



Project Handout
Summer Internship Program- 2014

Directorate of Urban Land Transport | Urban Development Department
Bangalore | Karnataka



Introduction

Directorate of Urban Land Transport (DULT) has been set up by the Government of Karnataka under the Urban Development Department with objective to coordinate planning and implementation of Urban Transport projects and programs. The Directorate is in general responsible for overseeing all the urban land transport initiatives in Urban/ Local Planning Areas of Karnataka.

Since its inception, the Directorate has implemented many initiatives including service level benchmarking in Bangalore; preparation of policies on parking; preparation of mobility plans for cities in Karnataka; feasibility studies for mass transit systems etc. It is also working in tandem with BBMP, the city corporation of Bangalore and other city corporations on NMT initiatives. The Directorate is also spearheading the implementation of Bus rapid Transit system between the twin cities of Hubli and Dharwad.

The Directorate has grown from its humble beginnings and has now set its sights on fresh challenges. It provides a rare opportunity for technical personnel, urban and transport planners etc to work on urban transport challenges by being a part of a government organization.

In respect to that every year DULT provides opportunity for 2 months paid internship at its headquarter in Bangalore to Masters as well to Bachelors students from all over the country. The 2 months internship program is in tandem with the colleges/ university curriculum and usually the period is for May- July every year. In continuation to that, internship for the year 2014 is starting from 1st week of May and this document intends to provide the insights of the selected projects to the interns. . The document also looks into the desired deliverables expected from each intern.

Students may have to travel to project locations for case study, site visit, data collection, and/ or for meeting with different authorities or stakeholders. In some case students may be stationed at project locations for whole period, depending on the complexity of the project and its proximity to Bangalore.

It would be important for the student to have done some background reading before entering the internship program. Since it is a 8-week internship program, the project has been compacted in such a way that there is maximum value-add to the student in this short period. Being a graduate degree internship, some amount of independence of thought and work decisions, work ethics, and dedication is expected from the student for utmost impact and learning.

Students joining DULT for internship program has to fulfil the below stated administrative requirements:

- It is mandatory for all the students to register themselves with the Administrative office for administration purpose, while entering into Internship program.
- It is mandatory for the students to inform their respective mentor while going out of the office during office hours for official or personal reasons.
- Attendance on all days is mandatory. Leave, if any shall be granted with prior approval from the mentor.
- Time- in and Time- out shall be logged/ report on all days to the mentor (typical timings are from 10:00 AM to 5:30 PM, with 45 min lunch break.
- It is appreciated if personal laptops could be brought to work.

Jayanagar Cycle Track	
Project Location	Jayanagar, Bangalore
Introduction	
<p>Jayanagar Bicycle Friendly Streets (BFS) project was taken up as a part of its sustainable transportation initiatives in 2010. The Jayanagar BFS project (Phase I) was based on the proposal of “Safe Routes to Schools” and was inaugurated in September 2012. To sensitize citizens of Bangalore and create a critical mass to respect the space for cyclists and pedestrians, Cycle Day campaign was started in October 2013, as a part of which, the campaign was held in the neighbourhood of Jayanagar for the months from December 2013 to February 2014. In continuation to the Jaynagar BFS project, DULT is now looking at activating major stretches of the network by effectively enforcing these tracks as well as improving the pedestrian & NMT infrastructure on these stretches.</p>	
Project Brief	
<ul style="list-style-type: none"> • Identification of parking lanes specifically for cycles to place the cycle stands. • Bicycle Network Maps & Signages and identifications of locations to install this. <ul style="list-style-type: none"> ○ Creating a cycling network map for the neighbourhood ○ Identify location to install this maps in the study area • Details of the Treatment of the Cycle Tracks <ul style="list-style-type: none"> ○ Painting them with a different color/ Using different material for the tracks (Depending on cost analysis)/ Better markings on the tracks ○ Segregation of the tracks • Redesigning pedestrian infrastructure (following the Guidelines for planning and implementation of Pedestrian Infrastructure). • Alternate parking analysis on the stretches for improvement <ul style="list-style-type: none"> ○ Identify the Parking needs and overall parking demand. ○ Parking Action Plan (PAP) to be drafted for the Mariyappa Road, which includes installing of parking meters (this should include an amendment to the bye-laws where a commercial development on this stretch should provide their own parking inside) ○ Identification of alternate parking lots (Eg.- Parking lot of Kalyan Mantaps etc.) 	
Tentative Work plan- Below is the broad level of activities planned for a 10- week period to achieve the above objective.	
Week 1/ 2: Site Visit, Data Collection and Surveys	
Week 3: Data analysis	
Week 4/ 5/ 6: Design development of the chosen stretches (Use AutoCAD, SketchUP), along with recommendations to	

