



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO DHANAHA INDANE GRAMI

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

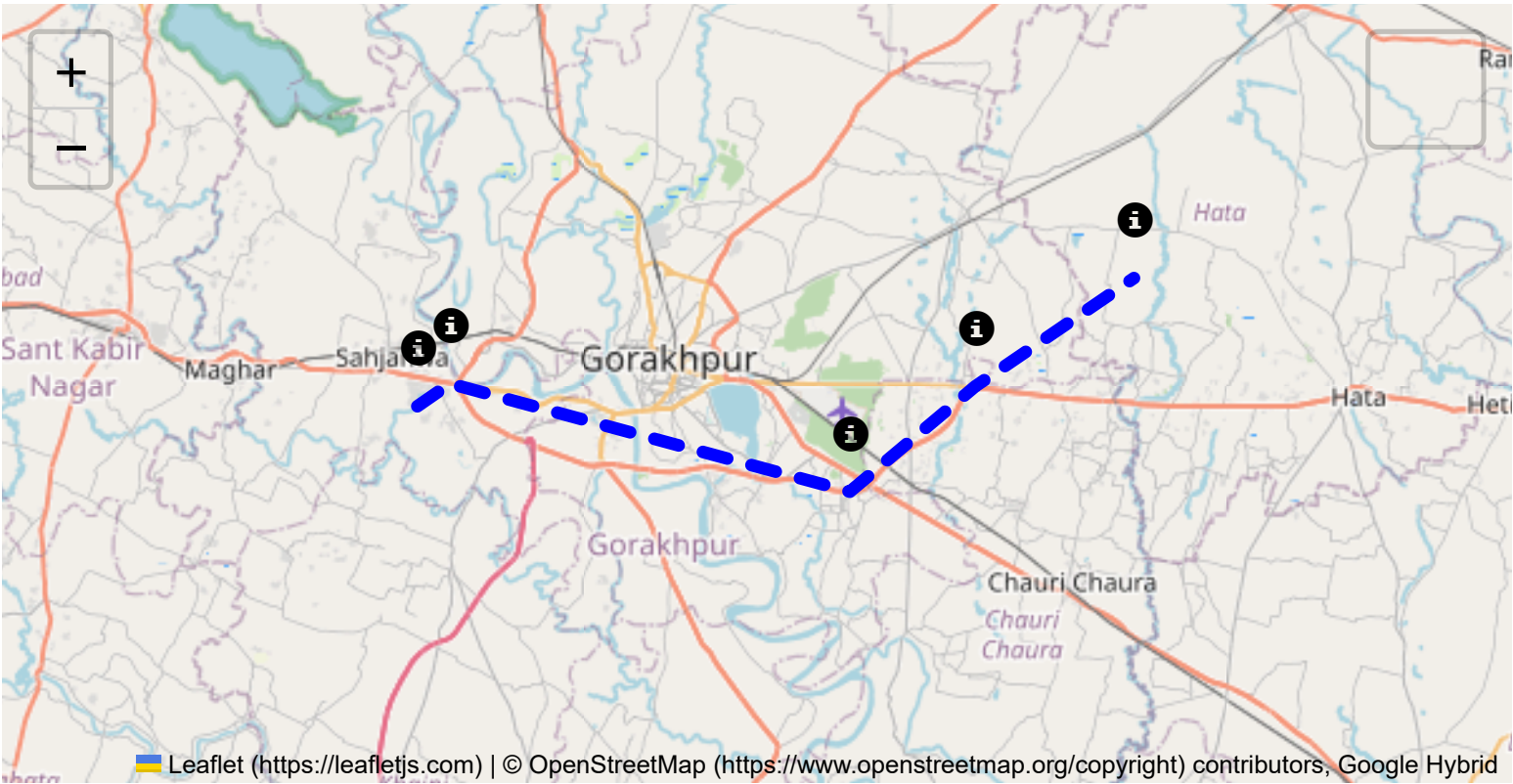
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 57.44 km
Estimated Duration: 1.3 hours
Adjusted Duration (Heavy Vehicle): 1.6 hours
Start: (26.735959, 83.229398)
End: (26.798663, 83.621721)

Welcome to the Journey Risk Management Study

Route Safety Analysis for the Journey from GIDA Industrial Area Phase 1 to Dhanaha, Uttar Pradesh, India

1. Overview of the Route Map:

- This route spans approximately 57.44 kilometers and traverses through several small towns and bypasses including Bokta, Kalesar, Khorabar, and Koni. The journey primarily follows NH 27 along

the Gorakhpur Bypass, connecting to various local roads.

