



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Gorakhpur LPG BP TO SADANAND SINGH INDAN

#### 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

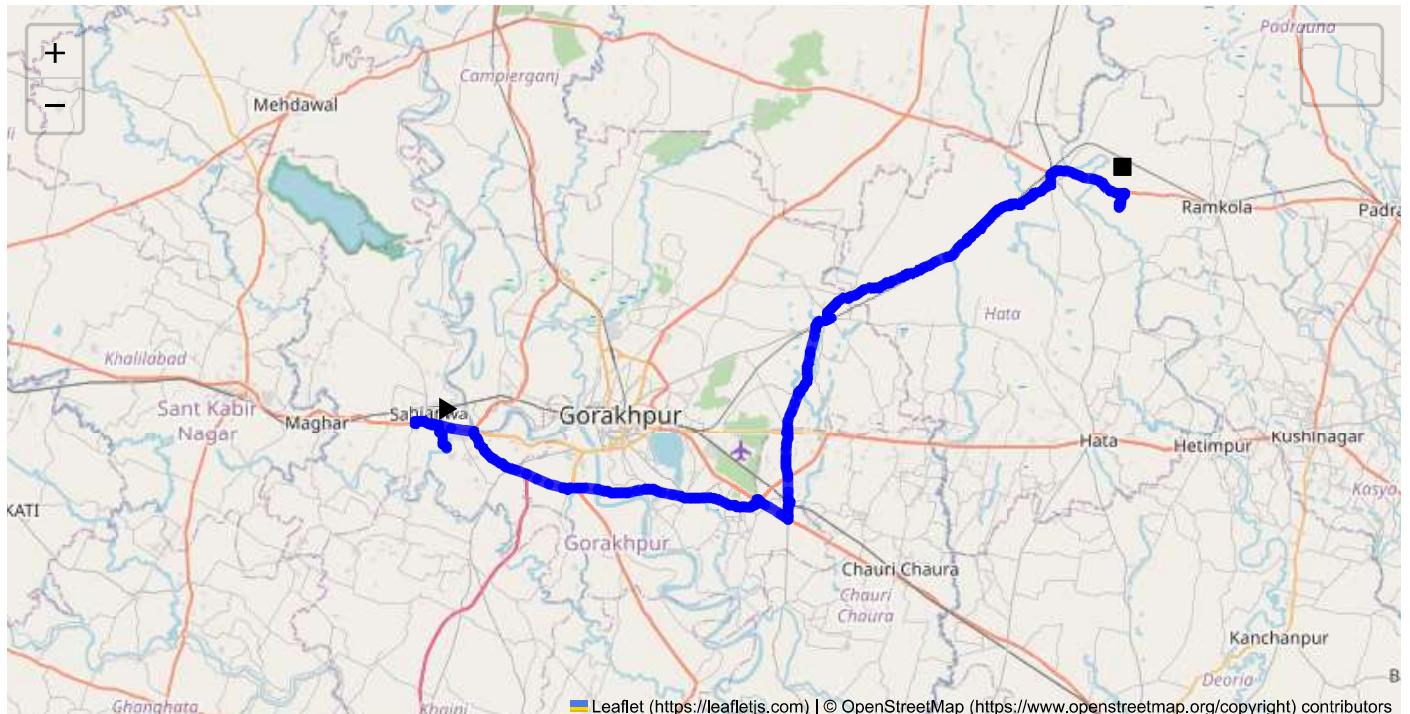
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 83.05 km**  
**Estimated Duration: 2.1 hours**  
**Adjusted Duration (Heavy Vehicle): 2.6 hours**  
**Start: (26.735959, 83.229398)**  
**End: (26.905648, 83.760735)**

## Welcome to the Journey Risk Management Study

### Route Safety Analysis: Sahjanwa to Rampur Khas via Motiram Adda

## 1. Overview of the Route Map

- **Starting Point:** P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa, Uttar Pradesh.
- **Waypoint:** MFQX+JJJ, Motiram Adda, Rampur, Uttar Pradesh.
- **Ending Point:** WQ46+753, Rampur Khas, Sidhwat, Uttar Pradesh 274802.
- **Total Distance:** Approximately 83.05 kilometers.
- **Estimated Travel Time:** About 2.11 hours for heavy vehicles.

