JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal TO MUTHU FUEL AGENCIES

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

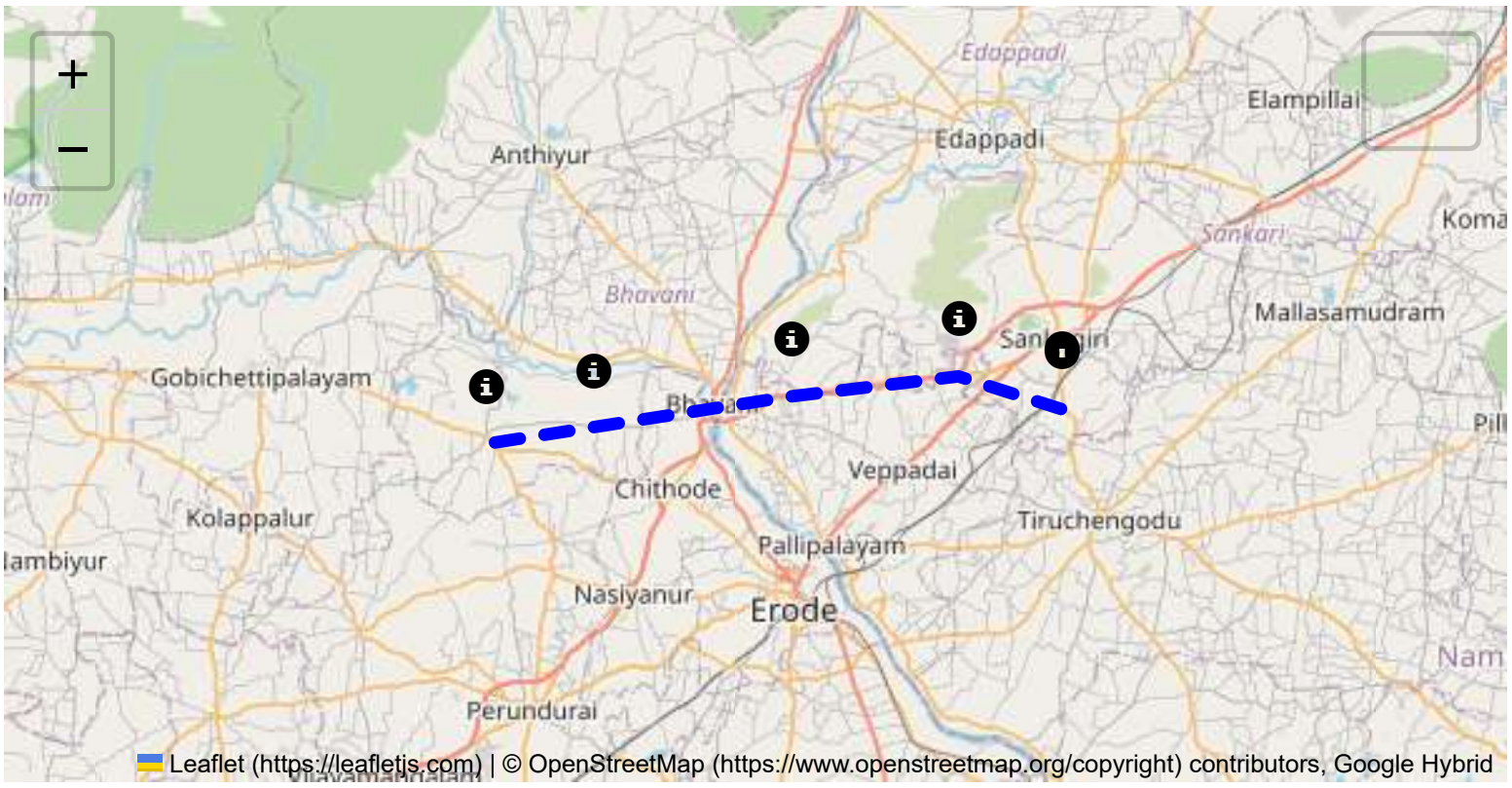
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

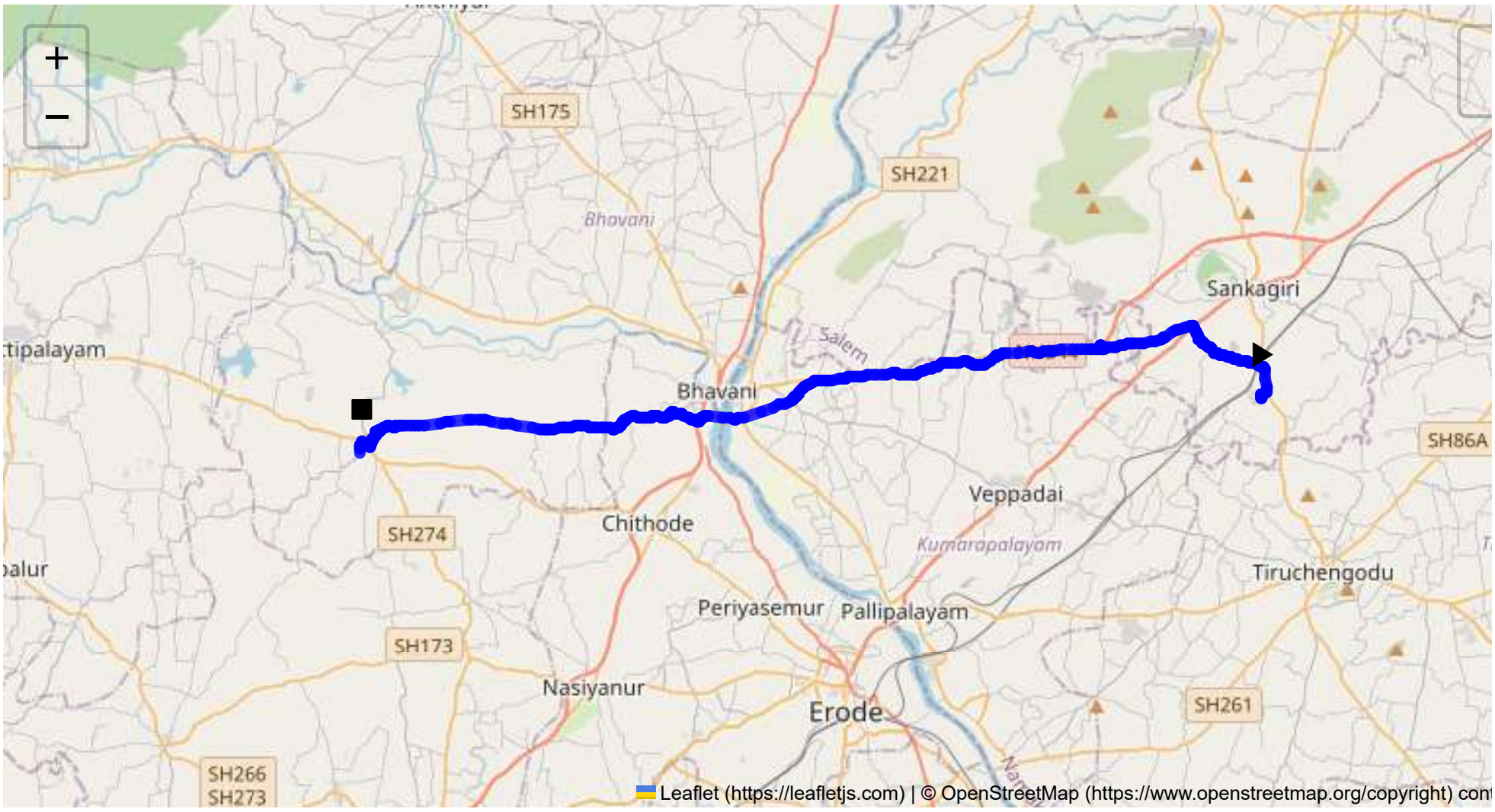
Compliance with Government Directives

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: 39.28 km
Estimated Duration: 0.9 hours
Adjusted Duration (Heavy Vehicle): 1.1 hours
Start: (11.4381, 77.8734)
End: (11.41956, 77.55733)



