



## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP TO SUN 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

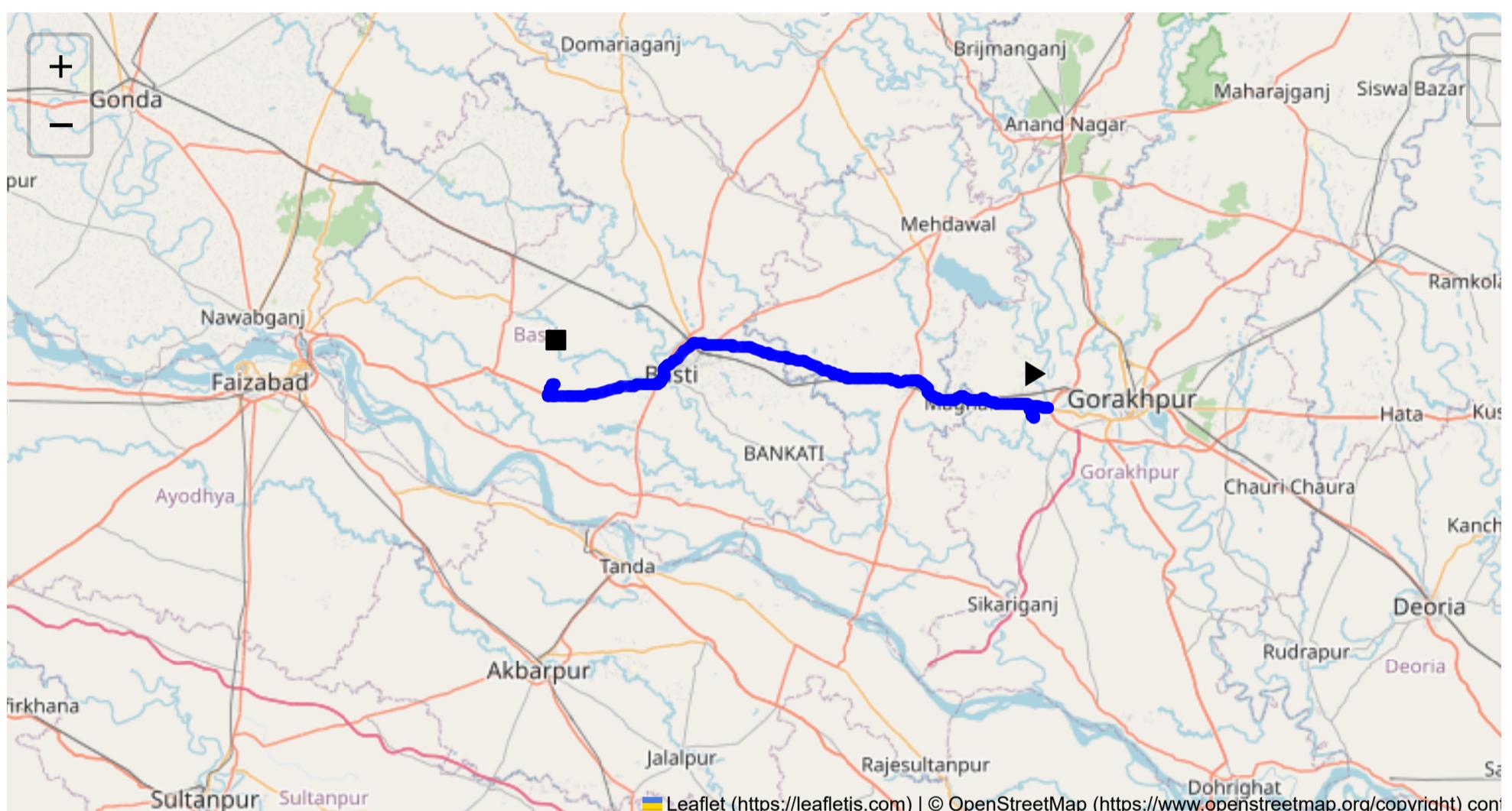
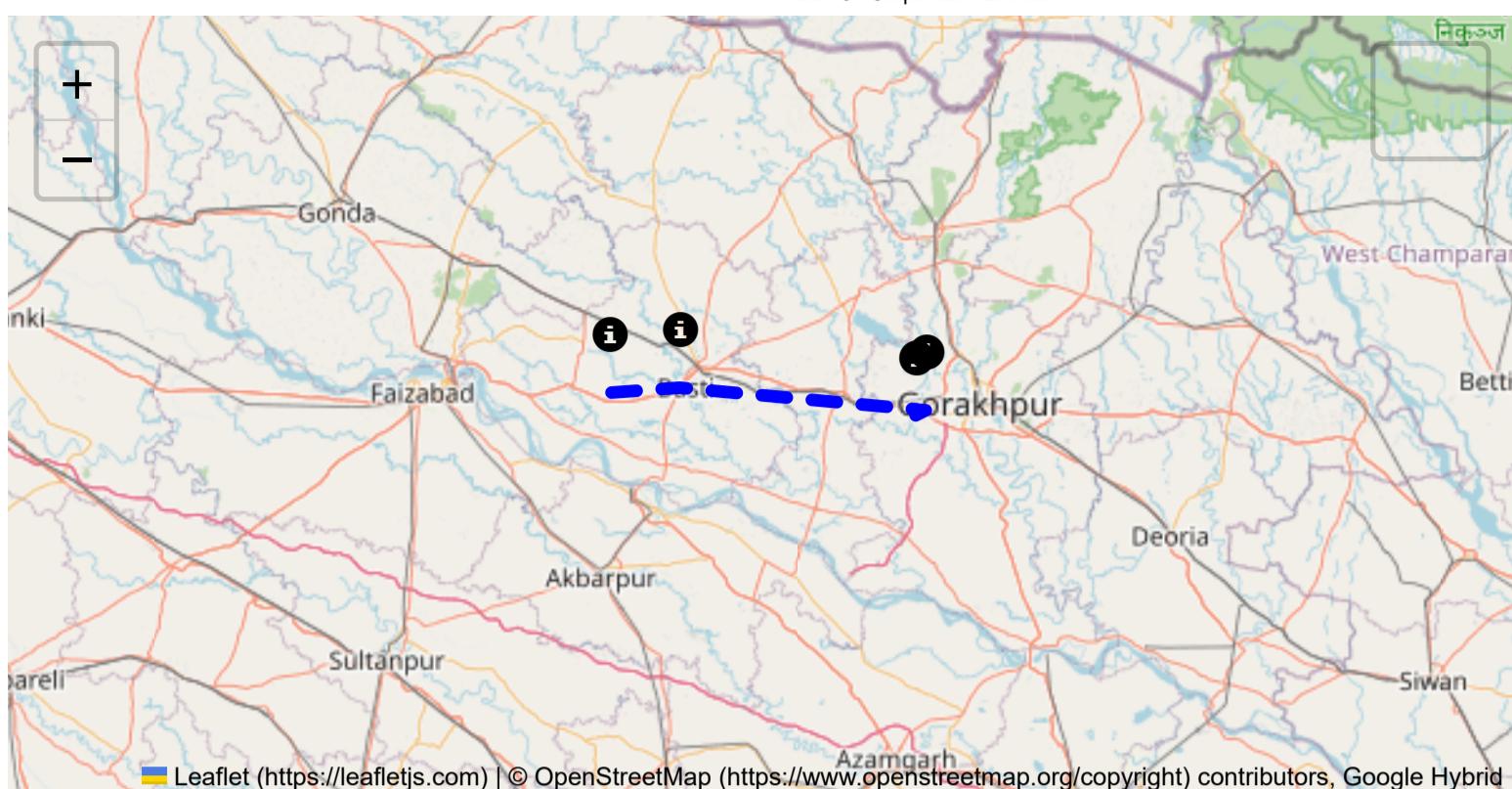
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 85.97 km**  
**Estimated Duration: 1.7 hours**  
**Adjusted Duration (Heavy Vehicle): 2.2 hours**  
**Start: (26.735959, 83.229398)**  
**End: (26.778133, 82.559243)**

