



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal to SRI RAM 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

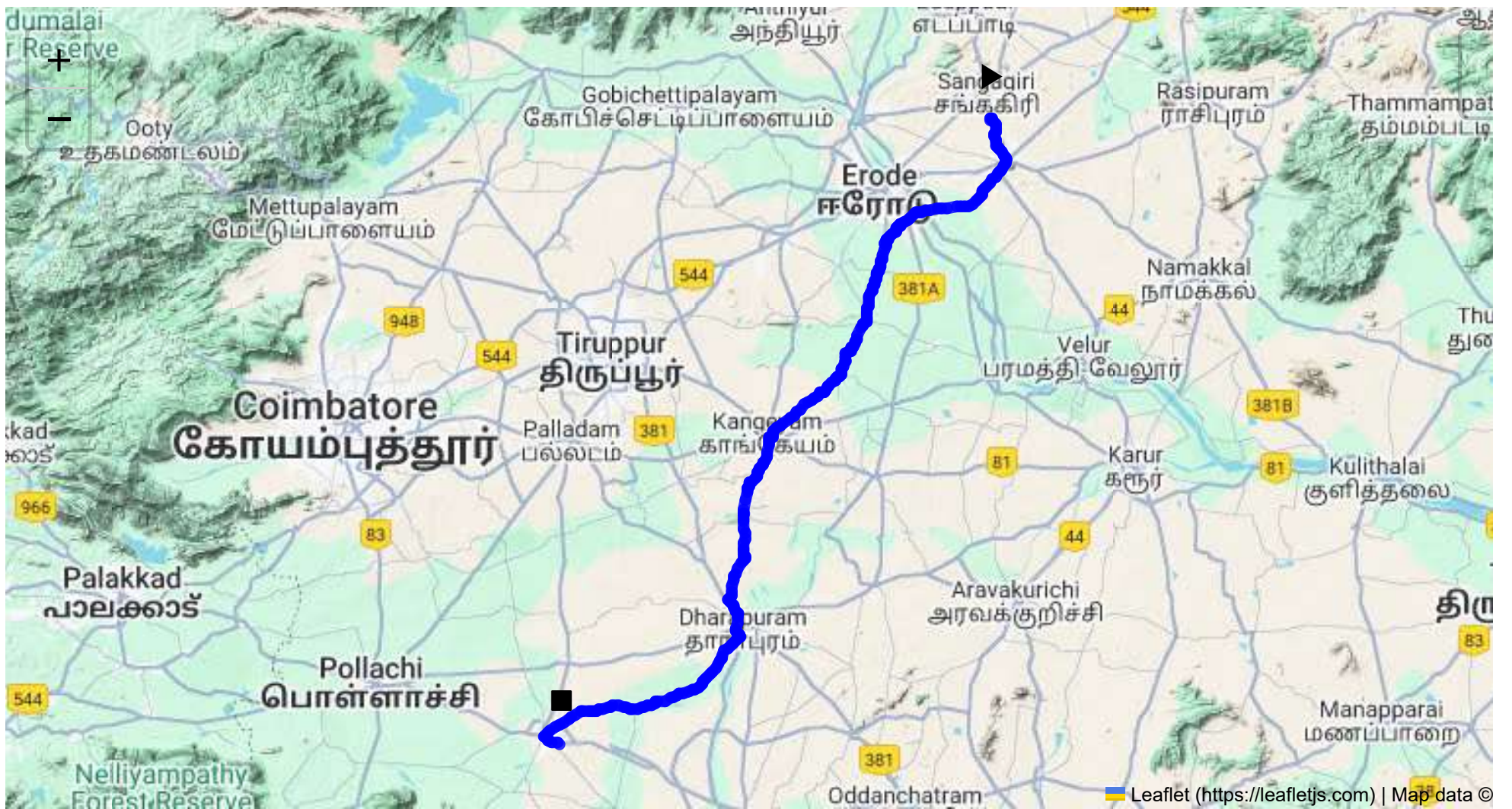
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 142.82 km
Estimated Duration: 3.2 hours
Adjusted Duration (Heavy Vehicle): 4.0 hours
Start: (11.4381, 77.8734)
End: (10.577827, 77.26963)



Risk Spots

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
4	Turn	11.43968, 77.87345	15 KM/Hr	0.09 km
5	Turn	11.44022, 77.87546	15 KM/Hr	0.29 km
6	Turn	11.43107, 77.88171	15 KM/Hr	1.51 km

