



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to DEOKI 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

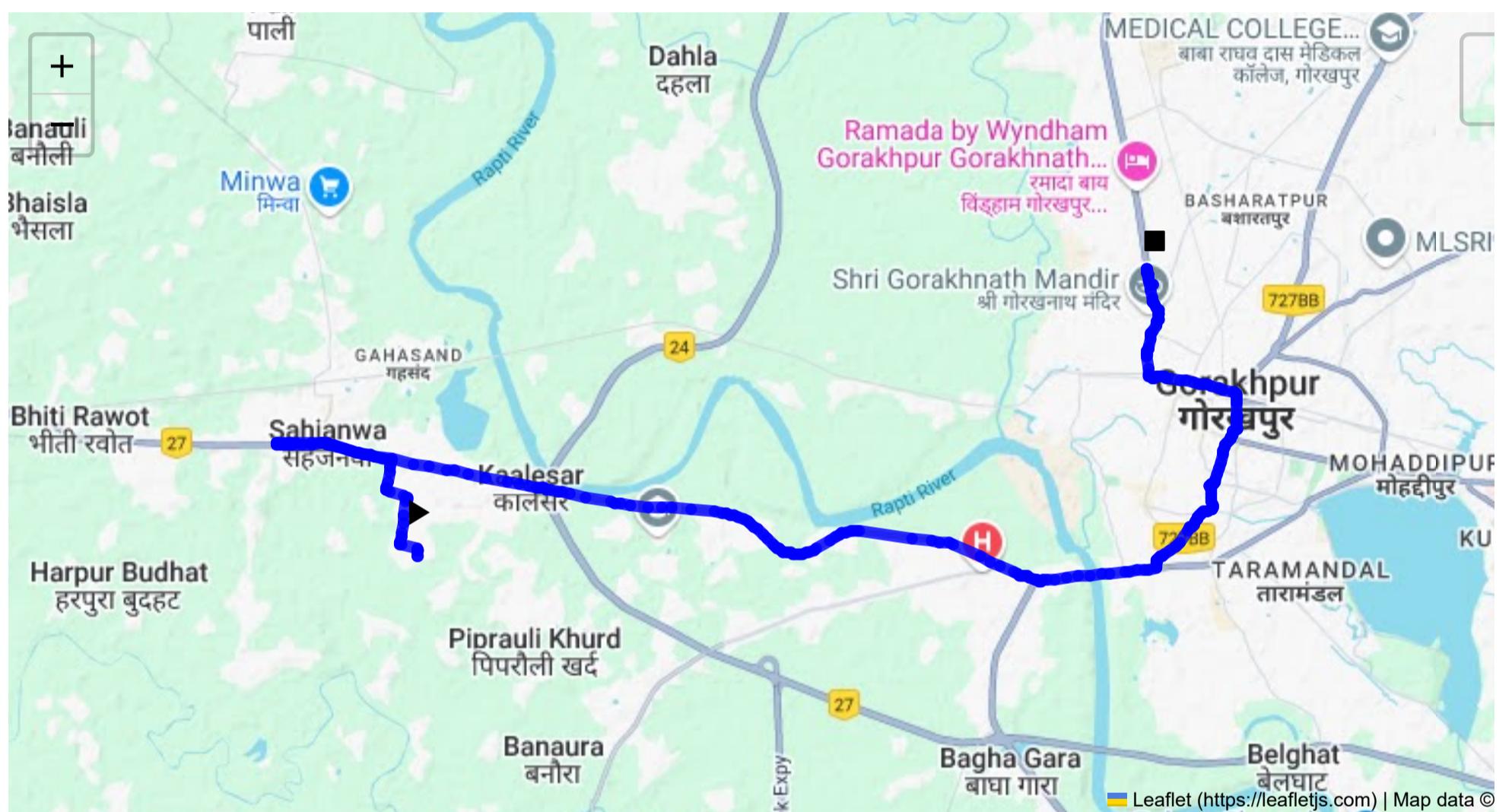
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 27.71 km
Estimated Duration: 0.9 hours
Adjusted Duration (Heavy Vehicle): 1.1 hours
Start: (26.735959, 83.229398)
End: (26.778652, 83.358536)

Welcome to the Journey Risk Management Study

Route Overview

The route from GIDA Industrial Area Phase 1 to Dayanand Nagar in Gorakhpur via Shambhu Chak covers approximately 27.71 kilometers. This route typically takes around 0.89 hours for heavy vehicles carrying hazardous materials. It traverses a mix of industrial zones, rural areas, and urban corridors, requiring vigilance due to changing traffic conditions and varying road infrastructure.

