JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to ADARSH INDANE GRAMIN VITRAK

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

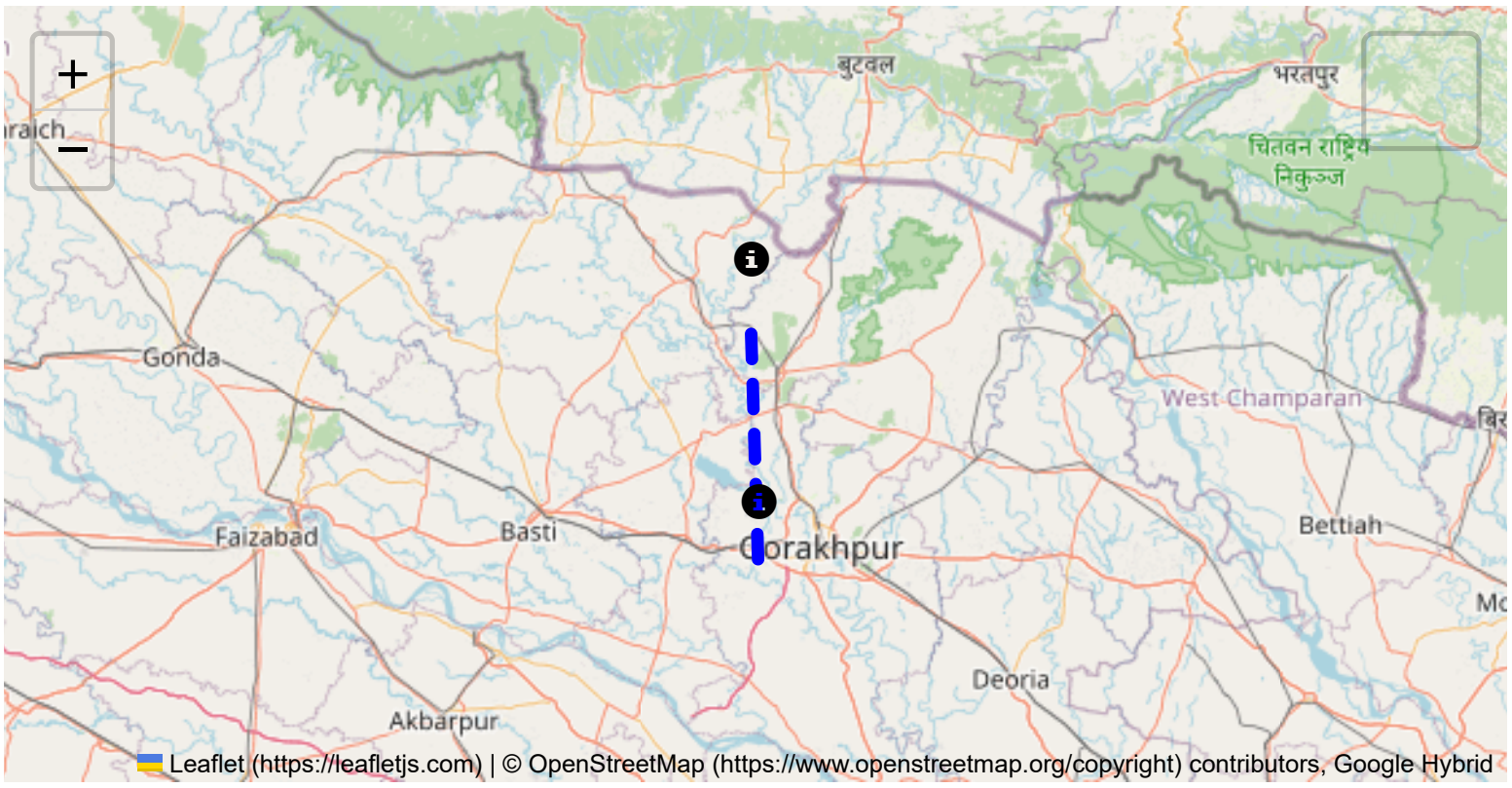
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

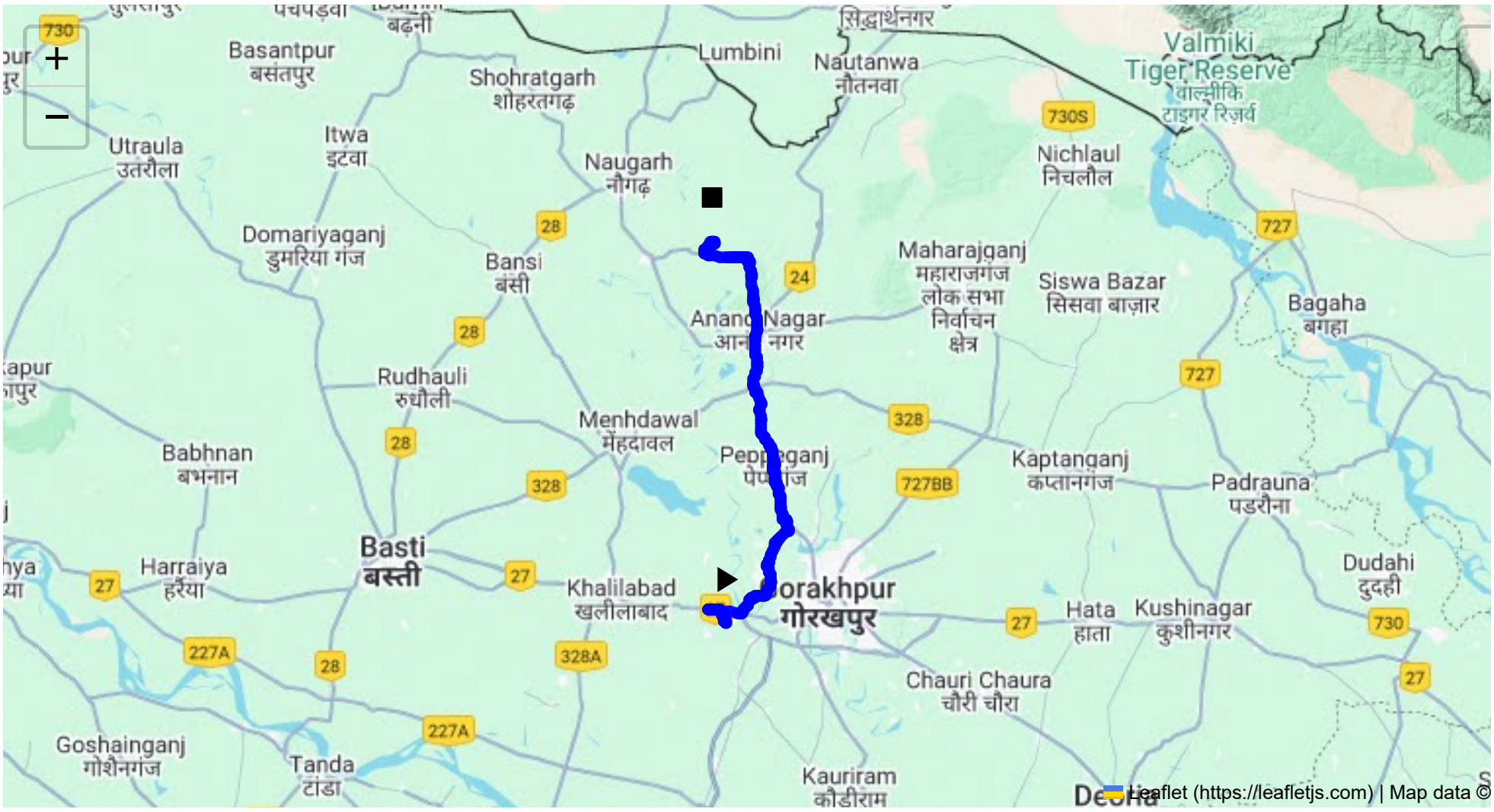
Journey Risk Mitigation

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: 72.32 km
Estimated Duration: 1.7 hours
Adjusted Duration (Heavy Vehicle): 2.2 hours
Start: (26.735959, 83.229398)
End: (27.21246, 83.20899)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route covers approximately 72.32 kilometers from the GIDA Industrial Area in Sahjanwa to Shahabad in Uttar Pradesh. It generally follows the regional highways and passes through various rural and semi-urban settings. The route typically takes about 1.74 hours for heavy vehicles, including those transporting hazardous materials.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Uttar Pradesh experiences a humid subtropical climate with distinct seasons. During the monsoon season (June to September), the route may experience heavy rainfall, potentially leading to flooding and waterlogging, especially in low-lying areas. In summer (March to June), extreme heat can affect vehicle performance, while winter (December to February) may bring fog, particularly in early mornings and late evenings, reducing visibility.

