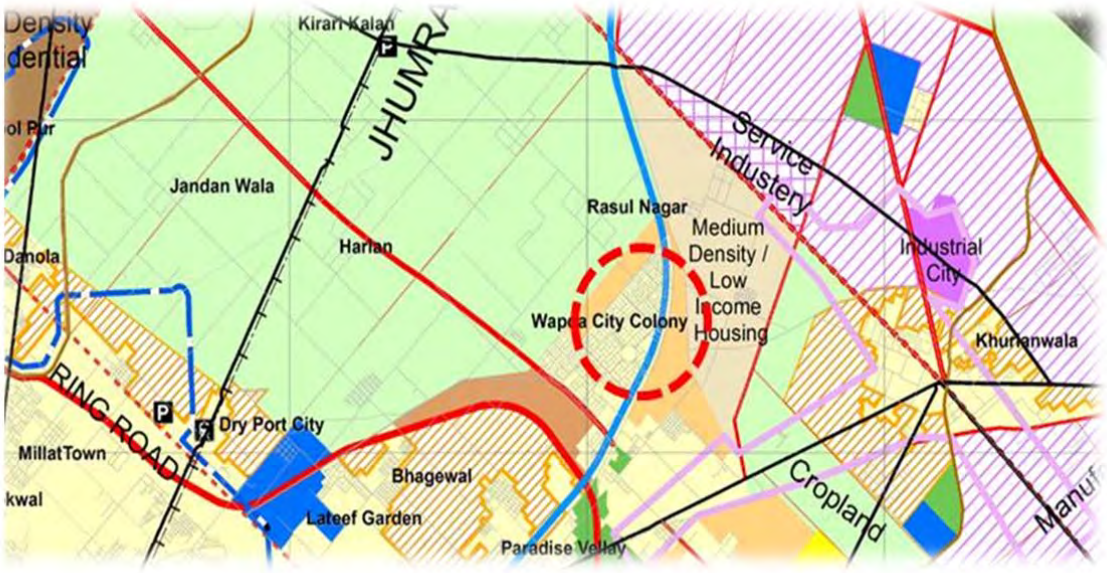
Punjab Cities Governance Improvement Project

FAISALABAD PERI-URBAN STRUCTURE PLAN 2035

APRIL 2015



THE URBAN UNIT
Urban Sector Planning & Management Services Unit (Pvt.) Ltd.
P & D Department, Punjab

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III- Acronyms & Abbreviations

ADB	Asian Development Bank
APTMA	All Pakistan Textile Mills Association
BOT	Built Operate Transfer
BRT	Bus Rapid Transit
C & W	Communication & Works Department
CBD	Central Business District
CCB	Citizen Community Board
CDG	City District Government
CDP	City Development Plan
CNG	Compressed Natural Gas
DCO	District Coordination Officer
DDO	Deputy District Officer
DDO	Drawing and Disbursing Officer
DFID	Department for International Development
DG	Director General
DLI	Disbursement Linked Indicator
DO	District Officer
DOC	District Officer Coordination
DOP	District Officer Planning
DR	Development Rights
DRTA	District Road Transport Authority
DSS	Decision Support System
EDO	Executive District Officer
EPD	Environmental Protection Department
ESRI	Developers of ARC GIS Software
F&P	Finance & Planning
FCCI	Faisalabad Chamber of Commerce & Industries
FDA	Faisalabad Development Authority
FESCO	Faisalabad Electric Supply Company
FIEDMC	Faisalabad Industrial Estate Development & Management Company
FPUSP	Faisalabad Peri Urban Structure Plan
GIS	Geographical Information System
GPS	Global Positioning System
GoPB.	Government of Punjab
GoP.	Government of Pakistan
HP&EP	Housing Physical & Environmental Planning Department
HOV	High Occupancy Vehicle
IUCN	International Union for Conservation of Nature & Natural Resources
LG&CD	Local Government & Community Development
MD	Managing Director
MIS	Management Information Systems
MoE	Ministry of Environment
MoT	Ministry of Tourism
MS	Municipal Service

MTDF	Medium Term Development Framework
MOV	Medium Occupancy Vehicle
MVA	Motor Vehicles Act
MVO	Motor Vehicles Ordinance
MVR	Motor Vehicles Rules
MVT	Motor Vehicle Tax
NHA	National Highway Authority
NHSO	National Highways Safety Ordinance
NTDC	National Transmission & Dispatch Company
P&D	Planning and Development
PCGIP	Punjab Cities Governance Improvement Program
PCU	Passenger Car Unit
PEPA	Pakistan Environmental Protection Agency
PHED	Public Health Engineering Department
PHATA	Punjab Housing and Town Planning Agency
PLGO	Punjab Local Government Ordinance
PPA	Pakistan Participatory Poverty Assessment
PPP	Public Private Partnership
PRTB	Punjab Road Transport Board
PTDC	Pakistan Tourism Development Corporation
PTA	Provincial Transport Authority
ROT	Rehabilitate Operate Transfer
ROW	Right of Way
SOV	Single Occupancy Vehicle
SP	Spatial Planning
SPV	Special Purpose vehicle
SWM	Solid Waste Management
TA	Technical Assistance
TEPA	Traffic Engineering Planning Agency
TMA	Town Municipal Administration / Tehsil Municipal Administration
TOR	Terms of References
TOD	Transit Oriented Development
TPU	Transport Planning Unit
UC	Union Council
UIPT	Urban Immovable Property Tax
PUU	Punjab Urban Unit
UN	United Nations
USPMSU	Urban Sector Planning & Management Services Unit
UNEP	United Nations Environment Program
UU	The Punjab Urban Unit
VAC	Value Addition City
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agency
WB	World Bank
WTo	World Tourism Organization
WWF	Worldwide Fund for Nature

Message from the Commissioner Faisalabad on Faisalabad Peri Urban Structure Plan (FPUSP) 2035



Cities are dynamic entities and always expand, grow, and transform with the growing populace they housed. The unchecked and uncontrolled growth causes certain urban problems and need judicious planning for their planned and systematic growth. Like other cities, Faisalabad also grew following a hub-spoke radial growth pattern along major roads that originate from center of the city and radiates outside from the center. The spatial morphology of the city resulted in increased infrastructure and commuting costs besides engulfing prime arable agriculture lands for urban development. The witnessed unsustainable urban development could be tamed if the careful planning is done for the cities. For this very purpose, an initiative was taken by the City District Government Faisalabad under the "Punjab Cities Governance Improvement Project (PCGIP)" being implemented by the Urban Unit Planning & Development Department GoPunjab in the form of "Peri Urban Structure Plan" that primarily aims to stop the unchecked and uncontrolled growth of city Faisalabad. The PLAN strives to balance the housing, social and business needs of the city while addressing affordability, accessibility and livability in a sustainable manner.

This initiative has been taken splendidly and with the mutual cooperation and due consultation of all the stakeholders including City District Government Faisalabad, its entities, all the Government, Non-Government organizations,

private sector, general public and the Faisalabad Chamber of Commerce & Industries.

The Faisalabad Peri Urban Structure Plan 2035 aims to assist the City District Government Faisalabad, its entities and stakeholders for future planned growth and systematic development for the next twenty years. The true implementation of the Faisalabad Peri Urban Structure Plan will certainly play pivot role in the rapid development of Faisalabad and it will open new corridors for rapid development of Faisalabad.

COMMISSIONER
FAISALABAD DIVISION

Message from the DCO Faisalabad on Faisalabad Peri Urban Structure Plan (FPUSP) 2035



The high population growth combined with difficulties in governance and inadequate investment in urban planning has resulted in uncontrolled and unplanned growth of cities and towns, and, deterioration in urban environment. Rapid migration of people from rural areas to city Faisalabad is causing massive increases in urban population, creating more and larger urban slums, increasing the potential for environmental deterioration, and bringing tremendous pressures on city services already strained beyond limits. With the population growth, a city usually stretched beyond their existing infrastructure.

To overcome these issues and to improve the welfare of people by creating more convenient, equitable, healthful, efficient, and attractive places for present and future generations an initiative on planning documented by the "Faisalabad Peri Urban Structure Plan 2035 (FPUSP)". This esteem task has been completed by the City District Government Faisalabad under the "Punjab Cities Governance Improvement Project (PCGIP)". This document will deliver planning to all the stakeholders for the well planned future development of Faisalabad for upcoming 20 years. During preparation of "Faisalabad Peri Urban Structure Plan" a careful balance between the residential, commercial, recreational, and institutional needs is calculated to assess the present and future growth of Faisalabad.

This plan is designed remarkably by the City District Government Faisalabad with valuable support of the Urban Unit, CPU Faisalabad staff and with the consultation of all the stakeholders. I am quite confident that implementation of the "Faisalabad Peri Urban Structure Plan" in true spirit by all the stakeholders will yield controlled and well planned growth for Faisalabad which is dire need of this hour.

NOOR UL AMIN MENGAL
DISTRICT COORDINATION OFFICER
FAISALABAD

IV- Executive Summary

Faisalabad Peri-Urban Structure Plan (FPUSP) has been initiated and implemented under the Punjab Cities Governance Improvement Project (PCGIP) with financial assistance from The World Bank as a project sub-component DLI-5. The Urban Sector Planning & Management Services Unit, Punjab (USPMSU) is the primary agency responsible to initiate, manage, supervise and facilitate the project by engaging a team of highly competent and experienced team of Urban Planners and GIS analysts whereas the City District Government Faisalabad (CDGF) would be ultimate beneficiary.

The FPUSP project aims to assist CDGD Faisalabad for future planned growth and systematic development for next twenty years. The Peri Urban Structure Plan (FPUSP) is prepared in accordance with the procedure prescribed in the Punjab Land Use (Classification, Reclassification and Redevelopment) Rules 2009 thus providing the CDG Faisalabad with an agreed 'City Boundary, peri-urban zoning and future road network plan viz a viz' ensuring that the urban planning and development only occur in an integrated manner within the specified limits.

This document overtly expounds how the Project Team carried out activities in a planned sequence as described in Land use Rules 2009, along with highlighting that how City District Government Faisalabad (CDGF) and other stakeholders were taken onboard to accomplish this project. The report is built on the pattern described below:

- The first part of this report gives an introduction and background of the study, objectives of the study to be achieved, justification of the study, definitions and clarifications and possible limitations of the study. This section describes in detail the project methodology for conducting field surveys for land use registration and what output the Consultants are expected to have after the study analysis. This part explains the team management, data requirements, data treatment and how cutting-edge GIS-based Decision Support System was employed to carry out land suitability analysis and how it shall be used for suggesting appropriate land uses for the future urban areas of the study area. It further elaborates the detailed project work plan and deliverables timelines.
- It proceeds by describing study area profile based on the field and secondary data analysis and findings. It further explains the institutional responsibilities for urban development in the district.
- The report also entails a brief account of previous urban planning interventions as of earlier Master plans, Strategic Development Plans 2006, Transportation Plans and studies on City Boundary in Faisalabad during past couple of decades, their analysis findings, proposals and outputs and finally lessons learnt from these interventions. This analysis revealed that either all the previous urban development exercises were not considered as implementable and got shelved or were partially implemented without any review for many years. This review further delved how most of these interventions remained ineffective despite exploiting myriad public resources for these.

- This report further focuses on analyzing the existing situation, evaluating past city footprints and spatio-temporal growth patterns, , development policies and their repercussions, exploring challenges and opportunities which Faisalabad's urban form presents. It paved the way forward towards formulating substantial proposals in the next section. This analysis confirmed that city has a growth pattern following major corridors linearly and didn't follow any holistic pattern for land use development, has moderately low overall density, lacks urban characteristics and sense of urban place, facing thrust of haphazard linear commercialization lack of green foot prints and challenges of deteriorating environmental quality, .The city apparently follows a resource intensive development, lacks policy vision for vertical mixed use developments inter alias, which obviously seeks remedy and preemption in the form of a Holistic Planning Vision for sustainable future of the city.
- The final section entails the output of extensive analysis acquired through GIS based Decision Support System (DSS) in the form of thematic maps showing location and extent of the areas suitable for different types of land uses which was further fine-tuned and developed as final land use zoning proposals, thematic maps, block division, proposed road network with details of permitted and prohibited land uses in proposed zones and an implementation support strategy. This document also carries ancillary annexure that forms an integral part of the FPUSP such as minutes of stakeholder consultation meetings, list of departments and study reports consulted, timelines and maps.

CHAPTER 1 INTRODUCTION

1.1. Project Rationale

Government of the Punjab, with financial assistance from the World Bank, is implementing "Punjab Cities Governance Improvement Project (PCGIP)" for strengthening systems for improved planning, resource management, and accountability in five large cities of Punjab, which are Lahore, Faisalabad, Multan, Gujranwala and Rawalpindi. The project addresses resource planning and management, seeks to improve decision making, aims to consolidate fragmented revenue sources and to strengthen resource mobilization through improved service delivery.

Under Technical Assistance (TA) component of Punjab Cities Governance Improvement Project (PCGIP), cities are required to be focused on improved and better participatory City Development Plans (CDPs) and Master Plans, addressing the current legal and systemic constraints to integrate planning across different parts of city governments/ agencies and multiple institutions; better land use planning and land management strategies; planning for urban development and redevelopment; metropolitan planning and local economic development.

Faisalabad Peri Urban Structure Plan (FPUSP) will be implemented under the Punjab Cities Governance Improvement Project (PCGIP) as a sub-component to achieve above described goal. The Urban Sector Planning & Management Services Unit, Punjab (USPMSU) is the primary agency responsible to manage and facilitate the project activities whereas City District Government Faisalabad (CDGF) is ultimate beneficiary. The Project aims to assist the City District Government Faisalabad in the preparation of Peri Urban Structure Plan for Faisalabad for future planned growth and systematic development for the next

twenty years. The Peri Urban Structure Plan is being prepared as per prescribed procedure in the Punjab Land Use (Classification, Reclassification and Redevelopment) Rules 2009 thus providing the CDG Faisalabad with an agreed 'City Boundary and peri-urban zoning viz a viz' ensuring that the urban planning and development only occurs in an integrated manner within the specified limits.

The 'City Boundary' thus developed under PCGIP (as DLI 5 of Subcomponent 2 asks for boundary of city area adopted by each city and its entities as the spatial planning and service delivery area) will be adopted by the entities responsible for urban development in Faisalabad city as their respective planning area for the purposes of Integrated Development and Asset Management Planning (IDAMP). Subsequently, the city entities will prepare and notify action plans for phased extension of their "Service Delivery" area to the "City Boundary," which is the disbursement target for third year for the Disbursement Linked Indicator (DLI) of Boundary Alignment.

1.2. What is in this Report?

This report is one of the main deliverables of the exercise on Faisalabad Peri Urban Structure Plan which sets out the methodology details and introduction to the project comprehensively. The report clarifies the types of data required for the project and how the overall objectives of this assignment shall be achieved in timely and efficient manner through the doable work plan. The report further explains how the City District Government Faisalabad and other stakeholders were on taken on board for the accomplishment the targets assigned for this project. The report is built on the pattern described below:

- The First chapter gives an introduction and background of the study, objectives of the study to be achieved, justification of the study and possible limitations of the study.
- The Second chapter describes in detail the project methodology and what output the Consultants were expected to have after performing the study analysis. This chapter explains the team management, data requirements, data treatment and how cutting-edge GIS-based analysis shall be performed for suggesting appropriate land uses for the future urban areas in the study area. It further elaborates the detailed project work plan and deliverables timelines.
- The Third chapter is brief introduction to the study area, study area profile and its characteristics. It further explains the institutional responsibilities for urban development in the district.
- The fourth chapter carries a brief of previously done urban planning interventions in Faisalabad during past couple of decades, their proposals and outputs and finally learning lessons from those.
- Fifth chapter focuses on analyzing the existing situation, exploring challenges and opportunities which Faisalabad's urban form presents and this analysis further paves a way forward towards formulating substantial proposals.
- The last sixth chapter gives the details of output acquired through DSS, land use proposals, zoning, block division and proposed road network given with details of permitted and prohibited land uses in proposed zones.
- The report further carries ancillary annexure that forms the integral part of the Inception Report such as Minutes of Meetings, previous Study Reports relevant to the study area.

1.3. Cities and Peri Urban Areas

Under Rule 11 of Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009 the peri-urban areas are defined as "the areas that span the landscape between contiguous urban development and rural countryside with low population density and are predominantly used for agricultural activity and are likely to be urbanized in the next twenty years."

The peri urban areas function as a transitional zone between the city and its hinterland, characterized by intensive flows of natural resources, goods, and people from and to the city. They also serve as the interface between urban, rural and natural areas with relatively rapid growth, dynamic and mixed physical and socio-economic attributes (Allen, 2003)[1].

Peri-urbanization, which refers to the process of [gradual] urban transformation in peri-urban areas, is becoming an important spatial phenomenon in our today's informational and globalized society. Peri-urbanization can be triggered by the irregular development of settlements, new towns, industrial estates and other forms of large-scale urban functions around big cities (Webster, 2002)[2].

The current study will register and map the status of land uses in the peri urban area and its relationship with the bulging out city of Faisalabad. Most importantly, it will determine the lands suitable for the future urban development in a planned, holistic and judicious manner rather consuming the scarce arable peri urban hinterlands in an unwise manner.

[1] Allen, A. (2003). Environmental Planning and Management of the Peri-urban Interface: Perspective on an Emerging Field. Environment and Urbanization, 15(1), 135-147
[2] Webster, D. (2002). On the Edge: Shaping the Future of Peri-urban East Asia. Stanford: Stanford University.

1.4. Why Peri Urban Plans?

Cities are dynamic entities and always expand, grow, shape, reshape and transform with the growing populace they accommodate. The unchecked and uncontrolled growth causes certain urban problems and need judicious planning for their planned and systematic growth. The plans prepared in past for the City of Faisalabad could not play a significant role in shaping it as a spatially controlled Like any other city in Pakistan, Faisalabad also grew by following a hub-spoke radial growth pattern along major roads that originates from the center of the city and radiates outside from the center. The spatial morphology of the city resulted in the increased infrastructure and commuting costs besides engulfing prime arable agriculture lands for urban development. The witnessed unsustainable form of urban development could be tamed if the careful planning is done for the peri-urban areas of our cities. For this very purpose the current exercise of Peri Urban Structure Plan is being done.

Under the "Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009"; a Peri Urban Structure Plan is a legal requirement which a City District Government or a Tehsil Municipal Administration has to fulfill under these rules for the peri urban area falling within its geographical limits. A Peri Urban Structure Plan generally is a set of maps/illustrations and supporting documents combined to form a plan and is used to guide and control the future growth of peri urban areas. As suggested in the Land Use Rules, 2009, it may contain;

a) The proposed road networks;
b) Division of area into blocks; and
c) The proposed land uses for various blocks;

However, it must be considered a comprehensive plan if it is accompanied by the certain guidelines, policies and strategies for guiding the future growth areas around the cities. The Consultant, having a wider and specific background of various urban planning experiences, seconds the views of the Urban Unit as suggested in the Terms of Reference (TOR) to furnish certain deliverables as part of this exercise.

Once, the Consultant finish the exercise as per the TOR and by following the legal procedure suggested in the Rules; the City District Government Faisalabad shall take up the Peri Urban Structure Plan for approval after going through certain legal requirements as suggested in the Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009 for *public consultation, scrutiny and approval* and will further *notify* the Peri urban Structure Plan as a legally binding document acceptable to all the stakeholders including CDGF to implement it in letter and spirit for controlling and guiding the future growth in the peri urban areas of Faisalabad city.

1.5. Objectives

The peri-urban structure plan of the Faisalabad aims at the comprehensive farsighted development of the city. Specific objectives of the peri urban plan Faisalabad include:

- To suggest measures for preserving productive agriculture land and precious environmental resources in the peri urban area
- To suggest pertinent mix of land uses in the Peri Urban area
- To identify incompatible land uses such as industries located within residential areas and suggest measures to mitigate the impacts on peri urban development

- To recommend an efficient circulation network in the peri urban area

1.6. Scope of Work

The scope of FPUSP Project is

i) Identification of City Boundary and

ii) Preparation of Peri Urban Structure Plan

The above project components aim to help the City District Government Faisalabad (CDGF) steer the guided-development of the city for the next twenty years. The peri urban area is defined in the Punjab Land Use (Classification, Reclassification and Redevelopment) Rules, 2009 as an area that spans the landscape between contiguous urban development and rural countryside with low population density and is predominantly being used for agricultural activity and is likely to be urbanized in the next twenty years.

The Peri Urban Structure Plan of Faisalabad will provide the following useful components for future development:

1. Proposed road network of Peri Urban area
2. Division of Peri Urban area into blocks and zones
3. Allocation of land uses to blocks
4. Broad development strategies to achieve the development targets in next 20 years.

1.7. Project Deliverables

As per Terms of Reference (TOR) following are the deliverables:

1. *Inception Report with detailed Work Plan*
2. *Interim Progress Report*

3. *Draft Report of Peri Urban Structure Plan with maps*
4. *Final Report of Peri Urban Structure Plan with maps in soft and hard formats.*

1.8. Expected Outcomes

Expected outcomes which Faisalabad Peri Urban Structure Plan (FPUSP) may draw, are enlisted as:

- Expanding the urban limits and service delivery area to meet the land supply requirements for future through the identification of new growth areas;
- Identification of 20 years zoned land supply for Faisalabad city to accommodate targeted population growth;
- A land suitability analysis for exploring the potential developable lands within the existing peri-urban area of Faisalabad City for urban purposes;
- A land demand-supply analysis based on multiple choices of housing densities with best utilization perspective;
- A choice of development capitalizing on infill and fringe development for Faisalabad city; and
- Identification and prioritization of growth precincts for major land uses that will contribute significantly in housing and employment options for Faisalabad besides providing multiple opportunities for cultural and recreational development.

1.9. Project Initiation

In July 2013, the Punjab Urban Unit (USPMU) initiated the Faisalabad Peri Urban Structure Plan under the Punjab Cities Governance Improvement Project. The study team was mobilized to Faisalabad on 22nd July, 2013. The project team set up the local project office, contacted with the potential stakeholders and

calculated the requirements of data and resources for the successful completion of this project.

1.10. Project Organization & Consultant's Team

The project shall be managed in accordance with the Urban Unit's policies and guidelines. Following management structure shall be adopted for reporting purpose:

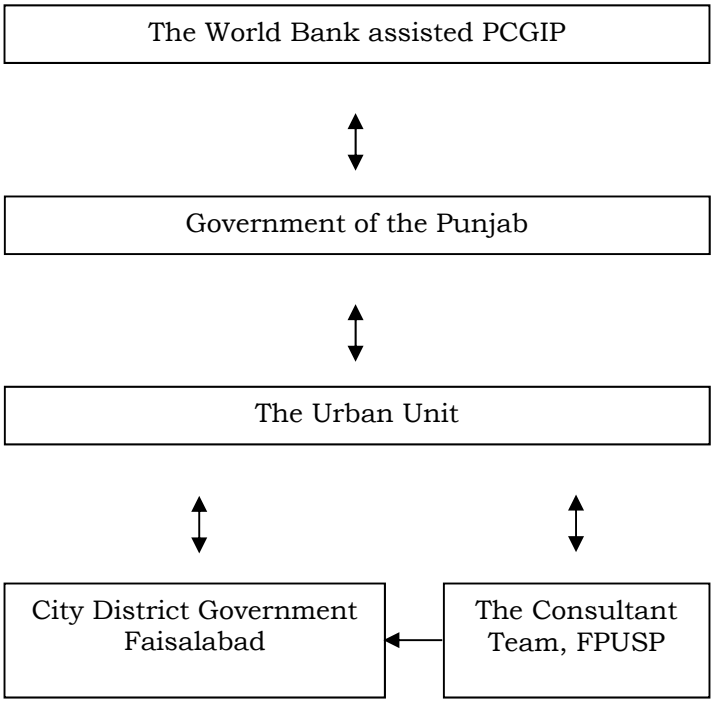


Fig. 1.1: Project Reporting Structure

The Urban Unit's role in this project is pivotal as for overall project management and coordination. The Consultant acknowledges the services of the CEO Urban Unit, Dr. Nasir Javed, Ms. Syeda Sani –e-Zahra Naqvi (Sr. Urban Planning Specialist), Ms. Sumaira Atta (Project Management Specialist) and Mr.

Gul Hafeez Khokhar (Senior Institutional Development Specialist) for their extensive help and support. The City District Government Faisalabad shall be the Project Implementing Agency once the plan get prepared and handed over to them. The Urban Unit further appointed the Consultant Urban Planner along with support team which includes 5 Urban Planners, 2 GIS Analysts and 15 Field Surveyors to assist the Consultant. Whereas; the City District Government, Faisalabad provided with an office space onas and when desired basis for field surveyors and appointed Focal Persons (from stakeholder departments too) to deal with the Project Team.

Faisalabad Peri-Urban Structure plan team comprised of Following personnel:

1.	Mr. Nadeem Khurshid	-	Team Leader (Sr. Urban Planner)
2.	Mr. Muhammad Shoaib	-	Deputy Team Leader (Urban Planner)
3.	Mr. Ahtsham Aslam	-	Urban Planner
4.	Mr. Raza Ali	-	Urban Planner
5.	Mr. Imran Maqbool	-	Urban Planner
6.	Mr. Khurram Shahzad	-	GIS Analyst
7.	Mr. Imran Habib	-	GIS Analyst
8.	Field Survey Team	-	15 Members

1.11. Constraints & Limitations

Certain constraints and limitations are being faced by the project team. Few of them are enlisted below:

i) Non-availability of land use classification and analysis of existing urban areas

ii) Lesser resources and limited time available to complete the exercise

iii) Non availability of land use map of existing built up area

iv) No fresh population census statistics and other statistics as a Pre requisite

CHAPTER 2

PROJECT METHODOLOGY & WORK PLAN

2.1 Mobilization & Establishing Project Office

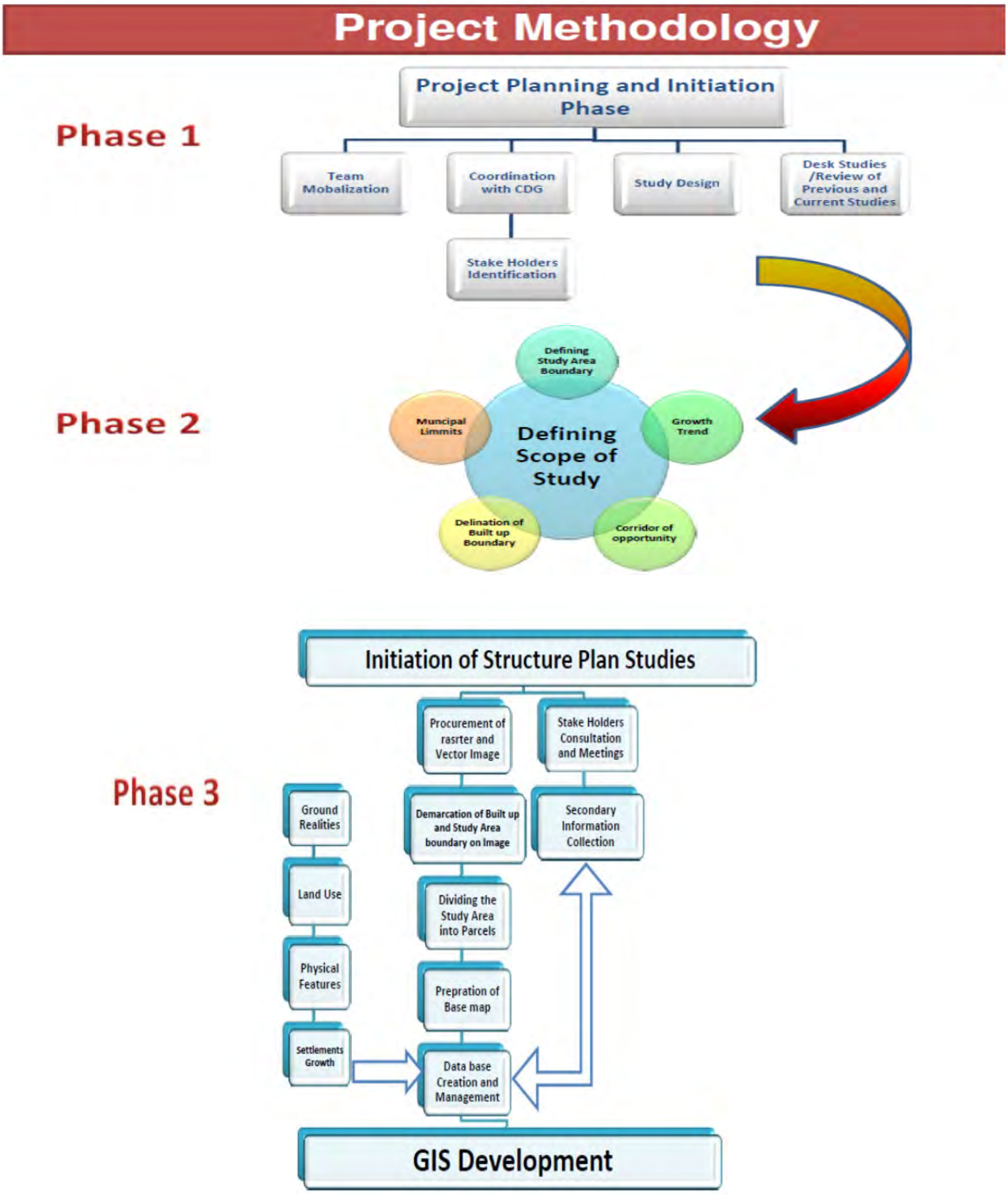
A team of highly competent professionals was deputed to undertake the assignments immediately on 22 July 2013. A local Project Office was established in the City Programme Unit (CPU) of Punjab Cities Governance Improvement Project in the DCO Office Faisalabad.

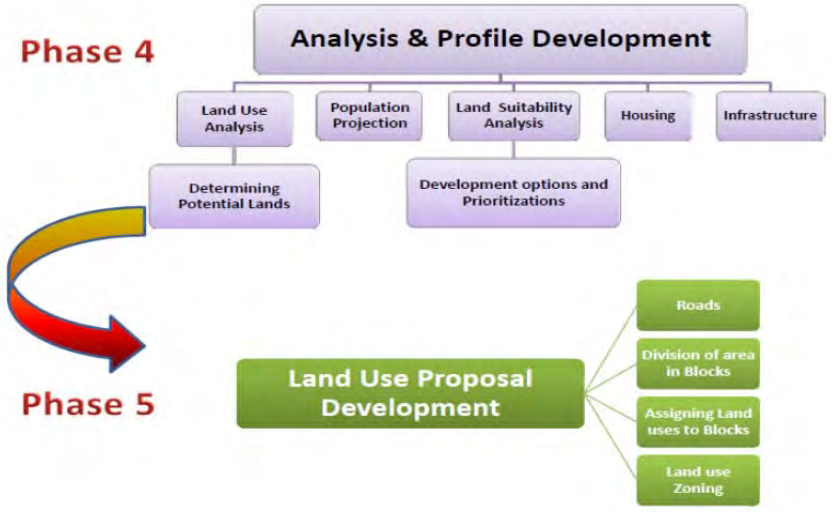
A kick-off meeting was held on 1st August, 2013 (MoM attached in the Annexure part) in which the city administration welcomed the team and committed to participate in every manner. The Project Team briefed the participants about the project components and study methodology. They further requested the participants to provide relevant data required for the preparation of plans. The meeting ended with a decision to nominate focal persons from each participating department to liaise with the Study Team. Minutes of Meeting are attached as Annex – II.

2.2 Proposed Project Methodology

Project Team based the plan development methodology primarily on analysis through GIS Decision support System. Further, the Consultants have followed the legal guidelines to prepare the Peri Urban Structure Plan as set out in the Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009.

Fig 2.1: Study Methodology





2.3 Data/Information Procurement

The team set out the requirements for the study and a list of information to be collected from primary and secondary sources was prepared which determined the types of required data..

Following table enlists the types of data acquired and its source:

Table 2.1: Tentative Data Acquisition Plan

Sr.#	Tasks	Probable Source
1	**Marking of Jurisdictional Limits**	
i)	Union Councils (Rural)	Delimitation project / ADLG
ii)	Urban Union Councils	Delimitation Process/ ADLG
iii)	City District Government	Delimitation Project/ ADLG
iv)	Municipal Corporation Limit	Delimitation Process/ ADLG
v)	FDA Limits	FDA
vi)	WASA Service Delivery Area	WASA Faisalabad
vii)	Delineation of Established Built-up Area	Project Team
viii)	Tentative Delineation of Peri Urban Area	Project Team
ix)	Ring Road Alignment	FDA
2	**Inventory / Location of Community Facilities**	
i)	Parking Lots / Spaces	CDGF & FDA
ii)	Public Parks & Gardens	CDGF & FDA
iii)	Health Facilities	CDGF & Project Team

iv)	Education Facilities	CDGF & Project Team
v)	Rescue & Emergency Services	Urban unit
vi)	Landfill sites	DO SWM & Project Team
vii)	Graveyards	Project Team
viii)	Religious Facilities & Institutes	Project Team
3	**Existing Transportation Infrastructure**	
i)	Airport	Project Team
ii)	Road Infrastructure	Project Team
iii)	Freight Terminals	Project Team
iv)	Bus Terminals	Project Team
v)	Railway Lines and Stations, Yards	Project Team
4	**Housing Analysis**	
i)	Current and Projected housing Stock	Project Team
ii)	Demand & Supply	Project Team
iii)	Backlog	Project Team
iv)	Location Marking & No. of Public & Private Housing Schemes in established built-up area & peri urban area	FDA
v)	Location of Katchi Abadis (Notified & Unrecognized) & Slum Areas	FDA
5	**Land Use Analysis**	
i)	Land use Distribution for Established Built Up Area	FDA
ii)	Land Use Distribution for Peri Urban Area	Project Team
6	**Zoning Analysis**	
i)	FDA Zoning Distribution for Established Built Up Area (by Land Use Zoning)	FDA & CDGF
ii)	FDA Zoning Distribution for Peri Urban Area	FDA & CDGF
iii)	Existing Master Plan Overlay	FDA & CDGF
7	**Satellite Image Classification**	
i)	Established Built Up Area	Project Team
ii)	Peri Urban Area	Project Team
8	**Commercial Roads**	
i)	FDA-controlled Commercial Roads (Map form)	FDA
ii)	CDG-controlled Commercial Roads (Map form)	CDGF
9	**Infrastructure & Services**	

i)	Water Supply Served Area	WASA
ii)	Water Supply Network	WASA
iii)	Sewerage Served Area	WASA
iv)	Sewerage Network	WASA
v)	Electricity (NTDC Transmission Lines)	Project Team / NTDC
10	**Industry**	
i)	Location of Notified Industrial Estates	DO Industries & Project Team
ii)	Location of scattered industry	Project Team
11	**Past Studies Relevant to the Exercise**	
i)	District Census Report 1998	Federal Census Bureau
ii)	Punjab Development Statistics 2010	Bureau of Statistics, Govt. of Punjab.
iii)	Master Plan For Greater Lyallpur 1968	FDA
iv)	FDA Master Plan for City 1994	FDA
v)	Infrastructure Investment Proposal Package 1	SPU
vi)	Pre-Feasibility Study for Urban Transport and Industrial Waste Management Faisalabad	SPU
vii)	Strategic Development Plan 2006-2011	SPU
viii)	Urban Transport Package 1 & 2	SPU
ix)	Transport Improvement Plan 1997 (Long Term)	SPU
x)	Traffic Flow Management Package 2	SPU

2.4 Acquisition of Satellite Imageries

Acquisition of satellite imageries was a prime pre-requisite for the preparation of GIS based maps. These imageries are of 0.6 meter resolution from Quick bird have been acquired and Geo-referenced and vectorized as well. Further preparation of base maps has also been done by digitizing the satellite image.

2.5 Preparation of Digitized Base Map

After procurement of satellite images, the whole study area was digitized. This involved various steps necessary for the preparation of GIS based digitized

maps such as geo-referencing, map projections, ground calibration for error removal, rectification and re-vectorization of the imageries and further overlaying/digitizing of administrative boundaries such as Union Councils, Town boundaries etc. and digitization of missing components after physical ground verifications and secondary source maps. These tasks have been performed by using ArcGIS and other cutting edge digitizing techniques.

2.6 Division of Area into Smaller Blocks

The whole study area has been divided into smaller study blocks/zones for the purpose of field surveys. The area then has been divided on some physical feature basis. Whole study area then given a unique survey number sheet. This survey sheet was given to the field surveyors for field data collection mainly for land use survey.

2.7 Devising Field Work Strategies

A field surveying team was formed which mainly took expertise from the Urban Planning Interns at the Urban Unit and other staff was arranged from TMA's, FDA and Housing Department. There were 15 interns available from the Urban Unit for the surveying purpose and 4 personnel were deputed from TMA.

Six teams comprising staff from towns and eight internees conducted field surveys with a target to complete 50 sheets per day. Besides, all the study team members were given a GPS devise for collecting point feature data from field such as marking transmission lines or getting information about the landmarks in the study area.

Urban planner was made in-charge of the field surveys who was responsible for the collection of data from field, guiding the surveying team for

collection of information and transferring them on the GIS-based concerned files. The Field In-charge for the Surveys coordinated all the following activities:

i) Preparation of surveys sheets for the field teams
ii) Receive the survey sheets from the teams after survey
iii) Conversion of information collected on the image
iv) Help in transferring all the collected information to the GIS Team and supervising the preparation of base map and further GIS development.

2.8 Setting Up GIS Development Team

A dedicated GIS development team has been employed. For this purpose, a GIS Analyst was engaged who was responsible for all the GIS development work. To assist him a GIS technician was also hired. Besides this an Urban Planner assisted them in the development of GIS based mapping dedicatedly.

2.9 Desk Studies and Reviews

The team carefully identified the data requirements as mentioned in the section 3.3. The data collection was further elaborated on the basis of primary and secondary sources and how to analyze the gathered information in the context of policy framework. For this purpose, the study team performed the desk studies in parallel to the field studies. Following documents are enlisted which are available from the probable source for acquisition, this information thus enabled the Study Team to better understand the study area and to fetch relevant information where necessary.

Table 2.2: List of Reference Documents

SR. NO.	INFORMATION/DOCUMENT	POSSIBLE SOURCE
1.	Master Plan for Greater Lyallpur (1968)	DO (SP)
2.	Master Plan of WASA (1976)	WASA
3.	Revised Master Plan of WASA (1993)	WASA

4.	Faisalabad Structure Plan (1986)	FDA
5.	Faisalabad Master Plan (1994)	FDA
6.	Transportation Improvement Plan 1997 (Short Term)	FDA
7.	Transportation Improvement Plan 1997 (Long Term)	The Urban Unit
8.	Strategic Development Plan 2006-2011	The Urban Unit
9.	Industrial Waste Management Study 2009	The Urban Unit
10.	Integrated Urban Transport through institutional and infrastructural Development 2010	The Urban Unit
11.	Urban Transport Interim Report 2009 Final	The Urban Unit
12.	Traffic Flow Management in Faisalabad 2010 Package 2	The Urban Unit
13.	Infrastructure Investment Proposal Urban Transport Package 1 (February 2010)	The Urban Unit
14.	Infrastructure Investment Proposal Urban Transport Package 2 (February 2010)	The Urban Unit
15.	City Census Report 1998	Pakistan Bureau of Statistics
16.	District Census Report 1998	Pakistan Bureau of Statistics
17.	Union Council Report 1998	Pakistan Bureau of Statistics

2.10 Stakeholder Consultation

It was a highly imperative task to take on board all the concerned stakeholders which are concerned with the project. For this purpose, the Consultant shall make every possible means to arrange consultative sessions with the stakeholders. Following departments/concerned institutions were identified for the consultation and consulted during plan making process and MoM of meetings and other workshops are annexed in the end.

1. Office of the District Co-ordination Officer, Faisalabad
2. Faisalabad Development Authority (FDA)
3. Managing Director, WASA
4. Vice Chancellor and Director Research of University of Agriculture Faisalabad
5. Pakistan Bureau of Statistics

6. EDO Community Development & DO (cooperative)
7. DO Health
8. DO Environment
9. TOs P&C of relevant TMAs
10. EDO Works and Services
11. Additional District Collector
12. Deputy Director PHATA
13. MD Parks and Horticulture Agency (PHA)
14. EDO MS
15. DO Spatial Planning
16. Faisalabad Chamber of Commerce & Industries
17. DO Transport
18. DO Education
19. NTDC
20. SNGPL
21. PTCL
22. DO Labour
23. EDO MS
24. DO Industries
25. DO Forest
26. FESCO
27. FWMC

2.11 Data Digitization & Analysis Phase

The data once collected underwent the analysis whereby different analysis techniques and statistical procedures were applied. The data which can be transformed into GIS format was produced in the form of maps. The GIS information then translated into different kinds of overlay analysis to produce GIS based maps. The resultant maps helped the study team to wisely understand the area and to propose the best solutions for future growth of peri- urban area of Faisalabad city.

Besides performing various vector-based GIS analysis, the Consultant specifically performed two integral parts of GIS analysis for the study area i.e.

(i) Image Analysis and Land cover Classification which determined the past spatio-temporal growth trends and spatial structural changes for Faisalabad area; and

(ii) Land Use Suitability Analysis using Spatial Decision Support Model (DSS) which determined the best suitable locations for future land use allocations in the case study area.

2.12 Image Analysis & Land Cover Classification

The most relevant technological development in urban remote sensing, without a doubt, is the increased spatial resolution of sensor systems, which allows a more detailed and accurate mapping of complex urban landscapes from space. The Consultant developed a methodology to determine past spatio-temporal growth in Faisalabad by using a Geographic Information System (GIS) image classification tool. The Consultants compiled a database of urbanization for Faisalabad urban region spanning 50 years or the period for which if the historical records such as Landsat images were available, to identify the urban spatial extent. These were for the following years 1970, 1980, 1990, 2000, 2010 and 2013. Digital transportation data and tabular census data also incorporated into the database to provide a more complete picture of changes occurring over time. This innovative use of spatio-temporal data and animation focused attention on the dramatic increases in urban development and it determined the spatial patterns that have developed over time.

2.12.1 Brief Methodology

The following steps were used to create satellite image-based land cover classification and land cover spatio-temporal variation maps for Faisalabad.

STEP 1: Four Landsat TM/ETM+ images containing the Faisalabad area were acquired to study how land cover in the Faisalabad District changed between the years 1970, 1990, 2000 and 2013.

Images type for each year is shown below which the Consultant searched out in the open market for the procurement of Raster Satellite Images for Faisalabad.

Table 2.3: Tentative Image Acquisition Plan

Sr. #	Name of Sector	Year	No of Bands	Resolution
1	Landsat 1	1970	Band 4	30-meter
2	Landsat 5	1990	Band7	30-meter
3	Landsat7	2000	Band8	30-meter
4	Landsat8	2013	Band11	15-meter

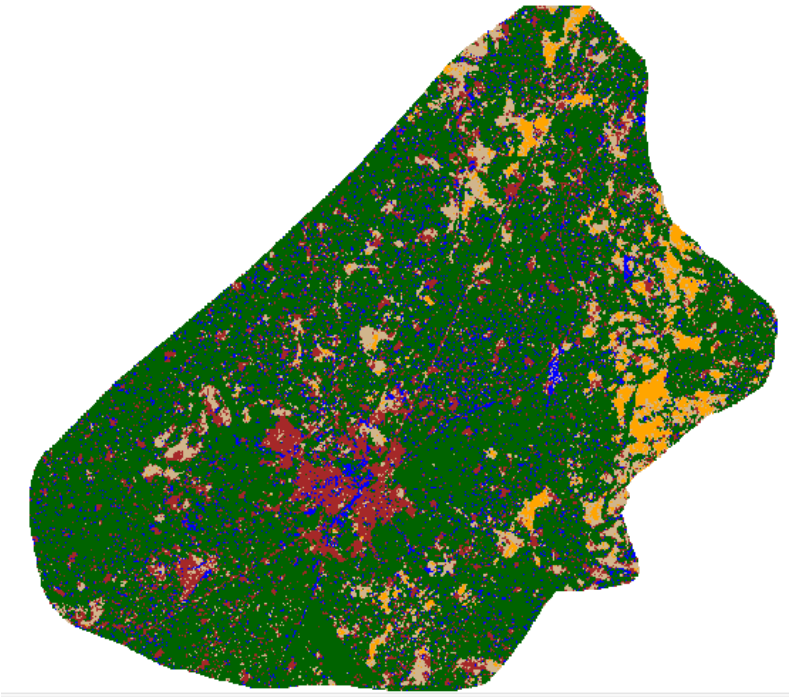
STEP 2: The satellite data were geometrically corrected to match the UTM map projection.

STEP 3: With the land use data, spectral-radiometric temporal responses of a subset of known areas, were generated and used to classify each pixel of the entire area into one of the different land cover classes.

Table2.4: Example of Classified Data

Level I	Level II	Level III
Water	Water	Permanent open water, lakes and rivers
Wetlands	Non-forested Wetlands	Saturated surfaces, shallow marsh, deep marsh, shrub swamp, spongy covering of mosses.
Forest	Forest	Hardwood, conifer and mixed forest types.
	Forested Wetlands	Wet forests such as palustrine with woody vegetation greater than six meters tall.
Agriculture	Bare	Bare farm fields, not cropped
	Non-row crop	Non-row crops such as pasture, alfalfa and small grain crops.
	Row crop	Corn and soybeans.

Urban/Built up	High density developed	Commercial, industrial and multifamily residential areas, with a high percentage of impervious surfaces and little to no vegetation.
	Low density developed	Residential with lower percentage of impervious surfaces interspersed with vegetation such as lawns and trees.

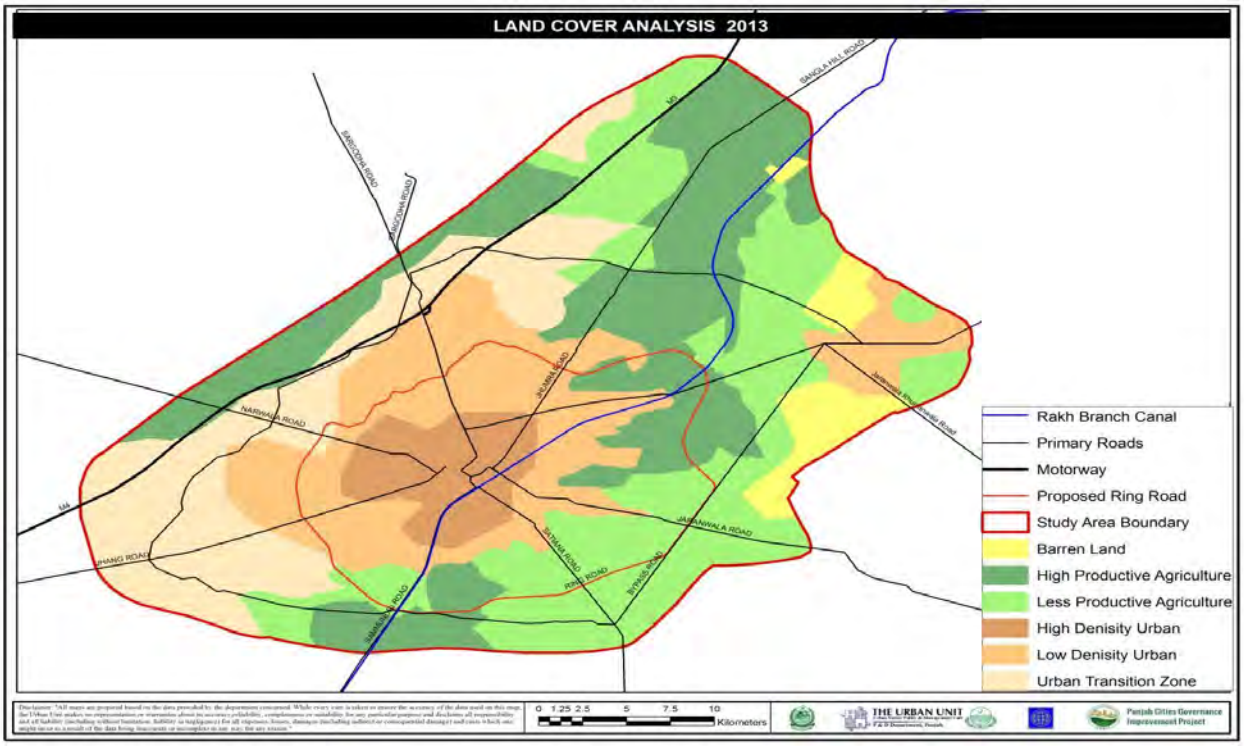


Below is one of the final satellite-derived land cover maps

Figure 2.2: A single Landsat classification map

STEP 4: Image classification, analysts mapped and quantified the land cover change between 1970 and 2013 Maps of the major land cover types and the changes from rural to urban or developed users were also produced. The majority of the changes were at the periphery of the major settlements of suburbs. Clear patterns emerged which highlighted the urbanization.

Figure 2.3: The urban growth in Faisalabad from 1970 to 2013 overlaid on Peri Urban Area boundary



STEP 6: Land cover change results have been quantified in Tabular format, results for each land cover type and the trends between the years for Faisalabad Peri-Urban Area has been generated which depict net change of land use in different periods e.g. Agriculture, Urban, Forest, Water etc. The effects and relationships of urban

growth were determined by the satellite-derived change maps, including the relationship to population growth.

2.13 Land Suitability Analysis by using Spatial Decision Support Model

It is highly pertinent that the process of land-use planning adopted under the Peri Urban Structure Plan consider logical reasoning and evaluation techniques for the future land use allocation in the peri- urban area. Thus, the Consultants have performed the following key tasks under this head by developing a GIS-based Spatial Decision Support System (SDSS) using the Multi Criteria Analysis (MCA):

i. An evaluation of land suitability for each land-use type;
ii. The optimization of the different land-use areas;
iii. The spatial allocation of land-uses.

The SDSS uses analytical methods and models to define alternatives and interpret and selects the best option for the specific uses among the optional land tracts.

2.13.1 SDSS Methodology

Following methodology was specifically adopted for developing a GIS-based SDSS for the Faisalabad Peri Urban Structure Plan:

2.13.1.1 Land Suitability Criteria

Land suitability criteria was developed for the following future land use categories;

- Lands/areas suitable for low rise medium density Residential uses
- Lands/areas suitable for high rise high density Residential uses
- Lands/areas suitable for Community Facilities (Education, Health)
- Lands/areas suitable for Agricultural Zone
- Lands/areas suitable for Industrial development
- Lands/areas suitable for Warehousing/Freight activities
- Lands/areas suitable for Trade/Tourism/Hospitality & Cultural Zones
- Lands/areas suitable for education/research institutions
- Other ancillary uses

2.13.1.2 Data Inventory

This step involves identification and development of potential data sources for the analysis such as:

- Administrative boundaries (Union Councils, TMA Boundary, FDA Boundary, City Boundary, Study Area Boundary etc.)
- Existing infrastructure network (transportation, sewerage served areas, electricity transmission lines etc.)
- Existing community facilities (education, health etc.)
- Land use distribution through land use classification such as (agricultural lands, built-up, negative areas etc.)
- Any constraints

2.13.1.3 Land Suitability

This process involves data analysis to determine relative suitability as per the defined criteria in Step 1 by using ArcGIS Geo-processing (ArcGIS's Model Builder Tool).

2.13.1.4 Preferred Land Use Allocations

This step involves tentative decision making for the allocation of major land use categories

2.13.1.5 Finalizing Preferences

This step involves comparing the land uses preferences to determine likely areas of future land use conflicts and priorities.

2.13.1.6 Formulation of Proposals / Thematic Maps for different land uses and zones

This was the final step in the overall study whereby the study team was able to translate the peri-urban area's problems and to suggest measures and policies besides developing narrative and map form proposals. Following proposals are enlisted which the Consultants envisaged to produce after going through all the studies and analysis for Peri Urban Structure Plan:

1. Zoning Plan – which shall be a growth management tool for the next 20 years period

for the Peri Urban Area under study that which areas must be allowed for urban development and which should be restricted; the type of activities to be allowed in the peri urban areas as per the Punjab Land Use Rules, 2009;

2. A Road Network Map – which shall set out the proposed road network for future development;
3. A Land Suitability Map – which indicate the land tracts suitable for certain type of land uses on a scale of relative criteria for decision making purposes;
4. Land Use Map – which maps out the existing land use pattern, characteristics and form of development in the study area based on the Land Use Classification system;
5. Peri Urban Structure Plan Report –containing a set of data relevant to the study area, comprehensive study analysis and recommendations in the form of policies and strategies for guiding the future growth of peri urban area under study; in addition, different kind of maps have been produced to understand the study area and to formulate the proposals.

2.14 Rationale for Study Area Selection

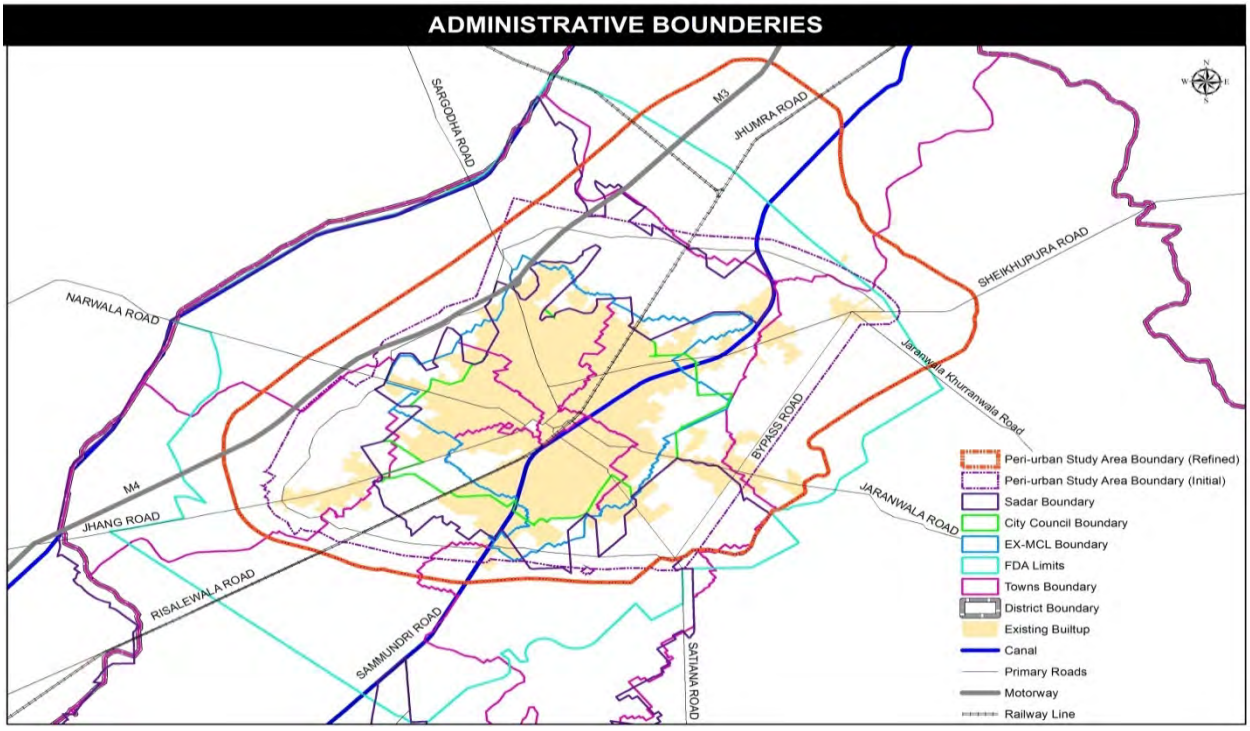
The Consultants have extensively gone through the previous studies report and found that in the past, much work has been done on Faisalabad city master planning and identification of future growth areas as well. Since there was a little ownership found for further implementation and approval of such plans; this kind of project doomed their way to the clerk's shelves. However, since the current exercise has been initiated under some prime objective of improving governance of the selected local governments of five big cities of Punjab; there are brighter chances to get this work implemented and notified for streamlining future growth of Faisalabad city. Legal guidelines given in the Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009 suggest to mark external boundary of the peri-urban area on the basis of:

1. Direction and trend of the urban sprawl;
2. Population growth rate; and
3. Requirements of urban development for the next twenty years.

In addition, following growth factors are also very much important specific to the study area:

- Development of Motorway - M3 and M4 corridors which are passing through Faisalabad District;
- Faisalabad Bypass Road which presently acts as a radial boundary for the Faisalabad city;
- The growth of certain industrial clusters such as Khurrianwala, M3 Industrial Estate and Value Addition City near Khurrianwala. These kinds of industrial development are further attracting allied industry and population to work in these industries.
- Prospective real-estate development and overall growth trends towards nodal growth areas.

Figure 2.4: Faisalabad Peri Urban Structure Plan Study Area (Indicative)



Source: Developed by FPUSP Consultants, 2013

Thus, the Consultants initially selected the area in between the Bypass Road as study limits which is further offset to 1 km around it as most of the

development comes under this boundary limit. Thus the study area for Faisalabad Peri Urban Structure Plan share by administrative division two parts i.e.

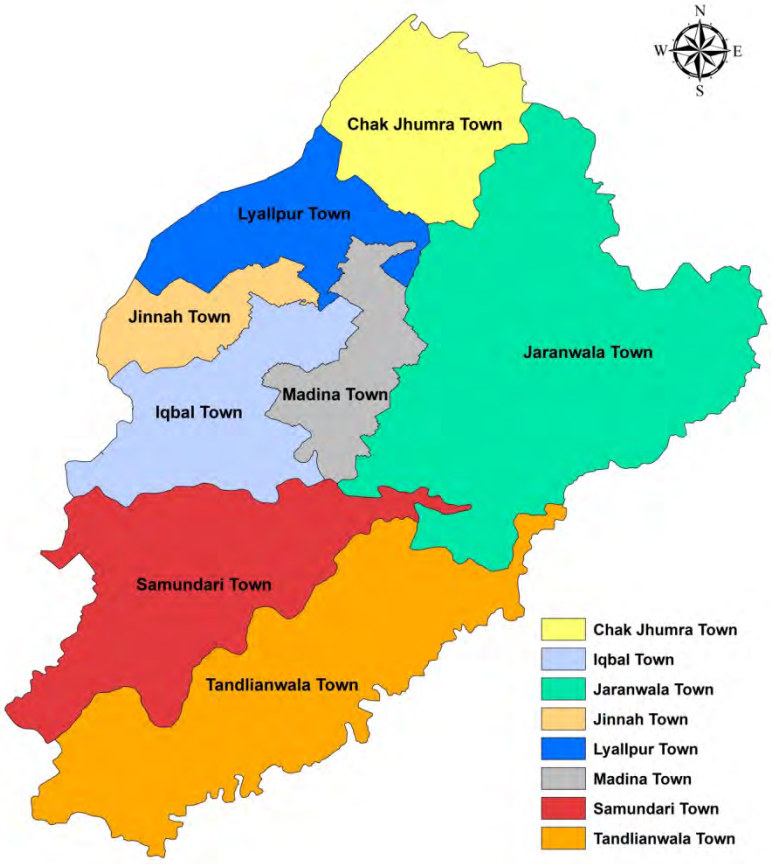
(ii) Faisalabad City area and

(ii) Faisalabad District Rural around the city essentially.

CHAPTER 3 URBAN PROFILE

Faisalabad District is bound by Chiniot and Sheikhupura Districts in the North, in the East by Sheikhupura and Shaiwal Districts, in the South by Sahiwal and Toba Tek Singh Districts and in the West by Jhang District. Faisalabad District has a total area of 5,856 square kilometers, out of which Faisalabad city shares about 200+ square kilometers.

Fig 3.1: Faisalabad District



Source: Consultants FPUSP 2013

After devolution of power as per Punjab Local Government Ordinance 2001, Faisalabad District was divided into 6 Tehsils comprising of Faisalabad City, Faisalabad Saddar, ChakJhumra, Jaranwala, Sammundri and Tandlian wala. The District was headed by the District Nazim and each Tehsil was headed by its own Tehsil Nazim.

Later in 2005 Faisalabad was given the status of City District and City District Government Faisalabad was formed. The individual Tehsils were re-designated as Towns and now fall directly under the jurisdiction of City District. Faisalabad City and Saddar Tehsils have been replaced by four Towns covering four quadrants of the city and area of Saddar tehsil. Now the district comprises of 8 Towns namely Lyallpur Town, Jinnah Town, Iqbal Town, Madina Town, Chak

Jhumra Town, Jaranwala Town, Sammundri Town and Tandlian wala Town. Thus four tehsils were made part of Faisalabad urban area mainly and partly had a mix of urban-rural area under its jurisdiction.

3.1 Salient Aspects of Faisalabad District

Following sections will describe salient aspects of study area such as demographic, socio-economic and physical characteristics.

3.1.1 Location

Faisalabad is an industrial city of Pakistan, situated at 225-miles (360 kilometers) south of the capital Islamabad. The district lies from 30-35 to 31-47 north Latitudes and 72-73 to 73-40 east Longitudes.

3.1.2 Boundary

Gujranwala and Sheikhupura districts bound it in the North and in the East by Sheikhupura and Sahiwal districts. Faisalabad is bound by Sahiwal and Toba Tek Singh in south and bound by District Jhang in the west. The city is linked to M-2 motorway (Islamabad-Lahore motorway) with M-3 motorway section (Pindi-Bhattian-Faisalabad motorway). Faisalabad (formerly known as Lyallpur) is also linked with railway system.

3.1.3 Area

The district has an area of 1,443,703 acres (5,856 sq. km). The subdivision wise area of district Faisalabad is as under:

Table 3.1: Towns areas in Faisalabad

Sr. No.	Name of Sub-Division	Area (Sq. Km.)