Weather Conditions

Uttar Pradesh, particularly in the Gorakhpur region, experiences a humid subtropical climate. Key weather-related hazards may include:

- **Monsoon Season (June to September):** Heavy rainfall can lead to waterlogging and slick roads. Flash flooding is a possibility.
- **Summer (April to June):** High temperatures can affect vehicle performance, particularly in overheating engines.
- **Winter (December to February):** Fog is common, reducing visibility and increasing the risk of accidents.

Traffic Patterns

Traffic peaks are typically observed during:

- **Morning (7 AM to 9 AM):** Commuter influx into Gorakhpur.
- **Evening (5 PM to 7 PM):** Outbound traffic from the city. Areas near Gorakhpur can face congestion, especially as the route approaches the city's center.

Road Quality and Infrastructure

- **GIDA Industrial Area:** Roads are often wide but can be congested due to the heavy industrial traffic.
- **Rural Segments (around Shambhu Chak):** Varying road conditions, with potential for narrow and uneven roads.
- **Urban Entry into Gorakhpur:** Better road quality but increased traffic density.

Alternative Routes

In emergencies, consider:

- **National Highway 27 (NH27):** Bypassing rural stretches for a more direct approach into Gorakhpur, though it may be longer.
- **Local Roads:** Familiarity with local roads may help avoid traffic congestion when closer to urban areas.

Regulations for Hazardous Materials

- Ensure compliance with local and national regulations regarding hazardous materials, which may include specific routing, timing restrictions, and vehicle markings.
- Permits may be required for transporting certain types of hazardous materials, particularly through densely populated areas.

Historical Incidents

There have been several recorded incidents of heavy vehicle accidents in the region, typically due to:

- Overloading and vehicle maintenance issues.
- Poor visibility during the fog season.
- Non-compliance with road safety measures.

Environmental Considerations

- **Proximity to Water Bodies:** The region has several rivers and wetlands, making spill potential critical for ecological safety.
- **Sensitive Ecosystems:** Ensure that transport does not disrupt local wildlife or agricultural areas.

Communication Coverage

- **Urban Areas (Gorakhpur):** Strong network coverage with minimal dead zones.
- **Rural Areas:** Spotty coverage is possible, especially around more remote parts between Sahjanwa and Shambhu Chak.

Emergency Response Times

- **Urban Segments:** Faster response times (10-20 minutes) due to proximity to emergency services.
- **Rural Segments:** Slower response (up to 40 minutes) due to distance from urban centers.

Risk Assessment Summary

The route presents several risks, including variable road quality, potential for congestion, and weather-related hazards. Adherence to safety regulations and familiarity with alternative routes are crucial. Pre-trip planning and live monitoring of traffic and weather conditions can greatly enhance safety for truck drivers transporting hazardous materials.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
4	Turn	High	26.73690, 83.22947	15 KM/Hr	0.07 km
5	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
6	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
7	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
8	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.30 km
9	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.32 km
10	Turn	Medium	26.74654, 83.22390	30 KM/Hr	1.69 km
11	Turn	Medium	26.74661, 83.22388	30 KM/Hr	1.70 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
12	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
13	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.23 km
14	Turn	High	26.75381, 83.20466	15 KM/Hr	4.30 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.97 km
15	Turn	High	26.73427, 83.35896	15 KM/Hr	20.17 km
16	Turn	Medium	26.73561, 83.35925	30 KM/Hr	20.37 km
17	Turn	Medium	26.74059, 83.36500	30 KM/Hr	21.16 km
1	Roundabout	High	26.74332, 83.36868	15 KM/Hr	21.67 km
18	Turn	Medium	26.74716, 83.36855	30 KM/Hr	22.12 km
2	Roundabout	High	26.75612, 83.37311	15 KM/Hr	23.21 km
19	Turn	Medium	26.76163, 83.37307	30 KM/Hr	23.84 km
20	Turn	Medium	26.76173, 83.37298	30 KM/Hr	23.87 km
21	Turn	Medium	26.76746, 83.35751	30 KM/Hr	25.67 km
22	Turn	Medium	26.76755, 83.35745	30 KM/Hr	25.78 km
23	Blind Spot	Blind Spot	26.78119, 83.35743	10 KM/Hr	27.33 km
3	U-Turn	High	26.7811877, 83.3574277	10 KM/Hr	27.33 km
24	Turn	High	26.78119, 83.35755	15 KM/Hr	27.38 km
25	Turn	High	26.77887, 83.35797	15 KM/Hr	27.62 km