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
7	Turn	11.39976, 77.88382	15 KM/Hr	5.05 km
8	Turn	11.39690, 77.88852	15 KM/Hr	5.64 km
0	Roundabout	11.38395, 77.89480	15 KM/Hr	7.29 km
9	Turn	11.36593, 77.88847	15 KM/Hr	9.55 km
10	Turn	11.33561, 77.86176	15 KM/Hr	13.97 km
11	Turn	11.30952, 77.77587	15 KM/Hr	24.35 km
12	Turn	11.31111, 77.77178	15 KM/Hr	24.81 km
13	Turn	11.30900, 77.76647	15 KM/Hr	25.39 km
14	Turn	11.29503, 77.74747	15 KM/Hr	27.94 km
15	Turn	11.29414, 77.74685	15 KM/Hr	28.34 km
16	Turn	11.29125, 77.74646	15 KM/Hr	28.68 km
17	Turn	11.29076, 77.74528	15 KM/Hr	28.79 km
18	Turn	11.28844, 77.74319	15 KM/Hr	29.03 km
19	Turn	11.28518, 77.74231	15 KM/Hr	29.50 km
20	Turn	11.27307, 77.72916	15 KM/Hr	31.50 km
21	Blind Spot	11.27330, 77.72715	10 KM/Hr	31.75 km
22	Turn	11.23054, 77.71796	15 KM/Hr	36.61 km
23	Turn	11.22949, 77.71670	15 KM/Hr	36.78 km
24	Turn	11.15942, 77.70068	15 KM/Hr	44.88 km
25	Turn	11.12102, 77.67919	15 KM/Hr	49.80 km
26	Turn	11.11932, 77.67786	15 KM/Hr	50.05 km
27	Turn	11.11763, 77.67232	15 KM/Hr	50.64 km
28	Turn	11.08696, 77.66407	15 KM/Hr	54.21 km
29	Turn	11.08296, 77.65857	15 KM/Hr	55.06 km
30	Turn	11.06225, 77.63983	15 KM/Hr	58.12 km
31	Turn	11.00826, 77.56962	15 KM/Hr	67.93 km
32	Blind Spot	11.00058, 77.56882	10 KM/Hr	68.98 km
1	Roundabout	11.00172, 77.56268	15 KM/Hr	69.60 km
33	Turn	10.94862, 77.54680	15 KM/Hr	75.96 km
34	Turn	10.94722, 77.54709	15 KM/Hr	76.19 km
35	Turn	10.93765, 77.53710	15 KM/Hr	77.65 km
36	Turn	10.93135, 77.53302	15 KM/Hr	78.44 km
37	Turn	10.89213, 77.52646	15 KM/Hr	83.01 km
38	Turn	10.83409, 77.52932	15 KM/Hr	89.58 km

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
39	Turn	10.77642, 77.50712	15 KM/Hr	96.40 km
40	Turn	10.75864, 77.51918	15 KM/Hr	98.88 km
41	Turn	10.75722, 77.51935	15 KM/Hr	99.08 km
42	Turn	10.73670, 77.51731	15 KM/Hr	101.10 km
2	Roundabout	10.72668, 77.52217	15 KM/Hr	102.69 km
43	Turn	10.63682, 77.41748	15 KM/Hr	118.12 km
44	Turn	10.63657, 77.40427	15 KM/Hr	119.91 km
45	Turn	10.63096, 77.39875	15 KM/Hr	120.62 km
46	Turn	10.62891, 77.38675	15 KM/Hr	121.83 km
47	Turn	10.62501, 77.37810	15 KM/Hr	122.89 km
48	Turn	10.63099, 77.34357	15 KM/Hr	126.75 km
49	Blind Spot	10.58796, 77.24758	10 KM/Hr	138.75 km
50	Turn	10.58683, 77.25062	15 KM/Hr	139.36 km
3	Roundabout	10.58569, 77.25171	15 KM/Hr	139.52 km

Emergency Services

	type	name	coordinates	side_of_road
0	hospital	Tiruchengode, Goverment Hospital	11.3903328, 77.8920627	Opposite Side
1	hospital	SPM Medical Centre,Tiruchengode	11.3881331, 77.8931963	Opposite Side
3	clinic	Kongu Nursing Home	11.3783065, 77.8961134	Driver's Side
4	hospital	T.C.A Hospital Tiruchengode	11.3791885, 77.8965774	Driver's Side
5	hospital	Soorya Multispecialty Hospital	11.3786429, 77.8931912	Opposite Side
6	hospital	Tiruchengode Government Hospital	11.37645, 77.89426	Opposite Side
7	hospital	Krishna Hospital, Namakkal	11.3754811, 77.8931817	Opposite Side
8	hospital	Government Hospital	11.2343326, 77.719226	Driver's Side
9	police	Kangeyam Police Station	11.0011411, 77.562688	Opposite Side
13	hospital	J K Hospital	11.0042298, 77.5603345	Opposite Side
15	hospital	Sri Balaji Surya Hospital	10.735518, 77.5185388	Driver's Side
16	hospital	Ramana Hospital, Dharapuram	10.7351092, 77.517107	Opposite Side
18	hospital	Janani Hospital, Dharapuram	10.7294033, 77.5210119	Driver's Side
19	clinic	Punitha Nursing Home	10.72901, 77.520148	Driver's Side
20	hospital	Ponnaiah Hospital, Dharapuram	10.72916, 77.520131	Driver's Side
21	pharmacy	Apollo Pharmacy	10.5860212, 77.2456546	Opposite Side