Risk Spots

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
0	Turn	11.43811, 77.87348	15 KM/Hr	0.00 km
1	Turn	11.43961, 77.87341	15 KM/Hr	0.14 km
2	Turn	11.44029, 77.87544	15 KM/Hr	0.32 km

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
3	Turn	11.45350, 77.85700	15 KM/Hr	3.35 km
4	Turn	11.46303, 77.84945	15 KM/Hr	4.74 km
5	Turn	11.45542, 77.81725	15 KM/Hr	8.39 km
6	Turn	11.45631, 77.81668	15 KM/Hr	8.53 km
7	Turn	11.45516, 77.81348	15 KM/Hr	9.08 km
8	Blind Spot	11.44530, 77.72783	10 KM/Hr	18.69 km
9	Turn	11.43001, 77.67575	15 KM/Hr	24.91 km
10	Turn	11.43278, 77.67024	15 KM/Hr	25.62 km
11	Turn	11.43346, 77.66700	15 KM/Hr	26.01 km
12	Turn	11.42698, 77.56292	15 KM/Hr	37.79 km
13	Turn	11.42526, 77.56271	15 KM/Hr	37.97 km
14	Blind Spot	11.42151, 77.56048	10 KM/Hr	38.48 km
15	Blind Spot	11.42331, 77.55802	10 KM/Hr	38.78 km

Emergency Services

	type	name	coordinates	side_of_road
1	hospital	Government Hospital	11.4525596, 77.7749426	Opposite Side
3	hospital	Dhanvantri Multi Speciality Hospital	11.451362, 77.766602	Opposite Side
4	hospital	Dhanvanthri Hospital	11.4496712, 77.7593772	Opposite Side
5	hospital	J.K.K. Trust Hospital	11.4445841, 77.7307962	Driver's Side
7	hospital	Shri Sathyanarayana Hospital	11.4291297, 77.6913408	Driver's Side
9	hospital	Thanish Siddha Hospital	11.430003, 77.674964	Driver's Side
10	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	Opposite Side
11	clinic	G.K Clinic	11.4297244, 77.6749715	Driver's Side
12	clinic	Harshitha Clinic	11.4313207, 77.674718	Opposite Side
13	hospital	PST Mahaa Hospital	11.4312903, 77.6585751	Driver's Side
14	hospital	Dharun Hospital	11.4223638, 77.5597735	Opposite Side

Rest Stops

	type	name	coordinates	side_of_road
0	fuel	SLOA Bunk - Unit II	11.4543854, 77.8052665	Driver's Side

	type	name	coordinates	side_of_road
2	restaurant	Canteen	11.4478386, 77.7705441	Driver's Side
6	fuel	Reliance	11.4325168, 77.6912865	Opposite Side
8	fuel	Indian Oil	11.4321177, 77.6765153	Opposite Side

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route spans approximately 39.28 kilometers, starting from Sangagiri and ending in the Bhavani taluk, passing through Puthur, Padaiveedu, and Sevagoundanur. It primarily follows local roads, including Bhavani Main Road and a service road.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Tamil Nadu often experiences hot and humid conditions. The region can face heavy rainfall during the monsoon season (June to September), leading to potential flooding and reduced visibility on roads. Summer months can cause road surface damage due to intense heat.

3. Analysis of Traffic Patterns

Traffic is generally moderate, but peak congestion can occur between 8:00-10:00 AM and 5:00-7:00 PM. Local areas near markets and schools, especially in Bhavani and Padaiveedu, might experience slowdowns.

4. Assessment of Road Quality and Infrastructure

The road quality varies, with some stretches well-maintained and others having potholes and uneven surfaces, especially after heavy rainfall. Infrastructure like road signs and lighting are generally sufficient but not advanced.

5. Suggestions for Alternative Routes for Emergencies

In case of heavy traffic or emergencies, the following alternative routes can be considered:

- Use state highways SH-84 or SH-20, which parallel parts of the main route and might offer faster travel during high congestion.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transporting hazardous materials requires adherence to Tamil Nadu’s local transport regulations, including obtaining necessary permits and traveling only during designated hours to avoid urban peak traffic times.

7. Overview of Historical Incidents

There have been occasional incidents involving heavy vehicles, often linked to driver error or poor road conditions during monsoon months. However, major hazardous material incidents are rare.

8. Environmental Considerations and Sensitive Areas

The route passes near agricultural fields and small water bodies that are sensitive to contamination. Proper containment measures should be ensured to prevent accidental spills or leaks.

9. Analysis of Communication Coverage

Most areas along the route have decent mobile network coverage, but isolated dead zones might exist in rural stretches between Padaiveedu and Sevagoundanur. It is advisable to carry a two-way radio as a backup communication tool.

10. Estimated Emergency Response Times

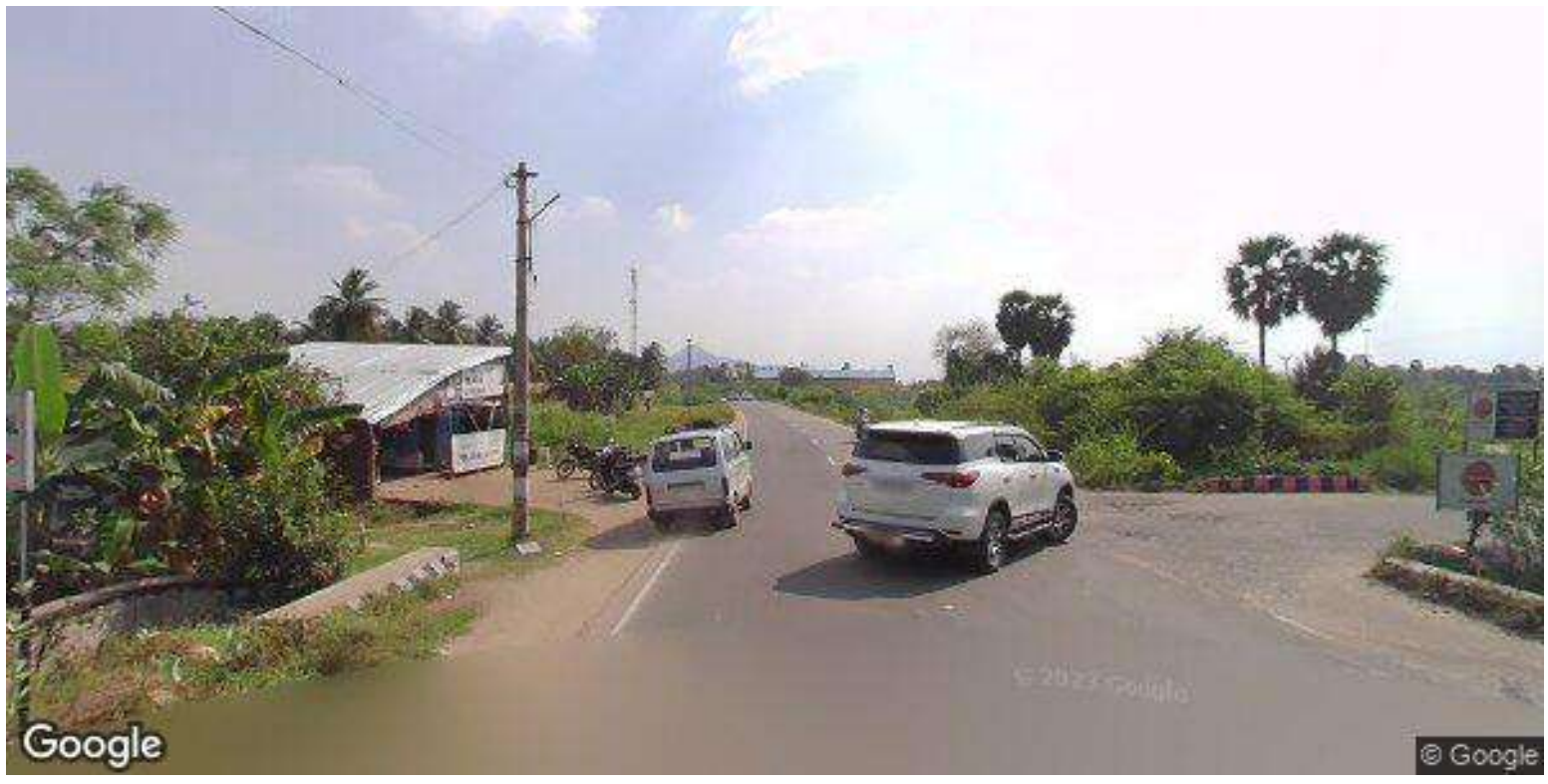
- From Sangagiri to Puthur: Approximately 20-30 minutes
- Puthur to Padaiveedu: Approximately 15-25 minutes
- Padaiveedu to Bhavani: Approximately 20-30 minutes

12. Overall Summary of Risk Assessment

The route is moderately safe with commonly manageable risks, mainly relating to road quality and weather conditions. Adequate planning and adherence to regulations can mitigate most risks. Maintaining updated routes, especially during monsoon season, and ensuring clear communication will help enhance transport safety for hazardous materials.