3. Analysis of Traffic Patterns

Traffic patterns in this area suggest moderate congestion during peak hours, typically from 8 to 10 AM and 5 to 7 PM. This is particularly evident in towns along the route and around major intersections. Congestion is exacerbated by local market activities and schools starting or ending their days.

4. Assessment of Road Quality and Infrastructure

The road infrastructure varies along the route. While some sections are well-maintained highways, others consist of narrower, less maintained roads. Potholes and uneven surfaces may be present, especially in rural areas, necessitating caution. Signage may also be inadequate, especially in more remote stretches.

5. Suggestions for Alternative Routes for Emergencies

In case of emergencies, consider using other regional highways if conditions allow, though these may extend travel time. Local roads connecting smaller towns may serve as detours, but their suitability for heavy vehicles should be verified in advance.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transporting hazardous materials in Uttar Pradesh requires adherence to strict regulations, including proper labeling, documentation, and routes approved for hazardous materials. Ensure compliance with all state-level permissions and safety protocols.

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

Historically, incidents involving heavy vehicles have occurred primarily due to driver fatigue, mechanical failures, or weather conditions. There has been a record of accidents during monsoon seasons due to skidding. It is essential to monitor weather forecasts and plan accordingly.

8. Environmental Considerations and Sensitive Areas

The route passes through agricultural zones where spillage or accidents could impact local ecosystems. Drivers should be aware of these sensitive areas and ensure all cargo is secured to prevent environmental pollution.

9. Analysis of Communication Coverage

Most areas along the route have good mobile network coverage. However, there might be potential dead zones in more remote rural sections. It is advisable to note these locations and prepare for limited communication capabilities.

10. Estimated Emergency Response Times for Different Route Segments

Emergency response times can vary significantly. In urban areas, response times are generally quicker (approximately 20-30 minutes). In rural stretches, responses can take longer (up to an hour or more) due to distance and road conditions.

11. Overall Summary of Risk Assessment

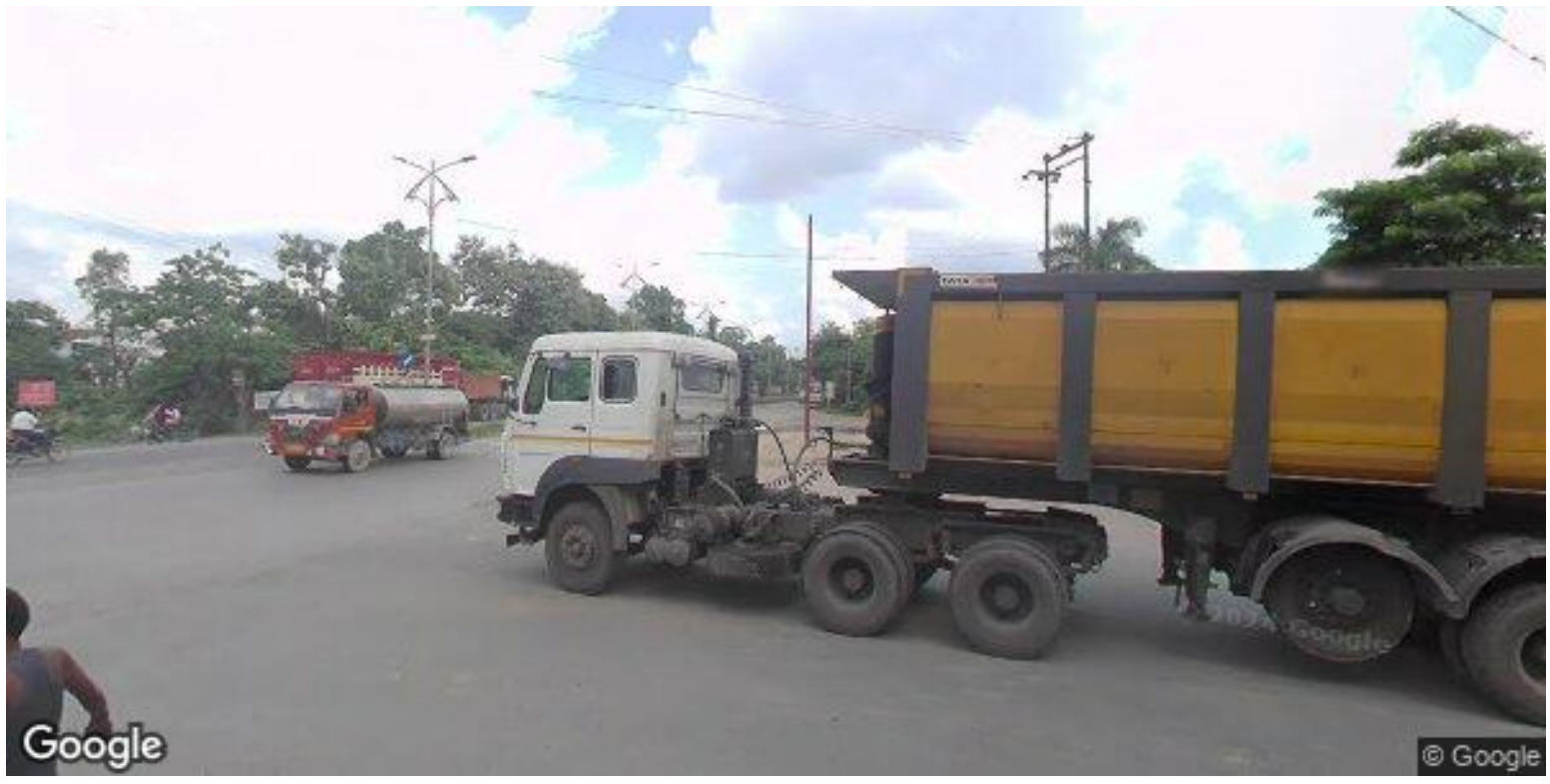
The route presents several risks, including potential weather-related hazards, road quality challenges, and varying communication reliability. Traffic congestion and local regulations impose additional obligations. Drivers should be equipped with necessary safety gear, adhere strictly to road safety rules, and maintain regular communications checks. Advance planning for alternative routes and emergency contacts is critical to mitigate any unforeseen incidents.

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
8	Turn	Medium	26.74700, 83.25085	30 KM/Hr	8.90 km
9	Turn	Medium	26.74715, 83.25109	30 KM/Hr	8.97 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.85 km
10	Turn	Medium	27.17074, 83.26442	30 KM/Hr	60.69 km
11	Turn	Medium	27.18920, 83.25991	30 KM/Hr	62.96 km
12	Turn	High	27.19319, 83.25903	15 KM/Hr	63.41 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
13	Turn	Medium	27.19329, 83.25886	30 KM/Hr	63.46 km
14	Turn	High	27.19788, 83.19904	15 KM/Hr	69.37 km
15	Blind Spot	Blind Spot	27.21140, 83.21310	10 KM/Hr	71.63 km
16	Turn	Medium	27.21172, 83.21256	30 KM/Hr	71.69 km
17	Turn	High	27.21187, 83.21252	15 KM/Hr	71.72 km
18	Turn	High	27.21201, 83.21197	15 KM/Hr	71.75 km
19	Blind Spot	Blind Spot	27.21320, 83.21214	10 KM/Hr	71.85 km

