



JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal To SREE PALANIVEL TRADERS

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

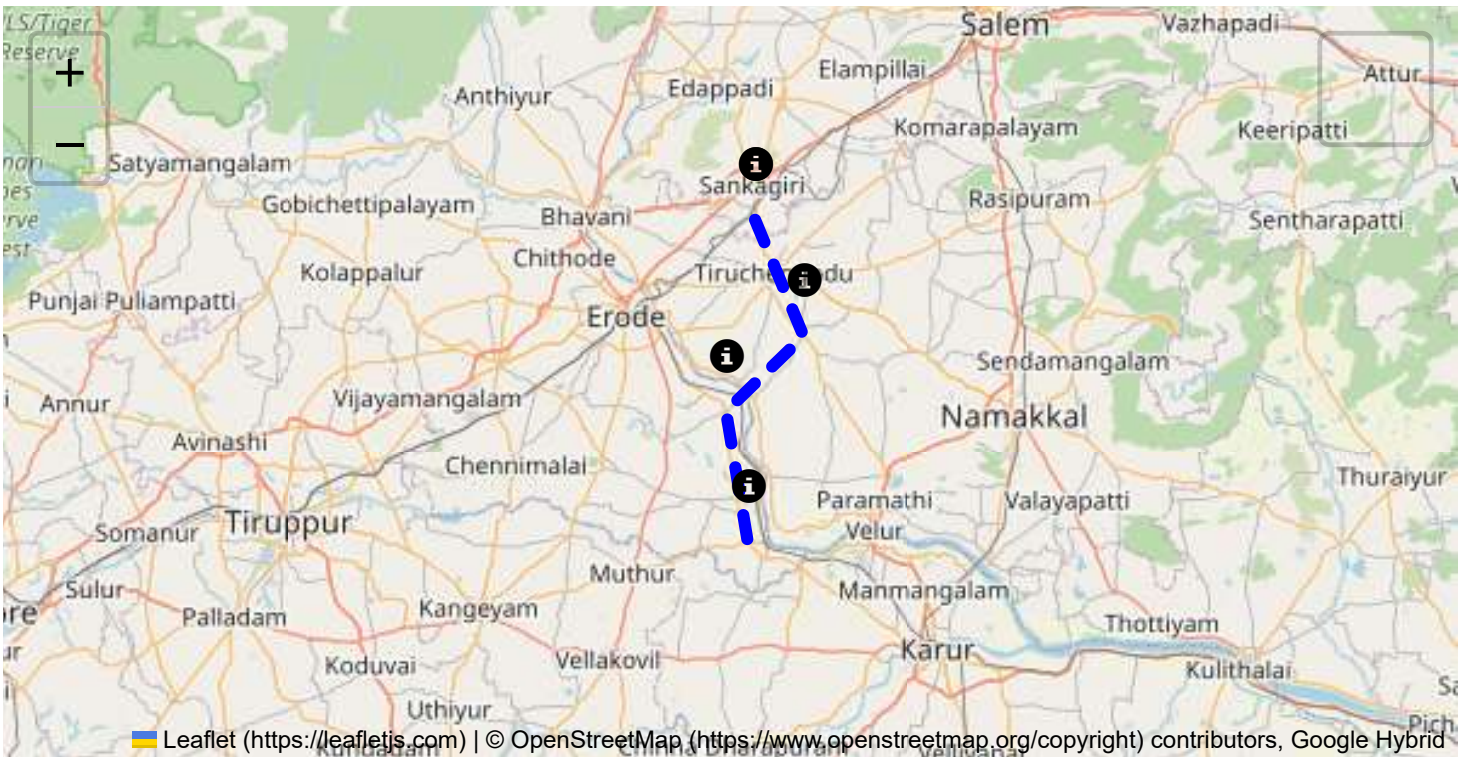
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