In summary, being aware of weather conditions, analyzing traffic patterns, and having alternative route options are crucial for minimizing potential hazards. Additionally, ensuring compliance with local regulations and maintaining communication can aid in avoiding and swiftly responding to any emergencies.

Route Photos of Risky Spots

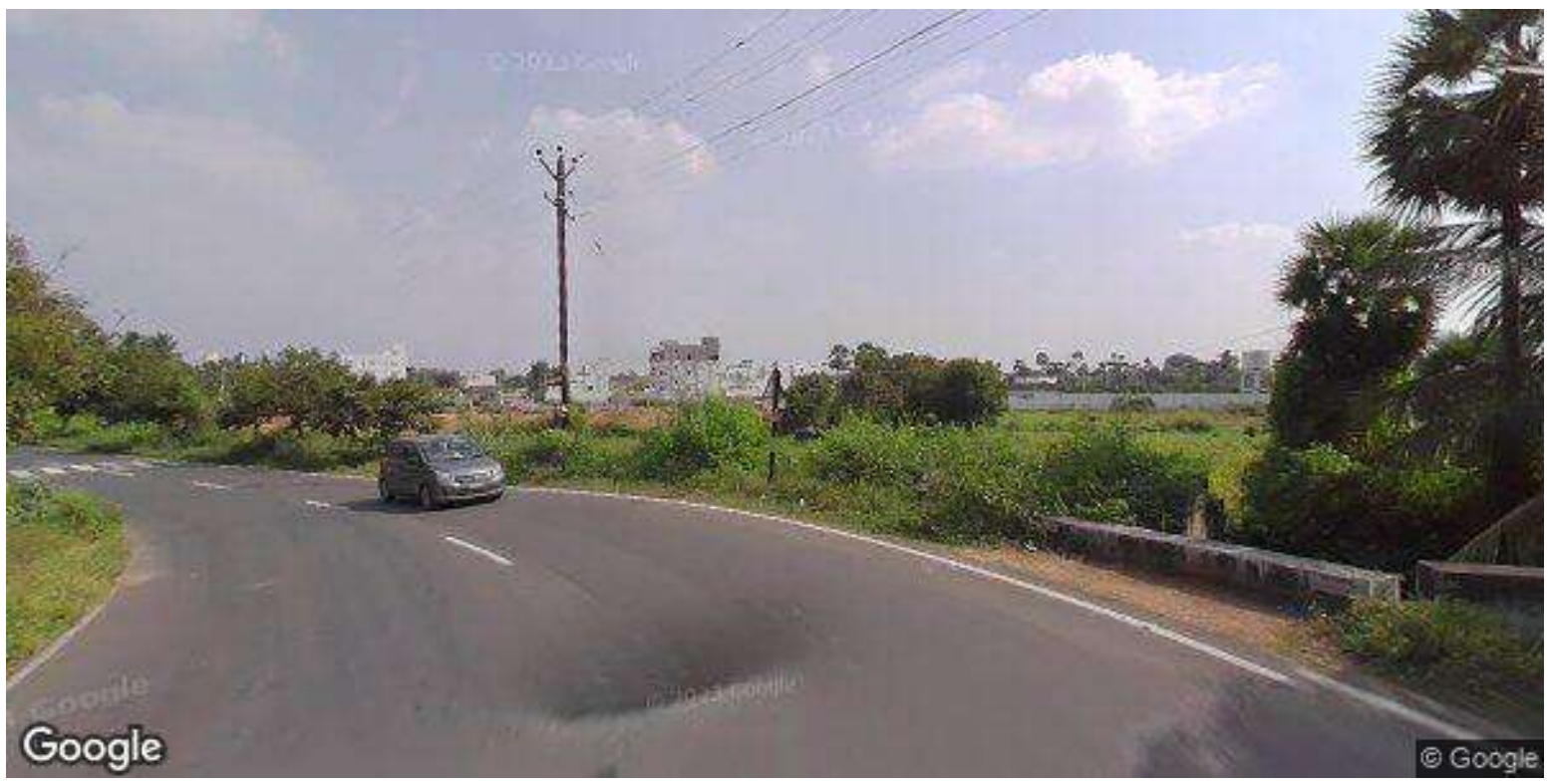


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 0.32 km

Coordinates: 11.44029, 77.87544

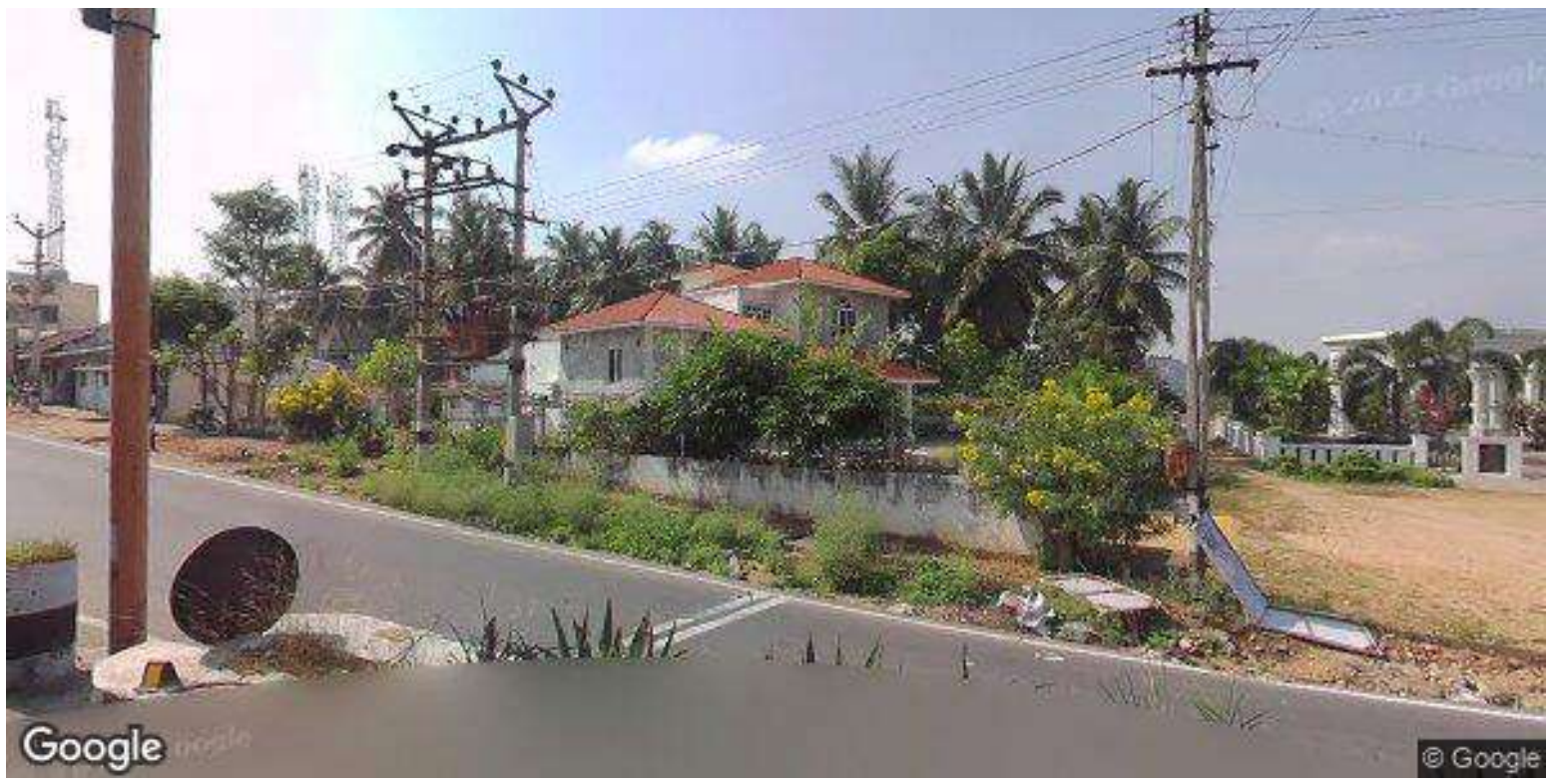


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 3.35 km

Coordinates: 11.45350, 77.85700

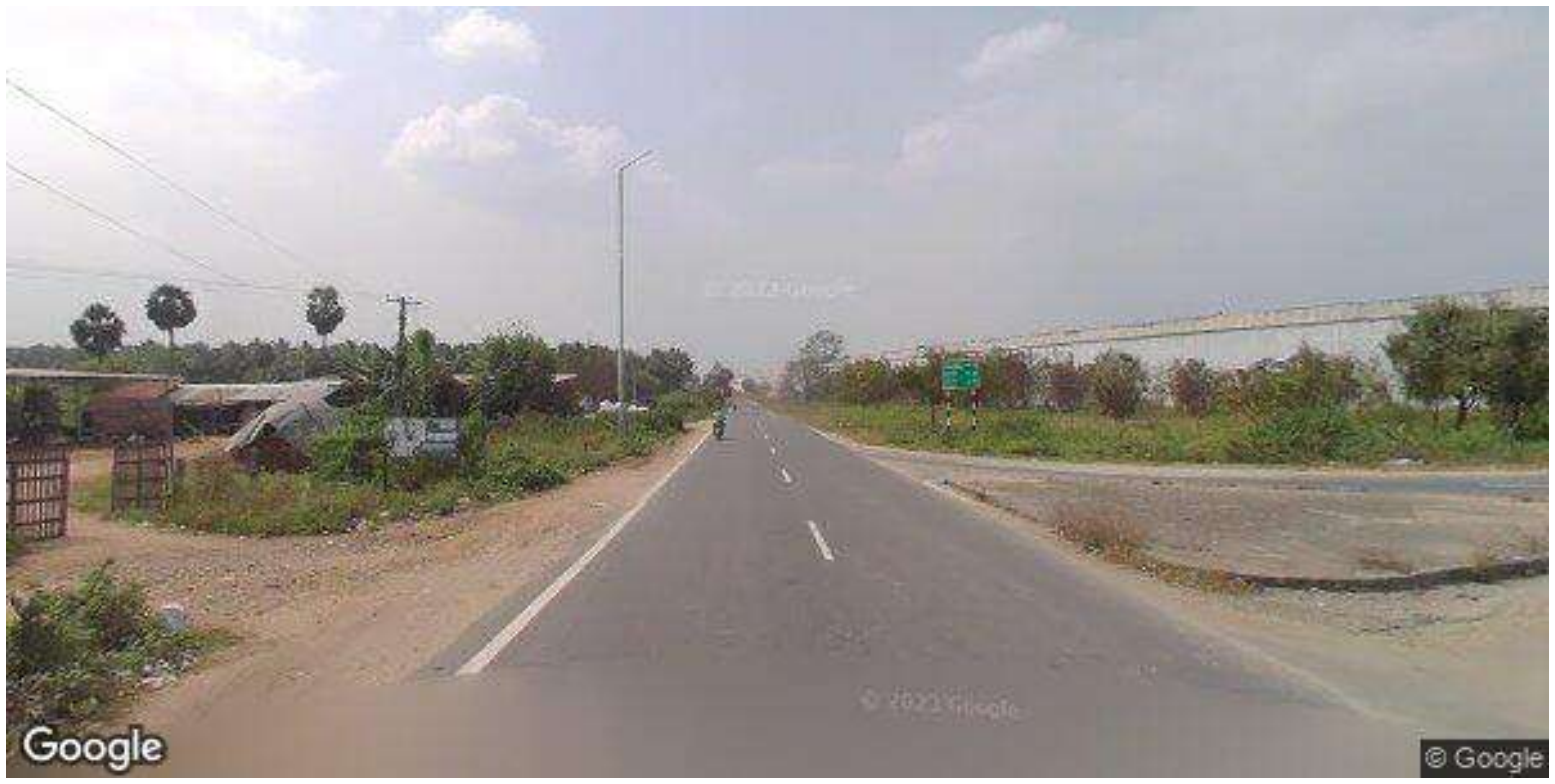


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 4.74 km

