



## **JOURNEY RISK MANAGEMENT (JRM) STUDY**

### **Gorakhpur LPG BP TO MAA SHAILA INDANE GR**

#### **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**

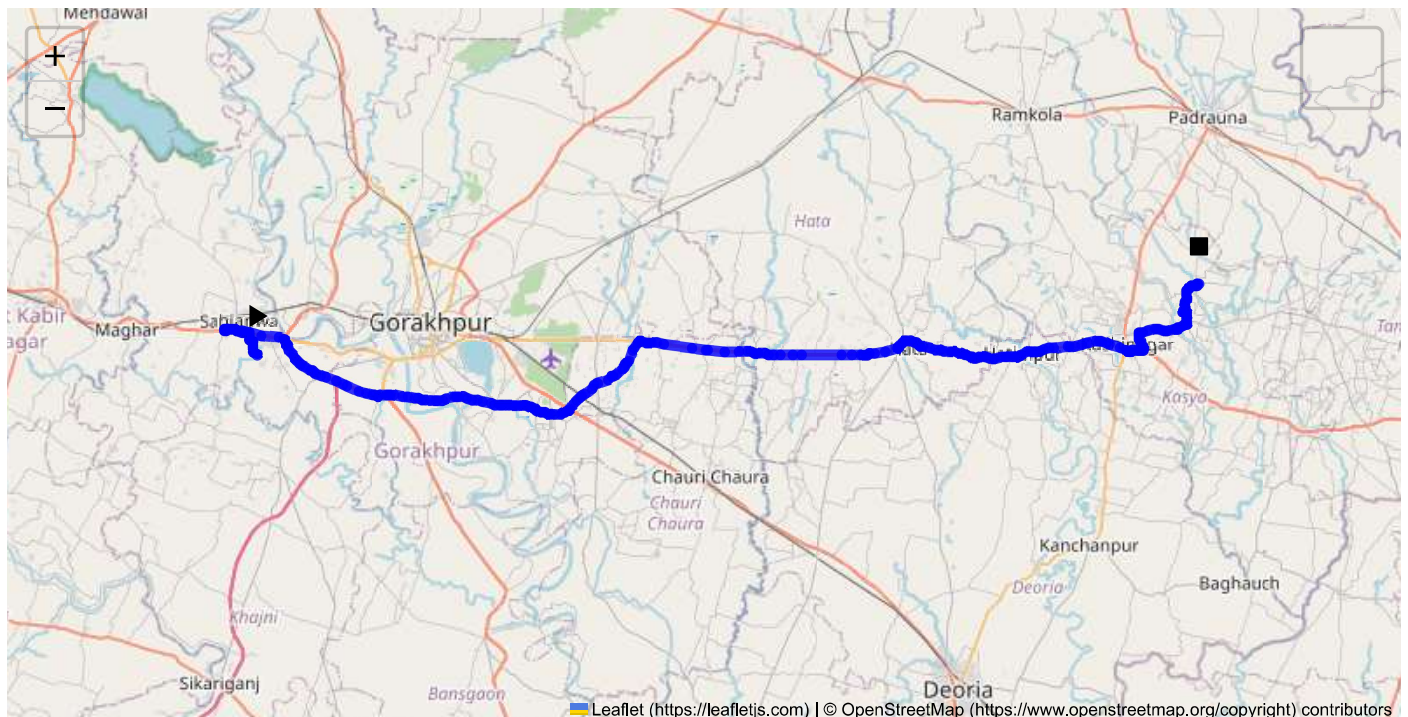
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 90.77 km**

**Estimated Duration: 1.9 hours**

**Adjusted Duration (Heavy Vehicle): 2.3 hours**

**Start: (26.735959, 83.229398)**

**End: (26.785317, 83.971929)**

## Welcome to the Journey Risk Management Study

### 1. Overview of the Route Map:

The route from P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa to QXPC+CFF, Shekhwan Buzurg covers about 90.77 kilometers. The journey typically includes travel on national and state highways, with the

route primarily running eastward through a combination of urban and rural settings.

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

- **Weather Conditions:** The region experiences a humid subtropical climate, characterized by hot summers (April to June), a monsoon season (July to September), and mild winters (December to February).
- **Hazards:** During the monsoon season, heavy rains can lead to waterlogging and reduced visibility, increasing the risk of hydroplaning and accidents. Fog can be prevalent in winter, particularly in the early mornings.

## 3. Analysis of Traffic Patterns:

- **Peak Hours:** Traffic is typically heavier during morning (8:00-10:00 AM) and evening rush hours (5:00-7:00 PM), particularly around urban centers like Gorakhpur.
- **Congestion-Prone Areas:** Expect significant congestion near Gorakhpur due to a mix of local and through traffic, as well as near major intersections and market areas.

## 4. Assessment of Road Quality and Infrastructure:

- **Highways:** Major highways are generally well-maintained, but some sections may have potholes or uneven surfaces, especially after the monsoon season.
- **Rural Roads:** Expect narrower roads with potential for sudden livestock crossings and slower-moving vehicles.