Route Photos of Risky Spots



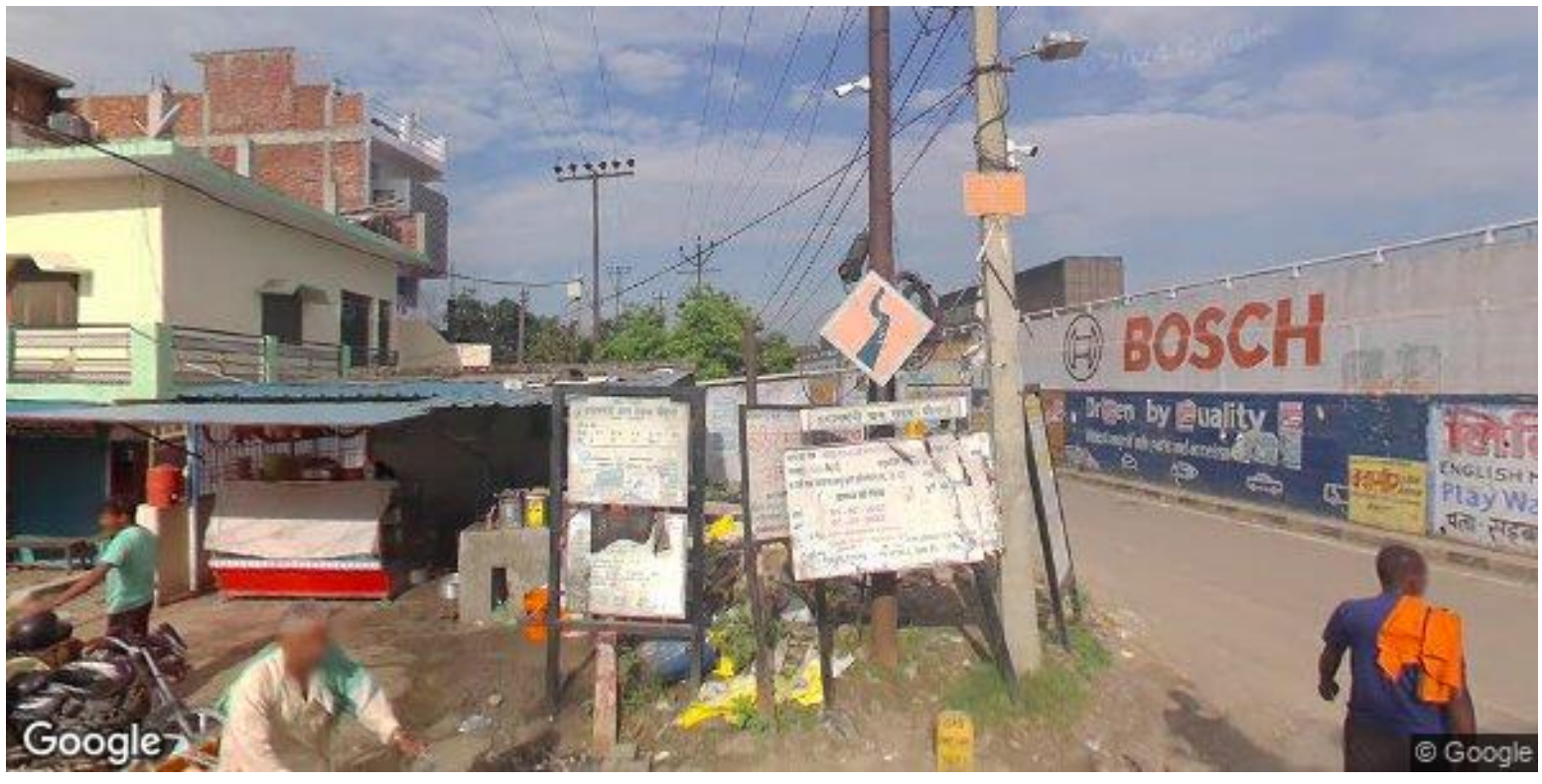
Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.16 km

Coordinates: 26.75126, 83.22476



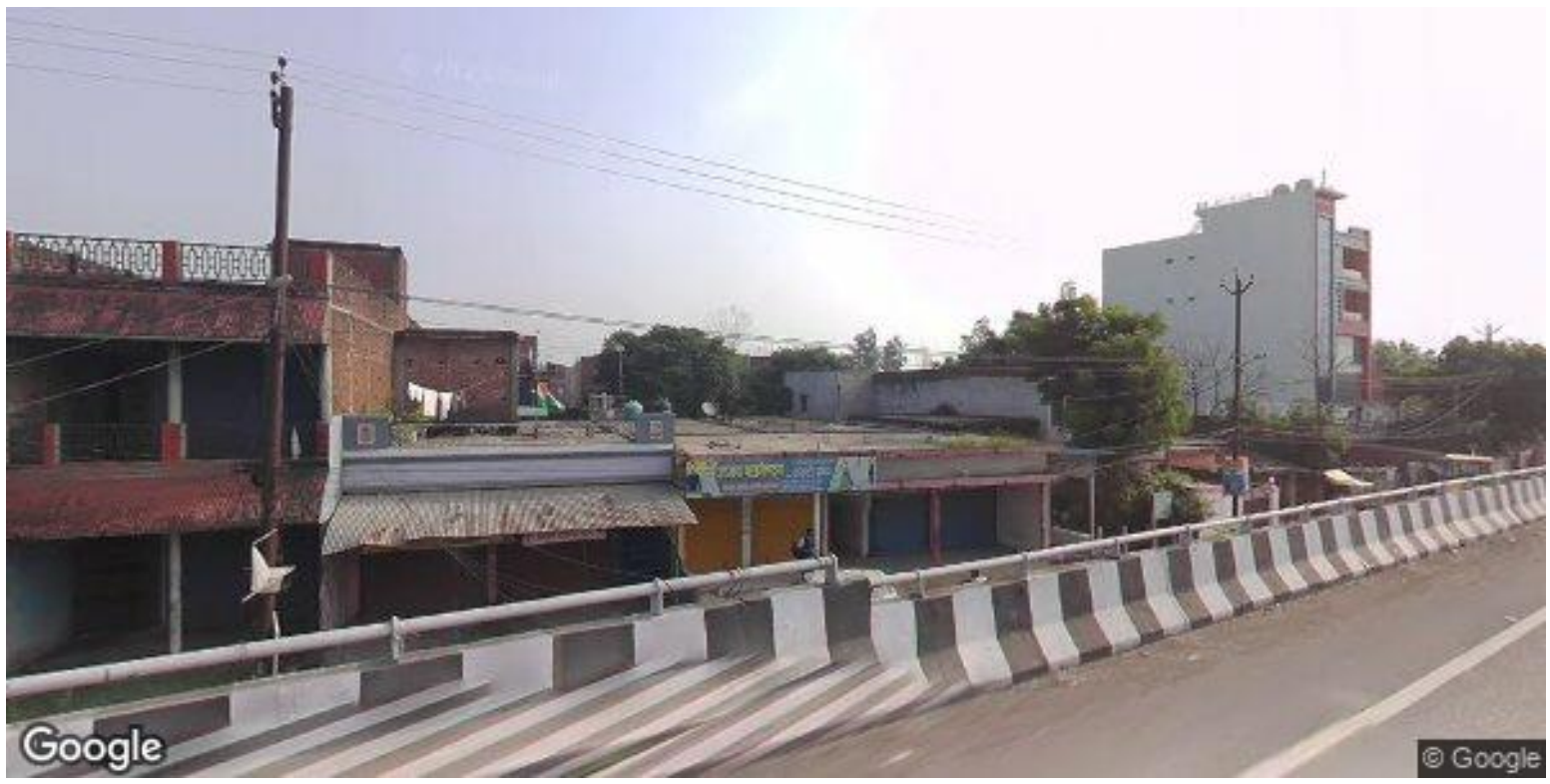
Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.22 km