maintain and enforce.	
Week 7/ 8: Development of a report of Urban Design concept and plan for the selected stretches and plans for execution of the design and policy recommendations for awareness of necessity of cycle tracks and maintenance of these tracks.	
Week 9/ 10: Final Design, Report and presentation at DULT and possibly to the MLA.	
Project Duration	10 weeks
Concerned Authorities	DULT, BBMP, & BTP, Task Force, Traffic Police
Related Documents	NUTP, Bicycle Friendly Streets for Jayanagar
Mentor	Ritumoni Sonowal, Sheeba Shetty & Sonal Kulkarni
Deliverables	<ul style="list-style-type: none"> • At the end of each week, a summary report of the task assigned should be submitted to the mentor (by end- of- day every Saturday) • Design drawings in AutoCad • Sketchup renderings, Morphed renderings (on Photoshop) • A final report and a presentation will be due by 10th week.

Urban Freight Policy	
Project Location	Karnataka
Introduction	
<p>In socio-economic development, transportation being an integral part of the production and marketing chain is an indispensable input in the pre-harvest and post-harvest operations. The complex functions of this chain start from carrying various inputs such as agriculture, mechanical equipments, labourers chemicals, natural ore etc from the source of supply to appropriate place.</p> <p>To reach to the ultimate consumption place the logistic hub plays a vital role in supply chain management. Due to growth in market, the demand for logistic hub and regional warehouses is high, but as this truck terminals and warehouses works in traditional way, it is becoming more and more difficult for them to cope with the pace of rapid growth and industrialization.</p> <p>This called for the urgent need of State- of- Art terminals with modern facilities for faster turnaround to increase the overall efficiency of terminals and warehouses. Well a lack in policy support is visible as how to set up these hubs in and around urban scenario. The intent of this project is to develop policy mandate for setting up the State- of- Art terminals and hubs specifically in urban areas.</p>	
Project Brief	
<p>Transportation plays a key role for the socio-economic development of a city. The economic growth is largely influenced by the efficiency of transportation system as most economic activities are possible only if good transportation system is available for them so. In socio-economic development, transportation being an integral part of the production and marketing chain is an indispensable input in the pre-harvest and post-harvest operations. The complex functions of this chain start from carrying various inputs such as agriculture, mechanical equipments, labourers chemicals, natural ore etc from the source of supply to appropriate place.</p> <p>To reach to the ultimate consumption place the logistic hub plays a vital role in supply chain management. Due to growth in market, the demand for logistic hub and regional warehouses is high. The traditional truck terminals and warehouses are not sufficient to handle the modern type of vehicle, packaging etc. hence it required a guidelines and policy documents which will help to developed ultra modern logistic hub.</p> <p>The traditional truck terminals and warehouses are not sufficient to handle the modern type of vehicle, packaging etc. hence there is a need of State- of- Art terminals with modern facilities for faster turnaround to increase the overall efficiency of terminals and warehouses. Well a lack in policy support is visible as how to set up these hubs in and around urban scenario. The intent of this project is to develop policy mandate for setting up the State- of- Art terminals and hubs specifically in urban areas.</p> <p>This policy mandate will help to understand the basic requirements, facilities within, structure and overall functioning</p>	

