



A  
FOUNDATION Workshop  
For Final Year Civil Engineers

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21st June 2013 – 28th June 2013



Organized By

**L.J. Centre Of Excellence**

LJ Campus, Between Kataria Motor and Sanand-Sarkhej Circle,  
S. G. Highway, Ahmedabad-382210

## **INTRODUCTION**

### **L.J. Institute of Engineering and Technology**

L.J. Institute of Engineering & Technology started its journey from September 2007 and is rapidly growing with the crystal clear vision of the founder president Prof. B. M. Peerzada and under the dynamic leadership of Vice-president Dr. Manishbhai Shah.

The institute imparts education in the disciplines of Electronics & Communication Engineering, Computer Engineering, Information Technology, Civil Engineering, Mechanical Engineering and Automobile Engineering both UG level and PG level (Electronics & Communication, Computer Engineering & Mechanical Engineering) approved by AICTE and affiliated to Gujarat Technological University.

L.J. Institute of Engineering & Technology is committed to impart quality technical education with practical knowledge and skills as well as to imbibe the sense of discipline, values, creativity and innovation among the students along with their regular teaching-learning process through committed and experienced faculties. The students are also encouraged to take part in sports, cultural and technical events to enhance their capabilities and potential. Thus the institute fulfills its aim of not only to produce competent practical engineers but also worthy citizens of this great country.

### **Centre Of Excellence**

Centre Of Excellence was founded on 22<sup>nd</sup> March, 2012 with the aim of developing a hub for engineering students to develop their technical skills, performance and to bring innovation in the field of engineering along with their way of thinking. Like a seed, it started with little idea to excel & is now covering all the branches with innovative practicals and ideas.

## Workshop Objectives:-

“Foundation-Make it solid one” a seven day workshop was organized by zealous students of civil engineering under L.J. – Centre Of Excellence. Organizing team played a great role in managing; and consisted of an impressive mix of stakeholders, policymakers, and experts in the field.

For students it was an opportunity to learn about many unknown and practical aspects of civil engineering from those who have been working & delivering their best in their careers. The chief objective of the workshop was to build practical knowledge and thereby take the first step in building their career.

The workshop was designed for skill development and gathering knowledge on multi-dimensional issues related to civil engineering for improving practical or field knowledge.

## Team Foundation:-

- Devesh Patel
- Shalin Parikh
- Achal Joshi
- Dipanshu Patel
- Jaymeen Patel
- Deep Parikh
- Yash Bhavsar
- Ashutosh Patel



## SPECIAL THANKS

We are very thankful to Dr. Manish Shah, VP-LJK Trust for their support and motivation to organize this workshop, Director LJIET and all the faculties from Civil Dept. and participants for making this workshop successful. We also express our sincere thanks to all the experts for spending their valuable time with us.

-Team Foundation

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## Inaugural Session

**Event Date & Time – 21<sup>st</sup> June, 2013 (Friday) from 9:30 onwards**

**Venue – LJMCA Seminar Hall, LJ Campus**

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The inauguration of the workshop was done officially by lighting lamps by distinguished guest and speaker of the first session Ar. Bimmal Gajjar and faculties of Civil Engineering Department. Simultaneously a devotional environment was created by chanting prayer by participants.



Mr. Chinmay Shah gave a welcome address to participants and briefed them about mission of L.J. Institutes to become a beacon in the field of education. He said that Centre Of Excellence which is managed by students is growing rapidly in the direction of developing technical skills of students by organizing workshops, panel discussions and live projects.

He also thanked Ar. Bimmal Gajjar to have set aside his time for LJ-COE and students for their active in spite of vacation.

## Session 1: Architecture & Vastu Planning

**Expert – Ar. Bimmal Gajjar – Founder, Space Infrastructure**

**Event Date & Time – 21<sup>st</sup> June, 2013 (Friday) from 10:00 onwards**

**Venue – LJ MCA Seminar Hall, LJ Campus**

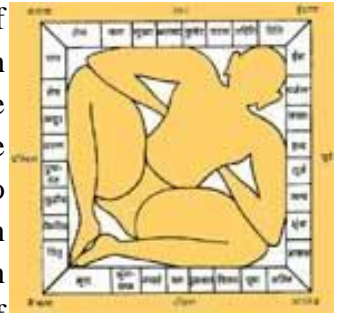
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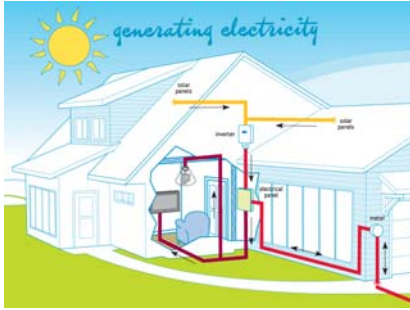


India owes its origin to the traditional science of Vastu Shastra found abundantly reflected in the architectural and sculptural expressions of temples, forts, palaces, town and city layout of ancient India. Today it is re-emerging spectacularly and the benefits of this spiritual science is availed throughout the world, by its application in the design and construction of buildings. Thus it shows the importance of this session in the Workshop.

First Session begins with offering a fresh flower bouquet from Ms. Mili Sankhala, (I/C) HOD-Civil Department to Ar. Bimmal Gajjar, Founder Space Infrastructure.

Ar. Bimmal Gajjar begins his lecture sharing an ancient story of origin of Vastu Purusha. He also shared the importance of each direction in detail with examples. He also briefed students about the relation of ‘aura of a person’ and vastu planning. He concluded the Vastu part by answering the questions of young planners related to Vastu Dosh, Vastu in large buildings and offices, difference between Vastu & Fengshui and Egypt Pyramids, etc. In reply to a question from a participant named Dipanshu, he explained all the aspects of Vastu with a plan of Dipanshu’s house.





In second part of Modern Architecture, Ar. Bimbal Gajjar explained the current trends in market. He also gave list of softwares named AutoCAD, Revit, ArchiCAD, 3D Max, Sketchup and 3D Home which are used in market for making architectural designs. He also explained the construction procedure to be carried out by the engineers. He shared prevailing concept of Green Buildings and new concept of Net Zero

Buildings. Concluding second part comes with lots of questions from young architects about new designs and market trends and the current challenges faced by the market.

First Session of the Workshop was concluded by presenting a memento of gratitude by Mr. Nitin Mehta, Asst. Prof.-Civil Department to expert Ar. Bimbal Gajjar.



**Interview by Achal Joshi:-** In his interview he said that the interaction with students was great. He also gave suggestions regarding the workshop saying that it should be conducted every 3 months to achieve knowledge in particular session.

## Session 2: Concrete Cube Casting

**Mentor – Ms. Rutu Nanavati – Asst. Prof. Civil Dept.**

**Event Date & Time – 21<sup>st</sup> June, 2013 (Friday) from 13:00 onwards**

**Venue – Civil Lab, LJIET**

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Objective of this session was to create awareness among all civil engineering students about concrete technology particularly in concrete design. 10 Groups consisting of 5 students each were asked to design cubes having strength not less than 20 MPa within a curing period of 28 days of standard size 150×150×150 mm.