Coordinates: 26.75353, 83.20457



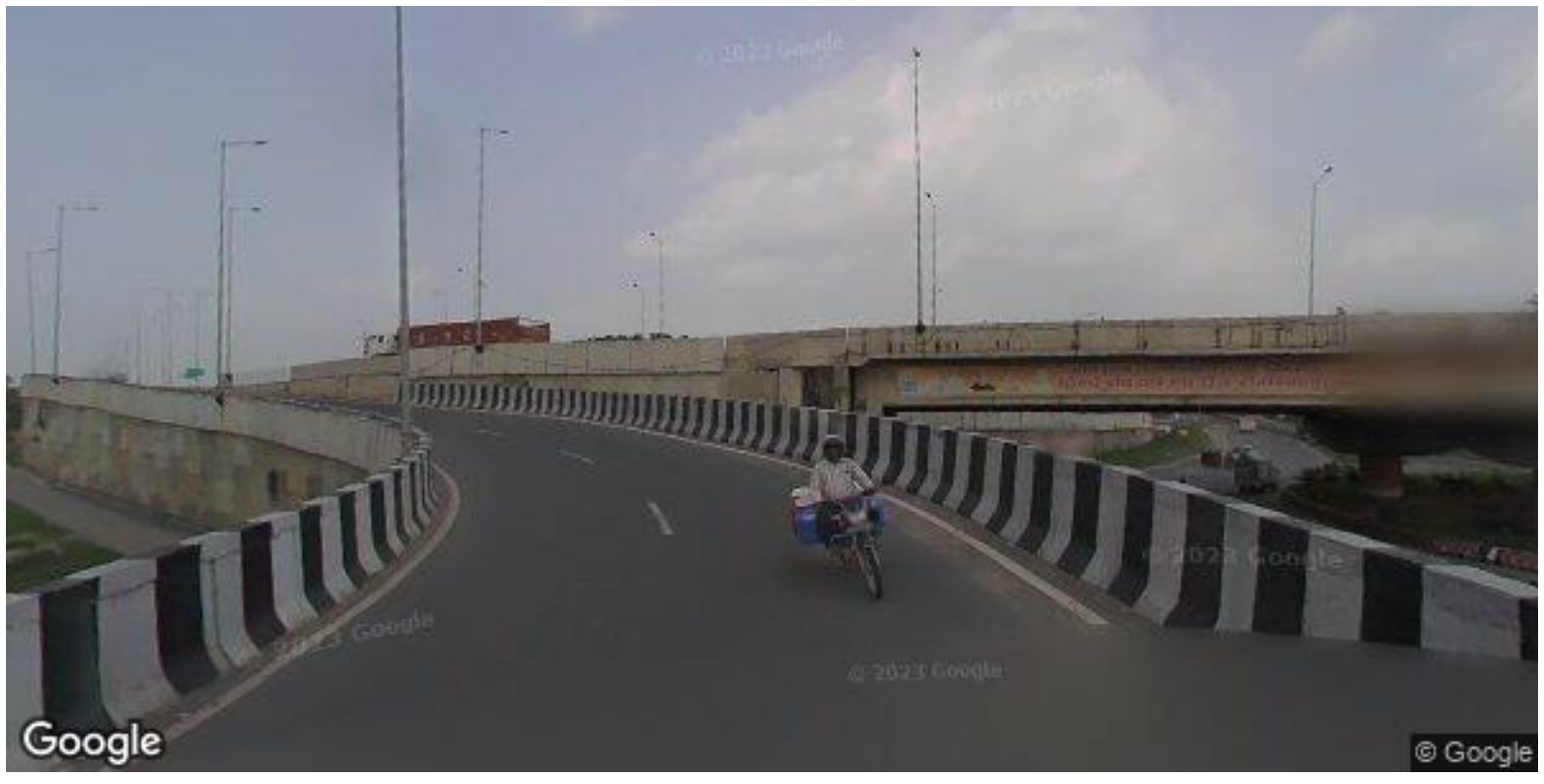
Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.27 km

Coordinates: 26.75377, 83.20465



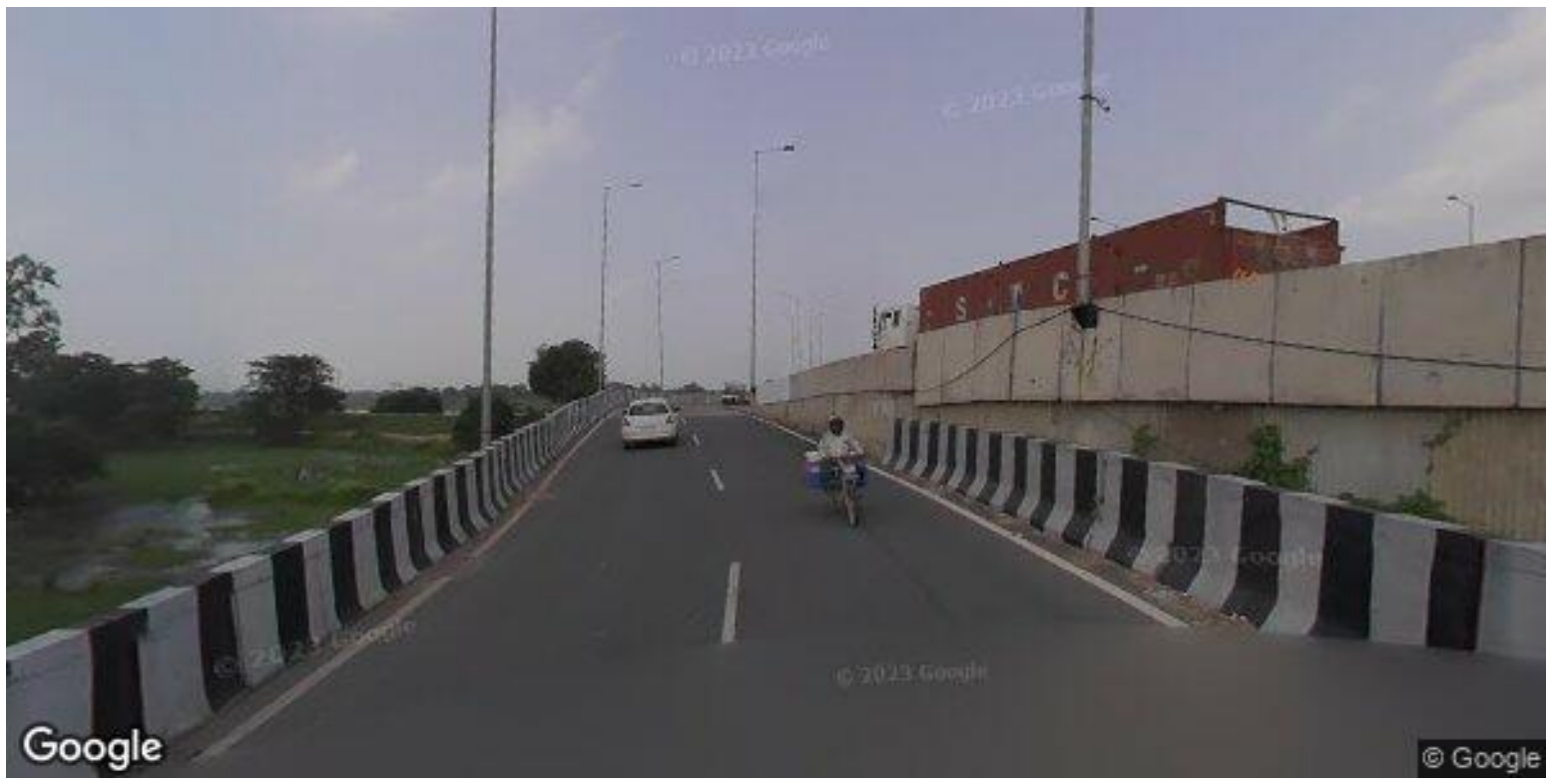
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.90 km