1	Faisalabad City	168
2	Faisalabad Saddar Tehsil	1186
3	Jaranwala Tehsil	1811
4	Samundri Tehsil	753
5	TandlianWala Tehsil	1284
6	ChakJhumra Tehsil	654

Source: Consultants FPUSP 2013

3.1.4 Topography

Faisalabad stands in the rolling flat plains of northeast Punjab, with an elevation of 184 meters (604 ft.) above sea level. The city proper covers an area of approximately 52,142 acres, while the district covers more than 1,443,703 acres. The lower Chenab canal is the main source of irrigation which meets the requirements of 80% of cultivated land. The soil of Faisalabad comprises of alluvial deposits mixed with loess having calcareous characteristics, making it very fertile.

3.1.5 Geography

Faisalabad is located just out-side the tropics at latitude 31o 26', longitude 71o 06' and at an altitude of 184.4 m. River Chenab flows about 30 km in the north west while River Ravi meanders about 40 km off the city in the south east.

Climate

Due to its high evapo-transpiration, Faisalabad features a hot desert like climate. The climate of the district can be at extremes, with a summer maximum temperature 50 °C (122 °F) and a winter

temperature of −2 °C (28 °F). The mean maximum and minimum temperature in summer are 39 °C (102 °F) and 27 °C (81 °F) respectively. In winter it peaks at around 17 °C (63 °F) and 6 °C (43 °F) respectively.

Fig 3.2: Climate Data for Faisalabad

Climate Data for Faisalabad													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Average high °C (°F)	19.4 (66.9)	22.4 (72.3)	27.3 (81.1)	33.8 (92.8)	38.9 (102)	40.7 (105.3)	37.3 (99.1)	36.3 (97.3)	36 (97)	33.6 (92.5)	27.5 (81.5)	21.8 (71.2)	31.25 (88.25)
Daily mean °C (°F)	11.9 (53.4)	14.9 (58.8)	19.9 (67.8)	25.9 (78.6)	31.1 (88)	34 (93)	32.3 (90.1)	31.6 (88.9)	30.1 (86.2)	25.6 (78.1)	18.9 (66)	13.7 (56.7)	24.16 (75.47)
Average low °C (°F)	4.4 (39.9)	7.4 (45.3)	12.6 (54.7)	18.1 (64.6)	23.3 (73.9)	27.4 (81.3)	27.4 (81.3)	26.9 (80.4)	24.2 (75.6)	17.6 (63.7)	10.4 (50.7)	5.7 (42.3)	17.12 (62.81)
Precipitation mm (inches)	14 (0.55)	15 (0.59)	21 (0.83)	14 (0.55)	13 (0.51)	26 (1.02)	102 (4.02)	91 (3.58)	33 (1.3)	6 (0.24)	3 (0.12)	8 (0.31)	346 (13.62)

Source: www.climate-data.org

The summer season starts from April and continues till October. Moreover, May, June and July are the hottest months. The winter season starts from November and continues until March. Moreover, December, January and February are the coldest months. The average yearly rainfall lies only at about 300 mm (12 in) and is highly seasonal with approximately half of the yearly rainfall in the two months July and August.

3.1.6 Demography

Details of Population, Villages & Union Councils in 8 Towns after declaring City District Government Faisalabad status calculated on the basis of Census 1998 are given below:

Table 3.3: Town-wise Population Details of Faisalabad District

S#	Name of Towns	No of Villages	No. of Union Councils			Population		
			Urban	Rural	Total	Urban	Rural	Total
1	Lyallpur Town	57	22	16	38	407,093	310,617	**717,710**
2	Madina Town	37	33	8	41	633,666	164,207	**797,873**
3	Iqbal Town	58	28	15	43	514,876	268,297	**783,173**
4	Jinnah Town	31	30	9	39	584,711	180,989	**765,700**
5	ChakJhumra Town	67	2	13	15	32,111	221,695	**253,806**
6	Jaranwala Town	256	7	50	57	136,997	917,701	**1,054,698**
7	Tandlianwala Town	132	3	25	28	62,430	478,372	**515,785**
8	Sammundri Town	178	3	25	28	54,908	460,877	**540,802**
Grand Total:		**816**	**128**	**161**	**289**	**2,426,792**	**3,002,755**	**5,429,547**

Source: Strategic Development Plan 2006-2011

3.2 Faisalabad City Profile

Faisalabad was developed by the British as an Agricultural Market Town (Mandi Town) in the last decade of 19th Century. The vast tract of virgin land between the Chenab and Ravi Rivers was brought under plough in with the digging of Lower Chenab canal. Colonization process was started in 1892 and completed in 1898. Initially, it was named as Lyallpur after the services of Lt. Governor of Punjab Sir James Lyall in the colonization of Lowe Cheneab valley. It was conceived as Mandi Town to provide the farmers a place to sell and purchase their products and necessities of life. The town was initially planned over an area of 110 acres with a threshold population of 20,000 people. The British planners designed the center of the town like the Union Jack with the famous Clock Tower (GhantaGhar) at the confluence of eight bazaars.

Later the town kept expanding spatially and by population size with the abundance of agricultural produce as its economic base. The industrialization of economy was also inducted before the independence in 1947; however, the boom of heavy industrialization started post-

independence in and around city. The town was once known as Manchester of Pakistan due to its famous textile industry which not only provided fabric requirements to the Pakistani market but also serviced globally.

The name of city was changed to Faisalabad in 1977 in commemoration of King Faisal Bin Abdul Aziz of Saudi Arabia. Currently, Faisalabad is the third largest city of Pakistan after Karachi and Lahore, with an estimated population of 2.8 million individuals. Following table explains the respective towns and their total number of union councils in the study area.

Table 3.4: Town in Faisalabad Urban

Study Area Union Councils				
Sr. No	**Town**	**Union Councils**		**Total**
		Urban	**Rural**	
1	Madina Town	33	8	41
2	Jinnah Town	30	9	39
3	Iqbal Town	28	15	43
4	Layallpur Town	22	16	38
Total		**113**	**48**	**161**

Source: Consultants FPUSP, 2013

3.3 Urban Socio-economic Profile

3.3.1 Population Statistics

Faisalabad was established as a Mandi Town over an area of 3 sq. km. Initially, it was designed for twenty thousand populations. Fertile land and job opportunities attracted population from rural area into city. The population doubled at the time of independence as a result of immigration of refuges from India. Furthermore, industrial revolution of 1960s' lasted great changes on population statistics. Heavy textile industries gave recognition to this city as Manchester of Pakistan. The detail population statistics of the city is given in the following table

Table 3.5: Historical Population Growth of Faisalabad City

Year	Population	Increase Over Last Census Figure	Percentage Growth over Last Census Figure	Growth Rate Percent Per Annum
1901	9171	-	-	-
1911	19008	9837	107.3	7.56
1921	23136	4128	21.7	1.98
1931	42922	19786	85.5	6.37
1941	69930	27008	62.9	5.00
1951	179127	109197	156.2	9.86
1961	425248	246121	137.4	9.10
1972	823343	398095	93.6	5.82
1981	1104209	408656	49.6	3.53
1998	2139984	1035775	93.8	3.58

Source: FPUSP Consultants, 2013

3.3.2 Present Population Statistics

According to 1998 census, Faisalabad district had total population of 5,429,547 persons over an area of 5,856 sq.km, with an average

annual growth rate of 2.51%. The population of Municipal Corporation was estimated as 2,139,984 persons at an annual growth rate of 3.58%. The population of other Tehsils was 3,289,563 at 1.98% growth rate. The present urban population for the year 2013 is estimated at growth rate of 2.01% while the rural population for tehsils is projected at the growth rate of 1.94%. The following table shows summary of detail population analysis of whole district for the year 2013:

Table 3.6: Gender-wisePopulation Details of Faisalabad District

Sr. No.	Municipal Corporation / Tehsils / Municipal Committees	Urban / Rural	Administrative Status	Union Councils / Wards	Census Population 2013	Male	Female
1	**Municipal Corporation Faisalabad**	Urban	Municipal Corporation	**157**	2892794	1504253	1388541
2	**Jhumra**	Rural	Tehsil	**15**	295750	153790	141960
3	**Jaranwala**	Rural	Tehsil	**62**	1199094	623529	575565
4	**Tandlianwala**	Rural	Tehsil	**29**	635572	330498	305075
5	**Samundari**	Rural	Tehsil	**27**	543786	282769	261017
6	**Faisalabad Sadar**	Rural	Tehsil	**56**	1183511	615426	568085
7	**MC Samundari**	Urban	Municipal Committees	**27**	145516	75669	69848
8	**MC Dijkot**	Urban	Municipal Committees	**11**	31170	16209	14962
9	**MC Mamukanjan**	Urban	Municipal Committees	**13**	37542	19522	18020
10	**MC Tandlianwala**	Urban	Municipal Committees	**17**	48824	25389	23436
11	**MC Khurianwala**	Urban	Municipal	**12**	40452	21035	19417

			Committees				
12	**MC Jaranwala**	Urban	Municipal Committees	**30**	144200	74984	69216
13	**MC Jhumra**	Urban	Municipal Committees	**12**	43281	22506	20775
Total				**346 / 122**	**7241492**	**3765576**	**3475916**

Source: FPUSP Consultants, 2013

3.3.3 Population Projection

Faisalabad's population has grown tremendously since its inception thus making it the third largest city of Pakistan. Since its birth, the city had a population base of about 10,000 persons and in year 1998, it housed almost 2 Million residents thus increasing by 22000% approximately. The following table explains population growth over different decades as per the census records.

The following table explains the population projection for various constituencies of Faisalabad District.

Table 3.7: Population Projection for Faisalabad District

Sr. No.	Municipal Corporation / Tehsils / Municipal Committees	Union Councils / Wards	Census Pop	Projected Population			
			1998	2013	2023	2028	2033
1.	MC Faisalabad	157	2146230	2892794	3529758	4306976	4,757,581
2.	Jhumra	15	221695	295750	358403	394543	434328
3.	Jaranwala	62	917702	1199094	1437158	1574482	1725654
4.	Tandlianwala	29	476426	635572	770214	847880	933378
5.	Sammundari	27	407623	543786	658983	725433	798584
6.	Faisalabad Sadar	56	887162	1183511	1434230	1578853	1644861
7.	Municipal Committees	122	364273	490985	599095	731010	807490
Total			**5421111**	**7241492**	**8787840**	**10159178**	**11101876**

Source: FPUSP Consultants, 2013

3.3.4 Age Sex Classification of Faisalabad MC

Sex and age parameters are the basic characteristics of any demographic study. It affects its' social, economic and political structure. It also influences birth and death rate, internal and international migration, marital status composition, manpower, gross national product, planning regarding educational and medical services and housing etc. Age sex distribution of Faisalabad Municipal Corporation of the year 2013 is shown in the following table:

Table 3.8: Gender-wise Age Classification of Faisalabad City for year 2013

Age Distribution Faisalabad Municipal Corporation 2013				
Age	**Total**	**Percentage (%)**	**Male**	**Female**
0-4	344242	11.9	179006	165236
5-9	341350	11.8	177502	163848
10-14	326886	11.3	169981	156905
15-19	335564	11.6	174493	161071
20-24	292172	10.1	151930	140243
25-29	237209	8.2	123349	113860
30-34	167782	5.8	87247	80535
35-39	156211	5.4	81230	74981
40-44	141747	4.9	73708	68039
45-49	118605	4.1	61674	56930

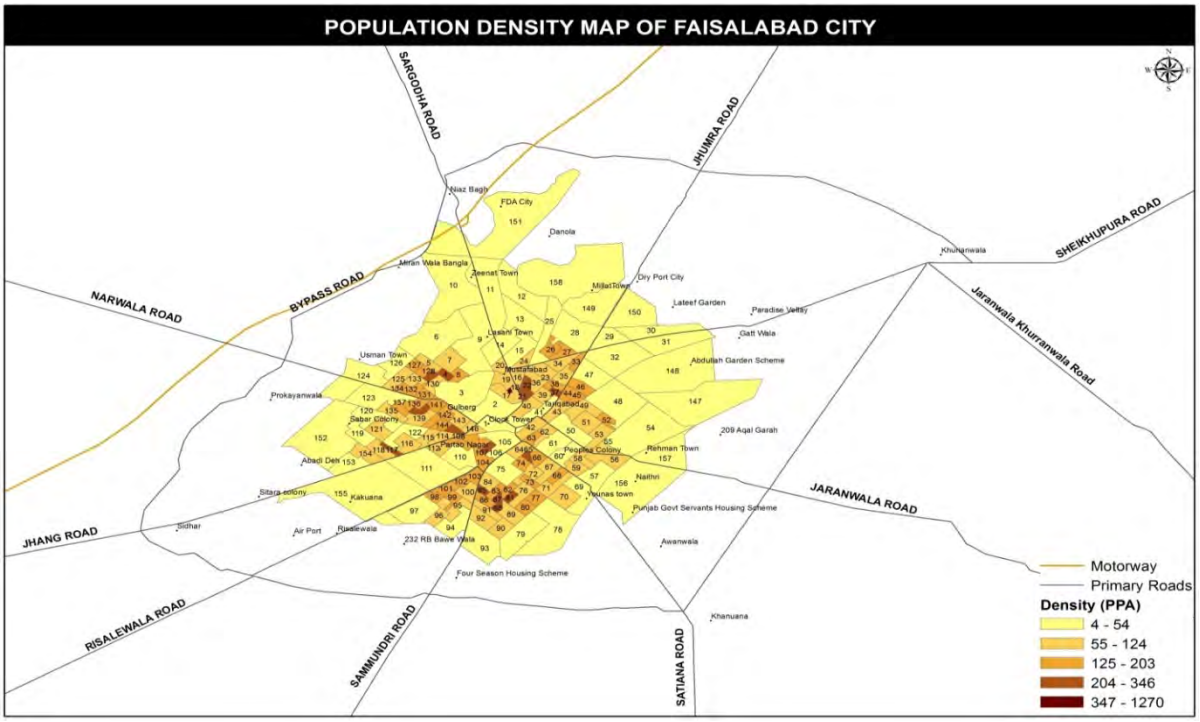
50-54	98355	3.4	51145	47210
55-59	75213	2.6	39111	36102
60-64	86784	3	45128	41656
65-69	54963	1.9	28581	26382
70+	115712	4	60170	55542
Total	**2892794**	**100**	**1504253**	**1388541**

Source: FPUSP Consultants, 2013

3.3.5 Population Density

Density is one an important parameter that helps in deciding the type of infrastructure services required in a particular area. It also helps in zoning and policy making and shows an overall picture of how population is distributed on different chunks of land. The density of Faisalabad district according to previous census report comes out to be 927.2 persons per sq.km. The projected population density for the year 2013 ranges from 4 persons per Acre to 1270 persons. The following map shows population distribution in various density classes.

Fig 3.3: Population Density Map of Faisalabad City



Source: FPUSP Consultants, 2013

3.3.6 Economy

Faisalabad known as Manchester of Pakistan is famous for its textile products. Faisalabad has a predominantly agriculture and industry-based economy and forms a backbone of Pakistan's textile sector. Its population is exceeding 2.5 million and is 3rd largest city of the country. The area's status as the nation's industrial capital has allowed it essentially to experience rapid industrial development and nurture itself into a major growth center with high economic activity. This development has structured all urban, semi-urban and rural industry throughout the region. Today, more than half of Faisalabad's population is engaged outside agriculture, letting a large number of villages and urban areas experience transition from agriculture to industries that are primarily export-based. The ongoing economic diversification has initially attracted migration

from other parts of the country; merchants from surrounding districts also travel to Faisalabad frequently to engage in trade. Challenges which Faisalabad's economy currently faces includes gas and power load shedding, which has led to the closure and disruption of several textile and manufacturing factories.

A Price water house coopers study published in 2009, surveying the 2008 Gross Domestic Product (GDP) of the top cities in the world, calculated Faisalabad's GDP at $35 billion. The city was third in Pakistan behind Karachi ($78 billion) and Lahore ($40 billion). Faisalabad's GDP is projected to rise to $37 billion in 2025 at a growth rate of 5.7%, higher than the growth rates of 5.5% and 5.6% predicted for Karachi and Lahore.(Source: Pricewaterhousecoopers Media Center, 2005)

Besides traditional industries of Faisalabad, the city has diversified a lot in other commercial activities. Banking sector has gained a lot of ground in the economy of Faisalabad. All the local and National banks have their regional corporate banking head offices in Faisalabad. A number of international banks like City Bank, Standard Chartered Bank, Barclay's Bank and HSBC have their commercial banking operation in Faisalabad. In addition to banking, insurance sector has also boomed a lot in the city. State Life Insurance, Eastern federal Union Insurance, Jubilee Insurance and AIG Insurance are a few to name as the major player in Faisalabad. Education has stepped up as another major contributor to the economy of the city.

The district is unparalleled for its agricultural productivity. The area grew in importance as the grain belt of the Punjab during the wake

of colonization. This led to the economic development of towns and villages within the district. Crops such as sugarcane, rice, wheat, maize, sorghum, fodder, vegetables and citrus orchards dominate the regional agriculture. To maximize profits and revenues, farmers may choose to grow high-demand seasonal fruits, vegetables and plant nurseries than the traditional all-year crops. From history, canal and irrigation services have constituted a vital role in boosting the agrarian economy.

Faisalabad's major export crops include the Kharif crops which include Maize, Rice, Sugarcane and Bajra as well as the Rabi crops which include Wheat, Barley, Gram and Barseen. In addition to these, there are also Zaid Kharif and Zaid Rabi crops. Zaid Kharif crops are Toria, Raiya, Sarsoon. Before Pakistan's independence there were only five industrial units in Faisalabad, but now there are numerous textile mills, engineering, chemical and food processing units. Other industries include hosiery, carpets and rugs, nawar and lace, printing and publishing and pharmaceutical products. There are also several thousand household industries, including some 60,000 power loom factories.

Faisalabad exports a large quantity of chemicals to international markets. As well as the textile industry of Faisalabad constitutes more than 65% of the textile export market of Pakistan, which itself forms 58% of the total exports from Pakistan. This makes Faisalabad’s share of total exports from Pakistan more than 40%. Following are some major industrial concerns of Faisalabad:

- Sitara Chemicals
- Ibrahim Fibers
- Interloop

- Masood Textiles
- SitaraGroup
- Klash (Pvt) Ltd.
- Sitara Energy
- RafhanMaiz Products Co. Ltd.
- M.N. Chemical Industries (Pvt) Limited
- Sandal Dye Stuff
- H.M.F. Enterprise Limited
- Chenab Group
- Crescent Group
- AMTEX

3.3.7 Education and Literacy

Faisalabad city has a number of world known research and educational institutions namely University of Agriculture (UAF), Nuclear Institute for Agriculture and Biology (NIAB), National Institute for Genetic Engineering and Biotechnology, Ayub Agricultural Research Institute (AARI), Punjab Forestry Research Institute (PFRI), The University of Faisalabad, National University of Textile Engineering etc. Besides, a regional campus of University of Engineering & Technology Lahore also exists here.

Furthermore, there are number of public and private institutions at all levels which are serving the purpose of educational dissemination. There are three polytechnic institutions located in Faisalabad, and the average number of students enrolled every year in these institutions is 3,556. There are also eight vocational institutes which enroll 694 students every year. In all, about 7,220 skilled technicians/ artisans/workers are trained every year. Further a number of public and private schools are also actively engaged in the educational enhancement for all ages.

Table 3.9: Status of literacy in Faisalabad District

Literacy rate	Male	Female
Urban	79.0%	68.8%
Rural	64.9%	39.9%
Overall District	71.4%	53.1%

Source: EDO Literacy and Non -Formal Education, Faisalabad

3.3.8 Ethnic groups and languages

The main ethnic groups in the district are Arain, Baluch, Bodla, Chishti, Dhudhi, Hans, Johiya, Kathia, Khagga, Kharal, Khichi, Langrial, Syal, Waince, Tarohly(Jats), Wattu. Punjabi is the most widely spoken language whereas Urdu and Saraiki are also spoken.

3.3.9 Agriculture

Faisalabad district is endowed by nature with a rich soil, aided by an efficient irrigation system, has earned a name for agricultural productivity. Faisalabad district is unparalleled in its agricultural productivity, with cotton, wheat, sugarcane, maize and rice as its major crops, besides grains and ghee (clarified butter). The district is also famous for its fruit production, which includes kinno (a variety of orange), mangoes and guavas.

3.3.10 Industry

Although, Faisalabad rightly paved its way as an industrial town in the late 1930s; however, post-independence, the city underwent note worthy industrialization, and gradually became a major industrial center of Pakistan. Today, Faisalabad enjoys a strong industrial base, comprising factories producing textiles, jewelry, home furniture, pharmaceuticals and food supplies etc. supplemented by an expanding qualitative transport network connecting to Lahore, Multan, Sargodha and Islamabad/Rawalpindi.

Table 3.10: Types of Industry in Faisalabad

Sr. No	Type of Facility	Nos
1.	Textile Spinning Mills	85
2.	Power Looms (Standard & Auto)	200,000
3.	Shuttles Looms / Air jet Looms	30,000
4.	Textile Processing, Printing and Finishing Mills	250
5.	Sizing Industries	125
6.	Hosiery & Knitwear Units (Small, Medium & large)	1,000
7.	Cotton Ginning / Processing	25
8.	Embroidery Units	400
9.	Foundry	250
10.	Power Generation	8
11.	Rice Mills	12
12.	Soap (Sodium Silicate & Detergent)	59
13.	Vegetable ghee & Cooking Oil	4
14.	Flour Mills	45
15.	Fiber Plant (Largest in the Country)	One
16.	Chemical Plant (One Largest in the Country)	3

17.	Textile Exports Per Year	US$ 5 Billion
18.	Other Sectors Exports Per Year	US$ 1 Billion

Source: Faisalabad Chamber of Commerce & Industries, 2013

3.3.11 Health

Following are the overall status of health facilities in the district.

Table 3.11: Types of Health Facilities in Faisalabad District

Sr. No	Facility Type	No of Facility	Bed Strength
1	Allied Teaching Hospital	1	1187
2	District Head Quarter	1	720
3	Faisalabad Institute of Cardiology	1	200
4	Government General Hospital, Ghulam Muhammadabad	1	250
5	Government General Hospital Samanabad	1	50
6	Tehsil Head Quarter Hospital	4	220
7	Rural Health Centers	12	240
8	Basic Health Units	168	336
9	Government Rural Dispensaries	5	-
10	Zila Council Dispensaries	4	-
11	Civil Dispensaries	26	-
12	TB. Clinics	2	-
13	Sub Health Centers	5	-
14	Mother Care Health Centers	11	-

15	Infection Disease Hospital	1	-
16	Government City Dispensaries	29	-
17	Health House	2573	-
Total		**2845**	**3203**

Source: EDOH Office, 2013

3.4 Urban Infrastructure

3.4.1 Water Supply

Subsoil water in overall Faisalabad District is brackish. The only available sweet water zones are along canals and near Chenab. Water drawn directly from canals has to be treated before it is fit and safe for drinking.

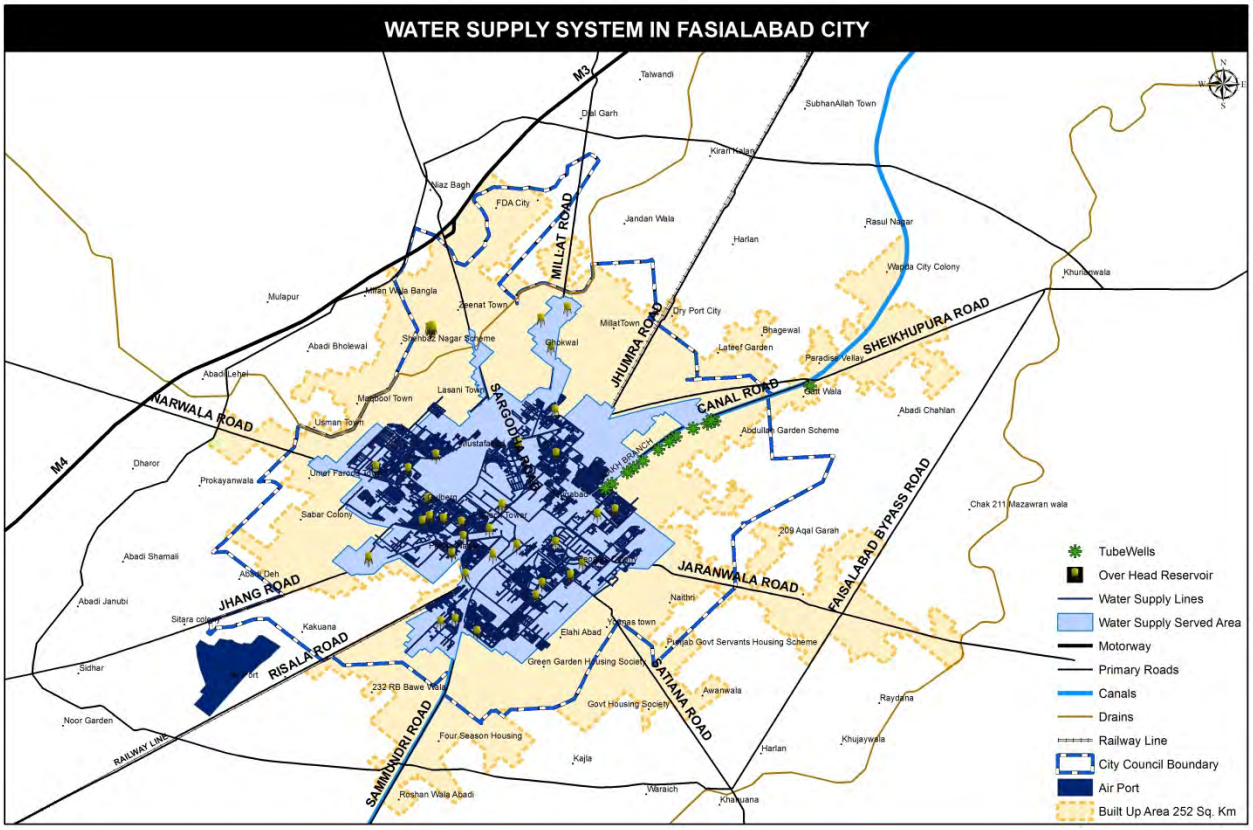
The existing production capacity of WASA is 65 million gallons per day, almost all of which is drawn from wells located in the old bed of the River Chenab. From the well field, water is pumped to a terminal reservoir near Sargodha Road from which it is pumped directly into supply. Water is normally supplied for a total of about 6 hours per day to all parts of the reticulation system simultaneously. The existing reticulation system serves about 60% of the area of the city and there are about 100,000 connections, which suggest that about 30% of households have a connection. These figures suggest that many people within the current supply area do not have a water connection.

A further 20 mgd will be supplied from a new scheme drawing from wells located along the line of the Jhang Branch Canal. This scheme,

which is funded by JICA, will improve water availability in the city but further trunk and distribution mains will be required to ensure optimal utilization of the investment. The four headquarters towns, ChakJhumra, Jaranwala, Sammundri and Tandlianwala also rely on groundwater, although some could receive small quantity of water.

There are about 820 villages in City District Faisalabad, of which around 700 are in areas with brackish groundwater. At present, around 150 have a piped water supply scheme (Figure 2-3) and some new schemes are being constructed through the Asian Development Bank-supported Punjab Community Water Supply and Sanitation Project (PCWSSP).

Fig 3.4: Map showing Water Supply Network in Faisalabad City



Source: FPUSP Consultants, 2013

3.4.2 Sanitation, Sewerage and Drainage

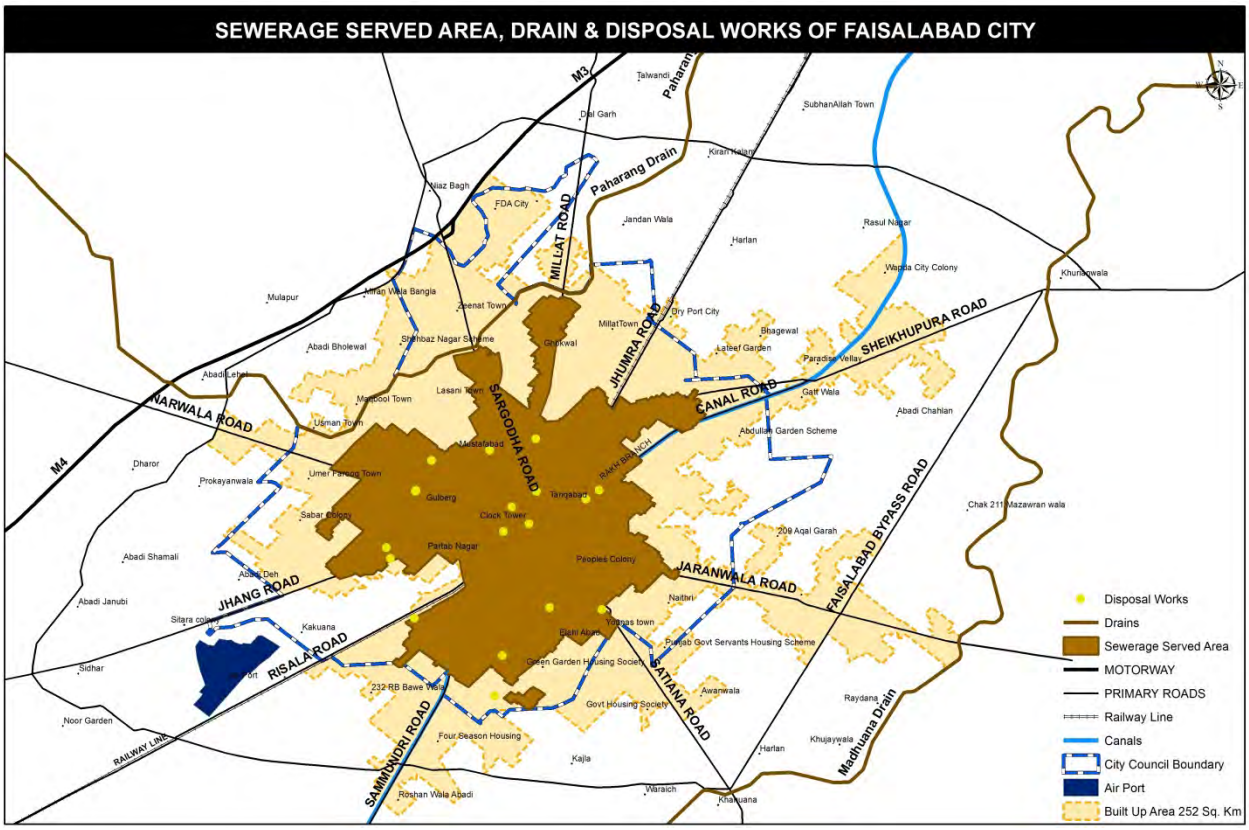
Faisalabad District as a whole is served by open drains to which sludge water is discharged directly. Most black water from toilets is discharged to household septic tanks from which effluent is also discharged to open drains. Sewerage coverage is highest in Faisalabad City, where WASA records reveal that there are 193,000 sewer connections, some of which are from households that obtain water from shallow tube wells rather than the piped reticulation system. Mostly sewers are built by government but in many

peripheral areas they are financed and managed by developers, community groups and elected representatives.

Local sewers discharge to four trunk sewers and a number of smaller collector sewers which lead to four main pumping stations and around 30 smaller pumping stations. Most of the smaller stations have been installed in an ad-hoc way in response to need and cannot be operated efficiently. Around 20 mgd of waste water is treated in a large waste stabilization pond treatment facility located off the Narwala Road on the north-west side of the city. All other sewage is discharged to agricultural drains, the Paharang Drain to the north-west and the Madhuanan Drain to the south-east. About 50% of the total wastewater flow from the city and about 100 mgd of it is used for irrigation of agricultural land.

The textile industry produced liquid effluents that may be toxic and certainly have a high biochemical oxygen demand. These should ideally be treated on-site by individual industries or in facilities shared by a number of industries, before discharge to public sewers. At present, very few of the factories provide such treatment.

Fig 3.4: Sewerage Served Area in Faisalabad City



Source: FPUSP Consultants, 2013

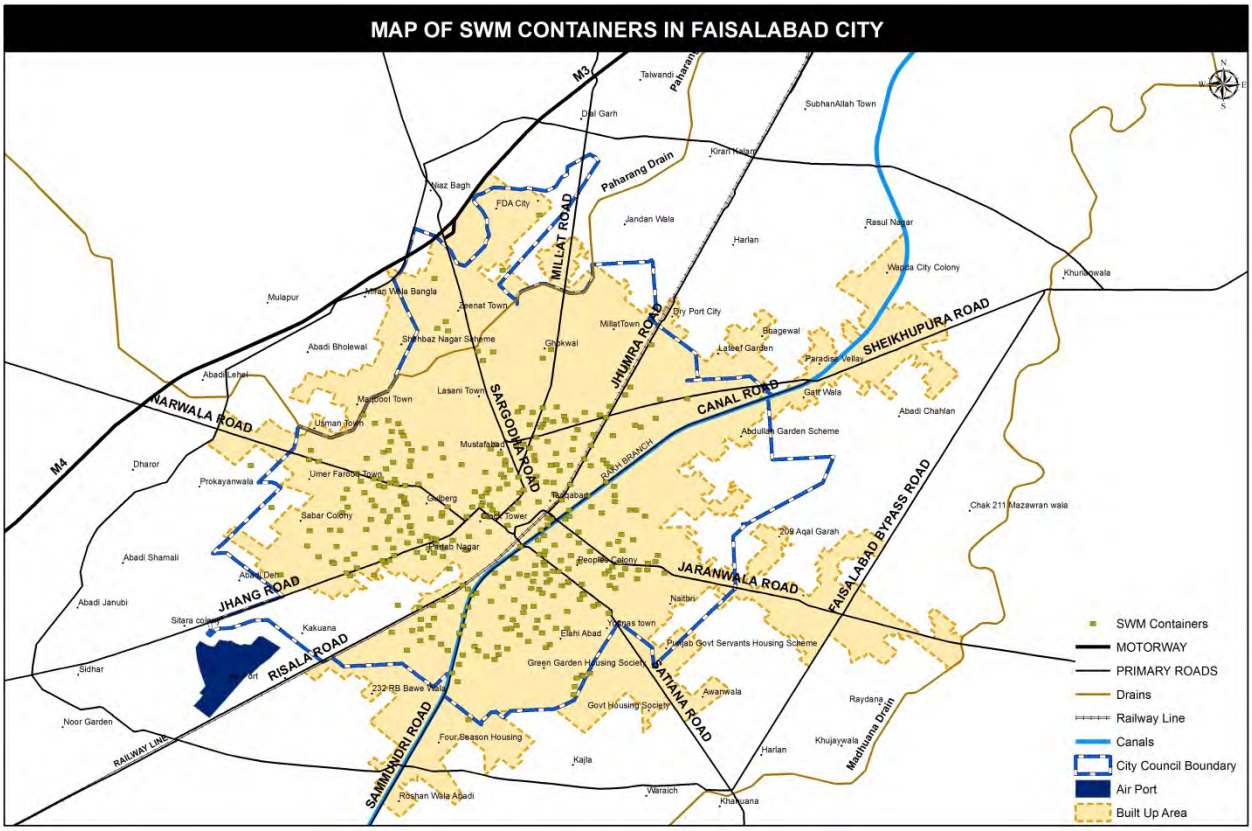
3.4.3 Solid Waste Management

According to an estimate, City District Government Faisalabad produces per-capita waste of 0.5 Kilogram per day and the total waste arising for Faisalabad City is at 1250 tons per day. The figures are based on an estimated population of about 1,850,000. The figure for total waste includes figures of about 118 tons per day for street sweepings and 93 tons per day for animal waste.

Waste is dumped in low-lying depressions at various points around the city Faisalabad. During last five years, two dumping sites have been established at Chak Muhammad Wala on the Jaranwala Road and Chak 237 RB (KhudianWaraichan). These have areas of 20 acres and 40 acres and are located at distances of 19km and 21km from

the city center respectively. There is no measures taken to implement proper land filling and dumped waste is open to the elements. This causes particularly serious insect and odor problems during rains.

Fig 3.5: Map of SWM Containers in Faisalabad City



Source: FPUSP Consultants, 2013

The study revealed that the waste consisted mainly of food (10 – 35%), grass leaves and straw (10 – 21%), fines (34 – 57%). Plastics, paper, textiles and stones comprised 3 – 6% of waste arising. The 1994 study shows that around 50% of waste produced was being collected through formal waste collection systems. Faisalabad's industries produce large quantities of both liquid and solid wastes.

Recent estimates, by the District Government, suggest that the total amount of solid waste generated in the District is of the order of 1500 tons per day and that around 900 tons per day (60%) is currently lifted and removed to the outskirts of human settlements.

The City District Faisalabad is one of the nine cities selected by the AUICK Japan to make these Cities as model Cities by 2008.There is an incinerator for hospital waste at Allied Hospital in Faisalabad City. This was non-operational for many years but has now been brought back into service. There are no other facilities for safe disposal of hospital wastes within the District.

3.4.4 URBAN TRANSPORT INFRASTRUCTURE

3.4.4.1 Road Network

The roads in Pakistan are broadly classified as motorways, national highways, provincial and district roads. The motorways and national highways form the backbone of the highway system, providing inter-provincial links along major corridors and the provincial roads act as feeder roads to the national routes. District roads connect small towns and provide access to villages and the remote areas. The local authorities and municipalities control the roads within the cities and towns.

Since 2002 Faisalabad has been connected with the National Highways network through Motorway M3 to the north-east. There is also a dual carriageway expressway link between Lahore and Faisalabad,

completed and opened for traffic formally in the year 2005. A project to construct Motorway M4 southwards from Faisalabad to Multan has been approved. The contract for construction of the first 58-kilometre section from Faisalabad to Gojra has been awarded, and work is expected to start on it.

The roads in Faisalabad may be classified as:

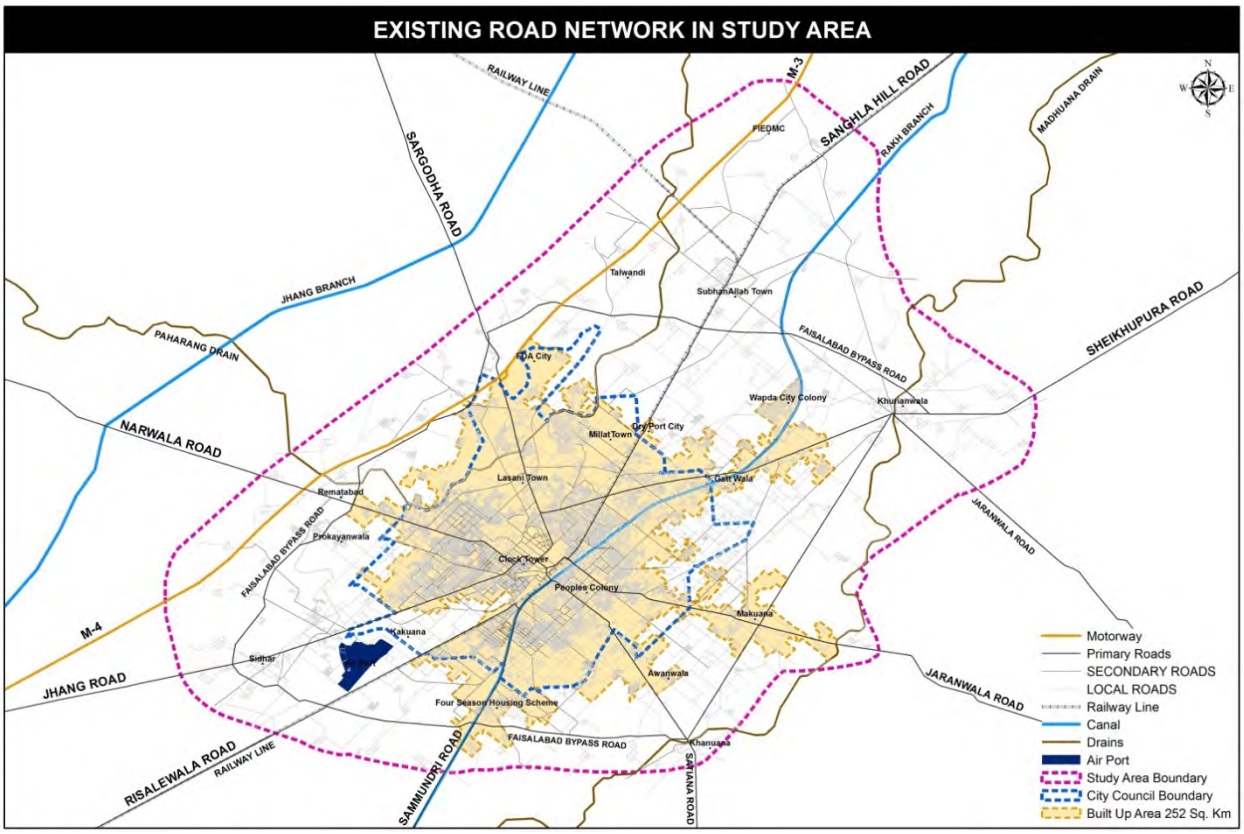
- Primary Roads,
- Secondary Roads and
- Local Roads.

Primary Roads are the most important roads of the city, the major districts and other urban areas as they carry the bulk of the traffic. They include Sheikhupura Road, Sargodha Road, Jaranwala Road, Satiana Road, Sammundry Road, Jhang Road, Millat Road, Narwala Road, Jhumra Road, Risala Road, Gutwala Road and Circular Road.

Secondary Roads provide access to major areas of the city and carry large traffic volumes. They complement the primary network providing links to destinations inside the district. They include Jail Road, Dijkot Road, Club Road, Katchery Road Civil Line, Stadium Road, University Road, Kashmir Road, Darbar Qaim Sain Road, Passport Office Road, Sir Zafar Ali Road and Susan Road.

Local Roads penetrate localities and are fed by traffic from the primary and secondary networks. They include Jinnah Colony Road, Ghalla Mandi Road, Peoples Colony Pahri Chowk towards Waris Pura Road, Tatha Bridge to Liberty Market Road, Liberty Market to Imtiaz Shaheed Road, Samanabad Road, Narwala Chowk to Latif Chowk Road, Ghulam Muhammadabad to Qasmi Mosque Road and Tota Bazar Fatima Jinnah Road.

Fig 3.6: Existing Road Network in Study Area



Source: FPUSP Consultants, 2013

The major roads in Faisalabad city follow a radial pattern. There are few circumferential roads, and therefore most journeys converge on the central zone. As the city grows, the pressure on the central area will increase. The Right of Way (ROW) on the majority of primary roads is generous. Approximately 30% have between 12 and 24 meters and 60% have more than 24 meters. However, due to encroachment and poor control of land use, the available road space has been reduced substantially on many roads.

3.4.4.2 Bus Stands and Terminals

The majority of long-distance bus services operate from bus terminals in the city. Most operators at the upper end of the market have their own terminals, usually used exclusively for their own buses. Those at the lower end of the market use the CDGF-owned General Bus Stand located in Sargodha Road. General Bus Stand is located in a congested area of city, and as a result suffers from delays to arriving and departing buses. Traffic signals are required outside to control buses entering and leaving and to relieve the severe congestion being experienced.

There are also several terminals for inter-city bus services including those operated by Nadir, Kohistan, Daewoo and New Subhan located in the busy central area of city. Niazi Express, Kohistan and Taimur Travel

have their own terminals near the railway station. Some of these operators allow others to use their terminals. Several of the private terminals are poorly designed and in very poor condition, although the Daewoo Express terminal sets a high standard, particularly in terms of passenger amenities.

There is scope for an improved terminal facility, available to all operators, designed to cater for all levels of service, and integrated with the local public transport system to provide convenient access to the terminal. Operators may continue to use their own terminals if they wish but the authorities should set rigid standards for such terminals in terms of the facilities provided for passengers including provision for local transport to and from the terminals. In most cases the enforcement of such standards as well as the improved facilities available at the General Bus Stand should encourage most operators to use it. This would provide passengers with a better choice of services than they have at present.

The Faisalabad Urban Transport Service (FUTS) wagon stand which caters for three of the wagon routes is located in the central city at Kotwali Chowk. Some FUTS wagons operate from outside the stand. The franchise buses have a stand outside the FUTS stand. No wagon services terminate at the stand but pass through to pick up and set down passengers there.

There are no legal stands for rickshaws and Qingqis. There may be justification for providing formal stands for these vehicles at appropriate points, such as major bus stops and terminals, with facilities for passengers and drivers.

3.4.4.3 Truck Stands

Trucks may only enter the city center during the night and therefore those arriving during the daytime must park on the outskirts of the urban area until night. There is a formal truck stand owned by CDGF in Jhang Road, while there is informal parking on vacant land and along the roadside in Sargodha Road. The stand at Jhang Road is in poor condition with inadequate capacity. In both locations, large number of trucks park for long periods in the roadway causing obstruction to other traffic on these busy traffic arteries. In addition, there are several other places around the city where trucks wait and load, principally outside Karkhana Bazaar, Montgomery Bazaar, Jhang Bazaar and near the fruit and vegetable market at Sadhar.

3.4.4.4 Railways

Single track railway line is crossing from District Faisalabad which connects Karachi, Lahore, Rawalpindi, Peshawar and many other cities of Pakistan. It's an important link for freight movement from all parts of Pakistan. Dry Port is also located in Faisalabad near Gatti railway station. District Faisalabad is connected by the following railway lines:

1. Faisalabad-Gojra-Shorkot-Khanewal Railway Line.
2. Faisalabad-Chak Jhumra – Sheikhupura – Lahore Railway Line
3. Faisalabad-Chak Jhumra-Sargodha Railway Line.
4. Faisalabad-Chak Jhumra-Rawalpindi Railway Line.

3.4.4.5 Rail Crossings and Bridges

The railway line runs through the center of the city and there are six places where roads cross the railway. There are four overhead bridges crossing the railway line at Nishatabad, Dijkot Road, Satiana Jhal and Abdulahpur. Two are dual carriageways with three lanes in each direction and two are two-lane single carriage ways carrying large volumes of traffic.

3.4.4.6 International Airport

The Faisalabad International Airport is located at a distance of approximately 10 kilometers from the city

center and is a transit point for exporting goods to other parts of Pakistan and the Middle East.

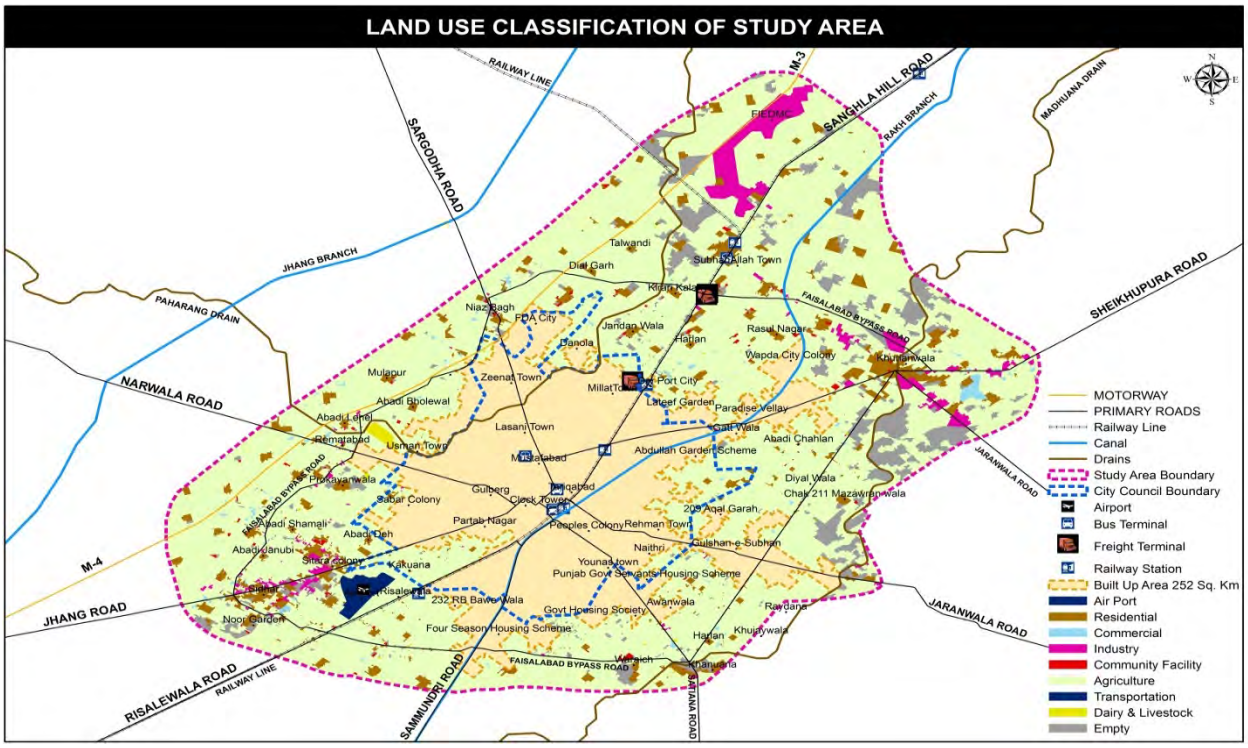
3.4.4.7 Dry Port

There is a dry port located on Chak Jhumra Road, one of several constructed in Pakistan since the mid-1980s. The dry ports were established to ease the pressure on the country's seaports by providing inland customs clearance facilities. In fact, they are container terminals where imports arrive in containers carried by rail, and after customs clearance are taken to their final destinations by road; the reverse process applies to exports.

3.5 Land use Profile of Existing Built-up Area

Existing land uses in the Built-up Area of Faisalabad city may be generally described to include three main types of land uses: residential with supported services and commercial uses, institutional and community services; and, industrial landscape in some older parts and the urban fringes areas. All the land uses are well serviced with an overlay of road and rail network.

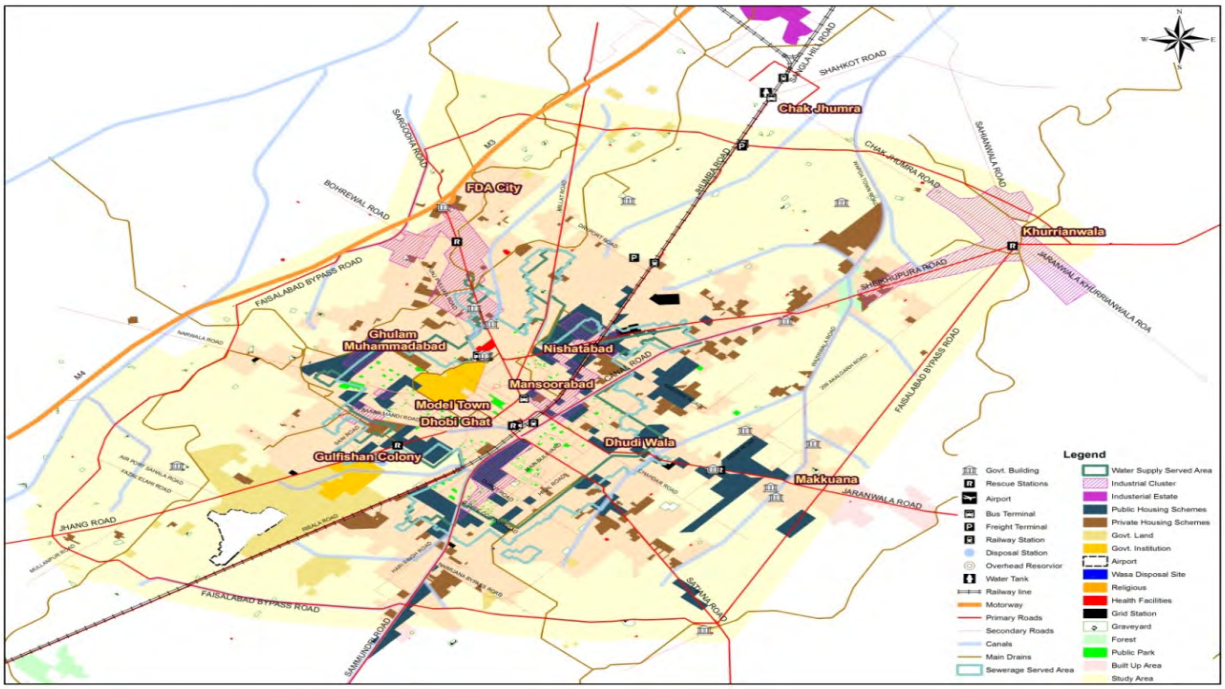
Fig 3.7: Land Use Classification of Study Area



Source: Developed by the FPUSP Consultants, 2013

The railway line bisects the city in two parts in east and west directions whereas road network emanates from the city core and forms a spoke-hub pattern that further runs along to mark intercity corridors. While it is considered that most of the existing land uses will remain the same in the built-up area in the near future such as residential, health, education with a fewer exception to industrial land uses.

Fig 3.8: Existing Land Use Map of Study Area



Source: FPUSP Consultants, 2013

The existing built-up area, characterized by wide roads and canal (Rakh branch) passing through the city, includes several key character areas based on the age of buildings or general location as follows:

- The existing city core, Clock Tower and 8 Bazars, which includes various historically significant buildings; the historic 8 bazaars which still actively depict its historic character of Central Business District of Faisalabad and specialized markets such as Yarn/Cotton Market which not only caters the needs of industrial raw material for local industries but also supply the products at regional level.
- The city's spatial morphology bisected by the Railway line and Rakh Branch Canal results in two parts i.e. the Northern side of city contains old area such as 8 bazaar's area, Jinnah colony, Tata Bazaar; besides city's administrative hub in city center where all public offices are located such as Civil Lines, DCO and

Commissioner Office and old offices of provincial government like Irrigation's Department.

- High to medium density, residential character of the various housing developments in the form of Mohallas peculiar to Faisalabad city such as Duglus pura, Sant Nagar, Dhobi Ghaat, Islam Nagar etc. dated back to pre-independence and 1947-1970s such as Ghulam Muhammadabad, Muslim Town, Model Town and various other older communities in the Northern part of the city. Whereas the Railway line and Rakh Branch Canal bisects the city and in Southern side, areas like Sarfraz Colony, Peoples Colony No. 1 and Peoples Colony No. 2, Madina Town, Muhammadabad, and other residential settlements along canal and Samundri road exist which are low in density.
- Low density residential development further transacts to sub-urban development along canal and major roads leading out of city.
- The initial industrial buildings, warehouses, offices, agricultural buildings located in various parts of the city which further act as city's landmarks.
- The large scale institutional character of Faisalabad due to presence of various research and higher educational institutes in the city area.
- The city's role as a regional trade and manufacturing hub for transportation of goods and services to other parts of the province, country and its economic linkages with the international markets.

3.6 Land Use Profile of Existing Peri Urban Area

The existing Peri Urban area is largely distinguished by farmlands with relatively smaller rural settlements. However, with a little exemption of

contiguity of city's built-up outwards which crosses the Faisalabad Bypass Road towards South-Eastern side to Makkuana; South-Western side on Jhang Road and in the North-Eastern side towards Khurrian wala. The dominant features in the peri-urban area are the cultivated agricultural lands, scattered built-up, industrial clusters along some main roads, and brick kiln sites. The railway bisects the area while irrigation and road network overlay connects the peri urban area to the Faisalabad city.

The peri urban area of Faisalabad largely comprises of rural, low intensity development. However, over the last decade, development, especially low density residential development continues to creep northward, southward and eastward. Faisalabad By-pass road has specifically acted as a cause for such outward residential development. Further, Motorway M-3 section also acted as a larger investment area for tremendous amount of new housing and industrial development both from the public and private sector. However, still the peri-urban area's main land use is agriculture besides other land uses specific to rural character. But this rural character is tremendously undergoing change in the form of urban development.

3.7 Urban Management, Policy Scenario and Institutions Responsible

The first Master Plan was prepared by the Town Planning department of the West Pakistan government in 1968 but it adorned the shelves of the concerned department. Faisalabad Development Authority (FDA) was established in 1976, which took up preparation of a master plan for which a project directorate was set up. After preliminary studies and surveys, the work on this master plan, called the structure plan was suspended until 1984 because the P&D department insisted on engaging experts for the

evaluation of the proposal, while the FDA was requesting for permission to engage consultants. The controversy was finally resolved in January, 1985 and services of a professor from the University of Engineering and Technology, Lahore were acquired as a consultant. The plan was finalized under his supervision in 1985.

3.7.1 Institutions Responsible for Urban Management in Faisalabad

Table 3.12: List of Institutions Responsible for Urban Management in Faisalabad

Agency	Jurisdiction	Aspects	Instruments
Govt. of the Punjab	Province	Legislation, Regulatory Frameworks	PLGO (2001, 2005, 2013), Model Building Byelaws 2008, Land Use (Classification, Reclassification and Redevelopment) Rules, 2009
C & W, Punjab	Province	Planning, execution, development and maintenance of Provincial roads and Bridges	Annual Development Plans
HUD&PHED, Punjab	Province	Rejuvenating the housing sector. Provision of shelter to shelter-less low income groups	Policy devising role and special projects implementation
Provincial Highways, Punjab	Province	Responsible for construction and maintenance of all the Provincial Roads Network. Capabilities of testing of materials, design of pavements, geometric design of roads & bridge design.	Annual Development Plans

EPD, Punjab	Province	(EPA) which is responsible for the protection, conservation, rehabilitation and improvement of the environment; the prevention and control of pollution; and promotion of sustainable development in the province.	Punjab Environmental protection Act 1997 (revised 2012); Environmental Tribunal Rules, 1999; Review of IEE & EIA Regulations, 2000; Certification of Environmental Laboratories Regulations, 2000; Provincial Sustainable Development Fund Board (Procedure) Rules, 2001; Environmental Samples Rules, 2001; NEQS SMART Rules, 2001; Pollution Charge Rules, 2001; Provincial Sustainable Development Fund (Utilization) Rules, 2003; The Punjab Polythene Bag Rules, 2004; Hospital Waste Management Rules, 2005; Biosaftey Rules, 2005; Environmental Tribunal Rules, 2012; Punjab Environmental Protection Base Transceiver Station (BTS) Regulations, 2012
PHATA	Province	Rejuvenating the housing sector. Provision of shelter to shelter-less low income groups	PHATA Ordinance, 2002.
P&D, Punjab	Province	Assessment of the material and human resources of the province. Formulation of long and short term plans. Recommendations concerning, prevailing economic conditions, economic policies or measures. Examination of such economic problems as may be referred to it for advice. Coordination of all	MTDF 2013-16 & Development Programme 2013-14

		economic activities in the provincial government	
The Urban Unit, Punjab	Province	Punjab government's core urban research and policy management unit	Policy research and guidance
Forests Department Punjab	Province		Annual Development Plans
CDGF	Faisalabad District	Overall planning and administrative control of the District.	Punjab Local Government Ordinance, 2001; Faisalabad Strategic Plan 2006-11
Traffic Police	Faisalabad District	Traffic Discipline, Prevention of Accidents, Zero Tolerance and People Friendly Attitude	Departmental rules and procedures
Rescue 1122	Faisalabad District	Development of safer communities through establishment of an effective system for emergency preparedness, response and prevention.	THE PUNJAB EMERGENCY SERVICE ACT 2006
Parks & Horticulture Agency, Faisalabad	Faisalabad City	Make city clean, bright & Green by maintaining the landscape and horticulture in the city	
FDA	FDA Controlled Area and Faisalabad city other than TMAs controlled Mouzas	Transport planning, Physical Planning and Development, Area Development Schemes, Development Control under the Punjab Development of Cities Act, 1976.	Structure Plan 1986-2000; Master Plan 1997-2002; Faisalabad Strategic Plan 2006-11
TMAs	Towns	Master Plans, Development Control	Town Plans (last done in 1990s)

Source: FPUSP Consultants, 2013

3.8 Spatial Planning Functions of Different Tiers of Government in Faisalabad

3.8.1 City District Government (CDG)

- Approval of master plan, zoning plan, land use plan including classification and reclassification of land, environment control, urban design, urban renewal and ecological balances
- Review implementation of rules and by-laws governing land use, housing markets, zoning, environment roads, traffic, tax, infrastructure and utilities
- Approval of development schemes for beatification of areas along rivers
- Preparation of spatial plans for the town in collaboration with Zila and union councils including plans for land use and zoning functions for which the TMA is responsible within the framework of spatial/master plan for the city district

3.8.2 TMA's

- The functions and powers of the TMA's in Faisalabad include preparation of spatial and land use plans, executing and management of development plans and exercise of control over land use, land sub-division, land development and zoning by public and private sectors for any purpose, enforcement of municipal laws, rules and bye-laws, provision and management of water, drainage waste and sanitation along with allied municipal services

3.8.3 Union councils

- Collection and maintenance of statistical information for socio-economic surveys
- Consolidation of ward neighborhood development needs and to prioritize these into union wide development proposals
- Identification of deficiencies in the delivery of services and making recommendation for improvement thereof to the concerned TMA.

3.8.4 Faisalabad Development Authority (FDA)

- The FDA is an Institution established in 1982 (Under Development of Cities Act 1975) to regulate, supervise and implement development activities in in jurisdiction area which is called Controlled Area and is almost 1300 Sq. km at the moment). FDA also acts as a policy making body for the development of the city and it is also in-charge of arranging for and supervising such development. In addition, it is responsible for the formulation and administration of building regulations, management of parks and gardens and subsoil water management. The FDA, through WASA, is also responsible for the provision of water supply, sewerage and drainage. It is also responsible for the upgrading of slums and katchi abadis and traffic engineering.

Chapter 4

URBAN PLANNING IN FAISALABAD: CONSIDERING PREVIOUS EXCERCISES (MASTER PLANS AND OTHERS)

4.1 A Review of Master Plan 1968

Name of study: Master plan of Greater Lyallpur

Year of Preparation: 1962-1968

Prepared by: "Government of Punjab Communication and works department"

Summary

This Master plan offered a model of an intended future situation, covered all the main aspects like economic and social conditions, their location and provides a plan to channelize growth in the foreseeable future. This plan provided a broad basis on which city should be developed or allowed to grow. It was in principle a physical plan which had tried to integrate urban elements of Lyallpur.

This study was based on past conditions of Lyallpur covering different aspects such as public services, social services, industry and industrial employment, housing and commerce. This plan intended to develop and manage the city growth based on zoning regulations and planning standards.