	type	name	coordinates	side_of_road
22	hospital	Anitha Hospital	10.58568, 77.248727	Opposite Side
23	hospital	ARVI Hospital	10.58528, 77.249095	Opposite Side
25	hospital	U.K.Hospital - Udumalai	10.5845833, 77.2514324	Opposite Side
26	hospital	Snr Eye Hospital	10.5858983, 77.2529264	Driver's Side
27	hospital	SK Medical Centre, Udumalpet	10.5845297, 77.2486143	Opposite Side
28	hospital	Saravana Hospital, Udumalai	10.5829234, 77.2490212	Opposite Side
29	hospital	Suwaathi Hospital	10.5852009, 77.2538853	Driver's Side
30	hospital	U.K. Hospital	10.5845774, 77.2544271	Driver's Side
31	hospital	Gokul Polyclinic & Ct Scan Centre, Udumalpet	10.58378, 77.252591	Opposite Side
32	hospital	Santhosham Hospital	10.5826962, 77.2531664	Opposite Side

Rest Stops

	type	name	coordinates	side_of_road
2	restaurant	Lijo	11.3805115, 77.8946385	Opposite Side
10	restaurant	Hotel Surya Pure Veg	11.0016663, 77.5638487	Driver's Side
11	fuel	Bharat Petroleum	11.0017719, 77.5629134	Driver's Side
12	fuel	Hindustan Petroleum	11.001711, 77.565054	Opposite Side
14	fuel	Bharat Petroleum	10.9903599, 77.5638924	Opposite Side
17	restaurant	Amaravathi Lodge	10.7341612, 77.5177641	Opposite Side
24	restaurant	sri saravana	10.5881218, 77.2478941	Driver's Side

Welcome to the Journey Risk Management Study

Route Map Overview

The route from Sangagiri to Udumalaipettai spans approximately 142.82 kilometers. Starting in Sangagiri, the journey heads toward Udumalaipettai through the Udumalpet - Dharapuram Road and By Pass Road. The journey primarily covers state highways and inter-district roads, with a focus on transitioning transporters via smooth expanses between these key locations.

Weather Conditions and Hazards

Typical weather conditions along this route include:

- **Summer (March to June):** High temperatures often exceeding 35°C, which can lead to heat stress for drivers and potential overheating of vehicles.
- **Monsoons (July to September):** Heavy rainfalls can cause flooding or waterlogging, especially in low-lying areas, impacting road conditions.
- **Winter (November to February):** Mild temperatures averaging 20-25°C, with minimal weather-related hazards.

Traffic Patterns and Congestion

- **Peak Hours:** Mornings (8-10 AM) and evenings (5-8 PM) typically showcase higher traffic volumes.
- **Congestion Areas:** Major towns en route, such as Dharapuram, may experience slowdowns due to market areas and local traffic.

Road Quality and Infrastructure

- **General Condition:** Varies from well-maintained state highways to narrower district roads, which may have potholes or uneven surfaces.
- **Infrastructure Issues:** Some sections may lack adequate signage or lighting, particularly on rural stretches.

Alternative Routes for Emergencies

- **Via Tiruppur:** If the primary route is blocked or under maintenance, rerouting through Tiruppur offers an alternative path, though it adds approximately 30 kilometers to the journey.

Local Regulations on Hazardous Materials

- **Speed Limits:** Must adhere to 40-60 km/h for heavy vehicles on highways.
- **Permits:** Proper documentation and permits for transporting hazardous materials are mandatory.
- **Timing Restrictions:** Transport of hazardous materials is often restricted during peak commuting hours.

Historical Incidents

- **Accident Records:** Occasional incidents involving heavy vehicles, primarily due to road width limitations and lack of visibility in foggy conditions.
- **Response Improvements:** Increased patrols and rescue operations have gradually reduced incident rates.