Coordinates: 26.74700, 83.25085



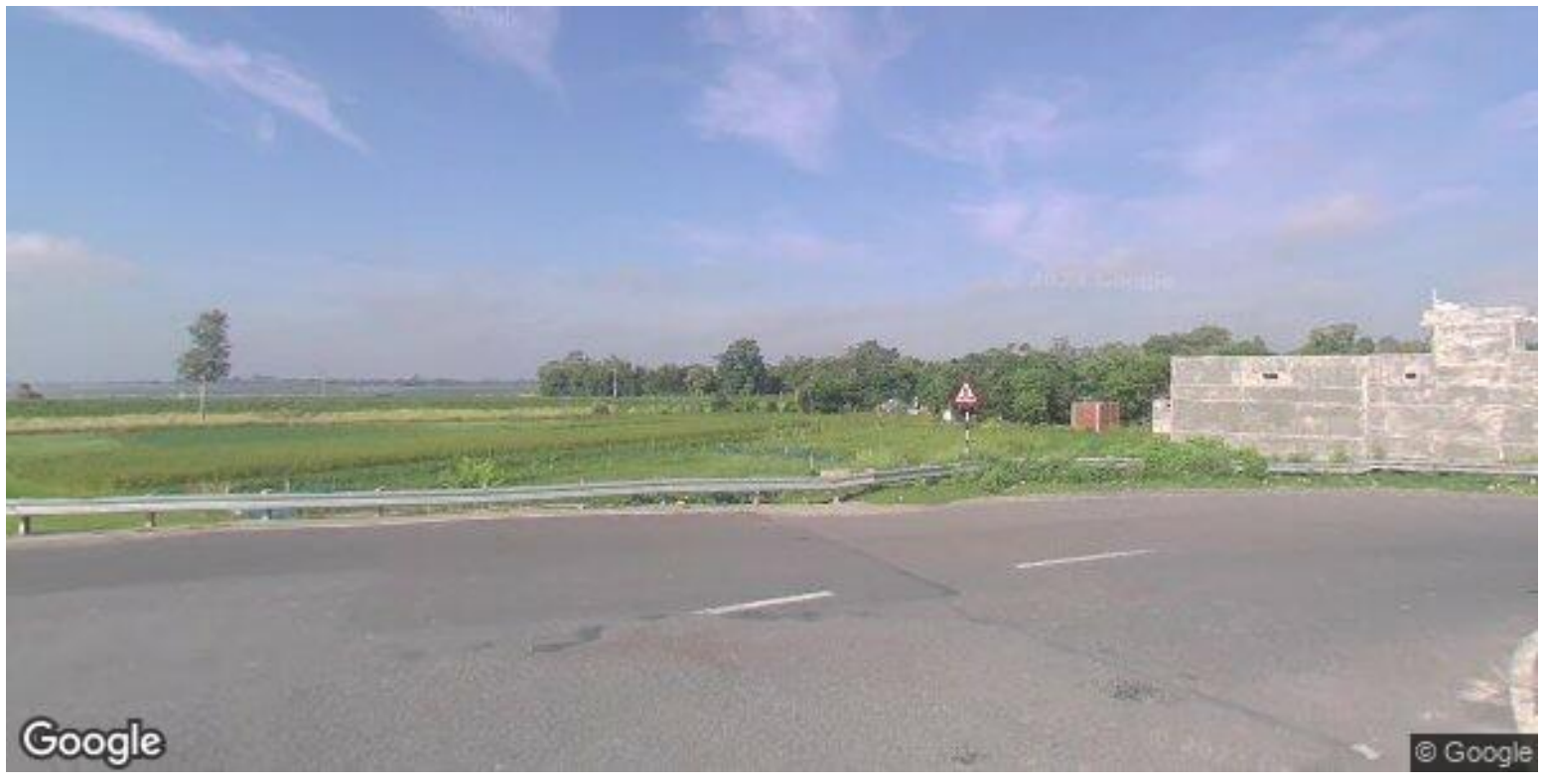
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 8.97 km

Coordinates: 26.74715, 83.25109



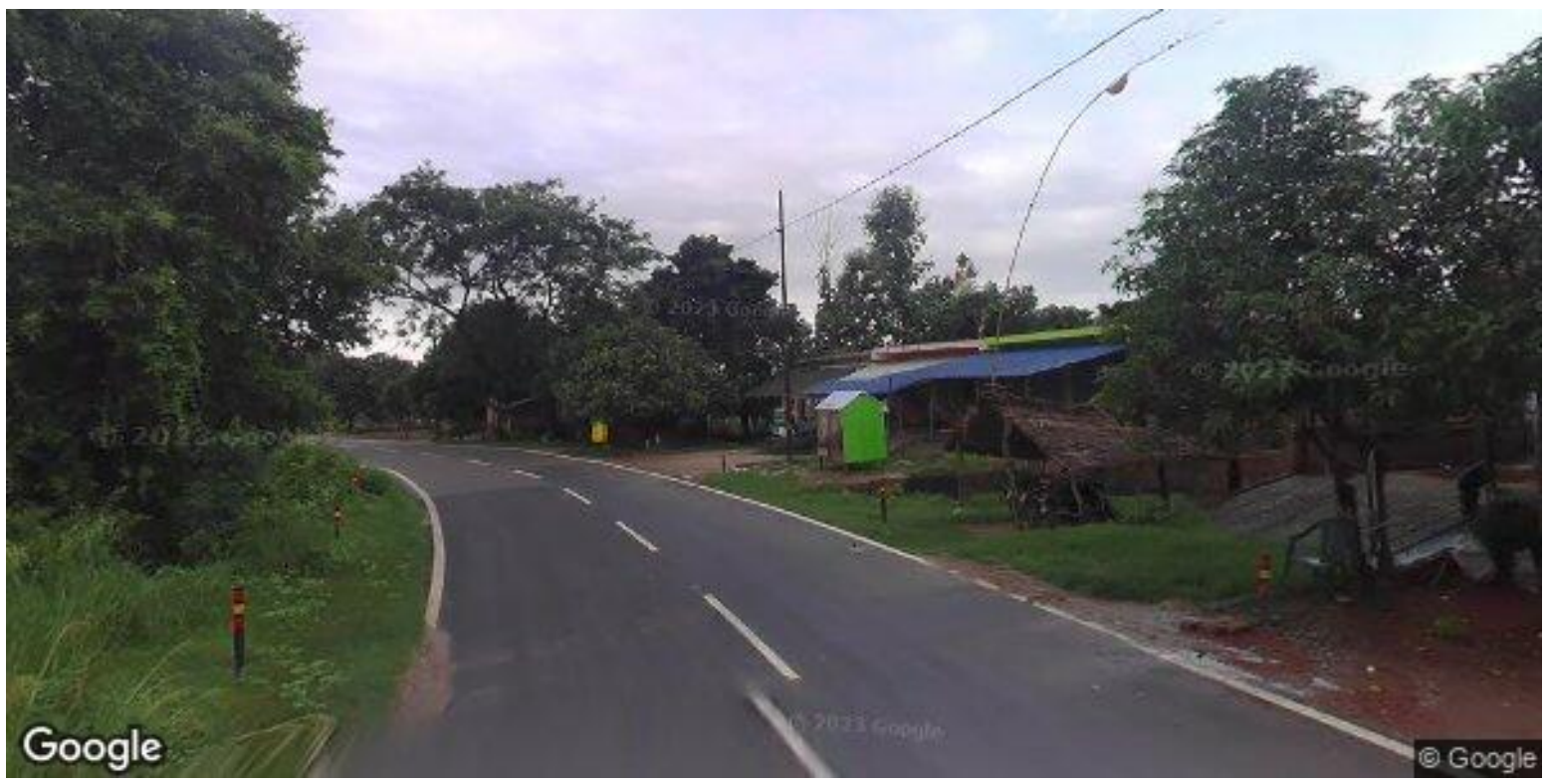
Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 24.85 km

Coordinates: 26.86209, 83.31517



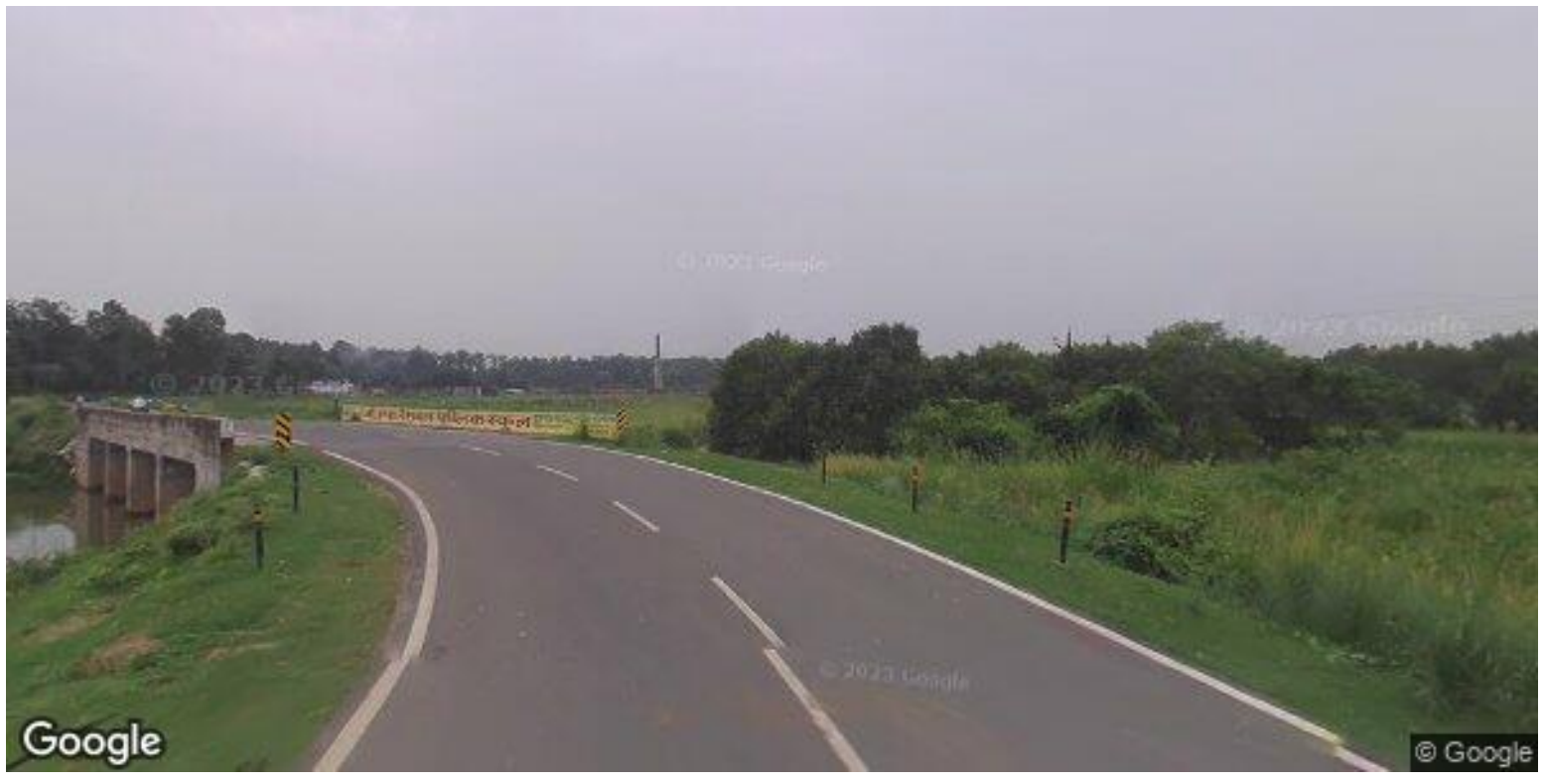
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 60.69 km

