

JOURNEY RISK MANAGEMENT REPORT



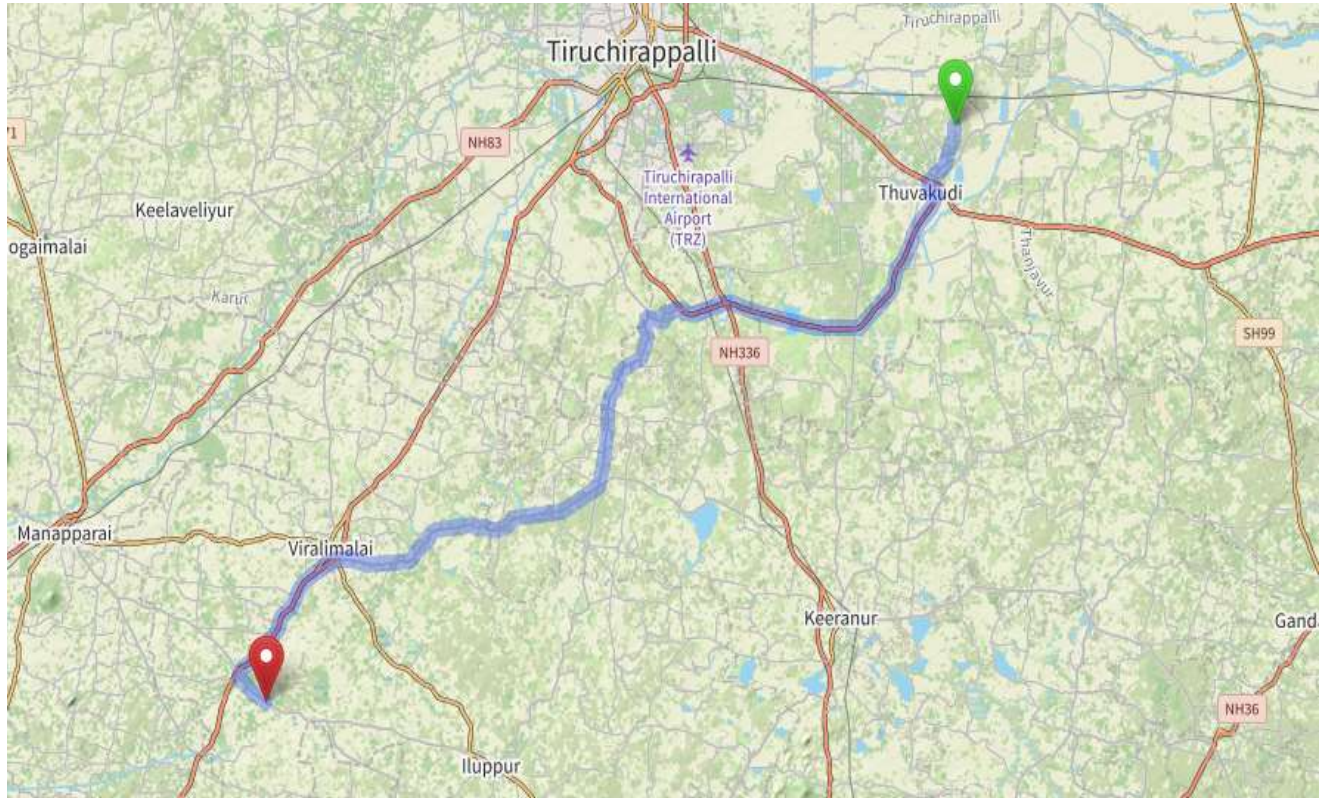
IndianOil

WELCOME TO JOURNEY
RISK MANAGEMENT (JRM)
STUDY USING ARTIFICIAL
INTELLIGENCE (AI)
FOR IOCL TRICHY
TERMINAL

ALARP/JRM/TNSO/SRIMRGN

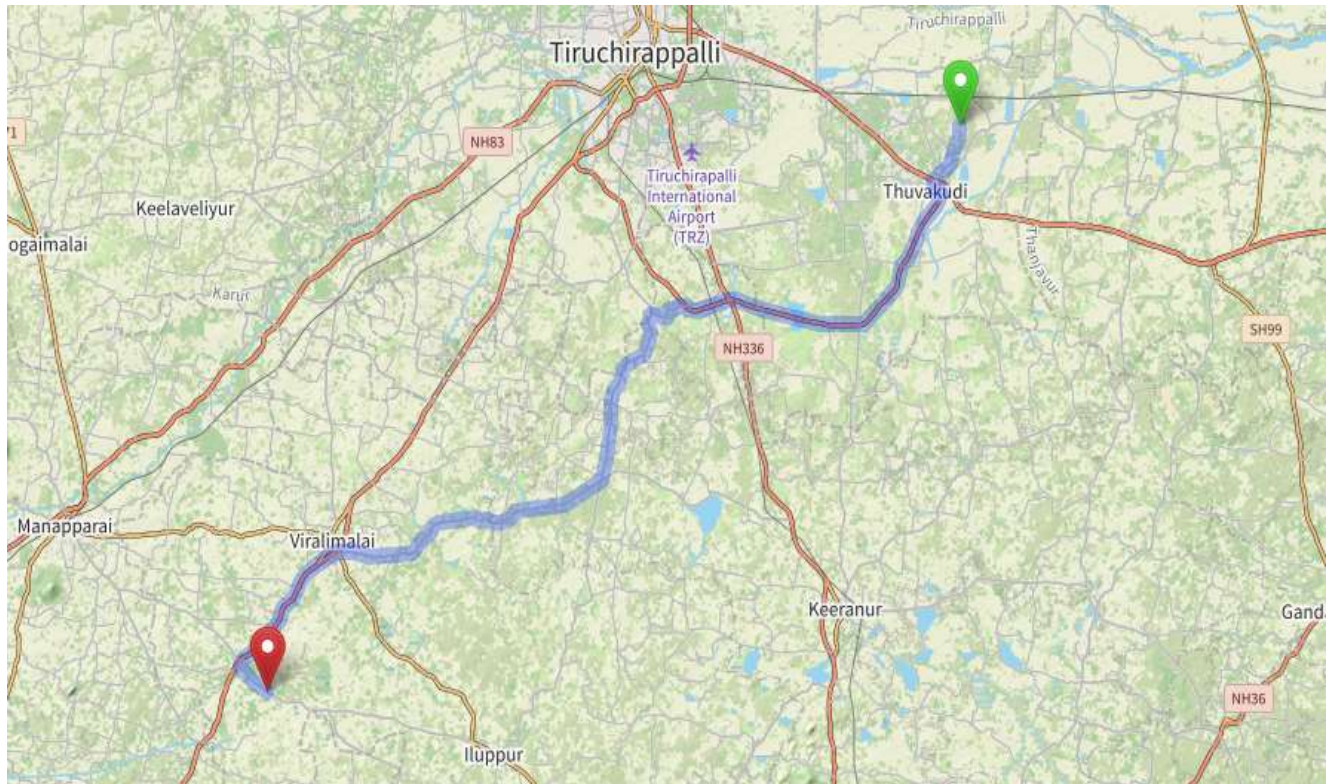
JOURNEY RISK MANAGEMENT REPORT

**IOCL TIRUCHY TERMINAL (10.7753, 78.8368) TO SRI NALLANDAVAR
ENTERPRISES (10.538828 , 78.516226) TOTAL DISTANCE – 61.9KM**



ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



Welcome to the Journey Risk Management Study for SRI NALLANDAVAR ENTERPRISES

Total distance: 61.9km; start with: (10.7753, 78.8368), End with: (10.538828, 78.516226)

- **Route Safety Analysis Report**

1. **Overview of the Route Map**

The route from Trichy Terminal (T.N)- Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Continue to Sooriyur, Turn right onto NH to Asoor Rd, Slight right at Asoor Bus Stop, Turn right at Theneripatti - Sri Thenmuthu Mariamman, Turn right onto Kayampatti - Kannankudi Rd, Continue on Trichy Bypass to Velur, Turn left at Arumugam Tea and Food shop Drive to Pudukottai - Manapparai Rd and Destination will be There and Total distance from Trichy Terminal To SRI NALLANDAVAR ENTERPRISES 61.9KM.

