Addis Ababa City Structure Plan

DRAFT FINAL SUMMARY REPORT

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AACPPO

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Part I Introduction

Since its establishment in 1886, Addis Ababa has undergone many changes in terms of its size and demographics, its finance and economic structure, its physical and spatial organization. The spatial development scheme of Empress Taitu had created a number of localities known as 'Sefers' around the houses of the novelty. These organically growing settlements start on high grounds and sloppy areas and gradually spread around their respective focal points. The majority of the houses had been mud constructed with thatched roofs. The National Palace, Taitu Hotel, the La Gare train station, and most of the existing public hospitals were built during this period.

It was between 1935 and 1941 (Italian occupation) that modern municipal services were instituted. The master plan of the Italians had mainly produced racially segregated settlements like Addis Ketema. A number of roads and arching bridges, arcade shops in Merkato, and brick and wood residential villas especially around Casainchis constructed at the time are still visible today.

The political economy and the level of social awareness of the post-Italian period had undergone several changes at many levels in the following three decades (1941-1974). Mostly due to the exposure to the practices of the outside world, expansion in education and the early stages of capitalist political economy of the latter years, a better organized urban system and a more 'urban' lifestyle had emerged at the end. The level of affluence of a small segment of society had changed not only relationships and clothes; it had redefined the sphere and quality of physical development. But this was also the period where the basis for the still existing informalities and coarse texture of the city had been laid.

The Dergue era or the socialist regime (1974 -1991) nationalized urban land and extra houses; and had set maximum threshold for private capital accumulation. This had inhibited investment, economic growth as well as urban development. Spatial and physical developments were mere responses to political demands. The Meskel Square then called the Revolution Square, a plaza like public space, is a unique feature designed at the time to display the might of the "revolutionary" socialist army. New and decentralized administrative units like the 'Kebele' had been established to tighten political control. The idea of homogenization took root in standardized public and cooperative housing built from bricks and hollow blocks. In contrast, with more than 60% of the houses owned by the government, most of the city's neighbourhoods had rapidly deteriorated during this period.

Post-Dergue Period: This is the period (1991-present) where a robust private sector has been allowed to emerge. The city's population has grown by more than 80% in the last twenty years and the total built up area of the city has increased by at least 25% in the last decade only. The city's economy has been growing by a double digit during the past decade. Innovative projects linking job creation, private sector development, infrastructure and housing development had been implemented. Large infrastructure investments in road construction had accelerated the process of change. Condominium housing in more than hundred sites in the city, large residential housing construction by private real estate companies, the booming of the construction of commercial (mostly glass-covered) high-rise buildings all have been influential in reshaping the spatial organization and productivity of economic activities. More significant is the effect of the Addis Ababa City Development Plan (2002-2010), which had developed a strategic Structure Plan to facilitate development in the city, and had initiated a city management reform to improve governance. Existing settlement pattern is a mixed vibrant environment, but with diminishing functional hierarchies. The need to generate additional income by all, however and wherever, is constantly redefining the organization of activities and neighbourhoods. Moreover, this is also a period where most open spaces and green zones disappeared under concrete. The process of keeping the social mix of dwellers in residential settlements (popularly known as 'mixity'), which had also been an important aspect of the duality of Addis Ababa is disappearing especially in new settlements.

Within new contexts and realities, aspirations and limitations, this new city plan will provide a framework for the organization of the city's space that is economically productive and environmentally healthy. The ultimate goal of the plan is to ensure that the city contributes its share in bringing the national economy to the level of middle income countries; and in the process, improve the living standard of the city's residents. This role shall also include making the capital internationally competitive at this age of globalization and bringing about overall socioeconomic transformation.

1.1 The Addis Ababa City Development Plan (2002-2012) in Retrospect

The Addis Ababa City Development Plan (2002-2012) had comprised a statutory structure plan, an action oriented strategic development framework and a management reform component. The statutory structure plan had provided an overall framework for the spatial development of the city. The action oriented strategic development plans had prioritized six key urban issues to be implemented in five years (i.e. housing, urban road network and transport, manufacturing

industries and large storage facilities, environment, and inner city renewal and upgrading); and proposed implementation mechanisms and financial investment requirements. The rationale for using this combination of statutory and performance oriented plans had been

- to give the plan adequate legal basis through the Structure Plan, regulations, and norms and standards;
- to ensure flexibility, and participation; and
- in view of limited resources, to give more emphasis to strategic issues.

Administrative restructuring, defining the different roles of government (e.g. state vs. municipal functions), service decentralization and improvement, and capacity building had been the central themes of the management reform aspect of the plan.

In retrospect, the implementation of the City Development Plan had taken a number of turns at different times during the past decade. Arguably, some of its crucial recommendations had not materialized. For instance, the Plan had stressed the importance of developing standard infrastructure facilities and services on par with the city's international role. But this has yet to become a reality. Even though developments in the road sector have surpassed expectations, the quality and volume of other infrastructure services is far too inadequate. The Addis Ababa City Development Plan had also envisaged channelling investments to the city's main centre and sub centres, which was also not implemented. Some of the provisions in the structure plan (e.g. the green frame) had not been maintained. On the other hand, major concepts and ideas forwarded by the City Development Plan (e.g. condominium housing) had sparked innovative projects and programs that are being implemented at the national level.