Coordinates: 27.17074, 83.26442



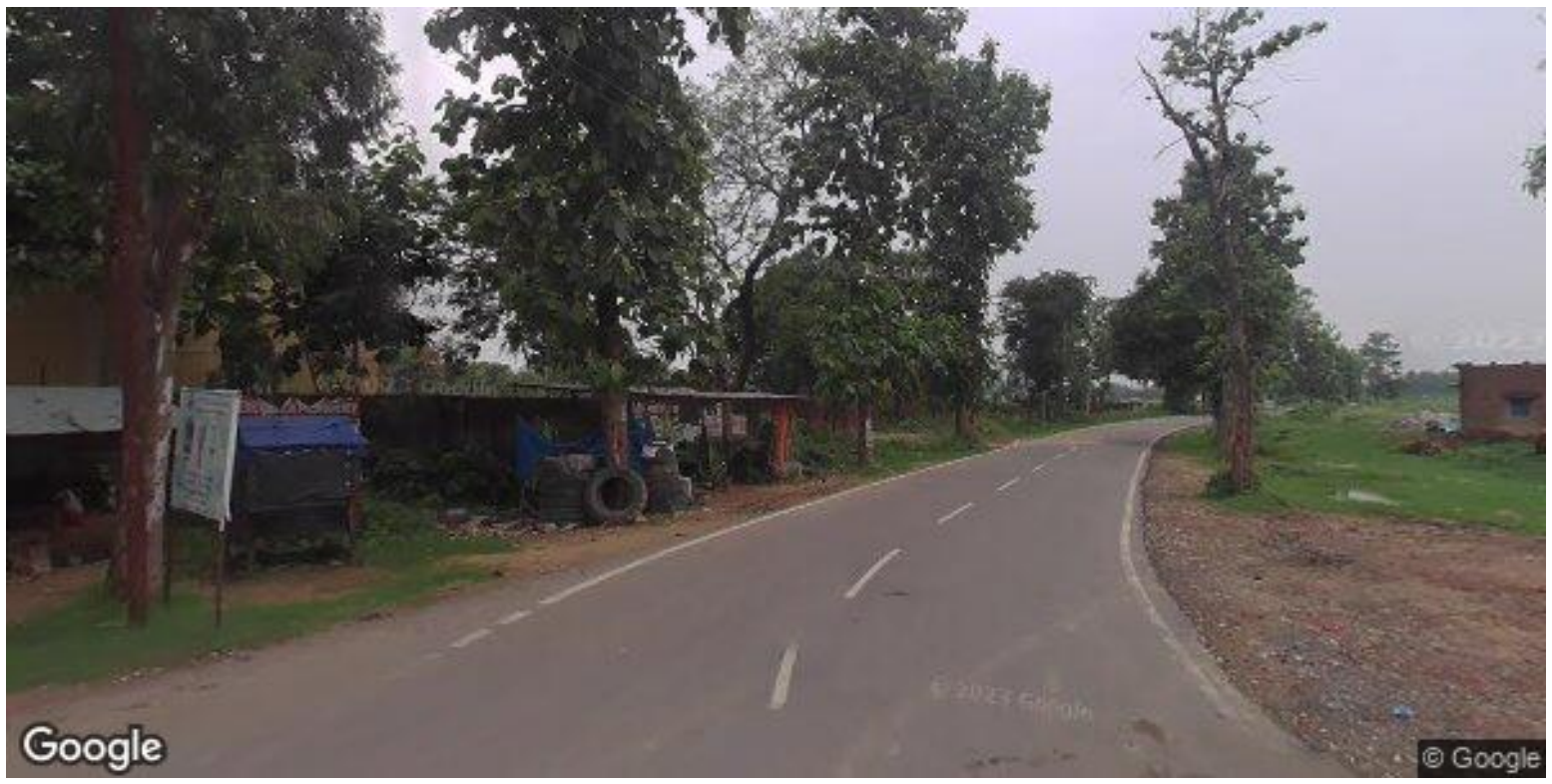
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 62.96 km

Coordinates: 27.18920, 83.25991



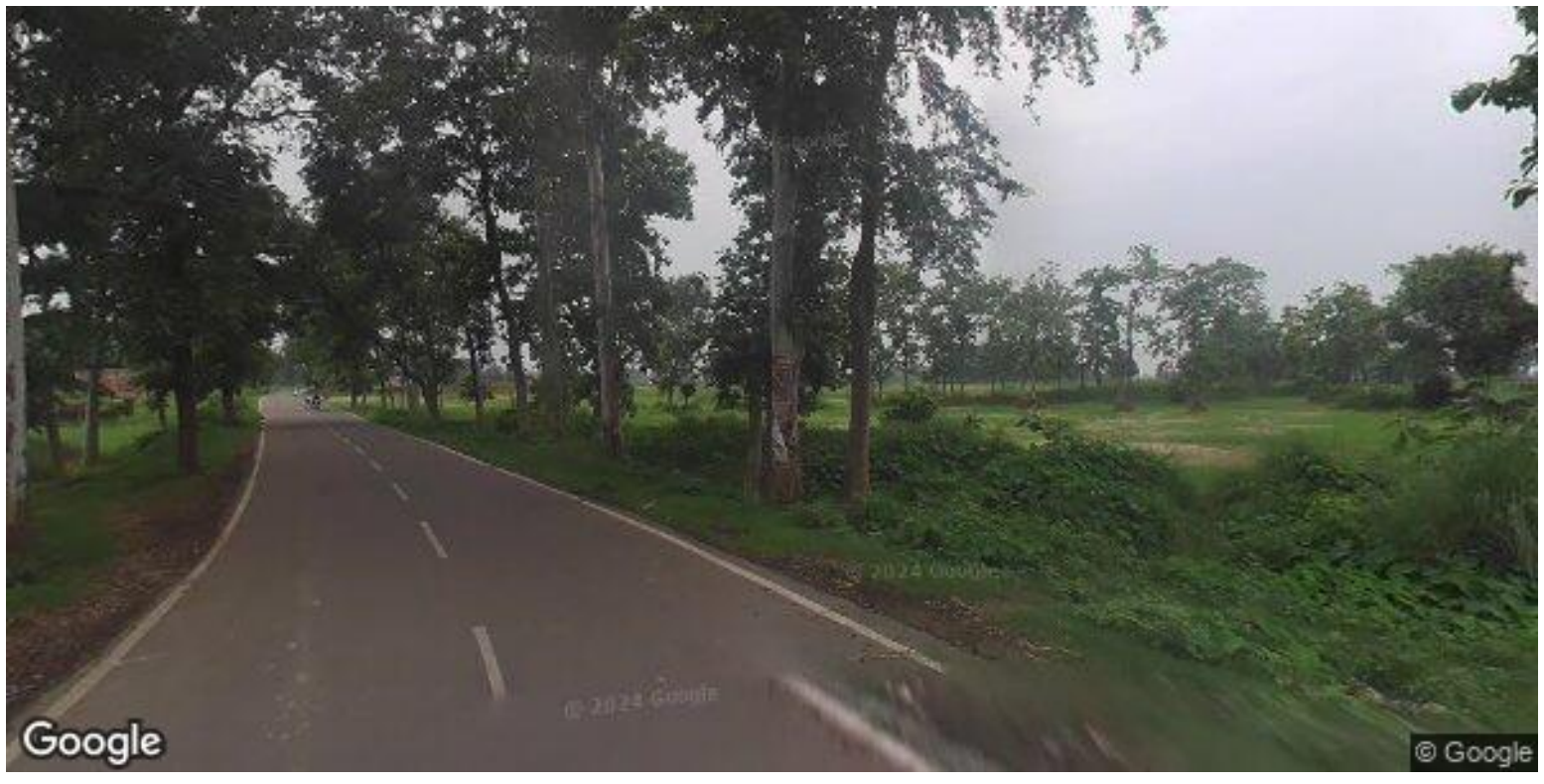
Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 63.41 km

