



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO NAVEEN INDANE SERVIC

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

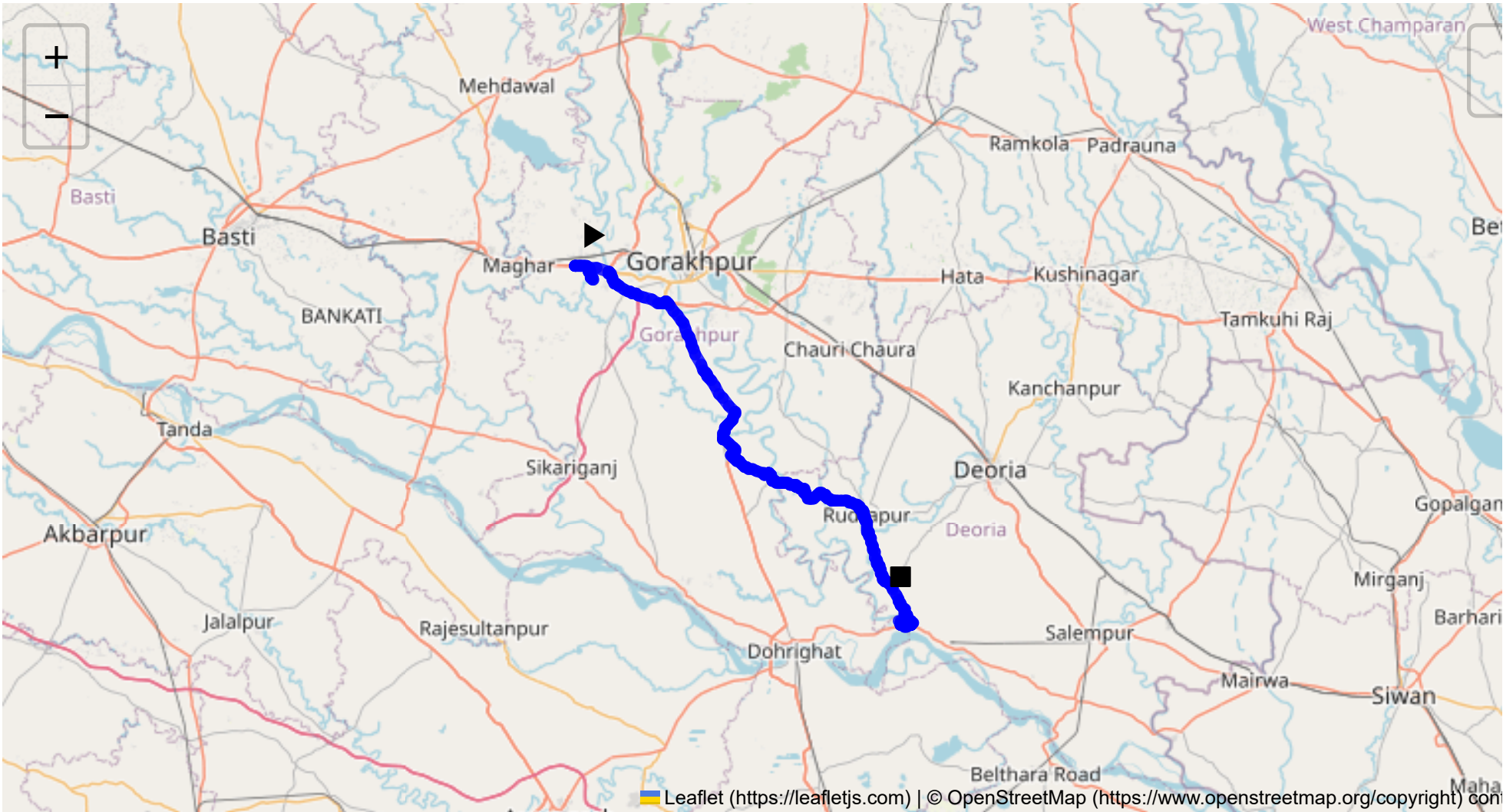
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 86.48 km
Estimated Duration: 2.1 hours
Adjusted Duration (Heavy Vehicle): 2.6 hours
Start: (26.735959, 83.229398)
End: (26.310944, 83.656242)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1, Sahjanwa to Pauharia, via Zero Point and Golaward, is approximately 86.48 kilometers and typically takes around 2.11 hours for heavy vehicles. This journey spans various types of roads, from industrial areas through rural landscapes, connecting towns and rural communities.