Nonetheless, there are lessons to be learnt from the challenges encountered. These challenges were faced either for lack of foresight by the Plan, or due to some constraints associated with its implementation. Regarding major shortcomings of the Plan itself, it had failed to sufficiently elaborate implementation mechanisms (including institutional set-up and financial sources) to encourage and guide proposed investments. It should have incorporated strategies for managing the urban edge, for protecting the green frame in peri-urban areas, and to curb urban sprawl. But most importantly, it did not integrate its plan with those of neighbouring administrative zones and municipalities. The intentions proposed in the performance plans (i.e. LDPs) had just been "morphological analyses" with no critical understanding and interpretation of space and development factors.

Due to changes in government priorities, strategies and commitments during the past decade, the degree of implementation of some aspects of the Plan had been low. In addition, frequent

staff turnover and lack of organized data which inhibit institutional memories have in turn limited the level of implementation.

Hence, the new Plan has given these issues due consideration. It is more detailed, and practical enough to be easily executed. Its statutory spatial plan or Structure Plan is legally binding, regardless of any changes in the leadership or the political system. Continuous familiarization and updating will also be carried out to minimize the margin of error in anticipations, and misinterpretations.

1.2 The National Urban System

1.2.1 The State of Urbanization and Urban System

According to data obtained from different sources, the total number of urban centres in Ethiopia is close to 1,000; and the level of urbanization is a little more than 19%. Despite this low level of urbanization, there is rapid urban growth. According to UN population projection (2012), the urbanization rate of Ethiopia is 3.6%. With this pace, the level of urbanization will only be 36% in 2050. The spatial distribution of urban centres is unbalanced, and there is a large disparity between the levels of urbanization among the various regions. For instance, four regions (Oromiya, Amhara, SNNP and Tigray) account for about 70% of the national urban population. On the other hand, the national urban system in terms of sheer number of urban centres is dominated by small urban centres as there are only fifteen urban centres with population size of 100,000 or more: Addis Ababa, Mekele, Adama, Gondar and Dire Dawa are the largest cities with population sizes greater than 250,000; Hawasa, Bahir Dar, Jimma, Dessie, Jijiga, Shashemene, Bishoftu, Harar, Sodo and Arba Minch are medium-sized cities with population ranging from 100,000 to 250,000; while the remaining are small towns (sources: CSA, 2007). Among these, Addis Ababa is the centre of national administration and politics, economy and finance, social services such as education and health, and infrastructure including those for transport and information and communication technologies. Its population size is eleven times more than that of the second largest city. All the other larger urban centres more or less play a similar role of a lesser magnitude at the regional level. Mekele, Hawasa, Bahir Dar, Jijiga and Harar are the administrative centres of the respective regions, and Dire Dawa is a chartered city. The rest are currently serving as zone and district administrative centres and provide relatively better services.

Regional capitals and most of the zone centres are connected to Addis Ababa and each other mainly by road transport. Notwithstanding the presence of a network of airports that provide services to the outlying regions, the ongoing national railway line expansion projects are envisaged to further enhance the transport connection among major urban centres in the

country. This will consequently enhance the urbanization process. The first railway route is planned to connect Addis Ababa to Mojo, Adama, Awash, Meiso, Dire Dawa and Dewele.