of the logistic hub. This mandate will also provide multi option for selecting best business model for development of logistic hub.	
Tentative Work plan- Below is the broad level of activities planned for a 10- week period to achieve the above objective.	
<ul style="list-style-type: none"> • Week 1/ 2: Literature Review (national and international) • Week 3: Listing out primary information required from different source, • Week 4: Development of survey format, assessing the need for secondary data collection • Week 5/ 6: Data analysis, development of report • Week 7/ 8: Preparation of draft report (incorporating any comments or suggestions from DULT reviews. • Week 9/ 10: Finalisation of the report and presentation. 	
Project Duration	10 weeks
Concerned Authorities	Commercial Tax office, Regional Transport Office, Toll Plaza and other concerned agencies, Devraj Urs Truck Terminal
Related Documents	CMP, Master Plan, CTPP, National Building Code, Industrial Policy, and other related documents
Mentor	Abhishek Ranjan Prasad & Madhu Singh
Deliverables	<ul style="list-style-type: none"> • At the end of each week, a summary report of the task assigned should be submitted to the mentor (by end- of- day every Saturday) • By end of 9th week a draft report including recommendation on the issues along the identified corridor along with the presentation should be submitted. • A final report and a presentation will be due by 10th week.

Junction Design	
Project Location	Outer Ring Road (ORR), Bangalore
Introduction	
<p>Outer Ring Road is a road that runs around most of the perimeter of Bangalore for a length of 62 Km. Out of this, a corridor (Between Jayadeva to Central Silk Board junction) of 2.8 km had been selected for the Traffic management study. The main aim of the study was to identify the issues causing congestion, increased travel time and suggesting suitable interventions to relieve the same. As a part of the study, two of the junctions were identified as unscientifically designed and demanded a requirement of immediate interventions.</p>	
Project Brief	
<p>Junctions are a critical component of a roadway network, where multiple roads meet. Junctions provide an opportunity for road users to change their direction of movement and are usually a conflict point in road network. Hence junctions should be carefully designed if an overall improvement in the operation of road network is desired.</p> <p>The ORR stretch between Jayadeva and Silk board is considered as a congested corridor. The corridor connects important employment and residential areas of Bangalore. The corridor itself has a predominant commercial-cum-office land use. All these factors keep corridor active throughout the day and the condition worsens during peak hour. During peak hour junctions face traffic jams and queue back up which rarely gets clear. A study done by DULT has identified that there is a need to re-design the junctions of the corridor to accommodate the present as well as future traffic demand. The earlier remedies for such traffic snarls at junctions, namely, traffic signal and traffic round-about seem insufficient in handling the multi-fold increase in vehicle density.</p> <p>This calls for a new approach to designing of junctions, keeping in view the needs of all users of a junction—vehicles, non-motorized vehicles (NMVs) and pedestrians. The aim of this study is to analyze and redesign two of the intersections namely 16th Main/Tavarekere and 29th Main falling on the corridor as to decrease the probability of accidents, and one that meets the current needs and future demands of the city.</p>	
Tentative Work Plan- Below is the broad level of activities planned for a 10-week period to achieve the above objective.	
<p>Week 1: Review of junction design – IRC, DULT Guidelines, literature study</p> <p>Week 2/ 3: Site visit to project location – reconnaissance survey of junctions, traffic operations, meetings with concerned agencies, identify data collection needs</p> <p>Week 4: Developing project execution plan</p> <ul style="list-style-type: none"> • Data collection plan – identify data source • Final report structure <p>Week 5/ 6: Data collection activity</p> <p>Weeks 7/ 8: Data analysis and development of recommendation</p>	

Week 9/ 10: Preparation of report and analysis (incorporating any comments or suggestions from DULT reviews)	
Project Duration	10 weeks
Concerned Authorities	BBMP, Traffic Police,
Related Documents	CTTPs, CMPs, Other related reports.
Mentor	Madhu Singh & Sreelakshmi
Deliverables	<ul style="list-style-type: none">• At the end of each week, a summary report of the task assigned should be submitted to the mentor (by end-of-day every Saturday)• By end of 7th week a draft report including recommendation on suitable intersection design, detailing different components of design should be submitted.• A final report and a presentation will due by 8th week