Coordinates: 11.46303, 77.84945

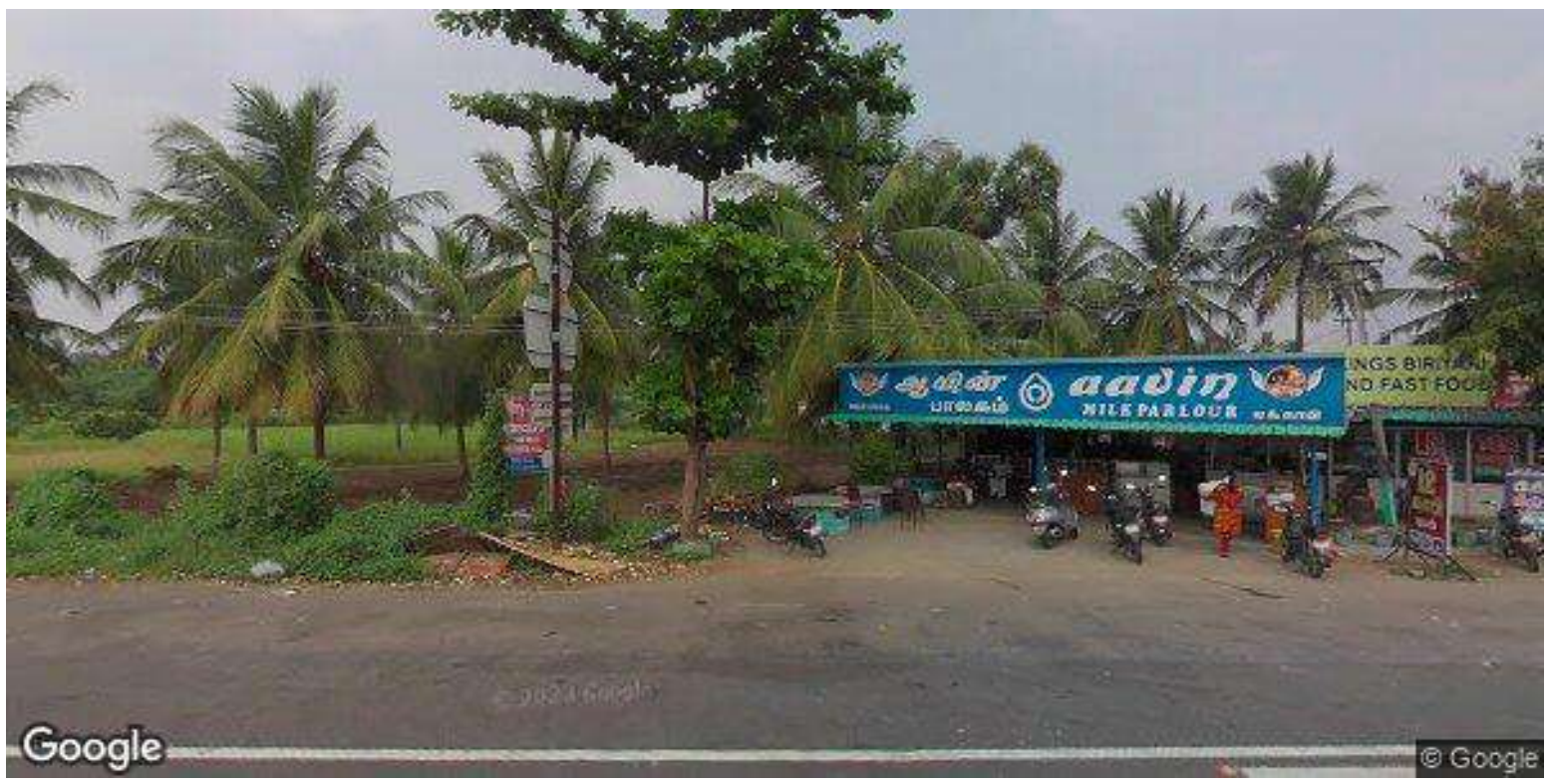


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 8.39 km

Coordinates: 11.45542, 77.81725

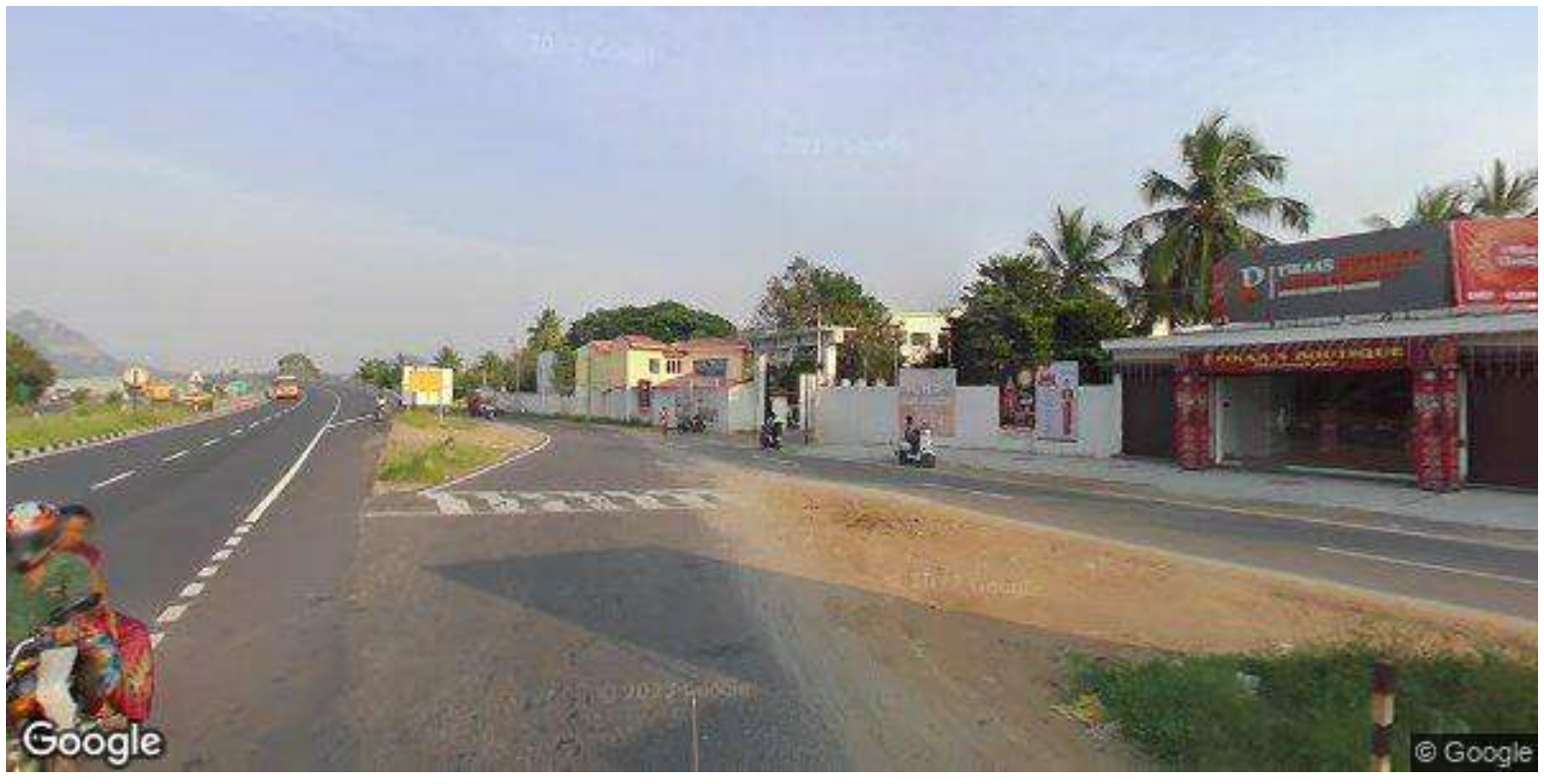


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 8.53 km

Coordinates: 11.45631, 77.81668

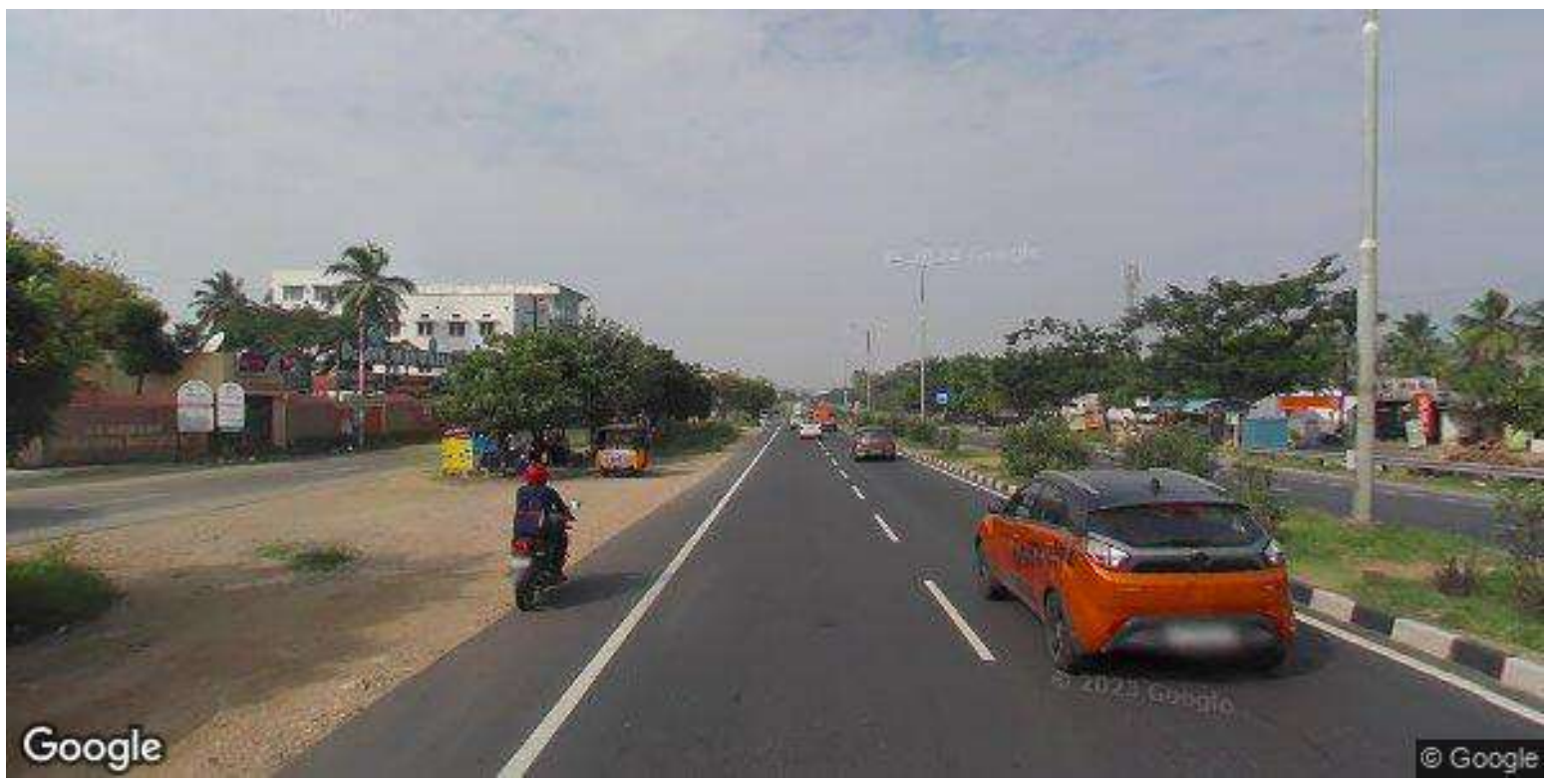