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT

Typical Weather Conditions and Potential Weather-Related Hazards

Weather Conditions:

Trichy Terminal (T.N) To SRI NALLANDAVAR ENTERPRISES experiences a tropical climate with heavy monsoon rains from June to September, high humidity, and moderate temperatures throughout the year, the summers are short and sweltering; the winters are short, cool, and dry; and it is mostly clear year-round. Over the course of the year, the temperature typically varies from 60.8°F to 110°F and is rarely below 60.8°F to 110°F.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C (°F)	33.0 (91.4)	38.0 (100.4)	41.0 (105.8)	43.0 (109.4)	43.0 (109.4)	42.0 (107.6)	40.0 (104.0)	39.0 (102.2)	38.0 (100.4)	37.0 (98.6)	34.0 (93.2)	33.0 (91.4)	43.0 (109.4)
Average high °C (°F)	30.27 (86.49)	32.88 (91.18)	36.0 (96.8)	38.27 (100.89)	38.79 (101.82)	36.78 (98.2)	36.17 (97.11)	35.4 (95.72)	35.03 (95.05)	32.9 (91.22)	30.38 (86.68)	29.34 (84.81)	34.35 (93.83)
Daily mean °C (°F)	26.57 (79.83)	28.67 (83.61)	31.87 (89.37)	34.46 (94.03)	35.18 (95.32)	33.45 (92.21)	32.92 (91.26)	32.18 (89.92)	31.78 (89.2)	29.86 (85.75)	27.44 (81.39)	26.32 (79.38)	30.89 (87.6)
Average low °C (°F)	19.88 (67.78)	20.93 (69.67)	24.04 (75.27)	27.62 (81.72)	28.89 (84.0)	27.59 (81.66)	27.04 (80.67)	26.45 (79.61)	25.95 (78.71)	24.64 (76.35)	22.43 (72.37)	20.93 (69.67)	24.7 (76.46)
Record low °C (°F)	16.0 (60.8)	17.0 (62.6)	19.0 (66.2)	22.0 (71.6)	25.0 (77.0)	25.0 (77.0)	24.0 (75.2)	23.0 (73.4)	22.0 (71.6)	21.0 (69.8)	18.0 (64.4)	17.0 (62.6)	16.0 (60.8)
Average precipitation mm (inches)	12.32 (0.49)	20.82 (0.82)	26.34 (1.04)	57.63 (2.27)	102.32 (4.03)	61.68 (2.43)	63.88 (2.51)	124.75 (4.91)	141.74 (5.58)	231.04 (9.1)	159.62 (6.28)	71.08 (2.8)	89.44 (3.52)
Average precipitation days (≥ 1.0 mm)	3.09	3.27	5.36	7.36	16.73	12.36	13.55	18.91	19.64	22.73	17.55	9.73	12.52
Average relative humidity (%)	72.01	65.19	58.27	53.97	51.56	50.59	51.14	56.11	60.33	70.18	77.39	76.61	61.95
Mean monthly sunshine hours	11.19	11.34	11.34	11.63	12.65	12.68	11.83	11.24	11.05	9.11	7.68	8.29	10.84

Weather-Related Hazards:

Trichy Terminal (T.N) To SRI NALLANDAVAR ENTERPRISES Providing a local hourly weather forecast of rain, sun, wind, humidity and temperature.