Emergency Locations

Found: 10 hospital(s), 10 clinic(s), 2 police(s), 1 fire_station(s)

	type	name		coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Sangam Eye Hospital		26.7343271, 83.3640482	30 km/h	Medium	20.60 km
1	hospital	Amrawati Hospital		26.7372636, 83.3626921	30 km/h	Medium	20.72 km
2	hospital	Sanjay Fracture Clinic and Maternity Centre		26.7342168, 83.3665873	30 km/h	Medium	20.72 km
6	police	Normal Police Chauki		26.7407797, 83.3598736	30 km/h	Medium	20.81 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
7	police	Normal Police Chauki	26.7407683, 83.3598743	30 km/h	Medium	20.81 km
4	hospital	The Pride Hospital	26.734908, 83.3669987	30 km/h	Medium	20.86 km
3	hospital	Nangalia Hospital	26.7410605, 83.3641767	30 km/h	Medium	21.16 km
5	clinic	Apollo Clinic	26.738647, 83.367827	30 km/h	Medium	21.24 km
11	hospital	Sheetala Care Centre	26.7449338, 83.3656207	30 km/h	Medium	21.52 km
14	clinic	Shahi Neuro Psychiatry Clinic	26.7424394, 83.3682212	30 km/h	Medium	21.63 km
13	hospital	Maa Vaishno Child And Maternity Clinic	26.742669, 83.3693071	30 km/h	Medium	21.67 km
12	hospital	Chhaparia Hospital	26.7425732, 83.3694841	30 km/h	Medium	21.67 km
8	hospital	Sri Ram Janaki Netralaya	26.7426534, 83.3697899	30 km/h	Medium	21.67 km
10	clinic	Dr. S K Sharma Eye Clinic	26.7412138, 83.3686995	30 km/h	Medium	21.67 km
9	hospital	Ram Janani Hospital	26.7427666, 83.3702049	30 km/h	Medium	21.70 km
15	clinic	M.M. Nursing Home	26.7429588, 83.3712517	30 km/h	Medium	21.72 km
16	clinic	Maa Sharda Clinic and Nursing Home	26.742639, 83.3716097	30 km/h	Medium	21.72 km
17	clinic	Nandan Ent Clinic	26.7427516, 83.3732077	30 km/h	Medium	21.72 km
19	fire_station	fire station	26.7548433, 83.3727648	30 km/h	Medium	23.09 km
20	clinic	Durga Nursing Home	26.7614642, 83.3665578	30 km/h	Medium	24.49 km
21	clinic	Raj Nursing Home, Gorakhpur	26.7626741, 83.3619632	30 km/h	Medium	24.97 km
22	clinic	Am Nursing Home	26.7708409, 83.3592944	30 km/h	Medium	26.15 km
23	clinic	Guru Sri Gorakshnath Chikitsalya	26.7764139, 83.3578199	30 km/h	Medium	26.84 km

Crowded Spots

Found: 2 school(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
18	school	MPIC School Ground	26.7499877, 83.371536	30 km/h	Medium	22.53 km
24	school	G.N. National Public School	26.7768605, 83.3573726	30 km/h	Medium	26.84 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: 4.30 km

Coordinates: 26.75381, 83.20466



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Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.97 km