All the students worked enthusiastically with materials like cement, sand, aggregates and water to make concrete cubes using instruments like different size of sieves, thapi, moulds, etc. Moulds were greased using oil and concrete was poured and smooth surface on top was created by thapi. These moulds were left in dry air for next 24 hours and then underwater for next 28 days.





### Session 3: AMC Norms and Guidelines

**Expert – Mr. Rambhai M. Patel – Asst. TDO (NWZ), AMC**

**Event Date – 22<sup>nd</sup> June, 2013 (Saturday)**

**Venue – LJ Seminar hall, LJ Campus**

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Is it possible to construct a building anywhere and in whatever size and to sell it at any price? Imagine the situation if this condition prevailed in our city-Ahmedabad. Ahmedabad Municipal Corporation (AMC) is a guiding and controlling authority to regulate development by providing norms and guidelines, TP schemes, etc. Being a civil engineer it is of utmost important to understand local norms, guidelines, government acts and plan passing procedure. Thus this session shows its importance in the Workshop.

Our guest Mr. Rambhai M. Patel has 30 years of experience, in AMC and is the best person to guide us in the field of AMC regulations. Mr. Nitin Mehta – Asst. Prof. Civil Dep. welcomed Mr. Rambhai with fresh flower bouquet on behalf of organizers, students and the institute.

Mr. Rambhai began the lecture by explaining Town Planning Scheme (TPS) in detail. He said that Gujarat is the first state to draft TP scheme act called GTP Act. He explained how agricultural land is transferred to final plots (FP) in TPS with the help of maps. He also explained two types of land acquisition in detail – land acquisition with or without tear i.e. land acquisition according to TPS and normal land acquisition. He also showed the difference between FP and plot before TPS. He briefed students about how authority develops the infrastructure in TPS. He said that 35% of land is acquired by authority to develop roads, gardens, community centres and other infrastructure facilities and remaining 65% is returned back to land owners. He mentioned that AUDA is the major authority for drafting TPS for Ahmedabad city.



BPMC Act which includes construction regulations was also explained by the expert. GDR – General Development Regulations which controls margin, room size, parking area, common plot size, height, FSI, etc. were explained with examples. Also difference between built-up area and super built-up area was stated. He also explained plan passing procedure and fees charged by the authority like betterment charge, BU fees, skewed price for basement, water usage fees, tree plantation fees, etc. Mr. Rambhai also explained the revenue act and jantri. He explained how these rates are revised and what are the uses of these jantri. Students understood that jantri is the minimum price fixed by the government for land dealing.



Mr. Rambhai explained the different roles played by B.E. Civil Engineers in the industry, starting from Developer, Project Manager, Labour Contractor, Material Contractor, Valuer, Architect and Planner. Though all of the above roles are played by B.E. Civil engineers, all of them need different talent which students need to possess. He also briefed participants about jobs in public and private sector.

He concluded the session by briefing participants about new development plan 2021 and answering all the queries of participants. Third session of the workshop came to an end with the presentation of the memento by Team Foundation.

### **Interview by Jaymeen Patel**

In his interview Mr. Rambhai Patel described his experience with LJ-COE as fruitful and said he was happy to be a part of Foundation Workshop. He was amazed to know that students are providing a platform for their friends and juniors to interact with industry. He called for a Centre Of Excellence for every college.

## **Session 4: Case study of LJ Campus**

**Expert – Mr. Himanshu Thakkar – Dep. Town Planner, AUDA**

**Event Date – 24<sup>st</sup> June, 2013 (Monday)**

**Venue – LJ Seminar hall, LJ Campus**

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LJ campus is intricately designed in such a manner that it satisfies all Vastu principles and also different norms setup by AMC and AICTE. Also there was live construction of Architecture building taking place in the campus itself. So what can be the best suitable example to study the planning tactics and its live implementation? Keeping in mind these points two sessions were organized at FOUNDATION Workshop.

The session begins with prayer, and then offering a fresh flower bouquet from Ms. Mili Sankhala-HOD (I/C) Civil Dept. to Mr. Himanshu Thakkar. Distinguished guest of the day is has great experience in planning and architecture and also serves as Deputy town planner in AUDA.

Mr. Himanshu Thakkar initially discussed the brief history of LJ Group of Institutes and Lok Jagruti Kendra's vision of becoming the beacon in the field of education. He then vividly discussed land clearance and land use planning. Different buildings of the campus were so designed that there is easy flow of air throughout the building and thus proper ventilation is maintained. The orientation of buildings in campus were made in such a way that maximum utilization of solar energy can be made and natural light prevails in classrooms thereby increasing energy efficiency of the building. He also shared his experience and challenges faced during the modification and development of other existing buildings of campus. Further in the end of first session he discussed design and planning of the Architecture building which is being constructed live. Session was concluded there and Mr. Himanshu Thakkar was presented a memento of gratitude by the organizing team.

In next session students got opportunity to visit the live construction of Architecture building taking place at the campus itself. There Mr. Himanshu Thakkar was accompanied by site civil engineer of LJ campus Er. Hiten Patel. The duo helped students to understand the different structural members and their setting up. In particular, design and construction challenges faced in building the auditorium were discussed in detail.

Students were given Helmets and were asked to wear shoes to fulfil safety norms. It was in short a great experience for the young engineers.

## Session 5: Construction Technology – Case Study of West Gate

**Event Date – 25<sup>st</sup> June, 2013 (Tuesday)**

**Venue – West Gate, Near YMCA club, SG highway**

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Indian building and construction technology is not given much recognition .But with changing time and also due to the need of constructing higher building, a great revolution has been seen in the field of building and construction. Keeping in view these aspects a session on “Construction Technology” was arranged.

A special site visit was arranged at Westgate – A project by Aditya Construction, located on the SG highway. This site is endowed with greater FSI and will be having 70 meter height and around 22 storeys (Considered to be of maximum height in Ahmadabad).

Special care was taken regarding safety at the site students were asked to wear shoes and were also gifted **helmets** by the organizers of workshop.

Total site construction is undertaken by a construction company named “HI- Tech”. And the entire site construction is also supervised by HI-Tech’s civil engineers. Students were accompanied by company’s civil engineer and HI-Tech’s project manager Er. Viral Shah and his team during the site visit.



Initially the students were taken to see **in-situ RMC (ready mix concreting) plant**, where they were taught the operating and function of plant. According to the information given by plant manager Mr. Manish Bhatt the plant had a total loading capacity of 25 tones with 160 BHP engine and had maximum concrete production capacity of 18m<sup>3</sup>. The concrete used was made of fly ash so as to reduce carbon emission.

Further students were taken to **Steel yard** where steel cages or reinforcement cages were framed and tied by the workers. Students were taught how to read structural maps and design the steel reinforcement cages accordingly.