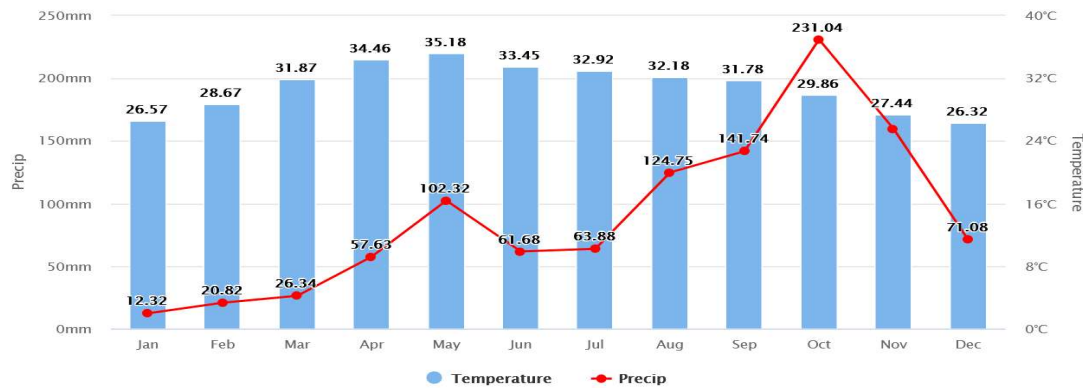
The Long-range 12 day forecast also includes detail for weather today. Live weather reports from Trichy Terminal (T.N) To SRI NALLANDAVAR ENTERPRISES AGENCIES weather stations and weather warnings that include risk of thunder, high UV index and forecast gales.

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT

Climate Graph

The chart below shows the mean monthly temperature and precipitation of Tiruchirappalli in recent years.



Analysis of Traffic Patterns

Peak Hours:

Typically, Trichy Terminal (T.N) To SRI NALLANDAVAR ENTERPRISES peak traffic hours are from 8:00 AM to 11:00 AM and 4:00 PM to 8:00 PM on weekdays.

Congestion-Prone Areas:

- Jude Digital Studios
- Markandan Agency
- TNSSTC TRICHY RE CONDITIONING UNIT
- K.M.RICE DEPOT
- Sri Krishna Agencies
- Harihar residency
- Palanivel Tea Satal

JOURNEY RISK MANAGEMENT REPORT

- **Assessment of Road Quality and Infrastructure**

Road Quality: Generally, the roads are well-maintained but can suffer from potholes and waterlogging on State Highway during the monsoon season.

Infrastructure: Adequate signage, street lighting, and traffic signals are present, but some areas may lack proper drainage systems, leading to waterlogging.

- **Suggestions for Alternative Routes for Emergencies**

Alternative Route 1-). The route from Trichy Terminal (T.N)- Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Continue to Sooriyur, Turn right onto NH to Asoor Rd, Slight right at Asoor Bus Stop, Turn right at Theneripatti - Sri Thenmuthu Mariamman, Turn right onto Kayampatti - Kannankudi Rd, Continue on Trichy Bypass to Velur, Turn left at Arumugam Tea and Food shop Drive to Pudukottai - Manapparai Rd and Destination will be There and Total distance from Trichy Terminal To SRI NALLANDAVAR ENTERPRISES 61.9KM.

Alternative Route 2 The route from Trichy Terminal (T.N)- Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Continue to Sooriyur, Turn right onto NH to Asoor Rd, Slight right at Asoor Bus Stop, Turn right at Theneripatti - Sri Thenmuthu Mariamman, Turn right onto Kayampatti - Kannankudi Rd, Continue on Trichy Bypass to Velur, Turn left at Arumugam Tea and Food shop Drive to Pudukottai - Manapparai Rd and Destination will be There and Total distance from Trichy Terminal To SRI NALLANDAVAR ENTERPRISES 61.9KM.

Summary of Local Regulations Affecting Hazardous Material Transport

Regulations: Transport of hazardous materials is regulated by the Petroleum and Explosives Safety Organization (PESO) and the Motor Vehicles Act. Specific routes and timings may be restricted for hazardous material transport.

Permits: Ensure all necessary permits and documentation are in place.

- **Overview of Historical Incidents**

JOURNEY RISK MANAGEMENT REPORT

Historical Incidents: There have been occasional incidents involving heavy vehicles, particularly during the monsoon season due to waterlogging and poor visibility. No major incidents involving hazardous materials have been reported recently.