Coordinates: 26.74681, 83.25111



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 20.17 km

Coordinates: 26.73427, 83.35896



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 20.37 km

Coordinates: 26.73561, 83.35925



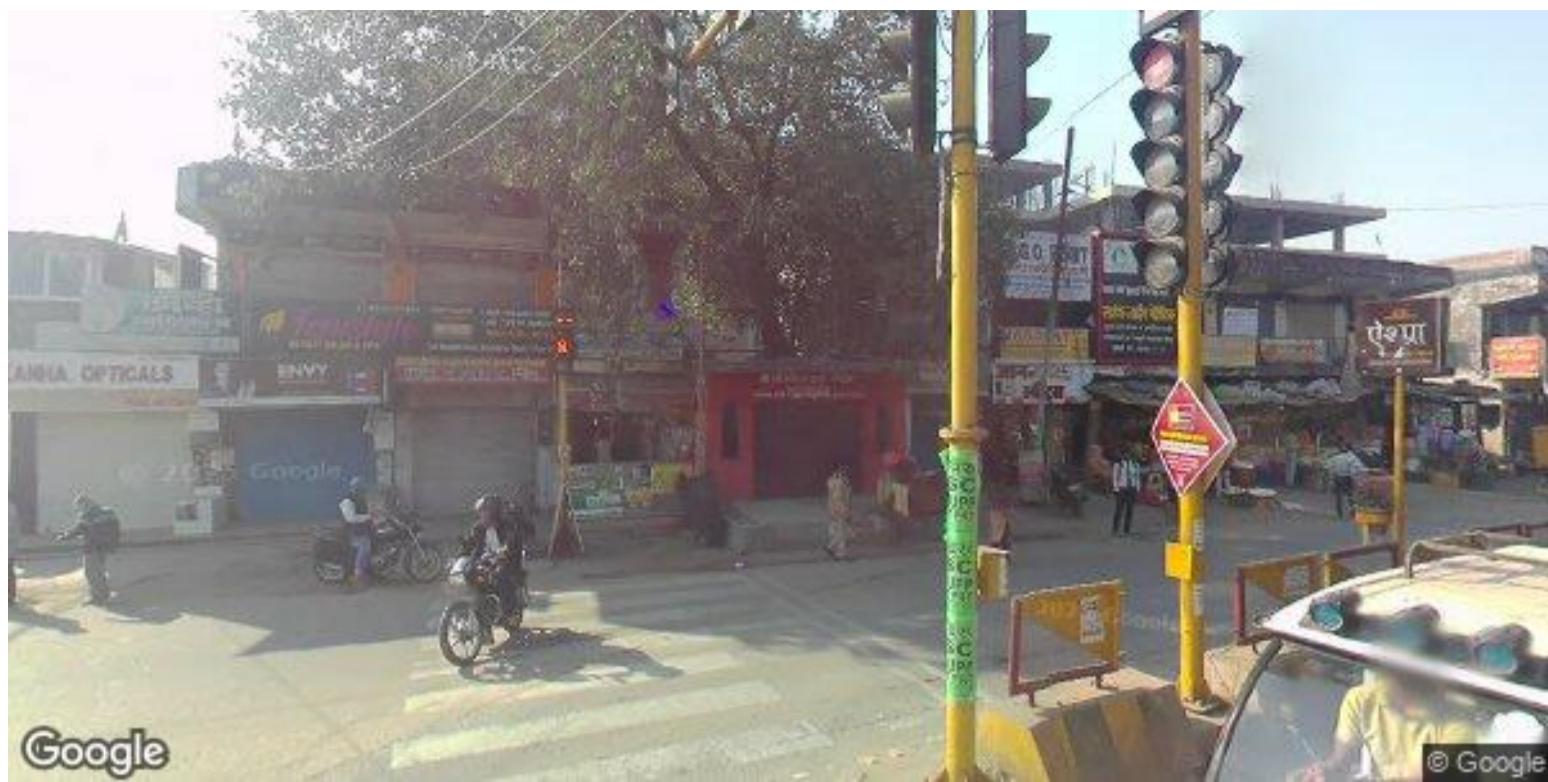
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 21.16 km

Coordinates: 26.74059, 83.36500



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 21.67 km

Coordinates: 26.74332, 83.36868



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 22.12 km

Coordinates: 26.74716, 83.36855



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Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 23.21 km

Coordinates: 26.75612, 83.37311



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 23.84 km

Coordinates: 26.76163, 83.37307



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 23.87 km

Coordinates: 26.76173, 83.37298



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 25.67 km

Coordinates: 26.76746, 83.35751



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 25.78 km

Coordinates: 26.76755, 83.35745



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Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 27.33 km

Coordinates: 26.78119, 83.35743



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 27.33 km

Coordinates: 26.7811877, 83.3574277



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 27.38 km

Coordinates: 26.78119, 83.35755



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 27.62 km

Coordinates: 26.77887, 83.35797

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