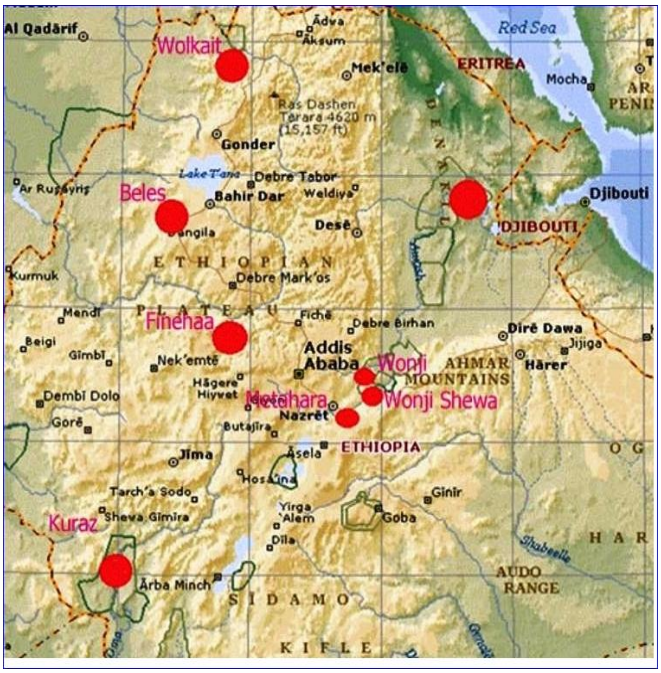


Figure 1 Sugar factories

The second route will connect Modjo, Ziway, Shashamene, Hawasa, Soddo, Arba Minch, Konso, Yabelo and Mega towns, which will have a positive impact on the growth and expansion of some of small urban centres along these routes. The third route will connect Addis Ababa (Sebeta) to Ambo, Ejaji, Seka, Jimma, Tepi, and Dima. The fourth route will branch from Ejaji (west Oromiya) and will connect Nekemt, Nejo, Assosa and Kurmuk. The fifth route will start from Awash and connect Kombolcha, Weldiya, Mekele, Axum, Shire and Humera. The sixth route will connect Bahirdar, Wereta, Weldia, Semera and Dichoto by branching from Fenote Selam. A seventh route which will start from Woreta will connect Azezo, Aykel, Gendawuha and Metema. The final and eighth route, which will branch from Adama, will connect Iteya, Asela, Robe, Indeto, Gasera and Ginir. Most of the urban centres to be served by the railway lines are regional and zone capitals. The other development opportunity for Ethiopia is the possibility to use LAMU PORT- SOUTH SUDAN – ETHIOPIA TRANSPORT (LAPASSET), which is one of the regional projects to connect Lamu port (Kenya) to Juba (South Sudan) and Moyale (Ethiopia) towns and that extends to Addis Ababa.

In addition, in order to achieve the objectives of the GTP, the country has launched several mega projects including the Renaissance Dam, more than 10 sugar factories, the establishment and expansion of universities, and a fertilizer factory. These are expected to play a pivotal role in the future economic growth and transformation of Ethiopia. The ongoing sugar development projects are located in different parts of the country, i.e. Kuraz (five factories), Wolkaiyt, Beles, Tendaho, Kessem and Arjo Dediessa with a combined job creation capacity of 256,000 citizens. And there are 33 governmental universities all over the country with 20,000-30,000 students. All these are going to leave their own footprints on forms and trends of urbanization. For example, even assuming a modest family size of 4, this will mean a

minimum population of more than a million living nearby these factories. Cognizant of this fact, a higher rate of urbanization is envisaged in the planning period- a 30% and a 50% level of urbanization in 2025 and 2040 respectively.

In order to make the best out of the growing regional integration, facilitating and preparing for a higher urbanization level is called for. As Ethiopia aspires to become a middle-income nation by the year 2025, urbanization is an important vehicle and can be a key path towards this goal.

However, all urban centres including Addis Ababa have their own development plans. These plans were developed based on studies that were confined to their administrative boundaries. And the existing challenges cannot be surpassed if efforts are not made at pulling resources together. Nor can the anticipated growth and sustained development be brought about.

1.2.2 The Proposed National Urban System

As globalization progresses, the issue of competitiveness in the global market presents itself as a major challenge for urban centres. Cities compete to attract investment, skilled labour force and knowledge as well as to have market for their goods and services. Meanwhile, they may face negative externalities associated with urbanization such as unemployment, pollution and unprecedented need for social services such as housing, education and public health. Addressing such issues as well as fostering city attractiveness and competitiveness requires an appropriate policy and planning framework that could provide broader guidance in terms of mobilizing all stakeholders towards the exploitation of opportunities and removing constraints for development.

Current reality indicates that the Ethiopian urban system calls for policy intervention backed by appropriate strategies to frame the growth and development of urban centres. In line with this view and because there is a need to have a spatial framework to guide the elaboration of the development plan of Addis Ababa that also takes its surrounding into consideration, a proposal is developed that envisages nine urban clusters at the national level (regional urban systems that will be developed around potential city- regions). The key ideas considered are the role of urban centres as engines for national economic growth that will contribute to the realization of sustainable urban development. The proposal gives heed to the hierarchical arrangement of urban centres- clustering urban centres under regional urban systems that would constitute the networking of cities and crystallization of city-regions, as well as to fostering the functional linkage of small towns and urban-rural linkages within regional urban systems.

City-regions: a major employment centre in a region for which, the centre acts as the primary high-order service centre as well.

Cities clustering: is the process of clustering nearby city- regions.

Linkages of Small towns: linkages of small towns and their hinterland to support rural development.

Taking into account the current features of the national and regional urban systems as well as the potential impact of major government projects underway, the following are the proposed city-regions and their major roles for national urban system.

- **Central Regional Urban Sub-System** - Addis Ababa, Adama, Ambo, Waliso, Fitche and Debere Berhan are expected to grow into city-regions. These city-regions in the central part of the country are organized as city clusters surrounding the capital city. The proposed roles and functions for these centres include services such as administration, finance, ICT, provision of high order services for the national and International communities and light industry such as agro processing

- **Northern Regional Urban Sub-Systems**- Dessie, Kombolcha, and Woldiya; and Mekele, Adigrat and Adwa will develop into two strong city-regions in the northern part of the country. These cities clustered in axial will be centres for the development of heavy industries (i.e. medicine**,** cement, textile, automotive etc.) and services. For instance, Kombolcha is expected to develop into a major manufacturing and transport hub as well as service centre in the north-eastern part of the country. The dry port as well as the metal, textile, food and beverage industries in Kombolcha, the Woldiya Stadium and the Wollo University will support the development of a sub-system that will cluster around Kombolcha.

- **North-Western Regional Urban Sub-System** - Bahir Dar, Gondar, Woreta, Debre Markos and Debere Tabor are city- regions proposed in the north-western part of Ethiopia. In clustering these city-regions, Bahir Dar is taken as the main centre for the proposed axial development. All these city- regions have their own comparative advantage in supporting national development. For instance, Bahir Dar and Gondar are expected to develop into major tourist destinations in the region, while the other city-regions are expected to develop into major centres for selected manufacturing development.