Students were shown how placement of concrete and other materials was done at site with the help of Tower Crane. The setting up and operation of **Tower Crane** was briefed to the students.

They were also briefed with the **Labour management** technique adopted by the HI-Tech and how the basic infrastructure was designed to fulfil their needs was discussed. He also made students familiar with different norms setup by government for the labour safety.

Er. Viral Shah also discussed the **construction project management** techniques and other strategies which were used at site. He shared that how he has set targets for accomplishing the construction of whole 22 storey structure in just 18 months.

Further more **Foundation details** and its set up were discussed and live casting of column foundation was shown to students. Mr. Viral Shah also informed that “Raft foundation” was adapted at The Westgate to increase load carrying capacity of the structure. He also shared few pictures of live construction of Raft. **Ice Concreting** was done in Raft as it was very large and the atmospheric temperature was also high so as to maintain the temperature of concrete around 33<sup>0</sup>C.

Similarly students were informed about **slab designing** and detailing. They were also shown 1- way and 2- way slab designs. Students were also taught the importance of **formwork and shuttering** for better construction of building. They were also shown the live setting up of formwork and shuttering at site. A break was given and lunch arrangements were made by the Westgate management for all the students.

Briefing on how **material management** was done at site and also its importance was taught to the students. Special weigh balance was used to measure the upcoming material at the site. All records were made both manually and computerized.

In the end students were also made familiar with the design of **Retaining wall** and its live casting was shown. Special arrangement of Dredger was also made on site to remove rain water collected within a few minutes.

The whole visit proved to be a great asset for students to know different construction aspects. They also got an opportunity to share time with the field experts. The interest and curiosity of students during the visit was noticeable, everyone maintained great discipline and followed safety norms at site.



## Session 6: Soil Testing & Investigation

**Expert – Ms. Panavi Pandya –Asst. Prof. CEPT University**

**Event Date – 26<sup>st</sup> June, 2013 (Wednesday)**

**Venue – LJIET Civil Lab**

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Knowledge of soil condition at site is very important as it plays a vital role in design and construction of building. Thus being a civil engineer it becomes necessary to know what type of soil is present at the site and what suitable steps should be taken to overcome any difficulty if faced while construction in relevance to geotechnical feature of site. Keeping in view these aspects a special session on Soil testing & Investigation was arranged.

Session begins with prayer, and then offering a fresh flower bouquet from Ms. Mili Sankhala-HOD (I/C) Civil Dept. to Ms.Pavni Pandya. The expert is having 20 years of experience in the field of soil investigation.

Ms. Pavni Pandya started her lecture with basics of soil testing. Further importance of different tests was discussed. She also explained different type of field and laboratory tests in detail by sharing her experiences. The main focus was on those tests which were specifically prescribed in IS code and was important to conduct in soil conditions prevailing in Ahmedabad. Basic methods of identification of soil were also discussed. There was a good interaction seen during the session and participants were satisfied with the session.



Session of the Workshop was concluded by presenting a memento of gratitude by Mrs. Jalpa Patel – Asst. Prof. Civil Dept.

### **Interview by Shalin Parikh**

**Shalin:** Can this (Foundation) Workshop help students in future?

**Ms. Pavni Pandya:** Definitely, in 4 years of engineering course you have vacations, exams, submissions, midsems, etc. so there is hardly any time left for you to learn market practices and demands. This type of workshop can help you to cover those loopholes.

**Shalin:** Any message for my friends

**Ms. Pavni Pandya:** Don't be bookish, try to learn new things, arrange such type of workshops frequently and call varied experts from field. These will bring a new layer of engineers in market leading to developed India.

## Session 7: Ahmedabad Development Plan 2021

**Experts – Ms. NeelabenMunshi (Sr. Town Planner, AUDA), Mr. HimanshuThakkar (Dep. Town Planner, AUDA) and Mr. Mayank Raval from AMC**

**Event Date – 26<sup>th</sup> June, 2013 (Wednesday) from 15:00 onwards**

**Venue – AUDA Sankul, Ashram Road**

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Being a civil engineer it is very important to know how our area is going to develop in the next decade. AUDA a development authority for Ahmedabad Metropolitan Area had recently launched development plan called Ahmedabad Development Plan 2021 drafted by eminent urban planners from AMC and AUDA. Development Plan includes many new concepts included for the first time in India like transit based development, affordable housing zone, central business district, etc. Thus it's important to learn such plan for young engineers and so included as a part of FOUNDATION Workshop. But what's better than learning about plan from the experts who drafted it.

Eighth session begins with warm welcome to students from experts at board room of AUDA Sankul. Video depicting role of AUDA and its past achievements was shown to the students. Ms. Neelaben Munshi first explained role of two local authorities – AMC & AUDA and difference between them. She said AMC is elected authority with huge workforce and works majorly in implementing policies, while AUDA is executive authority works majorly in drafting policies and TP schemes. She later on explained the new development plan with its specialties in detail with powerpoint presentation. After development plan, Mr. Mayank Raval shared the new norms and GDR regulations with students. He also explained the difference between old and new norms and need for making new norms.

Second stage of the session was a discussion on Traffic & Parking problems related to Ahmedabad city. Report was prepared by students and submitted to experts. Following are suggestions in brief mentioned in the report. Detail Report is attached in Annexure 2.





- Heavy Vehicles (Cars, Jeeps, Buses, Trucks, etc.) free zone for old city area.
- Every time city expands, a new bigger ring-road is in demand so a solution can be by changing geometric design of ring-road.
- In evening, traffic is more compared to morning hours, so by dividing city zones/wards by office timings reduction in traffic density can be achieved.
- There can be a policy restricting number of vehicles per family. This step can help to control no. of vehicles on road.
- New parking areas can be developed under roads.
- Also, change in design for C.G. Road was illustrated to reduce traffic congestion.



#### **Interview of Ms. Neelaben Munshi by Shalin Parikh**

**Shalin Parikh:** How was your experience with LJ-COE? Can this Workshop help students in future?

**Ms. Neelaben Munshi:** It's good to be a part of FOUNDATION Workshop. Next time you can take more live activities like this which can surely help to succeed in future. Also meet more and more experts from the field so you can learn from them, at student's level world is different and in real field it is much different.

**Shalin Parikh:** Any message for my friends?

**Ms. Neelaben Munshi:** Keep it up. This is a high time for all of you to interact with practicing planners, practicing engineers and practicing architects.