## Welcome to the Journey Risk Management Study

### 1. Overview of the Route Map:

The route stretches approximately 85.97 kilometers through Uttar Pradesh, India, starting from GIDA Industrial Area Phase 1 in Sahjanwa and ending in Banjariya, passing through key locations like Kaalesar and Katra, Barabn, Basti. The path likely follows a combination of major highways and regional roads, with varying levels of traffic and infrastructure.

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

The region experiences a tropical monsoon climate. During the monsoon season (June to September), heavy rainfall can lead to waterlogging and reduced visibility, potentially causing delays or accidents. Summers are extremely hot (around March to June), which may affect vehicle performance. In winters (December to February), foggy conditions could impair visibility, particularly in the early mornings and late evenings.

## **3. Traffic Patterns and Congestion-Prone Areas:**

Traffic can be moderate to heavy, especially during peak hours (8:00-10:00 AM and 5:00-8:00 PM). Congestion is likely around urban centers like Sahjanwa and Basti, particularly near marketplaces, schools, and intersections. Rural stretches may see smoother flow but can be unpredictable due to slow-moving agricultural traffic.

## **4. Road Quality and Infrastructure:**

Road conditions may vary significantly. Larger highways are generally well-maintained, but smaller regional roads might show signs of wear such as potholes or uneven surfaces. Infrastructure like bridges and flyovers may be in place, but rural segments might lack adequate lighting or signage.

## **5. Alternative Routes for Emergencies:**

In emergencies, consider using auxiliary state highways connecting major towns or parallel roads where available. Local knowledge is key, as smaller roads might not be well-documented but could offer viable bypass options.