Environmental and Sensitive Areas

- **Protected Areas:** Passes through agricultural zones, which require adherence to emission norms to prevent crop impact.
- **Noise and Emission Norms:** Advised to minimize honking and adhere to exhaust emission standards.

Communication Coverage and Dead Zones

- **Coverage:** Good majority network coverage with occasional dead zones in remote areas, particularly between towns.
- **Remedy:** Ensure availability of satellite phones or CB radios for uninterrupted communication.

Emergency Response Times

- **Urban Centers:** Faster response times, averaging about 20-30 minutes.
- **Rural Stretches:** Response may take up to an hour due to accessibility challenges.

Overall Risk Assessment Summary

The route presents moderate risks due to weather conditions, road quality, and traffic congestion. However, proper planning, adherence to regulations, updated vehicle maintenance, and preemptive communication measures can mitigate these risks significantly. Regular training for drivers about local conditions and emergency protocols will further enhance safety and operational efficiency.

Route Photos of Risky Spots



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 0.29 km

Coordinates: 11.44022, 77.87546



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 1.51 km

Coordinates: 11.43107, 77.88171



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 5.05 km

Coordinates: 11.39976, 77.88382



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 5.64 km

Coordinates: 11.39690, 77.88852



Risk Type: Roundabout

Speed Limit: 15 KM/Hr

Distance from Start: 7.29 km

Coordinates: 11.38395, 77.89480



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 9.55 km

Coordinates: 11.36593, 77.88847



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 13.97 km

Coordinates: 11.33561, 77.86176



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 24.35 km

Coordinates: 11.30952, 77.77587



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 24.81 km

Coordinates: 11.31111, 77.77178



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 25.39 km

Coordinates: 11.30900, 77.76647



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 27.94 km

Coordinates: 11.29503, 77.74747



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 28.34 km

Coordinates: 11.29414, 77.74685



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 28.68 km

Coordinates: 11.29125, 77.74646



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 28.79 km

Coordinates: 11.29076, 77.74528



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 29.03 km

Coordinates: 11.28844, 77.74319



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 29.50 km

Coordinates: 11.28518, 77.74231



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 31.50 km

Coordinates: 11.27307, 77.72916



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 31.75 km

Coordinates: 11.27330, 77.72715



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 36.61 km

Coordinates: 11.23054, 77.71796



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 36.78 km

Coordinates: 11.22949, 77.71670



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 44.88 km

Coordinates: 11.15942, 77.70068



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 49.80 km

Coordinates: 11.12102, 77.67919



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 50.05 km

Coordinates: 11.11932, 77.67786



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 50.64 km

Coordinates: 11.11763, 77.67232



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 54.21 km

Coordinates: 11.08696, 77.66407



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 55.06 km

Coordinates: 11.08296, 77.65857



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 58.12 km

Coordinates: 11.06225, 77.63983



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 67.93 km

Coordinates: 11.00826, 77.56962



Risk Type: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 68.98 km
Coordinates: 11.00058, 77.56882



Risk Type: Roundabout
Speed Limit: 15 KM/Hr
Distance from Start: 69.60 km
Coordinates: 11.00172, 77.56268



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 75.96 km
Coordinates: 10.94862, 77.54680



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 76.19 km

Coordinates: 10.94722, 77.54709



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 77.65 km

Coordinates: 10.93765, 77.53710



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 78.44 km

Coordinates: 10.93135, 77.53302



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 83.01 km

Coordinates: 10.89213, 77.52646



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 89.58 km

Coordinates: 10.83409, 77.52932



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 96.40 km

Coordinates: 10.77642, 77.50712



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 98.88 km

Coordinates: 10.75864, 77.51918



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 99.08 km

Coordinates: 10.75722, 77.51935



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 101.10 km

Coordinates: 10.73670, 77.51731



Risk Type: Roundabout

Speed Limit: 15 KM/Hr

Distance from Start: 102.69 km

Coordinates: 10.72668, 77.52217



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 118.12 km

Coordinates: 10.63682, 77.41748



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 119.91 km

Coordinates: 10.63657, 77.40427



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 120.62 km

Coordinates: 10.63096, 77.39875



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 121.83 km

Coordinates: 10.62891, 77.38675



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 122.89 km

Coordinates: 10.62501, 77.37810



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 126.75 km

Coordinates: 10.63099, 77.34357



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 138.75 km

Coordinates: 10.58796, 77.24758



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 139.36 km

Coordinates: 10.58683, 77.25062



Risk Type: Roundabout

Speed Limit: 15 KM/Hr

Distance from Start: 139.52 km

Coordinates: 10.58569, 77.25171

[Download Interactive Map](#)