- **Western Regional Urban Sub-System–**Nekemte, Assosa and Guba are expected to develop into city-regions in the western part of the country. Notwithstanding the relatively dispersed location of these city-regions, they are expected to cluster around Nekemte as an urban sub-system. This region is endowed with immense agricultural and mineral potential and hence, has a lot of potential for agro-processing and export of mineral products. Guba, which is

an emerging urban settlement located at a short distance from the Ethiopian Renaissance Dam is expected to develop into an important energy transmission, recreational and research centre.

- **South Western Regional Urban Sub-System** – Jimma, Gambela, Metu, Bonga, Mizan-Tepi towns are expected to develop into city-regions in the south western part of Ethiopia. These city- regions are expected to cluster around Jimma, and the overall region has a lot of potential for tourism, cash crop and mining development as well as to serve as an important research centre.

- **Eastern Regional Urban Sub-System** - Dire Dawa, Jijiga and Harar cities are the dominant urban centres in the eastern part of Ethiopia, which are expected to develop into city-regions. Dire Dawa city is an important manufacturing and commercial centre, Jijiga is the administrative capital of Somali Region and Harar is an important historical city with immense potential for tourism development. This area is an important export– import corridor, and these city-regions are expected to cluster around Dire Dawa that will have important road and railway transport connection with the Port of Djibouti.

- **Southern Regional Urban Sub-System** –Hawassa, Wolayta Sodo and Arbaminch towns will be the principal city-regions in the southern part of Ethiopia. This region has huge agricultural and water resource potential. Hawassa is the administrative capital of SNNRP and currently serves as the major service, market and administrative centre for the areas that will fall under the envisaged city-regions. The city regions will be clustered around Hawassa, which will develop into a major tourist destination and marketing centre for agricultural products.

- **South-Eastern Regional Urban Sub-System -** This area, which is characterized by low level of urbanization and sparse population, comprises Gode, Harqele and Kebridahar towns. Gode is envisaged to develop into the major urban centre in this region, which has immense potential for livestock and related development. The other towns are expected to cluster around Gode.

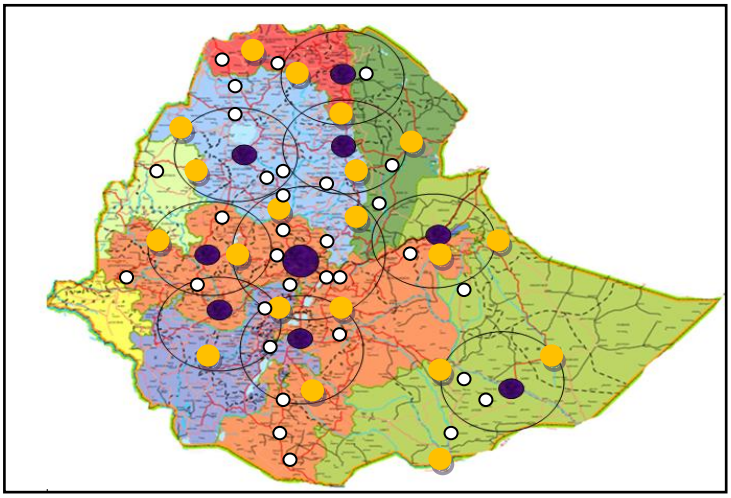


Figure 2 Framework for the National Urban System

Transforming subsistence economic base to marketable economic activity is the road map to attain the GTP goals. These can be achieved by allocating suitable and adequate spaces for each activity and reinforcing the integration of multiple productive activities. In reality, this is not an easy task as it requires adopting a new development approach that can bring about well organized and structured urban system. This requires clearly well defined roles and functions of urban centres in terms of service provision and economic role, and a more detailed hierarchical organization of the national urban system. Creating functional integration among nearby urban centres as well as city-specific specialization may require rigorous discourse, political commitment and working for mutual transformations. Meanwhile, protecting valuable ecosystems and biodiversity spots should also serve as a key guiding principle for development options contemplated to promote urbanization.

Densely populated (large) urban centres require large volumes of rural products for consumption and inputs for industrial production. Likewise, rural communities need industrial products for consumption and agricultural inputs. Urban centres of all sizes play the role of bringing various types of products, to various categories of consumers, thereby bridging the gap between demand and supply. This would entail not only linkages between rural and urban areas but also interactions between urban centres of various sizes or categories, depending upon differences in their functions as well as the availability of transport network. Small towns could facilitate the supply of agricultural products to urban communities and industrial products from larger urban centres. In the case of the larger urban centres, the range of services to be provided increases as they are expected to offer high order services and serve a larger number of people. This functional arrangement (as stated by the 'Central Place Theory') often results in a hierarchical system of urban centres. The number and sizes of urban centres that constitute an urban sub-system could vary. And in our case, almost all of the proposed

urban sub- systems are characterized by the presence of numerous small towns and much fewer relatively larger cities and towns.

