

Traffic & ITS Laboratory

- ITS test bed – Real time traffic data
- Field Implementations and demonstrated projects
 - Advanced Traveler Information Systems
 - Dynamic Bus Arrival Predictions



Broad activities of ITS

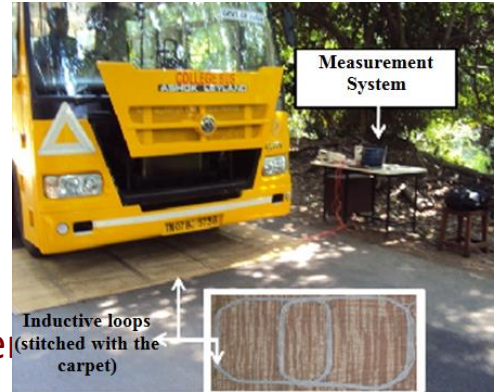
- Data Collection
- Data Analysis
- Modeling
- Application Development



Traffic & ITS Laboratory

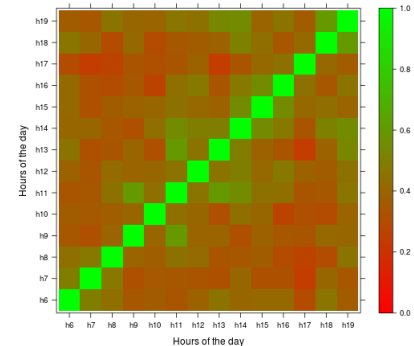
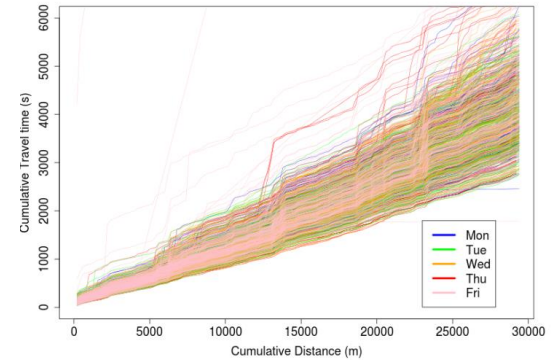
Data Collection

- ✓ 300 + GPS in MTC buses
- ✓ 32 video cameras
 - ✓ Mid-block and intersections
 - ✓ Wireless comm. to central control center
- ✓ New Sensors developed
 - ✓ Loop Detector
 - ✓ Image processing
 - ✓ Bluetooth sensor
- ✓ Existing sensors Calibrated
 - ✓ Radar, Infrared, video based



Analysis

- Pattern Analysis
- Trajectory Analysis
- Spatial and temporal
- Microscopic and Macroscopic
- Discrete and continuum
- Simulation modelling
- Statistical analysis
- Clustering analysis
- Machine learning
- Time series analysis
- Filtering techniques
- Network science analysis
- Optimization

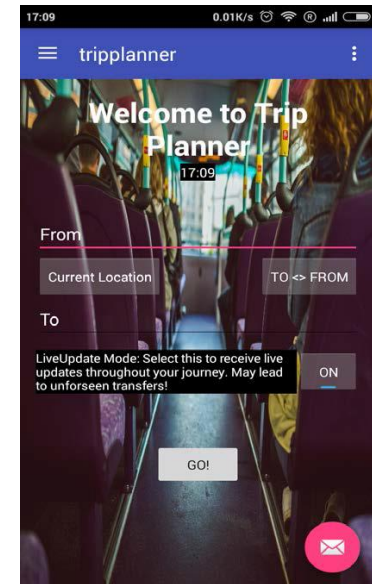
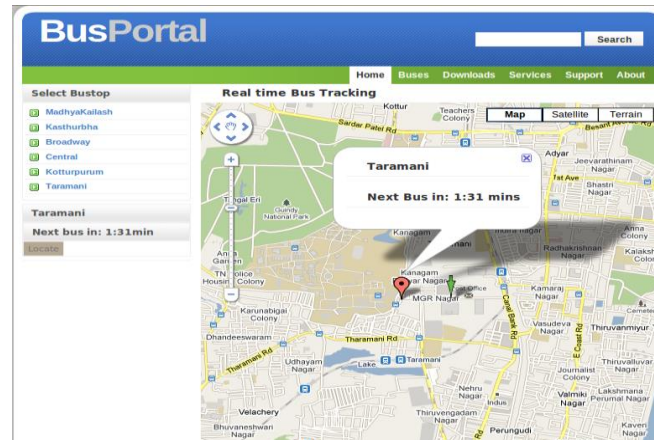


Application Development

- APTS – for bus
 - Real time bus tracking
 - Dynamic bus arrival prediction
 - Route planner
- ATIS – for all modes
 - Route guidance: diversion, route selection
 - Advisory : travel time, congestion, road condition and works, lane closure
- Urban Freight Consolidation app

Application: Advanced Public Transportation Systems

- Web based
- Display boards
- Mobile Application



Application: Advanced Traveler Information Systems

- Web based Solution
- Variable message signs (VMS)

