

IIT MADRAS Technology Transfer Office TTO - IPM Cell



Industrial Consultancy & Sponsored Research (IC&SR)

# SYSTEM AND METHOD FOR ESTIMATING RELIABLE CORRIDOR LEVEL TRAVEL TIME ESTIMATION USING PROBE VEHICLE DATA

# **IITM Technology Available for Licensing**

#### **Problem Statement**

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- ≻ In the field of transportation and traffic management, the provision of real-time and accurate travel time information to travelers is crucial for enabling them to make informed decisions regarding their choice of transportation mode, route selection, and travel timing.
- > Existing methods for collecting travel time information rely on various data sources, including arterial cameras, location-based sensors, GPS, and other tracking sensors.
- > There is a need for an improved approach to effectively predict on-time bus travel, bus dwelling times, and bus arrival times for both single and multiple bus routes.

## Intellectual Property

- IITM IDF Ref. 1810
- IN201941021493

### Key Features / Value Proposition

- \* Technical Perspective
- The present invention discloses A system for estimating travel time for a traffic stream with respect to a public transportation vehicle, in realtime
- Provides an enhanced, efficient and improved real-time source of corridor level travel time prediction using bus GPS data
- Ser Perspective
- □ The route data comprises coordinates of one or more stations of the public transportation vehicle
- The said plurality of variables comprises long section travel time data; short section travel time data, stream travel time, number of stops, time of the day, peak hours, off-peak hours etc.

#### Technology Category/ Market

#### **Category** –Automotive

Applications Transport systems, Automation, Automobiles

#### Industrv -Automotive/ Transportation Systems

Market -The global intelligent transportation system market is projected to grow from \$22.91 billion in 2021 to \$42.80 billion in 2028, at a CAGR of 9.34%

#### Technology

Intelligent data collection module

**Prediction Processing Module** 

### **Power Supply Module**

- intelligent collection □ The data module comprises a GPS module and a Wi-Fi module.
- □ The GPS module is configured to receive route data of the public transportation vehicle, wherein the route data comprises coordinates of one or more stations of the public transportation vehicle.
- □ The Wi-Fi module is configured to collect Wi-Fi data from a plurality of vehicles present in the traffic stream.
- □ The prediction processing module is configured to determine a correlation between the data received from the GPS module and the data collected from the Wi-Fi module.
- □ The power supply module comprises AC power supplies and DC power supplies for the system.

### **CONTACT US**

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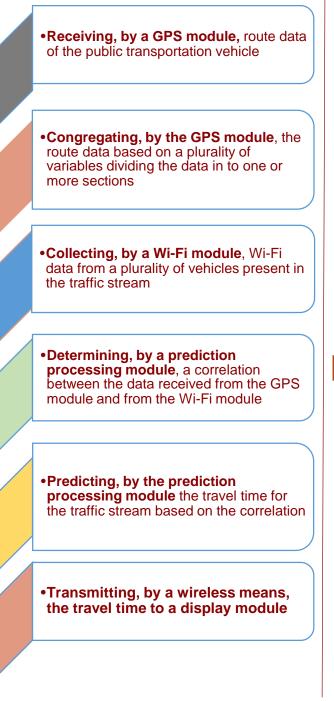
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The invention further discloses a method for estimating travel time for a traffic stream with respect to a public transportation vehicle in realtime comprising:

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- □ The method disclosed is capable of controlling the vehicles commuting via one or more stations
- □ The receiving module is located at one or more stations and controls the vehicles commuting via the one or more stations therein receiving at least one route data indicating the location of said public transportation vehicle
- □ The prediction processing module utilizes linear regression and Artificial Neural Network, ANN, technique.
- The said display module is configured to the one or more stations and/or a mobile device and wherein the user is able to view the travel time, in real-time, through the display module

#### TRL (Technology Readiness Level)

TRL4-5, Technology Validated in relevant Environment

#### Research Lab

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