2. Weather Conditions:

- **Typical weather:** The region experiences a subtropical climate with distinct seasonal variations. Summers (April-June) can be extremely hot, while monsoons (July-September) bring heavy rainfall.
- **Potential hazards:** During monsoon months, potential hazards include waterlogging and reduced visibility. Fog can be an issue during winter months, impacting visibility and traction on roads.

3. Traffic Patterns:

- **Peak hours:** Morning (8-10 AM) and evening (6-8 PM) are typical peak traffic times, especially closer to Gorakhpur.
- **Congestion areas:** The Gorakhpur Bypass can experience congestion during peak hours. Additionally, local market areas such as in Bokta and Kalesar may slow down traffic due to pedestrian and local vehicle influx.

4. Road Quality and Infrastructure:

- The NH 27 highway portion is in generally good condition, facilitating smooth travel for heavy vehicles. However, local roads may have potholes and variable maintenance levels. Signage can be sparse in rural stretches, requiring vigilance.

5. Alternative Routes for Emergencies:

- In case of roadblocks or hazards, the following alternative routes could be considered:
 - Divert through NH 730 if NH 27 is congested.
 - Use local roads parallel to NH 27, but check road conditions before proceeding.

6. Local Regulations Affecting Hazardous Material Transport:

- Adhere to local regulations on hazardous materials, which may include specific transit times and vehicle marking requirements. It's important to check for any permissions required for transport through populated or sensitive areas.

7. Historical Incidents:

- Historical data suggests sporadic incidents involving heavy vehicles, especially under poor weather conditions or at night. Nearby industrial areas have protocols in place in case of hazardous material spills.

8. Environmental Considerations and Sensitive Areas:

- Respect environmentally sensitive sites near Khorabar and other bypass areas. Limit emissions and noise when passing through residential and ecological zones.

9. Communications Coverage:

- There might be potential dead spots in rural patches and interior roads, especially away from NH 27. Mobile network coverage is generally reliable but can vary with providers.

10. Estimated Emergency Response Times:

- Urban areas close to Gorakhpur are likely to experience faster response times (15-30 minutes), while rural stretches might expect delays (up to an hour or more) due to less frequent emergency services.

11. Overall Risk Assessment Summary:

- The route aligns relatively safely for heavy vehicle travel but requires attention to weather forecasts and real-time traffic updates. The primary risks involve weather-related disruptions and congested urban bypasses. Adequate preparation and response readiness, along with routine vehicle checks, can mitigate most hazards.

Note: Regularly updating navigation systems, coordinating with local authorities for real-time guidance, and maintaining clear communication lines are crucial for safe passage.