4.1.1 Scope of document

It indicated the present ailments, the future situations and points towards the lines on which they could be overcome or handled. It tended to provide a basis for integrated and coordinated programs for the development of city in future. It covered following aspects and sectors;

- Public services
- Social Services
- Industries & Industrial Employments.
- Commerce
- Housing
- Planning standards for housing, commercial and industrial development

4.1.2 Master Plan describing situation in 1962

4.1.2.1 Population

- In 1961 population was 4,25,248

Population Projection

Year	Population
1971	11,00,700
1981	23,96,624
1985	33,86,814

- Age-sex Ratio

  In 1961 males were 2, 39,267

  Females were 1, 85,981

- Immigrants

Total Immigrant into Lyallpur city in 1961 were 176,468

Male 94,809

Female 81,659

4.1.3 Land utilization

Land utilization	Percentage
Undeveloped	56
Built up	37

4.1.4 Distribution uses in built up

Land use	Percentage
Education	22
Industry	11
Open spaces	6
Commerce	2.7
Grave yard	1.3
Roads, Railways and streets	20

4.1.5 Age of building

The socio-economic survey of Lyallpur conducted in 1962, classified the buildings into the following three groups:-

(a) Pre-1918

(b) 1918-1947

(c) Post-1947

It was observed that structures having life expectancy of over 20 years were of the highest number, the next highest number of buildings fall in the category with life expectancy of five to twenty years. Rests of structures were in the form of katchi abadi whose life expectancy could not be more than five years

4.1.6 Land values

- Newly constructed localities ranged from Rs.10, 000 to 50,000 to 200,000 per kanal
- Around Clock Tower terribly high and the land with fronts on the streets exceeded Rs.75000 per kanal

4.1.7 Land ownership

- Total area within the master plan boundary was 63.17 sq. km.

Private	83.9
Government	7.7
Semi Government	8.4

4.1.8 Water supply

- Sources were adjacent to two main canals Jhang and Rakh branch
- The improvement in water supply after the year 1951 consisted of installation of 2 tube wells of 1 Cusec capacity each and 4 tube wells of 2 causes capacity each in a large
- 13 cusec withdrawal along Rakh branch

- 100 cusec withdrawal along Jhang branch
- Average water consumption per capita per day 19.5 gallons
- The present raw-water storage capacity was 31 million gallon

4.1.9 Sewerage

- Partial system of drainage and sewerage
- Intermediate pumping stations
- Nazimabad, Mohallah Abdulapur, Tariqabad, and near the chartered bank

4.1.10 Education

- Lyallpur Literacy Rank order in Pakistan was 20th in 1961 census and in provincial order it was 14th

Educational Facilities

- Primary schools were 53 by the end of 1960. considering that the primary school going age was about 5-9, there was one primary school for 732 persons in this age group
- Middle schools were 10
- High schools were 20. For age group taken 10-14, there were 1941 persons for one high school
- 6 colleges in 1961, there was one college for every 70,874 persons

Vocational institutions

- There were 5 institutions imparting various kinds of vocational education and training in the city by the end of 1965

4.1.11 Health Facilities

- The health facilities in the city included hospitals, dispensaries and health centers
- There were 10 hospitals which are owned and run by public or semi-public organization.
- The total number of beds available, in these hospitals are 152; out of which 127 are in the district headquarter hospital and 16 in the police hospital. The total landcovered by these hospitals is 11 acres.
- There were about 20 dispensaries operating in the city. 13 out of these were run by public and semi-public organizations and 7 were owned by private bodies
- One public owned dispensary for about 4600 persons

4.1.12 Open Spaces

Total area of open spaces in the city was about 803 acres, out of which

- 351 acres was covered by parks, both developed semi developed.
- 98 acres of open spaces was covered by various institutions reserved
- The total developed open spaces which were both public and private cover an area of 449 acres.

4.1.13 Distribution of open spaces

- Open spaces in Civil Lines area was114.94 acres

- An open space, meant for general public has been given areas above 16 acres
- Small open spaces of various sizes had been provided in the newly developed residential colonies. There were 26 such open spaces covering an area of 86.28 Acres in Ghulam Mohammad Abad
- There were 16 open spaces in Jinnah colony, the largest covering not more than 4 acres in size
- People's colony had 32 open spaces varying in size from less than 1.0 acre to about 9 acres
- There were 20 open spaces in the colonies known as the Labour colony and the D type colony, covering total area of 23.16 acres.

4.1.14 Recreation

- Lyallpur was almost totally devoid of cultural and social traditions
- There were 13 cinema-houses in the city, scattered around the central city with a seating capacity of 9437, which means about 15 seats for every 1000 persons
- One cinema hall of about 750 seats was considered satisfactory for a population of 5000 persons

4.1.15 Industries & Industrial Employment

By the end of 1965

- Total 3025 Industrial units
- 2773 Light industry

- 252 Medium Industry

Year wise Industrial growth

Year	Light	Medium	Total
1960	291	30	321
1961	75	8	83
1962	229	26	255
1963	353	14	367
1964	231	10	241
1965	71	1	72
Total:	2773	252	3025

4.1.16 Spatial Distribution

- Industrial units had been established haphazardly without following any scheme of planning and development
- Big industrial units, such as textile, woolen textile, Acid Mills etc.
- Smaller industrial units especially Dyeing, Bleaching, Calendaring, power-looms Hand-looms etc.

4.1.17 Ownership

Type of legal organization	percentage
Individual proprietorship	89.9%
Partnership	7.0%
Private Limited.	3.1%

Sr. No.	Type of Industries	Number of Units.	Net Industrial area Acres	Net area.
1.	Food and drink.	81	85.09	136.66

2.	Clothing & Textile	2754	504.69	951.11
3.	Leather and Rubber.	14	0.02	0.03
4.	Paper and Printings.	14	0.50	0.05
5.	Machinery and Machine.	30	8.35	13.00
6.	Chemical and Petroleum.	26	15.50	30.21
7.	Metal & Metal prod.	86	12.33	19.60
8.	Manufacture of wood Furniture.	12	0.05	0.05
9.	Non-metallic Mineral Production.	4	3.53	7.03
10.	Electricity and Gas.	1	0.04	0.04
11.	Electrical Goods.	1	0.002	0.20
12.	Misc.	2	0.50	2.00
	Total	3025	630.6104	1160

4.1.18 Industrial Units by Type

- Classification of Industries by Type of Production Units, Net and Gross Area of Various Kinds of Industries

4.1.19 Employment Size

- Light industrial establishments employing up to 10 workers provided job at the most for about 7625 persons
- Industrial establishments employing more than 10 persons provided job to at least 47755 persons

4.1.20 Commerce

- In 1962, Lyallpur had 4560 commercial establishments
- The commercial establishments have been broadly classified as food shops and non-food shops there were 1734 food shops and 2826 non-food shops, one food shop for 345 persons and one non-food shop for 212 persons.
- Shops preset at different levels like central commercial area (major shopping Centre) ,the neighborhood shopping center and the community or local shopping centers,

specialized shopping centers, and whole sale, retail and mixed markets

4.1.21 Housing

- Total no of household 102551 by 1962
- House hold size 5.7

Density

- Average net density 190 persons per acre

HOUSING SHORTAGE AND REQUIRMENTS

	At 5.12 persons per household.	At 4.7persons per family (survey)	At 4.6 persons per family (Gens)
1. Housing units required for the existing population	117187	127659	130434
2. Existing number of Houses.	78950	78950	78950

4.1.22 Status

The Master Planning practice in Faisalabad has only partially achieved the objectives of planned development. Key impediments identified related to

- Excessive delays in plan preparation and approval process
- Weak institutional set up, lack of coordination among government departments
- Inadequate financial resources
- Legal lacunas
- Lack of dissemination of plans
- And above all lack of political will

4.2 A Review of Structure Plan 1986

Name of Study: Faisalabad Structure Plan

Year of preparation: 1986

Prepared by "Faisalabad Development Authority"

4.2.1 Institutional Responsibilities

4.2.1.1 FDA

The FDA is a policy making body for the development of the city and it is also in-charge of arranging for and supervising such development. In addition, it is responsible for the formulation and administration of building regulations, management of parks and gardens and subsoil water management. The FDA, through WASA, is also responsible for the provision of water supply, sewerage and drainage. It is also responsible for the upgrading of slums and Katchi Abadis and traffic engineering.

4.2.1.2 Water and Sewerage Authority (WASA)

WASA is in-charge of planning, developing, operating and maintaining water supply, sewerage and drainage and is empowered to collect charges for these services from the beneficiaries.

4.2.2 Summary

In order to guide the growth and development of cities, the civic agencies in Faisalabad started the implementation of Faisalabad structure plan in 1986. The plan remained in practice for fifteen years until 2000. The salient features relating to the land development and management are discussed below.

4.2.3 Preparation process

1. Plan initiation 1978-1979
2. Completed in 1986

Public participation of during the plan preparation process was limited to traditional socio-economic household surveys along with some meeting with pressure groups of the city. After the clearance of plan from structure plan committee, the plan proposals were presented to housing and physical planning department for final approval but unfortunately it could not obtained

4.2.4 Population projection

All the resources, census reports, socio-economic survey by structure plan team, data provided by Municipal Corporation and population projection for Faisalabad provided varying information about the existing population and growth rate ranging from 3.37% to 4.7% per annum

Population projections in Faisalabad

Year	Population	Growth Rate
1961	425240	8.9
1972	823344	6.2
1981	1232000	4.6
1985	1475000	4.6
1990	1847000	4.6
1995	2247000	4.6
1998	2528000	4.6
1999	2629000	4.6
2000	2734000	4.6

2001	2843000	4.6
2002	2957000	4.6
2003	3075000	-

4.2.5 Employment Projection

As far as the manpower and employment structure Faisalabad was concerned; comprehensive information had been collected and presented in the document. The structure of labor force comprised of sex and age, level of education, skill, occupation and monthly income. But the plan neither predicted any future labour demand nor provided any proposals for the absorption of the future labour force. It generally commented and proposed that the employment sector would function satisfactorily on its own with the assumptions that job opportunities would automatically be generated by the existing system with a growth in the industry. Furthermore, the plan proposed the industrial estate along Jhumra and Sargodha roads would offer additional employment opportunities.

4.2.6 Housing Forecasts

According to the FDA surveys conducted in 1981 and 1985, there were 268181 households living in 195452 dwellings units (1.37 households per unit). For estimating the existing housing shortage, this plan considered the standard family size of 5.5 and targeted the provision of one house for each family. Hence the plan forecasted the provision of 13000 houses for meeting the existing shortage as a consequence of dilapidated houses and 12000 houses for annual incremental population.

4.2.7 Land Use Analysis

Land use survey of Faisalabad at the time of plan preparation depicted that the largest portion of total surveyed area comprised of residential use i.e. 37.20%. Second one was agriculture and vacant land having a percentage of 18.04. (see table 3.2 for existing area breakup). The proposed areas of various uses in future were also forecasted in the plan, but the logic behind the projection of land use area was not very clear. The plan did not mention the basis for the estimation of future proposed area and there existed a varying behavior for increasing or decreasing the percentages of different uses. Although being cognizant of the fact that Faisalabad Manchester of Pakistan has a pure industrial economic base yet the plan did not provide any focused provisions related to the promotion of industries. Existing and proposed land uses comparison showed that the ratio of industrial area was on contrary decreased from existing 6.53 % to the proposed 5.01%.

4.2.8 Spatial Strategy

Spatial strategy of structure plan focused on the current trends of land uses and development it recommended the infill development in order to attain the compact form of development. It further allowed the linear development along the major corridors connecting Faisalabad with other cities and proposed that city should be expanded in radial form on neighborhood pattern. In addition to this, structure plan aimed at the development of secondary and tertiary centers beyond the inner metropolitan area to reduce the pressure on central business district. In order to reduce the traffic in center, two ring roads were proposed.

Moreover a green belt with the width of 2 mile at the periphery of the external ring road was recommended all around the city. The overall emphasis of the plan was planning and development of expansion area expecting shifting of a few non-conforming uses.

4.2.9 Zoning

At the time of plan preparation, various land uses of the city were occupying an area of 22400 acres with a gross density of 66 persons and net density of 177 persons per acreThe plan anticipated that the total covered area at the end of planning period would be 45084 acres. A zoning plan for the city was described in the structure plan which aimed at the promotion of better environment, regulation of different urban functions and relation to development among various types of land uses. The plan divided the whole area uses, institutional and recreational zones. The plan proposed the shifting of nonconforming uses but it did not clearly specify the zoning regulations at all.

4.2.10 Status

FDA failed to get its structure plan approved from the secretary, HPPD. Consequently the plan could never be enforced properly. So, an attempt to adopt the new style of planning instead of the old master plan approach had failed in practice in the case Faisalabad

Main reasons of failure in the implementation are given as follows

- First the plan preparation process took quite a long period of time during the haphazard growth continued and could not be controlled
- The plan enforcement was week as it could not attain approval due to its unclear approval procedure

- The former municipal corporation did not implement the proposals of the plan with its territorial limits
- The plan was not reviewed periodically due to in adequate resources

The partial implementation, however with respect to shifting and direction of growth in the shape of private sector housing development took place due mainly to the efforts by the FDA. Some of the implemented proposals included development of the major park, shifting of vegetable market; bulk oil depots, dry port, and construction of bypass and widening of intercity road passing through the city and forming the primary road network, development of infrastructure and improvement in urban public transport were also implemented as a tool of Master plan-1994.

4.3 A Review of Pre-Feasibility Study for Urban Transport and Industrial Waste Management Faisalabad 2010

Name of Document: Infrastructure Investment Proposal
Year of preparation: February 2010
Prepared By: Strategic Policy Unit
Prepared Under: Cities Development Initiative for Asia
Funded by: Asian Development bank

Package I

4.3.1 Summary

The study has focused on strategic transport planning in Faisalabad and recommended long-range level of investment in transport, dividing the investment amongst the main transport modes, identifying future corridors for road and public transport facilities and suggesting the best timing for investment and to consider the broad outcomes rather than the details. The proposed projects fall under two categories „strategic urban transport and strategic public transport

4.3.2 Scope

This "Package" comprised related sub-projects in Strategic Urban Transport and Strategic Public Transport, which had been selected from a number of potential projects identified during earlier stages of the pre-feasibility study. It was one of two packages, and had been designed for implementation from 2012 - 2019. It comprised 16 sub-projects and apart from the inner ring road and redevelopment of the canal road, most of the proposed transport projects are relatively small, such as proposals to improve individual junctions.

These sub-projects had been prioritized so that projects started during the first 2-3 years were relatively simple for existing institutions to implement and involved few technical difficulties. The package had also been subdivided into two tranches according to their ease of implementation. The projects were further grouped into four categories which included measures to improve road

system capacity, public transport improvements, facilities for pedestrians, and facilitation measures.

4.3.3 Package Summary Matrix

Project Category	Project Sub Title	Location	Duration
Measures to Improve Road System Capacity	Road Widening and Dualling	ChakJhumra road Gojra Road road Khurianwala road	2012 - 2014
	Canal Road Development (Existing Proposal)	Abdulapur Chowk (junction) to Gatwala Chowk	2012 – 2014
	Canal Road Development (Alternative Proposal)	Abdulapur Chowk (junction) to Gatwala Chowk	2012 – 2014
	Traffic Management	Includes all main junctions and main pedestrian area	2012 - 2014
	Road Rehabilitation	Over 43 city roads	2012 - 2016
	Off-Street Car Parking Facilities	Gole Aminpur Bazaar; Old Tehsil offices; and Civil quarters behind the FUTS terminal	2012 - 2016

	Junction Improvement (Selected Junctions)	Nishat Cinema Chowk, Jinnah Colony Chowk, Gm Abad Graveyard Chowk, Eid Ghahchowk, and Sarina Road /Jail Road	2012 – 2016
	Inner Ring Road	Tentative route of 54 kilometres, 5-7 kilometres from the clock tower	2014 – 2019
	CBD Relief Road	CBD Area	2014 - 2016
Public Transport Improvements	Public Transport Improvement: Conventional Road Transport Modes	Faisalabad city area	2012 – 2014
	Pedestrian Footbridges and Subways	Between Session Courts and Civil Courts roads at GTS Chowk or Railway Station Chowk	2014 - 2016
Facilitation Measures	Pedestrianisation of CBD Area	All the roads falling in the CBD relief Road.	2014 – 2016
	Institutional Reform of Transport	Faisalabad city area	2012 - 2014

	Functions in CDGF		

4.3.4 Technical Description

- Motorized traffic on Faisalabad's roads was between 78 and 98%
- Peak hour volumes ranged from 7.2% to 7.9% of the total
- Occupancy and turnover of parking within the central business district (CBD) area was 18,511 cars, 41,516 motor cycles and 11,487 cycles.

4.3.5 Urban Planning

- The natural trend of growth was more towards North-West and South-West directions.
- Future development would be influence by M4 motorway
- Industrial estates to the North and North-East
- Easy access, especially to the South (along the Jhang Road towards the Airport)
- Redevelopment and regeneration of inner-city areas

4.3.6 Demography

Faisalabad District has a total area of 5,856 square kilometers

4.3.6.1 Population

- 1998 recorded 5.42 million
- Growth rate 3.58%
- The population of the city was expected to touch 3.0 million in 2015 doubled by2030

4.3.6.2 Density

- 927 persons per square kilometer in 1998

4.3.7 Literacy

The literacy rate was 51.9% (64.2% urban and 42.5% rural), and literacy among male and female population was 60.9% and 42.2% respectively

4.3.8 GDP

GDP of the city was expected to grow at the high rate of 6.0% per annum and by 2020

4.3.9 Measures to Improve Road System Capacity

The basic options for improving the capacity of the road system were:

- Building additional roads
- Widening existing roads
- Improving junction configuration
- Improving traffic management measures

4.3.10 Road widening

Several projects proposed under road widening and dualing most should be widened from four to six lanes

- Jumra Road
- Risalewala Road
- Jaranwala Road

4.3.11 Canal Road Development

A major project was the development of the road along the canal between Abdullapur Chowk and Gatwala (at Sheikhupura Road), a distance of approximately ten kilometers.

4.3.12 Traffic Management

Several studies had been recommended for improvements in traffic management, including improved Signaling, lane markings, signage and junction geometry

4.3.13 Road Rehabilitation

The road rehabilitation component covered approximately 90 kilometers of roads will comprise road widening where required, resurfacing, improvement of intersections, sidewalks, storm and Water drainage, street lighting and traffic signal.

4.3.14 Off-Street Parking Facilities

Three sites in the CBD (Gole Aminpur Bazaar, Old Tehsil Offices and Civil Quarters behind the FUTS terminal) had been tentatively identified for multi-storey car parks which could accommodate between 3,000 and 5,000 cars in total, and which would involve the demolition of old buildings

4.3.15 Junction Improvements

Improvement of junction Design

- Nishat Cinema Chowk,
- Eid Gah Chowk
- Serena Road/Jail Road Chowk,
- Chenab Chowk

4.3.16 Inner Ring Road

This was recommended in the strategic plan of 1997

- A tentative route of approximately 54 Kilometers had been identified, between 5 and 7 Kilometers from the Clock Tower
- 4-lane dual carriageway within a 220 ft

4.3.17 CBD Relief Road

Circumferential road linking radial routes much closer to the Clock Tower, or CBD

4.3.18 Public Transport Improvements

There were broadly two options presented for dealing with public transport:

1. An unregulated system controlled by market forces
2. A system planned and regulated by a government agency

There are two projects identified under these options

1. Public Transport Improvement: Conventional Road Transport Modes
2. Faisalabad Urban Transport Master Plan

4.3.18.1 Public Transport Improvement: Conventional Road Transport Modes

It was planned plans to introduce new Conventional bus services, using CNG-powered buses to be imported from China.

4.3.18.2 Faisalabad Urban Transport Master Plan

In the past ten to fifteen years there had been various master plans with transport components for Faisalabad, and SPU had produced a strategic master plan listing potential projects, in transport and other fields.

The Urban Unit has advised that it is intending to request JICA to fund a transport master plan for Faisalabad. Such a plan is required urgently and is therefore included as a component of this project.

4.3.19 Facilities for Pedestrians

For improving safety and conditions generally for pedestrians, following facilities were proposed:

- Sidewalk improvements
- Safer road crossings
- Pedestrian-only streets and walkways
- Restriction of motor traffic

4.3.19.1 Sidewalk Improvements

This component provided for improvement of approximately 150 kilometers of sidewalks within the area bounded by the proposed CBD Relief Road

4.3.19.2 Signal Controlled Pedestrian Crossings

- On signal free lanes, pedestrian would have to cross at 100 meters distance
- Approximately 30 intersections had been identified for the installation of signal-controlled pedestrian crossing facilities at different chowks.

4.3.19.3 Pedestrian Footbridges and Subways

Two locations had been identified where additional bridges or subways are considered to be essential, and these had been included as a component of this project

4.3.20 Facilitation Measures

4.3.20.1 Pedestrianization of CBD Area

An earlier study recommended pedestrianization of the CBD, with a one-way traffic system to improve traffic flow on the surrounding streets

4.3.20.1.1 Institutional Reform of Transport functions in CDGF

A study should be undertaken to examine existing roles and responsibilities of each CDGF agency in respect of transport, and to identify options for a revised structure to rectify deficiencies in the existing system

4.3.20.1.2 Capacity of Proposed Facilities

As mentioned earlier, the overall objective of the project was to increase the capacity of the road and public transport syste, in Faisalabad.

4.3.20.1.3 Performance Indicators

The principal indicators for performance of a road system were the flow of traffic in terms of PCUs/hour in each direction and traffic speeds at peak and off-peak periods. Traffic volumes provided an indication of road usage but where they were lower than the capacity of the road they did not provide a meaningful performance measure; their main value was to indicate trends, and to provide advance warning of future requirements for increased capacity

4.3.20.1.4 Urban Transport Package 1

Future development would likely to be influenced by

- M4 Motorway
- Industrial Estate on north and north-east

- Existing development and relatively easy access, especially to the South (along the Jhang Road towards the Airport) and in the quadrant between Jhang and Sargodha Roads
- Redevelopment and regeneration of inner-city areas, especially if more industrial units move out to the new estates

4.3.20.1.5 Corridor of Opportunity

- BRT, integrated with local feeder transport, and the use of selected demonstration projects, the natural momentum created by the Corridor could be further channelized to create a more linear Faisalabad
- The FIEDMC Industrial estate to the North

4.4 Package II

4.4.1 Scope

This package comprised of 4 sub-projects and had been prioritized so that projects starting during the first 2-3 years were relatively simple for existing institutions to implement and involved few technical difficulties. It had also been subdivided into three trenches according to their ease of implementation. The projects were further grouped into four categories which included measures to improve road system capacity, public transport improvements, facilities for pedestrians, and facilitation measures. The four sub projects of this package are given in table

Project Sub Title	Location	Duration
Rehabilitation of General Bus Stand	Existing location at Sargodha road, near Shoaib Bilal Market and Mian Muhammad Trust Hospital	2012 - 2014
Development of Truck Stand	At Sargodha Road, at the crossing of by-pass road, left side after by-pass road.	2014 – 2016
Grade Separated Rail Crossing	Sant Sing rail crossing / Nighibanpura rail crossing	2016 – 2019
Grade Separated Junctions	Abdulahpur Chowk crossing at Canal Road	2016 - 2019

4.4.2 Sub projects summary

4.4.2.1 Rehabilitation of General Bus Stand

It was expected to include 4 bus bays for unloading, 26 bus bays for loading, 70 bus bays for parking, supporting passenger and driving waiting areas, shops, warehouses, canteens and petrol stations. It was expected, when in full operation, it would accommodate about 1,200 bus departures per day.

4.4.2.2 Development of Truck Stand

The proposed facilities in Truck Stand included 200 truck bays for loading, 70 truck bays for parking, supporting driver and crew waiting areas, shops, warehouses, canteens and petrol stations. It is

expected, when in full operation, to accommodate about 400 trucks per day

4.4.2.3 Grade Separated Rail Crossing

There were already four road bridges crossing the railway line at Nishatabad, Dijkot Road, Satiana/ Jhaal and Abdullahpur in Faisalabad. There were also four points where roads crossed the main rail line at grade. At these crossings road traffic was delayed each time a train passed by. There were also issues of safety, and pollution caused by vehicles waiting with their engines idling. In the medium term, traffic volumes on the existing bridges would increase and eventually additional capacity would be required.

One additional bridge would meet this requirement. Existing over Head bridges already reached their saturation point. So the grade-separated rail crossing was proposed at Nigehbanpura or Sant Sing railway crossing. The proposed grade-separated rail crossing will be dual carriageway with tow lane in each direction

4.4.2.4 Grade Separated Junctions

This component of the project comprised the construction of a grade-separated junction at Abdullhapur Chowk.

Urban Planning and Development

4.4.2.4.1 Land use growth analysis

4.4.2.4.1.1 From 1901 to 1900

In these two decades the population of Faisalabad increased from 9,171 to 23,136. This increase was due to the establishment of the city and its administrative structure. In this period the flood plain was brought under cultivation and in 1910 the railway was established to link the town with Karachi port.

4.4.2.4.1.2 From 1900 to 1947

During 1900 - 1931 the increase in population was due to an increase of about 40 per cent in the production of wheat and almost 100 per cent in the production and export of cotton. Between 1932 and 1947 industries started to develop in Faisalabad and in this period three large cotton mills, including the Lyallpur Cotton Mills which was completed in 1934, were set up. Labor for these mills was also imported from eastern Punjab thus increasing the settler population.

4.4.2.4.1.3 Between 1947 to 1965

In the period between 1947 and 1955 the population of Faisalabad increased by 155.7 per cent. The reason for this

was an influx of refugees from India into the city. The Sikh and Hindu population were forced to leave the city and their properties were occupied by Muslims coming from India. However, the influx of Muslims was much larger than the Sikh and Hindu population that left Faisalabad. Camps for the incoming refugees were set up near the city centre and these eventually became permanent settlements. Almost all these settlements were on agricultural land belonging to the Sikhs. A camp was also set up for the out-going Sikh and Hindu population. This camp was also on agricultural land around Khalsa College and it also developed into *katchi abadis* for the incoming refugees. In addition to the refugee influx, anarchic conditions in the countryside, as a result of the partition of British India, forced many people into the city. In the period between 1956 to 1965 the population again increased by 147.62 per cent. This was because of two reasons: one, Faisalabad was declared an industrial zone with a tax holiday as an incentive for investors. Because of this a

large number of textile mills came into being. Two, green revolution technologies were introduced in the agricultural hinterland of Faisalabad. This forced, and continuous to force, a large number of peasants off their land or required that at least one member of the family of small landowners had to be working in the urban areas so that the household could be sustained. Between 1947 and 1958 the number of industrial units increased from 20 to 690.

4.4.2.4.1.4 Between 1965 to 1985

During the 1965 - 1985 periods Faisalabad increased at a rate of 6.2 per cent per year. Natural growth rate was about 3 per cent. Migration into the city was the result of a demand in the international market for cotton yarn. To meet this demand small looms were installed all over the city and labor from the rural areas moved in to operate them. In addition, there was a growth of industrial activity as well, mainly in the steel fabrication sector and in carpet weaving. Most of these units were small and a large number of these can be

categorized as informal or cottage industries.

4.4.2.4.1.5 Present growth scenario

With the provision of the motorway and the upgrading of the links to neighboring districts, the city was being propelled outwards in all directions – the notable lack of development adjacent to the airport to the West was the result of the "green belt" created by the fields of the agricultural research institute

If this process continues, households and developers will make use of the corridors of opportunity presented by the recently installed infrastructure and that now being developed, coupled with the remaining undeveloped pockets.

4.5 A Review of Master Plan 1994

Name of study: Faisalabad Development Authority Master Plan

Year of Preparation: 1994

Prepared by: "Faisalabad Development Authority"

4.5.1 Summary

This Master plan comprised of practical proposals, which would be undertaken within a reasonable span of time for the needs of the city for at least the next 25 years. It also provided recommendations for method of resource mobilization to execute the proposals.

4.5.2 Scope of study

This master plan covered four different sectors roads, social sector, environment improvement and water supply and sanitation. Projects relating to each sector were identified and proposed with respect to location and rough cost estimation to make plan guiding and comprehensive

4.5.3 Review of Sectoral projects

4.5.3.1 Roads

This dealt with the transport infrastructure requirement for public mobility. Road infrastructure improvement was based on existing and future traffic studies under following sub heads

1. Inter–city reads the major roads which connect Faisalabad to other cities.
2. Intra –city roads i.e. roads within the city requiring improvement.
3. Proposed over –passes.
4. Proposed under –passes.
5. Improvement of traffic junctions.
6. Faisalabad by-pass.
7. Dual carriage–way between Faisalabad and Sheikhupura.

4.5.3.2 Environment improvement

To mitigate the effects of the polluted environment, following measure were identified:-

1. Shifting and development of hide and skin market /Slaughter house.

- Existing location Amin pur Bazar
- Proposed location Chak No 17/GB

2. Shifting of Fruit & Vegetable Market and Grain Market
    - Existing location Near Babar Cinema on Jhang Road
    - Proposed location Chak No 245 RB
3. Shifting of General Bus Stand.
    - Located along Sargodha road
    - Shifted on the Jaranwala road near its inter section with the proposed ring road
4. Shifting of truck workshops.
    - Located on the Jhang Road
    - Shifted in the same vicinity
5. Development of parks and open spaces / Gatwala Park.

    Proposed locations
    - Chak No. 71/Gb
    - Chak No. 124/JB
    - Chak No. 8/JB
6. Establishment of an industrial estate.
    - The area comprising Chak No. 77/RB, 106/RB was recommended for declaring as industrial zone.
7. Export processing zone.

- The same areas as recommended for the industrial estate should be acquired for an EPZ

8. Solid waste Management.

   Proposed locations

   - Chak No. 236 near Ahmed Nagar along Samundri Road
   - Chak No. 6/Jb along Sargodha Road
   - Chak No. 218/RB

9. Milk cattle farms

   Proposed location

   - An area of 21.5 acres ,state land at Chak No. 226/RB along Satiana Road
   - 51.5 acre in Chak No. 5/JB
   - 33 acre in Chak No. 218/JB Aminpur road

10. Commercial plazas

    - GOR may be shifted to Chak No. 212/RB

11. Parking plazas

    - An independent parking plaza should be constructed on the present location of the civil lines police station

12. Flatted factories

    - About 11 acres in Chak No. 279/RB
    - 5 acres Chak No. 124/RB

13. Warehouses

- shift the present shops on the circular and railway roads

14. Public latrines
    - Responsibility of Faisalabad Municipal Corporation
15. Utility Services Complex
    - suitable locations along the bypass after every 10km
16. Shifting of District Jail
17. Oil depot shifting
    - PARCO was developing a site over 43 acres for the establishment of bulk oil depots near Gatti Railway Station along Jhumra Road
18. Army welfare food industries
19. Structural plan of Faisalabad

4.5.3.3 Social Sector

Following projects are proposed to be executed:-

a. High court
   - 48 Kanals 6 Marlas in Chak 212/RB are proposed

b. University of Faisalabad

   Suitable sites identified
   - 414 acres in Chak No.211/RB
   - 354 acres in Chak No. 250/RB and 256/RB

c. Radio / TV station

- Provide potential of expansion of the radio station and setting up TV station 12 acre piece of land in Chak NO. 71/GB

d. Cultural complex

e. Export display center

f. Sports complexes

The location of these sports complexes were as follows:-

- Mandi Park, Samanabad.
- Iqbal Castro Park, block–A, Ghulam Muhammad Abad.
- Crescent Park, Sargodha road.
- Al-Fateh Ground, Saleemi Chowk , Satiana Road ,Peoples Colony .
- FDA, Nursery, Madina Town
- Gulberg

g. Civic Centre

- 140 Kanals in Chak No. 212/RB

h. Children complex

- 6 kanals had been identified next to the recently constructed cricket pavilion of Bohranwali Ground

i. Science city Faisalabad

- Science enclave is proposed to be comprised of the area from AARI to the airport

j. Faisalabad Urban Transport system

k. Additional play grounds

l. Sandal public school

m. Quaid Memorial

4.5.3.4 Water supply and sewerage

The following works were completed for the improvement of water supply and sewerage facilities:-

- 13 No tube wells of 1 cusec capacity each along Rakh Branch Canal
- 7.98 km water mains (500 to 600mm)
- 89.7km water distribution lines (75 to450mm)
- 1.0 million Gallon ground storage tank.
- 0.7 million gallon overhead reservoirs
- 28.54km sewer lines (225 to 1200mm)
- 4 No disposal stations.

4.5.4 Status

This master plan could not pave its way for proper implementation as the identified projects required proper visioning and financial support. Further the implementation mechanism was in piecemeal fashion. The plan rests in shelves.

4.6 A Review of Strategic Development Plan 2006

Name of study: Strategic Development Plan

Year of Preparation: 2006

Prepared by: "City District Government Faisalabad"

4.6.1 Summary

This Strategic development plan was in line with the District Corporate Plan. The Strategic Development Plan was based upon

the concept of Concentric Zoning which is recognized globally in the field of Town planning. Starting with the core central, the concentric zoning comprised a Central zone, a Peri-central zone, Metropolitan zone, a Peri-urban zone and a Suburban zone.

This report was based on a dual-track strategy of pre-empting poverty and promoting prosperity. This required action to both create employment and so tackling immediate causes of poverty and to take action to change the lives and living conditions of the poor. In other words, while the creation of productive employment accompanied by the education and skills development was a necessary condition, to be meaningful, the poor also needed to be able to have easy and affordable access to the basic necessities of life such as water, housing, health and education.

4.6.2 Scope

This plan was addressing deficiencies in infrastructure and social services cope with the population growth and creation of new jobs. It was providing guidelines to improve the operation and maintenance (O & M) of public facilities, in all sectors and directly addressing the needs of poor communities.

4.6.3 Existing situation

4.6.3.1 Demography

- Population as per 1998 census 5,429,547
- Growth rate was about 2.51% per annum. (Based on census data 1998)

4.6.3.2 Education

- About 522,000 male students and 403,000 female students of district Faisalabad were enrolled in the public school system
- More than 8,000 students had been enrolled in various programmes

4.6.3.3 Health

The Health services/facilities provided by the City District Government include:

- 4 Tehsil Headquarter Hospitals (40-60 beds each)
- 11 Rural Health Centers (20 beds each)
- 169 Basic Health Units (now under the control of Punjab Rural Support Programme)
- 67 Zila Council Dispensaries (also now under the control of Punjab Rural Support Programme)
- 5 Government Rural Dispensaries
- 34 City Dispensaries (2 mobile)

4.6.3.4 Housing

- According to survey carried out in 1990 total number of 215,000 housing units, of which 2.25 percent were detached, 19.23 percent were semi-detached and 78.52 percent were row houses
- The development of FDA city near M3 covering an area of 1218 hectares

4.6.3.5 Infrastructure

4.6.3.5.1 Water Supply

- Over all of Faisalabad District, other than areas bordering the Ravi, the groundwater was brackish
- Current production capacity was 65 million gallons per day (mgd), almost all of which was drawn from wells located in the old bed of the Chenab River
- The existing reticulation system served about 60% of the area of the city and there are about 100,000 connections
- A further 20 mgd would be supplied from a new scheme drawing from wells located along the line of the Jhang Branch Canal

4.6.3.5.2 Sanitation, sewerage and drainage

- There are 193,000 sewer connections
- Around 20 mgd of wastewater was treated in a large waste stabilization pond treatment facility located off the Narwala Road on the north-west side of the city
- Solid waste production and recycling

	Per capita Kg/p/d	Total Tones/day
Waste production	0.324	598
Recycled waste	0.092	170

Total waste delivered to transfer points\	0.388	716

- The study was funded by ODA and carried out by Binnie and Partners, working with GHK International and NESPAK.
- These figures were based on an estimated population of about 1,850,000

4.6.3.5.3 Solid waste

- Solid waste generated in the District was of the order of 1500 tonnes per day and that around 900 tonnes per day (60%) was currently collected and disposed to the outskirts of human settlements

4.6.3.5.4 Roads traffic and transport

- In the mid to late 1990s the total number of motorized vehicles in the city as around 104 thousand
- There were around 50,000 non-motorized vehicles, including donkey/camel carts, hand carts, yakkas, tri-vans, etc

4.6.3.6 Economy and employment

- Since 2001 Faisalabad had contributed 47.9 billion rupees in corporate income tax, income tax, customs duty, and sales tax

4.6.3.7 Proposals

4.6.3.7.1 Promoting prosperity

Enterprise and Economy

FIEDMC which was looking after the following critical 3 projects:

- M3 Industrial City (plots range from 2-40 acre
- Value addition City (would create is about 100,000)
- Garment City

4.6.3.7.2 Detailed strategies

4.6.3.7.2.1 Zoning

Following zones were made

1. Central zone
2. Peri central zone
3. Metropolitan zone
4. Peri-urban zone
5. Sub urban zone

4.6.3.7.2.2 Planning and development

- The existing built-up areas would be further developed to accommodate double their current population
- Corridors of opportunity were provided by the existing road and rail routes. This is where future development would be located

- Initial 5-year thrust was to develop the proposed new townships and developments to the north of Faisalabad
- A rapid-response process needs to be developed, based on public-private partnerships that allowed for more effective and efficient development of land.

4.6.3.7.3 Infrastructure

4.6.3.7.3.1 Water supply

- WASA had proposed additional production facilities, sufficient to deliver an additional 20 mgd of water to the city and serve a population of 264,000

4.6.3.7.3.2 Sewerage and drainage

New trunk and collector sewers were proposed in the north, west and south-east of the city, leading to three new sewage treatment works. It was intended that these sewers would serve an additional 250,000 people

4.6.3.7.4 Education

4.6.3.7.4.1 Primary Education

- Punjab Education Sectors Reform Program (PESRP)

4.6.3.7.4.2 Secondary Education

- The Education Department had identified a need to provide four new public schools, one for each of the four headquarters towns

4.6.3.7.5 Health

Proposed hospitals

- The proposed Allama Iqbal Hospital on Sammundri Road would be a 125 bed hospital
- The strategy also involved the provision of a second 125 bed hospital (Jinnah Hospital) located on Jhang Road
- Upgrading of existing THQ hospitals in Jaranwala, Sammundri and Tandlianwala Each of the four headquarters towns had a 60 bed hospital

The populations that will be served by the proposed hospitals are as follows:

- Jaranwala 1,166,000
- Sammundri 800,000
- Tandlianwala 838,000

4.6.3.7.6 Agriculture

The District Agricultural Department stated in its Strategic Operational Plan (SOP), produced in 2005 that it aimed to:

1. Deliver high quality services to all its customers
2. Increase crop and livestock production and hence reduce poverty and contribute to the economy of the District as a whole.

4.6.4 Status

This plan could not be adopted in a formal way. The frequent change of government officials responsible for plan implementation; piecemeal plan implementation and financial constraints lead this strategic development plan to shelve.

4.7 Review of City Boundary Study for Faisalabad

Name of Document: City Boundary Study

Year of preparation: 2010

Prepared By: Urban Unit / UNICON

Prepared Under: Govt. of the Punjab Vision 2020

Funded by: Govt. of the Punjab

4.7.1 Scope and Objective

The objective of this study was "to establish the boundary of the city on the basis of assessment of the potential physical expansion trend of the city

for the next twenty years. This should be based upon a realistic and professional assessment of the pace and direction of growth of the city."

4.7.2 Summary

The study was based on analysis of existing growth model of the city and future modeling assuming different planning theoretical models and presented a comprehensive detailed output in the form of different GIS based maps and report with rationale, discussions, findings and boundary delineation.

4.7.3 Status

Unfortunately as previous other exercises, this study could not find its way to implementation due to the reasons best known to local authorities. However, some official levelled that this exercise was not a collaborative one.

Chapter 5

Urban Land Use Change Analysis

As discussed earlier, Faisalabad was originally founded as a market town between 1895 and 1900 in the form of a square on an area of 45 hectares only. Industrial invasion to the city started in 1930's with the Lyallpur Cotton Mills being the first major unit followed by three other units during the same decade. After Independence in 1947 the town grew rapidly, initially due to the influx of Muslim refugees from India and later due to government policies that promoted industrialization and green revolution technologies. Construction of various canals allowed the area to be irrigated and attracted more populace by the time. In 1977, city was renamed Faisalabad in honor of late King Faisal of Saudi Arabia. Afterwards the city turned a prime industrial hub of the country and kept on attracting labor, allied managerial and trading communities to the city even from other developed parts of the country. Industrial growth coupled with economic growth pushed city to expand horizontally and linearly to accommodate pressing demands to house growing local and urbanized communities by and large and giving rise to urban issues at the same time which always called for remedial urban planning and management interventions throughout these periods. Some of these interventions have been discussed in previous chapters. This analysis part of the report presents in-depth analysis of this demographic and propulsive resultant physical growth of the town rationally, identifying gaps and constraints, finding opportunities for and finally paving a way forward to streamline City's near and far future on sustainable grounds.

5.1 Rationale for Peri-Urban Boundary Delineation

Boundary delineation was considered as one the primary outputs of the FPUSP project. To mark outer boundary of peri-urban area of Faisalabad for the next 20 years, following considerations were taken into account:

1- The consultants studied the past and present city foot prints and urban growth patterns by analyzing time-cascaded satellite images which helped perceiving land cover change during past decades.

2- The Consultants also studied past development interventions made by different responsible departments in Faisalabad 1960 onwards, their focus and implementation (if done) and ultimate fate.

3- The most recent and the relevant exercise regarding marking the City Boundary was carried out by the Punjab Urban Unit in 2010 by engaging a private sector consultant. The city boundary proposal marked then, was also thoroughly evaluated and considered.

4- Different departments responsible for urban management in Faisalabad have their own unique, distinctive and somehow overlapping/conflicting administrative boundaries with even strong rationales in support; these boundaries are mainly of FDA's controlled area, municipal boundaries along with town boundaries, UC boundaries, WASA service area etc. These all departments were consulted and their jurisdiction boundaries were thoroughly evaluated for their planning/development control effectiveness and service delivery.

5- Other physical and non-administrative boundaries include that of existing urban built up area , settlement boundaries in peri-urban fringe, different housing schemes [in peri-urban area] and industrial

clusters and these al which have an equal impact on deciding city's near and far future limits.

6- The evaluation process also comprehended the study of different available research assignments carried out previously on spatio-temporal growth analysis of Faisalabad city in different periods.

7- The consultants have also evaluated the impact of different development decisions [as discussed under growth drivers sub-head next in this chapter] in past decades which had substantial impact on pushing and guiding through the city's physical phenomenal growth, forms and abysmal bulges into different corridors and directions. These drivers mainly include laying of railway line by the British in around 1905, Canal Road construction in 1982, Industrial development along some major corridors around 1980 onwards, construction of by-pass road in 90s and the most significantly construction of M3 motorway link in 1997 and underway construction of M4 linking Faisalabad to Multan, Karachi, Gwader which is likely to turn M4, M3, M2 and M1 segments jointly as most busiest trade corridor of south-east Asia, thus linking warm water deep sea ports of Karachi and Gwader in Arabian Sea to Afghanistan, Russian States and China. This corridor is highly expected to impact the local economy of Faisalabad region in coming future by turning its characteristic to a trade and services from its existing over exploited primary manufacturing and industrial base. The Consultants have marked a 2.5 km deep hypothetical buffer on North-West side of M3 and M4 to accommodate future potential zones to capitalize huge public sector spending on M3-M4 corridor while equally foreseeing future

trade opportunities for this third biggest Urban Agglomeration of Pakistan. These significant aspects are discussed in detail in later parts of this chapter.

8- The consultants have also studied the urban planning/development related policy and regulatory interventions done previously to know if these past urban policies and plans channelized the physical growth, re-shaped city boundary and how lessons could be learnt from these and utilized for the current boundary delineation assignment.

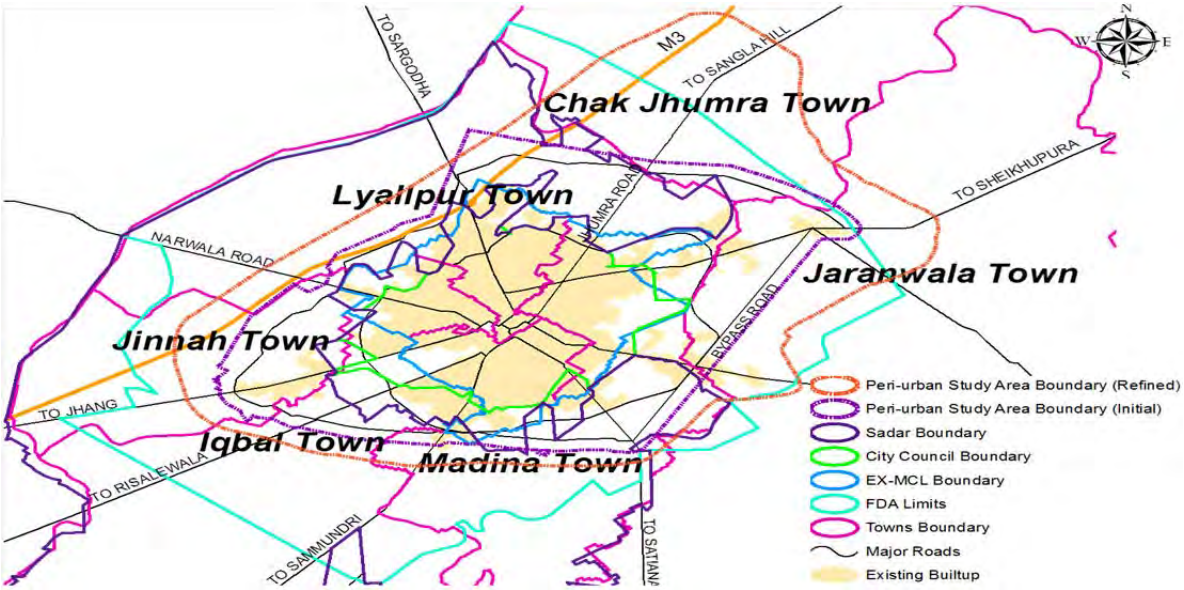
9- Massive augmentation of new linkages and road network construction [widening] in the town during past two decades have also influenced the urban structure growth at large and even re-shaped the fluent boundary of the city one way or the other. The development of growth corridors in this context has played an important role and has to be studied for l for future boundary delineation.

10- Environmental constraints such as air and water pollution, reduced extents productive arable, less productive and barren lands have also been evaluated. Further fresh water sourcing and availability have always been a major constraint to urban development and local livelihood in Faisalabad for decades. Industrial development though has benefited the community through economic generation but also proved it a grave source of environmental pollution. These all environmental opportunities and constraints were fairly evaluated while marking future zones and city boundary.

11- Presence of three major industrial clusters, M3 Industrial Estate (FEIDMC), Value Addition City and Khurianwala Industrial Zone have

also been thoroughly considered for their economic and physical impacts as these act as prime feeders to the local, regional and national economy as well as major threats to the physical environment inescapably. Considering significance of these business clusters, the Consultants have evaluated these for their physical location, labour-production interactions to the city and suburban settlements and their economic impacts. It was also well-thought-out that what economic impacts city will face if these clusters are not considered as a part of this peri-urban plan. Finally a rationale decision was made in favor to take these clusters as a part of City's economic and urban dynamics, to be benefitted from them truly in the long run.

Fig 5.1: Faisalabad administrative boundaries (Existing & Proposed)



Source: FPUSP Consultants, 2013

5.2 Urban Density Analysis

Urban density represents the number of people living in a particular urban area and is an important aspect of city function. Higher population

densities reflect lesser commuting and thus more sustainable cities. Density function also helps in devising future zoning options and policy making and shows an overall picture of how population will be distributed [and/or planned to be distributed] on different chunks of land to enhance efficiency, mobility and livability. The density of Faisalabad district according to previous census report comes out to be 6666 persons per sq.km in 1898 to 11,276 in 1987.

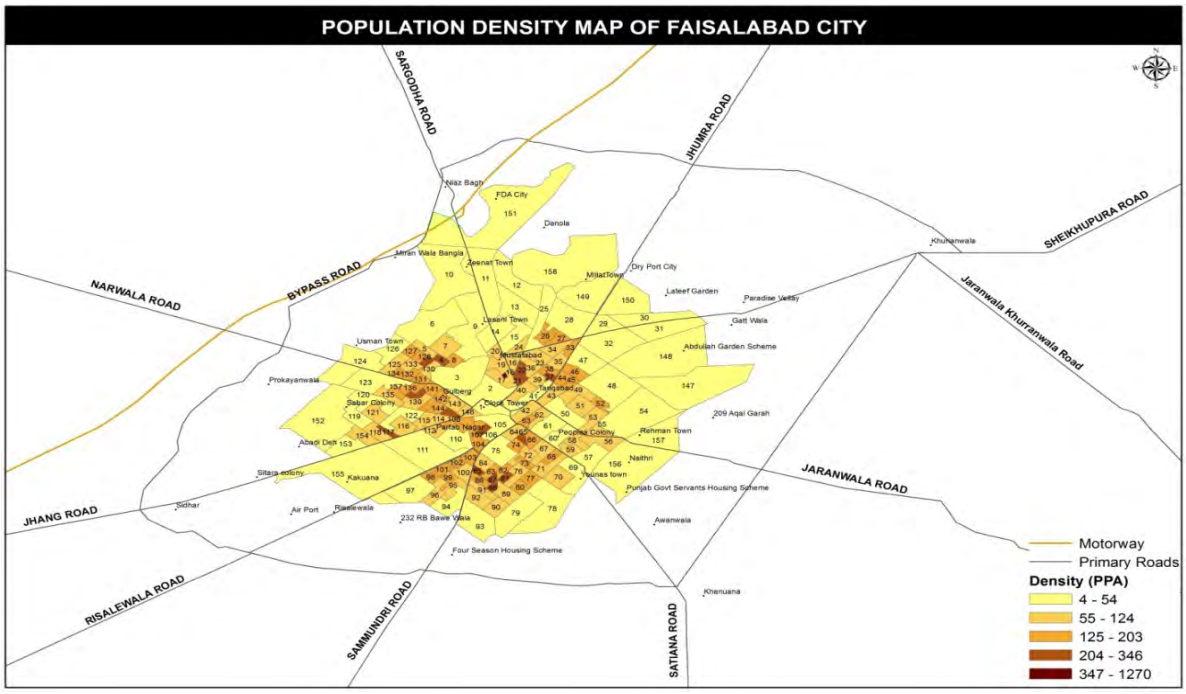
The estimated population density in Faisalabad in 2013 while following past trends has been calculated as 16,185 persons per sq km (65 persons per acre) which appears fairly low for third biggest metropolis of Pakistan. The following illustration shows population distribution and various density classes. This map is based on Union councils physical size and population measurements which ranges from 4 persons per acre (988 persons per sq. km) to as much as 1,270 persons per acres (which is as high as 313,690 persons per sq km) in some most denser part of the city.

Table 5.1: Faisalabad City Population Categorization by Density (2013)

Density (PPA)	Density (PP Sq. Km)	No. of UC	Area (Acres)	Area (Sq. Km)	Percentages
4-54	1064-14455	52	40025	162	76.22
55-124	14456-30691	51	8112	33	15.45
125-203	30692-50096	40	3590	15	6.84
204-346	50097-85405	14	775	3	1.48
347-1270	85406-313572	1	11	0.045	0.02
Total		158	52514	213	100

Source: FPUSP Consultants, 2013

Fig 5.2: Population Density Map of Faisalabad



Source: FPUSP Consultants, 2013

5.3 City's Economic Base to Catalyze Urban Development

Faisalabad, known as "Manchester of Pakistan" is famous for its Textile products. Faisalabad has a predominant agriculture and agro-based industrial economy and forms a backbone of Pakistan's value added textiles production sector. Its population is exceeding 2.9 million and it has become 3rd largest city of country. The town's gained status of nation's industrial capital has allowed it essentially to experience rapid industrial development and nurture itself into a major growth center with high economic activity and it has structured all urban, semi-urban and rural industrial development throughout the region.

As discussed in previous sections that Faisalabad rightly started paving its way towards a progressive industrial town in the late 1930s; however, post-independence, the city underwent noteworthy

industrialization, and gradually became a major industrial center of Pakistan. Today, Faisalabad enjoys a strong industrial base, comprising factories producing textiles, jewelry, home furniture, and pharmaceuticals, food supplies etc. supplemented by an expanding qualitative transport network connecting to Lahore, Multan, Sargodha and Islamabad/Rawalpindi. There are also several thousand home based industries as well. As stated in early sections, a PricewaterhouseCoopers (PWC) study published in 2009, surveying the 2008 Gross Domestic Product (GDP) of the top cities in the world, calculated Faisalabad's GDP at $35 billion. The city was third in Pakistan behind Karachi ($78 billion) and Lahore ($40 billion). Faisalabad's GDP is projected to rise to $37 billion in 2025 at a growth rate of 5.7%, higher than the growth rates of 5.5% and 5.6% predicted for Karachi and Lahore. (Source: Ukmediacentre.pwc.com, 2005)

Today, more than half of Faisalabad's population is engaged outside the agriculture sector, letting a large number of villages and urban areas experience transition from agriculture to primary export based industries. The ongoing economic diversification has initially attracted people from other parts of the country; merchants and technical work force from surrounding districts which commute and even migrate to Faisalabad frequently to engage in jobs, trade and other urban livelihood opportunities. Challenges which Faisalabad's economy currently faces are gas and power load shedding, which has led to the closure and disruption of several textile and manufacturing factories.

Besides traditional industries of Faisalabad, the city has diversified a lot in other commercial activities. Banking sector has gained a lot of share in the economy of Faisalabad. All the local and National banks have their

regional corporate banking head offices in Faisalabad. A number of international banks like City Bank, Standard Chartered Bank, Barclay's Bank and HSBC have their commercial banking operation in Faisalabad. In addition to banking, insurance sector has also boomed a lot in the city. State Life Insurance, Eastern federal Union Insurance, Jubilee Insurance and AIG Insurance are few name as the major player in Faisalabad. Education sector has stepped up as another major contributor to the economy of the city. Faisalabad also exports a large quantity of chemicals to international markets. As well as the textile industry of Faisalabad constitutes more than 65% of the textile export market of Pakistan, which itself forms 58% of the total exports from Pakistan. This makes Faisalabad's share of total exports from Pakistan to more than 40%. Faisalabad has app. 4568 small to large sized industrial units at the moment.

Strewn and piecemeal industrial development in and around the city during past four decades has been posing a major challenge to the urban environment as well as to consistency of urban fabric. Power looms and small scale units can be found almost in every settlement of built-up area especially Ghulam Muhammad Abad, Sargodha Road, Nishatabad, Mansoor Abad and Maqbool Road. Though some industrial estates were planned in last 3 decades; among those, M-3 Industrial Estate and Value Added City cluster are probably few of the biggest in the country but are unfortunately lying almost vacant. This is quite evident that city lacks policies to regulate and divert these sparingly located production units to be housed in planned industrial clusters. In addition, city also lacks opportunities like ware-housing, hospitality and trade/ commerce zones in current land use planning and management.

Ironically, in absence of concrete development policies in focus, the industrial development attracted housing development around thus capacitating incoming labour migrants to city to afford cheaper grey housing and in other way becoming a complex mix of cheap labour housing and polluting industries to sustain incompatibly side by side for several decades. The low price of open chunks in-between fragmented [even trapped] industrial units also act as magnet for low income housing which gradually get appreciated by the time as Local Government[s] keep on investing in infrastructure time and again. Khurianwala, Sargodha Road, Millat Industrial area (along Paharrang Drain) and Small Industrial Estate are classical examples of this described phenomenon.

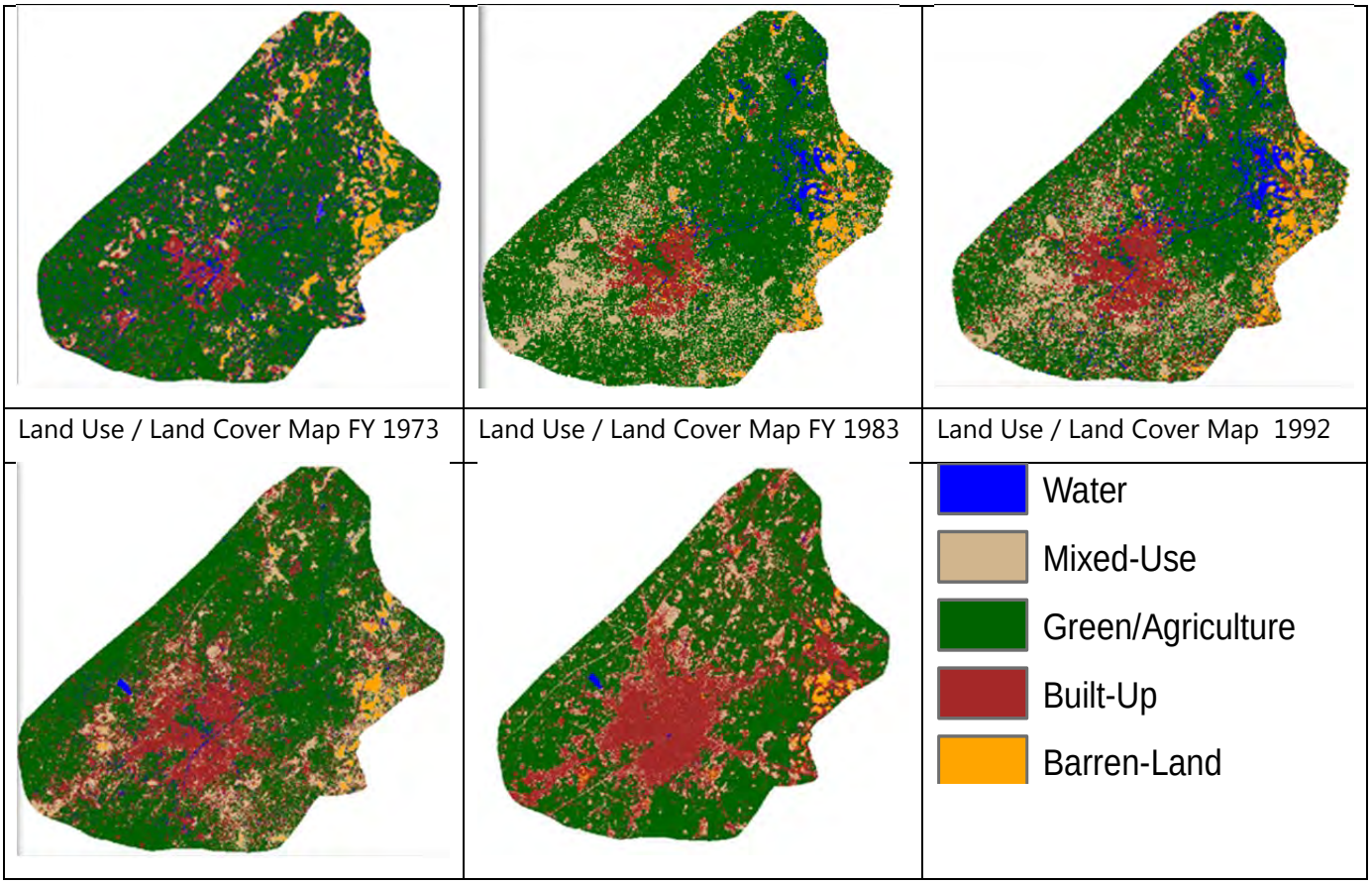
5.4 Land Cover Change Analysis

Land cover generally refers to the physical material and its spread on the surface of the earth. Land covers generally include grass, asphalt/pavements/hard tops, trees, bare ground, water, etc. There are two primary methods for capturing information on land cover: field survey and analysis of remotely sensed imagery.

Land cover is distinct from land use despite the two terms often being used interchangeably. Land use is a description of how people utilize the land and their socio-economic activity, urban and agricultural land uses are two of the most commonly seen land use classes in our cities. Following scenario maps the land cover trend/changes in Faisalabad through different decades i.e. from 1973 to 2013, by using the techniques and process described in methodology part in earlier chapters.

While analyzing classified raster images through different periods in time, it could clearly be noticed that land cover has been changing throughout the periods analyzed but to the varied extent and proportions. In 1973, built up area in Faisalabad was mostly concentric and surrounded by major green agriculture areas. Barren area was also in prominent proportion at those times. But from 1973 to 1983 these proportions got changed significantly, increase in mixed land use started and a rampant increase was observed. Built up areas were also expanded and development of different portions of new suburban development visualized. Same trend continued with respect to land cover/ land uses in the years 1992 and 2000 images. But after 2000, increase in the built up area was phenomenal which can be seen in 2013 land cover map.

Figure 5.3: Land Cover Change Analysis for the year 1973, 1983, 1992, 2000, 2013



Land Use / Land Cover Map FY 2000	Land Use / Land Cover Map FY 2013	

Source: FPUSP Consultants, 2013

Land cover analysis of study area done on image of 1973 clearly shows that the city had a varied mix of uses and changes in land cover during past and can be explained as;

- The land cover of Faisalabad mainly comprises highly productive agriculture area connected with less productive agriculture area and both are measured almost in equal proportions as shown by the land cover analysis map.
- Center of the study area mainly consists of high density older urban zone which is surrounded by lately developed low density urban zone. According to the analysis, an area along Jaranwala- Khurianwala Road was also developed as low density urban area.
- Motorway M3 is also passing through the study area, and this analysis shows that the area along it is mostly urban transition zone.
- As described earlier, land cover of Faisalabad is varied in nature, so the analysis shows that the area outside the bypass road, which lies between the Jaranwala Road and Khurianwala-Jaranwala Road, is mostly barren.

5.4.1 Land Use / Land Cover Classification 1973-2013

Change in agriculture area of Faisalabad, from 1973 to 2000 remained almost steady [around 60 % of the total study area] with small reduction in it, but from 2000 to 2013 there was radical

change in it. It was reduced to 38% of the total study area. This change shows that the urban sprawl and expansion of the city was very fast during this era which was mostly in the form of new housing schemes /colonies and haphazard growth.

