

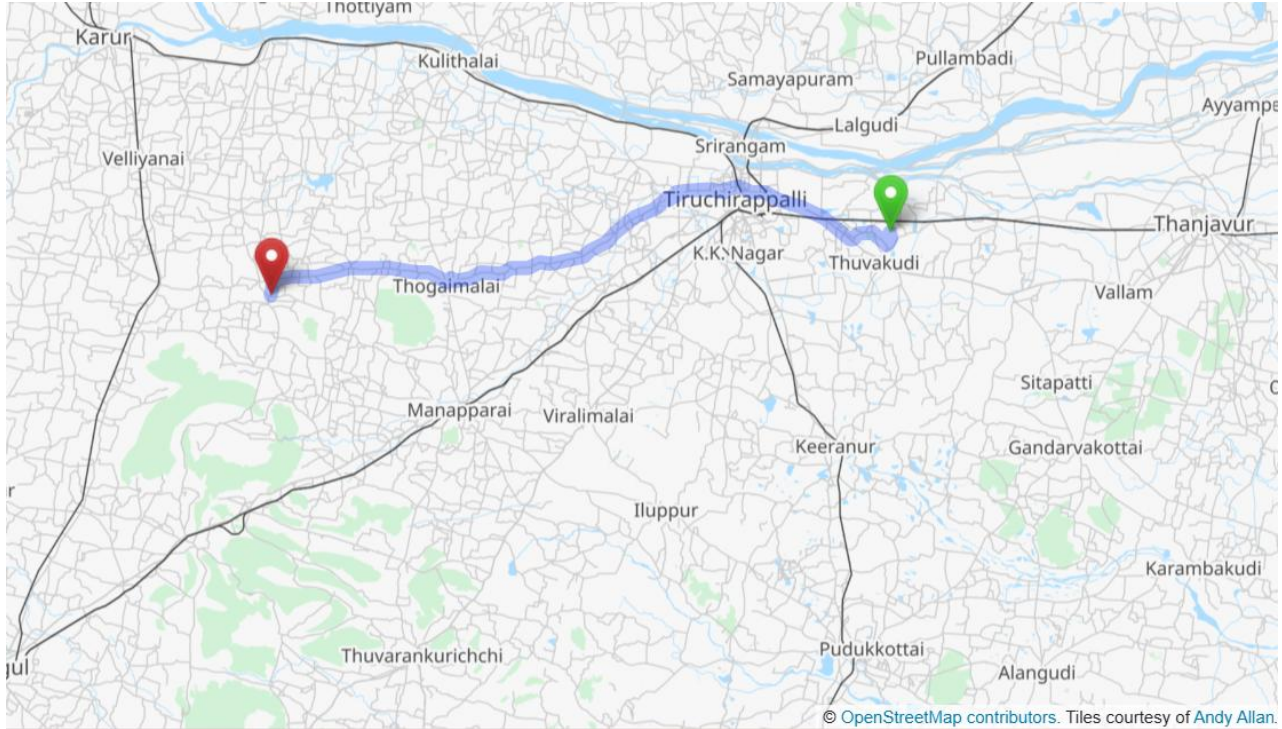
