



JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MAA SUSHILA INDANE G

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

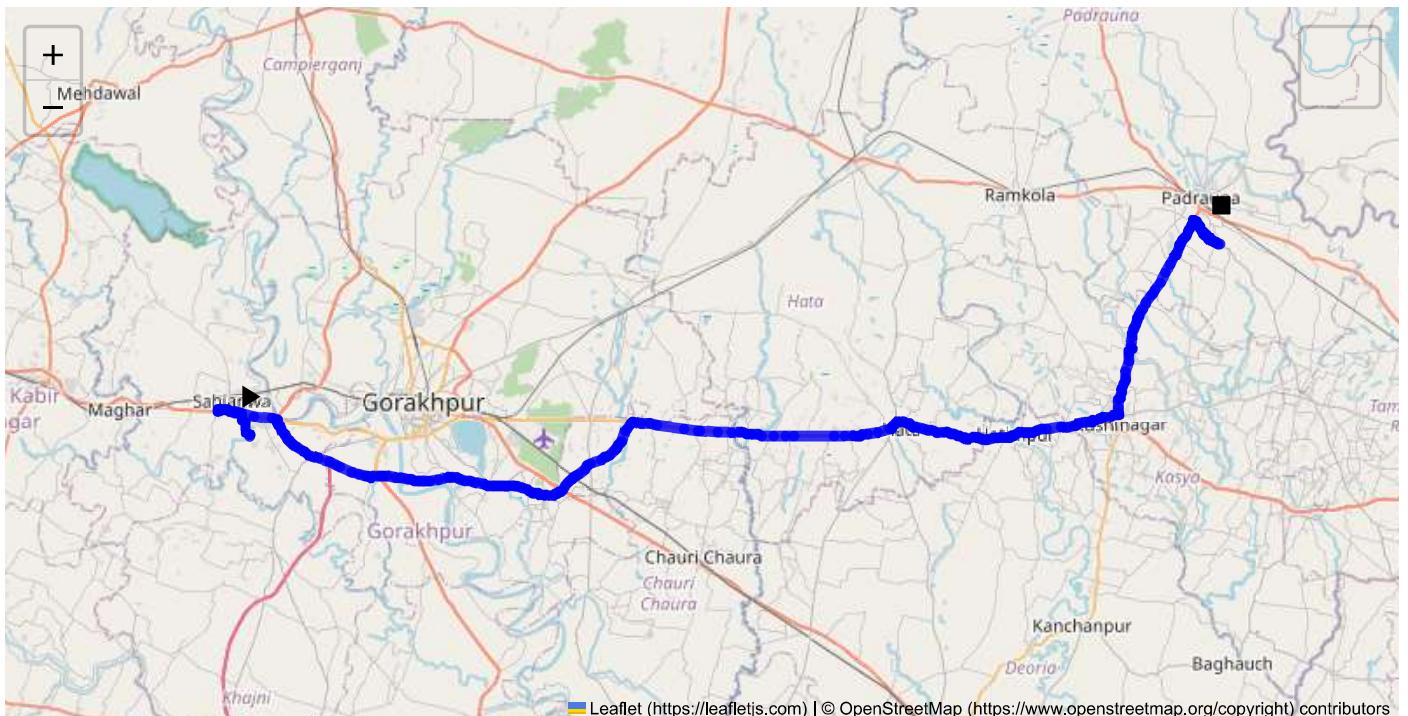
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 99.70 km
Estimated Duration: 2.1 hours
Adjusted Duration (Heavy Vehicle): 2.6 hours
Start: (26.735959, 83.229398)
End: (26.870522, 83.994186)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from GIDA Industrial Area Phase 1, Sahjanwa to Pakri Buzurg spans approximately 100 kilometers, primarily along regional highways and local roads. The key segments include a stretch on NH

27 initially, which transitions to various state highways and local roads. The route navigates through several towns and villages, providing vital connectivity but also potential challenges for heavy vehicles.

2. Typical Weather Conditions and Potential Weather-Related Hazards

In Uttar Pradesh, typical weather can be quite varied. The summer months (April to June) bring intense heat, with temperatures often soaring above 40°C, potentially overheating vehicles or cargo. The monsoon season (July to September) witnesses heavy rainfall, leading to waterlogging and reduced visibility. Winter months (December to February) can see foggy conditions in the mornings and late evenings, increasing the risk of reduced visibility and accidents.

3. Traffic Patterns and Congestion-Prone Areas

Traffic patterns suggest that congestion is particularly prominent during peak hours, typically from 8:00-10:00 AM and 5:00-7:00 PM. Major towns along the route, including Gorakhpur and smaller market towns, are congestion-prone. Market areas and school zones often have unregulated pedestrian crossings, which can slow traffic and pose risks.

4. Assessment of Road Quality and Infrastructure

While NH 27 is well-paved and maintained, many state and local roads are narrow and may lack sufficient shoulder space, presenting challenges for heavy vehicles. Potholes and uneven surfaces are common, especially on less-traveled rural roads. Signage can be sparse and inconsistent, requiring drivers to stay vigilant about navigation.

