



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP TO AMODHA 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

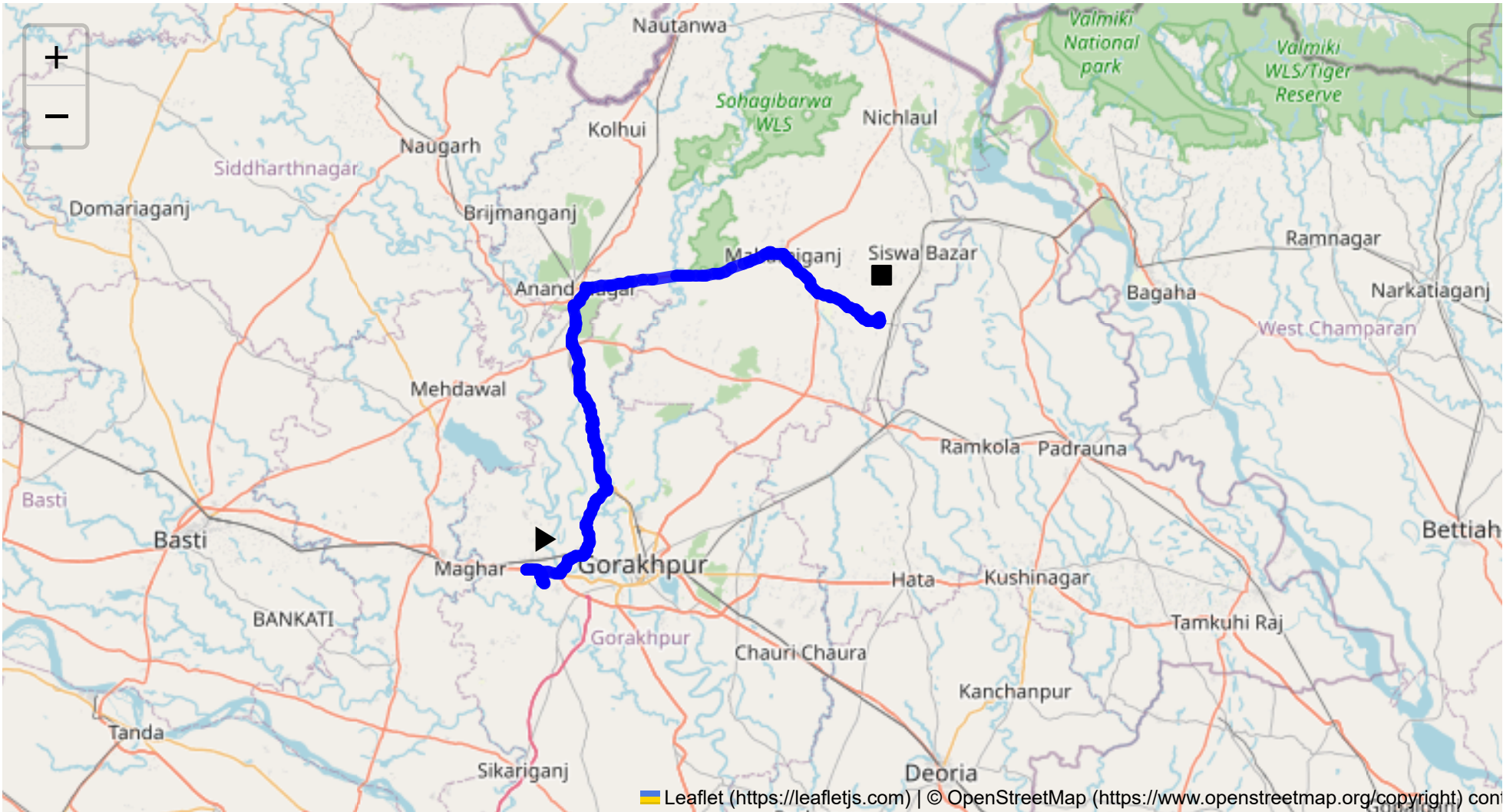
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 99.59 km**  
**Estimated Duration: 2.3 hours**  
**Adjusted Duration (Heavy Vehicle): 2.9 hours**  
**Start: (26.735959, 83.229398)**  
**End: (27.065169, 83.697769)**

**Welcome to the Journey Risk Management Study**

**1. Overview of the Route Map**

The route from P6PH+9Q GIDA Industrial Area Phase 1 to 3M8X+34 Pokhar Bhinda spans approximately 99.59 kilometers and includes several key waypoints: 01 Zero Point, Kaalesar, and Maharajganj on Pharenda - Maharajganj Rd. This route is generally linear but may experience detours due to local road conditions and traffic.