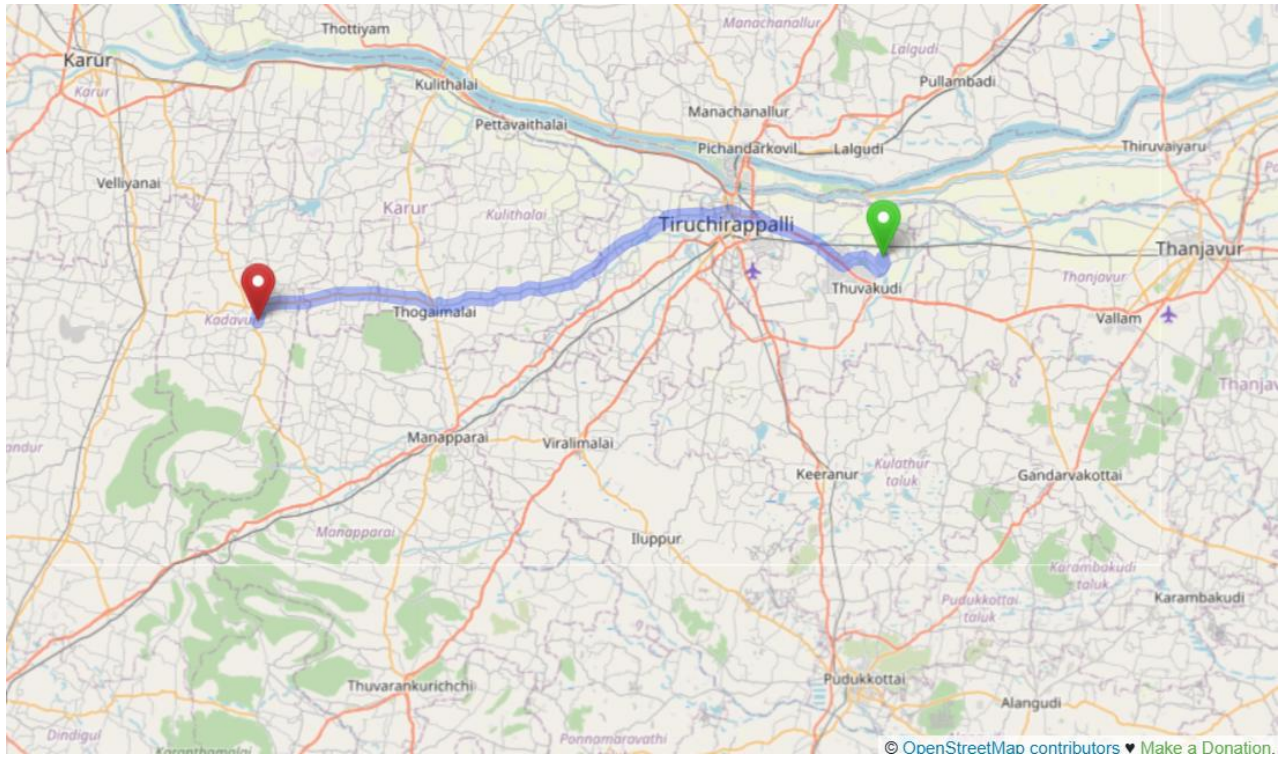