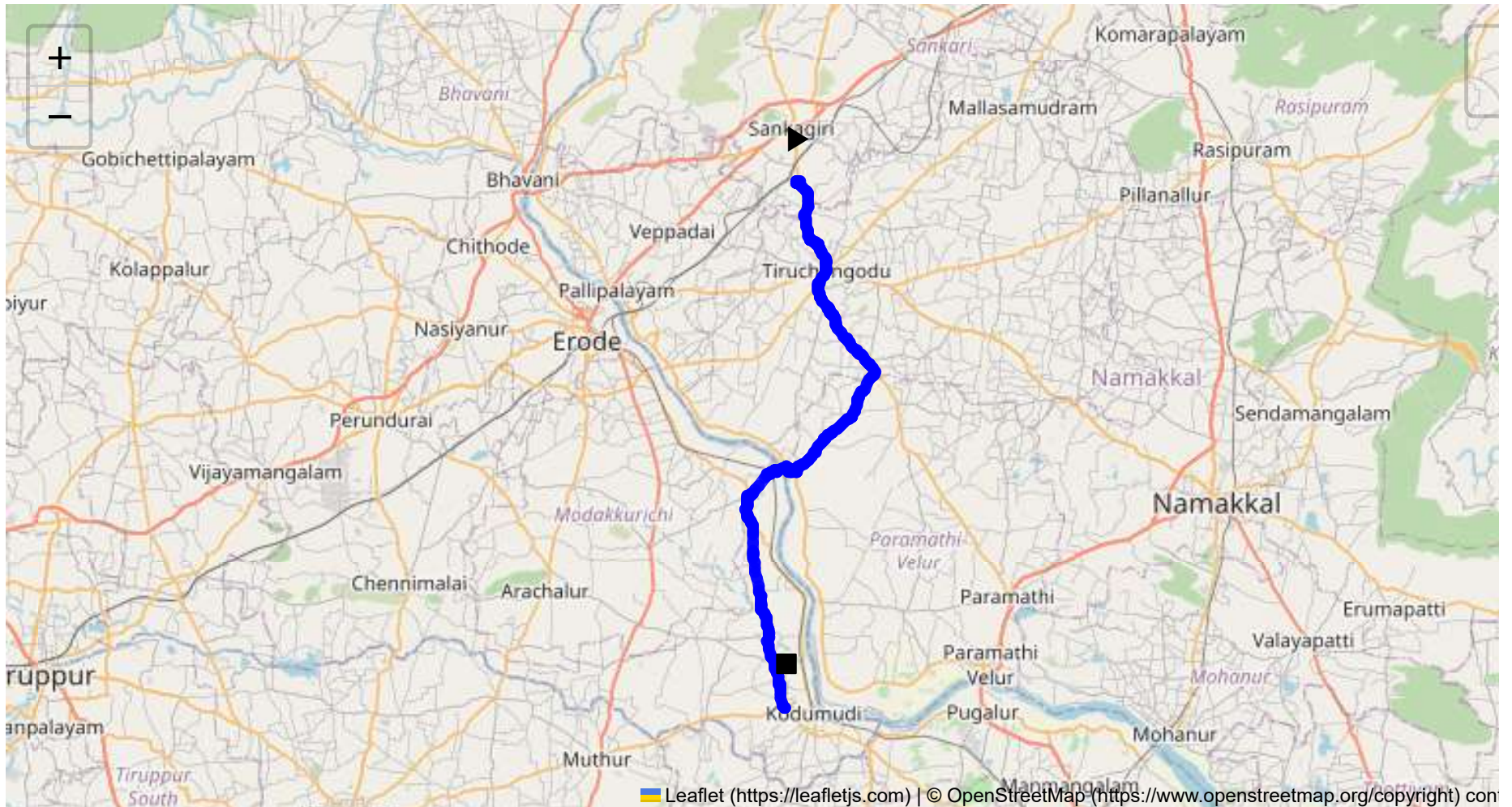
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 49.32 km
Estimated Duration: 1.2 hours
Adjusted Duration (Heavy Vehicle): 1.4 hours
Start: (11.4381, 77.8734)
End: (11.0786, 77.8657)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from Sangagiri to Erode spans approximately 49.32 kilometers. Starting at CVQF+23W in Sangagiri, it follows State Highway 86 through Sullipalayam, and then transitions onto the Karur Bypass Road towards Solangapalayam before reaching the destination at 3VH8+C7P in Erode. This route generally passes through semi-urban and rural areas with pockets of more densely populated regions.

2. Typical Weather Conditions and Potential Weather-Related Hazards

The typical weather conditions along the route include tropical climate characteristics with hot summers and monsoons. During the monsoon season (June to September), heavy rains can cause waterlogging and potential road flooding, increasing the risk of accidents. Summers are hot and dry, which may contribute to pavement heat damage, affecting tire and vehicle performance.

3. Analysis of Traffic Patterns

Traffic patterns along this route vary, with peak congestion usually occurring during morning (8:00 AM - 10:00 AM) and evening (5:00 PM - 7:00 PM) hours due to local commute and commercial activity. Congestion-prone areas typically include intersections and market areas around town centers, especially Sangagiri and Solangapalayam.

4. Assessment of Road Quality and Infrastructure

Road quality varies with stretches of well-maintained highways interspersed with less maintained segments, particularly near rural intersections. Some road signs may be obscured, and occasional potholing can be expected, particularly in areas recently affected by rains.