Table 5.2: Land Cover Change after Land Cover Classification 1973-2013

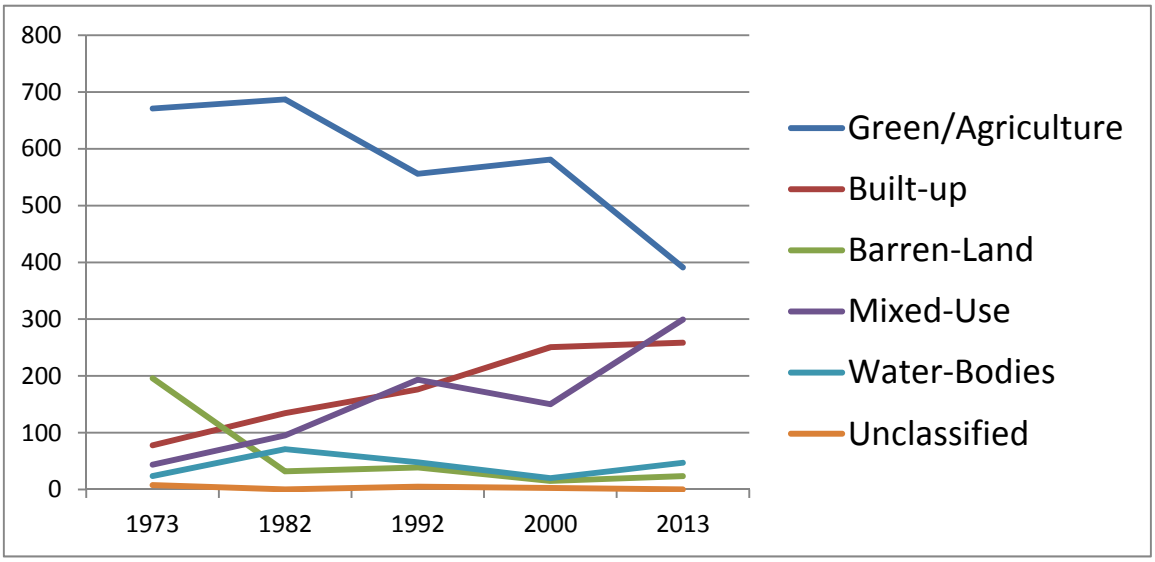
	Area (Sq. Km) 1973	%age	Area (Sq. Km) 1982	%age	Area (Sq. Km) 1992	%age	Area (Sq. Km) 2000	%age	Area (Sq. Km) 2013	%age
Green / Agriculture	670.86	66	686.97	67	555.96	55	581.16	57	391.27	38
Built-up	77.88	8	134.57	13	176.09	17	250.57	25	258.5	25
Barren-Land	195.86	19	31.98	3	38.71	4	14.89	1	23.37	2
Mixed-Use	43.84	4	95.18	9	193.33	19	150.32	15	299.34	29
Water-Bodies	23.75	2	71.02	7	48	5	20.09	2	47.08	5
Unclassified	7.53	1	0	0	4.95	0	2.53	0	0.16	0
	1020	**100%**	**1020**	**100%**	**1017**	**100%**	**1020**	**100%**	**1020**	**100%**

Source: FPUSP Consultants, 2013

Built up area was only 8% in 1973. In the following years, until 2000, it increased steadily (8-25%) but interestingly, from 2000 to 2013, it remained constant (25%). Land cover classification study shows that the barren area was almost 200 sq km (19%) in 1973. Then, it drastically reduced to 31.98(3%) in 1982 and in the following year till 2013 it remained steady, almost 2-3% of total study area. Mixed use was only 4% in 1973 of the total study area, which increased to 19% in 1992. It showed reduction in area during 1992 to 2000 but, again it started increasing and in 2013 it was recorded 24 % of the total study area.

The change in land use during 1973-2013 is clearly seen by above graphical representation. Like sharp reduction in green/agriculture area from1973 to 2000, similarly barren land graph dipped in from 200 sq km to 3-4 sq. km after 1973.

Fig 5.4: Trend of Land Use Change after Land Cover Classification 1973-2013



Source: FPUSP Consultants, 2013

5.5 Past Development Drivers and Catalysts

Cities in developing countries like Pakistan, generally, observe phenomenal physical growth over time rather following a pre-defined growth patterns influenced by socioeconomic, political, demographic and development initiatives. Faisalabad has had observed the same unprecedented growth trends in the past and primary determinants / drivers for development which have equally affected growth patterns and directions in the past, can be envisaged as:

5.5.1 The Original CBD/City Center

The Clock Tower and surrounding mixed use neighborhood was the original city which lasted over few decades 1900 onwards. This center served both business and residential activities till other peripheral [then sub-urban] neighborhoods started developing by the time thus this CBD started proving inadequate to house growing influx of population. This CBD had always proved a growth propulsive for the town since its inception, even today it houses major business and trading activities like famous cotton market (commonly known as the Sootar Mandi), grain markets, electronics and gold whole sale markets, center for for other commodities/services and even has cities biggest financial hub (the bank square) around it. One can easily envisages massive commercial building construction taking place around this CBD even today. So CBD/Clock Tower and 8 bazars have always driven and attracted the city growth till all the adjacent vacant lands filled up by 1950s and pushed housing development to the suburbs [then] like Jinnah Colony, Civil lines and Peoples Colony primarily but commercial activities still find their preferred places in and around the CBD by replacing old dilapidated structures and going vertical even up to 20 plus stories high. State bank building and its neighboring structures fairly proves this analogy.

5.5.2 Inter-City Arteries and Trade Corridors

Faisalabad linked to other cities like Lahore, Sheikhupura, Jahng, Chiniot, Sargodha, Sammundari, Okara and Sahiwal by 11 main arteries and lately by M3 corridor connecting Faisalabad to Lahore, Islamabad and Peshawar. Initially these converging/radiating arteries served as linear corridors of physical development along them. The reason behind has been the availability of prime urban infrastructure and accessibility along these routes and thus equally served propulsive to attract growth over a long period of time in past and even today. This phenomenon can be understood through illustrations supported in coming sections. The construction of the By-pass, M3 and M4 (2001 & 2014) trade corridors has also served as spendthrift to in-progress growth/development mess primarily along Sargodha road. Same trends can also be envisaged along recently developed (2001-2004) Faisalabad-Lahore expressway and present the same urban morphological ill-patterns. Hence, such corridors have always played a significant role in driving the spatial growth of Pakistani cities and Faisalabad had never been an exception to it.

Recently proposed Ring Road Project in 2013 [see alignment as shown in the boundaries maps] has already started impacting urban structure and land market trends. Land developers have started investing in surrounding lands and price escalation is evident.

Historically, laying of railway track in 1910 had played as an important driver for development of Faisalabad. Railway station was built at some distance from original city center and factually development started taking place around this transit hub. These developments were old areas of Tariqabad, Samanabad and Mansoorabad. In around 1982, a new road was built along Rakh branch canal from Abdullahpur to Gattwala, which triggered housing development along this corridor. It also proved propulsive for the development of Khurrianwala industrial hub in mid-80's. Thus these corridors have always played a significant role in driving the physical growth of Pakistani cities and Faisalabad has never been an exception to it. Accessibility maps developed by the consultants also present that only these 11 corridors has maximum effective accessibility along them and only serve up to 500 meters depth for linear development to take place, rest of the land in between being unserved by roads and locked for accessibility thus leaving these chunks a less preferred choice. So these corridors serve as linear growth channels rather promoting holistic articulated patterns and leaving us a lesson to be learnt for future to come.

5.5.3 Land Availability and Price

Land being a finite environmental resource (even non-renewable) in & around our cities poses a greater challenge to the planning professionals to utilize it very wisely. Land

has always been treated as a commodity rather than a precious environmental resource throughout the globe and even in Pakistan. Land market is considered as the biggest unregulated/unchecked parallel economy attracting billions/trillions of rupees of investments to it on top of materializing actual housing demand thus serving as most secure appreciable saving/investment pool. People invest their savings in land (in the form of developed plots in housing schemes) even not having urge to build in near future leading to land speculation. It is generally perceived that investing in land is always a secure and profitable. It is also believed that in our urban areas development of land into housing/commercial projects has never been proportional to the actual prevailing housing demand in cities; it always takes leap many times ahead of actual prevailing/estimated housing demand. Further, it is also envisaged that gentrification in downtowns and surrounding areas also pushes development to take place in the suburbs as cheaper raw lands are always available in the suburbs. Somehow, anti-densification and anti-rise building regulations in our urban management domain always been a prime factor to promote suburban sprawl and leap frog development patterns. Since, huge investments and profit motives are involved in open [& even free] land markets; only uni-focused development/building regulations cannot address the lacks/gaps effectively. Land market has to be regulated and regularized through land business pro

policies/regulation but not by curbing it. Apart from having ample supply of low priced suburban lands and in absenteeism of articulated strategies to regulate such development, land business fraction of the cities also keeps in pace with influencing development decision to benefit them at every level. In our cities, apparently only those corridors flourish well on which this up-class business fraction travels, influence local decision making to turn them investment friendly/profit making for them and eventually invest. Canal-Gattwala and Sargodha Roads in Faisalabad are classical examples of this phenomenon.

Currently all development thrust is following only Sargodha Road and Canal corridors and eventually giving rise to the prices of both raw and developed lands and probably have highest prices in the housing schemes developed along these corridors have been observed during past few decades. This phenomenon also accounts on less opportunities offered by local institutions governing urban development, lack of fairly accessible lands and following the success attitudes by the developers to maximize profits. Conclusively Faisalabad city needs to explore more corridors and zones of opportunity to route the development in future.

5.5.4 Policies & Regulations

The development policies, regulations, zoning and procedures have a direct impact on the city's shape and growth and thus continuously affect the urban pattern and

resultant economic activities in next several years. During the 1950s to 1970s, the city had an attitude towards concentrating on new industrial developments and overhauling the old industrial units within the city, besides the growth of small and cottage industry in residential areas such as development of Tata Bazar and further emergence of industries along Maqbool Road. However, with passage of time, all these industrial establishments were engulfed by nearby residential developments, thus incapacitating the older industries to survive within the core of the city on as incompatible land use on environmental grounds

The major relocation of industrial units was to the outwards of the city's urban limits to tiny suburban town of Khurrianwala was done in 1980s with a notion to offset the industrial pollution and to match better industrial development. However, in absence of concrete urban development framework available to the then District Council, the fragmented industrial developments in Khurrianwala tend to grow linearly on the Sheikhupura-Lahore road and Jaranwala-Khurianwala Roads. Attracted infill by housing and commercial activities which surrounded industry and elsewhere industry surrounded residential areas. Thus it marred the overall concept of standalone industrial relocation. On the contrary, the city had large chunks of land available within existing urban limits and there was no control over the development and land subdivisions. As the implementation of past development exercises (master

plans) was limited and eventually it acted as one of the cause of failures of development control policies.

5.5.5 Success Always Takes a Lead

The major housing and commercial developments in city are taking place along Sargodha Road and Canal Bank Road and have acted as a success story and catalyst to attract often more of the same or complimentary uses. Thus, a residential development is likely to spawn other residential (or local commercial) development in the adjacent areas. Partly this is because developers like to build upon demonstrated success, and see this as a view of minimizing risks. Partly, it is also because each development brings with it the likelihood of public provision of basic urban infrastructure and as a result, the public sector has to accommodate this undesired demand in their plans and thus predict the future lesser than the anticipated development trends.

5.6 Spatio-temporal Growth Analysis

As stated earlier, Faisalabad previously known as Lyallpur was established between 1895 and 1900 as a Mandi [market] Town on a grid iron pattern. Ghanta Ghar (The Clock Tower) always remained main commercial hub that has eight bazars designed by Captain Pelham Young in the form of a square. The initial size of city was developed over an area of 3 square kilometer for a population of twenty thousand people. The establishment of railway lines in 1910 linked the town with cities including Lahore and Karachi Port. Industry came to the town during the 1930's with

the Lyallpur Cotton Mills followed by three other units during the same decade. This attracted the rural population inwards and city expands each day. The city experienced rapid but uneven physical growth from 1947 to 1985 marked by increased industrialization and piecemeal development. Until 1947, the city could not grow to the south and east due to barriers such as the Railway Line and the Rakh Branch (RB) Canal. However it started to sprawl with the development of overhead bridges on the level crossings and improvement of bridges on the R.B Canal. It is evident that the natural trend of growth is more towards North-West and South-West directions due to completion of the M4, other secondary roads and job opportunities. More recently, the industrial nature of the city has been changing, with growing trade and commerce activities such as shopping centers, markets etc.

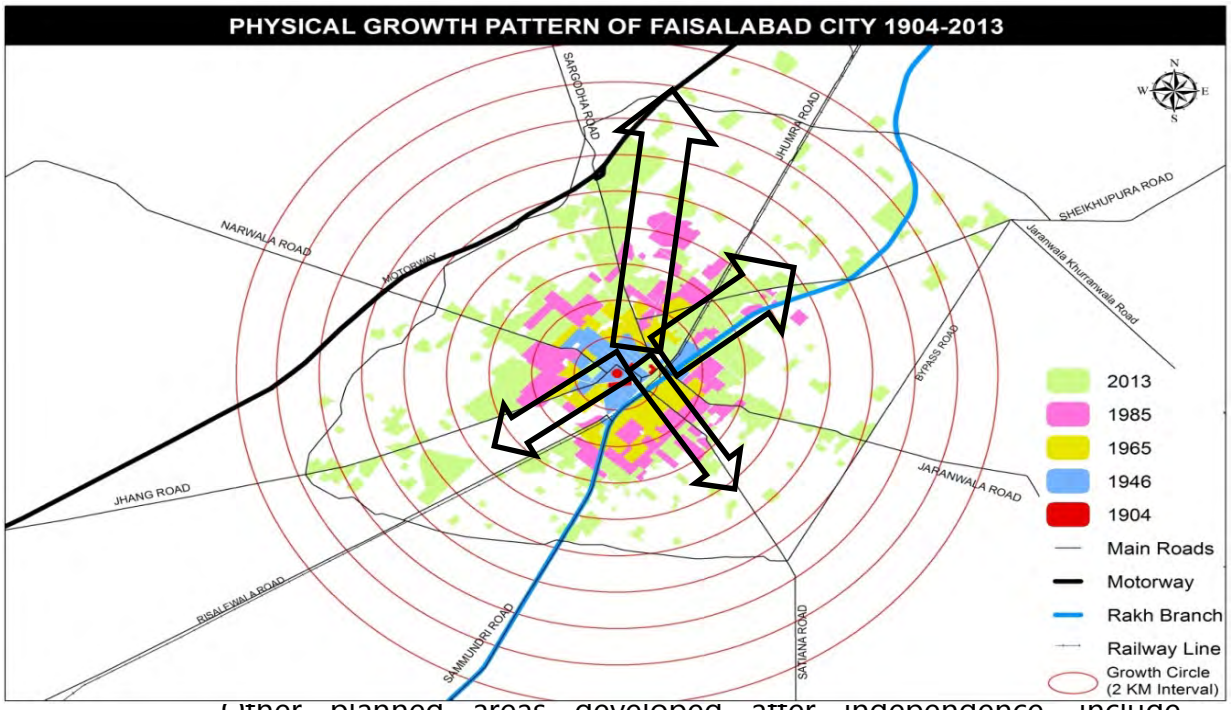
In future the development of Faisalabad is likely to be influenced by:

- Renewal and regeneration of inner-city areas, especially in a case when more industrial units will be moved out from the built up area.
- The provision of major proposed roads, M4 motorway, and missing linkages.
- With the operationalization of M3 Industrial estate and Value Addition City (VAC) on North and North-East side of the city

The city, in absence of a coordinated planning and urban management system, Faisalabad has led to have a poor living environment, meagre urban services, piecemeal planning and decayed spatial structure of the city. If the same management practice continues, the city will have to grow in ways and directions that follow paths and

trends of least resistance and where better infrastructure facilities exist. Roads play an essential role in guiding and directing development, which starts off along them, led by commercial and retail development. Spatio-temporal growth of Faisalabad shows that in 1904 city was of very small in size and was merely spread around clock tower, 8 bazars and during the next 40 years its growth remained steady. Similarly around 1965, its size was twice as of 1946 but all the growth was concentric around the city center despitehaving some ribbon development along major roads.

From 1985 to 2013, city witnessed phenomenal growth. Just in 25 years, it became almost double in size. Growth occurred along main roads of the city which resulted in ribbon or linear development which remained at pace during this tenure. The city's urban form could highly be acknowledged initially as a planned town of British era, the old part of the city, the urban core, is characterized by wide roads, higher percentage of commercial/mixed-use buildings with the work and live approach, a central park and an administrative zone for the then municipal government. The city center, known as the Clock Tower (Ghanta Ghar) resembles Union Jack in the British Flag. The city grew outwards in a planned manner on grid iron pattern with some exclusion of unplanned settlements.



Other planned areas developed after independence, include Gulistan Colony, People's Colony, Ghulam Muhammad Abad and Millat Town mainly by then Housing & Physical Planning Department, Punjab and Faisalabad Development Authority (FDA). Most of these areas cater for high and medium income groups and have fairly large plots, typically 250 m^2 or more in area. However, a fewer low income housing schemes were also launched such as Ghulam Muhammad Abad intended to house labour workers and has smaller plots. Besides development of various private and public sector housing schemes approved by FDA. However almost over 100 housing colonies have also been declared as illegal settlements floated by informal sector as it doesn't refer or abide by Government's planning procedures and planning standards and by-laws. In most of the cases such illegal settlements are owned and occupied by the low income class. The construction of Motorway M-3 corridor and construction of outer Bypass Road around the city also acted as an attraction for the outwards sprawl. A number of formal housing colonies are currently being developed in various parts of the city, particularly along Sargodha Road

and close to the road link to the Sheikhpura Road along the Rakh Branch Canal.

Currently, development is also taking place on the city edges on almost in all directions and mainly between Jhang and Narwala Roads, on either side of the Sheikhupura Road and to the south and south-east of the city. In some cases, linear urban development is also happening along some roads leading to other cities such as towards Lahore along the Sheikhupura Road in the North, towards Jaranwala on Jaranwala Road and in the South-Eastern direction along Jhang Road. However, the Consultant's initial analysis suggests that majority of the development is actually happening between the left-over areas / empty pockets between main roads that forms the city edges.

Land use growth is particularly constrained by the presence of the University of Agriculture Faisalabad, the Government Agricultural Research Station lands off Jhang Road and the Gatwala Forest Park.

Table 5.3: Past Direction of Development

Year	Area (km2)	Population (Million)	Direction of Development
1904	24.94	0.1	Concentric
1947	67.34	0.77	Concentric
1965	91.35	5.5	North-East & South-West
1985	120.59	1.2	North-East & South-West
2013	178.22	2.9	East, North-East & South-West

Source: FPUSP Consultants, 2013

While having a look at physical growth pattern of city, from 1904 till 1946, urban area expanded almost two and half (67.34 sq. km) from the original size (24.94 sq. km) whereas the population increased from 0.1

million to 0.77 million (area increased almost 3 times and population grown by 5 folds) This expansion of the area was due to increase in population and other urbanization factors but it contained/kept it concentric growth pattern.

Table 5.4: Faisalabad Spatio-Temporal Growth Statistics

Faisalabad Spatial Growth			
Interval	**No of Years**	**Area Increased**	**Avg. Annual Increase**
	(years)	**Sq. km**	**Sq. Km**
1898-1947	49	21.9	-
1947- 1956	9	42.39	4.71
1956-1966	10	24	2.40
1966-1987	21	29.24	1.39
1987-2013	25	57.62	2.30
1947-2013	66	175.21	2.65

Source: FPUSP Consultants, 2013

After 1946, physical growth pattern of the urban area started changing significantly. Ribbon development also started along main roads in addition to concentric growth. Most of the city's physical growth direction was North-East & South-West along main roads. In 1985 city was developed mostly along Sheikhupura road, Jaranwala road in the North-East direction and similarly, along Jhang road and Samundari road in South- West direction (from 1946 to 1965, area increased almost 1.5 times and population grown by 6 times)

After 1985, physical growth of the urban area also started toward east side along with North-East and South - west direction. East side development of the urban area was along the Jhang road and Narwala

road and the area between them. It can be seen clearly by the 2010,s physical growth scenario pattern. City was expanded to 178.22 sq km. (from 1985 to 2013, area increased almost by 50% and population grown by almost 3 folds) and this trend shows more of infill and densification.

5.7 Land Use Analysis of Existing Built-up Area

Land uses in Faisalabad City are mixed and in many cases this mix poses high incompatibility. Industrial clusters inside built up area (developed after independence till late 90's) were (and are) detrimental to the quality of physical environment, particularly contaminating ground water and air quality. Faisalabad would have benefited from stronger land use controls, to prevent potentially harmful activities from being located near residential areas and vice versa.

The total area of Faisalabad District is 5856 sq.km while that of ex-Municipal Corporation is 120.65 Sq.km. The agriculture area, comprising 4154 hectares (34%) is second largest land use, in Faisalabad, after residential area. Eleven arterial roads radiate out from the Faisalabad City Center and link it with surrounding agricultural areas, adjacent cities, tehsils, Faisalabad Bypass and Faisalabad International Airport.

The main land use pattern of Faisalabad City is figured out in the given table:

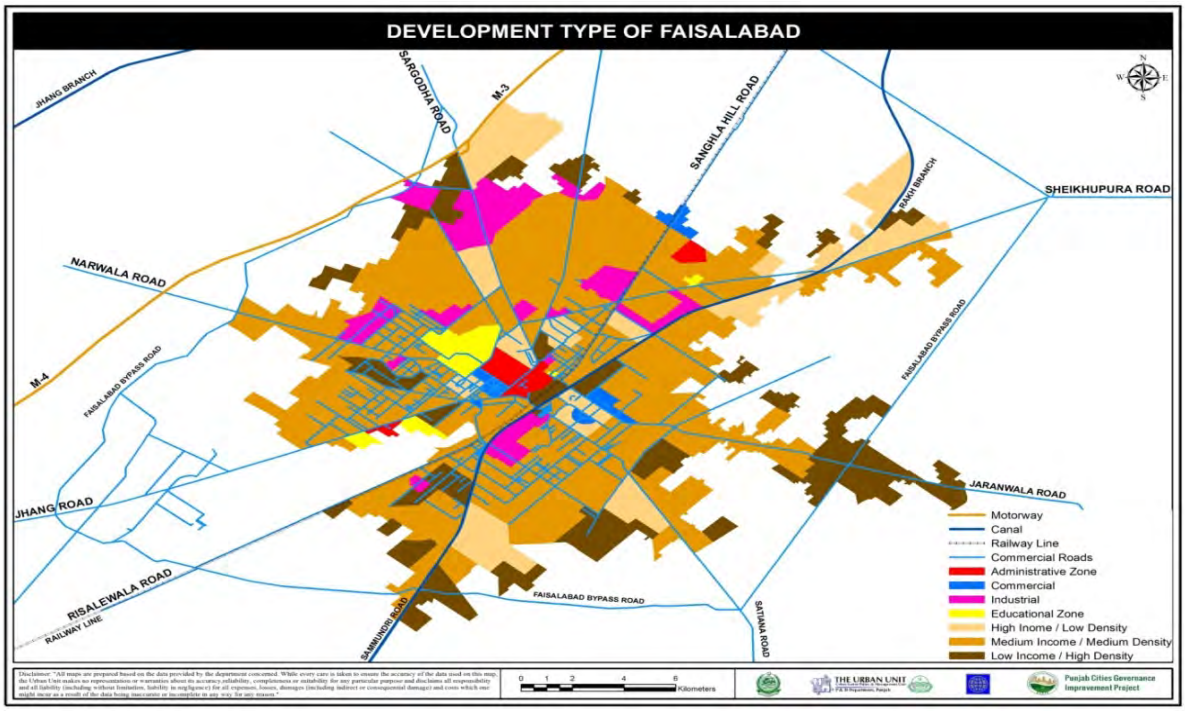
Table 5.5: Land use Spatial Distribution Built up Area

Land Use	Area (Sq. Km)	%
Residential Area	56.08	46.49
Commercial	2.56	2.31
Industrial Area	6.09	5.05
Educational Area	4.41	3.65
Open Space	1.96	1.62
Public Buildings	4.76	3.94

Grave Yards	1.04	0.86
Agriculture Area	41.54	34.44
Major Roads	2.19	1.81
Total Area	**120.65**	**100**

Source: FPUSP Consultants, 2013

Fig 5.5: Development Types in Faisalabad



Source: FPUSP Consultants, 2013

Land use analysis shows that, most of the development of the city comprises medium income/medium density area, which is along all arterial roads of the city. High density zones are developed in scattered chunks throughout the whole city which is clearly seen by the map.

5.7.1 Housing

As per 1990 statistics, Faisalabad had a total number of 215,000 housing units whereas population has been stated as

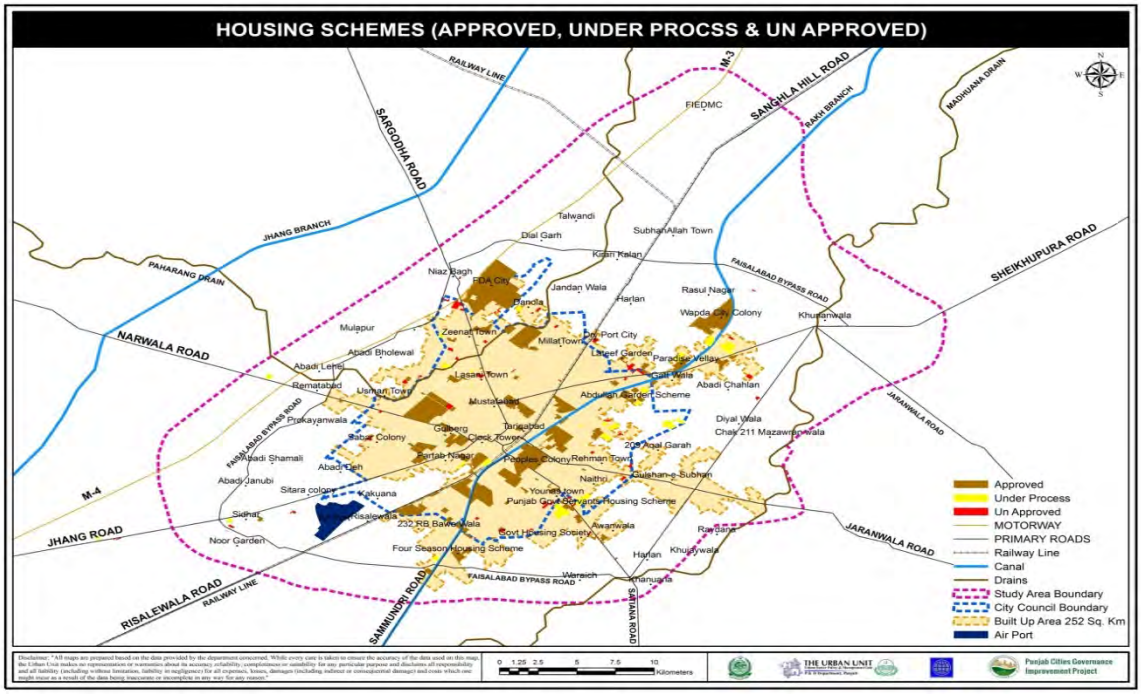
below 1.5 million at the same time, of which 2.25 percent were detached, 19.23 percent were semi-detached and 78.52 percent were row houses. The household size comes out to be slightly higher than 7. Considering 2013 population as 2.9 million and household size 7.2, total number of housing units appears to be 402,777 and for the year 2033 additional requirement is estimated to be 257,916 units.

FDA City, a recent development by FDA, has a total area of 1218 hectares. The scheme was originally designed to provide a total of 8,361 units - 2,450 of five Marla's (about 125 square meters), 2,969 10 Marla's and 2,942 one Kanal (20 Marla's). Of these plots, 4,515 were to be allotted to applicants through ballot, while the rest were to be allotted to the villagers whose land has been acquired by the FDA on the condition that they would be provided developed plots. This suggests an average housing density of less than 7 houses per acre. NESPAK are the consultants who are responsible for the design of the scheme and its announcement of the fact refers to a total of 13,000 houses on 1218 hectares, which would provide a slightly more acceptable housing density.

Private sector seems another big player in providing housing stock, around 200 housing schemes have been launched during last 5 years. Most of the houses in Faisalabad are double storeyed and accommodating more than one family. The original residential areas up till 1950s were around Clock Tower area, these are mainly Jinnnah Colony, Civil Lines, Model town, Douglous Pura, Gurunank Pura, Ghulam Muhammad Abad and Peoples Colony. In 1980s

Madina Town, Millat Town and Gulistan Colony were developed by FDA as low income housing schemes. These all were occupied by middle and high income groups by the time and have medium and low density housing. Lately FDA City and Wapda City were developed and they are again for middle income groups with medium density.

Fig 5.6: Housing Schemes Approved & Un-Approved



Source: FPUSP Consultants, 2013

5.7.2 Commercial

Up till early 1980's clock tower CBD, 8 bazars and surrounding circular road remained only planned prime commercial area of Faisalabad and till today Clock tower and surrounding area houses every type of retail and whole selling shops in it, which mostly serve local as well as commuting travelers/shoppers/traders

from nearby towns. Over the time linear commercial development started taking place in other parts of the city to serve local population but clock tower area still serves its inherent CBD function very well even after a century. In 60's another planned commercial area developed in Peoples Colony (D Ground Commercial Area) which still retains its prime status as up-class commercial district and it was planned too. Rest of the city has unplanned linear commercial strip all around and recently CDG and FDA had declared more than 400 roads as Commercial under the purview of Land use Rules 2009. Recent attempt to develop a planned commercial area has been made by private sector once again; this is the Kohinoor City Commercial District and it is the first planned district in Faisalabad in contrast to linear commercial strips. This district has been developed on land of any old lived-out famous industry; Kohinoor Textile. Faisalabad city definitely needs many other such planned commercial districts in future to ease congestion and inconvenience on roads.

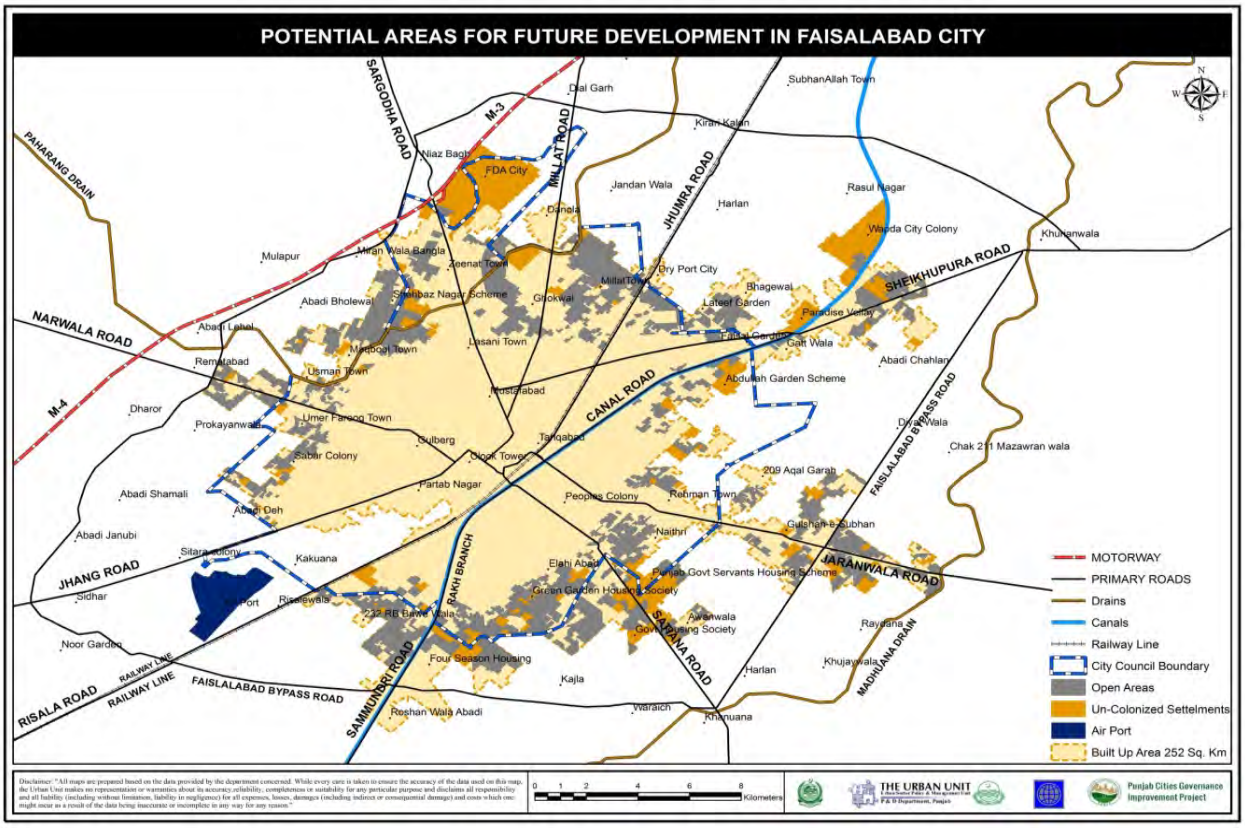
5.7.3 Open & Green Spaces

Faisalabad has very few green areas or parks, only 1.96 sq. km or 196 hectares or 470 Acres (i.e. 1.62 % of total built up), with the most prominent being Jinnah Park (75 Acres app) , Gatt Wala Park and Forest Research Institution (260 acres), Kaleem Shaheed Park (60 Acres), D-Ground Park (9 Acres) etc. There is a need for more open spaces, shifting of industries from built up area and development of missing linkages between radial roads, in both city and the peri-urban area.

5.7.4 Un-exploited Land Potential

As Faisalabad was initially grew in concentric manner and then projected outward in ribbon form along main corridor following infrastructure and major development drivers. This phenomenon of abysmal growth has left with a lot of empty spaces enclosed inside the radial roads still lying useless. The major cause of establishment of these empty pockets is missing cross linkages between the radial roads. If these pockets are provided access with roads these have high potential for housing development. A total of 7,358 hectors (73.58 Sq. km) is lying unutilized in shape of open chunks of 1-10 acres in existing built up area which could easily be converted into housing stock in immediate future as all primary infrastructure nodes are readily available to be linked to these chunks. The consultants have termed these chunks as "Early Containment Zone" collectively and proposed a land use policy to facilitate and promote early residential development in these areas under Site Development and Land Sub-division Rules in next five years. In addition to this empty unplanned potential, there are 21,722 plots laying vacant and un-colonized in different housing schemes and offer another housing pool to accommodate another 195,498 people in immediate future.

Fig 5.7: Potential Future Areas



Source: FPUSP Consultants, 2013

5.8 Land Use Analysis of Peri-Urban Area

A detailed Land use survey was conducted in order to have a better picture of planning study area (peri-urban). Detailed information about physical features like type of roads, canals, physical constraints and new changes in settlements is collected. The information was utilized in Decision Support System. It helped in calculating percentages of area covered under different land uses. The Decision Support System is a GIS computer based information system that helps in decision making while

allocating land uses in Peri-urban Area. It shows the best location for different land uses after setting some parameters against each use. The Following table shows categorization of different land uses in the Peri-urban area:

Table 5.8: Land use Distribution in peri-urban Area

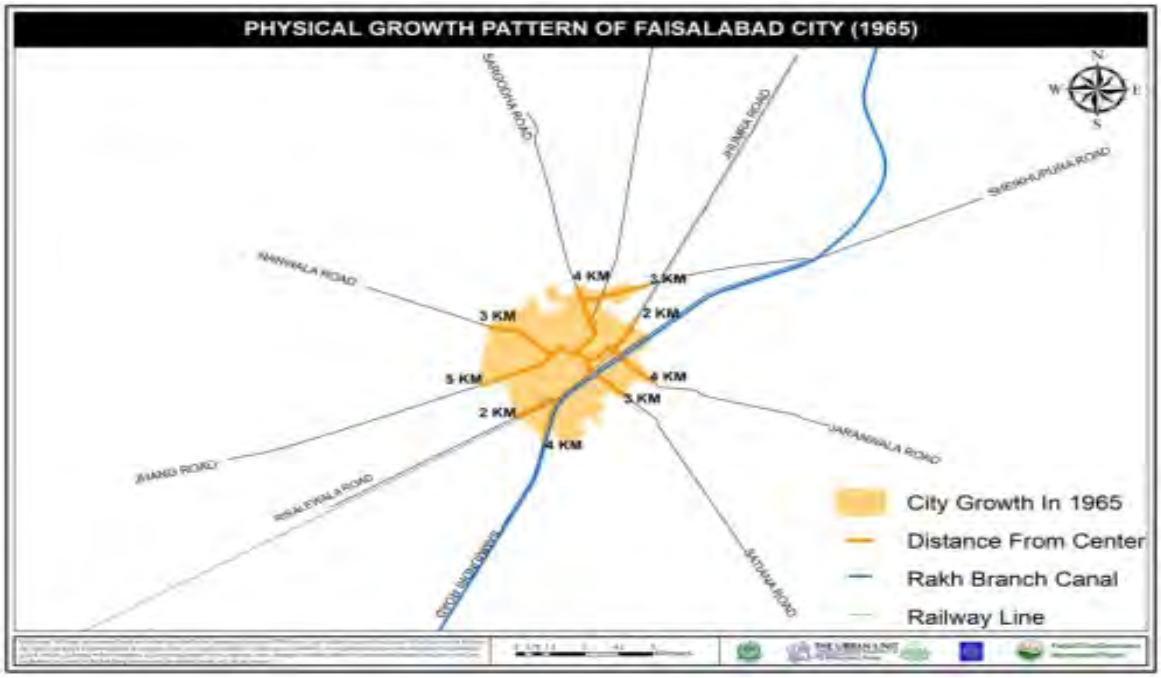
Existing Land Use Distribution			
Sr. No	Land Uses	Area (Sq. Km)	Percentage
1	Agriculture	6.37	83.11
2	Commercial	4.14	0.54
3	Community Facility	2.50	0.33
4	Dairy & Livestock	1.83	0.24
5	Empty	53.48	6.97
6	Industry	20.42	2.66
7	Residential	42.85	5.59
8	Transportation	4.28	0.56
	Total	**767.05**	**100**

Source: FPUSP Consultants, 2013

5.9 Understanding Past Growth Patterns and Directions

Initial growth pattern of Faisalabad was concentric. In 1965 city growth was just the expansion of the initial existing city. Map shows that all the outer development along all main roads was almost 3-4km away from the center (CBD). Similarly up to 1985, the growth started along major roads but all the growth was almost in equal proportion. The distance from the outer growth to center was almost 7-8 km along main roads of the city.

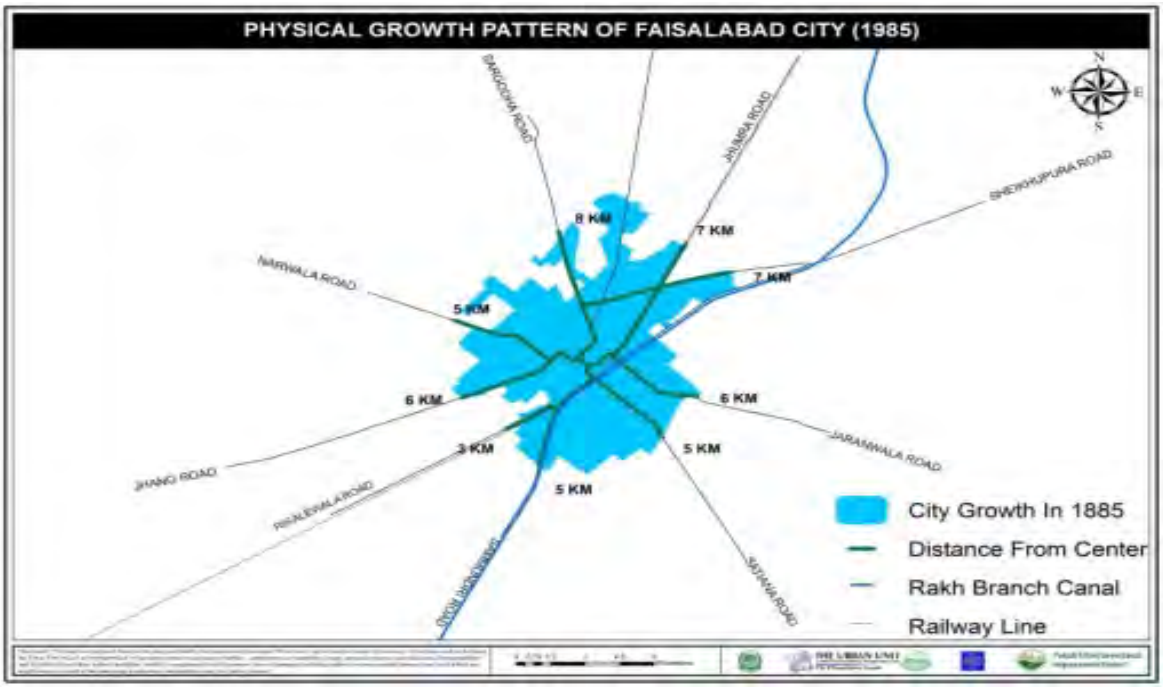
Fig 5.8: Extents of Physical Growth in 1965



Source: FPUSP Consultants, 2013

As described earlier, Faisalabad's physical growth pattern was initially concentric then at later stages, ribbon or linear development also started along main roads. If we analyze city growth in terms of distance from the center, then, from 1985 to 2013 city saw some radical linear development along some main road, which was constant and steady earlier. The maximum growth came across along Sheikhupura road where outer development is 19 km away from the center. This is more than double of 1985 growth.

Fig 5.9: Extents of Physical Growth in 1985

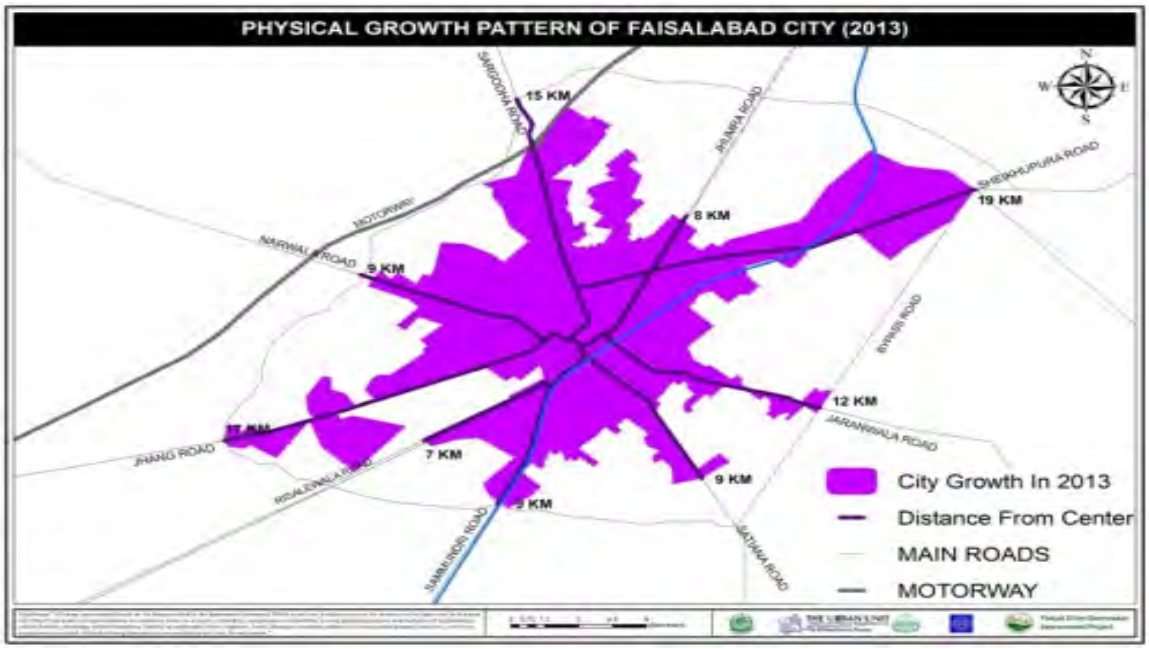


Source: FPUSP Consultants, 2013

Similarly the Jhang Road, where the outer development and growth has been extended up to 17km from the center along the corridor. Sargodha Road and Jaranwala Road come next to it, where growth is 15km and 12km away from the center respectively. Growth along Samundari Road, Satiana Road and Narwala Road remained almost steady and became equal to 9km from the center in 2013.The least growth came across Risalawala Road, where development is only 7km far away from the center and it witnessed the least change in growth from 1985 to 2013, as clearly shown by the maps. This analysis eventually proves the early hypothesis that development only taking place along major corridors in

Faisalabad. Following maps demonstrate described phenomenon in a graphic form.

Fig 5.10: Extents of Physical Growth in 2013



Source: FPUSP Consultants, 2013

5.10 Roads, Connectivity and Accessibility

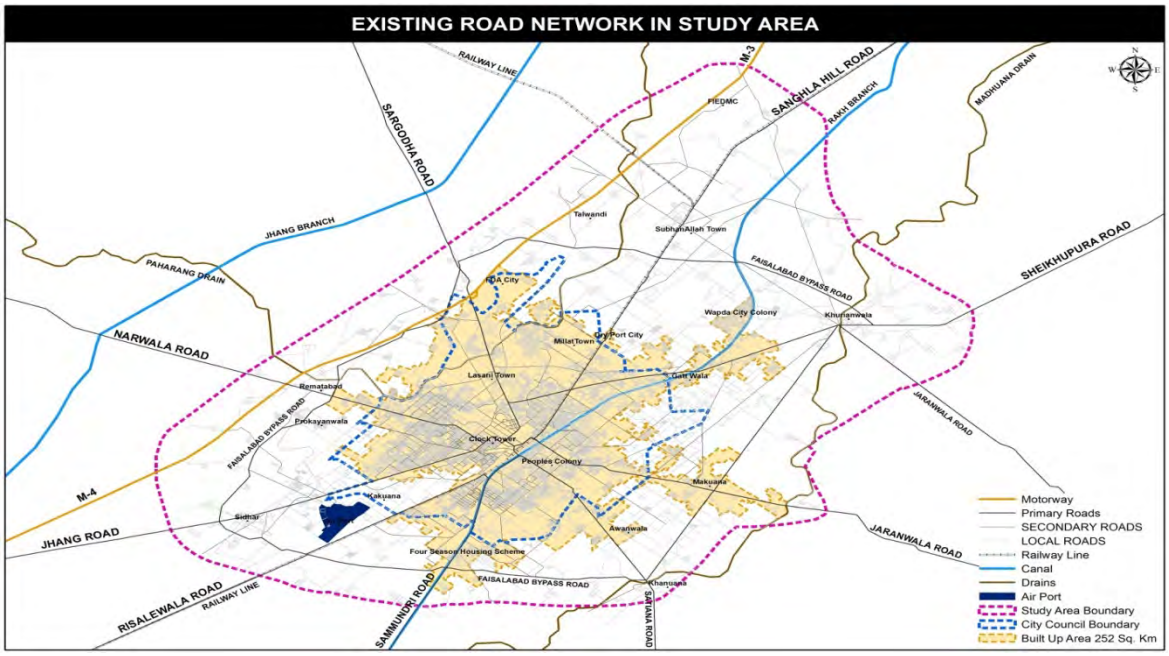
Roads are broadly classified as motorways, national highways, provincial and district roads. The motorways and national highways form the backbone of the highway system, providing inter-provincial links along major corridors and the provincial roads act as feeder roads to the national routes. District roads connect small towns and provide access to villages and the remote areas. The local authorities and municipalities control the roads within the cities and towns.

Since 2002, Faisalabad has been connected with the National Highways network through Motorway M3 to the north-east. There is also a dual carriage expressway link between Lahore and Faisalabad, completed

and opened for traffic formally in the year 2005. A project to construct Motorway M4 southwards from Faisalabad to Multan has been approved. The contract for construction of the first 58-kilometre section from Faisalabad to Gojra has been awarded, and work is expected to start on it.

Primary Roads in Faisalabad serve the major districts and other urban areas, and carry the bulk of the traffic. They include Sheikhupura Road, Sargodha Road, Jaranwala Road, Satiaana Road, Sammundri Road, Jhang Road, Millat Road, Narwala Road, Jhumra Road, Risala Road, Gattwala Road and Circular Road.

Fig 5.11: Existing Road Network in Study Area



Source: FPUSP Consultants, 2013

The second tier, secondary roads provide access to major areas of the city and carry large traffic volumes. They complement the primary network providing links to destinations inside the district. They include Jail Road, Dijkot Road, Club Road, Katchery Road Civil Line, Stadium Road, University Road, Kashmir Road, Darbar Qaim Sain Road, Passport Office Road, Sir Zafar Ali Road and Susan Road.

Tertiary or local roads penetrate localities and are fed by traffic from the primary and secondary networks. They include Jinnah Colony Road, Ghalla Mandi Road, Peoples Colony Pahari Chowk towards Waris Pura Road, Tatha Bridge to Liberty Market Road, Liberty Market to Imtiaz Shaheed Road, Samanabad Road, Narwala Chowk to Latif Chowk Road, Ghulam Muhammadabad to Qasmi Mosque Road and Tata Bazar Fatima Jinnah Road. Primary roads inside the built area feed most congested areas of the city, such road like Hilal Road and Susan Road extension, have very narrow right of ways and their widening is much desired to improve connectivity & accessibility.

Almost all major roads in Faisalabad city follow a radial pattern. There are few circumferential roads, and therefore most journeys converge on the central zone. As the city grows, the pressure on the central area will increase.

5.10.1 Right of ways

In Faisalabad very few roads have right of ways less than 40 feet and these are mostly those roads which were extended from original revenue paths. About 30% of the city roads have right of way between 40 to 80 ft. and rest 60% have above 80 feet and even measure more than 120 feet at some sections. This reflects that the Faisalabad has road system with sufficient right of ways, however, like many other Pakistani cities encroachments, road side parking, slow moving vehicles and wavy movement of vehicles have reduced the road capacity along many sections.

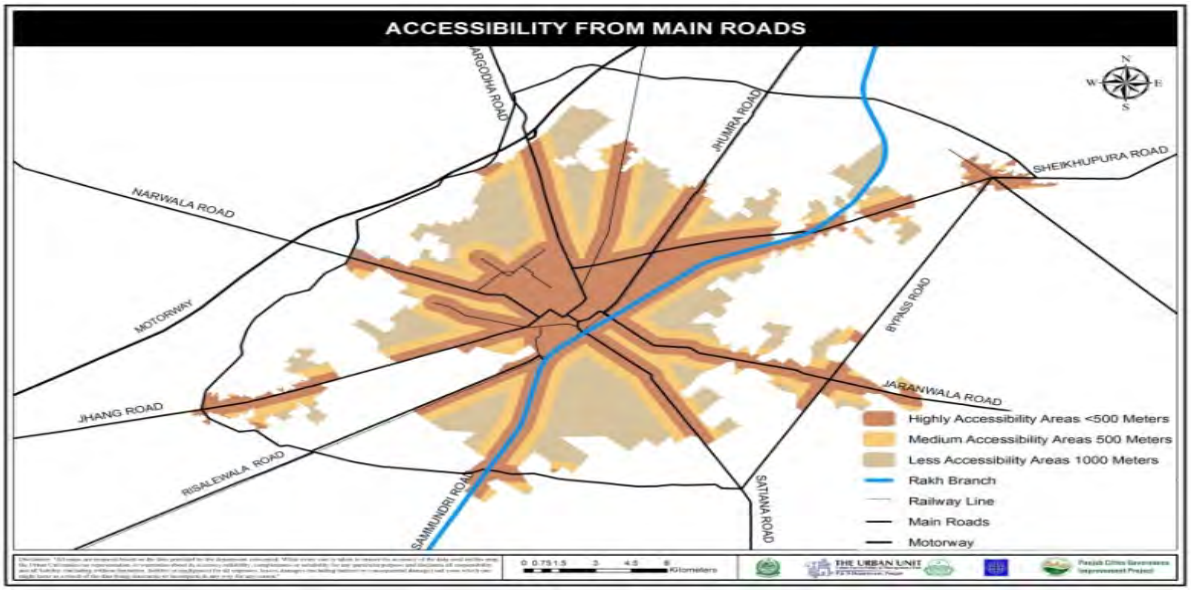
5.10.2 Rail Crossings and Bridges

The railway line runs through the center of the city and there are six places where roads cross the railway. There are four overhead bridges crossing the railway line at Nishatabad, Dijkot Road, Satiana Road-Jhaal-GTS and Abdulahpur. Two are dual carriageways with three lanes in each direction and two are two-lane single carriage ways, carrying large volumes of traffic.

5.10.3 Accessibility

Accessibility is the foremost criteria which makes a city livable and coherent in terms of its functionality and workability. The study shows that Faisalabad has nine major roads which forms city's main skeleton.

Fig 5.12: Physical Accessibility in Faisalabad 2013



Source: FPUSP Consultants, 2013

Most of them radiate from the inner city to towards outward direction. Therefore, due to concentric growth in initial years and linear development at later stages, all the main roads are easily

approachable and the area falling in 500 meter along them is highly accessible, like Jaranawala Road, Sargodha Road, Samundari Road, Jhang Road, Sheikhupura Road, Canal Road, Satiana Road, Jhumra Road and Risalewala Road. Similarly, all the areas along these main roads, where distance is around 500 meters, have the medium accessibility. Likewise all other areas where the distance is more than 500 meters up to 1000 meter have the poor accessibility. Mostly these areas are lying in between the adjacent main roads of the city. Like the area falling in-between the Sargodha Road and Jhang Road, Samundari Road and Satiana Road and Jaranwala Road and Sheikhupura Road.

Table 5.9: Estimated Vehicles on Urban Roads

Vehicles	Proportion	Estimated Vehicle Trips Per Day					
		2009	2014	2019	2024	2029	2034
Car	24	501,967	581,930	674,631	782,100	906,689	1,051,125
Motorcycle	42.4	886,808	1,028,077	1,151,446	1,266,591	1,367,918	1,477,351
Rickshaw	14.9	311,638	342,802	370,226	392,440	408,138	536,464
Wagon	4.1	85,753	99,413	113,331	128,064	143,432	159,210
Bus	1.4	29,281	33,945	42,431	53,039	68,951	89,636
Tight Truck	4.2	87,844	96,628	106,291	116,920	128,612	141,473
Heavy Truck	0.8	16,732	18,405	20,246	22,271	24,498	26,948
Cycles	8	167,322	180,206	194,082	203,786	213,975	224,674
Animal Driven	0.2	4,183	4,392	4,524	4,614	4,660	4,194
Total	100	2091528	2385798	2677208	2969825	3266873	3599075

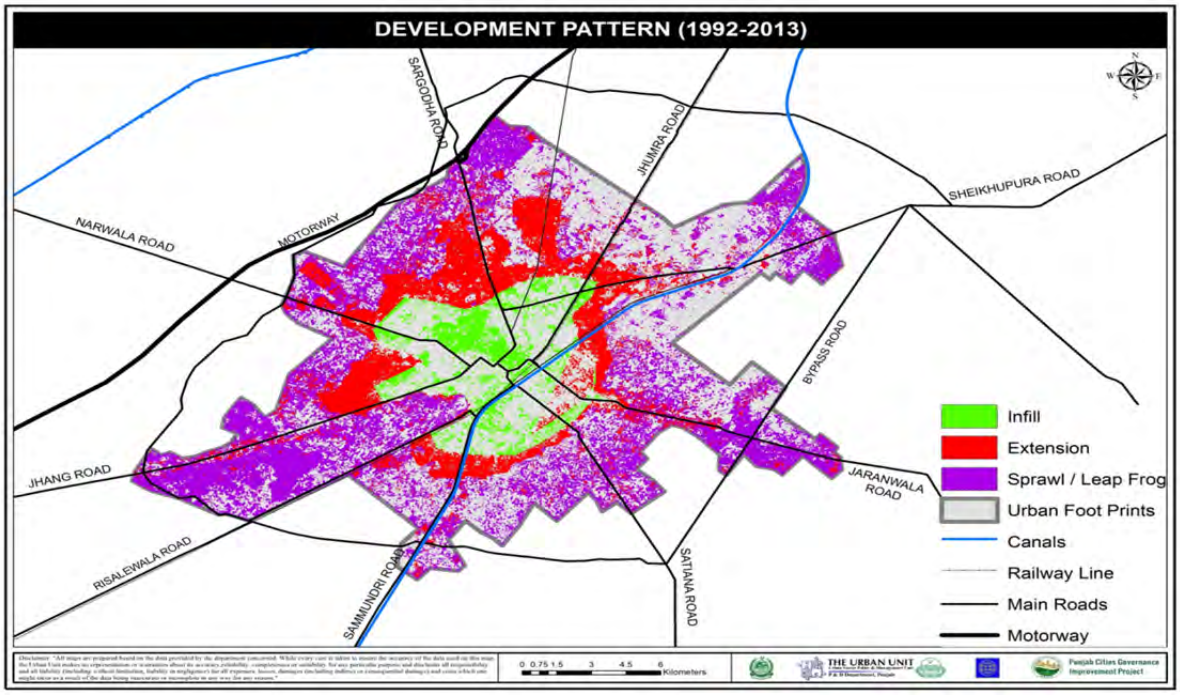
Source: Pre-Feasibility Study for Urban Transport and Industrial Waste Management Faisalabad, ADB, 2009.

5.11 Urban Structure Analysis; Sprawl vs. Compact Development

Cities in developing countries mostly found exhibiting different types of urban growth/development patterns at different points in time,

occurring simultaneously or independently, these patterns are mainly Infill, Concentric, Connected Linear Development, Sectoral, Multiple Nuclei, Sprawl and Leap Frog. Pakistani cities experience all types of development taking place at in different presentations in different eras and don't necessarily follow some distinctive pattern as described above. Somehow, the Faisalabad is still experiencing only two most peculiarly visible patterns; one is infill /compaction (linearly and/or vertically) of old areas and second is connected linear sprawl at outer edges which normally follows linear patterns along major inter-city corridors.

Fig 5.13: Development Types 2013



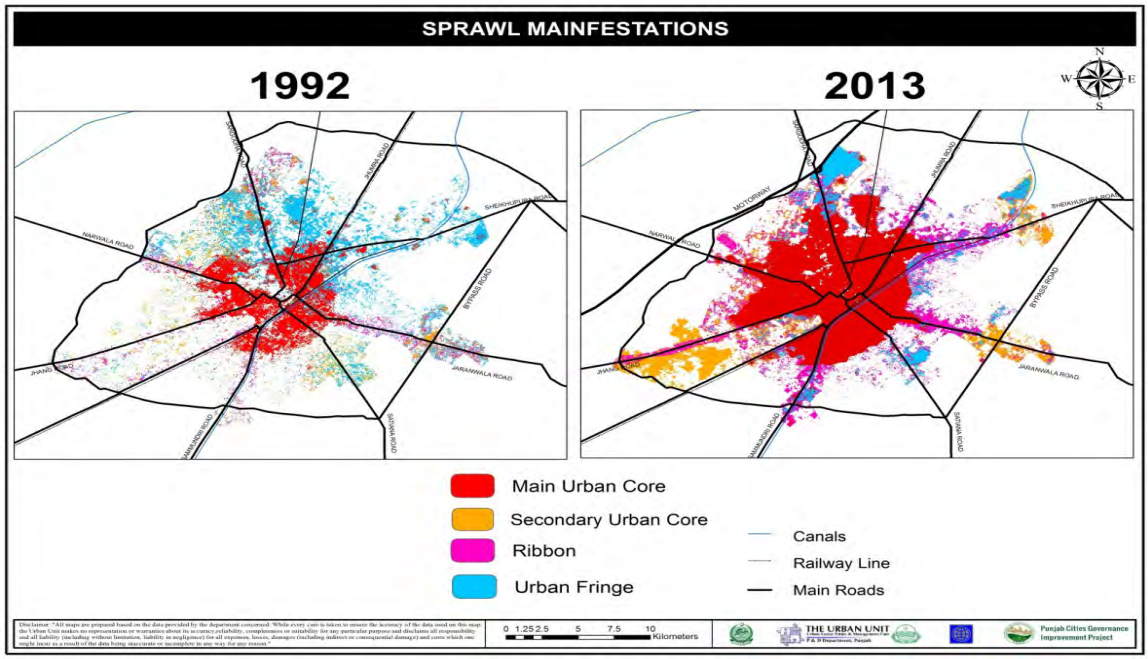
Source: FPUSP Consultants, 2013

Illustrations given next more vividly demonstrate these phenomena happening in Faisalabad through different periods. Moreover the consultants have also carried out compactness analysis on 11 distinct nodes of city's built up area, each node having 3 sq. km of encircled area

and this GIS based analysis still strongly favors the earlier hypothesis which states that development in Faisalabad has been taking place along some priority corridors and influenced by some pre-dominant development drivers.

By analysing development pattern in Faisalabad in terms of urban sprawl or expansion, then, during (1992-2013), infill phenomenon occurred in urban core city area and extension of the city came around existing urban city. Leap frog, sprawl and linear development can easily be envisaged through maps taking place along all main roads of the city approaching to bypass on all sides.