IndianOil

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

JOURNEY RISK MANAGEMENT REPORT

IOCL TIRCHY TERMINAL (10.7753, 78.8368) TO SRI VELAVAA TRADERS (10.716029 , 78.241745) TOTAL DISTANCE – 88.4 KM



ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT

Welcome to the Journey Risk Management Study for SRI VELAVAA TRADERS

Total distance: 88.4 KM; Start with: (10.7753 , 78.8368), End with: (10.716029 , 78.241745)

❖ Route Safety Analysis Report

1. Overview of the Route Map

The route from Trichy Terminal (T.N) To SRI VELAVAA TRADERS. The Route Passes Through Several Key point including Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Take Trichy Bypass, NH45/NH 83, Allithurai-Thogamalai Rd/Somarasempettai - Thogaimalai Rd/Vayalur-S Pettai-Thogaimalai Rd and Mylampatti - Thogaimalai Rd to Mylampatti Rd in Keelappaguthi. and Total distance from Trichy Terminal To SRI VELAVAA TRADERS IS 88.4 KM.

Typical Weather Conditions and Potential Weather-Related Hazards

Weather Conditions: Trichy Terminal (T.N) To SRI VELAVAA TRADERSE 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;

JOURNEY RISK MANAGEMENT REPORT

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.

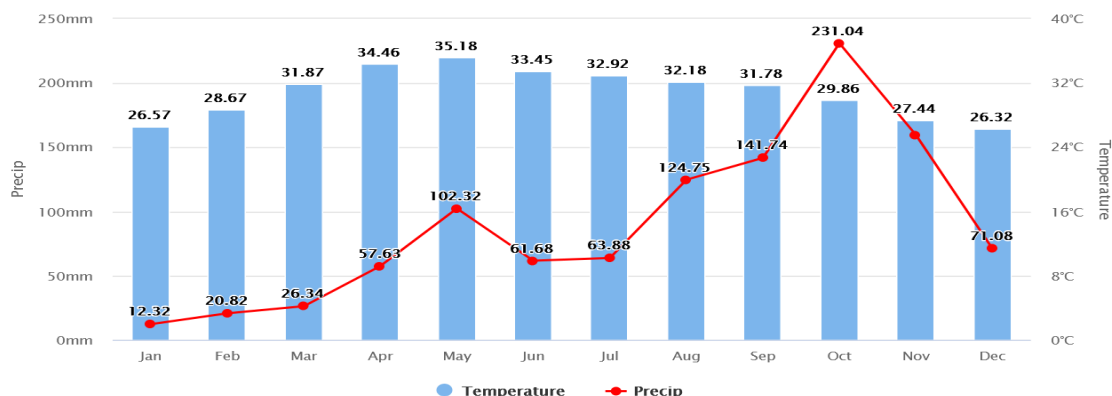
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C (°F)	33.0 (91.4)	38.0 (100.4)	41.0 (105.8)	43.0 (109.4)	43.0 (109.4)	42.0 (107.6)	40.0 (104.0)	39.0 (102.2)	38.0 (100.4)	37.0 (98.6)	34.0 (93.2)	33.0 (91.4)	43.0 (109.4)
Average high °C (°F)	30.27 (86.49)	32.88 (91.18)	36.0 (96.8)	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 VELAVAA TRADERS
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 VELAVAA TRADERS weather stations and weather warnings that include risk of thunder, high UV index and forecast gales.

Climate Graph

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



Analysis of Traffic Patterns

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT

Peak Hours:

Typically, Trichy Terminal (T.N) To SRI VELAVAA TRADERS 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:

- Malar Mahal
- Old Burma Colony
- Government Branch Press, Tiruchirappalli
- National Institute of Technology Tiruchirappalli
- AGN InfoSystems & AGN INFOTECH
- NIT Trichy
- BHELEC CINEMA 4K Dolby 7.1
- MedPlus Trichy Rail Nagar

❖ Assessment of Road Quality and Infrastructure

Road Quality: Generally, the roads are well-maintained but can suffer from potholes and water logging 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 water logging.

❖ Suggestions for Alternative Routes for Emergencies

Alternative Route 1-). Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi Follow NH 83 to Sangillyandapuram, Tiruchirappalli, Turn left at SMR DEMOLITION WORK

Alternative Route 2-) Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Follow NH 83 to Sangillyandapuram, Tiruchirappalli, Turn left at SMR DEMOLITION WORK.

Summary of Local Regulations Affecting Hazardous Material Transport

JOURNEY RISK MANAGEMENT REPORT

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

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

❖ Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** Malar Mahal, Old Burma Colony, Government Branch Press, Tiruchirappalli, National Institute of Technology Tiruchirappalli, AGN InfoSystems & AGN INFOTECH, NIT Trichy, BHELEC CINEMA 4K Dolby 7.1, MedPlus Trichy Rail Nagar.
- **Educational institutions:** State Institute Of Hotel Management and Catering Technology, National Institute of Technology Tiruchirappalli, AGN InfoSystems & AGN INFOTECH, NIT Trichy.
- **Hospital:** - Dr Kamali's Home Clinic, Muthammal Medical Foundation Hospital, Times Hospital - (Trichy Institute of Medical and Educational Services), Apollo Speciality Hospitals – Trichy. GVN Hospital (P) Ltd. - Multispecialty Hospital Trichy.
- **Gas Station:** IndianOil, Bharat Petroleum - Sri Vela Fuels, IndianOil, Reliance Petrol Bunk.
- **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.

JOURNEY RISK MANAGEMENT REPORT

- **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.