1. Typical Weather Conditions and Weather-Related Hazards

Uttar Pradesh generally experiences hot summers, a monsoon season with heavy rainfall, and cool to mild winters. During monsoons (June to September), the region may encounter heavy rain causing potential flooding and reduced visibility. In summer months (April to June), high temperatures may lead to roadwear and heat-induced vehicle issues. Fog can be an issue in the winter months (December to February), impacting visibility.

2. Traffic Patterns and Congestion

Traffic is typically heavier near urban centers such as Sahjanwa and any major junctions like Zero Point. Peak hours coincide with typical work start and end times, around 8-10 AM and 5-7 PM. Rural sections may have less congestion, but be aware of slow-moving agricultural vehicles or livestock crossing roads.

3. Road Quality and Infrastructure

Road quality may vary along the route. Industrial areas and more urbanized sections tend to have better-maintained roads. However, rural sections may have narrower roads, occasional potholes, and less maintenance. Signage and lighting may be limited in rural areas, increasing risks during night time and adverse weather conditions.

4. Alternative Routes for Emergencies

Depending on the location and nature of the emergency, possible detours could include main highways that run parallel like National Highway routes if nearby. Consulting a real-time GPS device can aid in identifying feasible detours, but alternatives may be sparse in rural sections.

5. Local Regulations Affecting Hazardous Material Transport

Transporting hazardous materials in India is governed by rules regarding permissible routes, timings, and requirements for signage and documentation. Drivers should be aware of any specific state regulations and permits required, as well as their vehicle requirements, such as placards indicating the nature of the materials carried.

6. Historical Incidents

There isn't a comprehensive public database of historical incidents specifically along this route. However, similar routes in Uttar Pradesh have seen issues related to road surface failures during rains and collisions involving slow-moving rural traffic.

7. Environmental Considerations and Sensitive Areas

Be cautious around populated areas and near water bodies to avoid contaminating water sources in the event of accidental spillage. Agricultural fields along rural sections may also be sensitive to any hazards resulting from transported materials.

8. Communication Coverage

Generally, main roads and urban areas have good mobile coverage, but rural areas could experience dead zones. It's advisable to ensure all communication devices have offline back-up resources and perhaps satellite communication for emergencies.

9. Estimated Emergency Response Times

Urban areas like Sahjanwa will likely have faster emergency response times, around 20-30 minutes. However, in rural areas, response times can be much longer, potentially exceeding an hour due to distances and road conditions.

10. Overall Risk Assessment

- Weather-Related Risks:** High during monsoon season; moderate fog-related risks in winter.
- Traffic Risks:** Moderate to high near urban areas and intersections.
- Road Quality Risks:** Varying, with poorer roads in rural sections.
- Emergency Access Risks:** Long response times in rural areas.
- Regulatory Compliance Risks:** Moderate, depending on thoroughness of pre-trip checks regarding hazardous material regulations.
- Environmental and Communication Risks:** Moderately high due to rural sections and potential dead zones.

In summary, this route presents moderate risks for transporting hazardous materials, primarily due to weather impacts, variable road quality, and potential communication challenges in rural areas. It's crucial to follow all safety protocols, maintain updated communication equipment, and check weather forecasts before embarking on each trip.