Coordinates: 27.19319, 83.25903



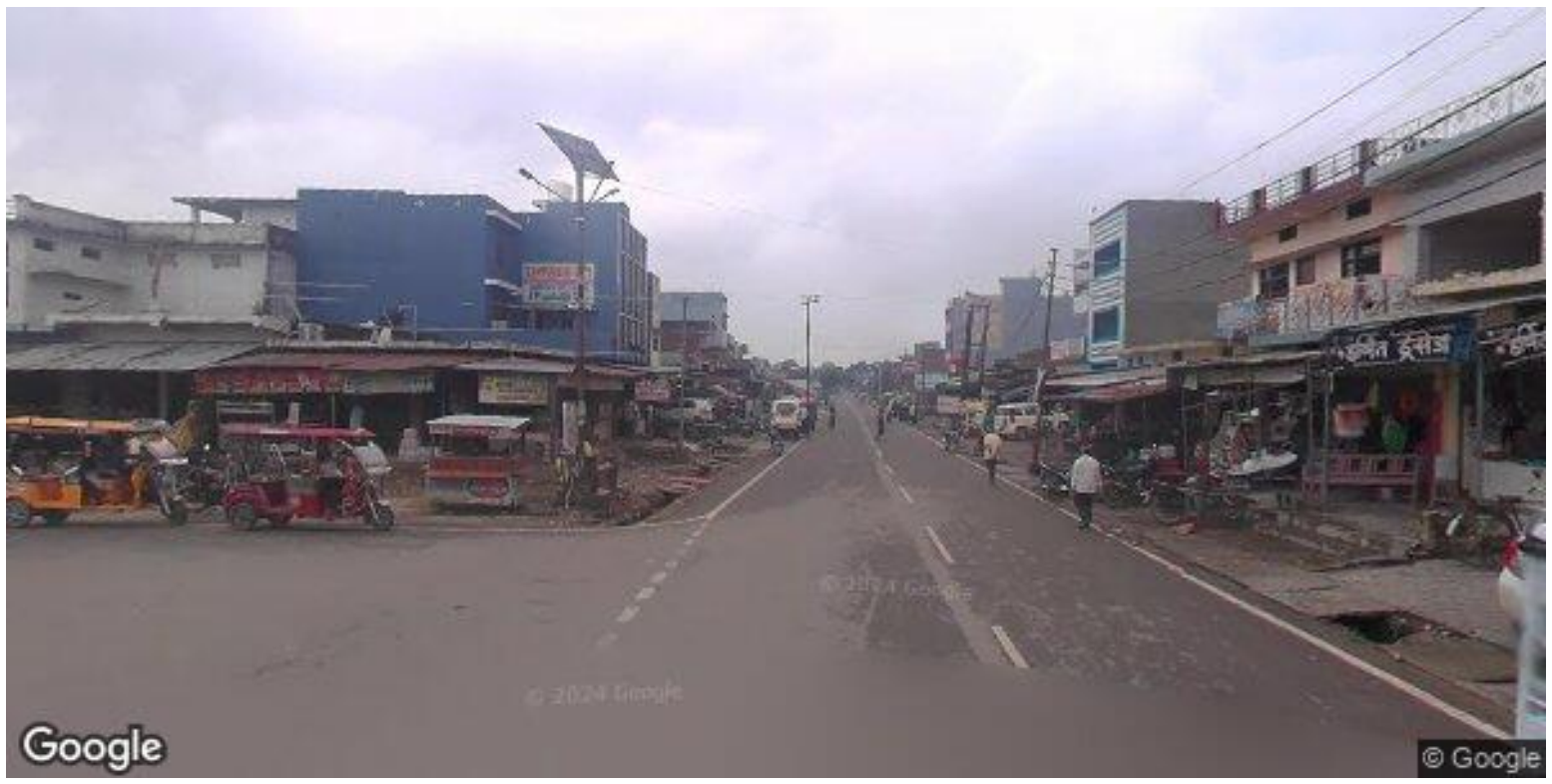
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 63.46 km

Coordinates: 27.19329, 83.25886



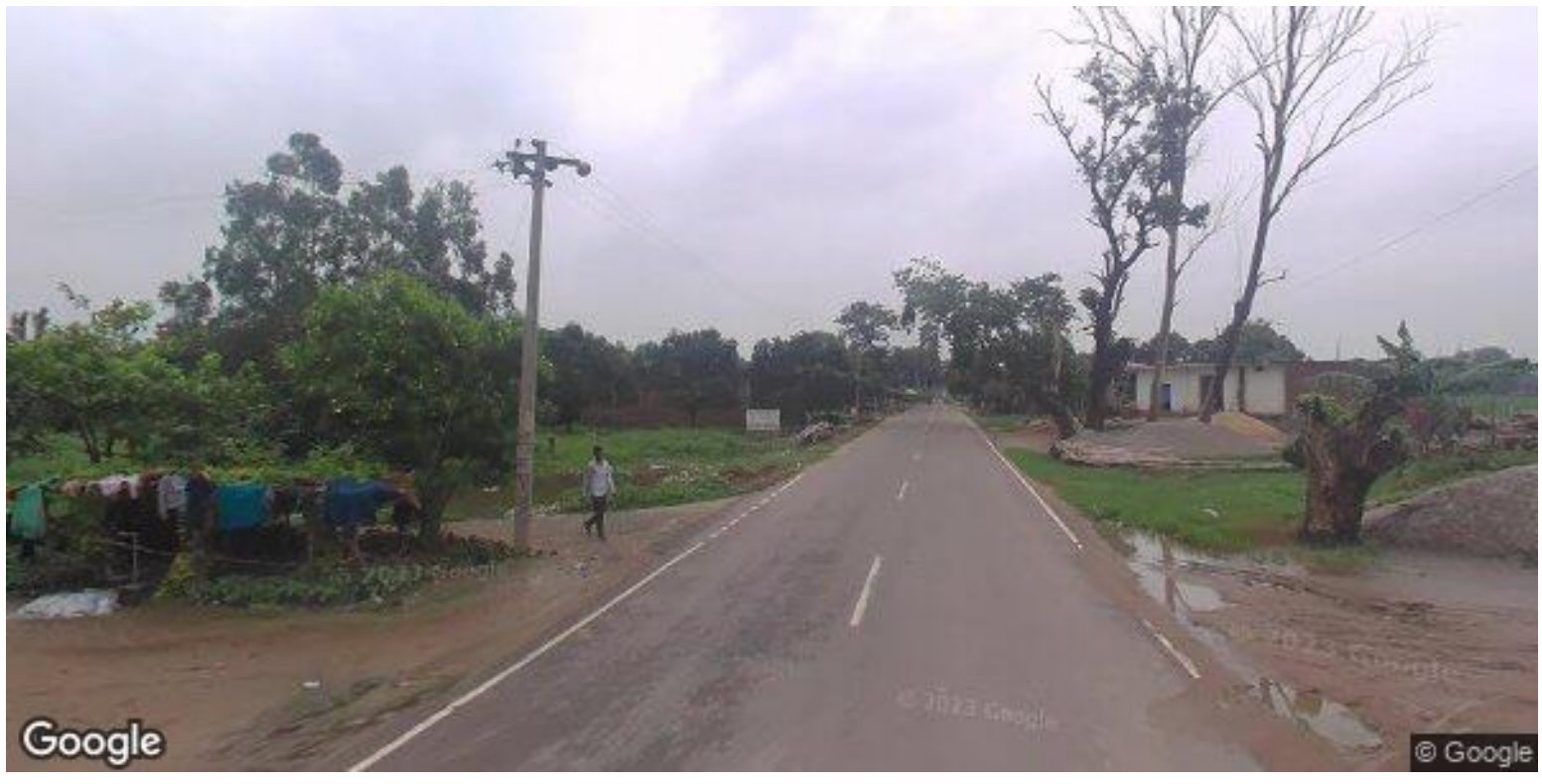
Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 69.37 km