- **Estimated Emergency Response Times-**Malar Mahal,Old Burma Colony,Government Branch Press, Tiruchirappalli,National Institute of Technology Tiruchirappalli,AGN InfoSystems & AGN INFOTECH,NIT Trichy,BHELEC CINEMA 4K Dolby 7.1,MedPlus Trichy Rail Nagar, areas 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**














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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

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 <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>			




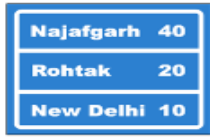
















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Cautionary signs

 <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 VELAVAA TRADERS 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	10.757906942798716, 78.81117677157785	6.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.787358384509025, 78.77401388280337	10.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.807926793454792, 78.72541718894573	16.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.812858780584483, 78.71601872869049	17.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.813153854161522, 78.7123280092307	18.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.8132381608445, 78.71189885580515	18.3 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.817664228587676, 78.7119846864179	18.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.825209469597384, 78.71241383982665	19.6 KM	20km/hr TO 30 Km/Hr

JOURNEY RISK MANAGEMENT REPORT

Sharp turn	Medium	10.844809252744147, 78.71308566683136	21.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.848867431944997, 78.71317588521788	22.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.848867431944997, 78.71346458407959	22.3 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.760711061061413, 78.65880063658834	30.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.737616170413975, 78.63413716498408	35.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.728529171917002, 78.63259569800881	34.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.744431239955022, 78.63336643149646	36.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.752003359039396, 78.61217126058654	39.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.757303729341773, 78.60793222640456	40.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.748595928959272, 78.5952151238586	42.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.741780953405918, 78.58172728782502	43.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.712247616707835, 78.53818084406623	49.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.719820541971565, 78.53085887593372	51.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.731019666518161, 78.52502761119237	52.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.733393063771993, 78.52517232317523	53.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.741750528825298, 78.51277727508246	54.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.746605711729494, 78.50005817468019	56.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.741862120932122, 78.47187941747399	59.7 KM	20km/hr TO 30 Km/Hr

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JOURNEY RISK MANAGEMENT REPORT

Sharp turn	Medium	10.737584712113073, 78.46867145135856	60.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.737584712102155, 78.45366275173636	62 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.735389702485747, 78.44037260640103	63.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.73533341997824, 78.43601893810153	64 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.730999635413706, 78.42227051120074	65.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.729423698354852, 78.4176877024644	66.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.730042817471363, 78.41167276505678	67.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.727284913501517, 78.41012606710827	67.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.73702189072156, 78.39316967384497	69.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.742256089882241, 78.31738147185904	78.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.731675034509314, 78.24291082679851	86.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.729423698044661, 78.24399924366007	86.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.721769029803712, 78.24348367767725	87.7 KM	20km/hr TO 30 Km/Hr

**IOCL TIRCHY TERMINAL (10.7753, 78.8368) TO SRI VELAVAA
TRADERS(10.716029 , 78.241745) TOTAL DISTANCE – 88.4 KM**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.769073692604486,
78.83720120889187**



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.764113439530249,
78.83446118711721**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.758209570013967,
78.83344387884853**



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.751314343624747,
78.82530656733346**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.75126610223314,
78.82518044583597**



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.759296455409434,
78.80954749245673**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.787270680907813,
78.77433315009567**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.801869769228155,
78.74289067038384**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.807212761783093,
78.727384388977

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.813070768754649,
78.71358087620345**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.813158210442325,
78.7124472790252



IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.803759813654633,
78.71183776520364

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.800141064659686,
78.71071193656084**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.732489726531448,
78.41401526962596**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.742741054508059,
78.31948868307785

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.734776659594317,
78.26897475615839**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.731902150125498,
78.24486917151367**

ALARP/JRM/TNSO/SRI VELAVAA TRADERS

JOURNEY RISK MANAGEMENT REPORT



**IMAGE :- SHARP TURN RISK LEVEL :- MEDIUM COORDI: 10.716037621982046,
78.2417395306716**

THANK YOU

YOUR DESTINATION IS HERE!

ALARP/JRM/TNSO/SRI VELAVAA TRADERS