1.3 The New Planning Approach

1.3.1 The Planning Framework

By taking the proposed national urban system into consideration, the Structure Plan of Addis Ababa gives emphasises the integrated development of the city and its immediate environment. For instance, the many-sided linkage of Addis Ababa and nearby towns clustered around it has grown stronger with the development of transport infrastructure, including public transport services. Many residents of these towns work or shop for certain types of goods in the capital, and frequently visit Addis Ababa for entertainment and other services. Benefiting from the close proximity of the large market Addis Ababa provides and agglomeration economies, and better access to infrastructure and services, the rate of growth of investment and economic activities inside these towns has accelerated manifold during the last decade. Adjacent settlements have also mushroomed to neighbourhoods on the periphery of Addis Ababa. Meanwhile, because of population growth, increased investment and construction activities in Addis Ababa, the capital is putting much pressure on the natural resources of the hinterland, including ground water and river pollution. In addition to the core, the plan is thus organized in such a way that its positive impacts also benefit areas within its immediate economic and social reach, and the potential negative externalities arising from its implementation do not constrain the surrounding environment.

The plan was designed on the basis that coordinating efforts at least with nearby towns will produce more results than individual attempts, and development benefits will be more equitably distributed among the core and the surrounding areas. Therefore, while integrating physical infrastructure investment, land development, housing and transport with the surrounding will ensure ***synergistic development***, the main principle of the plan is creating a ***competitive city*** and emphasizes building a strong economy in the region that is based on the international role of Addis Ababa.

1.3.2 The Planning Organization

1.3.3 The Legal Framework

The Addis Ababa Structure Plan is prepared to guide the development of the city for the coming ten years (2013-2023) cognizant of the fact that the city needs to achieve economic, social, cultural and environmental objectives stipulated by Articles 89-92 of the FDRE Constitution, and the right of the residents to "improved living standards and to sustainable development" by indicating major "development activities ... to enhance the capacity of citizens for development and to meet their basic needs" (FDRE constitution art 43(1) and (4)). The plan recognizes and appreciates the responsibility of the Addis Ababa City Government as an organ of state to abide by and promote the national policy principles and objectives as stipulated under art 85(1) of the FDRE constitution, and is in compliance with national policy principles and objectives as enunciated by the FDRE Constitution and other Federal laws, including the Revised Addis Ababa City Government Charter Proclamation No. 361/2003 and subsidiary legislations.

The Addis Ababa City Government Plan Revision Project Office was established in accordance with Regulation No. 43/2011 to prepare and submit for adoption an urban plan that guides and effectuates the overall development of the city and ensures the participation and the common benefit of the people thereof. To this end, the Project Office is further mandated to revise the existing plans of the city with a view of contextualizing and making the plans responsive to the current international, national and city level social, political and economic changes by applying the best methods, precepts and principles of modern urban planning within the framework of the provisions of the Federal Urban Planning Proclamation No. 574/2008.

The Structure Plan is the most important governing a citywide plan over all other urban plans. Nonetheless, it is a subordinate to a regional plan, which has to be developed and implemented based on the national urban scheme (Art. 7 of the Urban Planning Proclamation no.574/20. 08) This Federal Proclamation defines a structural plan as "a legally binding plan along with its explanatory texts formulated and drawn at the level of an entire urban boundary that set out the basic requirements regarding physical development and the fulfilment of which could produce a coherent urban development in social, economic and spatial spheres". This legal definition of the Federal Proclamation supersedes the definition given by Article 2(6) of the Proclamation to provide for the preparation, issuance and implementation of the Addis Ababa City Master Plan Proclamation No. 17/2004 and issues the operational meaning, component parts and overall goal of a structural plan.

Structure plan prescribes, among others, the land uses for major economic, social, cultural and environmental activities and services in its operational span of life. Such a plan envisages mandatory and optional regulations for permitted and prohibited land uses in the urban area. Key activities and services that a structural plan addresses are given under Art. 9(2) of the

Federal Proclamation No. 574/2008. And they include- the magnitude and direction of growth of the urban area; principal land use classes; housing development; the layout and organization of major physical and social infrastructure; urban redevelopment intervention areas; environmental aspects; and industry zone.

Accordingly, the Structure Plan of Addis Ababa (2013-2023) applies the basic principles of urban planning as adopted by Article 5 of proclamation no. 574/2008. These include:

- Conformity with the hierarchy of plans;
- Sharing the national vision and standard as well as capable of being implemented;
- Consideration of inter-urban and urban-rural linkages;
- Delineation of spatial frame for urban centres in view of efficient 'land utilization;
- Ensuring the satisfaction of the needs of the society through public participation, transparency and accountability;
- Promotion of balanced and mixed population distribution;
- Safeguarding the environment and the urban community;
- Preservation and restoration of historical and cultural heritages; and
- Balancing public and private interests in order to ensure sustainable development.

One of the changes promulgated by the Federal Planning Proclamation no. 574/2008 limits the operational term of structure plan to ten years. This has made it imperative for the city to review and replace the plan that was adopted by Regulations No. 16/2004 on May 12, 2004 (Ginbot 4, 1996 E.C). This task required the preparation of the 10th development plan or this Structure Plan of Addis Ababa. In accordance with this, the task of developing legal framework therefore included drafting the appropriate legislations necessary to promulgate the Structure Plan of Addis Ababa, and for the establishment of institutions necessary for the implementation of the structure plan as it needs to "have an implementation scheme, which comprises the institutional setup, resource and legal framework" to become operational (Proclamation No. 574/2008).

