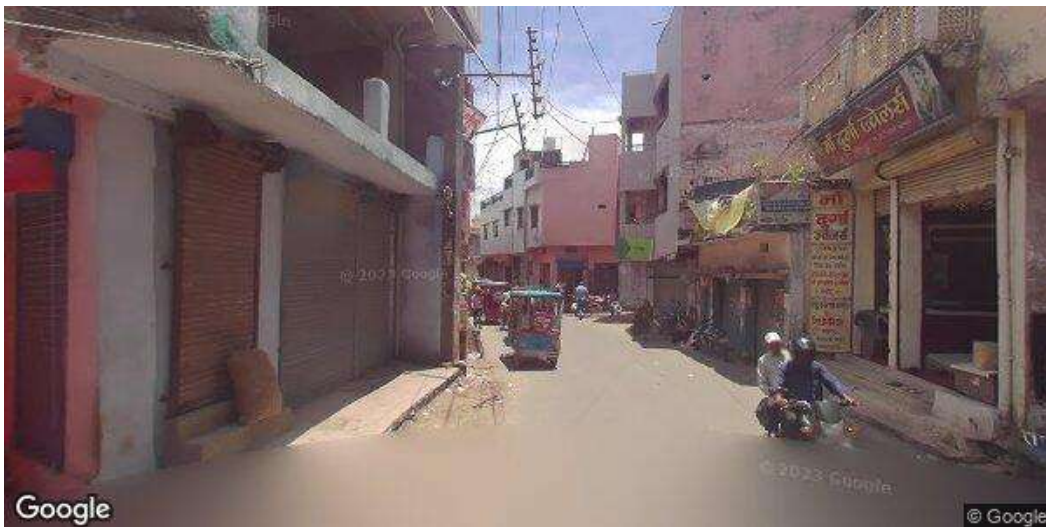
Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 98.75 km

Coordinates: 26.90471, 83.97911



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 98.91 km

Coordinates: 26.90464, 83.97991



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 99.61 km

Coordinates: 26.90963, 83.98350



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 99.85 km

Coordinates: 26.91045, 83.98096



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 102.12 km

Coordinates: 26.93029, 83.98327



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 102.35 km

Coordinates: 26.93209, 83.98420



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 105.68 km

Coordinates: 26.96136, 83.99127



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 105.79 km

Coordinates: 26.96137, 83.99083



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 105.83 km

Coordinates: 26.96170, 83.99077



Risk Type: Turn


Risk Level: High


Speed Limit: 15 KM/Hr

Distance from Start: 106.65 km

Coordinates: 26.96913, 83.98737

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