Pedestrianisation of Madivala Market	
Project Location	Madivala, Bangalore
Introduction	
<p>Madivala Market is a one of the oldest and famous markets and a well known landmark in South Bangalore (BTM Layout, Koramangala, HSR Layout, Bommanahalli) known for selling fresh vegetables and fruits. Madivala Market Road Connects Koramangala and Sarjapur Road with Hosur Road. The Madivala Market Road is filled with vendors selling all kinds of items like jewellery, clothes, footwear, flowers, fruits, vegetables, fish etc. The street gets packed up with people, especially at early mornings and during weekends.</p>	
Project Brief	
<p>Madivala, which used to be a village, still has vestiges of the past the bustling lanes, dusty roads, vegetable markets and open drains. All these were changed in recent years with the connectivity, with Hosur Road which is cutting across Madivala. It's also part of the IT boom, with software majors situated along Hosur Road.</p> <p>Madivala market road is now a well-known landmark in South Bangalore (BTM Layout, Koramangala, HSR Layout, Bommanahalli) known for its vegetable market. Madivala market road connects Koramangala and Sarjapur road with Hosur road. There are myriads of fruit and vegetable vendors on the 2 service (side) roads, some with their carts and the others under colorful awnings stretched in place by ropes tethered to the trees lining the path. Due to high inflow of pedestrians in Madivala market road all through the day, pedestrian conflicts with vehicles are a frequent sight and at times even the approach roads to the market is usually blocked.</p> <p>It was felt that, the stretch of Madivala market Road to be pedestrianized for the safety of pedestrians and to facilitate for a delightful shopping experience.</p> <p>The aim of this study is to check the feasibility of Pedestrianizing Madivala Market and to suggest measures which will facilitate a comfortable shopping experience to shoppers by the provision of better facilities, while preserving the vibrancy of the area.</p>	
Tentative Work Plan- Below is the broad level of activities planned for a 10-week period to achieve the above objective.	
Week1: Site visit to project location – reconnaissance survey of study area, junctions and traffic operations,	
Week2/ 3: Data Collection, Surveys and Data Analysis	
Week 3/ 4/ 5: Preparation of Traffic Circulation Plans and Junction Improvements	
Week 6/ 7: Development of Pedestrianization Proposals	
Week 8/ 9: Preparation and submission of Draft report with presentation	
Week 10: Submission of final report and presentation (incorporating any comments or suggestion from DULT reviews).	
Project Duration	10 weeks

Concerned Authorities	BBMP
Related Documents	Master plan 2011
Mentor	Shruti Srinivas
Deliverables	<ul style="list-style-type: none">• At the end of each week, a summary report of the task assigned should be submitted to the mentor (by end-of-day every Saturday)• By end of 9th week a draft report including conceptual plan, drawing detailing different components of design should be submitted.• A final report and a presentation will due by 10th week.

Comprehensive Mobility Plans (CMP) for tier II and tier III towns across Karnataka	
Project Location	Maddur, Nagamangala, Malavalli, Srirangapatna
Introduction	
<p>Comprehensive Mobility Plan is a Strategy document that defines Mobility Vision of the City which is in synchronization with the City Development Plan and details out strategies and actions for achieving the objectives for enhancing mobility of the people.</p>	
Project Brief	
<p>Recent rapid urban development in India has resulted in transport problems, such as traffic congestion and an increase in traffic accidents. Although the national and state governments have made substantial efforts to improve urban transport, problems have been exacerbated by the rapidly increasing number of private vehicles. Existing local government capacity for urban transport planning is still insufficient. Specifically, the following problems are noted:</p> <ul style="list-style-type: none"> • Although many proposals have been submitted by local bodies for the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) fund to implement various urban transport projects, including Mass Rail Transit (MRT), Bus Rapid Transit (BRT), flyovers, roads etc., some proposals contained inadequate information and incomplete analyses, therefore the justifications drawn from them for project implementation were not always acceptable. • One of the main planning issues is that most cities do not have a long-term comprehensive urban transport strategy. Accordingly the proposals for specific projects are often not integrated with other urban transport measures or with land use patterns. • Some cities have prepared urban transport master plans by conducting Comprehensive Transport and Traffic Studies. However, these studies mainly focused on vehicle movements and did not pay enough attention to the mobility of people and goods. <p>It is important to prepare strategic plans focused on mobility of people as a basis for developing cost-effective and equitable urban transport measures with an appropriate and consistent methodology, in line with the National Urban Transport Policy (NUTP).</p>	
<p>Tentative Work Plan- Below is the broad level of activities planned for a 10-week period to achieve the above objective.</p>	
<p>Week 1: Literature Review and preparation of Framework</p> <p>Week 2: Site Visit and Collection of Secondary data</p> <p>Week 3: Kick off presentation along with Inception Report</p> <p>Week 4/ 5/ 6: Data Collection, Analysis & Preparation of Short term plan for better mobility of the city.</p> <p>Week 7/ 8: Preparation and submission of Draft report with presentation</p> <p>Week 9/ 10: Submission of final report and presentation (incorporating any comments from DULT reviews).</p>	