❖ Environmental Considerations and Sensitive Areas

- **Sensitive Areas** Jude Digital Studios, Markandan Agency, Aishwarya Medical Centre, TNSC TRICHY RE CONDITIONING UNIT, K.M.RICE DEPOT, Sri Krishna Agencies, Harihar residency , Palanivel Tea Satal
- **Educational institutions** Aishwarya Medical Centr, : , TNSC TRICHY RE CONDITIONING UNIT
- **Hospital:** - Aishwarya Medical Centre, Vivekananda Hospital, AYUSH HOSPITAL.
- **Gas Station:** ESSAR petrol pump, SP Petroleum (HPCL), HP PETROL PUMP - M/S. A.V.R. PETROL , Indian Oil, Indian Oil.sk petrol (BPCL)
- **Environmental Impact:** Minimize noise and air pollution, especially in residential and sensitive areas.
- **Air pollution:** Volatile chemicals evaporate during the filling and discharge process, or from leaks.
- **Loss of habitats:** Oil and gas operations can degrade animal habitats and disrupt migratory pathways.
- **Oil spills:** Oil spills can be devastating for animals and humans.
- **Greenhouse gas emissions:** Oil and gas operations can emit greenhouse gases like methane.
- **Analysis of Communication Coverage**

Communication Coverage: Generally good throughout the route, but potential dead zones may exist densely built-up areas or underpasses.

Dead Zones: Monitor for any communication blackouts, especially in underpasses or near large buildings.

JOURNEY RISK MANAGEMENT REPORT

- **Estimated Emergency Response Times:** : Jude Digital Studios, Markandan Agency, Aishwarya Medical Centre, TNSTC TRICHY RE CONDITIONING UNIT, K.M.RICE DEPOT, Sri Krishna Agencies, Harihar residency , Palanivel Tea Satal
 - like, have quicker response times (15- 20 minutes). Congested areas may experience delays (up to 30-40 minutes).
-
- **Overall Summary of Risk Assessment**
 - **Risk Level:** Moderate to High, especially during monsoon season.
 - **Key Risks:** Waterlogging, traffic congestion, and potential communication dead zones.
 - **Mitigation Measures:** Plan travel during non-peak hours, ensure proper vehicle maintenance, and have alternative routes and emergency contacts ready and control on the speed limit of the vehicle.
-
- **Road Signage for TT/PT Driver**














JOURNEY RISK MANAGEMENT REPORT

Road Traffic Signs in India

Mandatory/Regulatory Signs
















 Stop	 Give way	 No entry	 Straight prohibited
 One way	 One way	 Vehicles prohibited in both directions	 Horn prohibited
 Pedestrians prohibited	 Cycles prohibited	 Right turn prohibited	 Left turn prohibited
 U-turn prohibited	 Overtaking prohibited	 Trucks prohibited	 Tonga prohibited

JOURNEY RISK MANAGEMENT REPORT

 <p>All motor vehicles prohibited</p>	 <p>Hand cart prohibited</p>	 <p>Bullock cart prohibited</p>	 <p>Bullock and hand carts prohibited</p>
 <p>No parking</p>	 <p>No parking or stopping</p>	 <p>Speed limit</p>	 <p>Axle load limit</p>
 <p>Width limit</p>	 <p>Weight limit</p>	 <p>Length limit</p>	 <p>Load limit</p>
 <p>Restriction ands</p>			

JOURNEY RISK MANAGEMENT REPORT

Cautionary signs

 <p>Right hand curve</p>	 <p>Left hand curve</p>	 <p>Right hand pin bend</p>	 <p>Left hand pin bend</p>
 <p>Right reverse bend</p>	 <p>Narrow bridge</p>	 <p>Gap in median</p>	 <p>Cycle crossing</p>
 <p>Pedestrian crossing</p>	 <p>School</p>	 <p>Men at work</p>	 <p>Roundabout</p>
 <p>Narrow road</p>	 <p>Road widens</p>	 <p>Side road left</p>	 <p>Side road right</p>

