

# Literature Review: Navigation Systems for Fastest Route

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**Abstract:** Navigation system is very Essential for every person, let it be travelling from one place to another or to find the distance between multiple locations or to get information about a place. This paper gives the review of different web based applications which are used in Mumbai for travelling by many users. This paper gives us a study of different applications used for travelling to multiple destinations via different modes of transportation i.e. Bus, Train, Taxi, Metro, etc. Each and every application have some pros and cons because the working of all the applications are different and Each and every application tries to solve a single problem.

**Keywords:** Navigation system, fastest route, Mumbai transportation system.

## INTRODUCTION

In today's life, Time and Money are very important; no one wants to waste their time and money, be it travelling on a long route, instead of a short route. or it can be giving extra money for public transportation as you were unaware of the cost of the transportation.

Google maps has been a great application the travellers as it provides the user with the route, they want to travel. The user can find the route from source to destination and even Google maps can guide those using GPS to reach their destination. Google maps help users to choose different types of transportation i.e. bus, train, car, etc.

### 1. Google Maps

Google maps is a web based navigation system developed by Google. Google maps includes broad, precise maps in 210 countries and territories. It allows the users to search for different places around the world. It also provides some information about different place which the user wants.

Google maps is used for getting locations of different city. The user can get direction for another location with respect to his own location. Google maps gives different options to the user to select their mode of transportation i.e. Bus, Train and walking.

Google maps also gives the distance and time for travelling one place to another to the user.



fig.1 Google maps image

Google maps helps the user by providing directions during driving, public transportation and walking directions for over 14,000 towns and cities. It also provides with the Live traffic conditions, incident reports, and automatic rerouting to find the best route. Google maps contains detailed information of more than 90 million places. It also provides Street View and Satellite view.

Google maps allows the user to find their locations on maps by GPS. It also allows the user to customize the own map by signing in. The user has the option to view maps even if he is offline.

The major disadvantage of Google maps is that when the user wants to travel multiple destination then Google maps provides directions as per the locations entered by the user but it does not provide the optimized route for these multiple destinations.

### 2.M-Indicator

M-Indicator is one of the most widely used urban transportation mobile application in Mumbai. M-Indicator covers all the major public transport details of the city of Mumbai.



fig.2 Screenshot of M-Indicator app

The Mumbai Local timetable includes the Central, Western, Virar-Dahanu Shuttle, Diva-Roha, Neral-Matheran, Mono, Metro Schedules along with their starting train platform no. at every stations. In addition it provides the fare of travelling different locations. It also

provides the offline Mail and Express trains timings and halts. The Auto fare and Taxi fare with respect to the distance travelled is also provided by M-Indicator.

The Application also provides information the railway jumbo blocks on Sunday. It also provides Emergency Telephone Numbers for Hospitals, Ambulances, Blood Banks, Air Lines, Railways, Electricity Issue, Roadway Enquiries, Tourist Enquiries, Important Medical Messages.

M-indicator also provides unique women safety app. It sends Automatic alert SMS to the police and also to 2 members of the family along with the location.

The application is available in all major platforms like Android, iOS, Windows, Blackberry OS as well as JAVA. The major disadvantage of M-Indicator is that it only mentions the name of the bus stop and not its location on the map, which makes it difficult for first time travellers and persons not familiar with the city.

### 3.Route4Me route planner

We are familiar with the Google maps routing system where one have to enter destination in sequence and the routing system will provide the route as per sequence you have provided. In Route4Me route planner you visit the destination as per the sequence, you requested.

However if more than 10 destinations are entered we could travel the town in such a way that most of the nearby places which are close enough in distance but away from the given ordered sequence. But this app has helped overcome this problem. It re-sequences the stops on your route so that you visit them without zigzagging all over town. Such optimization is necessary because it is very difficult for a person to visualize and sequence the order in which addresses should be visited, especially when there are multiple addresses in an unfamiliar part of town. Thus we are using these features in our app to get optimal sequence as well as optimal path for routing.



fig.3 Route4Me Route planner

Some of the Important Features of Route4Me is that it provides automatic Route scheduling and Easy Address Importing and Selection.

### 4.RIDL R

Ridlr is a Public Transportation App which can be used by the users for transportation purpose. The Ridlr app works in many cities of India. The user can use the app to locate nearby bus stops, metro stations and railway stations. The user can previously plan his travel by entering the source and destination.



fig.4 Screenshot of Ridlr App

Ridlr app provides the allows the user to recharge their Mumbai Metro smart card with few steps. It also provides the Timetable, Route of Local train and Metro train. The user gets the route and schedule of the different bus services available inn Mumbai i.e. BEST bus, NMMT bus and TMT bus. Along with timetable, it also provides the facility of Recharging the Best Bus Pass Online, Book NMMT Bus ticket online by selecting the NMMT bus number and the number of passengers that will be boarding the bus. Ridlr also provides the Real Time Traffic status to the users, so that the user can plan out the best route to reach the destination. It also provides the best parking information to the user, and because of this the time and money of the user can be saved.

### CONCLUSION

This Survey paper gives us a brief idea about the various applications which are available for transportation in Mumbai. We can see that one needs to use not one but many applications to get all the desired information. The applications are too mostly mobile based and they cannot be accessed using web browser. All the applications have some or the other drawbacks as well. so there is need of a single applications which includes all the features that the user needs to make his travelling Easier.

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### REFERENCES

- [1] "<https://www.google.co.in/maps>"
- [2]"<http://www.m-indicator.mobond.com/>"
- [3]"<http://www.theindiangEEK.com/2011/02/app-review-m-indicator-for-android.html>"
- [4] "<http://www.ridlr.in>"
- [5]"<http://www.medianama.com/2015/04/223-trafficlines-ridlr-app-looks-to-answer-questions-on-traffic-before-you-step-out/>"
- [6] "<https://www.route4me.com>"