Fig 5.14: Sprawl Manifestation from 1992 t0 2013

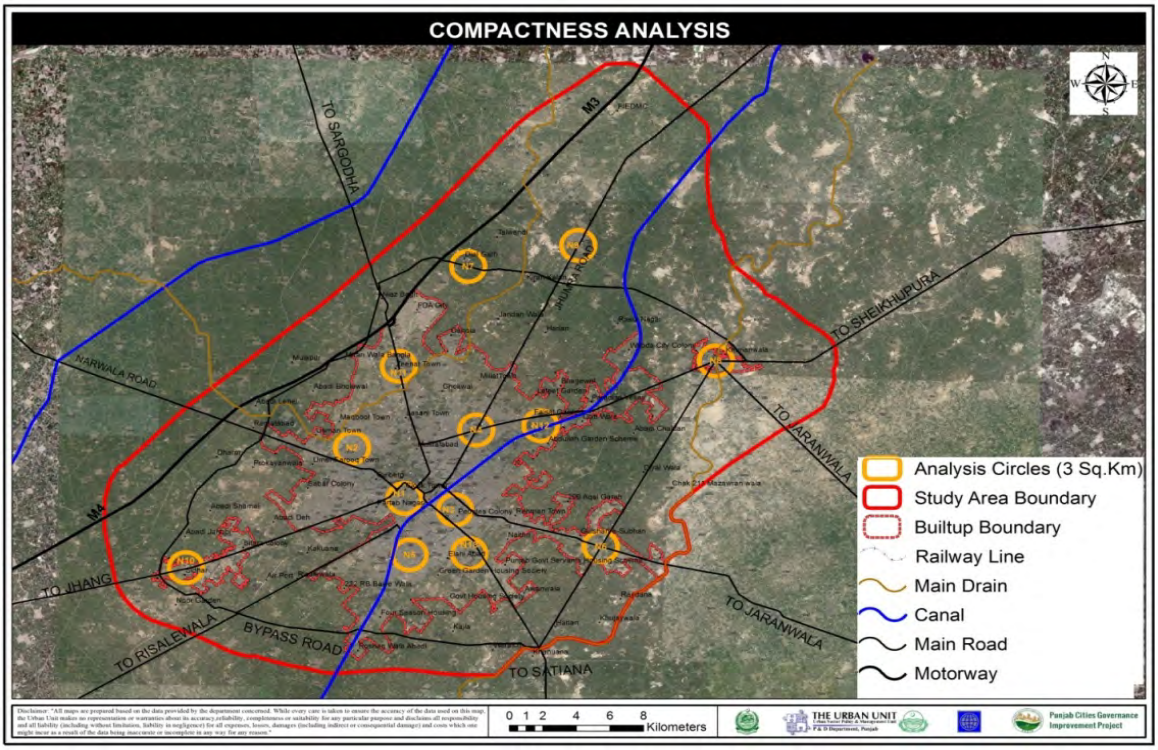


Source: FPUSP Consultants, 2013

Consultants identified 13 distinct circular nodes along in built-up area, each having 3 sq. km area, to analyze them for change in urban form and structure and for physical compactness/openness. By applying the techniques of raster image analysis (image classification) into only two categories of urbanness (built-up) and openness (non built-up); which

rationally complements all the spatial analysis discussed previously in this chapter.

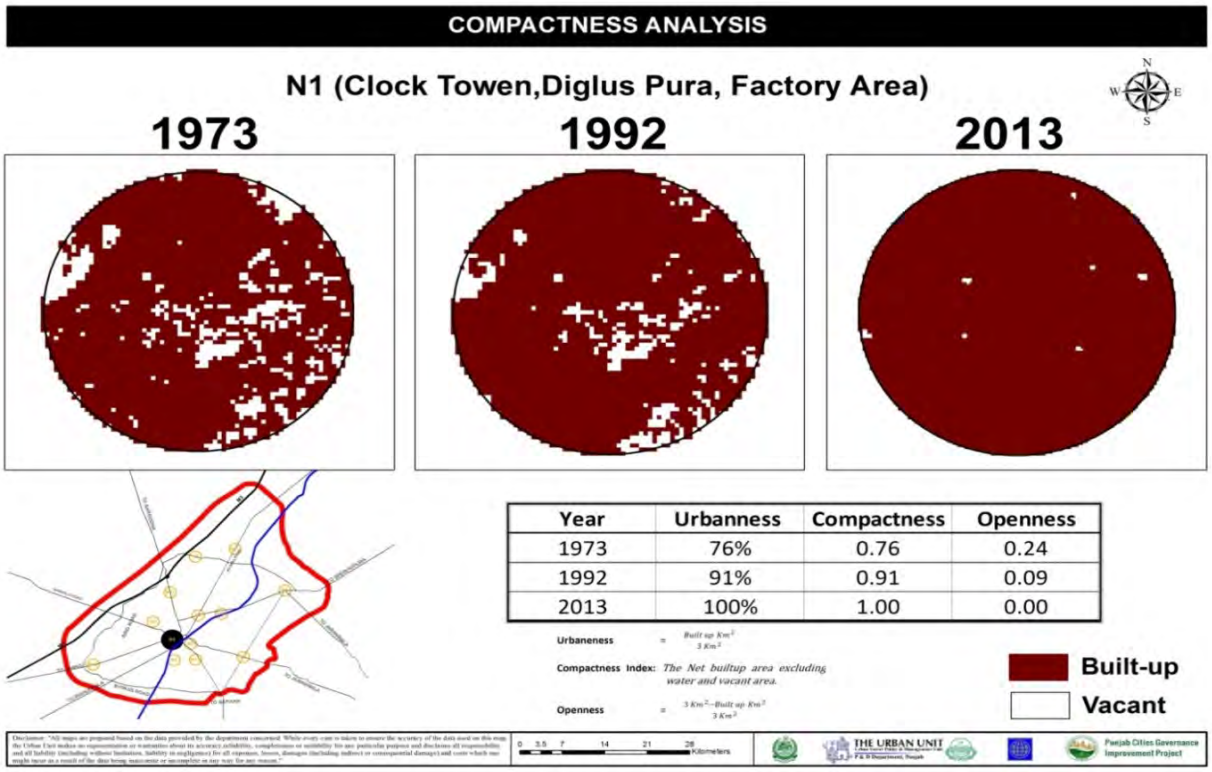
Fig 5.14: Location of Nodes for Compactness Analysis



Source: FPUSP Consultants, 2013

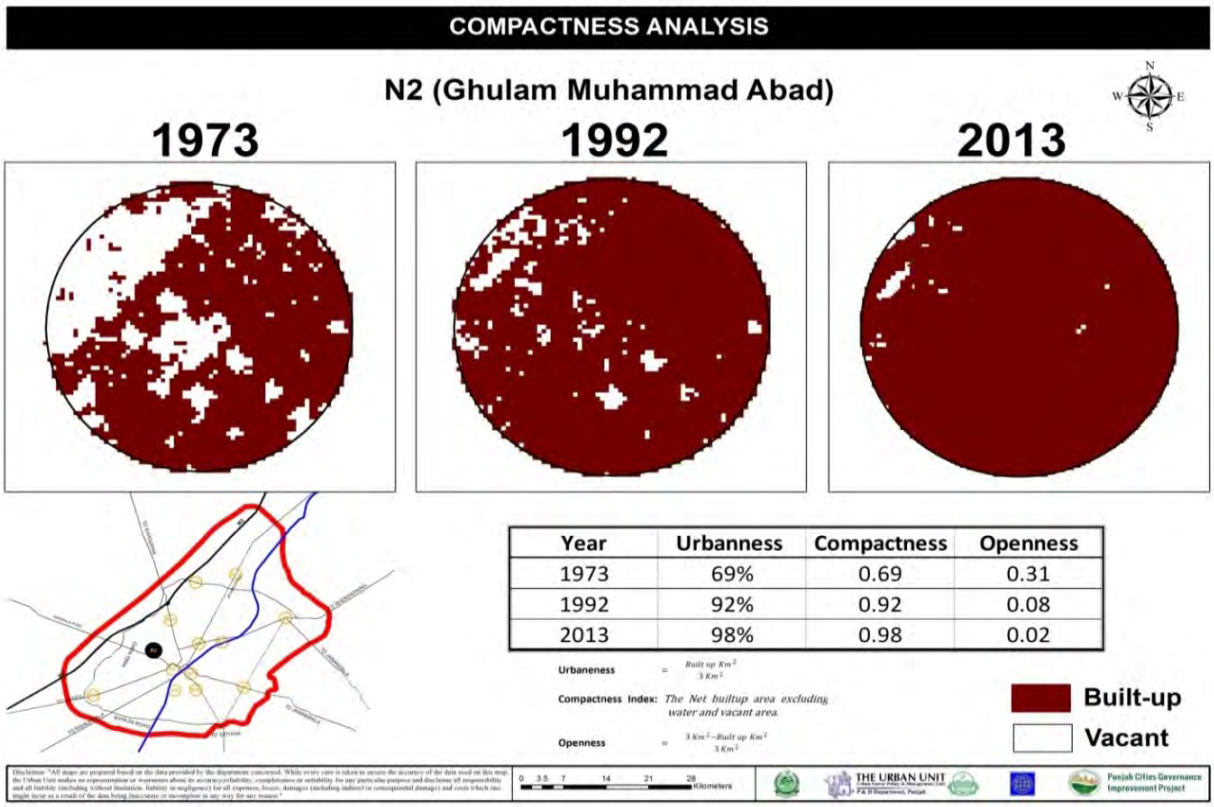
The results are briefly presented below:

Figures 5.15-5.28: Compactness Analysis for Node N1-N13



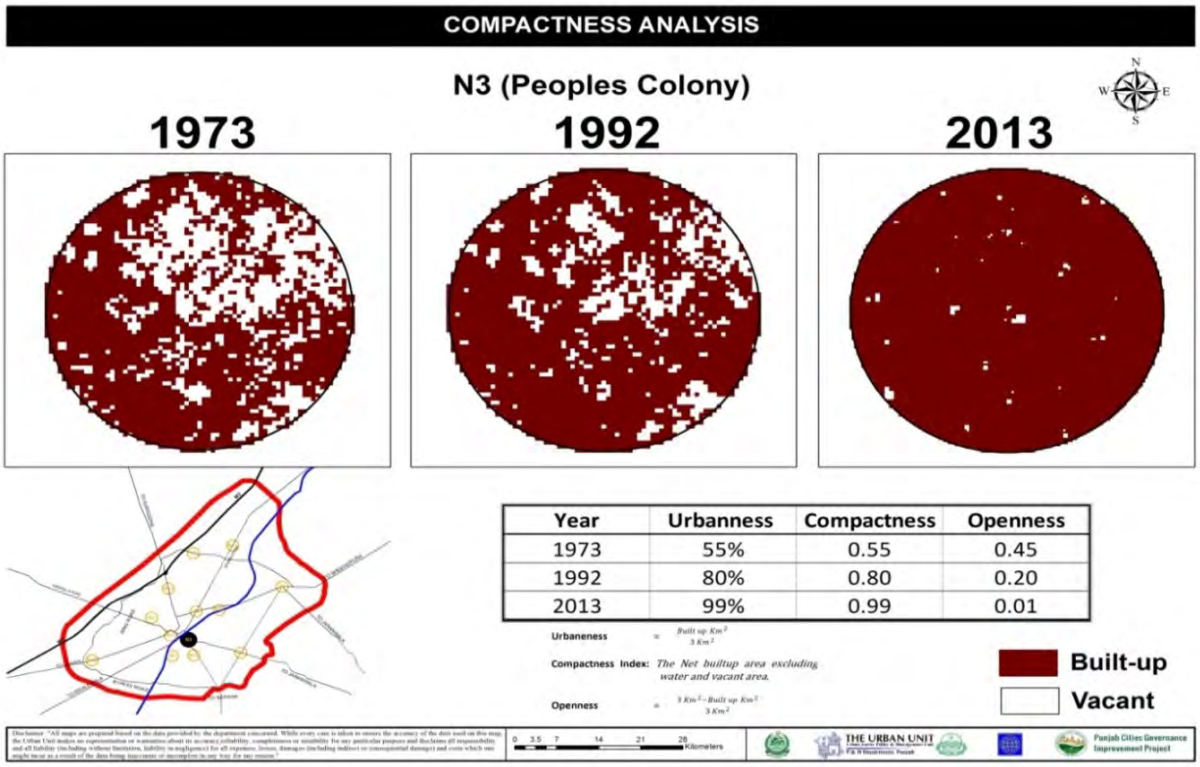
Analyzing the Faisalabad in terms of change in compactness from 1972 to 2013, then our study shows that the area (Douglous Pura) is highly compact in nature. According to this analysis, during 1973, this area was highly urban (76 %) in nature having compactness 0.72. In the next two decades, in 1992, the increase in urbaneness is evident from 0.91 of compactness. Till 2013, this urban trend continued with high urbaneness of 100 % and zero openness, as clearly shown by the compactness analysis map

Source: FPUSP Consultants, 2013



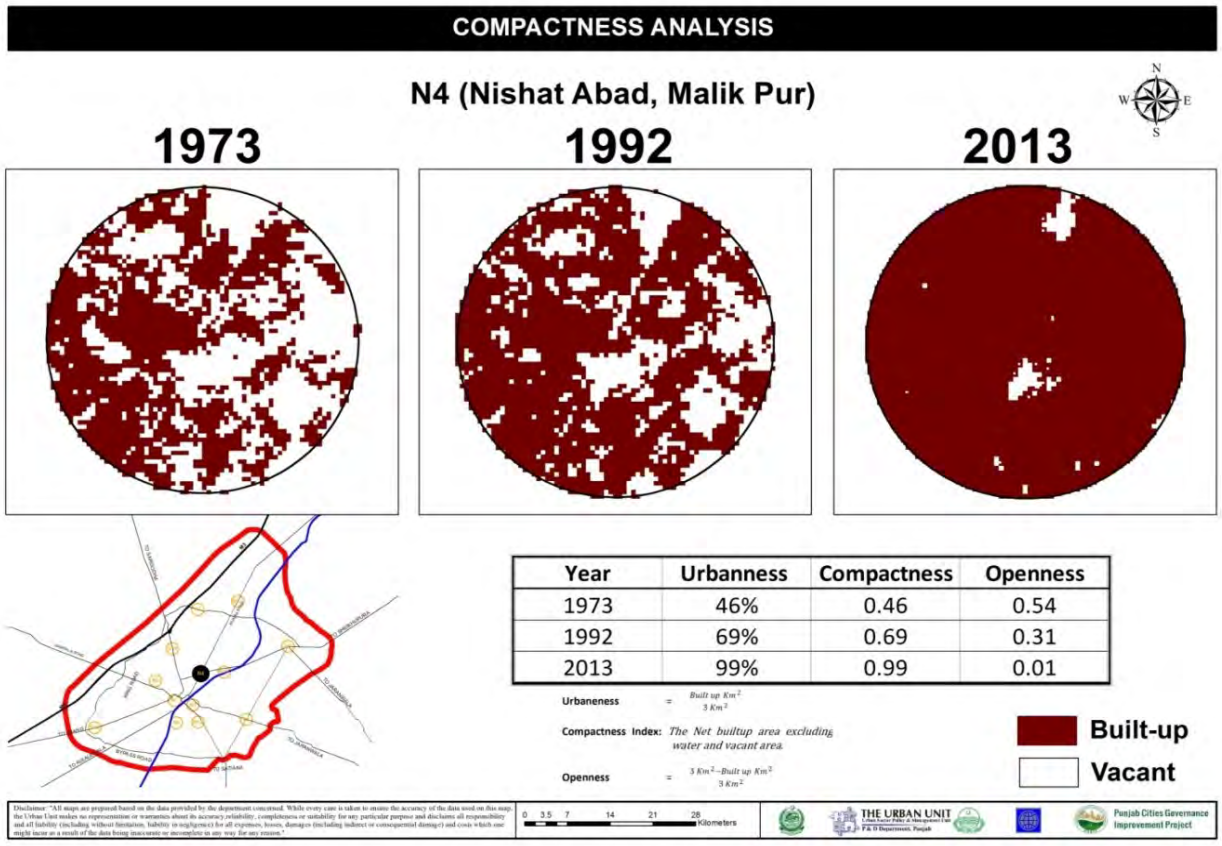
Ghulam Muhammad Abad area shows almost same kind of steady trend in compactness like the node N1, during the study period 1973 to 2013. In 1973, 69% of the area was urban, which changed to 92% in 1982 and to 98% in 2013.

Source: FPUSP Consultants, 2013



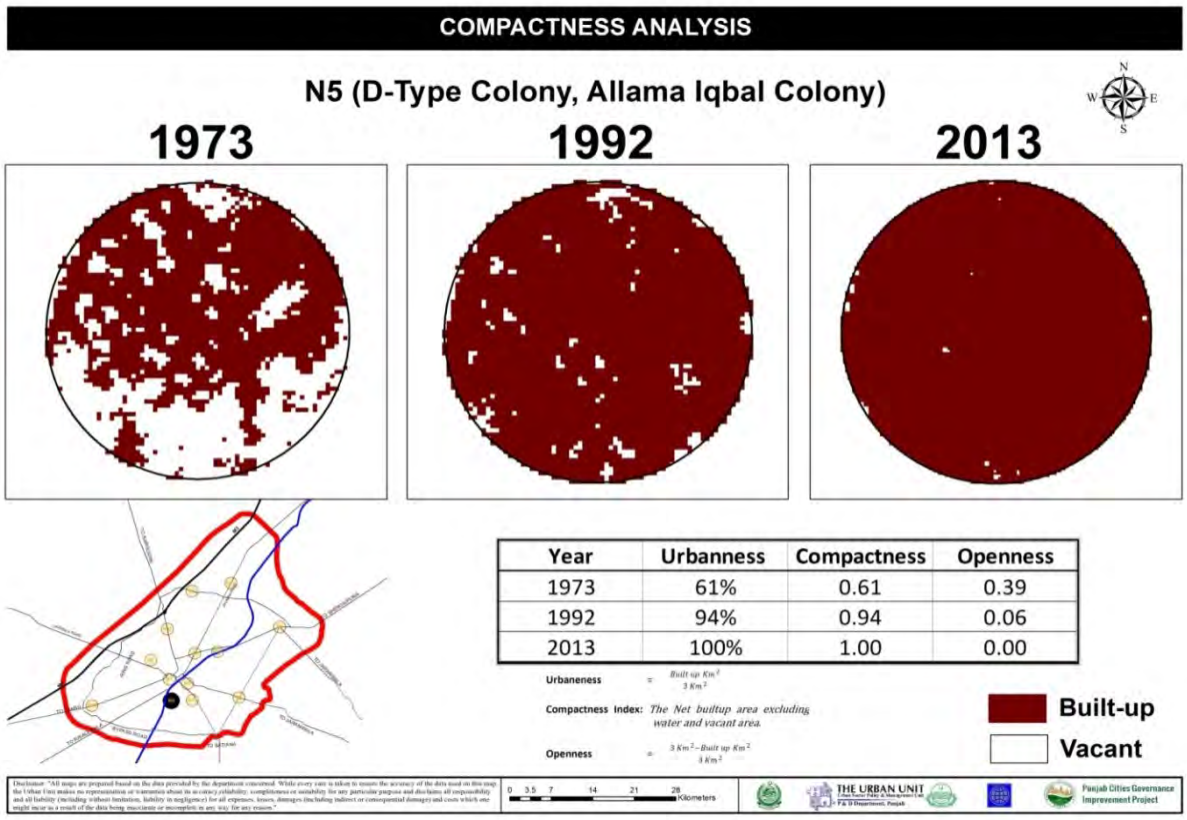
As analysis shows, in 1973, 55 % of the total area of Peoples Colony was urbanized in nature having compactness 0.55. During 1992, it was 0.88 and in the next two decades, the change in urbaneness was sharp as clearly indicated by 0.99 of compactness.

Source: FPUSP Consultants, 2013



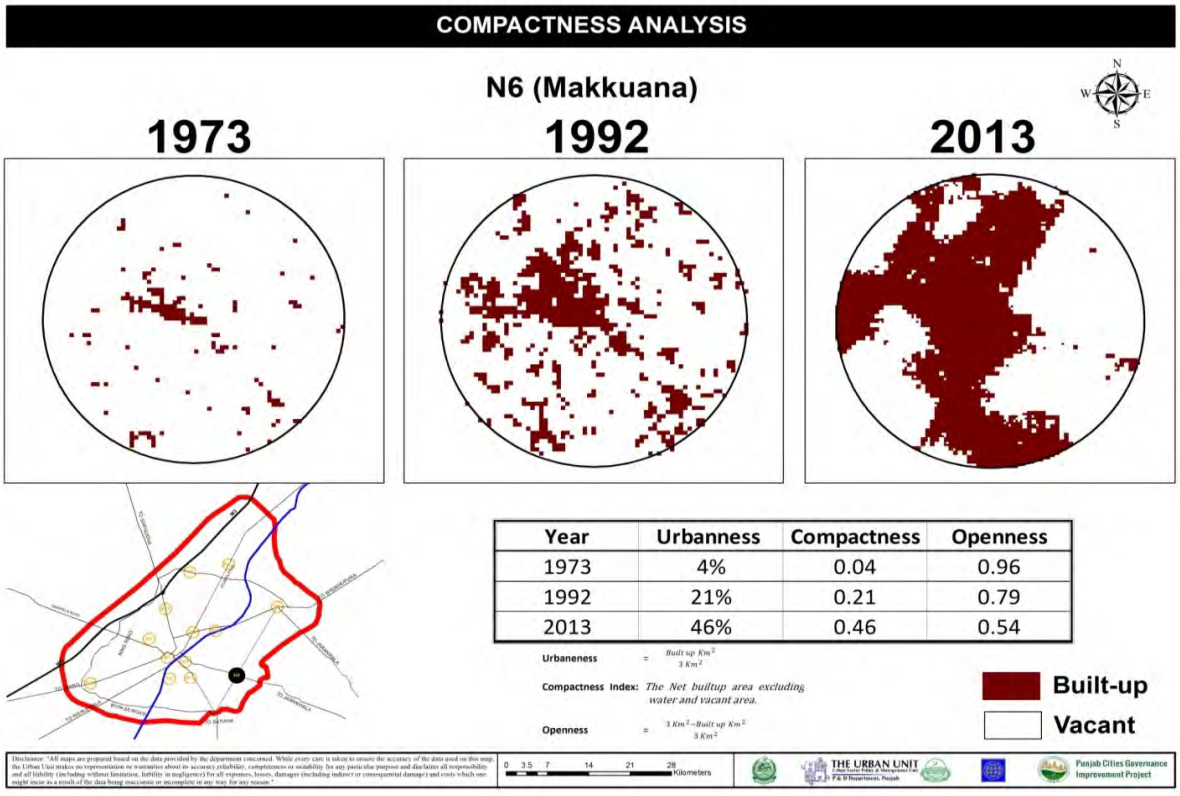
Nishatabad and Malik Pur areas were 46% urban in nature in 1973 having compactness 0.46. In the following two decades it was changed to 69 % (0.69 compactness). Then up to 2013, were seen sharp increase in compactness which ends up in 0.99.

Source: FPUSP Consultants, 2013



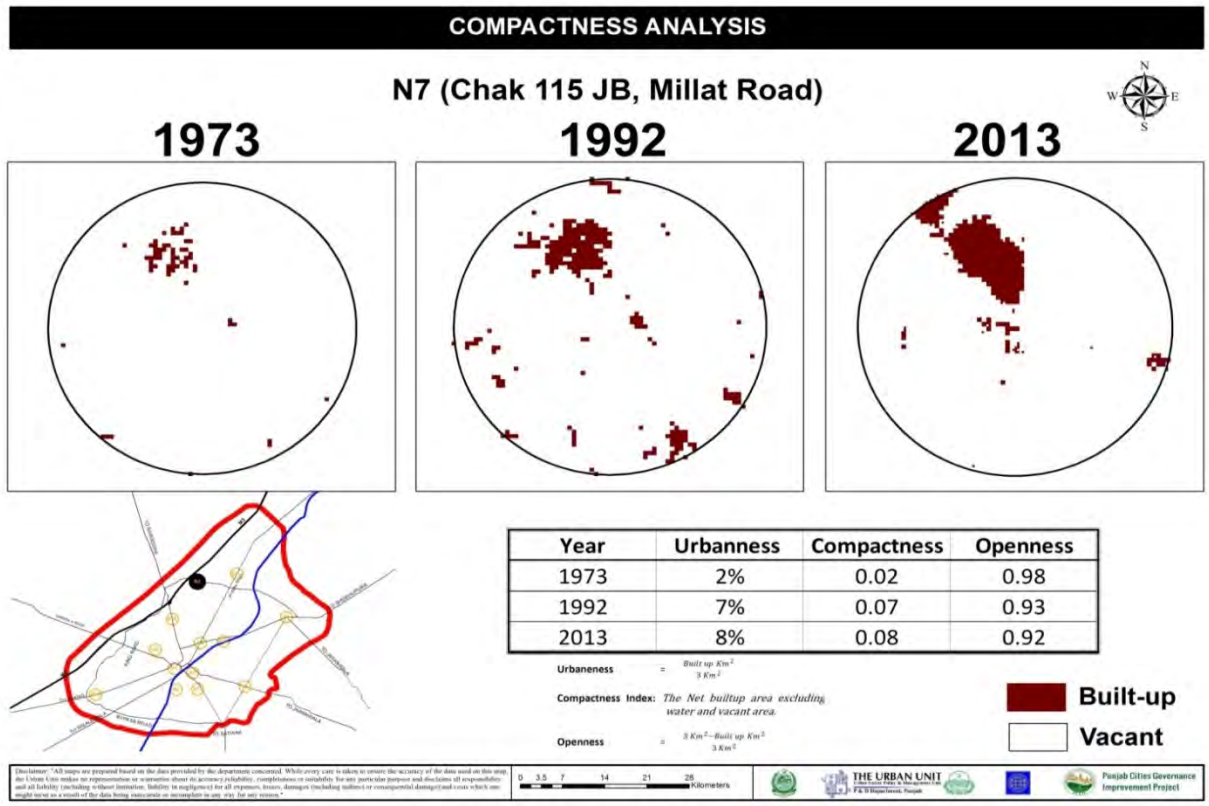
This analysis shows that in 1973 only 4% of the area was urban in nature having compactness only 0.4 with large openness of 0.96. In the next two decades the change in compactness was fast 21% of the urban area and in 2013.

Source: FPUSP Consultants, 2013



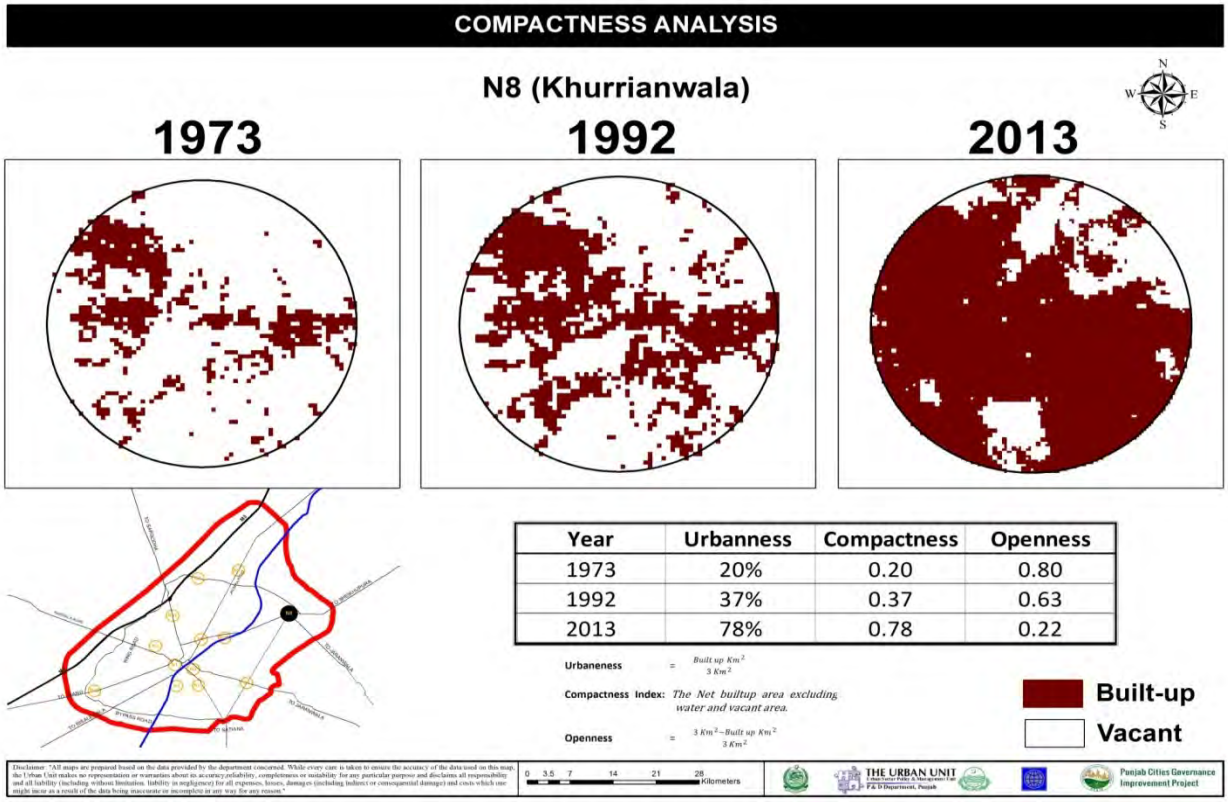
This analysis shows that in 1973 only 4% of the area was urban in nature having compactness only 0.4 with large openness of 0.96. In the next two decades the change in compactness was fast 21% of the urban area and in 2013 .

Source: FPUSP Consultants, 2013



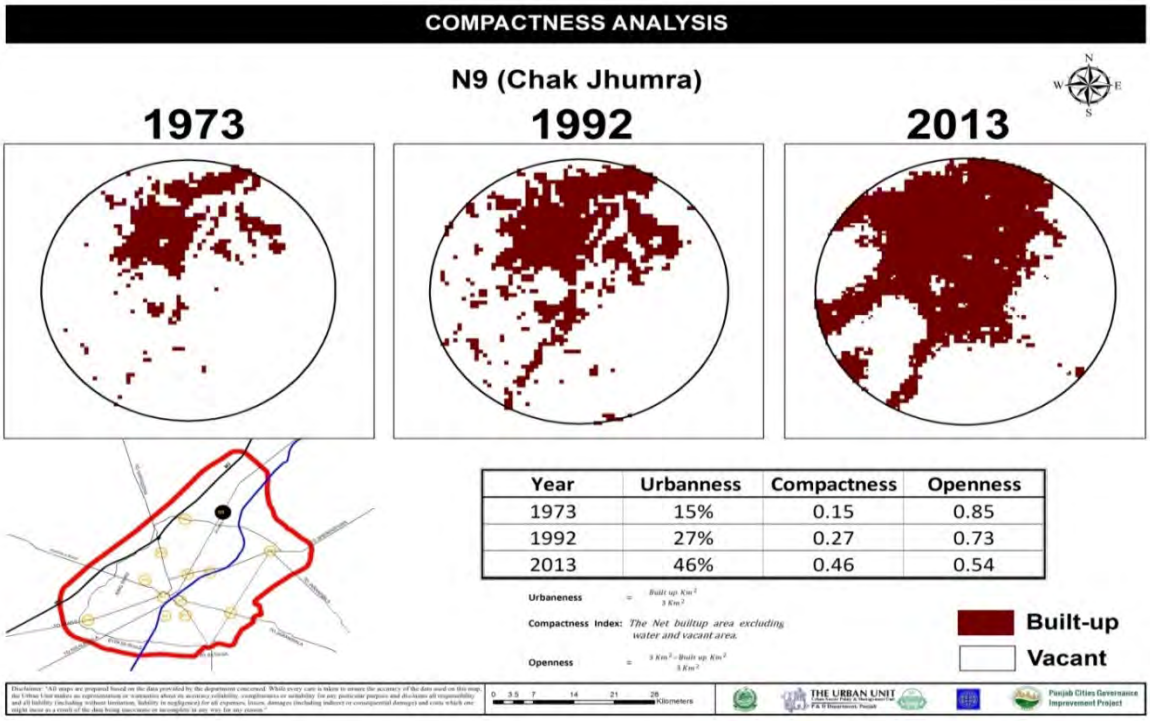
Compactness analysis shows that very few change occurred in the area of Millat road, Chak Jb 115 during whole study period. Only 2% area was urban in 1973, with dominant open area (0.98 openness). In the following years small change happened like, urbaneness was 7 % till 1992. Interestingly, from 1992 to 2013, only 1 % increase witnessed in urbaneness. Similarly analysis shows that urbanization trend remained least in this region having open area in dominance.

Source: FPUSP Consultants, 2013



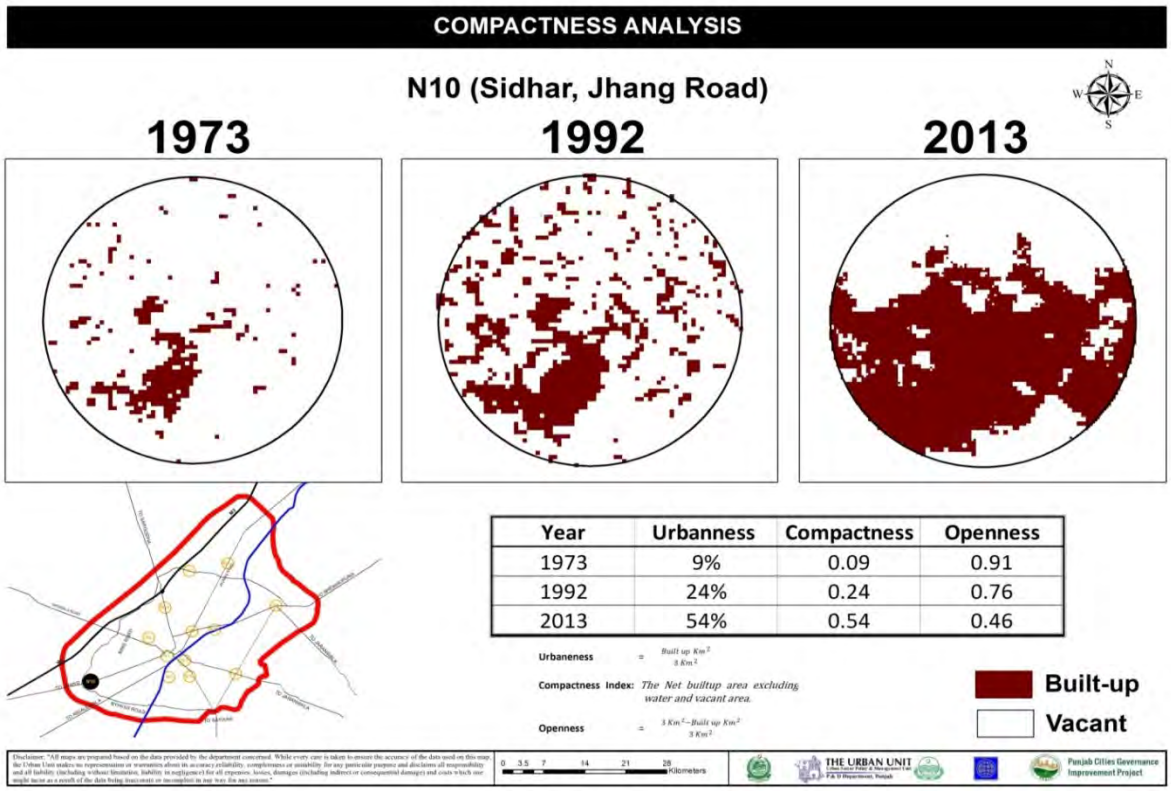
Khurianwala was 20% urban in nature having compactness only 0.2 in 1973. Steady increased seen during 1973-1992, with 37% urbaneness. But in next two decades, this area experimented radical change in compactness from 0.37 to 0.78. Same kind of trend is seen in the region of N11 (Zeenat town, Sargodha road) with radical change in compactness/ urban growth after 1992.

Source: FPUSP Consultants, 2013



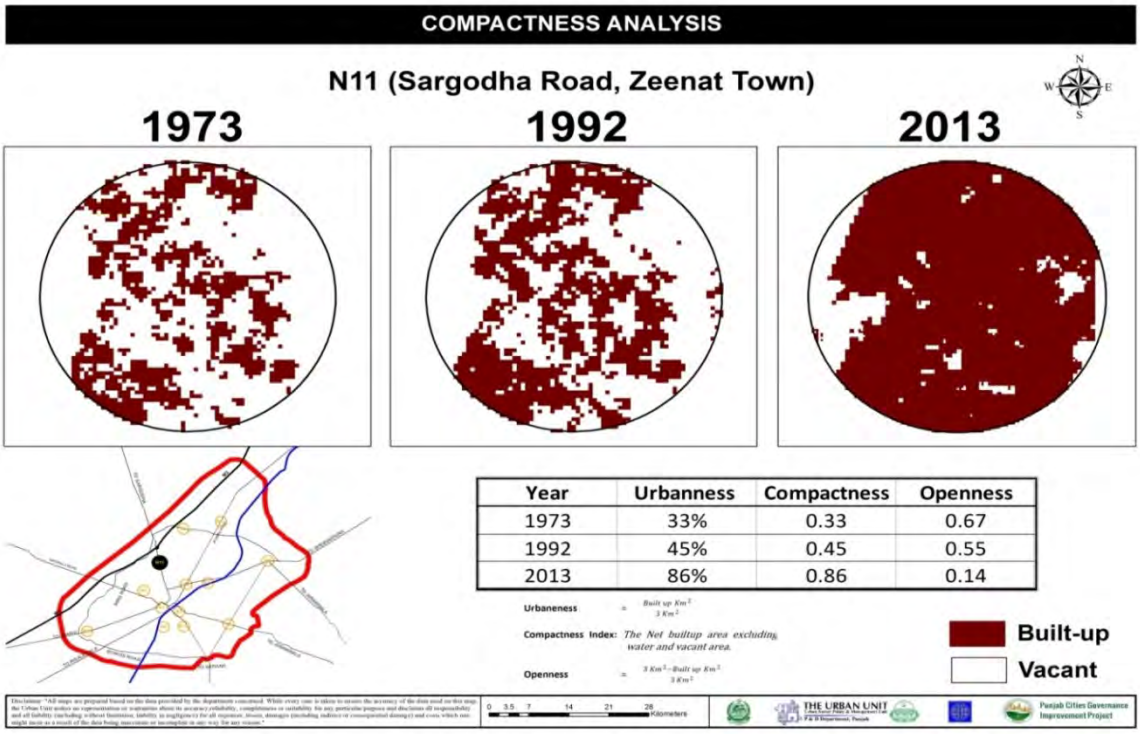
Chak Jhumra was 15% urban in nature having compactness only 0.15 in 1973. Steady increase was seen during 1973-1992, with 27% urbaneness. But in next two decades, this area experimented radical change in compactness from 0.15 to 0.27. However radical change in compactness/ urban growth was observed after 1992 as rate of urbanness increased up to 46% in 2013.

Source: FPUSP Consultants, 2013



Sidhar, Jhang Road was 9% urban in nature having compactness only 0.09 in 1973. Steady increase was seen during 1973-1992, with 24% urbaneness. But in next two decades, this area experimented radical change in compactness from 0.24 to 0.54. However radical change in compactness/ urban growth was observed after 1992 as rate of urbanness increased upto 54% in 2013.

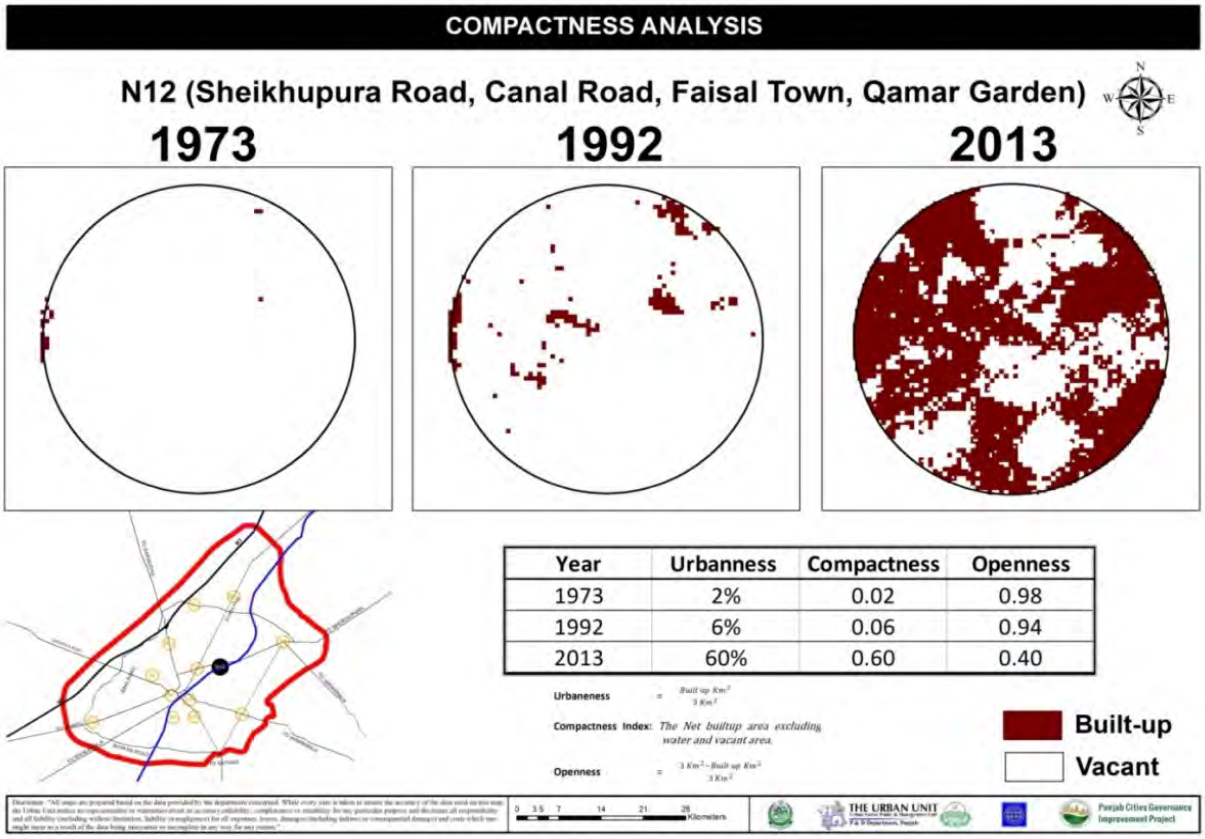
Source: FPUSP Consultants, 2013



Year	Urbanness	Compactness	Openness
1973	33%	0.33	0.67
1992	45%	0.45	0.55
2013	86%	0.86	0.14

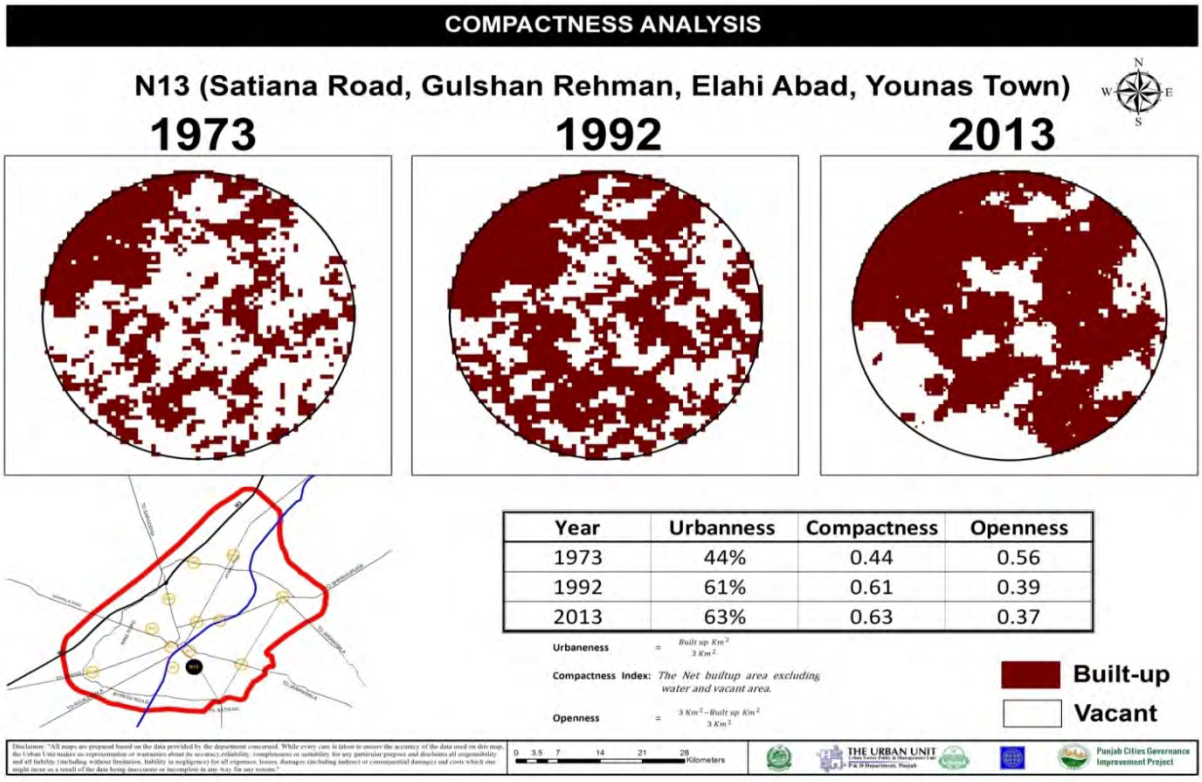
Compactness analysis shows that steady changes occurred in the area of Sargodha Road, Zeenat Town during whole study period. Only 33% area was urban in 1973, with dominant open area (67% openness). In the following years small change happened like, urbaneness was 45 % till 1992. Interestingly, from 1992 to 2013, drastic 41% increase witnessed in urbaneness (86%). Similarly analysis shows that urbanization trend remained higher in this region having lesser open area in existence (14%).

Source: FPUSP Consultants, 2013



Compactness analysis shows that drastic change occurred in the area of Sheikhupura Road, Canal Road, Faisal Town, Qamar Garden) during whole study period. Only 2% area was urban in 1973, with dominant open area (0.98 openness). In the following years small change happened like, urbaneness was 6 % till 1992. Interestingly, from 1992 to 2013, 54 % increase witnessed in urbaneness. Similarly analysis shows that urbanization trend remained highest in this region having lesser open area in existence.

Source: FPUSP Consultants, 2013



Compactness analysis shows that very few change occurred in the area of Satiana Road, Gulshan Rehman, Elahi Road, Younas Town during whole study period. Only 44% area was urban in 1973, with dominant open area of 56% (0.56 openness). In the following years small change happened like, urbaneness was 61% till 1992. Interestingly, from 1992 to 2013, only 2 % increase witnessed in urbaneness. Similarly analysis shows that urbanization trend remained least in this region. However, overall Openness decreased in this region over the study period.

Source: FPUSP Consultants, 2013

5.12 Analysis of Environmental Resources and Quality

Faisalabad being the hub of textile industry in Pakistan also hosts a variety of other industries, including sugar, fertilizer, chemical, engineering and steel, rubber, leather tanning, vegetable ghee, and paint factories, offers very diverse opportunities for the local as well as national economic. But at the same time, this industrial abundance also takes a huge toll on its physical environment. Industries by their default physical setting in urban structure are highly incompatible and seek immediate attention through policy as well as physical interventions. Industry largely consumes resources like water in abundance, pollutes ambient air directly and surface/sub-soil water indirectly through recharge. Also contributes to hazardous pollution both in water, air and in solid waste. It has been affecting the quality of local physical environment over the years which has also made the local authorities and technocrats to take some curative measures in the past like relocating some clusters to outside the city locations. FPUSP consultants have also evaluated the state of local environment (by analyzing secondary source data obtained from EPD, Punjab) and give a brief account as below;

5.12.1 Water Resources

Apart from taste and brackish quality of subsoil water in Faisalabad, the pH of ground water ranges from 6.2 to 6.7 and pH of fresh water varies from 6.3 to 6.9. According to the recommendations of WHO (1985), the values for pH for safe drinking water is 6.5 to 8.5. Most of the samples had pH within the permissible limits. The amount of total dissolved salts (TDS) in ground water varies from 2.1 to 5.0 gl-1 and in fresh water its range

is 0.4 to 3.5 gl-1. The TDS standard value provided by WHO is in the range of 0.5-1.5 gl-1. The presence of high numbers of organic salts in form of carbonates, bicarbonates, potassium, sodium and calcium etc. and also some non–volatile substances are responsible for high values of TDS in water samples that found in form of solids at room temperature. The Electrical Conductivity (EC) of ground water has been reported in the range 2.25 to 6.1(mS) while the EC for fresh water samples found in the range 3.6 to 7.4(mS).

In general, in Faisalabad, ground and fresh water are not good for drinking purposes but these can be used for other domestic uses. As industrial effluents, sewage and urban waste water are added to ground water or left in open spaces, surface and ground water pollution are increasing day by day.

Waste waters from industries and commercial areas are high in BOD, COD and heavy metals than permissible NEQs. Toxic metals are also found in high amounts in these waters posing a serious threat to local water resources and ultimately to human health.

5.12.2 Solid Waste Management

Solid waste management is another serious issue of Faisalabad City. Daily, 600 tons of domestic solid waste is produced in Faisalabad City. The level of waste collection, disposal is very low, only 50% (GHK: 2009) of this waste is collected and disposed where remaining waste is left in streets, open waste places and along roads.

Similarly, system of sewage collection, drainage and disposal is inefficient and old. The system is old, has low capacities with

frequent overflows, absence of treatment facilities and open channels basically intended for storm drainage but used as sewer mains. Recently incorporated Faisalabad Waste Management Company (FWMC) aims to ease the situation but city doesnot have any pre-emptive approach for it future land use planning at the same time.

Industrial solid wastes are another serious cause of environmental pollution as these may contain toxic and hazardous chemicals posing threats to public health and overall environmental quality of the city.

5.12.3 Air Quality

Air quality in the city is very poor. Air pollutants such as oxides of nitrogen, carbon monoxide, ozone, hydrocarbons and particulate matters, (both Total Suspended Particulate (TSP) and respirable particulate (PM10) and Sulphur dioxide are high to very high levels. These levels are in general, many times higher than WHO and international standards indicating serious issue of air pollution.

5.12.4 Noise

Due to ever increasing traffic and presence of small scale industrial units in residential areas, noise pollution is also a serious environmental issue of Faisalabad. Large scale use of 2-3 wheelers in the City is main reason of noise and air pollution in the city.

While concluding, it appears that Faisalabad city is facing serious problems of availability and quality of fresh water, air and noise

pollution which need immediate attention and coordinated remedial efforts. In this regard, air quality, noise pollution control, provision of clean and cheap drinking water and introduction of cost effective techniques and methods for solid waste and sewerage management are urgently required.

5.13 Stakeholder Consultation

Stakeholder consultation is considered as a fundamental part of inclusive collaborative planning process. Consultation provides general community with the real opportunity to participate in plan/policy making which will eventually affect them one way or the other in coming future. Involving community and decision maker in planning process definitely ensures broad based acceptability of planning decisions at all level of society and thus ensures sustained implementation and long term stewardship.

FPUSP Consultants held a series of broad based stakeholder consultation/participation since project inception at all levels of plan preparation, these were CDG, FDA, WASA, FESCO, NTDC, FWMC, Health, Educational Institutions like GC University and Agriculture University, Academia, EPD, Chamber of Commerce and Industries, APTMA, Industrialists, Builders and Contractors, practicing Architects and Urban Planners, Traders Associations and General Public. The following consensus vision statement has been developed by the Consultants after going through the broad based consultation process and opinion leveled by the stakeholders;

- The city must have a progressive and coherent planning vision.

- The city must endorse plan preparation and implementation.
- The city must capitalize on future development perspective emerged by the development of M3-M4 national trade corridor.
- The city must capitalize on the opportunity to serve as a major trade and industrial hub of Pakistan.
- The city must strive to create more opportunities to tap to potential of its educated and skilled human resource.
- The city must prepare itself to seek more diverse opportunities in services sector other than conventional industrial and agriculture sectors.
- The city must strive to become more vibrant, social, cohesive and livable.
- The city must remain environmentally sustainable and resilient.
- The city must endeavor to get more opportunities to promote its rich socio-cultural base and diversity.
- The city must go vertical (limits of verticality has to be defined) and have a denser form to conserve precious peri urban resources and to enhance food security for the future.
- The city must have a development way forward in the form of a [Peri-Urban] Plan to pave its more sustainable future.
- The city should have a mass transit system by capitalizing on existing infrastructure like railway track running through whole of the city.

5.14 Summary of Analysis Findings

- Land use analysis showed that rampant development trends followed along Sargodha Road, Sheikhupura/Canal Road and Jhang Road linear corridors respectively had only limited effective depth of this linear development not more than 500m on both sides thus calls for creation of new growth opportunities and zones without repetition of linear patterns.
- Central Business District (CBD) of the city is highly compact and no further space is available to accommodate any further infill development, either this area has to go under regeneration or new opportunity zones are desired to accommodate high and medium rise buildings to house future expected business and trade opportunities.
- Central North-West side (G.M. Abad) of the Existing Built Up area is relatively less compact and has the potential for infilldevelopment.
- Compactness further decreases as move towards South-East (Satiana Road), North (Sargodha Road), and South (Sammundari Road) side respectively because poor accessibility to trapped lands between Canal road, Jaranwala road and Satiana road again demands for connector roads to tap the potential of these locked lands for future prime housing as these areas are closely located near the existing infrastructure nodes which could easily be extended to develop these areas in near future.

- M3 Industrial Estate and Value Addition City have a great potential for future industrial growth and employment but these lack complementary labor housing and ancillary commercial districts.
- Ample agriculture land is available for cultivating main crops such as Sugarcane, Wheat, Cotton, Maize and Rice in peri-urban area on South-East and South-West which has be considered in framing proposals to upkeep food security concerns of the town.
- Motorway M3 and M4 providing a route for trading in addition to intercity commuting and connectivity, Faisalabad is likely to act as a regional trade and transit hub and this immense potential has to be capitalized.
- Considering availability of skilled labour pool, there are 16 technical / commercial / vocational institutes (11 for men and 5 for women) imparting training in various trades e.g. mechanical, electrical, auto-engineering, welding, wood-working and commerce, it is suggested to consider this potential for future.
- Textile-based industrial economy provides various kinds of job opportunities to skilled and unskilled labour in the city; this potential has to be considered while planning for the future of city.
- Irrigation system covering agriculture area pivotal to agriculture yield and food security for the city itself and surrounding areas, in future proposals this system has to be protected and consolidated.
- Having prime geographic location, physical setting and being well connected through rail and road with all major cities like Lahore, Rawalpindi, Multan, Peshawar, Quetta, and Karachi Faisalabad is desired to become a world-class urban center.

- M4 is expected to open up future trade and freight movement oriented opportunities for the city which has to be considered as well.
- Larger population bracket comprises youth (about 60% of total population) and currently doesn't have local opportunities. At the same time, local universities produce approx. 40,000 plus graduates each year. The plan has to come up with more opportunities for them through a rationale land use distribution and setting to capitalize on this immense HR potential.
- Sub-soil water resources are generally brackish almost in every part of city and are not suitable for human consumption and even for irrigation, the Rive Chenab and Jhang Branch presently serve as primary sources of fresh water for livelihood. Future planning should be wise on this resource utilization as areas fed by these channels are appearing a priority zone for future development.
- Agriculture land is converting into other land uses which are tapering the food production capacity; it has to be planned and regulated.
- Existing sewage treatment facility is insufficient to treat the entire industrial waste which is ultimately contaminating river water.
- Notified and illegal industrial areas which are at a distance from drains, driving pressure on sewerage system of WASA, future plan must focus on efficient drainage and environmental protection.
- Radial connectivity is almost absent along all major corridors and poses a biggest constraint to accessibility.
- Ribbon development along major roads calls for more land use opportunities.

- Haphazard industrial development is posing environmental burdens and threats which seeks remedial as well as preemptive measures.
- There are no opportunities for mixed use high density vertical development in city though economy demands for it and for supporting property and regulatory laws which must be devised in parallel.
- City lacks overall urban characteristic in terms of city scape, street furniture, leisure, social and cultural activities owning to non-availability and poor land use planning.
- High concentration of air pollution levels (especially PM10 concentration), waste water pollution and GHGs in city is observed, because of locating industries in the city.
- No hospitality services and infrastructure available to cater the needs of international textile buyers (business tourism) visiting local industry.
- Under-utilized airport facility which even needs extension/up-gradation on urgent basis to support future emerging status of the city as an international trade-hub.
- Higher prices of developed fringe lands giving rise to unaffordable housing, more openings are desired to facilitate informal land market.
- Linear commercialization is a common scene, 400 plus commercialized roads intensifying congestion in urban built-up, city need more commercially planned districts instead of linear commercialization.

- Very low space reserved for parks and open space, more spaces has to be augmented to enhance and promote healthy urban living and reduce the burden of environmental diseases.

CHAPTER 6 DETERMINING FUTURE

6.1 Land use Suitability Analysis Through GIS Modelling

As explained in Chapter 2 of this report that a land suitability analysis shall be performed for evaluating appropriateness of pertinent chunks of land within the study area for future uses/zones; the Consultants have performed the analysis by employing GIS modelling techniques as explained in the earlier sections. By performing the analysis, relative suitability was determined as per the defined criteria involved as by using ArcGIS Geo-processing (ArcGIS's Model Builder Tool). The descriptive methodology has already been given in earlier part of this document. Here in this section thematic maps are presented which show priority suitable lands to be used for different purposes. The primary consideration for placing these land uses was environmental sustainability, after that accessibility and infrastructure & transport nodes, proximity to similar uses and water availability were also given due consideration. Lands under crop cultivation were mostly avoided for the sake of environmental conservation and food security. Rest of the criteria and limitations to the suitability can be seen in the matrix below. Generally, in the past, this type of evaluations were mostly done on the basis of planners personal perception but for FPUSP, personal perception criteria was blended with GIS land suitability modeling which is considered as one of the best modelling tool for land use planning throughout the world. Results of DSS suitability models are produced here in the shape of suitability maps which combined helped the Consultants to decide on the right place for right land use.