Personal Traveler Information System
Department of Civil Engineering, IIT Madras

सि डेक CDAC

Real Time Route VMS Speed Map Traffic News Live Camera Bus Locations

5:24:33 PM

Select Origin Madhya Kailash

Select Destination Vijayanagar

Go

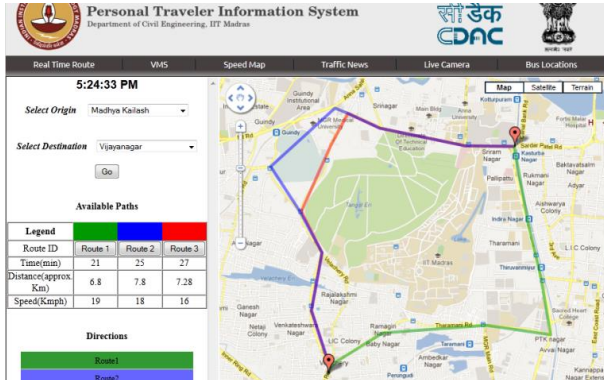
Available Paths

Legend	Route 1	Route 2	Route 3
Route ID	Route 1	Route 2	Route 3
Time(min)	21	25	27
Distance(approx. Km)	6.8	7.8	7.28
Speed(Kmph)	19	18	16

Directions

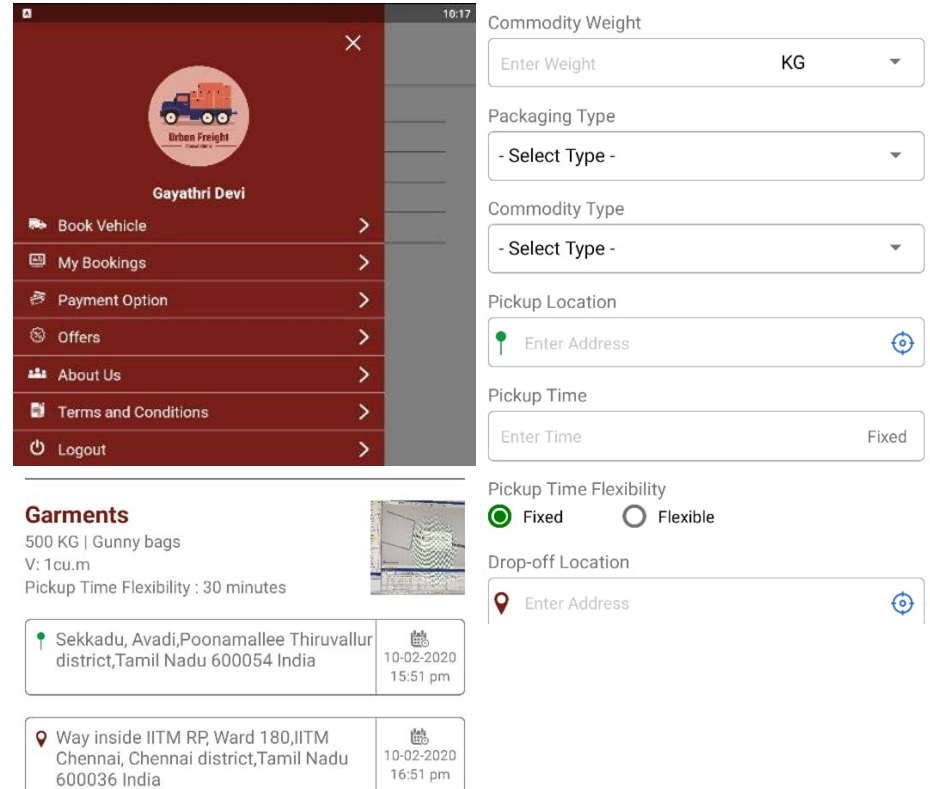
Route1

Route2



Application: Urban Freight Consolidation App

- Customer App
- Truck owner App
- Consolidation Manager App
- Admin web based application



The screenshot displays the Urban Freight Consolidation App interface. On the left is a dark red navigation menu with the following options: Book Vehicle, My Bookings, Payment Option, Offers, About Us, Terms and Conditions, and Logout. The main content area is divided into two sections. The top section is a booking form with the following fields: Commodity Weight (set to KG), Packaging Type (set to - Select Type -), Commodity Type (set to - Select Type -), Pickup Location (with a location pin icon and 'Enter Address' text), Pickup Time (with 'Enter Time' text and a 'Fixed' button), Pickup Time Flexibility (with radio buttons for 'Fixed' and 'Flexible'), and Drop-off Location (with a location pin icon and 'Enter Address' text). The bottom section is titled 'Garments' and shows a list of bookings. The first booking is for 500 KG of Gunny bags, with a volume of 1 cu.m and a pickup time flexibility of 30 minutes. The pickup location is 'Sekkadu, Avadi, Poonamallee Thiruvallur district, Tamil Nadu 600054 India' and the pickup time is '10-02-2020 15:51 pm'. The second booking is for a location 'Way inside IITM RP, Ward 180, IITM Chennai, Chennai district, Tamil Nadu 600036 India' with a pickup time of '10-02-2020 16:51 pm'.

10:17

Urban Freight Consolidation

Gayathri Devi

- Book Vehicle >
- My Bookings >
- Payment Option >
- Offers >
- About Us >
- Terms and Conditions >
- Logout >

Commodity Weight

Enter Weight KG

Packaging Type

- Select Type -

Commodity Type

- Select Type -

Pickup Location

Enter Address

Pickup Time

Enter Time Fixed

Pickup Time Flexibility

Fixed Flexible

Drop-off Location

Enter Address

Garments

500 KG | Gunny bags
V: 1 cu.m
Pickup Time Flexibility : 30 minutes

Sekkadu, Avadi, Poonamallee Thiruvallur district, Tamil Nadu 600054 India 10-02-2020 15:51 pm

Way inside IITM RP, Ward 180, IITM Chennai, Chennai district, Tamil Nadu 600036 India 10-02-2020 16:51 pm