JOURNEY RISK MANAGEMENT REPORT

Information signs

Advance direction	Map type advance direction	Rotary intersection	Reassurance
Direction	Direction	Place identification	Truck lay bay
Toll booth ahead	Parking this side	Parking both sides	Cycle stand
Scooter and motor cycle stand	Taxi stand	Auto-rickshaw stand	Cycle-rickshaw stand
Public telephone	Filling station	Hospital	First aid post

Conclusion

The route for Trichy Terminal (T.N) To SRI NALLANDAVAR ENTERPRISES is generally manageable but poses several risks, particularly during the monsoon season. Proper planning, adherence to regulations, and awareness of potential hazards can significantly mitigate these risks.

JOURNEY RISK MANAGEMENT REPORT

• Risk Assessment - Sharp Turns

Risk Type	Risk Level	Coordination	Distance From Start	Recommendation Speed
Sharp turn	Medium	10.769517372474736, 78.83735063199906	650 M	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.76584461192607, 78.8361700257199	1.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.764182189802032, 78.83459588401435	1.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.75826698538096, 78.83349398474651	2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.756372549032195, 78.83034570133539	2.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.751346435623256, 78.8252297405902	3.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.749451955814655, 78.83046376176118	3.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.741610640579689, 78.82718594844422	4.8 km	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.734287918634735, 78.82046183804047	5.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.713512709090521, 78.80911996491783	8.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.706666925588681, 78.80782375086409	9.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.699582172344776, 78.80004646577926	10.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.691462364523247, 78.79064891388968	11.9 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.6638374704095, 78.78862357927507	14.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.660732498370965, 78.78635520468103	15.4 KM	20km/hr TO 30 Km/Hr

JOURNEY RISK MANAGEMENT REPORT

Sharp turn	Medium	10.64842417274851, 78.78704271204515	16.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.642648477065759, 78.78790978721874	17.4 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.639334503912071, 78.7842488031525	18 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.638103590426153, 78.78270733617721	18.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.63038659627268, 78.78135855241705	19.1 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.624941974019475, 78.78241831096254	19.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.619736436728504, 78.78185104657456	20.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.613392037576439, 78.78421141788797	21 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.604822155245836, 78.78266995091272	22 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.597762474060362, 78.78165149877057	22.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.590328563954534, 78.7826630864731	23.6 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.588623947680798, 78.78150698624165	23.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.58674533173466, 78.77729220760148	24.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.58637702814883, 78.77604894716654	24.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.585791089639176, 78.7750441199752	24.6 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.584033267538665, 78.77536770828819	24.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.55207259980482, 78.77880669261698	28.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.54546223984727, 78.77944431801846	29.3 KM	20km/hr TO 30 Km/Hr

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT

Sharp turn	High	10.691193475363699, 78.79054216293021	32.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.701831003836165, 78.73181070781376	33.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.696583003994963, 78.71408880075259	35.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.759929335728925, 78.65936410143516	37.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.737433004897031, 78.63563165251809	38.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.716868106722725, 78.62870287948734	40.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.694173796262115, 78.61848977001463	42.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.654898243832672, 78.58934391363279	44.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.632867054199044, 78.5733915025577	45.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.597514672560735, 78.54916470653723	52.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.579628409933585, 78.52976697072336	55.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.557859758671615, 78.51208584885471	58.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.551531373124003, 78.50358861059995	59.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.55018130031162, 78.50380318738829	60 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.546721712649983, 78.50766556841316	60.6 KM	20km/hr TO 30 Km/Hr

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT

**IOCL TIRCHY TERMINAL (10.7753, 78.8368) TO SRI NALLANDAVAR
ENTERPRISES (10.538828 , 78.516226) TOTAL DISTANCE – 61.9 KM**



10.757864054403178, 78.8335156875251

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.764113439530249, 78.83446118711721



10.751281467293017, 78.82523571998917

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.751314343624747, 78.82530656733346



10.75126610223314, 78.82518044583597

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.75028318292191, 78.82795244340517