## Session 8: Line Layout

**Expert – Mr. Surendra Singh from Aakar Consultancy**

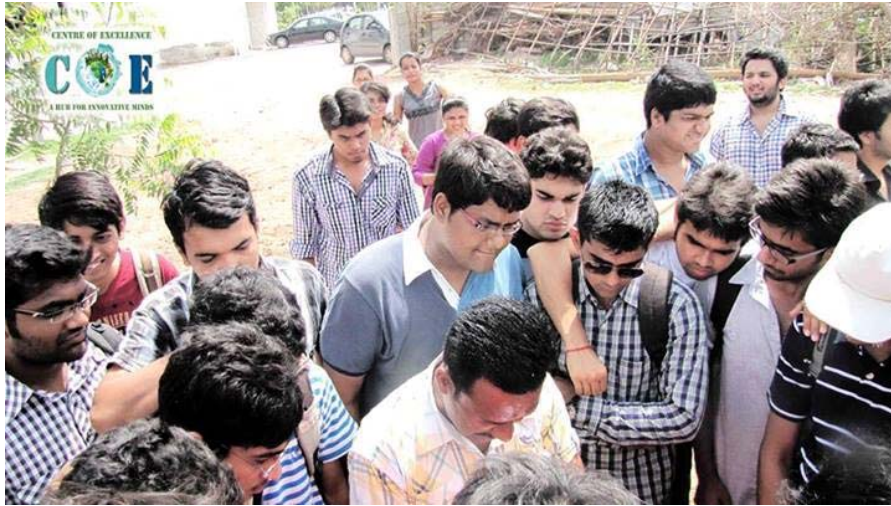
**Event Date – 27<sup>th</sup> June, 2013 (Thursday) from 10:00 onwards**

**Venue – LJ Campus**

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Learning the designing is not sufficient for a civil engineer, if he/she doesn't know how to imprint that design on the ground with the proper dimension and accuracy. Line Layout is the process of transferring structural map from paper to the ground.

Ninth session of the workshop begins with warm welcome to Mr. Surendra Singh by offering fresh flower bouquet on behalf of students, organizers and institute by Mr. Chinmay Shah (Asst. Prof – Civil Department)



Mr. Surendra Singh gave students a brief idea about how to plot a plan on the ground or in technical language we can say lineout of a house in a classroom with a map of single-storey bungalow. After brief introduction, students were taken to LJ Campus car parking plot for practical line layout on ground. On ground, boundary points were marked with help of total station and pegs and boundary line with white powder. Once a site was ready, total station surveying instrument was used to intersect points for column as suggested in architectural plan. Thus, whole plan on paper was transferred on ground. He also explained other site measures should be taken by engineers.

At the end of session memento, as a vote of thanks was given to Mr. Surendra Singh by Mr. Chinmay Shah.

## Session 9: Structure Designing and Detailing

**Expert – Prof. P.G. Patel from LDCE**

**Event Date – 27<sup>st</sup> June, 2013 (Thursday)**

**Venue – LJIIPC Hall, LJ Campus**

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Studying structure designing and detailing is very important for civil engineering students. Its various stages of planning are very important and it is availed throughout the world, by its application in the construction of buildings. Thus it shows the importance of this session in the Workshop.



Session begins with a warm welcoming to Prof. P.G. Patel by Devesh Patel and Prof. Chintan Patel by Achal Joshi with fresh flower bouquet.

This session started with an open discussion on the subject mentioned in the title. Prof. P.G. Patel perfectly clears all the doubts of students specially pounding effects and story drift. He also explained special moment resisting frame (SMRF) with help of powerpoint presentation.

Tenth Session of the Workshop was concluded by presenting a memento of gratitude to Prof. P.G. Patel by Mr. Chinmay Shah – Asst. Prof., Civil Department and a gift to Mr. Chintan Patel – Asst. Prof. LDCE by team Foundation.



### **Interview by Shalin Parikh**

**Shalin:** How was your experience with LJ-COE? What do you think, does this type of workshop can help young engineers in future?

**Prof. P.G. Patel:** It was great. It is always a good thing when students interact with persons who are working in the field and this helps them to gain experience. Nothing can beat experience and if experts from field are invited students are benefited a lot. Also there is large difference between theoretical and practical knowledge.

**Shalin:** Message for my friends?

**Prof. P.G. Patel:** As far as our country is concerned we are very poor in documenting. So whatever things you have gained at the end of every session find out what are the outcomes of the session, what you have learnt in that session. It's not important to just attend a lecture but what important is to know what you have learnt from that lecture. You have to analyze that and that can be included in your routine life.

## Session 10: Real Estate-Marketing & Finance Management

**Expert – Dr. Sanjay Munjapara – Director, Achal Infrastructure**

**Event Date – 28<sup>th</sup> June, 2013 (Friday)**

**Venue – LJ MCA Seminar Hall, LJ Campus**

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Real Estate businesses are very much successful in the state of Gujarat and have a broad scope in the future. Today Finance and Marketing is re-emerging spectacularly and the benefits of them are availed throughout the world, by its application in the construction business. Thus it shows the importance of this session in the FOUNDATION Workshop.



Session begins with prayer, and then offering a fresh flower bouquet from Ms. Zalak Bhavsar, HOD-Civil Department to Dr. Sanjaybhai Munjapara.

Dr. Sanjay started the lecture with age cycles and problems faced by students during young ages. Sir used many punches and built up a good atmosphere. Then he correlated age with finance by easy examples. He also explains how risk taking is must, characteristics of an entrepreneur and importance of public relations. During the session students, Devesh & Dipanshu gave some marketing formats and tricks.

Session of the Workshop was concluded by presenting a memento of gratitude by organizer Team Foundation

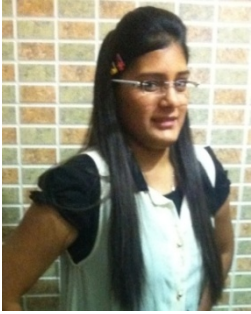


**Interview by Shalin Parikh:**

In his interview he said that an interaction with students was great and was very happy with COE for arranging such workshop. He appreciated organizers for arranging fruitful workshop and suggested for arranging such workshop twice a year and invite market experts to share their experience on this stage. In his message to students he called for gaining more and more experience in their youth stage so they can easily use this experience in next three decades (30s to 60s) of their active work life.

## PARTICIPANT'S FEEDBACK

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**Janki Adhvaryu:** The workshop FOUNDATION-Make it Solid One organized by our innovative club COE, which was very fruitful to me as it helped a lot to gain a basic knowledge about civil engineering apart from our regular college lectures, this thing helped me a lot to learn practical aspects.

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**Siddharth Patel:** During seven days of workshop, I got to learn many things which imparted different ideas and more important things related to my study, which will help me in future to achieve my ambitions. Thanks to Team FOUNDATION-Make it Solid One for arranging such workshop.



**Deval Bharwad:** FOUNDATION Workshop held in our college helped me to remove many confusions prevailing about civil engineering. During workshop I also learn the different activities carried out on field. COE organized the workshop very well and I hope this type of workshop is held again, its very helpful to students.

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**Jayraj Vaghela:** A huge acknowledgement to the Team Foundation for organizing an astonishing seven day workshop and for giving the students a priceless opportunity to acquire invaluable treasure of knowledge from the dexterous people engaged in the field civil engineering.