Article 15 of the Addis Ababa Master Plan Proclamation No.17/2004 and article 14(1(c)) of the revised Addis Ababa City Government charter proclamation No. 361/2003 give power to the City Council to enact the Structure Plan proclamation. Accordingly, the Structure Plan, enacted by proclamation no.49/2017, was promulgated by the Addis Ababa City Council on July 12th, 2017 (Hamle 5, 2009 E.C). The proclamation enacting the Structure Plan and its accompanying explanatory text apply to any activity on a landed property and measure of development on immovable property undertaken or to be undertaken by any person on any plot of land located within the legitimate administrative boundary of the Addis Ababa City Government recognized

as per Article 5 of the Revised Addis Ababa City Government Charter Proclamation No. 361/2003.

The Structure Plan will be implemented by means of the appropriate institutional setup. The enactment of legislations and the institutionalization of its practical operations presupposes the generation and effective deployment of human and financial resources as indicated in this document. Legislations for the institutional setup for the implementation of the Structure Plan include:

- The Addis Ababa City Government Plan Commission Establishment Proclamation that was promulgated by the City Council on Dec. 10, 2016;
- The Addis Ababa City Urban Centers and Corridors Development Corporation Establishment Proclamation that was promulgated by the City Council on July 12, 2017; and
- The Addis Ababa City Government Construction Development Integration, Permit and Control Authority Establishment Proclamation that was promulgated by the City Council on July 12, 2017.

The draft of the Addis Ababa City Government River Basin and Green Areas Development Agency Establishment Proclamation is also under the consideration of the City Council for enactment.

The Plan Commission assumes the powers and functions of the Addis Ababa Plan Institute and the Project Office, including human resources and related matters with regards to the preparation and other regulatory aspects of medium term and long term urban spatial plans. This is clearly indicated by Proclamation No. 48/2016 as well as the responsibilities pertaining to social and economic development plans that are to be transferred from the Finance and Economic Development Bureau of the Addis Ababa City Government to the Plan Commission. Nonetheless, the transfer of the rights and obligations of the outgoing City Government entities will take place by a transitional hand over arrangement approved by the Addis Ababa City mayor as per the provision of this Proclamation. Other organs of the City Government will also have roles and responsibilities to implement the Structural Plan and other urban plans within the dictates of the Structure Plan enacted as a legally binding plan just as stipulated by the Federal Urban Planning Proclamation.

1.4 Governance and Finance

1.4.1 Governance

Despite the fact that a lot has been accomplished since 2003, management of the city and governance need much improvement. Although Addis Ababa Green Initiative and Merkato Millennium Development partnerships (MMDP) are among the few working relationships with societal and private actors worth mentioning, interactions and trust with non-government actors including with private businesses and civil society is constrained. Sustaining government trust by citizens not only encourages civil participation and building social capital, but also creates opportunities for collective action and feedback. On the other hand, the absence of social capital in the form of trust, social tolerance and grassroots civil society impedes the process of building a mature democratic society. These are crucial elements that make the social fabric cohesive and converge for the realization of mutually transforming development vision/project.

Efficiency, effectiveness and sustainability in the provision of services and equitable access are becoming major challenges in the governance of cities in developing countries. Even though there have been improvements in some areas, the state of service delivery in Addis Ababa is unsatisfactory. The serious dearth of qualified managerial and technical manpower has resulted in deteriorating professionalism in service delivery, and policy making and implementation. As a result, there is lack of integrated and sustainable provision of public infrastructure and services. This is perpetuated also by lack of 'downward accountability'. Lack of efficient and reliable transport service, water and electricity, and waste management; adequate and affordable housing; and public spaces and parks are pressing challenges that need concerted efforts for redress. Diseconomies due to lack of coordination among public service providers and absence of strategic infrastructure investment plan have rendered interventions inadequate.

In the coming plan period, the city needs to be prepared to accommodate and serve a larger population. Moreover, in view of transforming its global, continental, regional and domestic roles and its competitiveness, radically improving both the quantity and quality of public infrastructure and services is required. Rising income inequality aggravated by poverty and unemployment is still a big concern. Facilitating access to infrastructure services and public resources for vulnerable groups including the poor and persons with disability, not only in its physical sense but also in terms of affordability is crucial. The City Government's commitment and efforts towards poverty reduction and employment creation need to continue

strengthened. Building trust and relational ties with other actors will go a long way in forming viable partnerships towards this end.

The following summarizes governance, resource and management related challenges with regards to the public sector that are inhibiting the performance of the Addis Ababa City Government.

Separation of government branches: Lack of decision making structures and mandates that separate the corporate and political body of the City Government; and lack of check and balances for oversight and holding the executive branch accountable.

Coordination among different levels of government: Lack of coordination between Federal entities and the City Government; and lack of coordination among the centre, sub-city and Woreda level administrations.

Coordination among different sectors: Lack of coordination between (sectoral and spatial) planning entities; lack of coordination between planning and implementing entities; and lack of coordination among infrastructure/utility agencies.