5. Suggestions for Alternative Routes for Emergencies

In case of emergencies such as road closures or accidents, one could consider using the NH 28 route, although this adds distance. Local knowledge of smaller bypass roads near major towns can also provide detours, but these should be pre-checked for suitability for heavy vehicles.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials requires strict adherence to local and national regulations. Heavy vehicles must have appropriate placards and documentation, and there are restrictions against traveling through certain densely populated or environmentally sensitive areas. Compliance with the Motor Vehicles Act and hazardous material handling protocols is mandatory.

7. Overview of Historical Incidents

Historical data indicates occasional incidents involving heavy vehicles, primarily due to overloading and poor road conditions, leading to accidents. Inadequately marked hazardous material has been a factor in

escalating the severity of incidents.

8. Environmental Considerations and Sensitive Areas

The route passes near agricultural fields and small water bodies, with potential impacts on local ecosystems in case of spills. Certain segments may also pass close to wildlife areas or reserves, where speed restrictions and noise reduction measures are advisable.

9. Analysis of Communication Coverage

Major stretches enjoy reasonable mobile network coverage; however, rural and less populated areas might experience intermittent connectivity. Known dead zones should be mapped for communication contingency planning.

10. Estimated Emergency Response Times

Near urban centers like Gorakhpur, emergency response times could be within 30 minutes. In contrast, rural or less accessible segments may see delays, with response times extending to 1-2 hours, depending on the severity of the issue and distance from the nearest emergency services.

11. Overall Summary of Risk Assessment

The route contains a balanced mix of opportunities and challenges. Good planning can mitigate risks posed by weather, road conditions, and traffic. Regular training, pre-checks, and emergency preparedness can ensure safe transportation of hazardous materials. It is critical to remain updated on local advisories and regulations, maintain regular vehicle checks, and ensure proper documentation for compliance with safety norms.

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

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.79 km
8	Turn	High	26.74995, 83.91445	15 KM/Hr	80.02 km
9	Turn	Medium	26.79586, 83.92326	30 KM/Hr	85.23 km
10	Turn	Medium	26.79608, 83.92337	30 KM/Hr	85.27 km
11	Turn	Medium	26.79696, 83.92522	30 KM/Hr	85.45 km
12	Turn	Medium	26.79733, 83.92537	30 KM/Hr	85.52 km
13	Turn	High	26.88719, 83.97408	15 KM/Hr	96.79 km
14	Turn	Medium	26.88630, 83.97687	30 KM/Hr	97.01 km
15	Turn	Medium	26.87458, 83.98684	30 KM/Hr	98.74 km

Emergency Locations

Found: 2 hospital(s), 1 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	RG Hospital	26.7372178, 83.5824469	30 km/h	Medium	45.83 km
1	clinic	Qazi Poly Clinic	26.7503799, 83.9126991	30 km/h	Medium	79.74 km
2	hospital	District Combined Hospital Kushinagar	26.8632735, 83.9553228	30 km/h	Medium	93.33 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



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: High

Speed Limit: 15 KM/Hr

Distance from Start: 80.02 km

Coordinates: 26.74995, 83.91445



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.23 km

Coordinates: 26.79586, 83.92326



Google

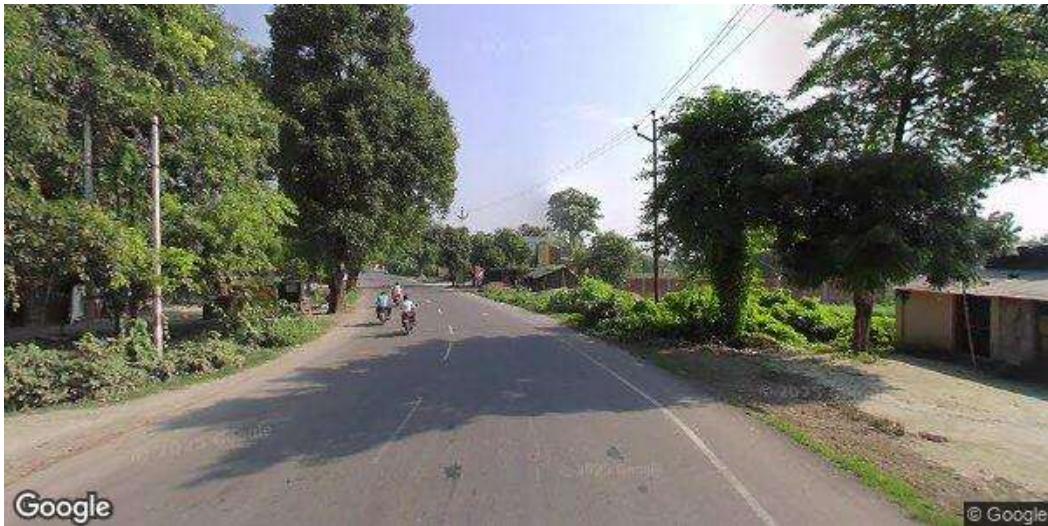
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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 85.27 km**Coordinates:** 26.79608, 83.92337

Google

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 85.45 km**Coordinates:** 26.79696, 83.92522



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.52 km

Coordinates: 26.79733, 83.92537



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 96.79 km

Coordinates: 26.88719, 83.97408



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 97.01 km

Coordinates: 26.88630, 83.97687



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 98.74 km

Coordinates: 26.87458, 83.98684

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