# વિદ્યાર્થીઓએ અભ્યાસની સાથે મેળવ્યા પ્રેક્ટિકલ પાઠ

## ● સિટી રિપોર્ટર . અમદાવાદ

તાજેતરમાં સિવિલ બ્રાન્ચના સ્ટુડન્ટ દ્વારા 'સેન્ટ્રલ ઓફ એક્સલન્સ' કાર્યક્રમનું આયોજન કરાયું હતું. જેમાં આર્કિટેક બિમલ ગજજરે એલ. જે.ના આર્કિટેકચર અને વાસ્તુ પ્લાનિંગ વિષય પર ફોકસ કરતા જણાવ્યું કે, આર્કિટેકમાં મદદ કરી શકે તેવા રેબીટ, ઓટો-કેડ, થ્રીડી મેક્ષ અને આર્કિટેક જેવા સોફ્ટવેર સ્ટુડન્ટને નવું વિચારવા મજબૂર કરી દે છે. આ કાર્યક્રમમાં શહેરની સિવિલ એન્જિનિયરિંગ સાથે સંકળાયેલા સ્ટુડન્ટને ગાઈડ કર્યા હતા.

એએમસી નોમ અને ગાઈડ લાઈસન્સ તેમજ એએમસી પ્લાન પાસીંગ પ્રોજેક્ટ ઉપર એએમસીના ટીડીઓ રામભાઈ પટેલે સ્ટુડન્ટસને ટાઈન પ્લાનમાં બનતી નવી બિલ્ડિંગમાં 15 ટકા રોડ, 15 ટકા અનામત અને 5 ટકા ખુલ્લી જગ્યા રાખવાની જોગવાઈ કરવામાં આવી છે. નવી બિલ્ડિંગ માટે ડેવલોપમેન્ટ ચાર્જ, ટ્રી પ્લાન્ટેશન ચાર્જ અને ડ્રેનેજ-

વોટર સપ્લાય ચાર્જ લેવામાં આવે છે. જ્યારે પ્લાનિંગ ઓફ એલ.જે. કેમ્પસની માહિતી આપતા ઔડાના ટાઉન પ્લાનર હિમાંશુભાઈ ઠક્કરે જણાવ્યું કે, કેમ્પસ અને રેસિડન્સ બન્નેની ડિઝાઈન ડિફરન્સ હોય છે. કેમ્પસની ડિઝાઈન એઆઈસીટીની ગાઈડ લાઈન પ્રમાણે કરવી પડે છે. સોઈલ ટેસ્ટિંગ એન્ડ ઇન્વેસ્ટિગેશન પર સેપ્ટ યુનિવર્સિટીના આસિસ્ટન્ટ પ્રોફેસર પાઉની પંડયાએ ફિલ્ડ પર કેટલા અને કયા ટેસ્ટ થાય છે તેની માહિતી આપી હતી.

જ્યારે ઔડાના સિનિયર ટાઉન પ્લાનર નિલાબહેન મુનશી અને મયંક રાવલે જણાવ્યું કે, અમદાવાદ નવા બીઆરટીએસ અને મેટ્રો હશે ત્યા ટ્રાન્ઝીસ્ટ બેઝડ ડેવલોપમેન્ટ, સેન્ટ્રલ બિજનેશ ડિસ્ટ્રીક્ટ પ્રોજેક્ટ હેઠળ, એફ્ટિબલ હાઉસિંગ અને અમદાવાદની આસપાસના 68 ગામોને નોન એગ્રીકલ્ચર જેવા નવા પ્રોજેક્ટ શરૂ કરવામાં આવ્યા હતા.





## ANNEXURE 2



# Traffic Problem & Solution

For Ahmedabad City



### **L.J. Centre Of Excellence**

LJ Campus, Between Kataria Motor and Sanand-Sarkhej Circle,  
S. G. Highway, Ahmedabad-382210

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**ABSTRACT**

Country	Area '000 (sq. km)	Population (in crores)	Density (Population/ sq. km)	No. of motor vehicles/1000 persons
Russia	17,098	14.33	8.3	271
Canada	9,984	3.5	3.41	620
China	9,706	135.4	139.6	89
USA	9,629	31.52	34.2	812
Brazil	8,514	19.3	22	259
Australia	7,692	2.28	2.8	730
<b>India</b>	<b>3,166</b>	<b>121.01</b>	<b>371.9</b>	<b>18</b>

Source - Wikipedia

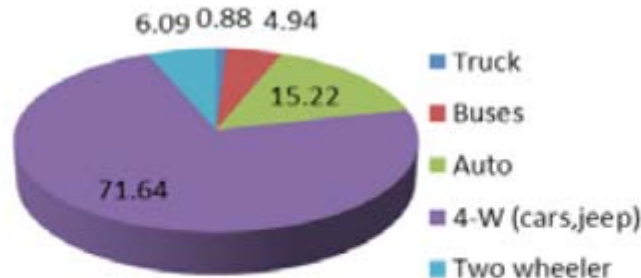
If 18 motor vehicles/1000 people create this many traffic problems what will happen if we reach just 100 cars/ 1000 people!!!

**Our City – Ahmedabad**

Ahmedabad located on the banks of the River Sabarmati, is the largest city and former capital of Indian state of Gujarat. With a population of more than 5.8 million and an extended population of 6.3 million, it is the fifth largest city and seventh largest metropolitan area of India. City is booming nowadays with growing engineering, pharmaceuticals, chemical, textile and automobile industries.

Growing economy leads to better lifestyle and private vehicles are symbols of high standard living in a city. Ahmedabad is presently suffering from several transport problems like traffic congestion, parking difficulties, insufficient road width, and higher use of personalized mode of transportation, high delay at signalized intersection, proliferating intermediate passenger transport vehicles, road accidents and inadequate mass transit facilities.

Current Vehicle Composition of Ahmedabad:-



**Fig. -1 Chart showing Vehicles composition**  
(Source RTO- Ahmedabad)

## **Problem – Traffic Problem Congestion in Old City**

**1**

### **Reasons behind the problem –**

- Major trade center of the city
- Informal markets on narrow roads
- Haphazard parking on roads
- Illegal construction on roads
- Presence of main railway station, interstate bus terminal and main city bus station resulting in huge movement of heavy vehicles on narrow roads
- More number of 2-wheelers
- Increasing number of motor vehicles
- Lack of traffic sense

**Solution – Car free Zone @ Old City Area i.e. city area enclosed by 12 gates of old fort**

Non-Permitted Vehicles - 4-wheleers, private buses & trucks

Permitted Vehicles – Only 2-wheelers, 4-wheelers of persons residing in old city, public buses, private autos and loading rickshaws for traders inside the city.

### Benefits –

- i. Decongestion of traffic in old city
- ii. Low air pollution
- iii. Low noise pollution
- iv. Less accidents
- v. Increase in pedestrian safety
- vi. Increase dependency on public transport
- vii. Saving of costly fuel
- viii. Less green house emissions
- ix. Boost to tourism
- x. Glory of old city can be regained

### Problems needed to be addressed before its application –

- i. Huge parking spaces have to be created
- ii. Dumping areas of old city can be cleared for creating parking spaces
- iii. Efficiency of public transport especially AMTS should be increased.
- iv. BRTS & metro work should be completed with fast speed
- v. Vehicle sharing initiatives\* can be encouraged @ parking levels & other entry/exit points for effective implementation.