Criteria Key For Land Suitability Analysis				
1	Highly Suitable	(S1)		
2	Moderately Suitable	(S2)		
3	Marginally Suitable	(S3)		
4	Currently Not Suitable	(S4)		

Sr. No.	Criteria	Suitability Maps		Weighting Criteria
		Factors	Constraints	
1.	**Lands Suitable for Residential Development**			
i.	Lands unsuitable for agriculture use		Constraint Map	0
ii.	Lands within flood prone area		Constraint Map	0
iii.	Lands near the landfill sites within 500m distance		Constraint Map	0
iv.	Lands near the airport site within 1km distance		Constraint Map	5
v.	Lands near the protected sites (canals, OHT Lines) within 200m		Constraint Map	0
vi.	Lands proximal to city limits	Factor Map		15
vii.	Lands proximal to existing residential land uses	Factor Map		20
viii.	Lands proximal to transport network	Factor Map		25
ix.	Lands proximal to community facilities	Factor Map		15
x.	Lands proximal to employment opportunities	Factor Map		10
xi.	Lands proximal to existing public water and sewer services	Factor Map		10
		Total		**100**
2.	**Lands Suitable for Industrial Development**			
i.	Lands free from flood risks		Constraint Map	0
ii.	Lands with minimum agricultural value such as barren lands		Constraint Map	25
iii.	Lands proximal to transport network	Factor Map		35
iv.	Lands proximal to existing infrastructure services	Factor Map		25
v.	Lands proximal to existing industrial areas	Factor Map		15
		Total		**100**
3.	**Lands suitable for Community Facilities (Education, Health)**			
i.	Lands free from flood risks		Constraint Map	0
ii.	Lands with minimum agricultural value such as barren lands		Constraint Map	20
iii.	Lands proximal to transport network	Factor Map		40
iv.	Lands proximal to existing infrastructure services	Factor Map		30
v.	Lands proximal to existing city limits	Factor Map		10
		Total		**100**
4.	**Lands suitable for Trade Zone**			
i.	Lands free from flood risks		Constraint Map	0
ii.	Lands with minimum agricultural value such as barren lands		Constraint Map	20
iii.	Lands proximal to transit corridor	Factor Map		30
iv.	Lands proximal to existing infrastructure services	Factor Map		30
v.	Lands proximal to industrial zones	Factor Map		20
		Total		**100**
5.	**Lands suitable for Agricultural Zone**			
i.	Soils suitable for croplands	Factor Map		30
ii.	Lands proximal to irrigation water network	Factor Map		50
iii.	Lands proximal to transport services	Factor Map		10
iv.	Lands proximal to markets	Factor Map		10
		Total		**100**

Fig 6.1: Model Builder(Process)

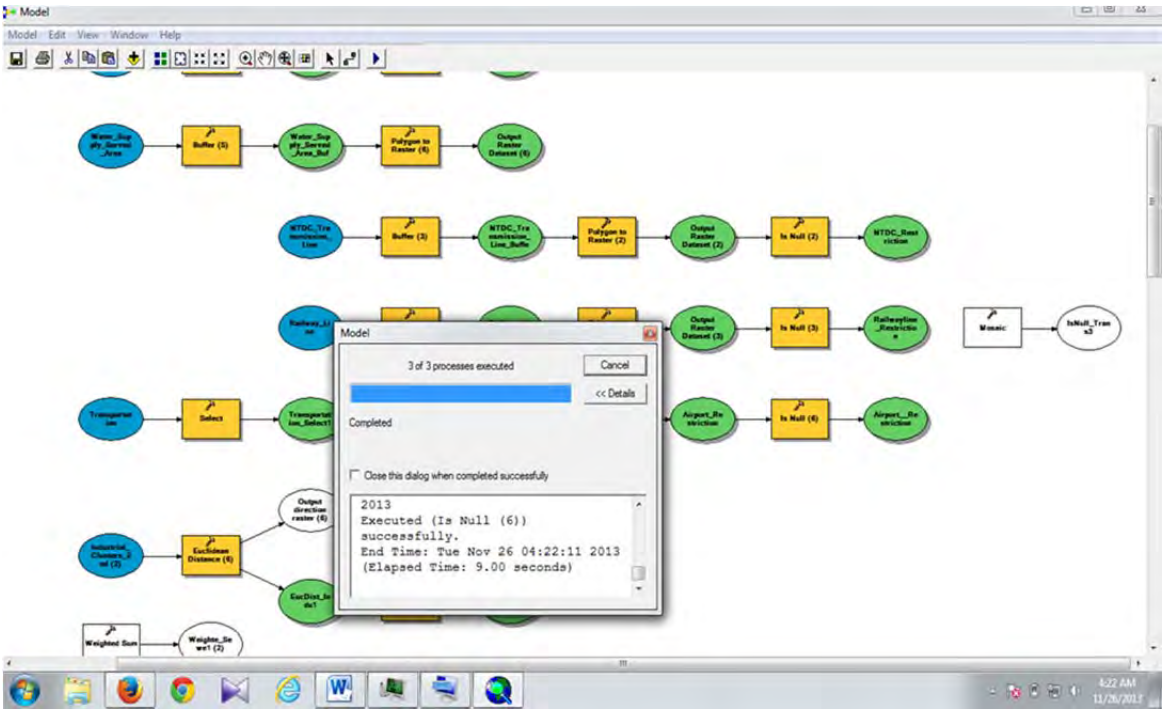
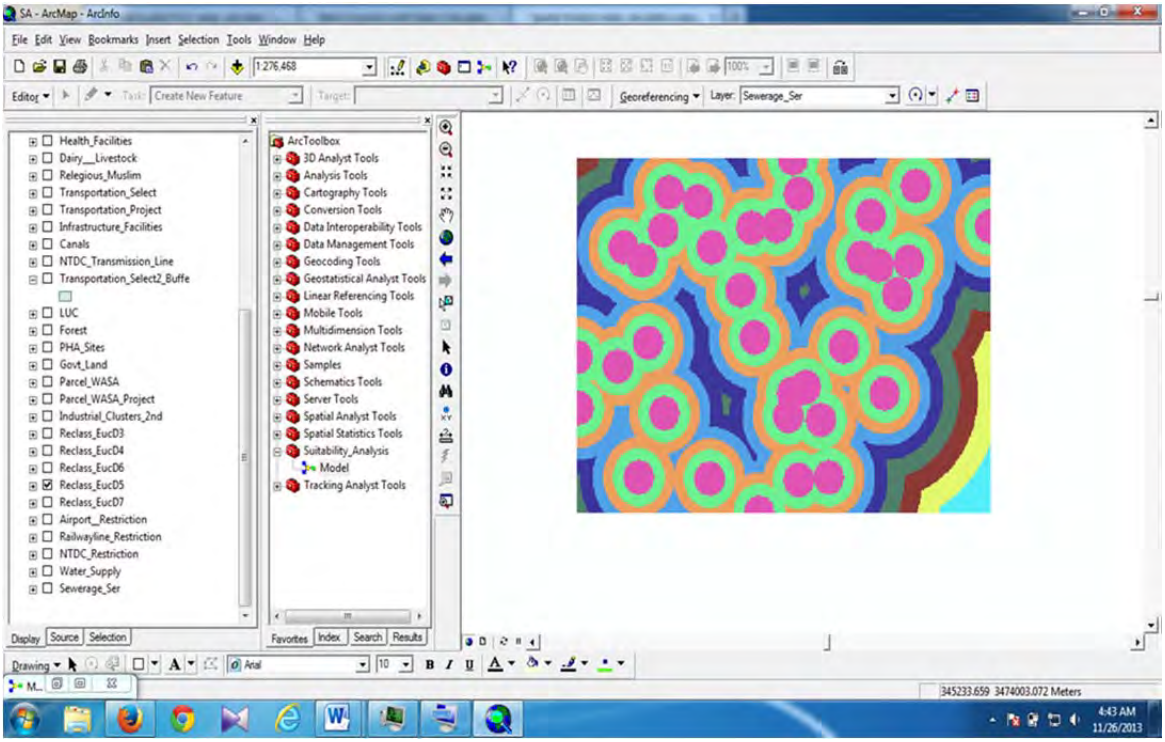


Fig 6.2: Model Builder(Process)



Source: FPUSP Consultants, 2013

Fig 6.3: Model Builder(Process)

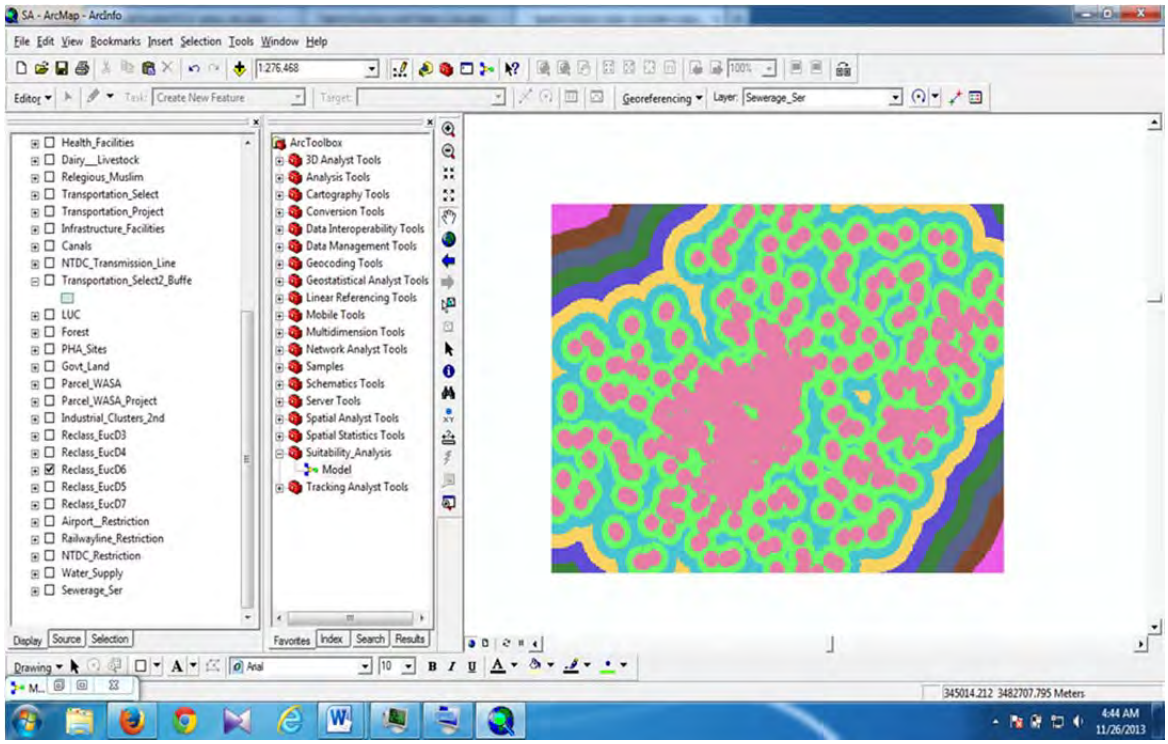
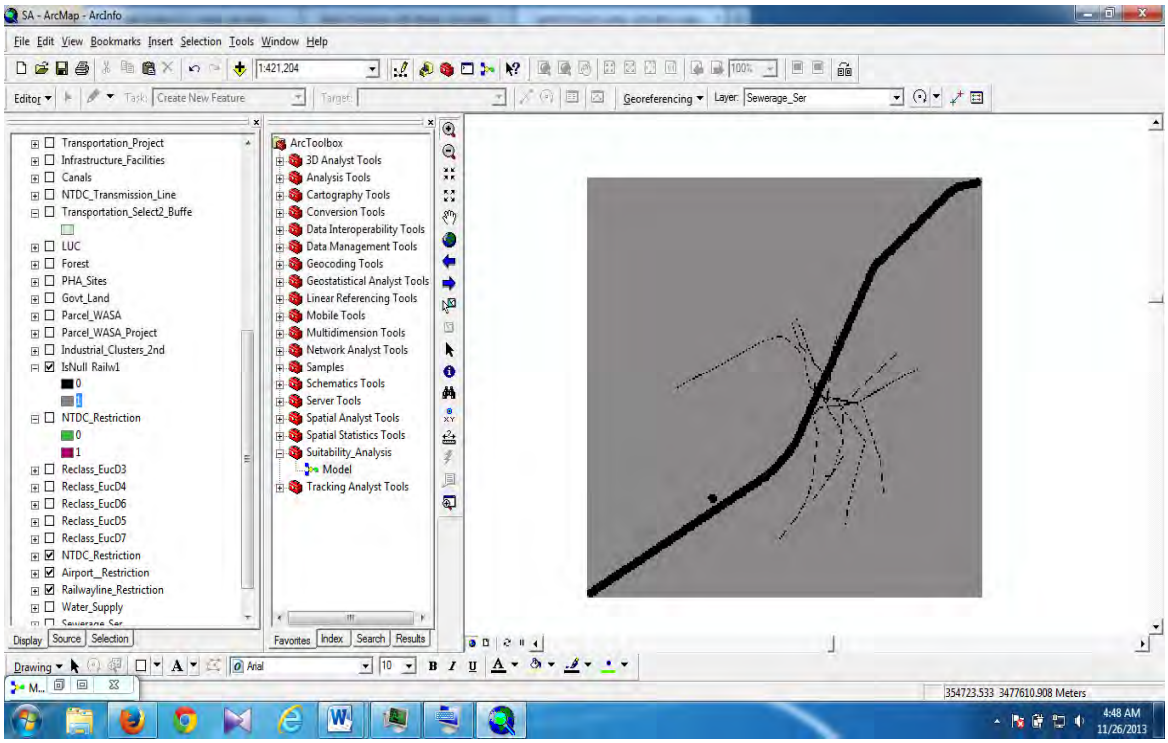


Fig 6.4: Overlaying Transit Corridor and Electricity Infrastructure (Process)



Source: FPUSP Consultants, 2013

Fig 6.5: Relative Suitability Mapping (Process)

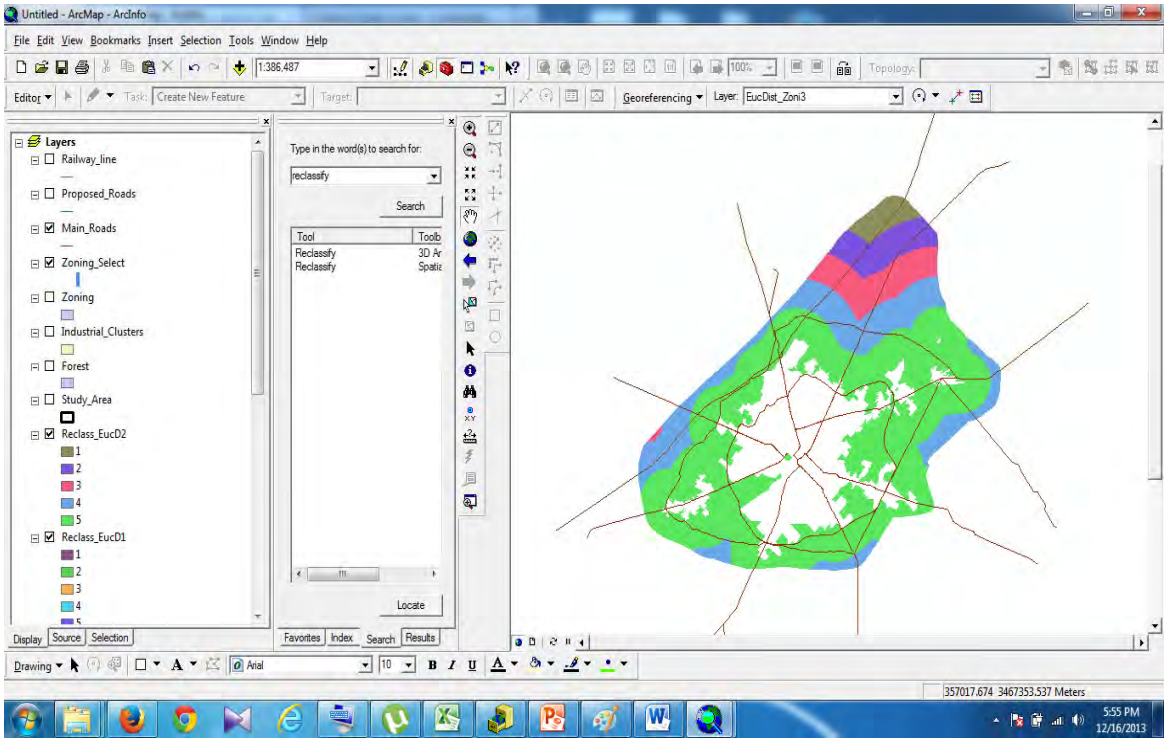
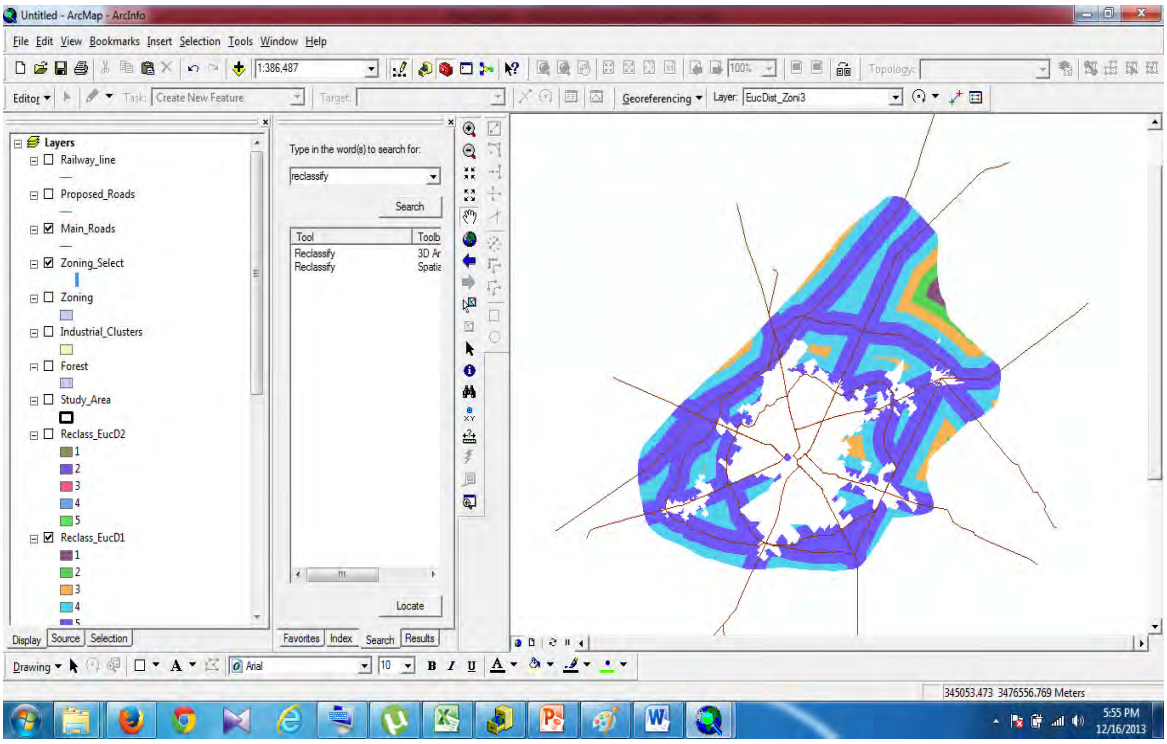


Fig 6.6: Relative Suitability Mapping (Process)



Source: FPUSP Consultants, 2013

Fig 6.7: Weighted Overlay Analysis by Using DSS (Process)

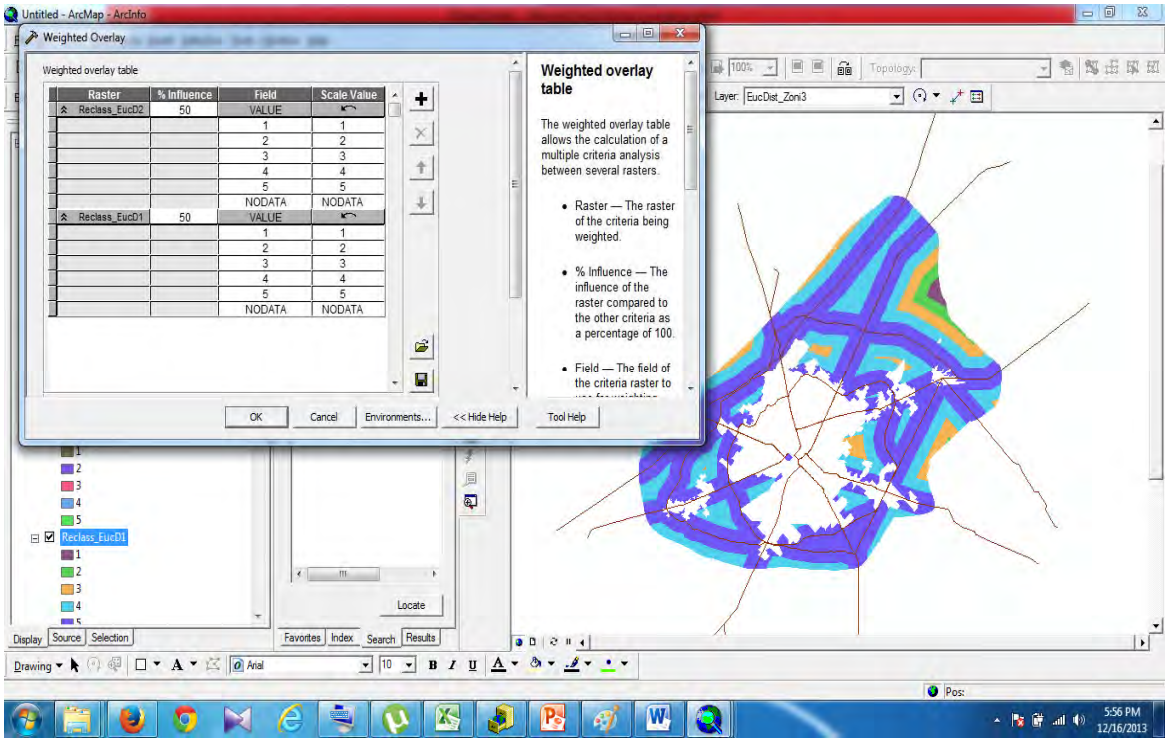
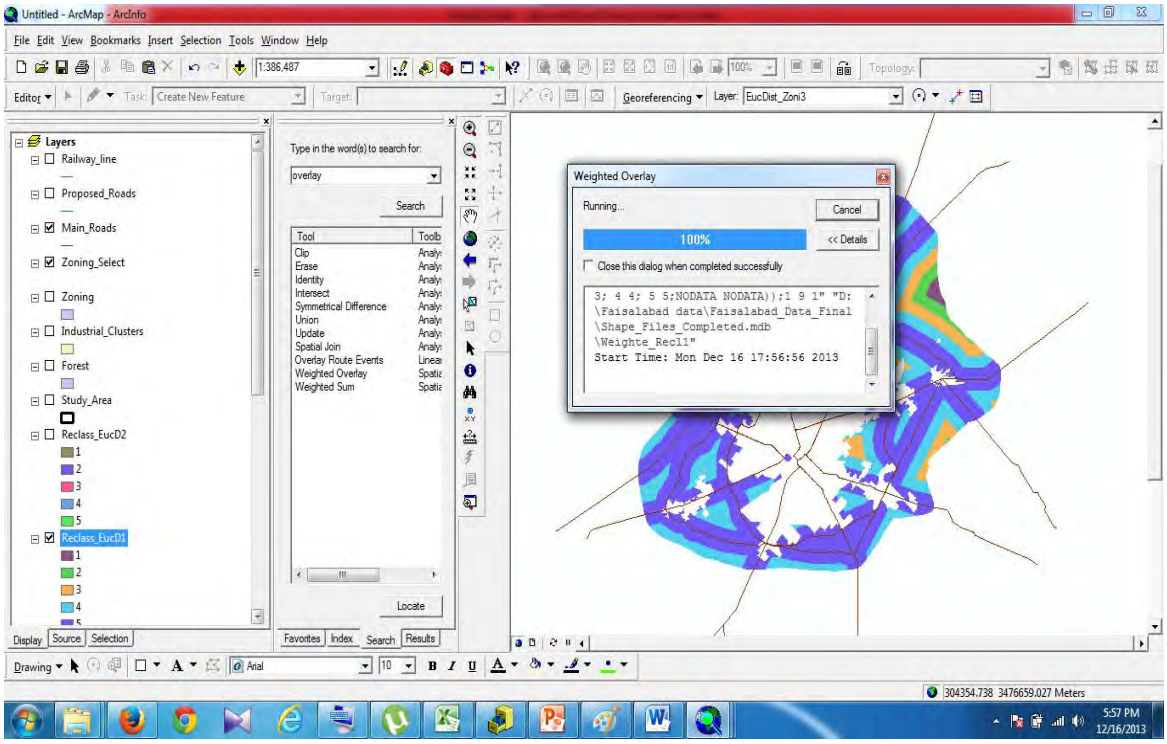


Fig 6.8: Weighted Overlay Analysis by Using DSS (Process)



Source: FPUSP Consultants, 2013

Fig 6.9: Preferred Suitable Location for Industrial Zone

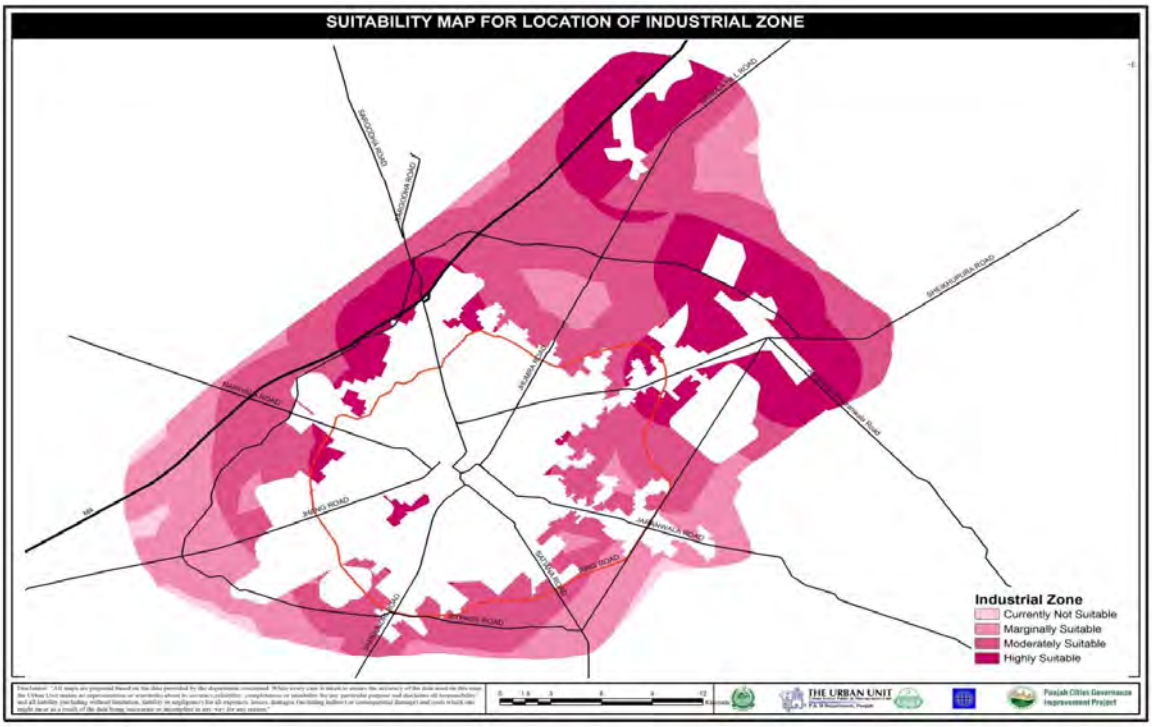
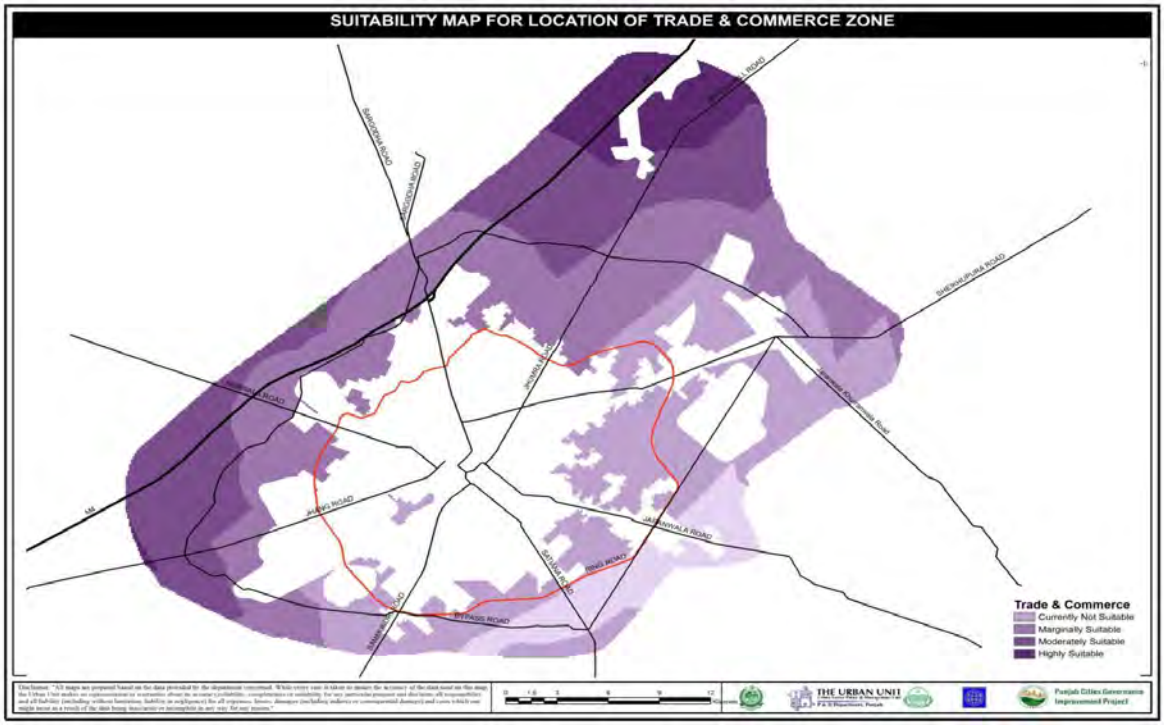


Fig 6.10: Preferred Suitable Location for Trade & Commerce Zone



Source: FPUSP Consultants, 2013

Fig 6.11: Preferred Suitable Location for Culture & Sports Zone

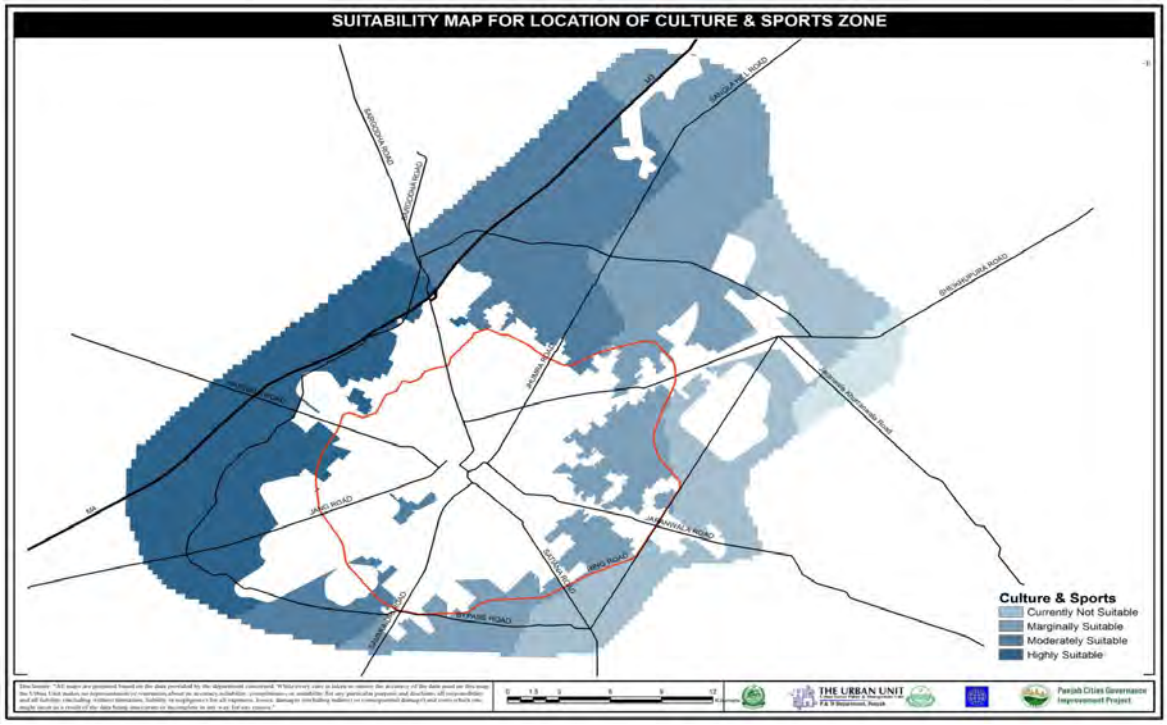
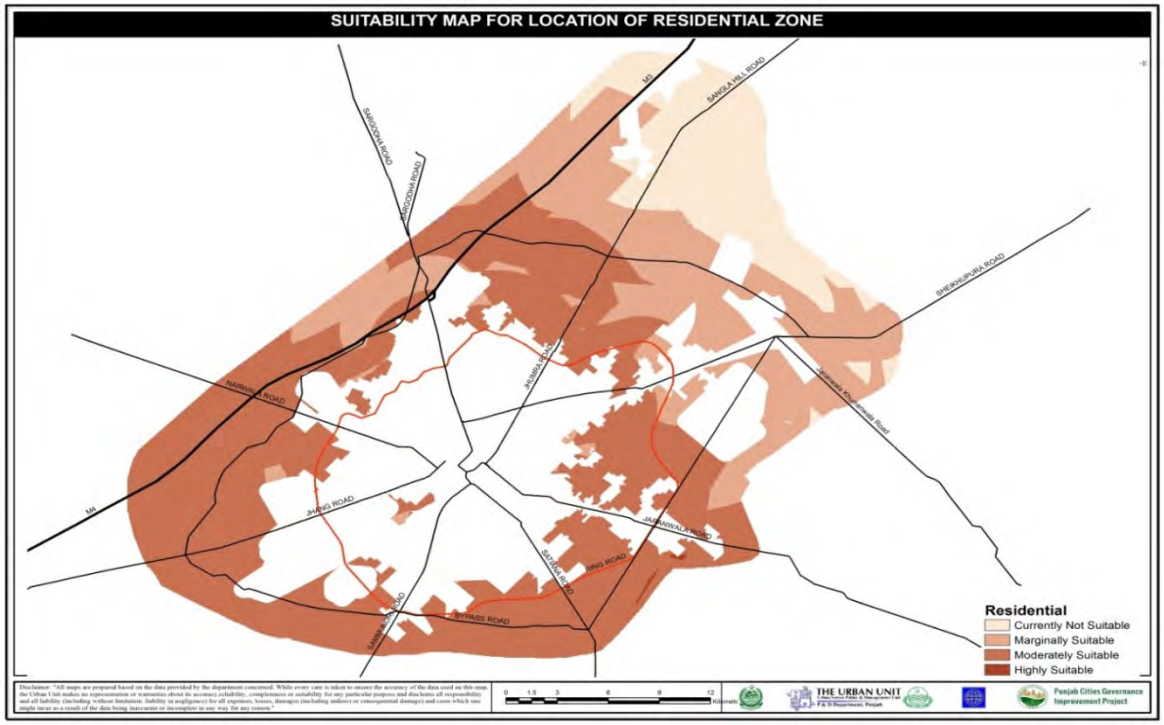


Fig 6.12: Preferred Suitable Location for Residential Zone



Source: FPUSP Consultants, 2013

Fig 6.13: Preferred Suitable Location for Warehousing & Freight Zone

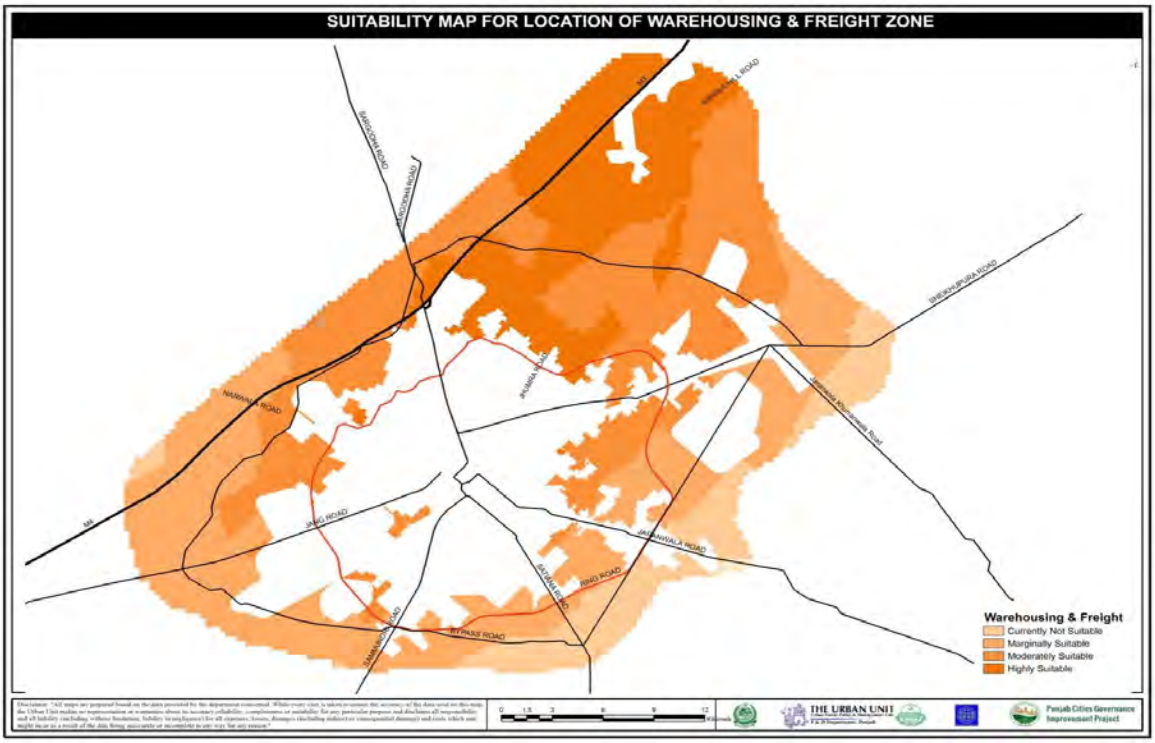
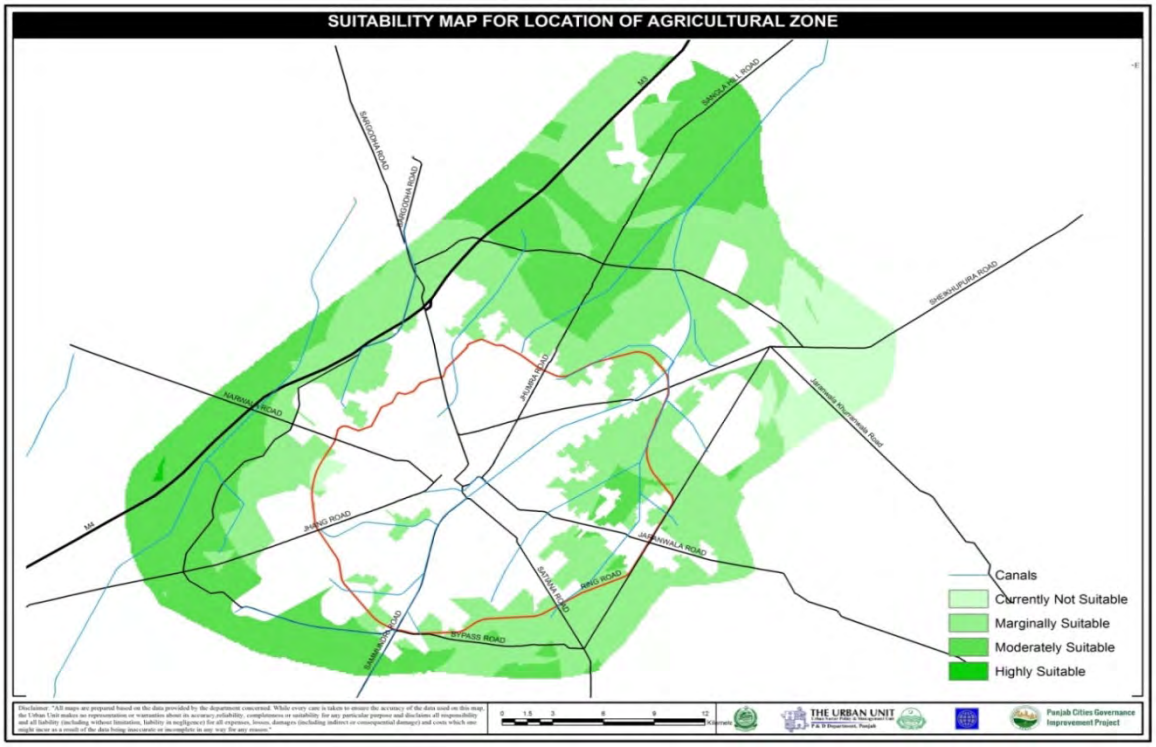


Fig 6.14: Preferred Suitable Location for Agricultural Zone



Source: FPUSP Consultants, 2013

6.2 Population Projection:

a) Department Consulted

- Pakistan Bureau of Statistics
- National Institute of Population Studies
- Social Science department University of Agriculture Faisalabad
- NADRA

b) Reports Consulted

- City Census Report 1998
- Union Council report 1998
- District Census Report 1998
- Punjab Bureau Of Statistics(2008, 2009,2010,2011,2012)
- SDP 2006

c) Urban Population projected at growth rate of 2.01 % whereas rural population has been projected at a rate of 1.98%.

The population extrapolation for FPUSP has been made on the basis of available statistics from 1998 census reports and SDP 2006. Since the focus of FPUSP is primarily on the Faisalabad City and its resident population in urban and peri-urban fringe, the extrapolation has been made by considering base line statistics of 1998 Census available for MC Faisalabad [then]. AS after promulgation of PLGO 2001, rural-urban divided has been eliminated and Faisalabad district has been split into 8 town (a heterogeneous mix of indistinct urban and rural settlements spread over large physical spans). The population statistics presented by SDP-2006 for 8 towns (see table 6.1-b) have duly been considered and analyzed while making projections but finally projections shown in table 6.1-b were not considered as baseline for FPUSP proposals as these appear less realistic and do not represent urban areas of Faisalabad city exclusively. The

projections given in table 6.1-a set out that the City has to accommodate an additional 1,864,000 persons approximately over the next 20 years for housing and allied civic needs and plan has to be made to accommodate this influx rationally in the form of future land use opportunities.

Table 6.1 a: Population Extrapolation Statistics (Based on 1998 Census)

Sr. No	Municipal Corporation / Tehsils / Municipal Committees	Union Councils / Wards	Census Pop	Projected Population			
			1998	2013	2023	2028	2033
1	MC Faisalabad	157	2,146,230	**2,892,794**	3,529,758	4,306,976	**4,757,581**
2	Jhumra	15	221,695	295,750	358,403	394,543	434,328
3	Jaranwala	62	917,702	1,199,094	1,437,158	1,574,482	1,725,654
4	Tandlianwala	29	476,426	635,572	770,214	847,880	933,378
5	Sammundari	27	407,623	543,786	658,983	725,433	798,584
6	Faisalabad Sadar	56	887,162	1,183,511	1,434,230	1,578,853	1,644,861
7	Municipal Committees	122	364,273	490,985	599,095	731,010	807,490
Total			**5,421,111**	**7,241,492**	**8,787,840**	**10,159,178**	**11,101,876**

Source: FPUSP Consultants, 2013

Table 6.1 b: Population Extrapolation Statistics (Based on SDP 2006 Data)

S No	Towns	No of villages	No. of Union Councils			Population			
			Urban	Rural	Total	Urban 2006	Rural 2006	Urban 2013	Urban 2033
1	Lyallpur Town	57	22	16	38	407,093	310,617	467,943	696,703
2	Madina Town	37	33	8	41	633,666	164,207	728,383	1,084,463
3	Iqbal Town	58	28	15	43	514,876	268,297	591,837	881,164
4	Jinnah Town	31	30	9	39	584,711	180,989	672,110	1,000,681
Total Population of Urban Towns in Faisalabad						2140346	924110	2458585	3653328
5	Chak Jhumra Town	67	2	13	15	32,111	221,695	36,911	54,955
6	Jaranwala Town	256	7	50	57	136,997	917,701	157,475	234,458
7	Tandlianwala Town	132	3	25	28	62,430	478,372	71,762	106,843
8	Sammundri Town	178	3	25	28	54,908	460,877	63,115	93,970

Grand Total	816	128	161	289	2,426,792	3,002,755	**2,789,535**	**4,153,237**

Source: FPUSP Consultants, 2013

The Consultants have calculated future housing demand as 257,916 units for additional 186,400 inhabitants which has to be put in for next 20 years whereas FPUSP plan is expected to yield peak housing stock for 2,893,930 persons in proposed zones if implemented in true spirit (see table 6.7) with enhanced density standards. However, the Consultants assume that even if the city does not achieve maximum suggested density/occupancy levels, it would still be able to accommodate projected population as well as some unprecedented migratory influx during the plan period. There is still a cushion to accommodate one million plus population which is rationally expected to migrate and even urbanize from surrounding rural areas to the city in future considering city's envisioned enhanced economic and socio-cultural potential as a pull factor as discussed earlier in this document.

While referring to the planning guidelines given in the National Reference Manual (NRM) for single use based residential zones with static density, it suggests to take 30-35% area requirement as a stand-alone housing function of linear zoning and keeping rest 65-70% reserved for other allied complementary uses like roads, open spaces, public uses and commercial, the land requirement has been calculated as 97.76 sq. km (see table 6.2).

The consultants have adopted a contemporary algorithm for planning and calculating housing demand, which is predominantly based on multi-variable density indices, variable living modules and declining household size. Over the time, improved literacy rate and socioeconomic conditions are likely to affect average household size and living standards and may like to nurture demand for futuristic housing models such as mixed-use development which are being practiced very successfully in developed and even developing

countries for decades. For this purpose, a different logical set of parameters have been used (see section 6.3 & 6.6). This algorithm has been developed considering world's best practices based on New Urbanism and to achieve optimum density level even without making any compromises on environmental sustainability.

Table 6.2: NRM based Area and Number of Housing Units/Plots Required for Plan Period

PROPOSED PLOT SIZES & AREA CALCULATION							
Estimated additional population growth in next 20 years 1,864,000 app.							
AVERAGE HOUSEHOLD SIZE 7.2 (as carried forward from previous trends)							
Net additional expected households 257916							
Existing vacant housing stock (open plots) 19,022 units							
Net units required in next 20 years 238,894							
INCOME GROUPS	**CATEGORIES**	**SIZES***	**%**	**NOs**	**AREA (MARLAS)**	**ACRES**	**Sq. Km**
LOW	**G**	3-M	50	119,447	358,341	2239	9.0
	F	4-M	25	59,723	238,892	1493	6.04
MIDDLE	**E**	6-M	15	35,834	215,004	1343	5.43
	D	10-M	5	11,944	119,440	746	3.02
HIGH	**C**	12-M	2	4,777	57,324	358	1.44
	B	1-K	2	4777	95,540	597	2.41
	A	33-M	1	2388	78,804	492	1.99
Total	Net Requirement of land for **238,894** residential units					7244	29.33
	Gross Requirement of land for Residential Zones					**97.76 Sq. Km**	

Source: FPUSP Consultants, 2013

6.3 Proposed Land Use Classes, distribution and proportions within Residential and Mixed-use Zones

Following major land use classes have been considered to be accommodated in the FPUSP Zoning Plan;

A-Residential/Housing;

Different zones have been designated to accommodate residential/housing component on basis of density, these are mainly; low and medium density zones surrounding existing built-up area with all ancillary components such as open spaces, public uses and commercial district which is strictly desired to be located in zonal hub. Early containment zone is desired to accommodate the continuing housing trends in early 5 years of plan implementation period though with improved planning/design standards and strict enforcement. It is also desired by CDG/FDA to devise policy to incentivize development to take place in this early containment zone as it will incur in lower infrastructure and service delivery costs as it isbeing located in close proximity to the existing nodes. Whereas high density mixed use/residential zones are provided across M3 & 4 corridor. CDG/FDA is desired to devise detailed neighborhood design standards, building regulations and other urban design parameters for each type of residential development. Low income residential zones are to be placed in close proximity to the industrial/manufacturing zones as to support affordability of such working class. Residential/housing component accounts 37.59% of the total future city area including existing built-up and early containment zone.

B-Industry:

Industrial land uses are proposed to be placed in Khurianwala, VAC and M3-FIEDMC industrial zones. It is desired that all future industrial developments should strictly take place in these designated zones for heavy, medium and small/cottage industry. These zones cumulatively account 5.83% of total zoning plan.

C-Open/Green Spaces:

Each zone shall have a zonal park in addition to local neighborhood parks and it is suggested that this zonal park should be at least 30% of total open space planned for the zone and rest 70% distributed among neighborhood level parks. CDG/FDA will identify, acquire, develop and maintain zonal parks through PHA whereas neighborhood parks shall be provided by the prospective developers through Site Development/Neighborhood Design Regulations in due course of development.

A central Town Park of 11.88 sq. km (about 3000 acres) has also been proposed in new zones (amidst high rise mixed-use and commercial) across M3-4 to enhance environmental sustainability and healthy life-styles as these zones would have higher density level as compared to the conventional low/medium density zones. This town park should be planned as a community's leisure and recreational hub in addition to it environmental characteristics.

D-Commercial:

Each zone shall have a zonal commercial hub/district having 6% area of the zone and CDG/FDA shall identify, conserve, acquire and develop these zonal commercial areas and shall be sold in the shape of commercial lots in future. Rest 4% area shall be distributed as neighborhood commercial centers/shops and shopping areas. It is desired to have strict regulations to curb conversions/linear commercialization. Commercial space allocation standards have suggested to be raised to 10% keeping in view growing future consumerism and demand for more commercial space. However, in mixed-use zones, commercial use of lower 3 floor shall not be considered as part of this 10% compulsory space.

E-Public & Institutional Use:

Space for public buildings and institutions is advised to be reserved as 5-10% variably and distributed in the zone as per zone planning and locational standard guidelines, however, CDG/FAD may pre-designate/reserve any such space at the

time of plan notification and/or whenever desired. Space standards and regulation shall be devised for exclusive institutional, business zones by local authority. However, these exclusive zones shall still comply with min 8-10% compulsory open space standards to support environmental sustainability.

Sr. No.	Land Use Type	Suggested Distribution (as %age of Zone area)
1-	Habitable & Residential Low, Medium and High Density/ Mixed Use	for low density zones; 33% max. (population density app 8000-10,000/sq. km)
		for medium density zones; 30% max. (population density app. 25000-30,000 persons/sq. km)
		for high density zones; 27% max. (population density app. 55,000-60,000 persons/sq. km)
2-	Parks, Green Reserve (30% zonal park and rest 70% distributed as neighborhood parks/open space) Hierarchy: Zonal Park, Neighborhood Parks, Children Play Areas, Green Verges and Landscape areas in public realm	for low density zones 8-10%
		for medium density zones 10-15%
		for high density zones 15-20%
		for non-residential zones 5% min.
3-	Zonal Commercial HUB/District including circulation, public parking	10% max.

	and Public Sit areas with Green Landscape (60% as Zonal Commercial Hub and rest 40% distributed as neighborhood center)	
4-	Public & Ancillary Uses including Public offices, mosques, graveyard, indoor/outdoor sports facilities, community centers, health, education, security, Bus/Transit Terminals and cultural facilities	5- 10% variable
5-	Circulation Primary, Secondary and Tertiary Roads, Streets & Public Walking Alleys	Rest (variable)

(Extracted by the Consultants by evaluating NRM and other land use/zoning plans of different countries)

Source: FPUSP Consultants, 2013

6.4 Zones Placement Criteria

Below is the general criteria and description given for the placement of different types of zones.

Sr. No.	Land Use	Description	Rationale
1.	Residential	All the below residential zoning types shall be self-sustained with their own commercial + offices areas providing a unique blend of housing, recreation, shopping and work opportunities.	• With the changing requirements in the city morphology and pressure of development, it is high time if Faisalabad could embark on modern residential zoning types. • Further, the futuristic potential of M3 & M4 trade corridor • Technological
	Early Containment Zone	This is the immediate fringe area contiguous to the existing built-up area with small land holdings and having available infrastructure nodes where development to begin now and likely up to 2020 (in early phase of plan period). It shall follow the	

		pattern of existing urban fabric but in a planned manner to promote low to medium density development.	innovations are likely to change work-live-socialize relationship and even commuting patterns for all three interactions in human life. Land use planning must be progressive, change sensitive and change adaptive.
	a) High density	That contains a residential development with Commercial, Office and Mixed-Use Districts with a minimum 4 story and can go above up to 15.	
	b) Medium density	Up to 3-4 storey residential buildings with ground floor only commercial	
	c) Low density	Up to 2-storey residential with ground floor only commercial and residential housing schemes offering various types of developed plots	
2.	Technology City	Based on the future trends of outsourcing, software and technology parks, call centers and BPOs in Faisalabad	Highly imperative to locate near the universities + industrial establishments.
	a) Business and Professional Office		
	b) IT Outsourcing (2nd Offices)		
	c) IT Software Development Parks		
3.	Employment Districts		Given the opportunity of having two sections of motorways (M3 & M4) passing through the Peri-Urban Area of Faisalabad, it is highly beneficial to capitalize on suggestive zoning of Employment Districts.
	a) Business Commercial	Contains multi-types of businesses and commercial /trading opportunities	
	b) Business Technology Park	IT & other electronics technology related businesses	
	c) Motorway Commercial:	Contains high-end consumer markets/shopping malls and recreational facilities	

4.	Cultural & Sports Zone	Various facilities related to cultural institutions and sports complexes.	The feasible sites for cultural and sports zone is near the Motorway – 4 linking Airport that is proposed to house indoor and outdoor sports facilities and various cultural entertainment opportunities.
	Hospitality & Entertainment Zone	Various hospitality and entertainment uses. It will also contain a world-class hospitality services, exhibition centers and various display centers.	
5.	Industrial	Various kinds of Industries based changing market needs.	Based on existing market trends and pertinent sites (low agricultural productivity areas).
	a) Manufacturing	Manufacturing (Light, Heavy)	
	b) Food processing	Milk Processing, Food & Beverages, Confectionary	
	c) Packaging	Various kind of Packaging industries	
	d) Warehousing	Various kind of warehousing and cold storage facilities	
	e) Service Industry	Childcare, Financial, Advertising, Hospitality etc.	
6.	Agricultural	Ensuring local food production and food security issues	To reserve the rich agricultural productive lands within Peri Urban Area.
	a) Farm Housing		
	b) Orchid		
	c) Cropland		
	d) Agricultural Research		
7.	Community Facilities	Private Schools, Universities, Colleges, Specialized Private and Public Hospitals and various other community facilities on commercial basis from the private sector.	3 sites selected for housing various community facilities at regional level.
8.	Institutional Zone		Near the Early Urban Containment Zone, and nearby the
	a) UniverCity	Specialized Universities from public and private sector	

	b) Health City	Specialized Hospitals from Public & Private Sector	industrial establishments.
	c) Cultural Industry	Electronic Media production houses	
9.	Reserved Areas		
	a) Environmentally Sensitive Areas	Any notified environmental areas	
	b) Forest Area	Notified Forest Lands	
	c) Green Buffer	Proposed buffer lands around industries	
	d) Freeze Zone	Airport + any other classified / public community facilities area	

Source: FPUSP Consultants, 2013

6.5 Proposed Zone Types and Area Distribution

Following table presents the percentage spatial share and distribution of

Sr. No	Zone Type	Area (Sq. Km.)	% age
1	Agricultural Research	3.65	0.30
2	Existing Airport	11.53	0.94
3	Business & Professional Office	2.01	0.16
4	Business & Technology Park	6.35	0.52
5	City Center	0.50	0.04
6	Cropland	451.92	36.83
7	Cultural & Sports Zone	9.37	0.76
8	Early Urban Containment Zone	73.74	6.01
9	**Existing Built up Area**	**264.98**	**21.60**
10	Expo & Exhibition Center	12.10	0.99
11	Farm Housing	27.44	2.24
12	Green Buffer/Park	39.89	3.25
13	High Density Residential	31.88	2.60
14	Hotels and Tourism	5.26	0.43
15	Industrial City	11.25	0.92
16	Inter City Transits Terminal	2.29	0.19
17	IT Software Development Parks	5.76	0.47
18	Light Industries	9.60	0.78

19	Low Density Residential	66.53	5.42
20	Manufacturing	51.99	4.24
21	Medium Density / Industrial Housing	9.99	0.81
22	Medium Density / Low Income Housing	24.66	2.01
23	Mixed Use Business Commercial	30.11	2.45
24	Railway Station	0.04	0.00
25	Univercity	24.04	1.96
26	Warehousing & Freight Zone	20.00	1.63
27	Town park	11.88	0.97
28	Water Treatment	2.14	0.17
29	Zonal Community Hub	15.09	1.23
	Total Area Under Peri-Urban Limits	**1227**	**100%**

each proposed zone;

Source: FPUSP Consultants, 2013

6.6 Proposed Housing Density Yield Matrix

Criteria	Unit	Low Density	Medium Density	High Density (min.)
Average household Size	Persons	6.5 (1HH)	13 (2HH)	312 (48HH)
Average size of Habitable Unit	SFT	1,632	1,306	750
Average Plot Size	Marla	10	6	4 Kanal
No of Stories/Height	Stories	1 & 2	1 to 3	4-5
No of plots /Sq.km.	units	1,184	1,976	172 (25% of neighborhood plan)
No of habitable units per plot/building	Units	2	3	48
Proposed Density	**Persons/Sq. Km**	**7,706**	**25,688**	**53,664**

Source: FPUSP Consultants, 2013 *HH=Household

6.7 Expected Accommodation in Proposed Residential Zones

Following table shows how much accommodation each zone with respective areas and target density could provide in the plan period.

Sr. No	Zone	Area (Sq. Km)	Density (Persons / Sq. Km)	Total Expected Accommodation (for Persons)
1	Farm Housing	28.45	7,706	219,236
2	High Density Residential	17.7	53,664	949,852
3	Low Density Residential	65.1	7,706	501,660
4	Medium Density / Industrial Housing	9.99	25,688	256,623
5	Medium Density / Low Income Housing	13.83	25,688	355,265
6	Medium Density Residential	1.79	25,688	45,982
7	Early Containment Zone	73.36	7,706	565,312
	Total	**210.66**		**2,893,930**

Source: FPUSP Consultants, 2013

6.8 Proposal for Road Network in Urban & Peri Urban Areas

Accessibility and mobility are keys to achieve sustainable, interactive, economically productive and socially cohesive living in any progressive city and considering the same the FPUSP has proposed a hierarchy of primary, secondary and tertiary roads for both built-up and new zones to bridge envisaged accessibility gaps in the city. These ROWs are being provided in peri-urban area under guidelines given in the Land use Rules 2009 and provided in such a way to enhance future accessibility in peri-urban area while dividing zones into smaller blocks.

Lengths and right of ways of different sections can be visualized in the road network map annexed and table given below. The 41.8 km long main corridor passing right in the middle of new zones along M3 & M4 will serve as future city spine and it is proposed to have a ROW of 350 feet which is also expected to accommodate future mass transit line on the same. This spine

connects new zones themselves and to town park, motorway and existing urban core. Additionally, service roads on both sides along M3 & 4 corridors are being provided while leaving 100m wide green buffers between motorway and these service roads.

Widening of inadequate corridors within built-up has also been proposed which mainly extend into the early containment zone from existing built-up at different nodes. Development in early containment zone would likely to exert extra commuting pressure on these narrow corridors which connect this zone to the urban core thus widening of these connecting linkages remains essential and also given prior consideration in FPUSP. Additionally, all main primary corridors radiating from and merging into the city core are proposed to be conserved for maximum available ROWs throughout the sections and proposed to conserve/acquire 220' ROW as these leave built areas on specific points as shown in the road network plan, for this very purpose CDG and FDA have to notify these corridors for extended ROWs. Further, CDG and FDA are desired to essentially devise strategy to conserve all the future ROWs either through compulsory purchase or by acquiring/seizing development rights (DR) of lands likely to come under use by these future ROWs in the peri-urban area.

Widening of existing By-pass road to 220 feet has also been proposed to facilitate by-passing inter-city commuters and freight movement.

A Mass Rail Transit (MRT) line has also been proposed along existing railway track with transit stations at all important urban nodes (see maps) as it was desired by the stakeholders during consultation process.

The FPUSP also proposes extension and development of 61.21 km long Freeway (as also envisaged by the Govt. of the Punjab & CDGF) along Rakh Canal. This Freeway will start from existing airport-bypass node and end new proposed airport site near Sahianwala Interchange while connecting existing airport,

Samanabad, Jhal, Abdullah-pur, Gattwala, WAPDA City, Khurianwala Industrial Cluster and M3 Sahianwala Interchange.

During scrutiny meeting of DPDC held on April 15, 2015, it was decided as a policy matter that all the future development projects proposed, initiated and submitted for approval (or for planning permission) either by the Public and/or private sector along below mentioned corridors (emanating from city and extending to the Faisalabad district limits) shall essentially allocate/reserve a 60 feet ROW (or whatever desired by the FDA) for service road and no such development shall have a direct access to the main road and these service roads shall have limited access to all these corridors at specific points and places proposed and sanctioned by FDA/CDG. These roads/corridors are;

1-Satiana Road

2-Jhang Road

3- Risala Road along railways track

4- Millat Road

5- Narwala Road

6- Sargodha Road

7- Sheikhupuar Road

8- Jaranwala Road

9- Canal Bank Road

10-Sammundari Road

11-Satiana Road

12-All Sections of By-pass

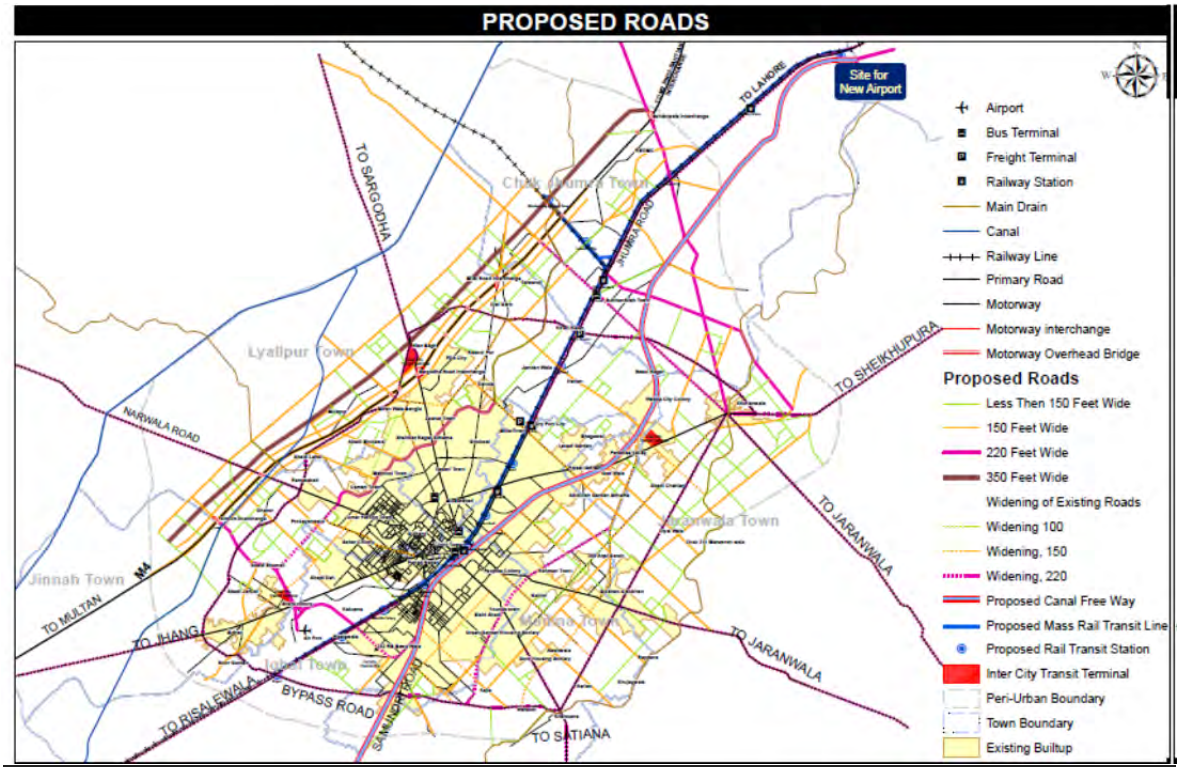
13-Small Industrial Estate/Daewoo Road

Widening of Existing Roads & Proposed New Roads		
R.O.W. (Feet)	**Type**	**Length (Km)**

Less than 150	60	New Proposed	77.42
	80	New Proposed	58.82
	100	New Proposed	94.85
	120	New Proposed	1.45
150		New Proposed	451.23
220		New Proposed	58.37
250		New Proposed	13.65
350		New Proposed	41.28
220		Proposed Canal Free Way	45.67
500		Proposed Mass Rail Transit Line	111.32
60		Existing Widening Roads	1.97
80		Existing Widening Roads	2.43
100		Existing Widening Roads	20.32
150		Existing Widening Roads	102.06
220		Existing Widening Roads	72.39
220		Widening of Bypass Road	96.99
220		Widening Jaranwala Khurianwala Road	27.59
220		Widening Jaranwala Road	20.36
220		Widening Jhang Road	22.65
220		Widening Jhumra Road	119.24
220		Widening Narwala Road	40.21
220		Widening Risalewala Road	66.59
220		Widening Sargodha Road	21.85
220		Widening Satiana Road	18
220		Widening Sheikhupura Road	26.74

Source: FPUSP Consultants, 2013

Fig 6.16: Proposed Roads



Source: FPUSP Consultants, 2013

6.9 Permitted & Permissible Land Uses in Peri-urban Area

Matrices below present a list of permitted and permissible uses, heights, FARs, minimum lot sizes and lot coverage, however, local authorities are desired to devise detailed land use regulations for each independent zone to enhance a sense of place, livability, and environmental sustainability in the long run. Permitted and permissible uses are given for each zone as per Land use Rules 2009, however, the local authorities could add or subtract any use class while getting approvals from DPDC while following standard procedures prescribed. A detailed land use control matrix is also given in the annexure to support zoning implementation.