## 5. Suggestions for Alternative Routes for Emergencies:

- Consider routes such as NH27 for faster transit during emergencies; however, monitor the traffic situation as it can also become congested.
- Possible diversion through regional roads might be useful, though these alternatives might not be as well-maintained.

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

- **Time Restrictions:** Heavy vehicles transporting hazardous materials must adhere to scheduled times, avoiding peak urban traffic hours.
- **Permits:** Ensure all necessary permits specific to hazardous material transport are obtained and kept accessible.

## 7. Overview of Historical Incidents:

- There have been occasional incidents involving heavy vehicles, including overturns due to high speed or poor weather conditions. Records of hazardous material spills are low but should prompt caution.

## 8. Environmental Considerations and Sensitive Areas:

- **Sensitive Areas:** The route passes through agricultural zones; caution is advised to prevent spills that could affect local ecosystems.

- **Pollution Concerns:** Be mindful of pollution control norms, especially near water bodies.

#### 9. Analysis of Communication Coverage:

- **Coverage:** The route is likely well-covered by major telecom operators, but rural stretches may experience intermittent network issues.
- **Dead Zones:** Notable network drops are possible in the more remote rural areas or where infrastructure is lacking.

#### 10. Estimated Emergency Response Times:

- **Urban Areas:** Faster response expected, approximately 30-45 minutes.
- **Rural Areas:** Response might be slower, ranging between 45 minutes to over an hour, depending on road conditions and weather.

#### 11. (Omitted as there is no request to develop this point)

#### 12. Overall Summary of Risk Assessment:

The route from GIDA Industrial Area Phase 1 to Shekhwanian Buzurg involves varied driving conditions including urban congestion and rural settings. Key risks include weather-induced hazards, traffic during peak hours, and potential limitations in communication and emergency response in rural segments. Proper planning, adherence to regulations, and the consideration of environmental impacts are crucial for safe and efficient transportation of hazardous materials along this route.

## Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 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
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.79 km
8	Turn	Medium	26.74526, 83.53161	30 KM/Hr	41.16 km
9	Turn	High	26.73919, 83.92809	15 KM/Hr	81.42 km
10	Turn	Medium	26.74132, 83.92916	30 KM/Hr	81.72 km



	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
11	Turn	High	26.75149, 83.92601	15 KM/Hr	82.90 km
12	Turn	Medium	26.75730, 83.96220	30 KM/Hr	86.58 km
13	Turn	High	26.76664, 83.96261	15 KM/Hr	87.68 km
14	Turn	High	26.76706, 83.96072	15 KM/Hr	87.90 km
15	Turn	Medium	26.76730, 83.96066	30 KM/Hr	87.92 km
16	Turn	Medium	26.77644, 83.96280	30 KM/Hr	88.96 km
17	Turn	Medium	26.78437, 83.96687	30 KM/Hr	89.99 km
18	Turn	Medium	26.78476, 83.96701	30 KM/Hr	90.08 km
19	Turn	Medium	26.78488, 83.96720	30 KM/Hr	90.11 km
20	Turn	High	26.78490, 83.97057	15 KM/Hr	90.45 km
21	Turn	High	26.78604, 83.97099	15 KM/Hr	90.56 km

## Emergency Locations

Found: 2 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.25 km
1	hospital	Gautam Budha National Hospital	26.744396, 83.9016042	30 km/h	Medium	78.69 km

## Crowded Spots

Found: 1 school(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
2	school	Nav Jeevan Mission School	26.7533108, 83.9374379	30 km/h	Medium	83.91 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:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 8.79 km

**Coordinates:** 26.74681, 83.25111





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 41.16 km

**Coordinates:** 26.74526, 83.53161



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 81.42 km

**Coordinates:** 26.73919, 83.92809



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Distance from Start: 81.72 km**

**Coordinates: 26.74132, 83.92916**



**Risk Type: Turn**

**Risk Level: High**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 82.90 km**

**Coordinates: 26.75149, 83.92601**





**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Distance from Start: 86.58 km**

**Coordinates: 26.75730, 83.96220**



**Risk Type: Turn**

**Risk Level: High**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 87.68 km**

**Coordinates: 26.76664, 83.96261**



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 87.90 km

**Coordinates:** 26.76706, 83.96072



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 87.92 km

**Coordinates:** 26.76730, 83.96066





**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Distance from Start: 88.96 km**

**Coordinates: 26.77644, 83.96280**



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Distance from Start: 89.99 km**

**Coordinates: 26.78437, 83.96687**



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Distance from Start: 90.08 km**

**Coordinates: 26.78476, 83.96701**



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Distance from Start: 90.11 km**

**Coordinates: 26.78488, 83.96720**





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 90.45 km

**Coordinates:** 26.78490, 83.97057



**Risk Type:** Turn


**Risk Level:** High


**Speed Limit:** 15 KM/Hr

**Distance from Start:** 90.56 km

**Coordinates:** 26.78604, 83.97099

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