5. Suggestions for Alternative Routes for Emergencies

In case of emergencies, alternative routes can include taking the National Highway route via NH544 from Sangagiri, which connects towards Erode, bypassing some of the local congestion points with better road conditions overall.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials is subject to strict regulations. Vehicles must comply with local safety standards, display appropriate hazard symbols, and adhere to designated travel times, avoiding peak hours. Proper permits are required for transporting hazardous materials.

7. Overview of Historical Incidents

Incidents in this region have involved overturned trucks and fuel spillage primarily due to poor road conditions or driver negligence. Historical data indicates a need for caution around sharp bends and during adverse weather conditions.

8. Environmental Considerations and Sensitive Areas

The route passes through rural areas with agricultural land and small communities. Noise and exhaust pollution from heavy vehicles can impact local environments. Near Erode, particular attention should be given to minimizing disturbances in more densely populated areas.

9. Analysis of Communication Coverage

Communication coverage along the route is generally good due to proximity to urban centers. However, sporadic dead zones may exist, particularly in rural stretches away from main highways where mobile network signals can weaken.

10. Estimated Emergency Response Times

Emergency response times can vary from 15-30 minutes in urban areas like Erode to about an hour in rural stretches. The availability of emergency services is higher towards Erode and nearby larger towns.

11. Overall Summary of Risk Assessment

This route requires careful navigation due to variable road conditions and unpredictable weather, with particular caution needed during peak traffic hours. Proper planning and adherence to hazardous material regulations are crucial to ensure safety. Improved road maintenance and clear communication infrastructure would enhance safety further. Emergency services are reliable near urban centers but lesser in rural stretches, demanding preparedness for drivers.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.38395, 77.89480	15 KM/Hr
1	Turn	High	11.43811, 77.87348	15 KM/Hr
2	Turn	Medium	11.43961, 77.87341	30 KM/Hr
3	Turn	Medium	11.43968, 77.87345	30 KM/Hr
4	Blind Spot	Blind Spot	11.44029, 77.87544	10 KM/Hr
5	Turn	Medium	11.39671, 77.88878	30 KM/Hr
6	Turn	High	11.37868, 77.89498	15 KM/Hr
7	Turn	High	11.37850, 77.89453	15 KM/Hr
8	Turn	High	11.30859, 77.92918	15 KM/Hr
9	Turn	Medium	11.24192, 77.87363	30 KM/Hr
10	Turn	High	11.24001, 77.87368	15 KM/Hr
11	Turn	Medium	11.24046, 77.86907	30 KM/Hr
12	Turn	Medium	11.24111, 77.86893	30 KM/Hr
13	Turn	Medium	11.24127, 77.86879	30 KM/Hr
14	Turn	High	11.24157, 77.86876	15 KM/Hr
15	Turn	High	11.24167, 77.86843	15 KM/Hr
16	Turn	High	11.24242, 77.86833	15 KM/Hr
17	Turn	Medium	11.24249, 77.86820	30 KM/Hr
18	Turn	Medium	11.24252, 77.86780	30 KM/Hr
19	Blind Spot	Blind Spot	11.24384, 77.86689	10 KM/Hr
20	Turn	High	11.24101, 77.86023	15 KM/Hr
21	Turn	Medium	11.24195, 77.85907	30 KM/Hr
22	Turn	Medium	11.24198, 77.85860	30 KM/Hr
23	Turn	High	11.22377, 77.83980	15 KM/Hr
24	Turn	Medium	11.12703, 77.85401	30 KM/Hr
25	Turn	High	11.07882, 77.86529	15 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Tiruchengode, Goverment Hospital	11.3903328, 77.8920627	30 km/h	Medium
1	hospital	SPM Medical Centre,Tiruchengode	11.3881331, 77.8931963	30 km/h	Medium
5	hospital	T.C.A Hospital Tiruchengode	11.3791885, 77.8965774	30 km/h	Medium
6	hospital	Soorya Multispecialty Hospital	11.3786429, 77.8931912	30 km/h	Medium
7	clinic	Kongu Nursing Home	11.3783065, 77.8961134	30 km/h	Medium
8	hospital	Tiruchengode Government Hospital	11.37645, 77.89426	30 km/h	Medium
9	hospital	Krishna Hospital, Namakkal	11.3754811, 77.8931817	30 km/h	Medium
10	hospital	Tirukumaran Hospitals	11.3782118, 77.8914933	30 km/h	Medium
13	police	கரட்டுப்பாளையம் காவல் நிலையம்	11.357586, 77.8922539	30 km/h	Medium
14	clinic	Jai Sri Amman Clinic	11.1102489, 77.8579522	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
2	school	அரசு ஆண்கள் மேல்நிலைப் பள்ளி	11.3850439, 77.8948279	30 km/h	Medium
3	school	அரசு பெண்கள் மேல்நிலைப் பள்ளி	11.3844247, 77.8949053	30 km/h	Medium
4	marketplace	திருச்செங்கோடு தினசரி காய்கறி சந்தை	11.3833608, 77.8970145	30 km/h	Medium
11	school	KSR Educational institution	11.3772013, 77.8908807	30 km/h	Medium
12	school	MDV School	11.3719843, 77.8915244	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.38395, 77.89480