Coordinates: 27.19788, 83.19904



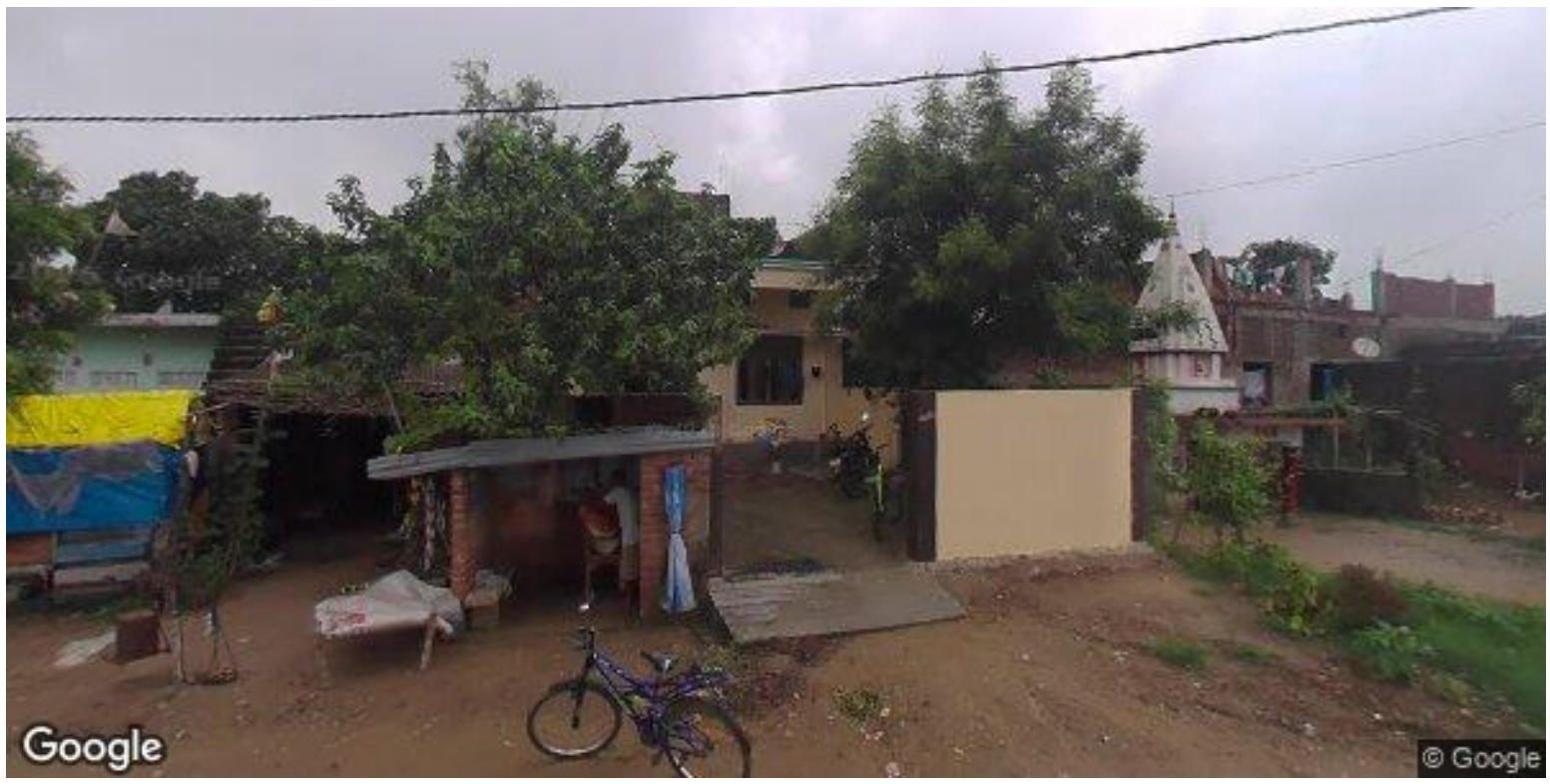
Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 71.63 km

Coordinates: 27.21140, 83.21310



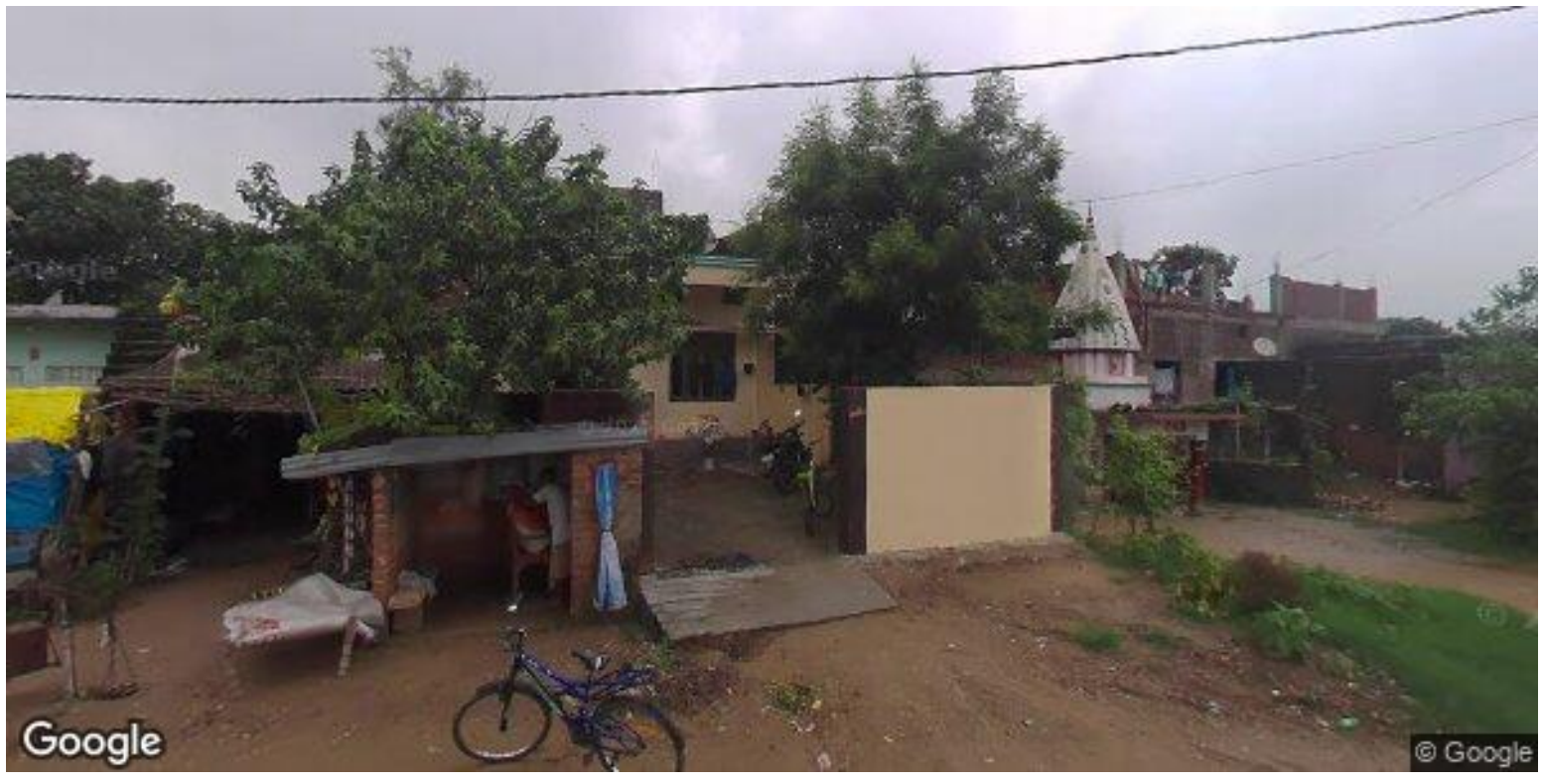
Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 71.69 km

Coordinates: 27.21172, 83.21256



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 71.72 km

Coordinates: 27.21187, 83.21252

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