\* Vehicle sharing initiatives – Till now vehicle sharing programs only include bicycles. But here we can also start 2-wheeler sharing program. Here a private/public entity can provide 2-wheelers at some nominal rate for moving inside the old city for people parking their cars at parking levels or arriving to old city by AMTS/BRTS/Metro. Thus, 2-wheelers will help traders & bicycle to tourists to explore old heritage city.

Other measures that can help to reduce traffic –

- 1.) Interstate bus terminal can be moved to outskirts of Ahmedabad. Excellent feeder service by AMTS/BRTS/Metro should be provided to carry passengers to their destinations from such terminals.  
Best if they are located on major highways so they can never disturb the traffic flow in future even if city further expands. This step will reduce the interstate buses inside the old city.
- 2.) Private bus operators can also be shifted as above.
- 3.) The back areas of Kalupur Railway Station can be modified so that passengers from East Ahmedabad can board train from East (Saraspur) gate also. This will reduce burden of main gate.
- 4.) Other city railway stations should be upgraded to terminal level so all passengers don't need to travel to main station all the time.
- 5.) Markets inside the city which creates lots of traffic should slowly move to other preferred locations. e.g-APMC

Will passengers wanting to travel to the railway station & Interstate bus terminal be affected??

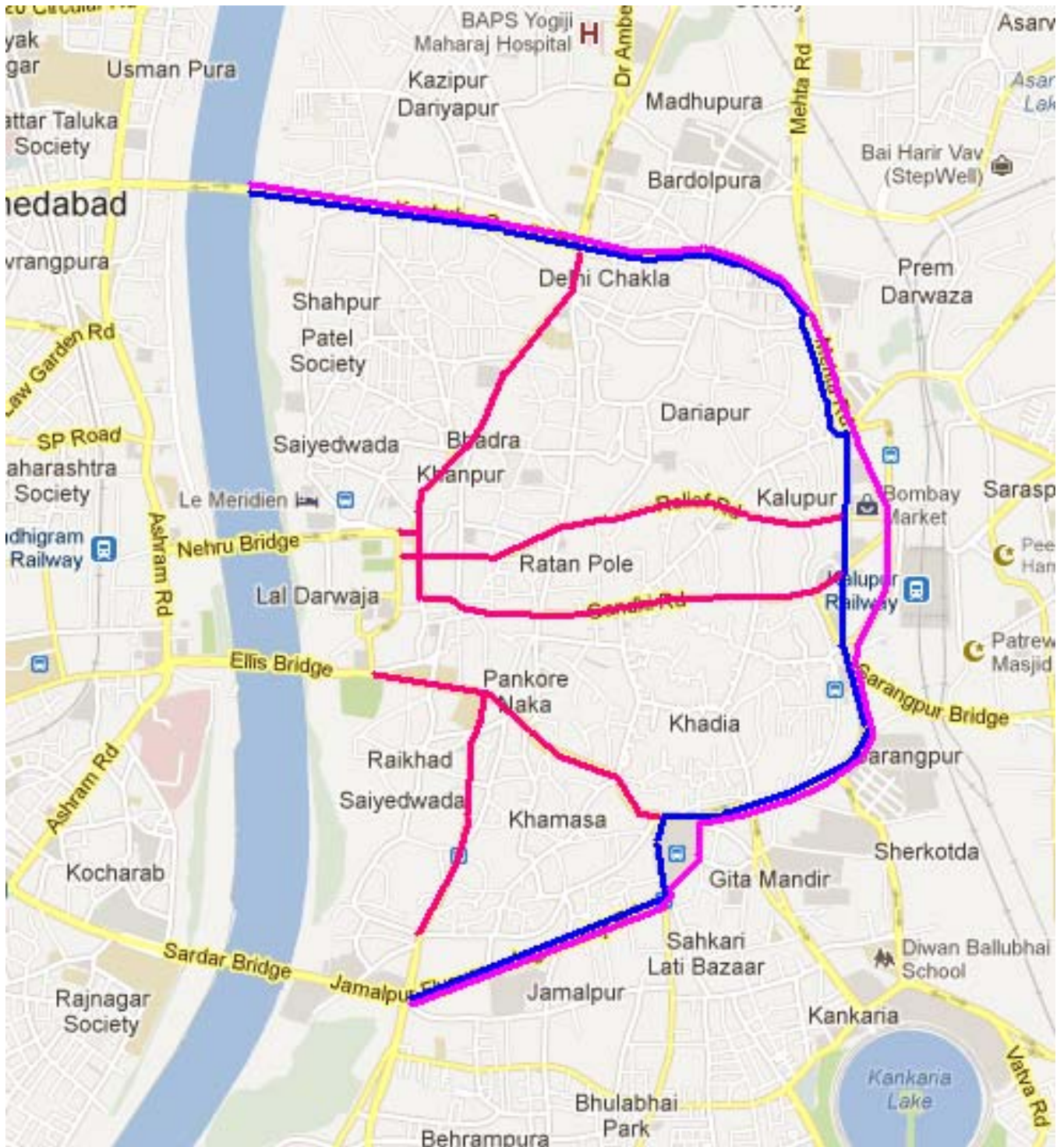
**Ans.** NO, 2 main routes can be used by mix traffic.

Those 2 routes are as below:-

- i. Sardar Bidge – Geetamandir – Kalupur
- ii. Gandhi Bridge – Delhi Darwaza – Kalupur

Main roads to be converted to car free roads:-

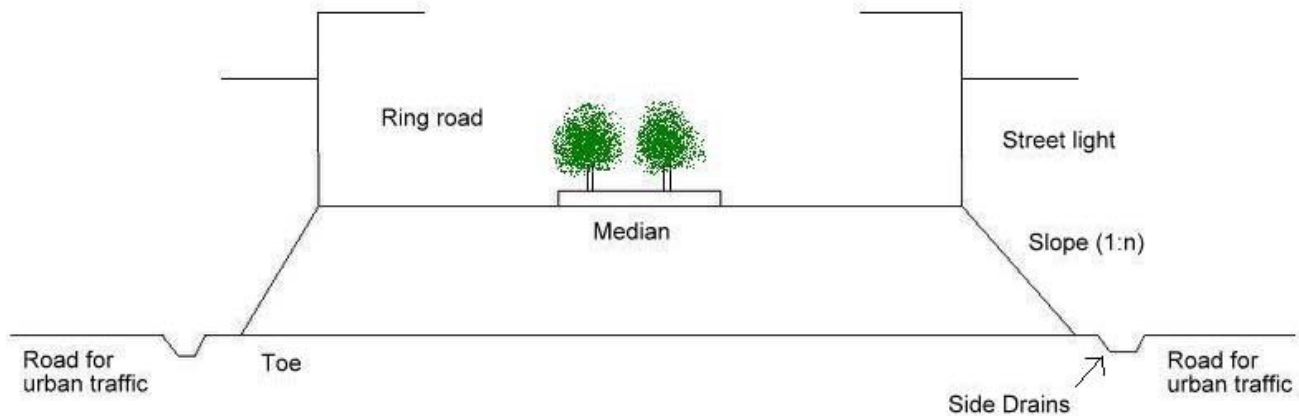
- i. Gandhi Road
- ii. Relief Road
- iii. Ellisbridge – Geetamandir
- iv. Laldarwaza – Delhi Darwaza Road