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.44029, 77.87544



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.39671, 77.88878



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.37868, 77.89498



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.37850, 77.89453



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.30859, 77.92918



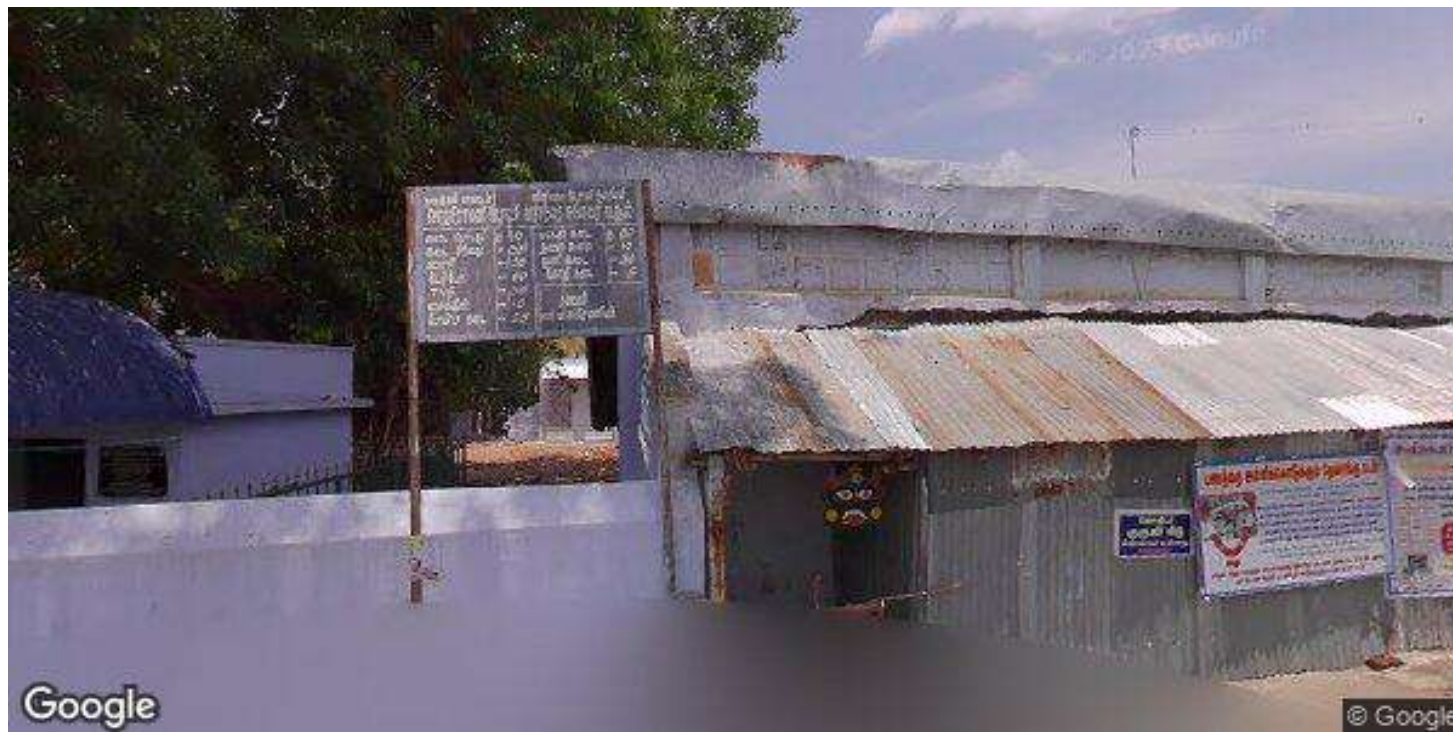
Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.24192, 77.87363



Risk Type: Turn
Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.24001, 77.87368



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.24046, 77.86907



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.24111, 77.86893



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.24127, 77.86879



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.24157, 77.86876



Risk Type: Turn
Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.24167, 77.86843



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.24242, 77.86833



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.24249, 77.86820



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.24252, 77.86780



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.24384, 77.86689



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.24101, 77.86023



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.24195, 77.85907



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.24198, 77.85860



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.22377, 77.83980



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.12703, 77.85401



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr
Coordinates: 11.07882, 77.86529