## 2. Typical Weather Conditions and Potential Weather-Related Hazards

The region typically experiences extreme temperatures, with hot summers reaching above 35°C and cool winters. The monsoon season (June to September) brings heavy rainfall, which can cause flooding and waterlogging on certain road sections, impacting visibility and road traction.

## 3. Analysis of Traffic Patterns

Traffic tends to be heavier during peak commuting hours, typically 8-10 AM and 5-7 PM, especially near urban centers like Sahjanwa and Maharajganj. Congestion-prone areas include the industrial zones and town approaches, where local traffic and market activities may create bottlenecks.

## 4. Assessment of Road Quality and Infrastructure

The road quality varies along the route, with well-paved sections transitioning to parts with potholes and uneven surfaces, particularly in rural stretches. Infrastructure such as signage and lighting may be inconsistent, requiring cautious navigation.

## 5. Suggestions for Alternative Routes for Emergencies

In case of an emergency, consider diverting towards NH 24 (near Gorakhpur) or NH 730, which are generally better maintained and have more frequent facilities. Local roads such as those leading to Gorakhpur can serve as feasible detours with potentially quicker access to emergency services.

## 6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials is subject to compliance with the Motor Vehicles Act and Petroleum Rules. Restrictions may apply around densely populated or environmentally sensitive areas, and special permits are required for specific substances.

## 7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials

There have been occasional incidents involving vehicle collisions and hazardous material spills, primarily due to poor road conditions and driver error. The most common incidents have involved overturned vehicles due to sudden stops or swerving.

## 8. Environmental Considerations and Sensitive Areas

The route passes near some agricultural regions where spillage or contamination could have severe environmental impacts. It is crucial to avoid spillage and contamination, especially near water bodies and farmland.

## 9. Analysis of Communication Coverage

Communication coverage along the route is generally reliable in urban and semi-urban areas, but there may be dead zones in more rural regions. Ensure all drivers carry portable communication devices as backups.

## 10. Estimated Emergency Response Times for Different Route Segments

Response times can range from 15-30 minutes in urbanized stretches due to accessible local police and medical facilities. In more remote areas, it may take up to an hour or more due to distance and road conditions.

## 11. Overall Summary of Risk Assessment

This route presents moderate risk primarily due to variable road conditions, fluctuating traffic patterns, and the potential for poor weather, particularly during the monsoon season. While communication is mostly reliable, emergency response times vary. Regular maintenance checks and drivers trained in emergency protocols are essential to mitigate these risks.

In conclusion, while the route provides necessary connectivity between industrial and rural regions, constant monitoring and preemptive measures are crucial to safely transport hazardous materials and ensure the well-being of drivers and local communities.

### 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
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
8	Turn	High	26.74707, 83.25103	15 KM/Hr	8.96 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.80 km
9	Turn	Medium	26.92527, 83.29842	30 KM/Hr	32.25 km
10	Turn	Medium	27.01029, 83.27850	30 KM/Hr	42.30 km
11	Turn	Medium	27.08029, 83.27113	30 KM/Hr	50.40 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
12	Turn	Medium	27.08069, 83.27132	30 KM/Hr	50.52 km
13	Turn	High	27.10269, 83.28820	15 KM/Hr	53.53 km
14	Turn	Medium	27.14452, 83.56228	30 KM/Hr	81.44 km
15	Turn	High	27.09553, 83.61082	15 KM/Hr	88.82 km
16	Turn	Medium	27.06195, 83.67982	30 KM/Hr	96.74 km
17	Turn	High	27.05935, 83.69616	15 KM/Hr	98.40 km
18	Turn	Medium	27.06133, 83.69685	30 KM/Hr	98.66 km
19	Turn	High	27.06156, 83.69679	15 KM/Hr	98.73 km
20	Turn	High	27.06190, 83.69521	15 KM/Hr	98.88 km
21	Turn	High	27.06527, 83.69581	15 KM/Hr	99.24 km

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:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 8.96 km

**Coordinates:** 26.74707, 83.25103



**Risk Type:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 24.80 km

**Coordinates:** 26.86209, 83.31517





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 32.25 km

**Coordinates:** 26.92527, 83.29842



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 50.40 km

**Coordinates:** 27.08029, 83.27113



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 50.52 km  
**Coordinates:** 27.08069, 83.27132



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Distance from Start:** 53.53 km  
**Coordinates:** 27.10269, 83.28820





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 81.44 km

**Coordinates:** 27.14452, 83.56228



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 88.82 km

**Coordinates:** 27.09553, 83.61082





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Distance from Start:** 96.74 km  
**Coordinates:** 27.06195, 83.67982



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Distance from Start:** 98.40 km  
**Coordinates:** 27.05935, 83.69616

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