- – Car free zones
- – Anti-Clockwise movement for mix-traffic
- – Clockwise movement for mix-traffic

**Problem** – Every time city expands a new and bigger ring-road is in demand. **2**

**Solution** – Change in geometric design of ring-road will free city from building new ring roads.



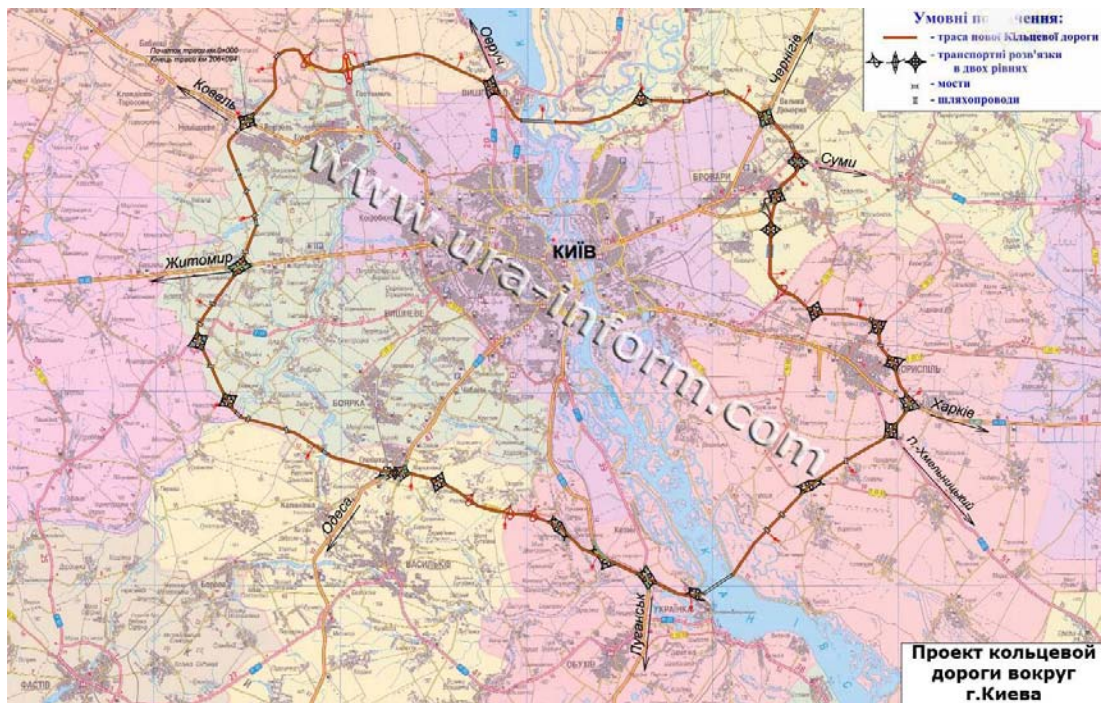
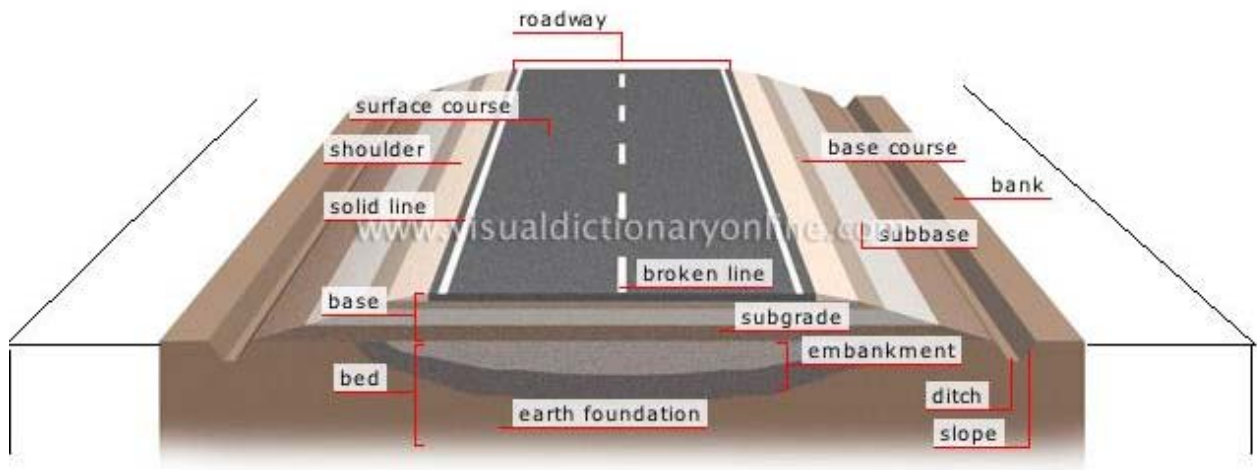
Above cross-section shows the basic idea for new ring-road. Here highway traffic gets the priority and is totally undisturbed by the urban traffic. Interchanges @ major highways or intersection can further solve the problems. This design can also be used for national highways passing through urban areas.

For crossing the embankment for urban traffic under-bridges can be constructed.

If need for more lanes arises in future embankment can be converted to earth retaining walls & median size should be reduced. Thus we can easily add more lanes on both side traffics of highway & urban road.

Benefits –

- i. Saving of money
- ii. Saving of land
- iii. Hassle free travel for ring-road users
- iv. Easy expansion of city without creating new ring road
- v. Enough space for urban traffic



Above picture shows the proposed outer ring-road of Kiev. Main feature of this ring-road is that they have provided interchange at major intersections.



**Problem – Evening Peak Hour Traffic Problems**

6:00 to 9:00 PM are peak hours for traffic & this traffic results into traffic congestion in all cities.

**Solution** – Change the time of offices & other institutions zone/ward wise.

Have you ever pondered – Why traffic is more during evening hours than morning hours???

Simple ...