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 9.08 km

Coordinates: 11.45516, 77.81348

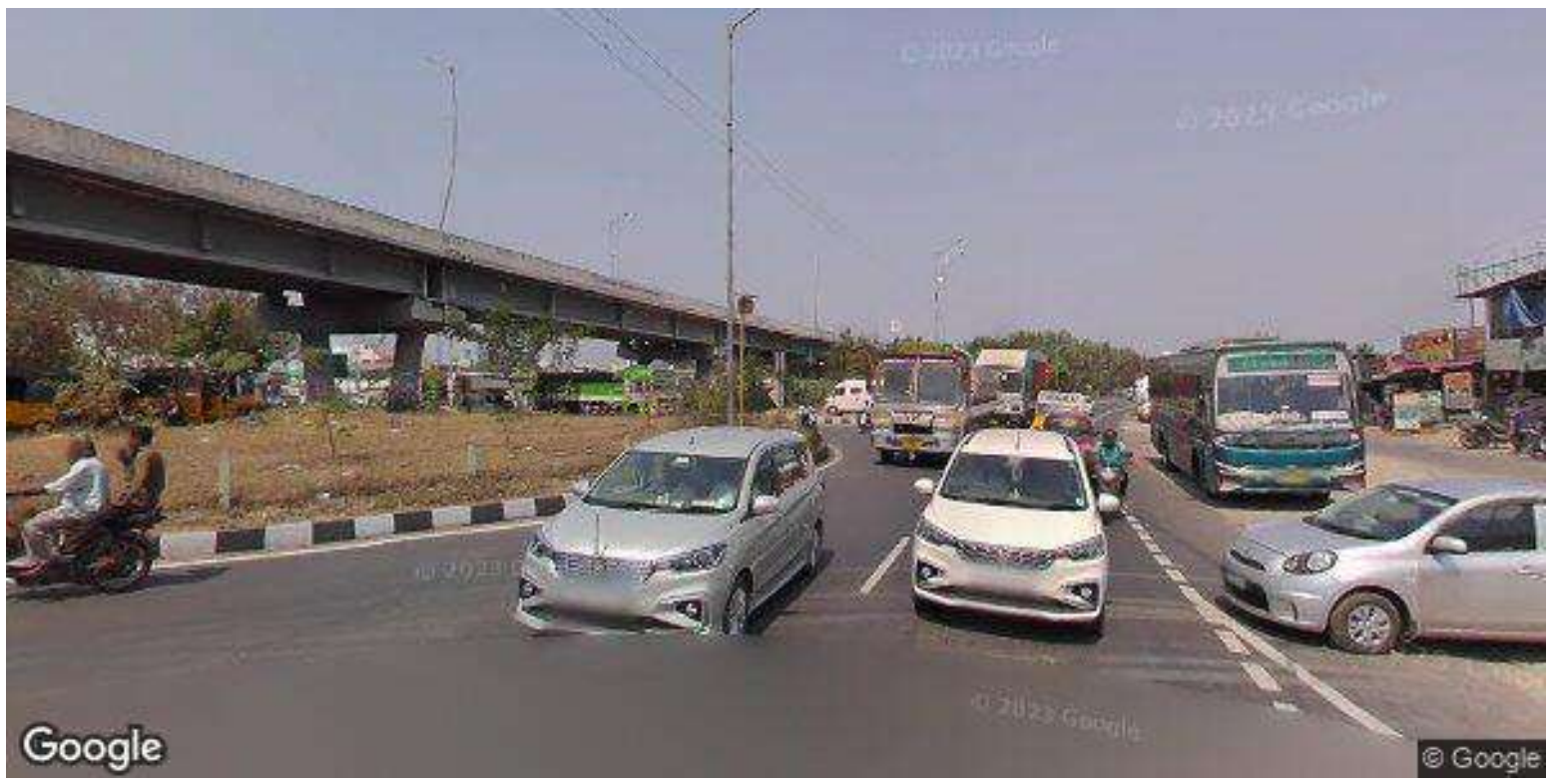


Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 18.69 km

Coordinates: 11.44530, 77.72783

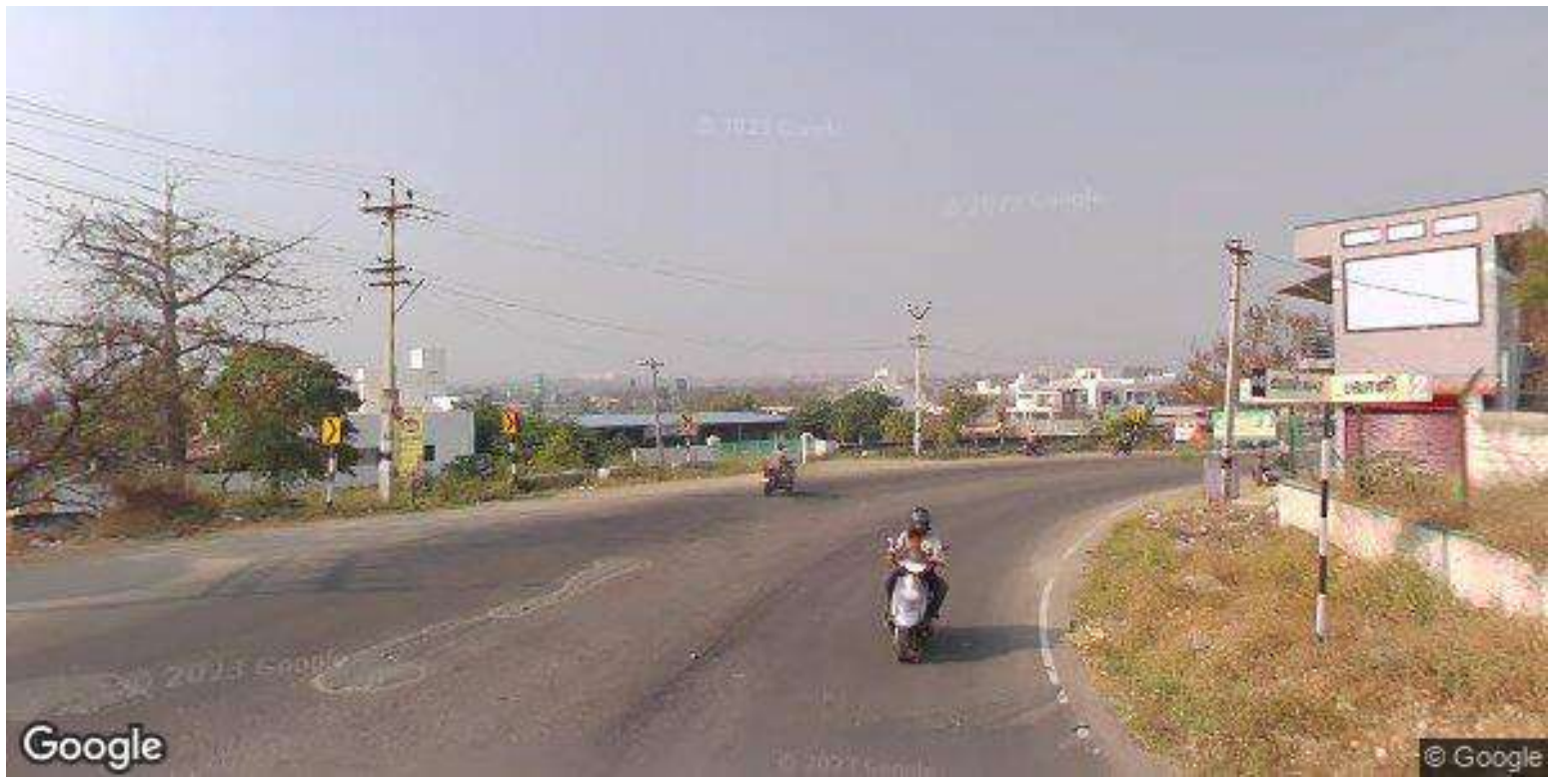


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 24.91 km