Low Density Residential	
Permitted	**Permissible**

• Low rise residential structure (1-2 Story) plot size ranging from 10 Marla to 4 kanal • Detached house Semi- detached house • Town house • Farm housing • Neighborhood level park and playground • Place of worship or prayer • Place of burial or cremation • Horticultural nursery • Montessori School • Clinic/Emergency Care • Commercial only in designated area/zonal hub	• Daycare center or preschool • Primary school • Secondary school • Dispensary with no bed and laboratory facilities • Library • Guest house having not more than ten rooms • Small size corner shop at the ground floor • Office of a professional not exceeding twenty five percent of the floor area, as office associated with resident professional

Medium Density Residential	
Permitted	**Permissible**
• Mid-rise Residential structures (Up to 3 Story) plot sizes range from 3 marla to 2 kanal • Detached house • Semi- detached house • Town house • Residential apartment • Neighborhood level park and playground • Place of worship or prayer • Place of burial or cremation • Horticultural nursery • Montessori School • Clinic/Emergency Care	• Daycare center or preschool • Primary school • Secondary school • Dispensary with no bed and laboratory facilities • Library • Guest house having not more than ten rooms • Small size corner shop at the ground floor • Office of a professional not exceeding twenty five percent of the floor area, as office associated with resident

• Commercial only in designated area/zonal hub	professional

High Density Residential	
Permitted	**Permissible**
• High-rise residential structures (max. FAR 1:8 with minimum lot size is 4 kanal with max 60% of lot coverage at ground floor level) • Residential apartments • Neighborhood level park and playground • Place of worship or prayer • Place of burial or cremation • Horticultural nursery • Montessori School • Clinic/Emergency Care • Commercial only in designated area/zonal hub	• Daycare center or preschool • Primary school • Secondary school • Dispensary with no bed and laboratory facilities • Library • Guest house having not more than ten rooms • Small size corner shop at the ground floor • Office of a professional not exceeding twenty five percent of the floor area, as office associated with resident professional

Mixed use Business/Commercial	
Permitted	**Permissible**
• High rise mixed use structures (max. FAR 1:14 with minimum lot size 8 kanal with 60% of lot coverage at ground floor)	• Daycare center or preschool • Primary school • Secondary school

• First three floors starting from Ground shall be allowed to be used as commercial whereas rest floors can be used for offices/work/living interchangeably. • Residential apartments • Office complex • Condominium • UP class residential cum business • Paid/rental apartments • Automotive Show rooms • Health Institutions • Banquets • Restaurants/Hotels • Neighborhood level park and playground • Place of worship or prayer • Place of burial or cremation • Horticultural nursery • Montessori School • Clinic/Emergency Care	• Dispensary with no bed and laboratory facilities • Library • Guest house having not more than ten rooms • Small size corner shop at the ground floor • Office of a professional not exceeding twenty five percent of the floor area, as office associated with resident professional

Early Urban Containment Zone	
Permitted	**Permissible**

▪ Housing Schemes Applications ▪ Apartments FAR 1:2 ▪ Offices ▪ Commercial ▪ Educational Institutes (not less than 1 acre land) ▪ Religious institutes and buildings ▪ Parks and play lands ▪ Restaurant ▪ Hotel (upto 3 star) ▪ Guest houses (upto 12 guest rooms) ▪ Public buildings ▪ Mixed-use Commercial ▪ Clinic/Emergency Care/Municipal Services/Rescue Services ▪ Montessori	▪ Supermarkets & Emporiums ▪ Petrol & CNG Stations ▪ Parking plazas ▪ Taxi and bus stands (C & D class) ▪ Entertainment buildings, Theaters & Cinemas ▪ Private hospitals & clinics ▪ Marriage, community center ▪ Urban services centers ▪ Wholesale market ▪ Stadium ▪ Seasonal commercial fare site ▪ Auto workshops and show rooms ▪ Television or other studio ▪ Base trans receiver station or communication tower ▪ Hostels ▪ Corner Shop/Strip of Shops ▪ Elementary/High School

Trade & Commerce	
Permitted	**Permissible**
• Multi story building (max FAR 1:8 with minimum 4 kanal lot size with max 70% lot coverage at ground level) • Apartment • Plaza • Residential flat on upper floor • Market, shopping mall, departmental store • Business facility • Private office; • Government or semi-government office • Court or tribunal • Financial institution • Cultural institution such as park, memorial and monument • Hotel up to three star • Motel having not more than twenty rooms • Showroom and shop • Boutique	• Educational institution; • Research institution with a minimum lot size of 4 kanal • Marriage or banquet hall with a minimum lot size of 4 kanal • Cineplex • Theater, auditorium, concert hall or exhibition hall with a minimum lot size of 4 kanal • Seasonal commercial fare site • Stadium or play land • Petrol pump or gas station • Bus or truck terminal • Loading and unloading requirements of all uses • Weighbridge • Private hospital • Hotel four star or above

• Restaurant; • Social welfare institution such as community Centre, art gallery & museum • Parking plaza • Taxi stand and bus halt • Police station, post office, fire station • Place of worship or prayer	• Television or other studio • Auto workshop • Whole sale storage place • Printing press • Athletic club, gymnasium, fitness center or indoor sport facility • Base trans receiver station or communication tower

Zonal Community Hub	
Permitted	**Permissible**
• Neighborhood level park and playground • Place of worship or prayer • Multi story building for public, commercial and/or mixed use (max. FAR 1:8 with min. plot size 4 kanal and with max 50% lot coverage at ground level) • Plaza • Public Parking Lots • Banquets • Residential flat on upper floor • Market, shopping mall, departmental store • Business facility • Private office • Theatre • Government or semi-government office • Court or tribunal • Financial institution • Cultural institution such as park, memorial and monument • Showroom and shop • Boutique • Restaurant • Social welfare institution such as community Centre, art gallery & museum • Parking plaza • Taxi stand and bus halt • Police station, Post office, Fire station	• Educational institution • Research institution with a minimum lot size of four kanal • Marriage or banquet hall with a minimum lot size of four kanal • Theater, auditorium, concert hall or exhibition hall with a minimum lot size of four kanal • Seasonal commercial fare site • Stadium or play land • Bus or truck terminal • Loading and unloading requirements of all uses • Weighbridge • Private hospital • Hotel • Television or other studio • Auto workshop • Whole sale storage place • Printing press • Athletic club, gymnasium, fitness center or indoor sport facility • Petrol Pump, Fuel Station • Base trans receiver station or communication tower

Zonal Commercial Center In Early Containment Zone	
Permitted	**Permissible**
• Place of worship or prayer • Multi story building (upto 5 stories max. with min lot size of 2 kanal with 50% lot coverage) • Plaza • Residential flat on upper floor (from first floor) • Market, shopping mall, departmental store • Business facility • Private office • Government or semi-government office • Financial institution • Cultural institution such as park, memorial and monument • Showroom and shop • Boutique • Restaurant • Social welfare institution such as community center, art gallery & museum • Parking plaza (max up to 5 stories) • Taxi stand and bus halt • Police station, Post office, Fire station • Public Parking area	• Court or tribunal • Educational institution • Research institution with a minimum lot size of four kanal • Marriage or banquet hall with a minimum lot size of four kanal • Theater, auditorium, concert hall or exhibition hall with a minimum lot size of 4 kanal • Seasonal commercial fare site • Stadium or play land • Bus or truck terminal • Loading and unloading requirements of all uses • Weighbridge • Private hospital • Hotel • Television or other studio • Auto workshop • Whole sale storage place • Printing press • Athletic club, gymnasium, fitness center or indoor sport facility • Petrol Pump, Fuel Station • Base trans receiver station or communication tower

Institutional Zone

Permitted	Permissible
• Multi story building (max. FAR 1:8 with a minimum lot size of 4 kanal with max 60% lot coverage at ground level) • Neighborhood level park and playground • Place of worship or prayer • Place of burial or cremation • Guest house • Plaza • Residential flat on upper floor; • Business facility • Private office • Government or semi-government office • Court or tribunal • Financial institution • Restaurant • Social welfare institution such as community center, art gallery & museum • Parking plaza • Taxi stand and bus halt • Police station, Post office, Fire station • Educational institution • Research institution with a minimum lot size of four kanal • Hotel • Television or other studio	• Residential apartment • Horticultural nursery • Daycare center or pre-school • Library • Small size corner shop at the ground floor • Petrol Pump, Fuel Station • Base trans receiver station or communication tower • Essential residential, commercial or educational facility for laborers or employees • Public or private recreational park

Technology City	
Permitted	**Permissible**

• Neighborhood level park and playground • Place of worship or prayer • Library • Multi story building (max. FAR 1:8 with minimum lot size 4 kanal and with max 60% lot coverage at ground level) • Plaza • Business facility • Parking plaza • Taxi stand and bus halt • Police station, Post office, Fire station • Educational institution • Research institution with a minimum lot size of 4 kanal • Seasonal commercial fare site	• Residential apartment • Horticultural nursery • Guest house • Small size corner shop at the ground floor • Residential flat on upper floor • Private office • Government or semi-government office • Showroom and shop • Restaurant • Social welfare institution such as community center, art gallery & museum • Auto workshop • Printing press • Petrol Pump, Fuel Station • Base trans receiver station or communication tower • Essential residential, commercial or educational facility for laborers or employees • Public or private recreational park

Hotel & Tourism	
Permitted	**Permissible**
▪ FAR 1:12 with min lot size 8 kanal and with max 50% lot coverage at ground level) ▪ Tourist resorts ▪ Hotels (4 Star +) ▪ Safari resorts ▪ Rental Lodges ▪ Guest houses ▪ Mixed-use Commercial ▪ Restaurants ▪ Theaters & Cinemas ▪ Clinic/Emergency Care/Municipal Services	▪ Offices related to tourism such as tour operators ▪ Tourism services such as rent-a-car ▪ Detached Vertical Housing (Min. 4 Kanal Lot Size) ▪ Banks & other Urban Services ▪ Supermarkets & Emporiums ▪ Apartments ▪ Religious ▪ Educational ▪ Petrol & CNG Stations

Ware Housing & Freight Zone	
Permitted	**Permissible**
• Maximum allowable height for ware housing structure is upto 3 story with minimum lot size 4 kanal • Police station, Post office, Fire station • Bus or truck terminal • Loading and unloading requirements of all uses • Weighbridge • Whole sale storage place • Petrol Pump, Fuel Station • Warehouse, storage or distribution center • Loading and unloading place • Commercial in designated area	• Small size corner shop at the ground floor • Hotel • Base trans receiver station or communication tower • Taxi stand, bus halt

Crop Land/Agriculture	
Permitted	**Permissible**
• Exiting land uses are desired to be retained with unchanged heights and floor area as to be declared in established built-up area status defined in the Land use Rules. • Crop • Orchard • Pasture land • Livestock such as dairy or poultry farm • Forest • Nursery or a green house • Tube well • Rural settlement or village • Place of worship or prayer • Place of burial or cremation • Corner shop • Petrol pump and / or CNG stations	• Agricultural machinery workshop • Brick kiln • Basic health unit • Animal husbandry clinic • Country club • Farm house • Public or private recreational park • Zoo or wildlife park • Base trans-receiver stations or communication towers • Food processing and packaging facility • Farm house • Residential structures • Corner/Utility Shops • Clinics/Mosques/community centers

Cultural & Sports Zone	
Permitted	**Permissible**
• Neighborhood level park and playground • Place of worship or prayer • Horticultural nursery • Guest house • Cultural institution such as park, memorial and monument • Restaurant • Social welfare institution such as community Centre, art gallery & museum • Taxi stand and bus halt • Police station, Post office, Fire station • Theater, auditorium, concert hall or exhibition hall with a minimum lot size of 4 kanal • Stadium or play land • Hotel • Athletic club, gymnasium, fitness center or indoor sport facility • Country club • Public or private recreational park • Zoo or wildlife park	• Library • Small size corner shop at the ground floor • Parking plaza • Television or other studio • Petrol Pump, Fuel Station • Base trans receiver station or communication tower • Essential residential, commercial or educational facility for laborers or employees

6.10 Zoning Implementation

The primary tools for guiding land use in peri-urban area are the future Land Use Zoning Map and its associated definitions. The FPUSP Land Use Zoning map indicates graphically the overall peri-urban plan, land use goals and policies guiding efforts to develop and redevelop the city and its peri-urban area over the next 20 years.

The FPUSP Land Use Zoning Map is a planning policy map that will serve as the basis for future planning, including updates and changes to the City's zoning and the zoning categories that will apply to new areas that annex into the City and

essentially the strategies to support, complement and implement Zoning proposals. Accordingly, the Faisalabad Peri Urban Plan (FPUSP) also includes recommendations for new and revised zoning categories to reflect the character of the proposed growth area, as well as the changing nature of the existing City.

Following development categories were adopted as a general policy guidance on which zoning map was drafted:

1. **Early Development (Immediate: 0-5 years)**
   New residential units, housing schemes and land subdivisions, commercial buildings etc. under construction or those included in approved preliminary plans.

2. **Vacant/Underutilized Land (Medium-Range: 6-15+ years)**
   Potential residential units, housing schemes and land subdivisions, commercial buildings etc. that could be constructed on land within the City (infill development), based on Future Land Use designations

3. **Potential Annexation: (Medium-Range: 6-20+ years)**
   Planned units on undeveloped land likely to annex into the City, or where pre-annexation conditions such as contiguous built-up exist.

4. **Future Planned Development (Long-Range: 10-20+ years)**
   New residential units, housing schemes and land subdivisions, commercial buildings etc. within corporate boundaries that have been discussed with the City, but where no plan has been approved.

Partnerships in Implementing Zoning

Following have been identified as major partners in supporting zoning implementation;

a- City District Government Faisalabad (CDGF)
b- Faisalabad Development Authority (FDA)
c- Faisalabad Chamber of Commerce & Industry (FCCI)
d- Private Sector Developers and Businesses
e- General Public

Strategies to Support Zoning Implementation

1. As a means of reducing cost and enhancing efficiency of the service providing agencies such as WASA, FESCO, TEPA, PHA and FSWMC etc. for better delivery of urban services and to strengthen the FDA & CDGF's own source revenue base to support its role as the primary urban service provider, need to work and coordinate planning efforts jointly.
2. CDGF is desired to devise a detailed 'Action Plan for Zoning Implementation" soon after it is get notified. It is also recommended to frame a "FPUSP Implementation Steering Committee" consisting of all governing essential limbs of CDGF and stakeholders.
3. CDGF & FDA are desired to develop and detail-out area specific plans for the Special Planning Areas such as;
    i. Rezoning Plan for existing Built-up area
    ii. Detailed Zone Plans for Peri-Urban Zoning
    iii. Neighborhood Plans
    iv. Commercial District Plans
    v. Hospitality District Plans
    vi. Industrial District plans

vii. Special Area Plans (such as environmental reserves such as forests, green areas, green buffers and conservation sites)
viii. Urban Design, Landscape and Street Plans
ix. Environmental Management Plans for each zone
x. Waste Management Plans
xi. Plan for new proposed town park
xii. Capital Invest Plans for the city
xiii. Transportation Management Plans
xiv. Brown-field and Grey-field re-development plans for potential sites within the existing built-up

4. CDGF and FDA are desired to devise, revise the following to support FPUSP Land use Zoning development;

a. Broad planning guidelines/standards based on Use/type for each zone type as per broader density and FAR guidelines given in FPUSP.
b. Site Development and Housing Project Regulations
c. Use based building regulations including set-backs and other space standards in addition to the given FARs for each Zone type to support high-rise residential, commercial, institutional and mixed use development.
d. Detailed land use regulations for both Residential and non-residential developments
e. Revision in land revenue laws
f. High-rise mixed use development supportive environmental regulations like LEED standards to

evaluate building and neighborhood designs for environmental sustainability should be employed to ensure sustainable city in the long run and it also recommended incorporating project EIA's to each tier of project execution.

g. Standardization and accreditation of Hospitality Services
h. Regulations to enhance disaster resilience
i. Revenue policies to enhance financial sustainability of local governing authority
j. Special regulation to conserve right of ways for
    ii. Water ways and freshwater channels
    iii. Drains
    iv. Existing transportation corridors and proposed road network
    v. Any other buried infrastructure needed.
l. Financial incentives to attract FDIs to trigger physical development in future zones
m. Regulations to support trade and freight activities to support and enhance revenue generation
n. Regulations to guide every new development to reserve land for proposed right of ways/road network and for commercial/business districts in each new zones as proposed and securing right of ways to prescribed width of all exiting 11 major corridors
o. Introduction of special mechanism to grant "Development Rights (DR)" in proposed zones and it should also embrace provisions for Transfer of

Development Rights (TDR) and Purchase of Development Rights (PDR)

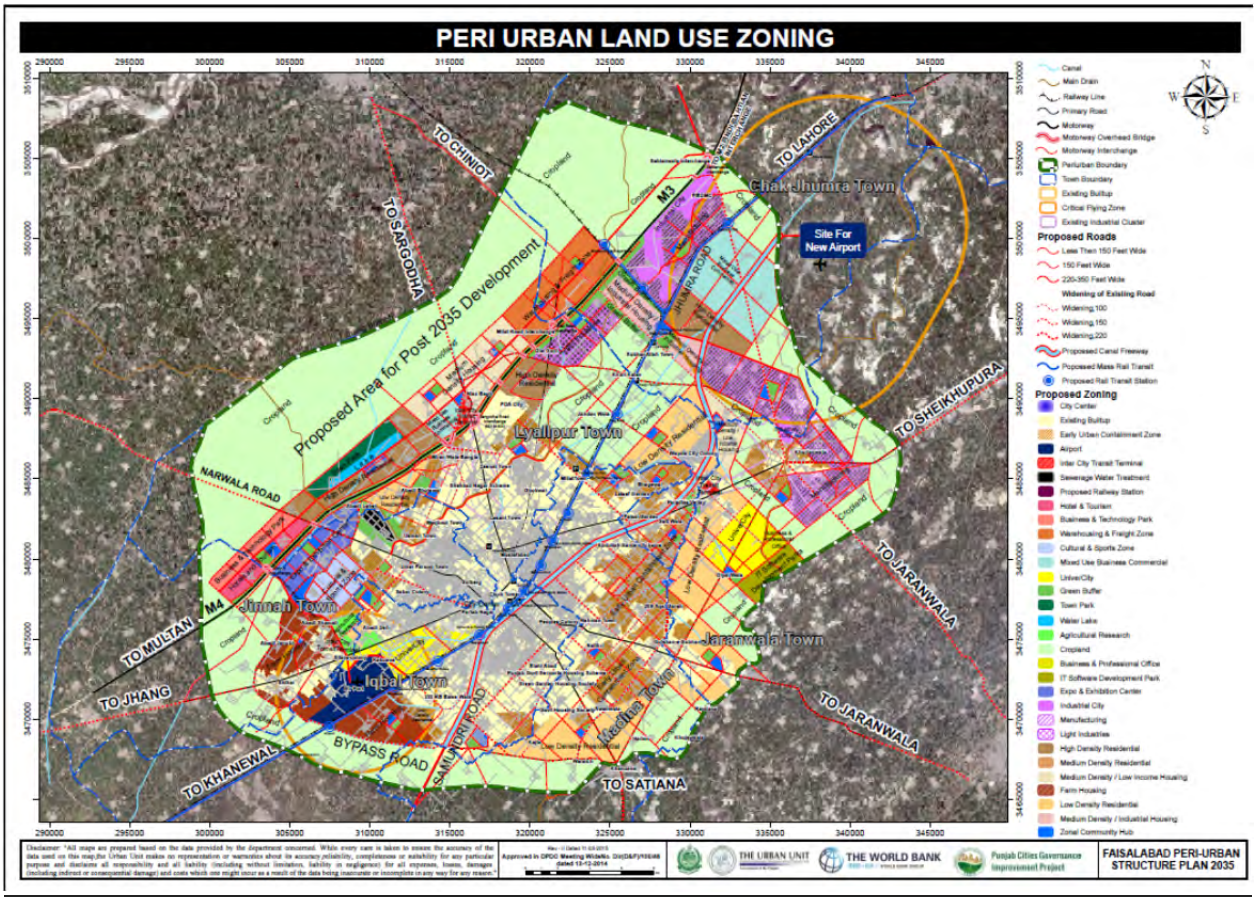
p. Density standards as per FPUSP recommendations.

q. Amendments in revenue land record/titling and ownerships to support Condominium Type Multi - storeyed Space Ownerships in proposed Zoning.

5. CDGF and FDA are desired to monitor the status of vacant and underutilized land within existing urban boundaries, and encourage its re-use and revitalization preferably infill development projects.
6. The City District Government Faisalabad (CDGF) and Faisalabad Development Authority (FDA) are to develop a strategy that targets higher value-added, technology-oriented industrial uses that are attracted to Faisalabad's competitive advantages, particularly its already established linkages as an industrial city, trained workforce and its strategic location on national trade corridor;
7. CDGF and FDA are to devise a developers friendly bylaws and regulations to support mixed-use, compact vertical development;
8. It is proposed that in all new residential development areas, a minimum of 10 percent of newly-developing residential land be designated for use as open space primarily for neighborhood greenbelts and parks.
9. To protect the primary agricultural character of rural lands within peri-urban boundary, it should be protected from adjoining uses and development inconsistent with normal farming practices.
10. Acquiring/conserving proposed new ROW's for the Planned Structure Plan Roads as defined in the zoning map.

11. CDGF would be desired to devise a phased implementation mechanism for FPUSP which also sees inclusion of procedures for periodic reviews and revision.
12. CDGF is also desired to dis-incentivize development in zones (where development other than prescribed is seized by FPUSP zoning) through improved regulatory measures and for strict enforcement/prohibition additional regulation desired to support heavy penalties/fines in case of violation; however, CDGF is also desired to enhance its capacity to ensure strict enforcement in first place.

Fig 6.15: Proposed Land Use Zoning in Peri Urban Area



Source: FPUSP Consultants, 2013

Annexure I: LIST OF DEPARTMENTS CONSULTED

SR. NO.	DEPARTMENT
Federal Government	
1.	FESCO
2.	Sui Gas
3.	PTCL
4.	Pakistan Bureau of Statistics
5.	NTDC
Provincial Government	
6.	Secretary, DRTA
7.	Punjab Housing and Town Planning Agency
City District Government	
8.	EDO Municipal Services
9.	EDO Health
10.	DO Spatial Planning
11.	DO Solid Waste
12.	DO Environment
13.	DO Transport
14.	DO Industries

15.	Additional District Collector
16.	TOs P&C of relevant TMAs
17.	Works and Services
18.	DO Forest
19.	DO Planning
20.	DO Buildings
21.	DO Roads
22.	PHA
24.	Faisalabad Waste Management Company
Development Authority	
25.	FDA
26.	WASA
Civil Society Organizations	
27.	All Pakistan Textile Manufacturers Association
28.	Faisalabad Chamber of Commerce & Industries
29.	Office of the VC, University of Agriculture Faisalabad
Others	
30.	Mr. Nasruminnalah, Lecturer, Govt. College, Gojra.
31.	Mr. Aslam Mughal (President, Institute of Planners Pakistan.

Annexure II: Meetings & Discussions

Minutes of Kickoff Meeting

Venue: Meeting Room of DCO Office Faisalabad

Dated: 1st August 2013, (11 AM to 1PM)

The Kickoff meeting started with recitation of the Holy Quran and introduction of the participants.

Briefing by Mr. Najam Ahmed Shah, District Coordination Officer (DCO) Faisalabad.

At the outset of the meeting, DCO Faisalabad briefed to the participants about the need and importance of Peri Urban Structure Plan (PUSP) for Faisalabad. As per the Government of Punjab Notification, The Faisalabad should have Peri Urban structure plan in 2009-10. DCO emphasized on the current service delivery issues being faced by the city Faisalabad and accepted that these issues are mostly due to the absence PUSP. Now this meeting is called, as all the service delivery departments / Organizations/ Authorities facing similar type of issues and they all need to have PUSP to fulfill their requirements and responsibilities in a proper and coordinated way. DCO mentioned about municipal services issues and give examples about poor urban transport, poor solid waste management, and poor water and sanitation services are causing health and environmental issues. Top on that lack of urban planning instigating unplanned housing, industrial, commercial growth resulting unmanageable situation.

Now this meeting has been called to involve all the departments from day one in the preparation of PUSP and also share the basic understanding about the PUSP, including their role and responsibility in the development of PUSP.

The DCO instructed to all the departments that we all need to avail this opportunity and provide our full support and required information with full dedication in the development of PUSP. DCO mentioned that the PUSP project is actually CDGF project, although the Urban Unit is providing support but this is our responsibility to prepare and implement the Plan in true spirit and complete this plan within six month period

The Chair also mentioned that this is the project of the city and would provide the guidelines for physical growth of the city. This is the time to include our present situation, future requirements in the FPUSP, because once the plan is submitted by CDGF to Commissioner Faisalabad and forwarded to DPDC for approval and the PUSP is approved than it would be legal binding to follow it and it would be very difficult to change or revised the PUSP. The plan will help us to know the future development in a planned way, provide location for new roads, motorway and access roads prior to the development on ground, Provide location for Industrial and commercial zones and housing industry etc. CDGF will not allow any future development which contradicts with the FPUSP.

DCO repeatedly instructed to the representatives of the entire department that they should sit with the Urban Unit Team, provide information, and make sure that the information is available with the team on time.

At the end of introductory discussion, DCO appreciated the inputs being provided by the Urban Unit on different occasions for different departments and requested to Mr.

Waheed Ahmed Butt, (then Team Leader of PUSP) to further give briefing to the participants for more clarity and scope.

Presentation by Team Leader of FPUSP The Urban Unit

Mr. Waheed Ahmed welcomes the participants and thanks to the DCO Faisalabad for the detail briefing about the need of PUSP and managed the kick-off meeting. Mr. Waheed briefed about the PUSP through a multimedia presentation. Following key areas were highlighted points during presentation:

- **Objective of the PUSP**

  To prepare 20 years plan to streamline development in a planned way

  To manage the city growth

  To allocate spaces for proposed projects

  To design new roads and access roads for managing interlinked traffic

- **Need for Planning:** Cities are always expanding, growing and transforming. This unchecked and uncontrolled growth and transformation creates serious types of problems and needs planning for their planned and systematic growth.

- **What is city and planning:**

  A City is: "Compact set of buildings used for different purposes, roads, open spaces, infrastructure etc."

  Planning? "City planning involves arrangement of all the components in order to achieve economy, beauty and convenience within available resource."

- **Plans to be prepared by city district government under Punjab Land use classification, reclassification and redevelopment rules, 2009:** District Planning Map

(District), Planning Map (Tehsil/Town),Classification Plan, Reclassification Plan, Redevelopment Plan, Peri-urban Structure Plan

- **Peri urban plan**

  Peri Urban Area: Peri urban Area means an area that spans the landscape between contiguous urban development and rural countryside with low population density and is predominantly being used for agricultural activity and is likely to be urbanized in the next twenty years

  Peri-Urban Structure Plan: A plan that accommodates future growth of city for the next 20 years.

- **Steps for Peri-Urban Structure Plan**

  Step 1:

  (a) Collection of satellite imagery

  (b) Conducting field survey and

  (c) Marking boundaries of the established built up area and approved housing schemes on the base map.

  Step 2:

  (a) Direction and trend of the urban sprawl;

  (b) Population growth rate; and

  (c) Requirements of urban development for the next twenty years**.**

  Step 3:

  a) Proposed road networks;

  b) Division of area into blocks; and

  c) The proposed land uses for various blocks;

- **Public consultation**

  1. Inviting objections/suggestions indicating salient features of draft Peri Urban Plan by
     a. Giving public notice in two leading national and one local news paper

b. On website

c. Arrange public hearing for considering the public objections/suggestions on specified date, time and place

2. Maintaining record of proceedings

- **Approval of Peri Urban Structure Plan**
  a. Executive District Officer MS shall sign and forward PUSP to DPDC for scrutiny
  b. After scrutiny DCO shall submit the plan and minutes of DPDC to the Zila Council for approval

- **Information required from different departments**
  a. City area limits
  b. Area earmarked for future expansion
  c. List and location of housing schemes developed and approved by different Departments
  d. Demographic study of the city
  e. Planning guidelines for city
  f. Slums and Katchi Abadies exist in controlled area
  g. Existing Master Plan, Policies being followed
  h. Controlled area limits of departments in peri urban area
  i. List, location and area of ongoing projects of concerned departments in the peri urban area
  j. List Location and area of proposed projects of every concerned department in the peri urban area
  k. Location and area acquired or being acquired by the departments for future projects

- **Key questions and reply's**

What would be happened if any one already approved some use?

The plan will accommodate already approved development projects that area permitted by the concerned authority only if they are in accordance with the planning principals

- **Closing Remarks**

At the end of briefing by FPUSP Team Leader, DCO concluded the discussion with the remark that:

Each department will notify focal person to deal with urban unit team.

Departments also need to identify some suitable staff to work with Urban Unit field team, so after end of UU Survey team the government staff can conduct remaining survey / field work.

In future no physical development would be allowed without getting permission and all physical development would be linked with the PUSP

This plan would become a legal document after the approval of plan.

DCO appreciated the urban unit inputs being given to CDGF, especially DR. Nasir javed and team deputed for preparation of PUSP.

Finally DCO mentioned thanks to all the participants

- **List of the participants are mention at annexure**.

List of Meetings:

1. **Introductory Meeting with DOSP on 29th July, 2013**

   A meeting was held in the office of DO SP, City District Government Faisalabad on 29th July, 2013. The meeting was an introductory meeting with the planners working in the CDG Faisalabad. The Team Leader briefly introduced his team from Urban Unit and surveyors (internee students from DCRP, UET Lahore). He discussed the project and different targets assigned to the team such as field survey, information from different departments; data analysis, formulation of proposals etc. Furthermore the methodology to collect data, which things are necessary for this assignment and how this work would progress in future were also discussed in detail.

2. **Kick off meeting at DCO office on 1st August, 2013**

   Kick of meeting was conducted at Committee room of DCO, Office Complex on 1st of August 2013 in which representatives of all the lines departments participated. The meeting was chaired by the DCO. The agenda of the meeting was to inform all public departments that the Peri Urban Structure Plan for Faisalabad was going to be prepared by the Urban Unit and how this work would proceed. A brief introductory presentation of FPUSP was given by the Team Leader FPUSP. The DCO directed all the participants to nominate a focal person who would collaborate further and share the requisite information with the FPUSP Study Team as per the study requirement. Minutes of the Meeting are attached in annexure for reference.

3. **Meeting with FDA on 2nd August, 2013**

   Since the role of FDA is very prime in the overall implementation of the study at a later stage. A meeting was conducted with FDA officials on 2nd August, 2013 which was chaired by Chief Engineer, FDA. The agenda of this meeting was:

   - Inquire the present and future projects of FDA
   - Secondary data collection
   - To meet the focal person which FDA announce
   - Inquire about the controlled area and establish built-up area of FDA

   A brief introduction about the project was given by The Team Leader FPUSP and the views of FDA officials about this project were noted. The Team members

further put their study requirements and demanded certain data to be handed over to them for further analysis. Following information was collected from FDA.

- Faisalabad Structure Plan 1986
- Faisalabad Master Plan 1994
- Traffic Improvement Studies in Faisalabad 1997
- Maps of Faisalabad showing development pattern, the FDA limits etc.

4. Meeting with Agriculture University Faisalabad on 5th Aug, 2013

A meeting was held at University of Agriculture Faisalabad with Vice Chancellor and Director of research. The agenda of the meeting was to collect data of past studies which the students of this department had done. A brief introduction of project was given to them and their views about project were taken. Population studies and population forecast were also discussed. Following issues were discussed in detail:

- Polluted water from industrial waste
- Lack of drinking spots
- Polluted water for domestic use

The university management expressed a keen desire to sort out these problems in established built-up area as well. Minutes are attached in annexure for reference.

5. Meeting with WASA on 6th Aug, 2013

Meeting with WASA was held at WASA office. The agenda of the meeting was to know about the past, present and future projects in the peri urban area of Faisalabad city. A brief introduction of project was given to them and their view points about project are taken. List of past, current and proposed projects of WASA and some other secondary data were demanded. The Team Leader FPUSP, specifically discussed the availability of data from WASA such as

- Current sources of water supply for Faisalabad city
- Current and future water demand
- Current water supply per capita per day
- WASA's network coverage for Water and Sewerage Network
- WASA's Master Plan for Infrastructure

Similarly, different issues concerning peri urban area were also discussed in this meeting. These issues were:

- Ground water pollution

- Depletion of ground water resources
- Lack of separate canals for storm water

6. Meeting with Town Planners working in CDGF, PHATA and FDA on 16th August, 2013

A meeting was arranged in the office of DO (SP) with TO (P&Cs), FDA and PHATA. The agenda of meeting was to ask town planners working in CDGF as TO (P&Cs), in PHATA and FDA to give their Building Inspectors for field surveys and attach some draftsmen with Urban Unit Team to mark the boundary of their municipal and town limits. The meeting was headed by DO (SP) & the Team Leader FPUSP. The purpose of meeting was to create coordination between Urban Unit Team and different town officers. FDA and Town officers promised to give 10 people for field surveys and also to give some persons to mark the area of different towns on map.

7. Meeting with Pakistan Bureau of Statistics on 16th Aug

A meeting with Pakistan Bureau of Statistics was held at their office. A brief introduction of project was given to them and requested them to provide the data regarding population studies. They provided the (i) District Census Report and (ii) City Census Report for study purpose.

The Director (P&D), WASA was appointed as Focal Person. The Director P&D office will coordinate further with the Study Team. Minutes are attached in annexure for reference.

8. Meeting with EDO Works & Services on 20th August, 2013

A meeting was conducted with EDO Works & Services in his office. The meeting was headed by EDO. The agenda of meeting was to give briefing about the project and collect data of their past and on-going projects. The Team Leader FPUSP briefed participants about the current assignment. EDO (W & S) attached two District Officers with the study team, DO Roads & DO Buildings, for data sharing and demarcation of different projects related to them on GIS.

9. Meeting with FESCO on 23rd Aug, 2013

A meeting with the SE. GSO (Grid Systems Operations) of Faisalabad Electricity Supply Company (FESCO) was held in their Head Office. The agenda of this meeting was to introduce them about project and to know their past, current and

future projects in Faisalabad. They also shared some past studies and identified the grid stations of FESCO and their power line.

10. Meeting with SNGPL on 23rd Aug, 2013

Meeting with SNGPL was held at their office to introduce them about project and to know their past, current and future projects in Faisalabad.

11. Meeting with PTCL on 24th Aug, 2013

Meeting with PTCL was held at their office to introduce them about project and to know their past, current and future projects in Faisalabad.

12. Meeting with DO Industry on 26th Aug, 2013

Meeting with DO Industry was conducted on 26th of August at his office. A brief introduction of project was given to him and requested him to give the list of Industries in Faisalabad and help to mark them on the study map. He promised to engage his staff for the demarcation of industries on GIS maps.

13. Consultation with National Institute of Population Studies NIPS for latest growth rate of Faisalabad city on 26th Aug, 2013

The current growth rate of city population was necessary for the population projections. As this aspect of demography was not available in the Census Reports, a meeting was conducted in this regard with National Institute of Population Studies to take their expert opinion. They provided the Team with the current growth rate which the team used further for population projections.

14. Consultation with Social Science Department, University of Agriculture Faisalabad for population Forecast on 27th Aug, 2013

Discussion of population forecast was held at Social Science Department of University of Agriculture Faisalabad. Data regarding population forecast was also collected.

15. Meeting with NADRA on 27th Aug, 2013

Meeting with NADRA was held at their office to introduce them about project and to know their past, current and future projects in Faisalabad.

16. Meeting with EDO Municipal Services on 29th August, 2013

Meeting was arranged with EDO MS in his office. The meeting was headed by EDO MS. The agenda of meeting was to brief them about ongoing exercise of Faisalabad Peri Urban Structure Plan and identify the area of different municipal

services which can come under the peri urban area. Four DOs, working under the EDO MS were also present in this meeting. These were:

- DO Transportation
- DO Environment
- DO Solid Waste
- DO Fire Brigade

DO Transportation briefed us about their major roads, their ongoing projects and future Projects. He also assured the Study Team to give their full support for successful completion of FPSUP. DO Transportation discussed following points:

- Existing roads
- Present projects
- Future projects
- Existing Transport Problems

DO Environment briefed that there were no projects under Environmental Department.

DO Solid Waste briefed that that there were 113 Union Councils which comes under their limits. He discussed the following points with us:

- 1 existing landfill sites
- No dumping site
- No study conducted related to solid waste
- 40 to 50 vehicles are available for waste collection
- Future projects

Later EDO MS promised to give possible support to the Study Team and also nominated a focal person who will demarcate the location of industries, landfill sites and dumping sites on GIS based image.

17. Meeting with FESCO on 2nd Sep, 2013

A meeting with FESCO officials was held at FESCO office on 2nd of September 2013. Data was requested in which their transmission lines which were passing through from our study area. They had given the Feeder data in the form of AutoCAD (*.dwg) and picture format (*.jpg) files.

18. Meeting with NTDC Gatti Power House on 2nd Sep, 2013

A meeting with NTDC officials held on 2nd of September at Gatti Grid Station in which a brief introduction of the project was given to them and requested to provide data of the HT transmission lines which are passing through study area. They didn't have such kind of data so they agreed to provide assistance for marking the HT transmission lines.

19. Meeting with Private Sector Consulting Urban Planner on 3rd Sep, 2013

A meeting with a senior Urban Planner of Faisalabad working in private sector was also conducted on 3rd of September at his office. The agenda of this meeting was to discuss the planning issues in Faisalabad and to take his views regarding Faisalabad Peri Urban Structure Plan. He referred different past studies which could be helpful for the current assignment. A detailed discussion on the project and the future growth of the city was held. The Study Team noted his views about the current and future growth of the city.

20. Meeting with Mr. Kashif (IT Department SPU) on 4th Sep, 2013

A meeting was arranged with Mr. Kashif (IT Department, Strategic Planning Unit) in DCO office. The agenda of this meeting was to discuss the planning issues in Faisalabad and to note his views regarding Peri Urban Structure Plan. He was requested to provide the data which would be helpful for this project. He promised to provide different past studies on planning issues conducted by SPU.

21. Finalization of minutes of meeting

The Minutes of Meeting for previously held meetings were finalized for following meetings:

- Kick of Meeting
- Meeting with FDA
- Meeting with Vice Chancellor of University of Agriculture Faisalabad

22. Progress presentation given to DCO

A progress updating presentation was given to DCO by the project Team Leader. The DCO was updated for the overall progress against each task assignment, GIS maps produced so far, study area analysis, and statistics drawn so far.

23. Meeting with Social sciences department

Meeting with social Science department was conducted to discuss the issues regarding population forecasting.

24. Presentation to DCO Faisalabad

On September 24, 2013, DCO Faisalabad arranged a meeting for USPMSU's management at Committee Room of the DCO complex. For this purpose, authorities of CDGF, WASA, FDA, TMAs etc. were intimated to attend the meeting. A team that consists of Dr. Nasir Javed, Ms. Sani-e-Zahra Naqvi and Dr. Sabeeh Zaidi visited the DCO Office Faisalabad. The basic purpose of this meeting was to share the progress on PCGIP and further the district administration wants to seek the guidance of USPMSU Lahore for some of their proposed projects. The DCO Faisalabad shared his proposed projects and further requested the CEO of the Urban Unit to provide them guidance.

Hereafter, team of USPMSU Lahore visited the CPU office and other on-going projects implemented by the USPMSU including UIPT, Peri-Urban and GIS. A progress presentation was prepared which were given by the Team Leader FPUSP to Dr. Nasir Javed (Project Director, The Urban Unit) on activities of Faisalabad Peri Urban Structure Plan. He appreciated the work done by the team.

25. Meeting At Urban Unit on 30th September 2013

A progress review meeting was held in the office of Urban Unit Lahore on 30th September 2013; Project Team Leader updated the CEO Urban Unit about the project progress. The Project Director instructed to extend the peri urban limits and consider the industrial estates being developed by the FIEDMC along M3 Motorway section he also advised to considered previously done studies

26. Meeting to Reconstruct the Project Methodology

The Project Team had an internal meeting and reviewed the overall progress of the project and decided to reconstruct the project methodology based on the GIS-based analysis through Decision Support Systems and further incorporating the suggestions given by the Project Director, Urban Unit. The Team Leader asked the team to rectify/refine the GIS data for this purpose. He further instructed to collect all relevant vector data and performing an Image Analysis to detect land use change analysis.

27. Meeting with FDA Officials

The Team conducted a meeting with Director Town Planning, FDA and his staff and discussed the revised methodology and sought their observations/comments for further taking up the study. They were further requested to appoint their concerned staff for marking various features and establishments such as FDA's approved housing schemes, FDA's approved commercial roads.

28. Visit by the World Bank Monitoring Team

The three members World Bank Monitoring Team visited the PCGIP office on 10th October, 2013. They were briefed about the FPUSP project progress and different activities being carried out. The Monitoring Team was highly interested in how the proposed Peri Urban Structure Plan shall address the sustainability and environmental issues of the peri urban area in future.

29. Meeting with Business Community on 9th October, 2013

An orientation meeting was held with the representative of All Pakistan Textile Manufacturing Association (APTMA) and President Faisalabad Chamber of Commerce and Industry (FCCI) to know their viewpoints and understanding local preferences.

30. District Officer Spatial Planning, City District Government, Faisalabad on 10th October, 2013

A meeting with DOSP of CDGF was arranged in which his inputs about recent Delimitation of Union Councils under the new Local Government System were sought. Further he was requested to appoint his field staff for demarcation of CDGG controlled Commercial Roads.

31. Representatives of Builders and Contractors Association, Faisalabad on 10th October, 2013

A meeting with the representative of Builders and Contractors Association was held on 10 October 2013. The Team Leader briefed them about the project and sought their comments and suggestions for the preparation of peri urban structure plan. They informed the Team Leader that the zoning might be development-pro to facilitate the market trends to avoid land use conflicts and to curb land use conversion further in the city and peri urban areas.

32. Meeting at Urban Unit

A meeting at Urban Unit was held on 14th October, 2013 in which a brief fortnightly progress report to the Urban Unit was submitted.

33. Director Engineering, Faisalabad Development Authority (FDA), Faisalabad

A meeting with the Director Engineering, FDA was held on 22 October 2013. The agenda of the meeting was to discuss with him about the proposed Ring Road alignment. He was requested to verify the alignment of proposed Ring Road and

handover the survey coordinates for marking the road in GIS. He suggested getting the Ring Road Alignment verified from their staff for better presentation.

34. Director Town Planning, Faisalabad Development Authority (FDA), Faisalabad

A meeting was held in the office of Director Town Planning, FDA on 22 October 2013. He was requested to mark Notified Commercial Roads and Housing Schemes developed by FDA and Private sector which got approved till now on GIS format with the help of his staff member and study team.

35. Meeting with Faisalabad Chamber of Commerce & Industries (FCCI)

A meeting with Faisalabad Chamber of Commerce & Industries (FCCI) was held on 24 October 2013. Being a prime stakeholder, their opinion about the development and growth of Faisalabad is highly important. The Team discussed current and future growth scenario of Faisalabad and sought their opinion in the context of construction of M4 Motorway link. The FCCI showed their great interest in the preparation of Peri Urban Structure Plan and assured their every help in this regard.

36. Meeting with All Pakistan Textile Processing Mills Association (APTPMA) representative

A meeting with All Pakistan Textile Processing Mills Association (APTPMA) was held on 24 October 2013. The Team discussed current and future growth scenario of Faisalabad and sought their opinion in the context of construction of M4 Motorway link. The representative of APTPMA appreciated the team for their work and assured to help out in every way for the finalization of proposals as a potential stakeholder.

37. Faisalabad Electric Supply Company (FESCO), Faisalabad

A meeting with FESCO GSO officials was held on 31st October 2013 to get the information about FESCO electricity network. It was also discussed how to protect the right of ways under the FESCO overhead lines as they pose potential dangers for humans and properties beneath them. They provided the transmission lines data and location of grid stations falling in the study area.

38. Meeting with the WASA

A meeting was held in the office of Director P&D WASA on 7th November 2013, whereby they were requested to provide up to date network information of water

supply and sewerage network, water supply served area and sewerage served area, data regarding sweet water zones and location of overhead reservoirs and disposal stations.

39. Meeting with C.O.O. FIEDMC

A meeting was held in the office of Chief Operating Officer, FIEDMC on 11th November 2013. The Project Team Leader briefed him on the project and requested to provide relevant information such as location of Value Addition City, M3 Industrial City and statistics.

ANNEXURE III: LIST OF THE PARTICIPANTS

Participants		
Sr.No	**Name**	**Designation**
1	Mr. Najam Ahmed Shah	District Coordination Officer
2	Mr. M Asif	ADC
3	Mr. Akram Bhatti	District Officer (Cord)
4		Senior Superintendent Police
5	Mr. Zaheer Anwar	Assistant Commissioner City
6	Mr. ShafiUllah Chan	Assistant Commissioner Saddar
7	Mr. Syed Zahid Aziz	Managing Director, WASA
8	Mr. Aamer Aziz	Director Town Planning -1 Faisalabad Development Authority
9	Mr. Wajid Hassan	Director Town Planning -II Faisalabad Development Authority
10	Mr. Rashid Majid	Chief Engineer Faisalabad Development Authority
11	Mr. Ashiq Hussain Dogar	Managing Director Parks and Horticultural Authority
12	Dr Iishtiaq Hussain	Executive District Officer Agriculture
13	Mr. Muhammad Iqbal	Executive District Officer Works & Services
14	Mr. Muhammad Asif Tarad	Executive District Officer Community Development
15	Mr. Pervaiz Akhtar	Executive District Officer Education-Lhr
16	Mr. Zia Hameed	Engineer Distribution SNGPL
17	Mr. Altaf Hameed	XEN Construction (FESCO)

18	Mr. Muhammad Farooq	District Officer Spatial Planning
19	Mr. Muhammad Nawaz	District Officer Environment
20		District Officer Labour
21	Mr. Shahbaz Ali Khan	District Officer(F&IT)
22	Mr. Tariq Mehmood	DRTA
23	Dr.M Zafar Iqbal	DAH(HQ) for EDO Health
24	Mr. Amir Rauf	SO-II SNGPL
25	Mr. Ghulam Daud	Law Officer SNGPL
26	Mr. Muhammad Siddique	Deputy Director Town Planner
27	Mr. Naveed Akhter	Town Officer (P) T.M.A Lyallpur Town
28	Mr. Ijaz Ahmad Butt	Town Municipal Officer Lyallpur
29	Mr. Ahmed Kamar	Town Municipal Officer Madina Town
30	Mr. A Razzaq Cheem	EPO
31	Mr. Abdul Rehman	TO (P&C), Tandlianwala
32	Mr. Mahmood Ul Hassan	HMO PHATA
33	Mr. Khawaja Asim Hassan	Additional Charge Tehsildar City, Faisalabad
34	Ms. Shazia Samdai	Assist Director Colleges, Faisalabad
35	Mr. Subhan Ali	DD Information
36	Mr. Waheed Ahmad Butt	Team Leader Peri Urban Structure Plan /Town Planner - The Urban Unit
37	Mr. Gul Hafeez	Senior Institutional Development Specialist - The Urban Unit

38	Mr. Raza Ali	Town Planner - The Urban Unit
39	Mr. Ahtsham Aslam	Urban Planner - The Urban Unit
40	Mr. Hafiz M. Umar Majeed	Urban Planner - The Urban Unit
41	Mr. Imran Maqbool	Urban Planner - The Urban Unit
42	Mr. Muhammad Islam	FMO- The Urban Unit
43	Mr. Muhammad Naeem	Monitoring and Evaluation Officer - The Urban Unit
44	Mr. Muhammad Munib	Procurement Specialist The Urban Unit
45	Ms. Ghulam Sughra	Environmental & Social Safeguard Specialist - The Urban Unit

ANNEXURE IV: LIST OF FOCAL PERSONS

Sr. No	Name	Designation	Department	Contact Information	
				Mobile	Office
1	Mr. Pervaiz Khalid	Director Planning	WASA	0300-7658490	9210068
2	Mr. Farooq	DOSP	CDGF	0321-6612133	9201351
3	Mr. Muhammad Asghar	XEN	FESCO	0333-9944712	9220184
4	Mr. Bilal	DDO (Health)	Health dept.	0321-9663451	9200013
5	Mr. Mujahid Zia	Tehsildar City	Revenue Dept.	3474084027	NA
6	Dr. Asif Ali	Director Research	University of Agriculture Fsd.	NA	9200200
7	Mr. Muhammad Younis	DO Roads	CDGF	0333-5197863	9201364
8	Mr. Husnain	DO Buildings	CDGF	0333-6519951	9200460
9	Mr. Shahbaz Ali Khan	DO Industries	CDGF	NA	9200833
10	Mr. Wajid Hassan	Director TP	FDA	0301-7142301	9200096
11	Mr. Mazhar	DO Forest	Forest Dept.	0300-7968827	9220454
12	Mr. Tariq Niazi	DO Solid Waste	CDGF	NA	9201378
13	Mr. Abdul Ahad	MD	SNGPL	NA	9210036
14	Mr. Safdar	SE GATTI Power Station	NTDC	NA	NA

ANNEXURE V: MINUTES OF STAKEHOLDERS CONSULTATION MEETINGS

OFFICE OF THE COMMISSIONER,
FAISALABAD DIVISION, FAISALABAD.

No.Dir (D&F)/ 150 / 630-42

Dated. 11 / 03 /2014

To

1. The Secretary, Government of the Punjab, C&W Department, Lahore
2. The Secretary, Government of the Punjab, LG&CD Department, Lahore
3. The Secretary, Government of the Punjab, P&D Department, Lahore.
4. The Secretary, Government of the Punjab, HUD&PHE Department, Lahore.
4. The District Coordination Officer, Faisalabad
5. The Director General, FDA, Faisalabad
6. The Managing Director WASA Faisalabad
7. The Chief Executive Officer. Urban Unit Lahore
8. The SE PHED, Faisalabad
9. The Director LG&CD, Faisalabad.
10. The Executive District Officer Municipal Services Faisalabad
11. The Executive District Officer (W&S), Faisalabad.
12. The Executive District Officer (Finance & Planning), Faisalabad.

Subject:- **MINUTES OF 2ND MEETING OF FAISALABAD PLANNING & COORDINATION COMMITTEE (FPCC) HELD ON 01.03.2014 AT 09:30 AM UNDER THE CHAIRMANSHIP OF COMMISSIONER, FAISALABAD DIVISION, FAISALABAD IN HIS COMMITTEE ROOM**

Please refer to the subject cited above.

The minutes of the meeting held on 01-03-2014 at 09:30 a.m are enclosed herewith for information and further ~~disposal~~ please .

11.3.14

Director (Dev & Finance)
Faisalabad Division
Faisalabad

Copy for information to:

1. The Financial Management Officer, City Project Unit, PCGIP Faisalabad.
2. P.S to Commissioner Faisalabad Division, Faisalabad.

MINUTES OF 2nd MEETING OF FAISALABAD PLANNING & COORDINATION COMMITTEE (FPCC) HELD ON 01.03.2014 AT 09:30 AM UNDER THE CHAIRMANSHIP OF COMMISSIONER, FAISALABAD DIVISION, IN HIS COMMITTEE ROOM.

List of participants attached.

2. Meeting commenced with recitation from the Holy Quran.

3. The Commissioner, Faisalabad Division welcomed the participants of the meeting. Opening remarks were given by Mr. Muhammad Ayub Khan, EDO (F&P), Faisalabad. He briefed that during 1st meeting of FPCC the committee desired to convene the second meeting of FPCC on February 20, 2014. But, due to some delay in the approval of procurement plan of CDGF and WASA-F by the World Bank, the FPCC meeting could not be convened on the scheduled time. Now, the plans of both CDGF and WASA-F have been approved by the World Bank, tenders are invited and the procurement process is in progress. He also added that the schemes, agreed by the Committee during 1st FPCC meeting, include a provision of 3% under the head contingency. This provision is not permissible under the rules in the R&M schemes. Therefore, cost for contingency has been eliminated and from the saved funds new scheme for the repair of boundary wall of the "Lady Park" and EDO (Health) complex have been included in the procurement plan.

He also shared that during 1st FPCC committee desired detailed presentations on the following:

- Automation of Urban Immovable Properties Tax (UIPT) for Faisalabad.
- Faisalabad Peri-Urban Structural Plan (FPUSP).
- Progress made by CDGF and WASA-F towards the achievement of Disbursement Linked Indicators (DLIs).

4. Mr. Khalid Masood Farooka, District Manager for UIPT Faisalabad delivered a brief presentation on the automation of UIPT for city Faisalabad. He apprised the committee that the Urban Unit under Disbursement Linked Indicator-4 (DLI-4), Revenue Collection System of Punjab Cities Governance Project (PCGIP) had started computerization of property tax record on the basis of physical survey by the joint efforts of the surveyors of the Urban Unit and the Inspectors of the Excise and Taxation

9/3

department, Govt. of Punjab. The following salient features of UIPT automation project shared by the District Manager:

- Computerization of all existing record of property tax;
- Update of the existing record of urban properties on the basis of afresh survey;
- Excise and taxation department to use digitized data and software based auto-calculation of property tax.

The committee was informed that 42 surveyors with 5 supervisors were engaged in field data collection in alliance with the officers of Excise and Taxation Department. It was briefed to committee that a Lab had been established in the DCO Office, Faisalabad with the capacity to house 75 Data Entry Operators working in 3 shifts, 24 hours.

He shared the progress that UIPT automation team had successfully scanned all the PT-1 and PT-8 registers for digitization of data. As a result of afresh survey, the newly identified property units which are around one hundred thousand have also been entered in database. For the purpose of transparency, the picture and detailed survey form of each property unit has also been scanned and attached with UIPT database.

The District Manager highlighted the importance of UIPT data which can be used by the service providing entities particularly the WASAs, DAs, SNGPL, FESCO etc. to improve their services and billing system.

The following achievements from the field survey were also shared with the committee:

Total PT-1 registered Units----------397,702

Total units Surveyed----------459,200

Additional Units (28-02-2014) ------103,387

Forms received----------393,692

PUs marked on Map sheets----------303,773

GIS attribute entered----------72,000

Pics received----------409,372

The chair inquired about the completion timeframe of the UIPT. The District Manager for UIPT Faisalabad responded that almost 80% of the work has been done and by the end of current financial year, the project shall be closed and handed over to Excise and Taxation Department most probably in July 2014. The Additional Director General of FDA and Managing Director, WASA Faisalabad considered that the GIS based UIPT data shall be very helpful for them to improve their service delivery and to enhance their own source revenue by using the data base.

The chair inquired what will be the mechanism to update the transfer of ownership in the data base. The EDO (F&P) responded that according to Transfer of Property Act, at the successful completion of sale/purchase transaction of property, its record will also be updated on the Excise and Taxation Department. But, due to poor enforcement of law, this has not been exercised accordingly. The chair directed to take up the matter with concerned department for systematic enforcement of law to update the transfer of ownership.

The District Manager of UIPT automation shared another achievement in shape of launching Tax Calculator by The Urban Unit. He further added that through Tax Calculator, now a common man can calculate property tax very simply.

5. A detailed presentation on Faisalabad Peri-Urban Structural Plan was delivered by Mr. Nadeem Khurshid, Team Leader of the Faisalabad Peri-Urban Structural Plan. It was informed to committee that in order to control the unchecked and uncontrolled growth of city Faisalabad, a project named "Faisalabad Peri-Urban Structural Plan" (FPUSP) has been initiated under Disbursement LinkedIndicator-5 (DLI-5) of the Punjab Cities Governance Improvement Project (PCGIP).

Mr. Nadeem Khurshid mentioned that ***Under Rule 11 and 25 of Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009;***

"A City District Government shall ensure that the area that spans the landscape between contiguous urban development and rural countryside with low population density and is predominantly being used for agricultural activity and is likely to be urbanized in the next twenty years is notified as peri urban area."

9/03

It was briefed to committee that a plan that envisions the creation of a mixed-use sustainable development in Peri-Urban Area of Faisalabad city for 20 years ahead while preserving its environmental character. A plan that also strives to balance the housing, social and business needs of city residents while addressing affordability, accessibility and livability in a sustainable manner.

The following objectives of the Peri-Urban Structural Plan were also shared with committee:

- To adjust the appropriate future development in Peri-Urban area keeping in view the existing and future development trends and preferences;
- To suggest pertinent mix of land uses in the Peri-Urban area;
- To identify incompatible land uses such as industries and suggest measures to mitigate the impacts on peri-urban development;
- To recommend an efficient circulation network in the peri-urban area;
- To re-delineate city boundary to facilitate improved service delivery by CDG and partner departments.

The chair appreciated the efforts of the Urban Unit and also suggested to preserve the agriculture/fertile land, the future expansion trend of the Faisalabad city should be vertical and the horizontal expansion should be discouraged. The MD WASA elaborated that the food, energy and water are the three major resources for life. In order to preserve all these, vertical expansion should be encouraged. The Additional Director General of FDA and other participants also agreed with the idea suggested by Chair regarding vertical expansion of the Faisalabad city.

The committee principally agreed for vertical expansion in future and directed the Director (Development & Finance):

- To convey the decision of the committee to Secretary (C&W), Secretary (HUD&PHED) and Secretary (LG&CDD) for issuance of special instructions up to the extent of Faisalabad Division for vertical expansion in future.
- To issue instructions to all the TMAs and City District Government Faisalabad to promote the vertical expansion in future.
- Issue Executive order to the departmental heads of Government sectors to make ensure for provision in design which support vertical expansion in all new Government buildings up to the extent of Faisalabad Division.

9/3

The chair directed the Additional Director General of FDA and representative of City District Government Faisalabad to issue special instructions to the TMAs as well as FDA to get the existing by-laws amended through their administrative department. The Chair desired that all the TMAs to ensure and support for provision in the design of foundation for vertical expansion during the approval of map of buildings.

The Team Leader of FPUSP briefed the committee on the expected outcomes of the Peri-Urban Structural Plan:

- Expanding the urban limits and service delivery area;
- Identification of 20 years rationalized, sustained and zoned land supply;
- A land suitability analysis;
- Land demand-supply analysis;
- Making choices for development corridors capitalizing on infill and fringe development;
- Identification and prioritization of growth precincts for major land uses.

The future Urban Potential of City Faisalabad was also shared with committee:

- M3 Industrial Estate and Value Addition City is great potential for future industrial growth and employment opportunities;
- Ample agriculture land is available for main crops yields such as Sugarcane, Wheat, Cotton, Maize and Rice;
- Motorway M3 and M4 providing a route for trading and intercity communication, Faisalabad is likely to act as a regional trade and transit hub linking Gawadar to North;
- Considering availability of skilled labor, there are 16 technical / commercial / vocational institute (11 for men and 5 for women) imparting training in various trades e.g. mechanical, electrical, auto-engineering, welding, wood-working and commerce.
- An area of 800.07 Hectares is under forests, which is about 0.14% of the total area of the district.
- Textile-based industrial economy provides various kinds of job opportunities to skilled and unskilled labor in the city;
- Irrigation system covering agriculture area pivotal to agriculture yield and security for the city and surrounding.
- Well connected through rail and road links with Lahore, Rawalpindi, Multan, Quetta and Karachi.

9/3

- M4 is expected to open up future trade and freight movement oriented opportunities

The proposed land use zoning and road network in peri urban area of Faisalabad was also shared with committee. Additional Director General, FDA suggested that a proactive participation would be required from City District Government to notify the Faisalabad peri urban structural plan, otherwise, the environment will be polluted.

The committee decided that the Peri-Urban Structural Plan should be a part of master plan because it will provide baseline and also result in cost reduction for master planning. The Chair directed the Director (Development & Finance) to issue following instructions to the City District Government Faisalabad.

- To consider the Peri-Urban Structural Plan as part of Master Plan;
- To take measures for the issuance of early notification of Peri-Urban Structural Plan.
- Taken on board the MD, WASA Faisalabad and the Peri Urban Project Team during the preparation of Master Plan.

The Team Leader of the FPUSP also shared the proposed land use zoning and road network in peri-urban area can be reviewed, in response to suggestion and advice by the stakeholders.

He further desired that Peri Urban Structural Plan should be shared with all stakeholders and positive suggestions should be incorporated in this plan before its notification.

Meeting ended with a vote of thanks to all participants from the Chair.

9.3.14

Director (Dev. & Finance)
Faisalabad Division,
Faisalabad.