10.749185832475025, 78.8304590222586

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.739443239536497, 78.83780144303421



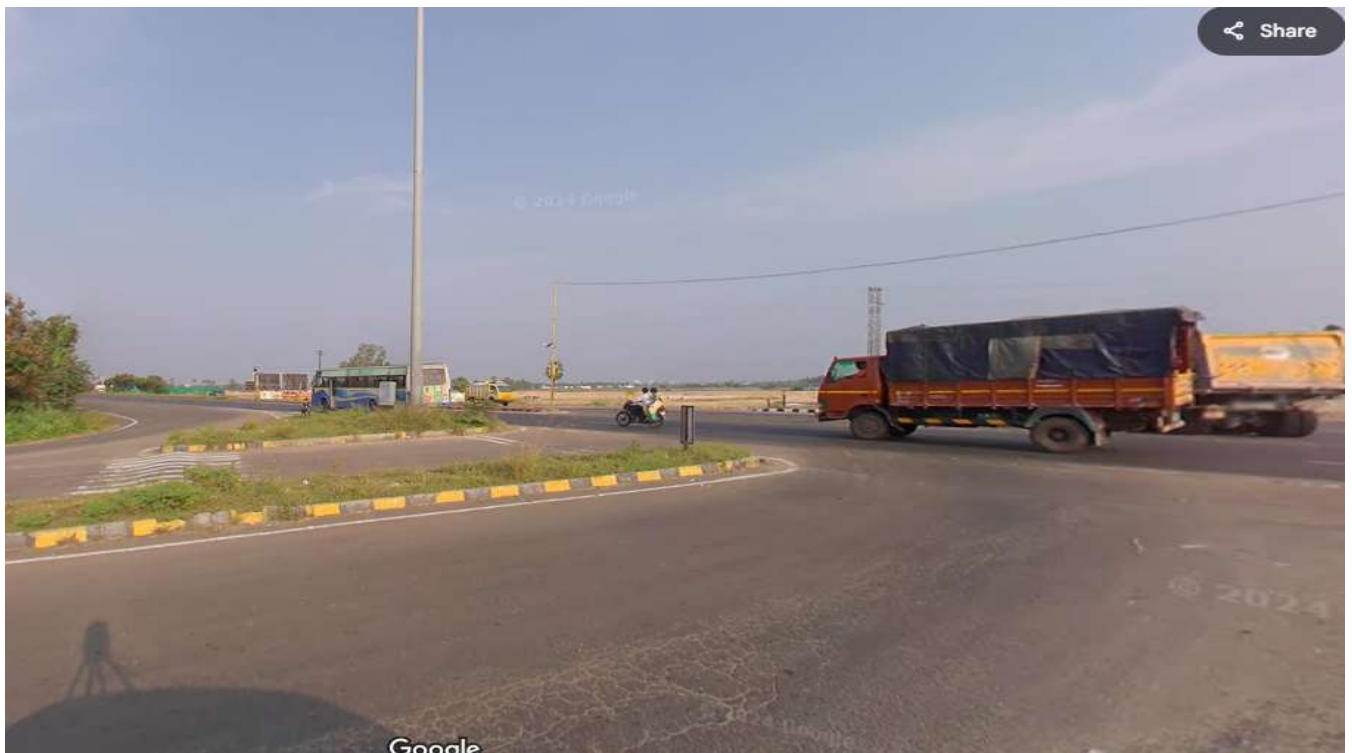
10.642196979947212, 78.78752451242383

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.59057338373165, 78.7823247876881



10.758834669577205, 78.6592139735722

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.389384108854301, 78.7984169777083



10.751088065977065, 78.82465118775411

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.7265255760566, 78.84698370380006



10.70825127170704, 78.8449178176868

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.692860294966632, 78.83058556360632



10.672156070895745, 78.83042602043508

ALARP/JRM/TNSO/SRIMRGN

JOURNEY RISK MANAGEMENT REPORT



10.681629504521862, 78.79000864903246



10.552080130246347, 78.50358247789768

ALARP/JRM/TNSO/SRIMRGN