## **6. Local Regulations Affecting Hazardous Material Transport:**

Transport of hazardous materials is subject to specific regulations requiring permits, proper labeling, and adherence to safety standards such as speed limits and designated times for transit. Compliance with guidelines from local authorities like the Uttar Pradesh Transport Department is crucial.

## **7. Overview of Historical Incidents:**

There have been instances of traffic accidents involving heavy vehicles due to poor weather, road conditions, and driver error. Specific data on incidents involving hazardous materials may be limited but often highlight mechanical failure or miscommunication as factors.

## **8. Environmental Considerations and Sensitive Areas:**

The route may pass near protected natural reserves or agricultural areas. Transporting hazardous materials in such zones necessitates heightened precaution due to potential environmental damage or contamination risks.

## **9. Communication Coverage and Potential Dead Zones:**

Most of the route likely has mobile network coverage from major providers, but rural sections could experience dead zones, impacting communication. It is advisable to equip vehicles with reliable two-way radios as a backup.

## 10. Estimated Emergency Response Times:

Response times can vary widely; urban centers like Basti may see quicker response from emergency services within 20-30 minutes, whereas remote areas might experience delays exceeding 60 minutes. Availability of services is also contingent on local infrastructure.

## 12. Overall Summary of Risk Assessment:

This route presents a blend of urban and rural driving conditions with associated risks like congestion, variable road quality, and weather impacts. While well-configured for transit, handling hazardous materials necessitates strict adherence to safety protocols, especially in sensitive environmental zones. Preparedness for potential communication issues and longer emergency response times in rural stretches should be factored into journey planning.

## Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 km
2	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
3	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
4	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
5	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.16 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 km
7	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
8	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
9	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
10	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km
0	U-Turn	High	26.7471208, 83.2490873	10 KM/Hr	8.75 km
11	Blind Spot	Blind Spot	26.74712, 83.24909	10 KM/Hr	8.75 km
12	Turn	High	26.74703, 83.24907	15 KM/Hr	8.79 km
13	Turn	Medium	26.76367, 82.55861	30 KM/Hr	82.67 km
14	Turn	High	26.76391, 82.55174	15 KM/Hr	83.54 km
15	Turn	High	26.76418, 82.55176	15 KM/Hr	83.56 km
16	Turn	High	26.76406, 82.55438	15 KM/Hr	83.79 km
17	Blind Spot	Blind Spot	26.76512, 82.55517	10 KM/Hr	83.94 km
18	Turn	High	26.76557, 82.55454	15 KM/Hr	84.03 km
19	Turn	Medium	26.76568, 82.55452	30 KM/Hr	84.06 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
20	Turn	Medium	26.76663, 82.55541	30 KM/Hr	84.17 km
21	Turn	Medium	26.76665, 82.55550	30 KM/Hr	84.21 km
22	Blind Spot	Blind Spot	26.76777, 82.55644	10 KM/Hr	84.37 km
23	Blind Spot	Blind Spot	26.77049, 82.55301	10 KM/Hr	84.82 km
24	Turn	Medium	26.77852, 82.55863	30 KM/Hr	85.84 km
25	Turn	High	26.77857, 82.55875	15 KM/Hr	85.89 km

## Emergency Locations

Found: 9 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Savitri Paramedical College & Hospital	26.803103, 82.7221392	30 km/h	Medium	64.54 km
7	hospital	Navjyoti Eye Hospital	26.7995004, 82.7188406	30 km/h	Medium	65.08 km
8	hospital	Ananta heart and cancer hospital	26.7999833, 82.7192786	30 km/h	Medium	65.08 km
2	hospital	Sant Kabir Eye Hospital	26.7978644, 82.7184237	30 km/h	Medium	65.30 km
3	hospital	Barkat Hospital and Trauma Centre	26.7978798, 82.7189038	30 km/h	Medium	65.30 km
4	hospital	Sakun Hospital & Dialysis Centre	26.7969979, 82.7187818	30 km/h	Medium	65.30 km
5	hospital	Ayodhya Eye Hospital, Basti Branch	26.7987095, 82.7190762	30 km/h	Medium	65.30 km
6	hospital	Navjyoti Eye Hospital, Basti	26.7979988, 82.7184562	30 km/h	Medium	65.30 km
1	hospital	Pindari Hospital	26.7968978, 82.7178454	30 km/h	Medium	65.59 km

## Crowded Spots

Found: 1 college(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
9	college	Shri Ram Public School	26.7861941, 82.7137106	30 km/h	Medium	66.84 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:** U-Turn

**Risk Level:** High

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 8.75 km

**Coordinates:** 26.7471208, 83.2490873



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**Risk Type:** Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 8.75 km**Coordinates:** 26.74712, 83.24909

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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 8.79 km**Coordinates:** 26.74703, 83.24907



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 82.67 km

**Coordinates:** 26.76367, 82.55861



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 85.84 km

**Coordinates:** 26.77852, 82.55863



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 85.89 km****Coordinates: 26.77857, 82.55875**

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