Project Duration	10 weeks
Concerned Authorities	ULBs (Council, Panchayath etc.) NGO's, support group etc.)
Related Documents	Master plan 2011, AutoCad, GIS, Landuse, Mobility Plans (if any), CDPs (if any), UIDSSMT Plans (if any), Any other data
Mentor	Respective Team Leaders
Deliverables	<ul style="list-style-type: none"> • At the end of each week, a summary report of the task assigned should be submitted to the mentor (by end-of-day every Saturday) • By end of 7th week a draft report including conceptual plan, drawing & suitable map showing park connectors in Autocad format, detailing different components of design should be submitted. • A final report and a presentation will due by 8th week.

Accessibility Study- Hubli Dharwad BRTS Corridor	
Project Location	Hubli- Dharwad
Introduction	
<p>To ease the growing traffic between Hubli and Dharwad, the Government of Karnataka, through the Karnataka Road Development Corporation Limited has taken up the widening of the existing two-lane state highway to a divided four-lane carriageway. To provide better transportation facilities between the two urban areas of Hubli and Dharwad, and with an objective to improve travel speeds, reliability, and quality of public transport services, a Bus Rapid Transit (BRT) facility is proposed along the corridor. The project road starts from Hubli CBT to Dharwad CBT for a length of about 23km.</p>	
Project Brief	
<p>Census socio-economic surveys were conducted along the proposed project stretch, for a right of way between 35m and 45m keeping in view the design requirements. According to the census survey, 876 properties will be affected with 1351 PAPs. Of the total project affected structures / land, major impact is on 237. The project will impact 8 community assets.</p> <p>Land acquisition for the project is estimated at 59.51 acres of private land which needs to be acquired and 13.55 acres of government land which has to be transferred from other Government Departments.</p> <p>The access study aims to restore the access of the adjacent properties to the proposed HDBRTS Corridor. This will involve intensive site study and analysis to formulate suitable proposals and recommendations.</p>	
<p>Tentative Work Plan- Below is the broad level of activities planned for a 10-week period to achieve the above objective.</p> <p>Week 1: Orientation</p> <p>Week 2: Data Collection, Surveys</p> <p>Week 3/ 4: Data Analysis</p> <p>Week 5/ 6: Impact assessment study and issue identification</p> <p>Week 7/ 8: Possible solutions and recommendations</p> <p>Week 9/ 10: Submission of final proposal report on accessibility (incorporating any comments or suggestion from DULT reviews).</p>	
Project Duration	10 weeks
Concerned Authorities	DULT
Related Documents	Master plan, JMC survey maps, Corridor design
Mentor	Sheeba Shetty and Priyadarshini S Honnur

Deliverables	<ul style="list-style-type: none">• At the end of each week, a summary report of the task assigned should be submitted to the mentor (by end-of-day every Saturday)• By end of 9th week a draft report including conceptual plan, drawing detailing different components of design should be submitted.• A final report and a presentation will due by 10th week.
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