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

- **Weather Patterns:** The region experiences a tropical monsoon climate with high humidity, especially during the monsoon months from June to September. Winter (December to February) can be foggy, affecting visibility.
- **Hazards:** Monsoon can lead to waterlogging and flooding in low-lying areas, while fog during winter can result in reduced visibility.

## 3. Analysis of Traffic Patterns

- **Peak Hours:** Early mornings (7-9 AM) and late afternoons (5-7 PM) are typically peak hours, with significant traffic congestion near urban areas and major intersections.
- **Congestion-Prone Areas:** Closer to urban centers, especially near Sahjanwa and Motiram Adda, could experience delays.

## 4. Assessment of Road Quality and Infrastructure

- **Road Conditions:** Mixed quality; the highways are usually in good condition, but rural and connecting roads may have potholes and uneven surfaces.
- **Infrastructure:** Adequate signage in urban areas; however, rural stretches may lack proper signage and lighting.

## 5. Suggestions for Alternative Routes for Emergencies

- **Alternative Route:** Consider state highways that run parallel and are less congested for emergency detours, specifically via NH27 for bypassing high-traffic zones.

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

- **Regulations:** A permit is required for transporting hazardous materials, with specific routes and times designated for such transport to avoid densely populated areas during peak hours.

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

- There have been occasional reports of accidents involving heavy vehicles, often attributed to driver error, lack of maintenance, or adverse weather conditions. No major incidents involving hazardous materials have been widely reported recently.

## 8. Environmental Considerations and Sensitive Areas

- Sensitive Areas:** Proximity to agricultural lands means spillage can have significant environmental impacts. The route requires careful navigation to avoid contamination of local water bodies.

## 9. Analysis of Communication Coverage

- Dead Zones:** Some rural stretches may have weak cellular signals, particularly in densely forested or low-lying areas. It is advisable to have offline navigation tools.

## 10. Estimated Emergency Response Times

- Response Times:** Urban areas generally have faster response times (20-30 minutes), while rural stretches may experience delays of up to 45 minutes to an hour due to distance and road conditions.

## 11. Overall Summary of Risk Assessment

- Risk Levels:** Moderate risk level for transport of hazardous materials, primarily due to weather, road conditions, and variable traffic. Preparations such as pre-planning routes, checking weather forecasts, and ensuring vehicle maintenance can mitigate risks.
- Recommendations:** Regular training for drivers on handling emergencies and spills, maintaining robust communication systems, and ensuring compliance with local regulations to enhance overall safety on the route.

This report provides a comprehensive outlook on potential hazards and considerations for a truck driver transporting hazardous materials along this specific route, promoting safety and efficiency in transport operations.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
3	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
4	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
5	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
8	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
9	Turn	Medium	26.69741, 83.47552	30 KM/Hr	33.25 km
10	Blind Spot	Blind Spot	26.69844, 83.47473	10 KM/Hr	33.41 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.41 km
11	Turn	High	26.69857, 83.47481	15 KM/Hr	33.43 km
12	Blind Spot	Blind Spot	26.68607, 83.49881	10 KM/Hr	36.11 km
13	Turn	Medium	26.69511, 83.49893	30 KM/Hr	37.09 km
14	Turn	High	26.69722, 83.50035	15 KM/Hr	37.42 km
15	Turn	Medium	26.69913, 83.49898	30 KM/Hr	37.70 km
16	Blind Spot	Blind Spot	26.74662, 83.49914	10 KM/Hr	42.98 km
17	Blind Spot	Blind Spot	26.74659, 83.49782	10 KM/Hr	43.10 km
18	Turn	Medium	26.82139, 83.52137	30 KM/Hr	51.80 km
19	Turn	Medium	26.82168, 83.52128	30 KM/Hr	51.93 km
20	Turn	High	26.82411, 83.52193	15 KM/Hr	52.14 km
21	Turn	Medium	26.82505, 83.52432	30 KM/Hr	52.46 km
22	Blind Spot	Blind Spot	26.82741, 83.53262	10 KM/Hr	53.30 km
23	Turn	High	26.82760, 83.53150	15 KM/Hr	53.45 km
24	Turn	High	26.83147, 83.53004	15 KM/Hr	53.95 km
25	Turn	Medium	26.85810, 83.59303	30 KM/Hr	60.99 km
26	Turn	Medium	26.88053, 83.63827	30 KM/Hr	66.15 km
27	Turn	Medium	26.88071, 83.63931	30 KM/Hr	66.31 km
28	Turn	Medium	26.90716, 83.67555	30 KM/Hr	71.09 km
29	Turn	High	26.90703, 83.67578	15 KM/Hr	71.13 km
30	Turn	Medium	26.91254, 83.69143	30 KM/Hr	72.82 km
31	Turn	Medium	26.91446, 83.69312	30 KM/Hr	73.13 km
32	Turn	High	26.92141, 83.70571	15 KM/Hr	74.54 km
33	Turn	Medium	26.92858, 83.70590	30 KM/Hr	75.38 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
34	Turn	High	26.92871, 83.70598	15 KM/Hr	75.44 km
35	Turn	Medium	26.91526, 83.76356	30 KM/Hr	81.60 km
36	Turn	High	26.91518, 83.76371	15 KM/Hr	81.69 km
37	Turn	Medium	26.91497, 83.76364	30 KM/Hr	81.71 km
38	Turn	Medium	26.91427, 83.76374	30 KM/Hr	81.78 km
39	Turn	Medium	26.91391, 83.76361	30 KM/Hr	81.82 km
40	Turn	Medium	26.91372, 83.76335	30 KM/Hr	81.86 km
41	Turn	Medium	26.91370, 83.76324	30 KM/Hr	81.88 km
42	Turn	Medium	26.90792, 83.76034	30 KM/Hr	82.58 km
43	Turn	Medium	26.90699, 83.75997	30 KM/Hr	82.66 km
44	Blind Spot	Blind Spot	26.90549, 83.76029	10 KM/Hr	82.84 km

## Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.99 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



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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 4.27 km**Coordinates:** 26.75377, 83.20465

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



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 33.25 km**Coordinates:** 26.69741, 83.47552

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**Risk Type:** Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 33.41 km**Coordinates:** 26.69844, 83.47473



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**Risk Type:** U-Turn**Risk Level:** High**Speed Limit:** 10 KM/Hr**Distance from Start:** 33.41 km**Coordinates:** 26.698439, 83.4747268

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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 33.43 km**Coordinates:** 26.69857, 83.47481



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 36.11 km

**Coordinates:** 26.68607, 83.49881



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 37.09 km

**Coordinates:** 26.69511, 83.49893



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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 37.42 km**Coordinates:** 26.69722, 83.50035

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 37.70 km**Coordinates:** 26.69913, 83.49898



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 42.98 km

**Coordinates:** 26.74662, 83.49914



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 43.10 km

**Coordinates:** 26.74659, 83.49782



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 51.80 km**Coordinates:** 26.82139, 83.52137

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 51.93 km**Coordinates:** 26.82168, 83.52128



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 52.14 km****Coordinates: 26.82411, 83.52193**

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**Risk Type: Turn****Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 52.46 km****Coordinates: 26.82505, 83.52432**



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 53.30 km

**Coordinates:** 26.82741, 83.53262



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 53.45 km

**Coordinates:** 26.82760, 83.53150



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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 53.95 km**Coordinates:** 26.83147, 83.53004

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 71.09 km**Coordinates:** 26.90716, 83.67555



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 71.13 km

**Coordinates:** 26.90703, 83.67578



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 72.82 km

**Coordinates:** 26.91254, 83.69143



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 73.13 km

**Coordinates:** 26.91446, 83.69312



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 74.54 km

**Coordinates:** 26.92141, 83.70571



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 75.38 km

**Coordinates:** 26.92858, 83.70590



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 75.44 km

**Coordinates:** 26.92871, 83.70598



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 81.60 km

**Coordinates:** 26.91526, 83.76356



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 81.69 km

**Coordinates:** 26.91518, 83.76371



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**Risk Type: Turn****Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 81.71 km****Coordinates: 26.91497, 83.76364**

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**Risk Type: Turn****Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 81.78 km****Coordinates: 26.91427, 83.76374**



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 81.82 km

**Coordinates:** 26.91391, 83.76361



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 81.86 km

**Coordinates:** 26.91372, 83.76335



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 81.88 km**Coordinates:** 26.91370, 83.76324

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 82.58 km**Coordinates:** 26.90792, 83.76034



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 82.66 km

**Coordinates:** 26.90699, 83.75997



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 82.84 km

**Coordinates:** 26.90549, 83.76029

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