Let’s consider morning office hours 9:00 to 11:00 AM

While evening leaving hours 6:00 to 9:00 PM

Morning Peak Hours	Evening Peak Hours
No schools First shift @ 7:00 AM Second shift @ 12:00 PM	Second shift ends at 5:00 – 6:00 PM. So, school vans or autos create jams near such schools
College timings 7:00 to 10:00 AM They cause minimum interruption.	No disturbance as they ends earlier around 4:00 or 5:00 PM. But, a college bus from far colleges like Ganpat, Vasad, etc. creates a problem.
Less number of tuitions	Tuition timings So, traffic problems near tuition classes.
Persons going to market for shopping are negligible.	Persons returning from market with goods are more.
No one goes to Restaurants, malls, etc.	Rush in restaurants & malls is more.
Rush towards airport, interstate terminal & railway station is less.	Its more. Because most flights, buses & trains arrive or depart during peak hours.
Not much social functions in morning.	More social functions like marriages, parties, etc. during this time.
Due to presence of sunlight average speed of car is more.	Due to absence of sunlight average speed decreases.
Time of people leaving houses for work is different.	While office leaving time is almost same. So more people will come to the road at same time. Also due to stress after work people are eager to go home and relax.

So, we can say that more people will come on the road at same time during evening. Thus traffic is more during evening.

Let’s have a glance at an example.

Suppose there are two towers A and B. 100 people are working in each tower. Office timings of tower A is 10:30 to 6:00 PM and that of B is 10:00 to 6:00 PM.

So at time 10:00 incoming traffic will be 100

@ 10:30 AM incoming traffic will be 100

While @ 6:00 PM outgoing traffic will be 200.

Thus, it blocks the roads and decreases the efficiency of public transport system.

Now, suppose working time for tower A is 9:00 to 5:00 PM and that for B is 10:00 to 6:00 PM

So at time 9:00 Am incoming people will be 100

@ 10:00 AM incoming people will be 100

@ 5:00 PM outgoing people will be 100

@6:00 PM outgoing people will be 100

So, if we arrange office timings according to micro-zones traffic problems can be considerably reduced.

Apart from office timings restaurant & mall timings should be changed.

Current Restaurant & Cafe timings are 7:30 PM – 12:00 AM

Proposed Restaurant & Cafe timings 8:30 PM – 1:00 AM

Increasing restaurant and mall times will also help them to serve more people.

#### Benefits –

- i. No traffic congestion, smooth flow of traffic throughout the day
- ii. Low air & noise pollution
- iii. Improve the work and living environment of citizens as they have to spend less time in traffic. This creates a positive energy in humans.
- iv. Lots of profitable office hours can be saved

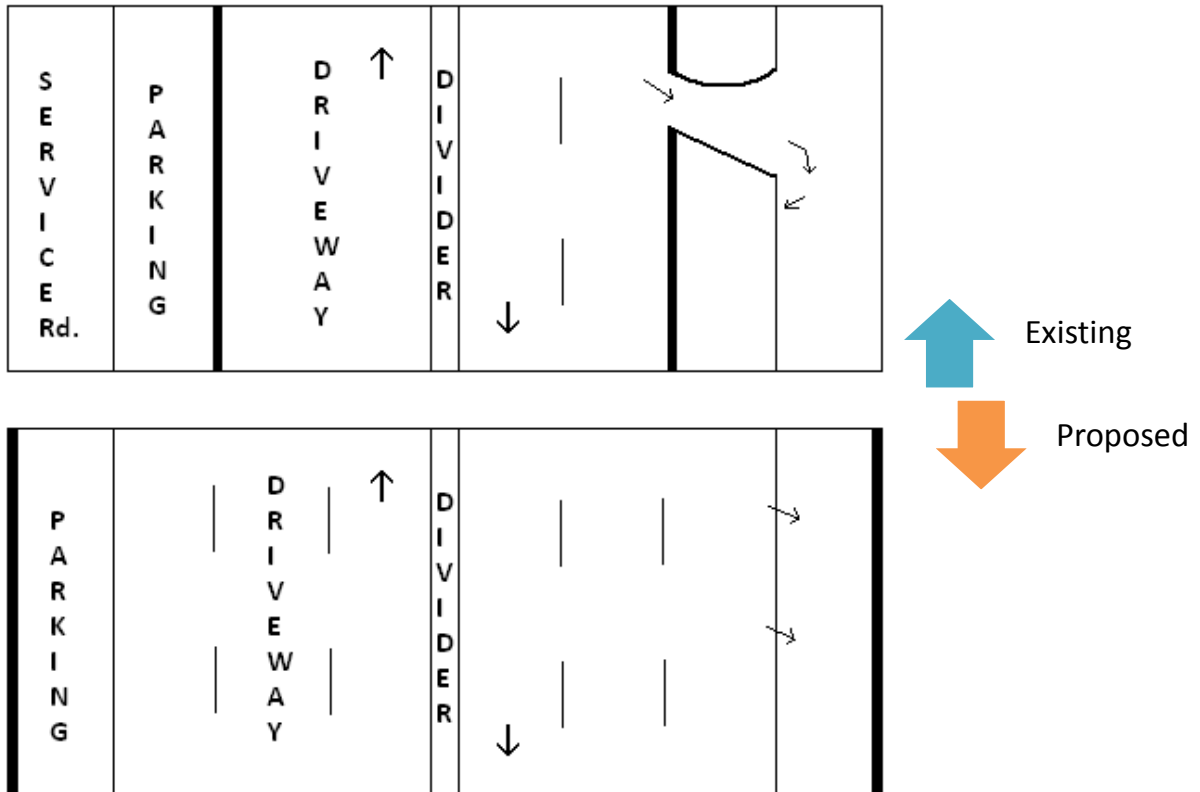
According to study conducted by the Transport Corporation of India and IIM-Kolkata, India loses \$10.8bn annually due to traffic congestion.

#### Limitations –

- i. Micro planning is required, thus experts have to be roped in.
- ii. Regular detail study of traffic has to be carried out.

**Problem** – Expansion of CG Road

**Solution** – Changing the design can help us to accommodate more flow of traffic.



Benefits –

- i. Wider Road (4 to 6 lane road now)
- ii. No compromise on parking
- iii. Smooth flow of traffic

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**Problem** – Parking Problems in different areas of the cities especially CG Road, Ashram Road, Gurukul Road, Prahladnagar Road, etc.

**Solution** – Underground Parking Slots below the roads

Benefits –

- i. No need of purchasing extra land for creating MLPs
- ii. Easy to use for public

## POLICY CHANGES

- 1.) With low interest rates & other attractive offers by financial institutions for car loans, a rise in car owners has been recorded.  
Proposed Solution: - High rate of interest and heavy taxes can be charged for **2<sup>nd</sup> car** for family size less than 4. We can also have law controlling vehicle numbers and type (2-wheelers and 4-wheelers) per family.
- 2.) Government says more diesel cars on roads force them to raise diesel price. So, why government is giving attractive offers to automobiles for making diesel cars??  
Proposed Solution: - Reduce manufacturing of diesel cars. Diesel can be used only for public transport, trucks & railways. This step can also help to control diesel prices and inflation
- 3.) Today time taken and cost of travelling by public transport is more than using private vehicles.  
Proposed Solution: – Such system needs to be developed by authorities & institutions where cost of travelling and time taken for commuting by public transport is less than that of private vehicle.