Institutional memory and efficiency: Lack of institutional memory through high turnover of managerial manpower and professionals; shortage of trained manpower; and inefficiency in service delivery.

Stakeholder involvement: Lack of sustainable public participation with regards to project planning and implementation; lack of trust and relational ties with stakeholders, hence loss of potential development partners.

Conducive environment and contract administration: Lack of capacities in contract administration and attractive business environment for engaging in various forms of partnership arrangement with the private sector in service delivery.

Resource base: Lack of appropriate tax policy, structure, collection and administration; and lack of modern and integrated tax information system.

1.4.2 Urban Governance Options and Models

Urban management is the coordinated development and execution of comprehensive urban strategies with the participation and involvement of relevant urban actors in order to identify, create and exploit potentials for the sustainable development of the city (Brameza, 1996:34). Urban governance is the exercise of political, economic and administrative authority in the management of an urban area's affairs at all levels and comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences (UNDP, 1997).

Urban Governance Options

Welfare governance is a mode of governance that emerges in a political and economic contexts where the private sector offers limited opportunities for low paying low skill jobs. It is adapted in cities with very limited viability and growth in the local economy, becoming dependent on financial support funnelled directly from the nation state. It focuses on pursuing welfare state programs targeted at citizens in economic distress and is mostly featured in the urban politics of declining industrial cities in the developed world. Its key strategy is securing finance from the state for the political objective of redistribution. It is the most politicized mode of governance with strong sentiments for local socialism' or politically leftist.

Corporatist governance mode essentially exhibits a significant and continuous involvement of civil society organizations in urban politics and public service delivery. It rests on a mutual dependence between the city and civil society where both parties have strong incentives to engage with the other while each maintains a degree of independence in the relationship. In its most advanced form, is typical of the small, industrial, advanced democracies of Western Europe. Amsterdam is a good example. The city finances most of the services delivered and does not play any regulatory role. Its key role is mediating conflicts between different social constituencies and mobilizing resources from the higher echelon of government. Its political objective is distribution with the main evaluative criteria being the participation of the civil society. It is an alternative which suffers neither from public sector rigidities nor the narrow (private sector) focus on profit.

Pro-growth governance option promotes economic growth and features the restructuring of connected public private actions to progressively boost the local economy. It has economic growth as its overarching objective and everyone is assumed to benefit directly or indirectly. Its key strategy is public-private fusion of financial resources for projects aimed at boosting the local economy. However, it might raise political concern for those constituencies that are not

part of the pro-growth coalition. In addition, because of its unilateral focus a on economic growth, it may lead to the relegation of environmental and social development. The city's regulatory role is limited to regulating local market competition by defining basic rules of the game with minimum intervention in the corporate sector. The political objective pro-growth governance is growth. Working in partnership with the businesses is considered as the main driving force. It has been adopted in Japan in the 1950s and 1960s.

Managerial governance option focuses on the management of service delivery by professional managers or none–elected officials. Under this model, politicians define the long term political, economic and social objectives while leaving the extensive discretion of the management of services to professional managers. It focuses on regulating the conditions under which private service producers compete with public businesses in bidding for public contracts. Even though service production is oriented more by 'choice' than political decision, the city plays a coordinating and monitoring role to ensure that services are actually delivered according to the political decisions specifying quality and quantity. Its key element is the incorporation of private sector organizations. Towards this end, the city develops alternative strategies for service production such as contracting out, privatization and public private partnerships. The city generates financial resources for urban services from the local tax base. The relaxation of political control over city administration and service provision raises questions regarding democratic steering, accountability and transparency (Pierre, 2011). The political objectives and key evaluative criteria of the managerial governance is efficiency with professionals as the focal driving focal force.

Organizational Models for Urban Governance

Organizational models of governance are related with the mode of governance in place. Are city administrations organized on the principles of efficiency and effectiveness as corporate bodies, or on the principles of equity for welfare urban politics? The former emphasizes strong executive (manager) option, while the later opts for a stronger council and/or mayor option.

In a presidential system and the ***strong mayor model,*** the mayor is directly elected by the people and is the chief executive and administrative officer of the city. The mayor also represents the city. In South Africa, for instance, the Mayor is powerful and combines political as well as administrative leadership. The mayor is assisted by a Mayoral Committee, and the council is a scrutinizing body without the power to appoint or fire the Mayor. If the Mayor does not agree with the decisions of the council, he/she has the power to take the issue to a public referendum.

In a parliamentarian system, the mayor is elected by the council in which case, the council retains legislative power. The mayor appoints an officer to assist him in the administration of departments under a strong mayor-manager or Mayor-Chief Administrative officer type of municipal governance. The manager/Chief Administrative officer heads the different Departments. In the British system, the mayor is assisted by a town clerk whose tenure is not tied with election cycles, thereby maintaining the institutional memory. However, with much power vested in the mayor, the position may be susceptible to abuse.