Coordinates: 11.43001, 77.67575

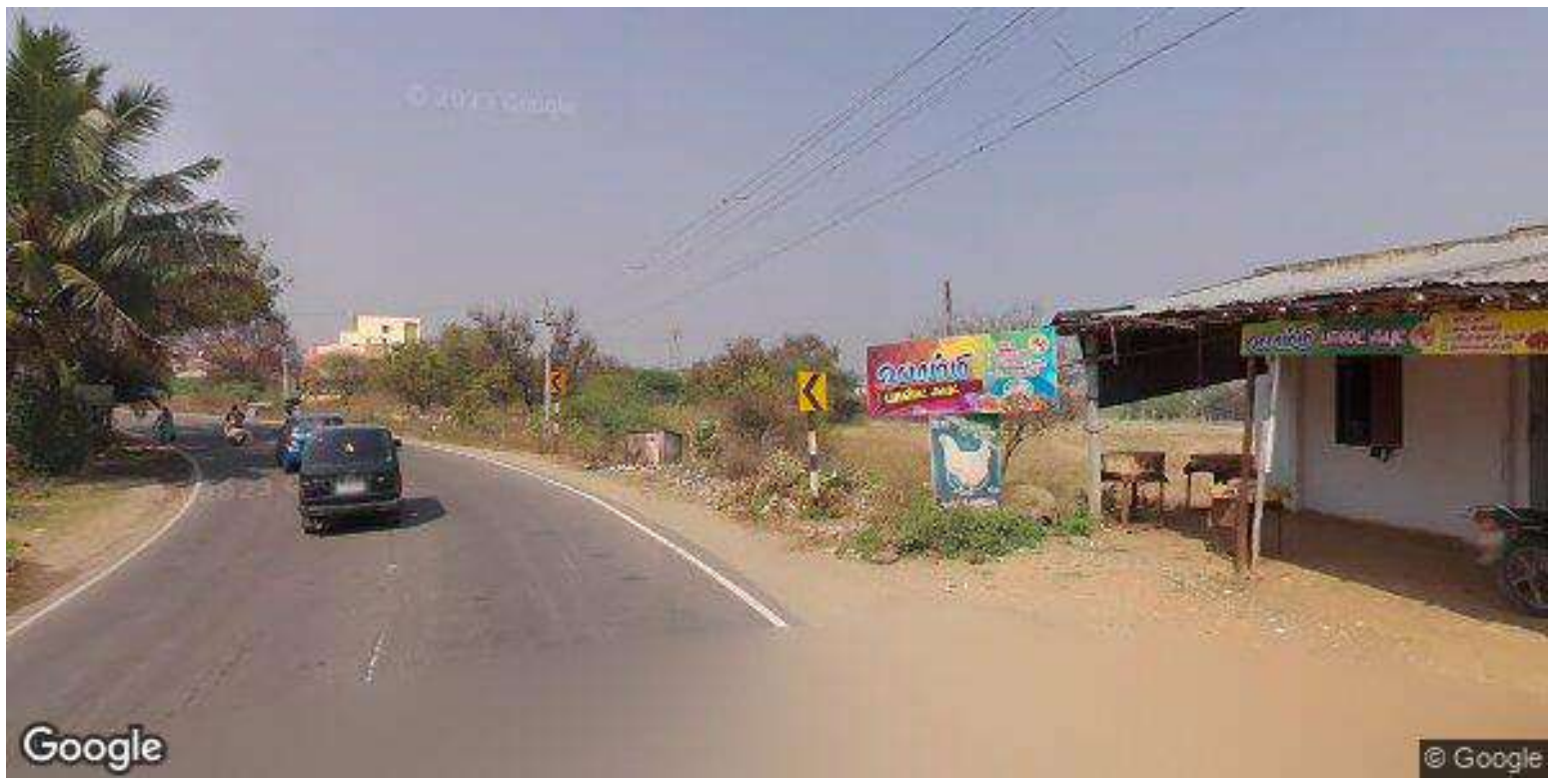


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 25.62 km

Coordinates: 11.43278, 77.67024

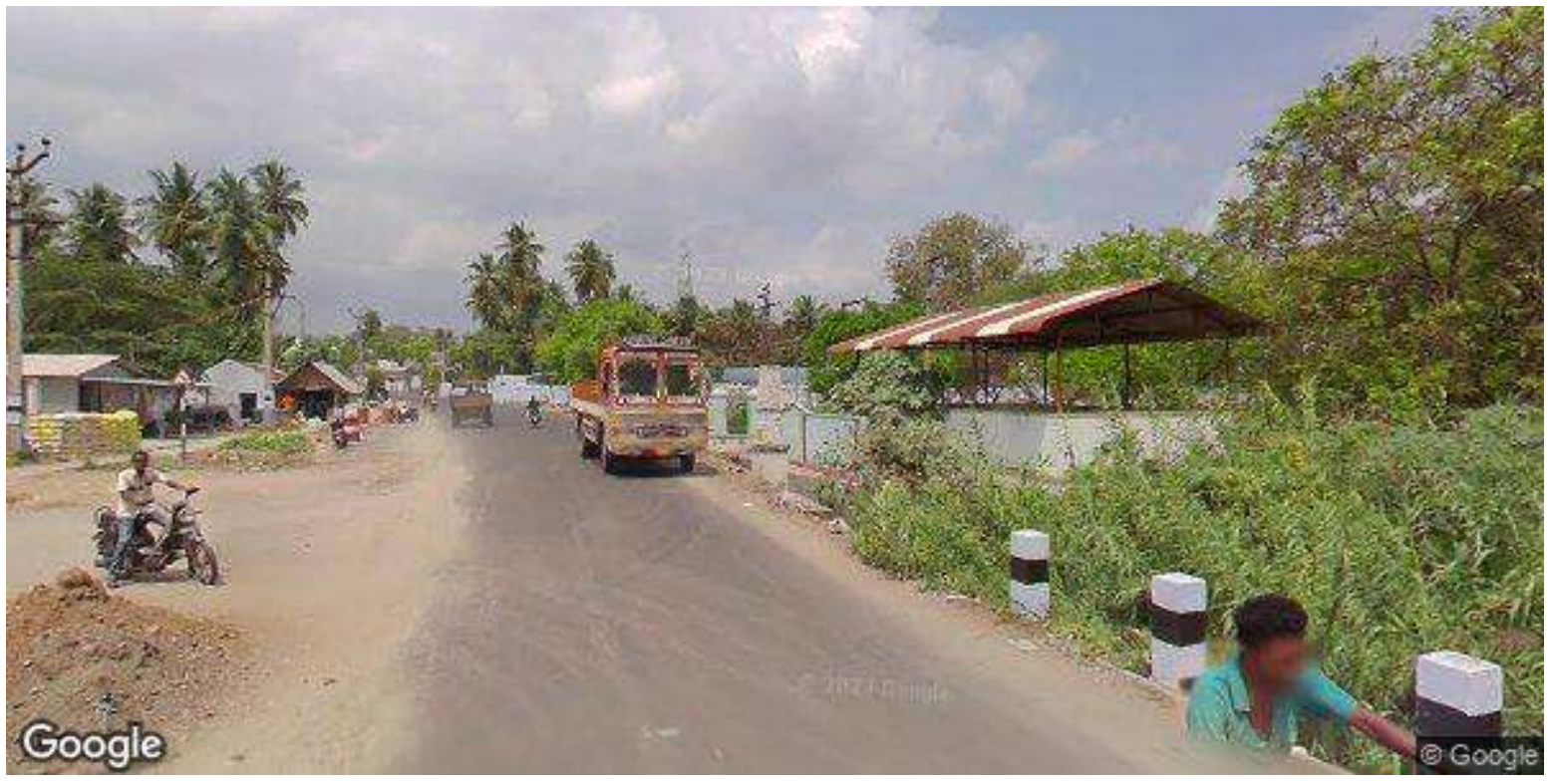


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 26.01 km

Coordinates: 11.43346, 77.66700

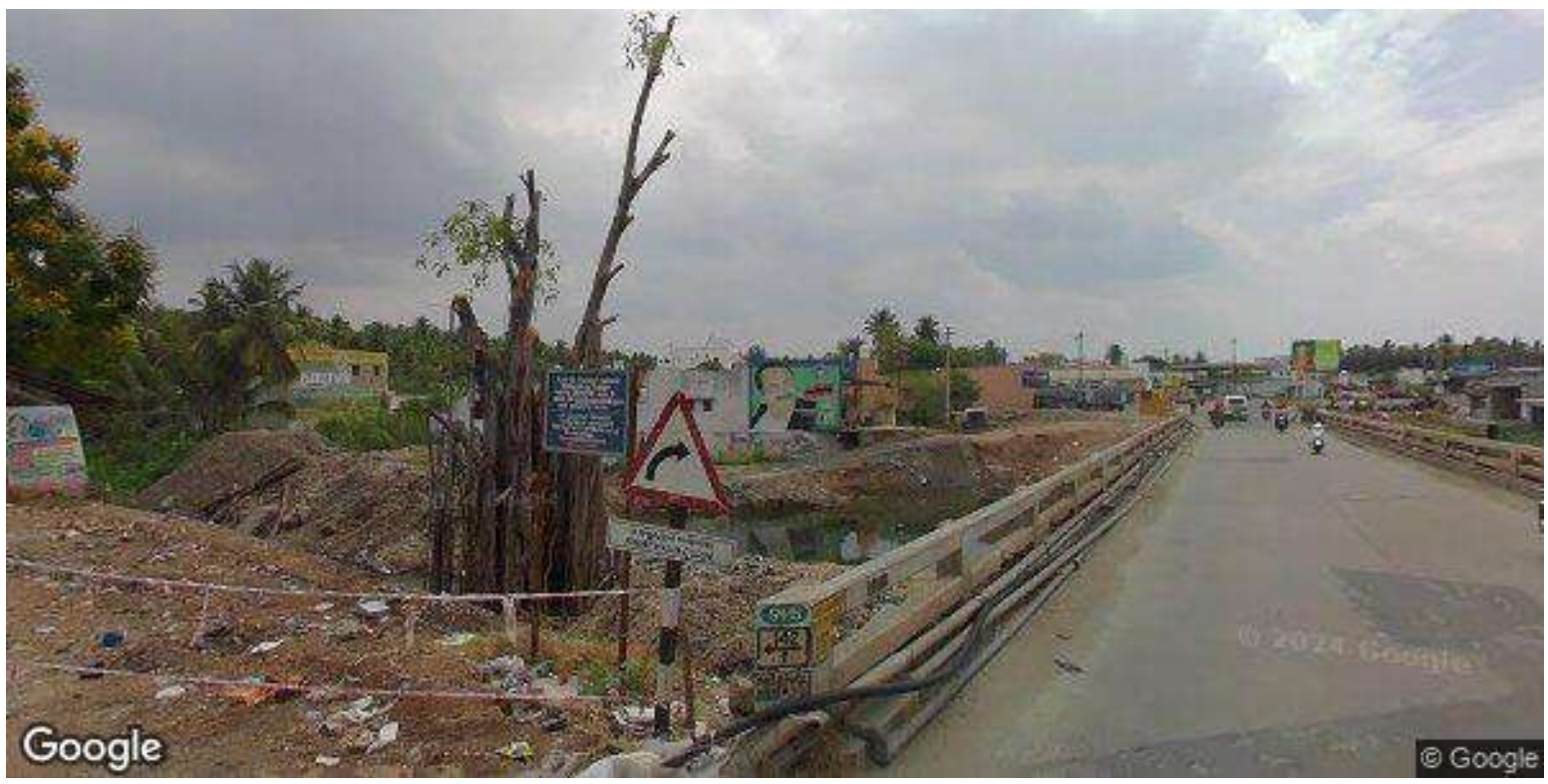


Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 37.79 km

Coordinates: 11.42698, 77.56292

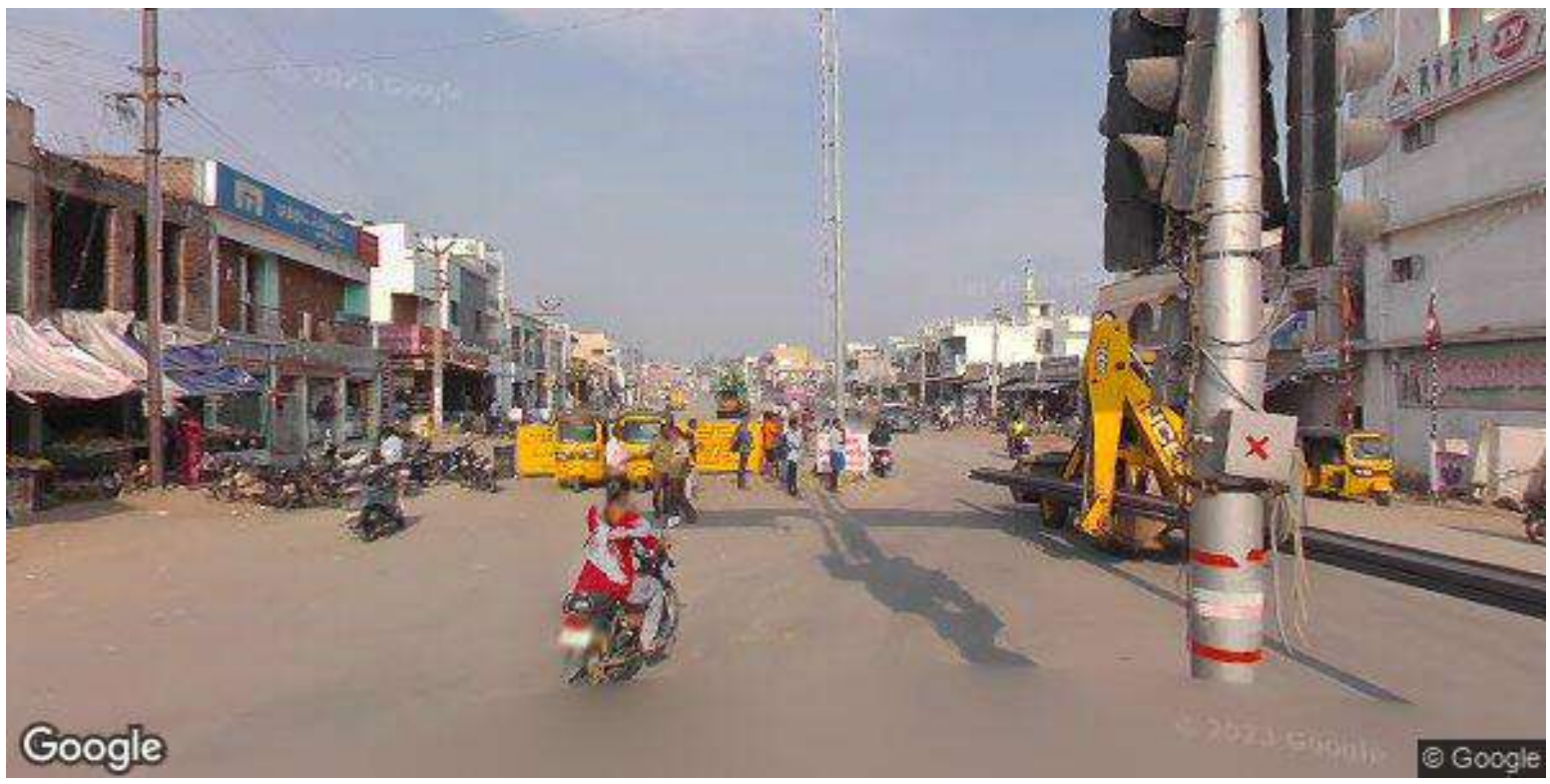


Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 38.48 km

Coordinates: 11.42151, 77.56048



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 38.78 km

Coordinates: 11.42331, 77.55802

Download Interactive Map