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	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.95 km
11	Turn	Medium	26.74656, 83.25154	30 KM/Hr	9.04 km
12	Turn	Medium	26.74648, 83.25152	30 KM/Hr	9.06 km
13	Turn	Medium	26.74463, 83.53001	30 KM/Hr	40.99 km
14	Turn	Medium	26.74533, 83.52945	30 KM/Hr	41.09 km
15	Turn	Medium	26.74538, 83.52907	30 KM/Hr	41.13 km
16	Blind Spot	Blind Spot	26.74541, 83.52903	10 KM/Hr	41.15 km
17	Blind Spot	Blind Spot	26.74508, 83.53450	10 KM/Hr	41.68 km
18	Blind Spot	Blind Spot	26.74501, 83.53448	10 KM/Hr	41.70 km
19	Turn	High	26.73856, 83.60237	15 KM/Hr	47.66 km
20	Turn	High	26.73866, 83.60238	15 KM/Hr	48.50 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
21	Turn	High	26.73829, 83.60910	15 KM/Hr	49.02 km
22	Turn	Medium	26.73903, 83.60929	30 KM/Hr	49.21 km
23	Turn	Medium	26.74141, 83.60958	30 KM/Hr	49.51 km
24	Turn	Medium	26.74217, 83.60860	30 KM/Hr	49.64 km
25	Turn	Medium	26.74550, 83.60897	30 KM/Hr	49.99 km
26	Turn	Medium	26.74657, 83.60895	30 KM/Hr	50.13 km
27	Turn	High	26.74704, 83.60856	15 KM/Hr	50.19 km
28	Turn	Medium	26.74854, 83.60879	30 KM/Hr	50.36 km
29	Turn	Medium	26.75062, 83.60866	30 KM/Hr	50.60 km
30	Turn	High	26.75162, 83.60648	15 KM/Hr	50.87 km
31	Turn	Medium	26.75174, 83.60646	30 KM/Hr	50.89 km
32	Turn	Medium	26.75233, 83.60661	30 KM/Hr	50.96 km
33	Turn	Medium	26.75249, 83.60651	30 KM/Hr	50.97 km
34	Turn	Medium	26.75295, 83.60581	30 KM/Hr	51.06 km
35	Turn	Medium	26.75580, 83.60645	30 KM/Hr	51.35 km
36	Turn	High	26.75622, 83.60555	15 KM/Hr	51.48 km
37	Turn	Medium	26.75680, 83.60528	30 KM/Hr	51.54 km
38	Turn	Medium	26.75710, 83.60535	30 KM/Hr	51.59 km
39	Turn	Medium	26.76185, 83.60555	30 KM/Hr	52.14 km
40	Turn	Medium	26.76253, 83.60474	30 KM/Hr	52.22 km
41	Turn	High	26.76582, 83.60523	15 KM/Hr	52.63 km
42	Turn	High	26.76643, 83.60463	15 KM/Hr	52.71 km
43	Turn	Medium	26.77387, 83.60742	30 KM/Hr	53.58 km
44	Turn	Medium	26.77392, 83.60753	30 KM/Hr	53.61 km
45	Turn	High	26.77376, 83.60820	15 KM/Hr	53.67 km
46	Turn	High	26.77606, 83.60942	15 KM/Hr	53.93 km
47	Blind Spot	Blind Spot	26.77567, 83.61124	10 KM/Hr	54.14 km
48	Turn	High	26.77760, 83.61252	15 KM/Hr	54.40 km
49	Turn	High	26.77760, 83.61366	15 KM/Hr	54.51 km
50	Turn	High	26.77779, 83.61373	15 KM/Hr	54.53 km
51	Turn	Medium	26.77804, 83.61340	30 KM/Hr	54.58 km
52	Turn	Medium	26.77826, 83.61333	30 KM/Hr	54.60 km
53	Turn	Medium	26.77924, 83.61339	30 KM/Hr	54.70 km
54	Turn	High	26.77969, 83.61368	15 KM/Hr	54.75 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
55	Blind Spot	Blind Spot	26.78135, 83.61334	10 KM/Hr	54.92 km
56	Turn	High	26.78130, 83.61367	15 KM/Hr	54.99 km
57	Turn	Medium	26.78136, 83.61374	30 KM/Hr	55.01 km
58	Turn	Medium	26.78511, 83.61489	30 KM/Hr	55.43 km
59	Turn	Medium	26.79354, 83.61778	30 KM/Hr	56.44 km
60	Blind Spot	Blind Spot	26.79843, 83.61846	10 KM/Hr	57.00 km
61	Turn	Medium	26.79830, 83.61929	30 KM/Hr	57.08 km
62	Turn	Medium	26.79836, 83.61940	30 KM/Hr	57.10 km
63	Turn	High	26.79891, 83.61973	15 KM/Hr	57.17 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	33.38 km
1	hospital	RG Hospital	26.7372178, 83.5824469	30 km/h	Medium	46.45 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 2.17 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: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.95 km

Coordinates: 26.74681, 83.25111



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.04 km

Coordinates: 26.74656, 83.25154



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.06 km

Coordinates: 26.74648, 83.25152



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 40.99 km
Coordinates: 26.74463, 83.53001



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 41.09 km
Coordinates: 26.74533, 83.52945



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 41.13 km

Coordinates: 26.74538, 83.52907



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 41.15 km

Coordinates: 26.74541, 83.52903



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 41.68 km
Coordinates: 26.74508, 83.53450



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 41.70 km
Coordinates: 26.74501, 83.53448



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 47.66 km
Coordinates: 26.73856, 83.60237



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 48.50 km
Coordinates: 26.73866, 83.60238



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 49.02 km

Coordinates: 26.73829, 83.60910



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 49.21 km

Coordinates: 26.73903, 83.60929



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 49.51 km

Coordinates: 26.74141, 83.60958



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 49.64 km

Coordinates: 26.74217, 83.60860



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 49.99 km
Coordinates: 26.74550, 83.60897



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 50.13 km
Coordinates: 26.74657, 83.60895



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 50.19 km

Coordinates: 26.74704, 83.60856



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 50.36 km

Coordinates: 26.74854, 83.60879



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 50.60 km

Coordinates: 26.75062, 83.60866



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 50.87 km

Coordinates: 26.75162, 83.60648



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 50.89 km
Coordinates: 26.75174, 83.60646



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 50.96 km
Coordinates: 26.75233, 83.60661



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 50.97 km
Coordinates: 26.75249, 83.60651



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 51.06 km
Coordinates: 26.75295, 83.60581



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.35 km

Coordinates: 26.75580, 83.60645

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