LIST OF PARTICIPANTS

1. Sardar Akram Javed, Commissioner Faisalabad Division, Faisalabad In Chair;
2. Mr. Muhammad Ayub Khan,
   EDO (F&P), Faisalabad;
3. Mr. Shoukat Ali, Director (Finance & Development), Commissioner Office, Faisalabad;
4. Mr. Muhammad Ahmed Rajwana, Additional Director General, FDA;
5. Engr. Syed Zahid Aziz, Managing Director, WASA Faisalabad;
6. Mr. Muhammad Aslam, Deputy Managing Director Engineering , WASA Faisalabad;
7. Mr. Navid Khalid, Senior Procurement Specialist, Urban Unit, Lahore;
8. Mr. Liaqat Ali, EDO (MS), Faisalabad;
9. Mr. Adnan Nisar Khan, Deputy Director, WASA-Faisalabad;
10. Mr. Ghulam Nabi, (PHE & HUD), Faisalabad;
11. Mr. Muhammad Ashraf Kamoka, Assistant Director, Commissioner Office, Faisalabad;
12. Mr. Khalid Masood Farooka, District Manager, UIPT, Faisalabad;
13. Mr. Nadeem Khursheed, Team Leader, Faisalabad Peri-Urban Structural Plan,;
14. Mr. Wajid Zaheer, GIS Manager, UIPT Faisalabad;
15. Mr. Muhammad Islam, Financial Management Officer/Focal person, Urban Unit, CPU-Faisalabad;
16. Mr. Gul Hafeez Khokhar, Senior Institutional Development Specialist, Urban Unit, CPU-WASA-Faisalabad.
17. Mr. Muhammad Munib, Procurement Officer, Urban Unit, CPU-Faisalabad;
18. Mr. Muhammad Naeem, Monitoring and Evaluation Officer, Urban Unit, CPU-Faisalabad;
19. Mr. Syed Asif Gillani, Environment and Social Safeguard Specialist, Urban Unit, CPU Faisalabad.

The Urban Unit P&D Department, Punjab.			
Record of Meeting			
Subject:	Meeting with District Officer (Spatial Planning) Regarding Notification of Faisalabad Peri Urban Structural Plan.		
Date:	May 29,2014	**Time:**	1200Noon-1330Hrs
Venue:	Office of the District Officer (Spatial Planning)	**Chair:**	District Officer (Spatial Planning)
Participants:	List of Participants attached (Annex-A)		

Sr. No.	Discussion/Decision
1.	On May 29, 2014, a planned meeting was held with Mr. Muhammad Ijaz Cheema (afresh appointed District Officer for Spatial Planning in City District Government Faisalabad). The determination of this meeting was to brief him about the World Bank funded Punjab Cities Governance Improvement Project (PCGIP) and further to discourse about the notification of Faisalabad Peri-Urban Structural Plan (hereinafter called the FPUSP). After introduction of the participants, Mr. Muhammad Islam, Focal Person of CPU Faisalabad, briefed the DO (SP) on the PCGIP and its scope of work particularly the Disbursement Linked Indicators (DLIs). Regarding DLI-5 (Boundary Alignment), it was shared by the Focal Person that the purpose of this reform is to align the boundaries of CDGs and its entities for effective planning and enhanced service delivery. It was further added that in Faisalabad there is no dispute presently existing pertaining to defining and alignment of boundary area of CDGF and its entities. However, during August 2013, at the interest and aspiration of DCO Faisalabad, Mr. Najam Ahmed Shah, an initiative was taken by CDGF for the preparation of FPUSP with the technical and financial assistance from the Urban Unit. In this regard, a kick off meeting was also organized by the DCO Faisalabad to take all the stakeholders and departments on board. On asking, it was shared with the DO (SP) that the assignment was initiated by the consultant Mr. Waheed Ahmed Butt, however, the

	assignment was later on carried out and completed by Mr. Nadeem Khurshid who shared the scope of work of the FPUSP. The DO (SP) anticipated that a detailed session on the FPUSP to be organized in coming week so that he may be fully aware about the nature and scope of work of the FPUSP. Apropos to the notification of FPUSP, the DO (SP) shared that the District Planning and Design Committee (DPDC) functions under the surveillance of respective Commissioner. Subsequently, he suggested that the Urban Unit shall write to the Commissioner Faisalabad to convene meeting of DPDC for discussion on the FPUSP prepared by the Urban Unit under PCGIP. The DO (SP) further proposed that the subject of aforesaid letter should be "Consultation on FPUSP" rather than its notification. In this regard, the DO (SP) shared that all the stakeholders and even the DCOs are the members of DPDC which is chaired by the Commissioner. He further elaborated that DPDC is a key platform where all the stakeholders can communicated their feedback and comments openly.
2.	The DO (SP) appreciated the efforts of the Urban Unit taken towards Urban Planning. He argued that its right time to stop the unchecked and uncontrolled growth of city Faisalabad through today's planning for future, otherwise, the situation will get muddle in the absence of proper planning. The following were the decision taken during meeting: • Mr. Nadeem Khurshid shall brief the DO (SP) on the FPUSP on this Monday, June 02, 2014; • The Urban Unit shall write to Commissioner Faisalabad to convene meeting of DPDC to discuss the FPUSP; • The Focal Person of CPU Faisalabad shall coordinate and update the DO (SP) about progress on meeting of DPDC. The DO (SP) shared that he will also share meeting's agenda with DCO Faisalabad so that he may be on board about FPUSP.
3.	The detailed session was ended with the note of "Thanks".

Monitoring and Evaluation Officer
City Program Unit, CDG Faisalabad.

Annex-A

LIST OF PARTICIPANTS

Sr. No.	Name	Designation
1.	Mr. Muhammad Ijaz Cheema	District Officer (Spatial Planning), CDGF
2.	Mr. Abdul Rehman	Town Officer (Planning), Madina Town, CDGF
3.	Mr. Nadeem Khurshid	Consultant, FPUSP
4.	Mr. Muhammad Islam	Financial Management Officer, CPU Faisalabad.
5.	Mr. Muhammad Naeem	Monitoring and Evaluation Officer, CPU Faisalabad.
6.	Mr. Syed Asif Gillani	Environment and Social Safeguard Specialist, CPU Faisalabad.

The Urban Unit
P&D Department, Punjab.

Record of Meeting			
Subject:	Meeting With DCO Faisalabad on Faisalabad Peri Urban Structural Plan (FPUSP)		
Date:	June 17, 2014	**Time:**	1400Hrs-1445Hrs
Venue:	Committee Room, DCO Office Faisalabad	**Chair:**	Mr. Noor Ul Amin Mengal, DCO Faisalabad
Participants:	List of Participants attached (Annex-A)		

Sr. No.	**Discussion/Decision**
1.	During August 2013, a project entitled "Peri Urban Structural Plan" was commenced by City District Government Faisalabad under Disbursement Linked Indicator-5 of the Punjab Cities Governance Improvement Project (PCGIP). The aforesaid initiative was taken by The Urban Unit at the longing of that time DCO Faisalabad, Mr. Najam Ahmed Shah. In order to share the aforementioned plan with the sitting DCO and concerned executives of CDGF, a scheduled meeting held on June 16, 2014 at Committee Room of the DCO Office Faisalabad. At the briefing of FPUSP by Mr. Nadeem Khurshid, the DCO inquired how does the Peri Urban Structural Plan can be prepared in the absence of Master Plan. He elaborated that according to his acquaintance, Peri Urban Structural Plan is the follow up component of Master Plan which could not be prepared without the subsistence of Master Plan. He alluded that for an apprentice it is mandatory to firstly clear the matriculation for onward admission to the intermediate corridor, otherwise it would be a daydream for a student to reach at the desired destination. It was retorted by Mr. Nadeem Khurshid that the Faisalabad Peri Urban Structure Plan has been prepared as per prescribed procedure in the Punjab Land Use (Classification, Reclassification and

	Redevelopment Rules 2009) to provide the CDGF an agreed 'City Boundary and peri-urban zoning to ensure that the urban planning and development only occurs in an integrated planned manner within the specified limits. It was further shared that a Peri Urban Structure Plan is generally a set of report and certain maps which forms a plan and is used to guide and control the future growth of peri urban areas normally next 20 years. On questioning about the current status of FPUSP and what else is required from CDGF, it was nattered by Mr. Nadeem Khurshid that the plan is final at their end and it just need to advertise for Public Hearing and henceforth its notification accordingly. Later, a meticulous pictorial and illustrative view of the marked boundaries of peri urban study area, Faisalabad Saddar and City Boundary, ex municipal corporation and Towns boundary, FDA limits, major roads and existing built up area shared with DCO Faisalabad. On probing how many stakeholders have been consulted at the time of marking the area, it was shared with DCO that all the government and semi government departments, authorities, agencies and autonomous bodies were taken on board and the plan has been prepared with the vigorous consultation of all the stakeholders. Thru discussion on land use zoning, the DCO recommended to eliminate the proposed ring road as it requires massive funding, and, consider the existing by-pass as ring road of city Faisalabad. The DCO further advised to propose route for mass transit in the land use zoning.
2.	The DCO Faisalabad was very much comfortable and satisfied with the work done by The Urban Unit apropos to the preparation of Peri Urban Structural Plan. He showed that ample resources have been employed by The Urban Unit for this assignment and he doesn't want to waste the painstaking efforts of project team

	and incurred resources. He considers that the Urban Unit have enough financial and human resources for the preparation and linkage of peri urban plan structural plan with their desired Master Plan. He directed the District Officer (Spatial Planning) to chalk out activities for the preparation of Master Plan, and, for etcetera support which is required from The Urban Unit, do acquire it through proper channel. It was desired by the DCO that the presentation to Chief Minister Punjab on Faisalabad Master Plan shall be deliver by Dr. Nasir Javed, CEO of the Urban Unit. The DCO directed Mr. Nadeem Khurshid to embark the consultative process and for this purpose a committee to be supervised by the DO (SP) has been constituted. The following officers have been nominated by DCO Faisalabad for consultative process and directed the aforementioned committee to meet him after one week with timeline about the completion of consultative process: ➢ District Officer (Spatial Planning), Focal Person; ➢ Mr. Nadeem Khurshid (Team Leader of the FPUSP); ➢ Mr. Wajid Hassan (Director, Town Planning); ➢ Mr. Muhammad Siddique (Deputy Director, Town Planning); ➢ Mr. Abdul Rehman (Town Officer, Planning-Madina Town).
3.	The detailed session ended with vote of "Thanks" by the Chair.

Monitoring and Evaluation Officer
City Program Unit, Faisalabad.

Annex-A

LIST OF PARTICIPANTS

Sr. No.	Name	Designation
1.	Mr. Noor Ul Amin Mengal	District Coordination Officer, Faisalabad
2.	Mr. Nadeem Khurshid	Team Leader, FPUSP
3.	Mr. Muhammad Ijaz Cheema	District Officer (Spatial Planning)
4.	Mr. Asi Niazi	Town Officer (Planning), Jinnah Town
5.	Mr. Ansar Inayat	Town Officer (Planning), Iqbal Town
6.	Mr. Abdul Rehman	Town Officer (Planning)
7.	Mr. Wajid Hassan	Director Town Planning, FDA
8.	Mr. Muhammad Siddique	Deputy Director (Town Planning), FDA
9.	Mr. Gul Hafeez Khokhar	Senior Institutional Development Specialist, CPU Faisalabad
10.	Mr. Muhammad Islam	Financial Management Officer, CPU Faisalabad
11.	Mr. Muhammad Munib	Procurement Officer, CPU Faisalabad
12.	Mr. Syed Asif Gillani	Environment and Social Safeguard Specialist, CPU Faisalabad
13.	Mr. Muhammad Naeem	Monitoring and Evaluation Officer, CPU Faisalabad

The Urban Unit
P&D Department, Punjab.

Record of Meeting			
Subject:	Consultative meeting With Faisalabad Chamber of Commerce and Industries (FCCI) on Faisalabad Peri Urban Structural Plan (FPUSP)		
Date:	June 28, 2014	**Time:**	1130Hrs-1500Hrs
Venue:	Conference Room, FCCI	**Chair:**	Mr. Sohail Bin Rasheed, President FCCI
Participants:	List of Participants attached (Annex-A)		

Sr. No.	**Discussion/Decision**
1.	The meeting was started in the name of Allah. The chair welcomed the participants. While offering the opening remarks, the president FCCI appreciated the role of DCO Faisalabad for the development of this important planning tool that will have perpetual role in the development of the city in the planned way over next 20 years. He added that FCCI is a primary stakeholder of Faisalabad Peri Urban Structure Plan (FPUSP) and thanked to CDGF for holding consultation on such an important document. He desired that all the members of the Chamber should ardently participate so that all the positive suggestions should be incorporated in the FPUSP. Afterwards the chair invited Mr. Nadeem Khurshid, Consultant on FPUSP to brief the participants about the FPUSP. Mr. Nadeem Khurshid briefed the house that this important activity is being carried out by the Urban Unit, P&D department, Govt. of Punjab under the world Bank funded project, Punjab Cities Governance Improvement Project (PCGIP). He also briefed that that the Faisalabad Peri-Urban Structure Plan has been drafted in accordance with the procedure given in the Punjab Land Use (Classification, Reclassification and

	Redevelopment Rules 2009) with the aims to provide the CDGF an agreed 'City Boundary and peri-urban zoning to ensure that the urban planning and development only occurs in an integrated planned manner within the specified limits. It was further shared that a Peri Urban Structure Plan is generally a set of report and ancillary maps which combined form a plan and is used to guide and control the future growth of peri urban areas for next 20 years. He also gave a detailed presentation on the following: ➢ FPUSP Vision ➢ Introduction and project scope ➢ Project Methodology ➢ Existing Scenario (Built Up) ➢ Existing Scenario (Peri Urban) ➢ Temporal land cover change analysis ➢ Land Use Suitability Analysis ➢ Land Use Proposals/Zoning ➢ Proposed Road Network in peri-urban area Moreover, meticulous pictorial and illustrative view of the marked boundaries of peri urban study area, Faisalabad Saddar and City Boundary, ex municipal corporation and Towns boundary, FDA limits, major roads, Urban Growth analysis, existing built up area and proposed zoning was shared with the house. He also shared that all the government and semi government departments, authorities, agencies and autonomous bodies and FCCI were taken on board and the plan has been prepared with the vigorous consultation of all the stakeholders. The consultant on FPUSP discoursed in detail the proposed industrial land use proposals/zoning through maps. Moreover, he also described that they have proposed housing schemes for

	industrial workers so that labourers can live near to their work place.
2.	All the members of the FCCI showed keen interest on work done by the Urban Unit for the preparation of Peri Urban Structural Plan. The chair considered it as a marvellous and wonderful piece of work. He invited the feedback, suggestions and reservations of the members so that positive proposals may be incorporated in the final notified FPUSP.
3.	Chaudhary Muhammad Boota, Ex. Vice President, FCCI offered the comments that he is very pleased to see the entire plan. He elaborated that it is really need of hour of the city. He added that it was just introduction for him and he will give detailed feedback after its thorough study. He argued that in this proposed plan only the municipal limits of the cities were under study for the development of Faisalabad city. This development will generate more problems for the citizens of the city. He gave the example of Lahore city to support his thesis . Previously, at Lahore they planned development only within the municipal limits. But with the increase of population it created more problems for the citizen of Lahore. Now due to more pressure of population citizens are facing problems such as lack of clean water and issues of polluted environment etc. Now in order to address these problems they have extended the limits of Lahore Development Authority (LDA) in more three districts, Nankana Sahib, Sheikhupura and Kasur so that the development can be shifted to these aligned districts. He argued that we are again repeating the mistake as occurred at Lahore. We should expand planning to our neighbouring districts including Chiniot, T.T Sigh and Jhang. He further suggested that to save the existing pockets, barren lands should be used. He argued that the most important issue of

	the city is polluted environment. All the waste water of industries is thrown into the open drains. We are polluting our sweet water. The solution of this problem is the reservoirs to save sweet water in the dams. He pointed out that in the proposed FPUSP land has been marked between Jhang Branch and the Motoway for sweet reservoirs. The marked land is an agriculture land and is our precious resource. We should not sacrifice our precious agriculture land resource for the sake of sweet water. For this purpose we should use packets of barren lands. He further added that this is really a good plan that he had seen in past 20 years. The important thing is its timely implementation. By consulting all the stakeholders it should be finalized and notified for its implementation accordingly. Moreover, one of the solutions of the problems of the city is to focus on the missing linkage. Mr. Nadeem Khurshid replied that due consideration has been given to the environmental issues. The choices are limited. We have proposed 50% open area in the new proposed zones along M3 and M4 and just consumed a mere buffer of 2.5 km width while conserving rest of most precious land. Further, since M# & M4 had already been developed in this area and it is alwasys wise to capitalize on immense potential of these development corridors otherwise sprawl will find its way in these areas. . Moreover, development has been planned in such a way to have least load on the existing facilities.
4.	Mr. Farhan Latif, Director of Chenab Group, Executive Member and former President of FCCI appreciated the efforts of the Urban Unit. He considered it a good sign that consultation on future needs is being made. Previously, no such exercise was made that's why the projects remained unsuccessful.

	He suggested that in this proposed plan development in small towns like Jhumra, Makkuana, Saumandri and Dijkot must be considered. We don't want to expand our city on Karachi Model so that at some belated stage we may face law and order situations. He suggested to consider the following points in the FPUSP: ➢ To develop small towns; ➢ Attention should be given to save sweet water; ➢ More Parks and Grounds should be established; ➢ Existing parks and grounds should be rehabilitated; ➢ New hospitals should be established near to the living vicinity; ➢ New primary as well as high schools should be established to meet the development requirement of next 20 years. Mr. Nadeem Khurshid replied that decentralized growth is encouraged throughout the world and same approached has been adopted in this plan. All the suggestions are highly appreciable. When we proposed housing zones or industry zones, we also propose sub zones and ancillary facilities like schools, public buidings, open sapces and commercial areas as well. We have considered all standard land use requirements in the proposed zones.
5.	Mr. Ayub Sabir, EX President FCCI, opined that on the basis of historical data, population is expected to be almost doubled in 20 years. So, Govt. should take appropriate measures to accommodate this additional population. We need more equal no. of schools, hospitals, grounds, parks, infrastructure facilities etc. but, unfortunately the Govt. has no mechanism to enhance these facilities. Due to mismanagement of Govt. more pressure is on the roads, hospitals, schools etc.

	He also pointed out that FDA city project was started 10 years ago. But, govt. failed to provide basic infrastructure that is basic requisite for developing housing scheme. Due to mismanagement by the govt. more problems are creating. So, he urged that such a plan that also caters the requirements and needs of the people for the next 20 years should be implemented at the earliest and in true spirit so that it may raise the standards of living of the citizens of Faisalabad.
6.	Rana Sikandar Azam Khan, pointed out that some housing schemes were established during 1973 but still some plots are still lying vacant. He suggested that time frame for development of schemes must be given otherwise penalties may be imposed.
7.	Mr. Mehmood Akbar suggested one more road from Jhal Khanuana to Summandri. Moreover, he also pointed out that the approach of existing airport is not good. New airport should be built at M3.
8.	Chaudhary Muhammad Asghar opined that throughout the world airport is established to meet the needs of 100 years. Mr. Sohail Bin Rashied argued that it will take at least 10 years to establish new airport, therefore, upgrading of existing airport and building up new one, both should go parallel if desired. activities. Mr. Farhan Latif suggested that location of new airport should be at Pindi Bhattian junction.
9.	Haji Talib Hussain inquired about the route of Metro Bus. Mr. Nadeem Khursid replied that Govt. of the Punjab is conducting feasibility studies and it is still in evaluation stage. This route will be incorporated when decided by the Govt.
10.	Mr. Khadam Maan enquired about the provision of graveyards in the proposed FPUSP. Mr. Nadeem Khurshid showed the map where the provisions of graveyard have been made.
11.	The chair appreciated the consultant and the whole team for developing such a wonderful plan. He desired that any new development in this plan must be shared with the FCCI. He

	showed the consensus of the chamber for its importance and early implementation. The detailed session ended with vote of "Thanks" by the Chair.

Person	**Muhammad Islam** **Financial Management Specialist/Focal** **City Program Unit, Faisalabad.**

Annex-A

LIST OF PARTICIPANTS

Sr. No	Name	Designation
1	Mr. Sohail Bin Rashid	President
2	Mr. Riaz Ul haq	Sr. Vice President
3	Ch. M Asghar	Vice President
4	Rana Sikanar Azam khan	Roa Corporation
5	M. Ayub Sabir	Ex President
6	Rana Ikram Ullah	LCM Depot
7	Abrar Ahmad	Executive Member
8	Haji Talib hussain	
9	Farhan Latif	Executive Member
10	Seth Dilber	Ex. VP

11	Mr. Shahid Bajawa	M.D Qatar Floor Mills
12	Mian Abdul Waheed	Hawks International
13	Muhammad Salman	Saleem Hoisery
14	Amjad Farooq	APTPMA
15	Sh. Bashir	
16	Rana faizan Nawaz	Stylo
17	Mr. Khalid bashir	Choudhary flour Mills
18	Mr. Jaleel	
19	Mr. Gul Hafeez	SIDS UU
20	Mr. Muhammad Islam	FMS Urban Unit
21	Mr. Muhammad Munib	Procur,ment Specialist Urban Unit
22	Mian Khalid Pervaiz	Shaheen housery
23	Mr. M Shah	PARAS Housery
24	Mr. Haddayat Ullah	IBI
25	Mr. Ali Ajmad	Mian Builders
26	Ch. Khadam hussain	Maana factory
27	Mr. Raheel Ahmad	Mashood housery
28	Mian saeed	President Motor Market
29	Mr. Tahir Sherazi	Sherazi associates
30	Mr. Shafiq	General Secretary Motor Market

The Urban Unit
P&D Department, Punjab.

Record of Meeting			
Subject:	Consultative Meeting With Stakeholders on Faisalabad Peri Urban Structural Plan (FPUSP)		
Date:	August 06, 2014	**Time:**	1100AM-0130PM
Venue:	Committee Room, DCO Office Faisalabad	**Chair:**	Mr. Tariq Khan Niazi, District Officer (Spatial Planning)
Participants:	List of Participants attached (Annex-A)		

Sr. No.	**Discussion/Decision**
1.	In order to finalize the Faisalabad Peri Urban Structural Plan which has been prepared under DLI-5 of the PCGIP, a consultative session was arranged for all the government, semi government departments, organizations, TMAs, Universities the other relevant stakeholders. The aforesaid session was held on August 06, 2014 at Committee Room of the DCO Office Faisalabad, chaired by the DO (SP). The meeting started properly with recitation from the Holy Quran by the participant. The chair welcomed the participants and shared the agenda of today's meeting. He requested the participants to fully concentrate over the consultative session on FPUSP so that the remarkable suggestions would be incorporated in the revised FPUSP. Afterwards the chair requested Task Team Leader of the FPUSP, Mr. Nadeem Khurshid, to proceed further and brief the participants about the FPUSP. Mr. Nadeem Khurshid briefed the house that an utmost important planning related activity has been carried out by the Urban Unit, under DLI-5 (which relate to the Boundary Alignment) of the world Bank funded project, Punjab Cities Governance Improvement Project (PCGIP).

	He demonstrated the house that the Faisalabad Peri-Urban Structure Plan has been prepared in accordance with the procedure disseminated in the Punjab Land Use (Classification, Reclassification and Redevelopment Rules 2009) with the object to provide the CDGF an agreed 'City Boundary and peri-urban zoning to ensure that the urban planning and development only occurs in an integrated planned manner within the specified limits. It was further shared by the Task Team Leader that a Peri Urban Structure Plan is generally a set of report and ancillary maps which forms a plan and is used to guide and control the future growth of peri urban areas for the next 20 years. He delivered a detailed presentation to the house on the ensuing subjects: ➢ FPUSP Vision; ➢ Introduction and Project Scope; ➢ Project Methodology; ➢ Existing Scenario (Built Up); ➢ Existing Scenario (Peri Urban); ➢ Temporal Land Cover Change Analysis; ➢ Land Use Suitability Analysis; ➢ Land Use Proposals/Zoning; ➢ Proposed Road Network. In addition to the illustration on the above cited subjects, a meticulous pictorial view of the marked boundaries of peri urban study area, Faisalabad Saddar and City Boundary, ex municipal corporation and Towns boundary, FDA limits, major roads, Urban Growth analysis, existing built up area and proposed zoning was shared with the house.

	Regarding data collection for the preparation of FPUSP, the Task Team Leader shared that all the government and semi government departments, authorities, agencies and autonomous bodies and FCCI was taken on board during preparatory stages of the FPUSP and the demonstrated plan has been prepared with the vigorous consultation of all the relevant stakeholders. Later, the Task Team Leader of the FPUSP discoursed in detail the proposed industrial land use proposals/zoning through maps. Moreover, he also described that they have proposed housing schemes for industrial workers so that labourers can live near to their work place.
2.	The house showed keen interest and apprised the work done by the Urban Unit for the preparation of Peri Urban Structural Plan. The chair inquired about the status and feasibility of Faisalabad Airport for coming years. It was clarified by the Task Team Leader that for future needs, the Faisalabad Air Port need to shift at a new location which requires a massive investment and a lot more time. It was further shared with the house that although some industrialist are willing to invest for the construction of a new airport for Faisalabad, however, it would take almost 15 years for its early completion. It was suggested by the Task Team Leader that the construction of new airport and the up-gradation of existing airport may move parallel, depending upon the interest and decision to be taken by the government. However, it was highlighted by the Task Team Leader that the rapid development in Faisalabad is aligned with the up-gradation of Faisalabad Airport and the functioning of M-4 Motorway. In this regard, it was shared with the house that the city Faisalabad lies right at the Pakistan National Corridor Map and the rapid response in both the aforementioned disciplines will certainly boost up the development within the Faisalabad city.
3.	At the completion of presentation, the Task Team Leader thanked the house and invited them for their feedback, suggestions and

	concerns so that the same may be incorporated in the final version of the FPUSP. A representative of the Agriculture department appreciated the efforts made for the preparation of FPUSP for city Faisalabad. In this context, he shared that planning is the most important component which need to follow strictly, but, unfortunately, despite of certain planning processed, no measures taken by the higher management for its implementation in true sense. On same lines, he commented that the FPUSP is the dire need of city Faisalabad in order to control and stop the unchecked and uncontrolled growth occurring these days. He wished that may this plan (FPUSP) would be implemented in true sense and all the efforts deployed by the Urban Unit may not went all in vain. A representative of the PHATA inquired about the status regarding notification of the FPUSP. It was responded by the Task Team Leader that at the completion of consultative process, objections/suggestions would be invited from the public through electronic and print media and hereafter the FPUSP would go and notify by the DPDC.
11.	The detailed session ended with note of "Thanks" by the Chair.

Tariq Niazi
District Officer (Spatial Planning)
City District Government Faisalabad

Annex-A

LIST OF PARTICIPANTS

Sr. No	Name	Designation
1	Mr. Tariq Niazi	District Officer (Spatial Planning), CDGF
2	Mr. Nadeem Khurshid	Task Team Leader (The Urban Unit), FPUSP
3	Dr. Haq Nawaz	Representative of the Government College University, Faisalabad
4	Mr. Qaisar Rind	Assistant Commissioner (Chak Jhumra)
5	Mr. Abdul Sattar	Director, Agriculture Ayyub Research, Faisalabad
6	Mr. Muhammad Alam	Representative of the Government College University, Faisalabad
7	Mr. Ashfaq Ahmad	TMO, Iqbal Town, Faisalabad
8	Mr. Ansar Inayat	TO (P), Iqbal Town, Faisalabad
9	Mr. Umar Amin Ul Haq	Representative of the PTCL, Faisalabad
10	Mr. Shaukat Hayat	District Officer (Environment), CDGF
11	Mr. Muhammad Noman Younis	Deputy District Officer (Environment), CDGF
12	Mr. Asif Niazi	TO (P), Jinnah Town, Faisalabad
13	Mr. Muhammad Farooq	TO (P), Chak Jhumra, Faisalabad
14	Mr. Nadeem Ahmad	Sr. Enginner, SNGPL, Faisalabad
15	Ihsan Ul Haq Qamar	TMO, Tandlianwala, Faisalabad
16	Mr. Muhammad Saleem Anjum	TO (P&C), Tandlianwala, Faisalabad
17	Mr. Syed Zeesha Shah	Representative of the SNGPL, Faisalabad

18	Mr. Aurangzaib Ashraf Shami	Company Secretary, FWMC
19	Mr. Muhammad Ijaz	Manager (Operations), FWMC
20	Dr. Mehwish Qalbani	Assistant Commissioner, Tandlianwala, Faisalalbad
21	Mr. Muhammad Riaz	Assistant Director (Education) Department, Faisalabad
22	Mr. Muhammad Saleem	Representative of the FESCO
23	Mr.Riaz Ahmad Gill	
24	Ch. Muhammad Anwar	Administrator, FUTS
25	Mr. Muhammad Aslam	Deputy Managing Director, WASA-F
26	Mr. Abdul Ghaffar Naveed	Assistant Director, WASA-F
27	Mr. Muhammad Murtaza	Deputy Director (Engineering), PHA, Faisalabad
28	Mr. Ikram Ul Haq	Director (Engineering), PHA, Faisalabad
29	Mr. Muhammad Saeed Ahmad	Representative of Education Department of the CDGF
30	Mr. Muhammad Iqbal Akram	Deputy Director, FDA
31	Mr. Muhammad Irfan Dildar	Statistical Officer, PBS, Faisalabad
32	Mr. Abdul Majeed	TO (P&C), Faisalabad
33	Mr. Nabi Ahmad Wahla	TO (I&S), TMA Samundari, Faisalabad
34	Mr. Imtiaz Ali Randhawa	TO (R), Jaranwala, Faisalabad
35	Dr. Haider Ali Khan	District Livestock Officer C/O EDO (Agriculture), Faisalabad
36	Mr. Shahbaz Ali Khan	District Officer (E&I), CDGF
37	Mr. Younas Ali	District Officer (Roads), CDGF

38	Mr. Manzor Ahmad	Deputy Director, PHATA, Faisalabad
39	Mr. Muhammad Rashid	Deputy Director (Technical), FESCO
40	Mr. Subhan Ali	Deputy Director (Information), CDGF
41	Mr. Zaheer Anwar	
42	Mr. Gul Hafeez Khokhar	Senior Institutional Development Specialist, The Urban Unit (CPU WASA-F)
43	Mr. Shafaat Gillani	Implementation & Coordination Specialist, The Urban Unit (CPU CDGF)
44	Mr. Muhammad Islam	Financial Management Specialist, The Urban Unit (CPU CDGF)
45	Mr. Muhammad Munib	Procurement Specialist, The Urban Unit (CPU CDGF)
46	Mr. Syed Asif Gillani	Environment & Social Safeguard Specialist, The Urban Unit (CPU CDGF)
47	Mr. Mustafa Sattar	MIS Expert, The Urban Unit (CPU WASA-F)
48	Mr. Muhammad Naeem	Monitoring & Evaluation Specialist, The Urban Unit (CPU CDGF)



	lingered on due to delay in its technical review by the Urban Unit, as directed by the Planning & Development Department of the Government of Punjab. The chair desired that in-spite of providing feedback in form of dense material and toughened language, crystal clear instruction to be passed for convenience in decision making and further necessary action by the implementing agencies.
2.	The detailed session ended with note of "Thanks" by the Chair.

Muhammad Naeem
Monitoring & Evaluation Specialist
City Program Unit, Faisalabad.

The Urban Unit
P&D Department, Punjab.

Record of Meeting

Subject:	Meeting with MD FWMC to Discuss Proposed Land Use Map of Faisalabad Peri Urban Structural Plan (FPUSP).		
Date:	October 01, 2014	**Time:**	03:30PM-04:00PM
Venue:	Committee Room of Faisalabad Waste Management Company.	**Chair:**	Managing Director FWMC.
Participants:	List of Participants attached (Annex-A)		

Sr. No.	Discussion/Decision
1.	A brief introduction on proposed Land Use Map of FPUSP was given to MD FWMC and his team by Task team leader Nadeem Khurshid at Committee room of the MD FWMC office. During discussion the chair s appreciate the support of Urban Unit in initiating (FPUSP), and reiterate that this will play a instrumental role in future planning for Faisalabad development. ➢ MD FWMC further expressed his views on the site of Land Fill which is located out side the boundary limits of FWMC of the proposed Land Use Map of FPUSP. The chair along with his team members decided that "transfer stations" of FWMC will be marked on the land use map of FPUSP for which FWMC will provide necessary data and information at the earliest. It is pertinent to mention that FWMC having no objection on proposed land use map of FPUSP. ➢ The Chair and his team, requested for the Report and Map of Proposed Land Use of FPUSP .The CPU team ensured their cooperation in this regard.
2.	The Meeting ended with note of "Thanks" by the Chair.

Implementation & Coordination Specialist.
City Program Unit, Faisalabad.

Annex A.

LIST OF PARTICIPANTS

Sr. No.	Name	Designation
1.	Mr Amjad A Awan	MD FWMC, Faisalabad
2.	Mr. Nadeem Khurshid	Task Team Leader, FPUSP, The Urban Unit
3.	Mr. Syed Shafaat Gillani	Implementation & Coordination Specialist, CPU Faisalabad
4.	Mr . Muhammad Islam	Financial Management Sepecialist
5.	Mr. Muhammad Munib	Procurement Specialist, CPU Faisalabad

From:

District Officer (Spatial Planning)
City District Government
Faisalabad.

To:

The Director General,
Public Relations Punjab,
Lahore.

No. DO(SP)/ 66 Date. 16/08/14

Subject: **ADVERTISEMENT**

Please find enclosed herewith an advertisement, which my be published in two National Dailies and two Local Dailies. After publication, bill may be sent to this office for payment.

DA/As above.

District Officer (Spatial Planning)
For City District Government
Faisalabad.

اطلاع برائے اعتراضات وتجاویز

بابت مجوزہ فیصل آباد پیری اربن ایریا سٹرکچر پلان

بذریعہ نوٹس ہذا عوام الناس کو مطلع کیا جاتا ہے کہ سٹی ڈسٹرکٹ گورنمنٹ فیصل آباد شہر کے بے ہنگم پھیلاؤ کو روکنے اور اسے ایک جامع منصوبہ بندی کے تحت لانے کیلئے پنجاب لینڈ یوز رولز 2009ء کے مطابق " فیصل آباد پیری اربن سٹرکچر پلان" تجویز کیا ہے۔ جن میں شہر کی آئندہ 20 سال کی ضروریات اور ترجیحات کو مدنظر رکھتے ہوئے شہر کے پھیلاؤ ڈویلپمنٹ کیلئے رقبہ جات تفویض کئے گئے ہیں۔ ان رقبہ جات کی باقاعدہ منصوبہ بندی کے ساتھ ساتھ مستقبل کی ڈویلپمنٹ کیلئے سڑکات کا نظام بھی وضع کیا گیا ہے۔ مزید ان علاقوں کے استعمال اراضی کے حوالہ سے مختلف ضروریات کے استعمال کیلئے بلاکس کی صورت میں مخصوص کر دیا گیا ہے تاکہ قیمتی وسائل ضائع نہ ہوں۔

پیری اربن سٹرکچر پلان تجویز کرنے کا مقصد یہ ہے کہ آئندہ ڈویلپمنٹ ان ہی تجاویز و ترجیحات کے مطابق اور اتھارٹی کی باقاعدہ منظوری کے بعد ہونگی۔ دراصل مذکورہ پلان تجویز کرنے کا اصل مقصد حکومت پنجاب کے نافذ کردہ استعمالِ اراضی کے قوانین کا اطلاق عمل میں لانا ہے تاکہ مستقبل میں ہر قسم کی ڈویلپمنٹ، تعمیرات، استعمال اراضی اور پرئیویٹ و گورنمنٹ ہاؤسنگ اسکیمز ضابطہ اور قانون کے مطابق ہوں اور فیصل آباد شہر کسی منصوبہ بندی سے پھیل سکے۔

چونکہ مجوزہ پلان کی باقاعدہ منظوری اور اطلاق سے قبل عوامی رائے انتہائی اہمیت کی حامل ہے۔ لہٰذا عوام الناس اس سلسلہ میں اپنی تجاویز ڈسٹرکٹ آفیسر (سپیشل پلاننگ) کے دفتر میں اشاعت کے 15 یوم کے اندر اندر ارسال کروائیں۔ تاکہ آپ کی قیمتی آراء کی روشنی میں پیری اربن سٹرکچر پلان کے بارے میں حتمی فیصلہ کیا جا سکے۔ اور مذکورہ پلان کی باقاعدہ منظوری اور اطلاق قانونی ضابطہ کے مطابق عمل میں لایا جا سکے۔ نیز یہ پلان اس اشتہار کی اشاعت کے دِن سے دفتری اوقات کے اندر ڈسٹرکٹ آفیسر (سپیشل پلاننگ) کے دفتر اور ضلعی حکومت کی ویب سائٹ (www.Faisalabad.gov.pk) پر ملاحظہ کیا جا سکتا ہے۔ تاہم اعتراضات مورخہ 22 ستمبر 2014 بروز سوموار 9 بجے صبح کمیٹی روم ڈی سی او آفس میں سنے جائیں گے۔

نورالامین مینگل

ڈسٹرکٹ کوآرڈینیشن آفیسر، سٹی ڈسٹرکٹ گورنمنٹ فیصل آباد

Public Notice

Expression of Suggestions and ObjectionsonProposed

"FAISALABAD PERI URBAN STRUCTURE PLAN 2035"

City District Govt. Faisalabad has proposed "Faisalabad Peri Urban Structure Plan 2035" through comprehensive planning, in order to develop the city in a planned manner and to avoid the disorder growth of the city, in accordance with Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009. The plan envisages the land use blocks for the development and sprawl of the city keeping in view the needs and priorities for 20 year ahead. In addition to planned use of lands, a comprehensive road network is also proposed for future balanced and sustainable growth. Moreover, land use classification has been specified for the areas to preserve precious natural resources.

The basic purpose to develop the plan is that the future growth of the city can be ensured according to the recommendations, needs and priorities set under the plan and after duly approval of the competent authority. The other objective of the plan is to implement Punjab Land Use [Classification, Reclassification and Redevelopment] Rules, 2009, so all types of future development, constructions, land use, developing of private and government housing schemes should be in accordance with the rules and regulations and growth of the Faisalabad city can be ensured in a planned and systematical way.

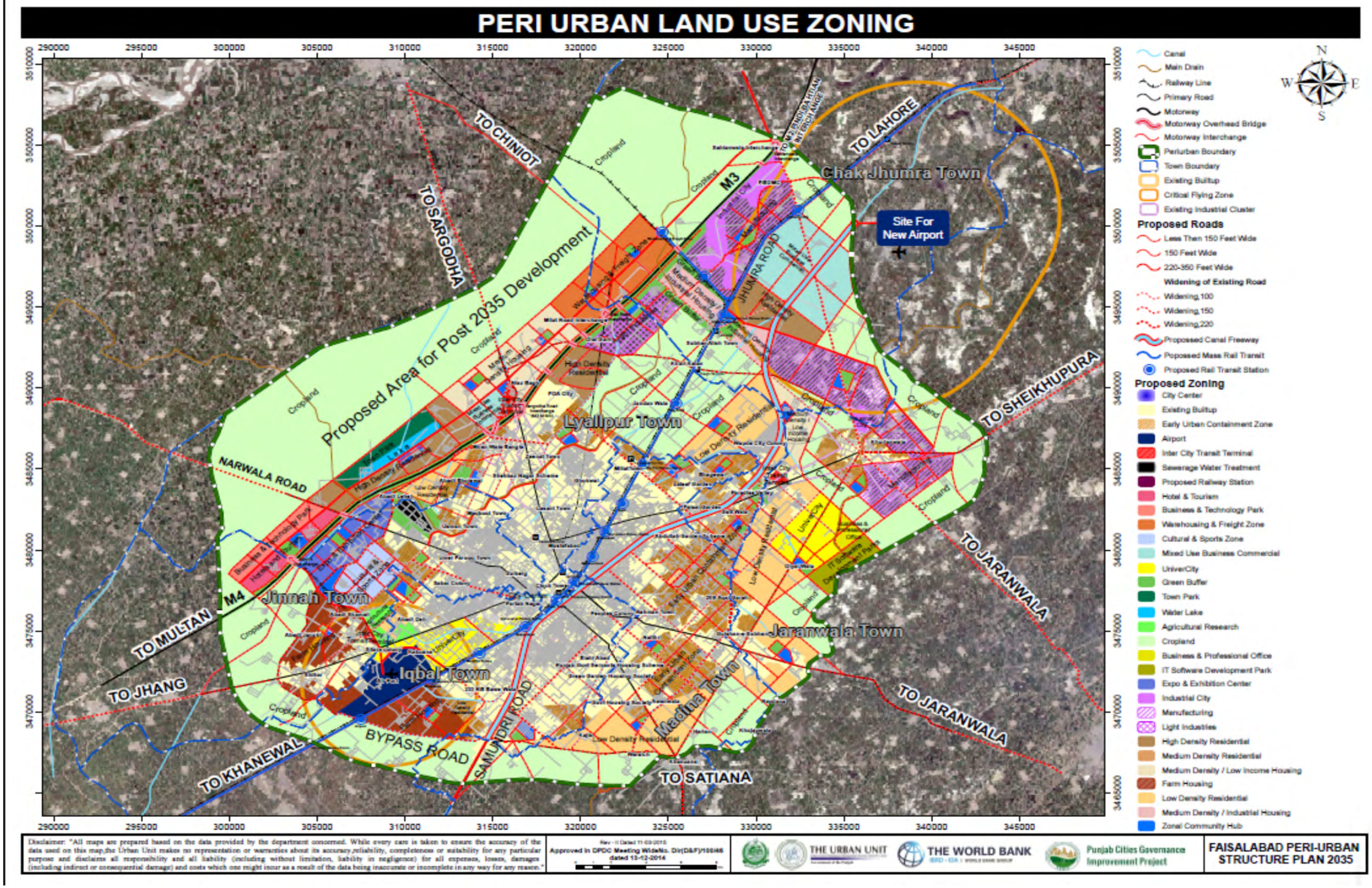
Public consultation is essential before the approval and implementation of the plan. It is therefore, informed to the public to submit their suggestions and Objections within the 15 days of the publication of this notice in the Office of District Officer (Spatial Planning) located in compound of District Coordination Officer, Faisalabad so that the proposed plan can be finalized according to the suggestions and objections of the stakeholders. The plan can be seen in the office of the District Officer (Spatial Planning) or on the CDGF website: http://www.faisalabad.gov.pk/. However, public hearing on objections will be held on September 22, 2014 (Monday) 9:00 am at the committee room of DCO office Faisalabad.

Noor-ul-Amin Mengal
District Coordination Officer
City District Government, Faisalabad

ANNEXURE VI: PROJECT TIMELINES

Sr. No.	Detailed Task	INCEPTION PHASE				FIELD WORK , GIS DEVELOPMENT & SITUATIONAL ANALYSIS				SUMMING UP & PROPOSALS DEVELOPMENT				FINALIZING PERI URBAN STRUCTURE PLAN REPORT			
		MONTH-1				MONTH-2				MONTH-3				MONTH-4			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	**Project Inception**																
1,1	Reconnaissance																
1,2	Mobilization & Setting-up Local Facilities																
1,3	Engaging Study Team																
1,4	Kick-off Meeting																
1,5	Strategic Planning for Carrying-out Study Components																
2	**Stakeholder Consultations**																
2.1	Meeting with Public Sector Organizations (City District Government Faisalabad, FDA etc.)																
2.2	Meeting with Local Private Practicing Planners																
2.3	Stakeholder Consultation for Peri Urban Structure Plan																
3	**Preparation of Digitized Base Map**																
3.1	Procurement of Satellite Imageries																
3.2	Preparation of Digitized Base Map																
3.3	Sector / Blocks Division Of The Study Area																
3.4	Setting Up Digitizing for Collected Information through Field Surveys																
4	**Surveys, Field Work and Secondary Data Collection**																
4.1	Mobilizing Field Surveyors																
4.2	Realignment of Builtup Area Boundary																
4.3	Broad Land Use Survey of Peri Urban Area																
4.4	GPS Survey of Landmarks in Peri Urban Area																
4.5	Census Information																
4.6	Previous Studies/Master/Structure Plan Reports																
5	**GIS Development**																
5.1	Infrastructure																
5.2	Community Facilities																
5.3	Demarcation of Housing Schemes boundaries																
5.4	Land Cover Analysis																
5.5	Land Use Classification																
5.6	Land Use Suitability Analysis																
5.7	Mapping as per Revenue Records (Roads, Canals, Drains Govt.Buildings on GIS)																
5.8	Demarcation of Union Councils Boundaries																
5.9	Demarcation of Industrial Clusters & Major Units																
6	**Situational Analysis**																
6.1	Housing																
6.2	Infrastructure & Transportation																
6.3	Identification of factors for past Spatial Growth																
6.4	Demography & Population Projections																
6.5	Employment																
6.6	Institutional capacity																
6.7	Spatial Growth																
7	**Producing Development Options**																
7.1	Thematic Mapping																
7.2	Development Opportunities, Drivers, Barriers etc																
7.3	Future perspectives																
8	**Reporting**																
8.1	Inception Report																
8.2	Interim Report																
8.3	Draft Report on Peri Urban Structure Plan																
8.4	Feedback & Review																
8.5	Final Report on Peri Urban Structure Plan																

ANNEXURE VII: PROPOSED LAND USE ZONING



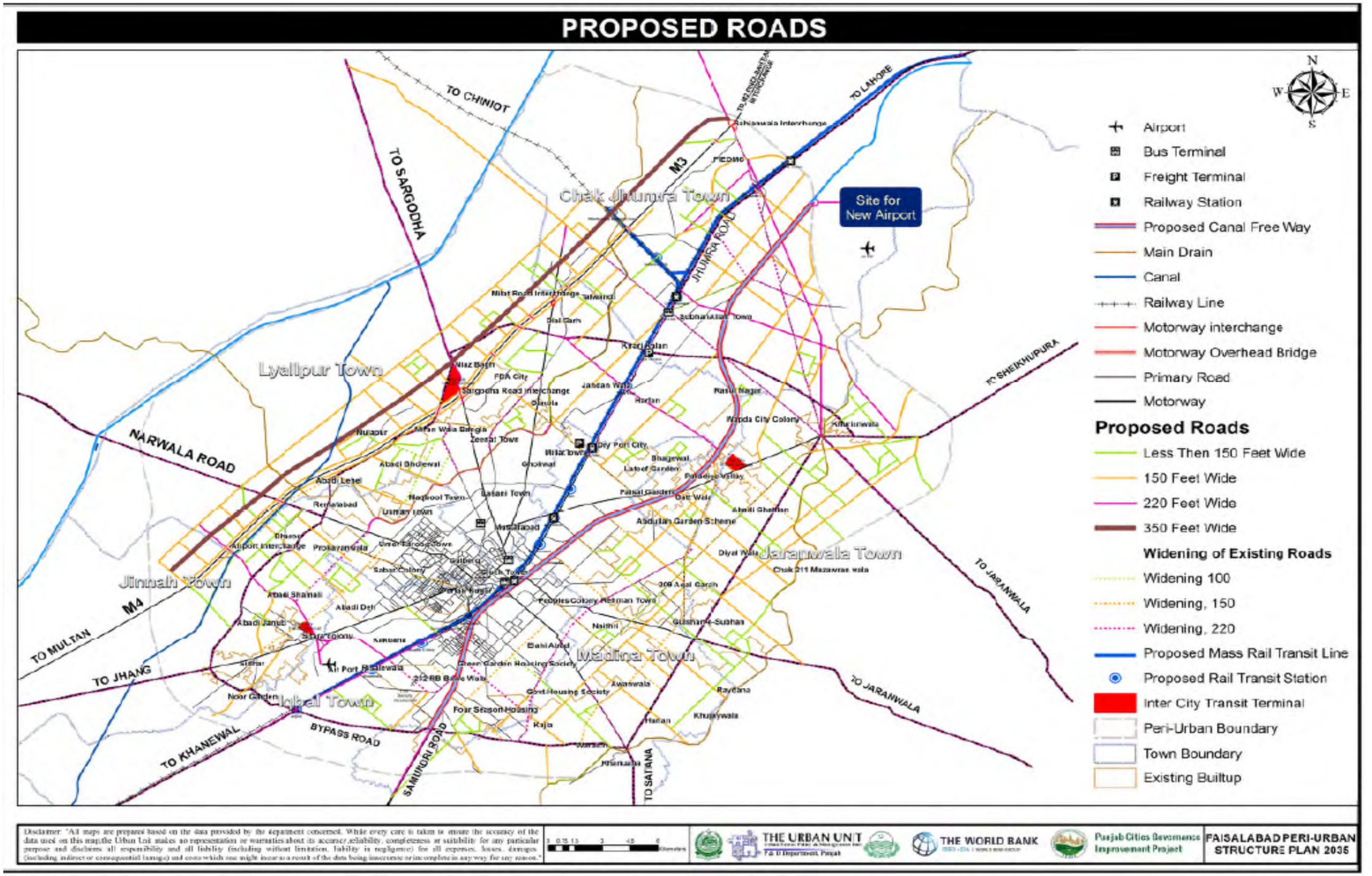
ANNEXURE VIII: PROPOSED LAND USE CONTROL FRAMEWORK MATRIX

Mixed Land use Category	Type of Development / Land Use Class	Zones																								Compliance				
		Established Built-up		Urban Containment Zone		Residential		Technology City		Trade & Commerce		Cultural & Sports Zone		Hospitality & Expo Center		Hotels and Tourism		Industrial		Zonal Community Hub		Institutional Zone		Reserved Areas		Agricultural		IEE/EIA	TIA	SIA	Energy Audit	Building Regulations
		Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited					
Mixed Use Residential	Various sizes and types of residential buildings and houses	✔		✔		✔		✔		✔		✔			✔		✔		✔				✔				✔				✔	✔
	Rented Residential Houses	✔		✔		✔		✔		✔		✔		✔		✔		✔										✔				✔	✔
	Housing schemes / land-subdivisions (public/private sector) with standardized facilities	✔		✔		✔			✔	✔			✔		✔	✔		✔			✔		✔		✔		✔	✔	✔	✔	✔	✔
	Mixed use Commercial cum Residential	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔	✔	✔	✔	✔
	Hotels, Guest Houses etc.	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔		✔	✔
	Social Infrastructure	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔			✔		✔	✔
	Farm Housing		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔	✔					✔	✔
Hospitality	Hotel	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔	✔	✔	✔
	Motels	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔	✔	✔	✔
	Inns	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔	✔	✔	✔
	Resorts or Tourist Homes	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔	✔	✔	✔
	Cafés & Bars	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔	✔	✔	✔
	Restaurants	✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔		✔	✔	✔	✔	✔	✔

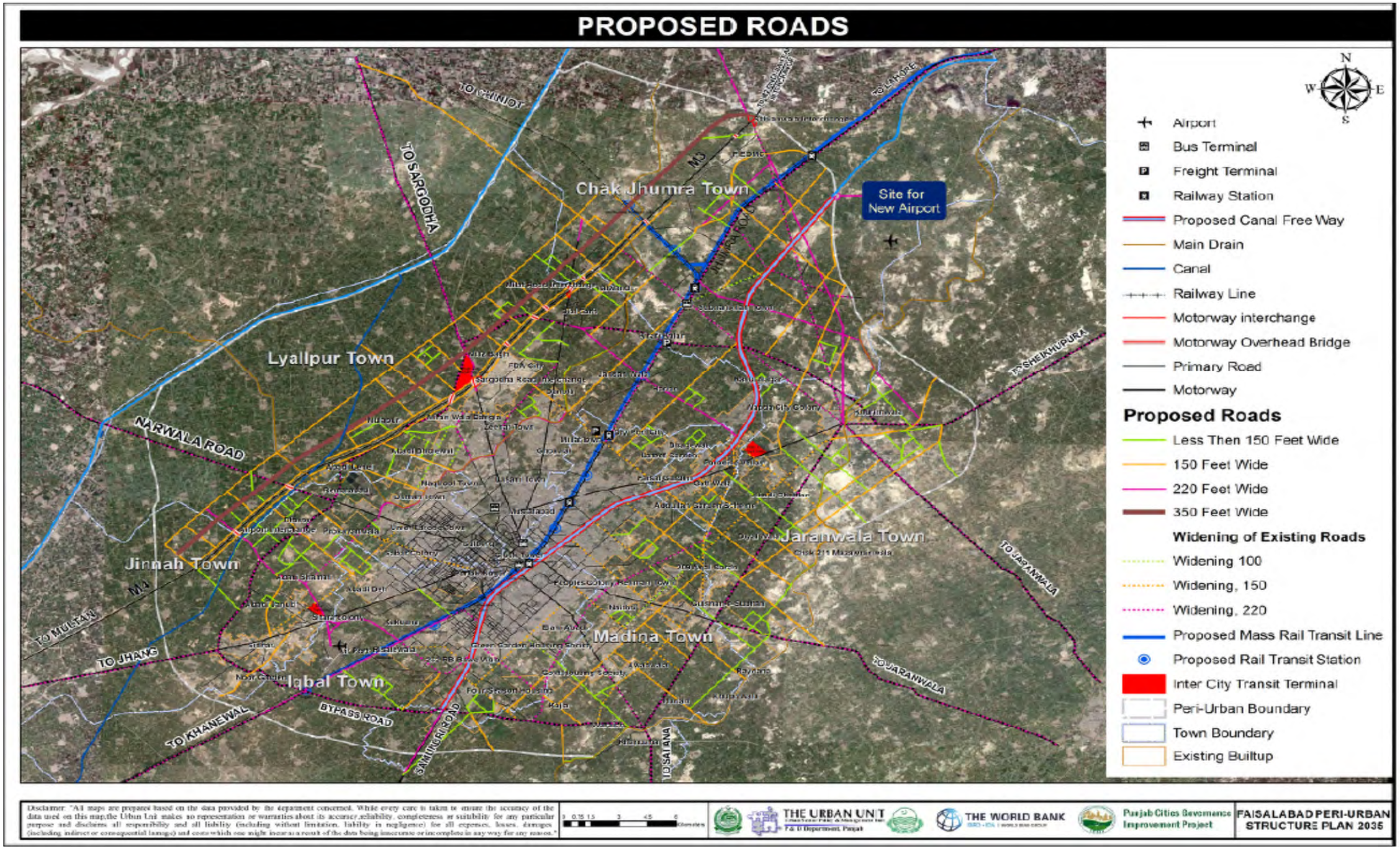
Mixed Land use Category	Type of Development / Land Use Class	Zones																								Compliance				
		Established Built-up		Urban Containment Zone		Residential		Technology City		Trade & Commerce		Cultural & Sports Zone		Hospitality & Expo Center		Hotels and Tourism		Industrial		Zonal Community Hub		Institutional Zone		Reserved Areas		Agricultural		IEE/EIA	TIA	SIA	Energy Audit	Building Regulations
		Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited					
Community Facilities	Nursing Homes	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔				✔	✔
	Private Hospitals	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Government Hospital	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔	✔	✔	✔	✔
	Health Clinics (Government)	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔			✔		✔	✔
	Health Clinics (Private)	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Emergency Response Centers	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔			✔		✔	✔
	Masjid	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔
	Religious Institute (Madrissa)	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔	✔				✔	✔
	Church	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔
	Other places of worship	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔
	Government Offices	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Multiuse Sports Hall	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Multiuse Community Hall	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Boarding Houses	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Museum / Art Gallery etc.	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Library	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Tourist Information Center	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Public Toilets & Drinking Water Points	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔					

Mixed Land use Category	Type of Development / Land Use Class	Zones																								Compliance				
		Established Built-up		Urban Containment Zone		Residential		Technology City		Trade & Commerce		Cultural & Sports Zone		Hospitality & Expo Center		Hotels and Tourism		Industrial		Zonal Community Hub		Institutional Zone		Reserved Areas		Agricultural		IEE/EIA	TIA	SIA	Energy Audit	Building Regulations
		Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited	Permitted	Prohibited					
Community Facilities	Police Station	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔					✔	✔
	Rescue & Fire Station	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Private Offices	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔	✔	✔	✔	✔
	Post Office	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔			✔		✔	✔
	Court / Tribunal	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Health Club / Gymnasium	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔			✔		✔	✔
	Social & Community Club	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔
	Graveyards & Burial Grounds	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔	✔			✔		✔	✔
Commercial & Retail	Departmental Stores / Super Markets	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔
	Mohallah Level Retail Shops	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔	✔
	Commercial cum Residential	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Service Shops	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Bakery / Confectionary	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Private Offices & Business Facilities	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Financial Institutions	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Fashion & Clothing Stores	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Fast Food Outlets & Eateries	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔
	Building Material & Hardware Stores	✔		✔		✔		✔		✔		✔		✔		✔		✔		✔		✔			✔		✔		✔		✔	✔

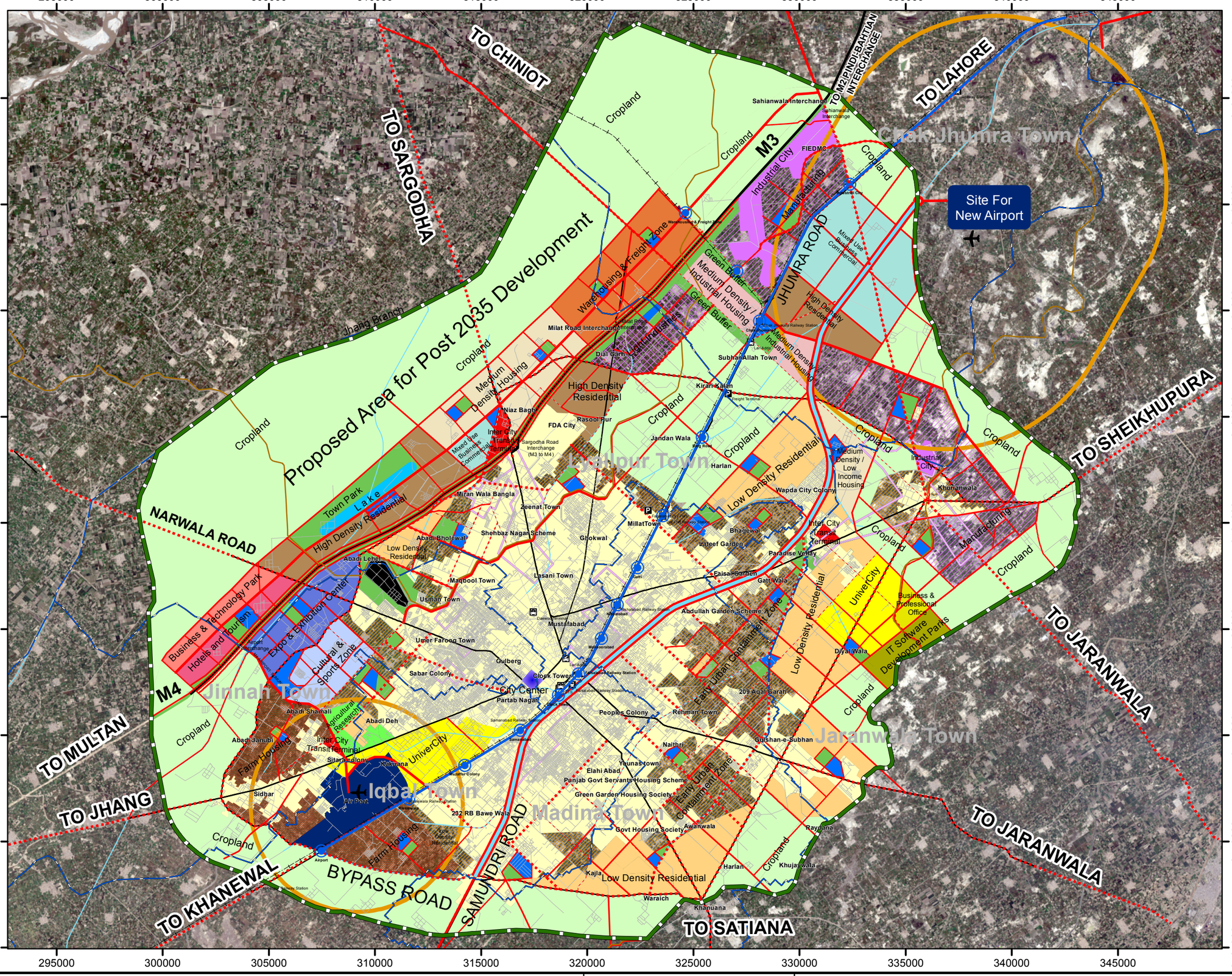
ANNEXURE IX: **PROPOSED ROAD NETWORK**



ANNEXURE X: PROPOSED ROADS NETWORK WITH BACKGROUND SATELLITE IMAGE



PERI URBAN LAND USE ZONING



Canal
Main Drain
Railway Line
Primary Road
Motorway
Motorway Overhead Bridge
Motorway Interchange
Periurban Boundary
Town Boundary
Existing Builtup
Critical Flying Zone
Existing Industrial Cluster

Proposed Roads

Less Then 150 Feet Wide
150 Feet Wide
220-350 Feet Wide

Widening of Existing Road

Widening,100
Widening,150
Widening,220
Propossed Canal Freeway
Popossed Mass Rail Transit
Proposed Rail Transit Station

Proposed Zoning

City Center
Existing Builtup
Early Urban Containment Zone
Airport
Inter City Transit Terminal
Sewerage Water Treatment
Proposed Railway Station
Hotel & Tourism
Business & Technology Park
Warehousing & Freight Zone
Cultural & Sports Zone
Mixed Use Business Commercial
UniverCity
Green Buffer / Park
Water Lake
Agricultural Research
Cropland
Business & Professional Office
IT Software Development Park
Expo & Exhibition Center
Industrial City
Manufacturing
Light Industries
High Density Residential
Medium Density Residential
Medium Density / Low Income Housing
Farm Housing
Low Density Residential
Medium Density / Industrial Housing
Zonal Community Hub

Disclaimer: "All maps are prepared based on the data provided by the department concerned. While every care is taken to ensure the accuracy of the data used on this map,the Urban Unit makes no representation or warranties about its accuracy,reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which one might incur as a result of the data being inaccurate or incomplete in any way for any reason."

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Approved in DPDC Meeting WideNo. Dir(D&F)/100/46 dated 13-12-2014

0 0.75 1.5 3 4.5 6 Km

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Punjab Cities Governance Improvement Project

FAISALABAD PERI-URBAN STRUCTURE PLAN 2035