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
3	Turn	High	26.73788, 83.22642	15 KM/Hr	0.32 km
4	Turn	Medium	26.73812, 83.22630	30 KM/Hr	0.48 km
5	Turn	High	26.74524, 83.22746	15 KM/Hr	1.14 km
6	Turn	High	26.74654, 83.22390	15 KM/Hr	1.63 km
7	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.15 km
8	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.21 km
9	Turn	High	26.75377, 83.20465	15 KM/Hr	4.26 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.12 km
10	Turn	Medium	26.70795, 83.33164	30 KM/Hr	18.49 km
11	Turn	Medium	26.70789, 83.33181	30 KM/Hr	18.60 km
12	Turn	Medium	26.53858, 83.41074	30 KM/Hr	40.39 km
13	Turn	High	26.51679, 83.42326	15 KM/Hr	43.89 km
14	Turn	Medium	26.49363, 83.46866	30 KM/Hr	49.19 km
15	Turn	Medium	26.49464, 83.47493	30 KM/Hr	49.88 km
16	Turn	Medium	26.49414, 83.47519	30 KM/Hr	49.97 km
17	Turn	Medium	26.49293, 83.47746	30 KM/Hr	50.20 km
18	Turn	Medium	26.48411, 83.48139	30 KM/Hr	51.33 km
19	Turn	Medium	26.48428, 83.48174	30 KM/Hr	51.37 km
20	Turn	Medium	26.48205, 83.49084	30 KM/Hr	52.14 km
21	Turn	Medium	26.48221, 83.49136	30 KM/Hr	52.36 km
22	Turn	High	26.48399, 83.49320	15 KM/Hr	52.62 km
23	Turn	Medium	26.47865, 83.51331	30 KM/Hr	54.74 km
24	Turn	Medium	26.47446, 83.52295	30 KM/Hr	55.83 km
25	Turn	Medium	26.46221, 83.53408	30 KM/Hr	57.69 km
26	Turn	Medium	26.46694, 83.55264	30 KM/Hr	59.86 km
27	Turn	High	26.46543, 83.55300	15 KM/Hr	60.08 km
28	Turn	Medium	26.46037, 83.56317	30 KM/Hr	61.16 km
29	Turn	Medium	26.45539, 83.59841	30 KM/Hr	64.72 km
30	Turn	Medium	26.44795, 83.60307	30 KM/Hr	65.69 km
31	Turn	High	26.44700, 83.60659	15 KM/Hr	66.20 km
32	Turn	High	26.44045, 83.60720	15 KM/Hr	66.80 km
33	Turn	High	26.44048, 83.60900	15 KM/Hr	67.04 km
34	Turn	Medium	26.38179, 83.62580	30 KM/Hr	73.85 km
35	Turn	Medium	26.36788, 83.63341	30 KM/Hr	75.53 km
36	Turn	Medium	26.32421, 83.66414	30 KM/Hr	81.49 km
37	Turn	Medium	26.32142, 83.66467	30 KM/Hr	81.74 km
38	Turn	High	26.31914, 83.66411	15 KM/Hr	81.97 km
39	Turn	Medium	26.31110, 83.66913	30 KM/Hr	82.98 km
40	Turn	Medium	26.30889, 83.67349	30 KM/Hr	83.59 km
41	Turn	Medium	26.30843, 83.67360	30 KM/Hr	83.68 km
42	Turn	Medium	26.30657, 83.67276	30 KM/Hr	83.88 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
43	Turn	Medium	26.30579, 83.67274	30 KM/Hr	83.98 km
1	Roundabout	High	26.30506, 83.67309	15 KM/Hr	84.07 km
44	Turn	High	26.30482, 83.65907	15 KM/Hr	85.52 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Mahen	26.3260512, 83.6570256	30 km/h	Medium	80.85 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.15 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.21 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.26 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.12 km

Coordinates: 26.74681, 83.25111



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 18.49 km

Coordinates: 26.70795, 83.33164



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 18.60 km
Coordinates: 26.70789, 83.33181



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 43.89 km
Coordinates: 26.51679, 83.42326



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 49.19 km
Coordinates: 26.49363, 83.46866



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 49.88 km
Coordinates: 26.49464, 83.47493



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 49.97 km
Coordinates: 26.49414, 83.47519



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 50.20 km
Coordinates: 26.49293, 83.47746



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 52.14 km
Coordinates: 26.48205, 83.49084



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 52.36 km
Coordinates: 26.48221, 83.49136



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 52.62 km
Coordinates: 26.48399, 83.49320



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 54.74 km
Coordinates: 26.47865, 83.51331



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 55.83 km
Coordinates: 26.47446, 83.52295



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 57.69 km
Coordinates: 26.46221, 83.53408



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 59.86 km
Coordinates: 26.46694, 83.55264



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 60.08 km
Coordinates: 26.46543, 83.55300



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 61.16 km
Coordinates: 26.46037, 83.56317



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 64.72 km
Coordinates: 26.45539, 83.59841



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 65.69 km
Coordinates: 26.44795, 83.60307



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 66.20 km
Coordinates: 26.44700, 83.60659



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 66.80 km

Coordinates: 26.44045, 83.60720



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 67.04 km

Coordinates: 26.44048, 83.60900



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 73.85 km
Coordinates: 26.38179, 83.62580



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 75.53 km
Coordinates: 26.36788, 83.63341



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 81.49 km
Coordinates: 26.32421, 83.66414



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 81.74 km
Coordinates: 26.32142, 83.66467



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 81.97 km
Coordinates: 26.31914, 83.66411



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 82.98 km
Coordinates: 26.31110, 83.66913



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 83.59 km
Coordinates: 26.30889, 83.67349



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 83.68 km
Coordinates: 26.30843, 83.67360



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 83.88 km
Coordinates: 26.30657, 83.67276



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 83.98 km
Coordinates: 26.30579, 83.67274



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 84.07 km
Coordinates: 26.30506, 83.67309



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 85.52 km
Coordinates: 26.30482, 83.65907

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