In a ***strong council model***, the council is not only the legislative and regulatory body but also is the chief executive organ through committees involving elected and non-elected resource persons. Council appoints committees for general and specific purposes. Members can be persons other than council members; non-council members shall not exceed one-third of the committee members. The principal task of committees is to oversee the operations of individual departments. Departments headed by non-elected fulltime officers are responsible for managing the operations of the council. In a second variant, ***council-executive committee*** model, the council sets up an executive committee from among its ranks to provide leadership. The executive committee then directs, coordinates and supervises the activities of the executive departments and offices. A member of the executive committee can lead a sector. More coordination is observed than council-committee model. This had been practiced in Ethiopian cities before 2003/04.

In the ***commission-Mayor model***, commissioners, each to lead a certain city service, are elected directly by the people. The commission is the policy making body. The mayor, often elected by the commission, serves as the chair of the commission and as a chief executive officer of the city. Shortcoming of this option is that the commission is not sufficiently representative and often politics blurs management; and municipality performance has not had a good record.

In contrast, the option from the perspective viewing cities as full corporate bodies emphasizes on ***council-Manager model.*** It is composed of a strong manager and representational mayor. The elected council is the deliberative, reviewing, annulling and monitoring body. The elected council retains all legislative power and is responsible for policy making as well as administration, but delegates the executive power to a professional city manager it appoints who is accountable to the council. Council appoints a city manager on the basis of executive and administrative qualifications, and devolves administrative authority to the manager. The mayor (a non-executive leader) serves as a bridge between the council and the manager. The drawback of this option is that it disallows political interference in administrative functions and therefore may lead to bureaucratic and technocratic insensitiveness, and a stifling of the political process. This option is most popular in American cities.

1.4.3 Proposal

In recognition their role as engines of economic growth, a world-wide phenomenon has emerged since the early 1990 to institutionally and spatially respond to the increasing mandates and responsibilities of urban centres. This required municipal governments to critically probe the institutional and structural adequacy and set of competencies of the traditional alternative organizational design models. Some still apply the strong mayor option that provides the city mayor and his/her cabinet autonomous executive and administrative power. The strong council option, which bestows the legislative and executive powers of government entirely on the city council is still being exercised in some parts of the world. Similarly, the council-executive committee model where the executive committee members are drawn from the council, and the mayor-commission option where directly elected commissions are empowered to lead and manage the different services are still in use.

In this regard, Addis Ababa City Administration is not an exception. Subsequent to the recommendation of Addis Ababa Development and Improvement Project Office (AADIPO) and endorsement of the Office of Revision of the Addis Ababa Master Plan (ORAAMP), the City Government adopted a strong council-strong mayor-city manager option. The council was to assume the roles of the legislative branch and overall oversight, while the mayor (including the cabinet, the cabinet secretariat and/or a mayoral committee) were to assume all executive responsibilities. In addition, the city manger assumed the corporate duties and responsibilities while being dually accountable to the Mayor and the Council. This organizational Design model was believed to provide the City Government both the political clout and the professional leadership needed for an efficient, effective, equitable and sustainable management of urban affairs in general and urban services delivery in particular.

However, due to gross structural modifications undertaken by successive city administrations, many decentralized units were made directly accountable to the City Mayor. Contrary to the initial proposition, the City Manager position was made political instead of professional. Overtime, many of its mandated corporate duties and responsibilities were transferred to the political aisle while its managerial roles were diminished. In addition, the different aspects of urban governance structures (the corporatist, the pro-growth, the welfare and managerial models) were improperly applied resulting in an all round deficit of urban good governance. Concomitantly, these interventions gave rise to unintended organizational dysfunction in the work units and activities. These has demanded a city-wide overhaul of work processes across the different spheres of the City Government multiple times.

Hence, the Structure Plan endorses the previous proposal and the strict application of the nuances of the suggested ***strong council-strong mayor-city manager*** organizational design model. Intensively decentralizing and democratizing its regulatory, facilitative, developmental and managerial function to the lower spheres of the City Government is also required. The goal is to ensure the implementation of the Addis Ababa Structure Plan by creating an appropriate governance and management system, and to develop appropriate strategies to broaden the revenue base of the City Government to cover development costs.

Consequently,

Separation of mandates and responsibilities :

- Separate the political body mandates (such as Policy making, legislation, setting developmental objectives and strategies) from corporate mandates (such as service delivery, asset management, corporate finance management, etc.) for urban services operating on the basis of cost recovery.
- Establish clear demarcation of the powers and duties of federal government entities and the corresponding City Government offices in charge of leading and managing same sectors.

Coordination among sectors:

- Define appropriate institutional relationships among policy making, planning, implementation, and monitoring and evaluation branches of the City Government.
- Coordinate planning and implementation in federal government entities (esp. utility companies) with that of the relevant City Government agencies/departments.
- Coordinate the planning and implementation at different levels of the City Government (centre, sub-city and Woreda).

Institutional memory and efficiency :

- Design and implement a highly incentivized staff retention scheme.
- Put in place an effective succession plan alongside the establishment of a sustainable coaching and mentoring program;
- Introduce a competency based human resources management system that entices employees to remain loyal to their organizational mission.

Strategic institutions and capacity building:

- Create strategic institutions to ensure the integrated implementation of the Addis Ababa Structure Plan (Plan Commission; Development Coordination and Construction

Permit Authority; City Centres and Corridors Development Corporation; and Green Development Agency.).

- Institutionalize continuous capacity building.

Stakeholder involvement:

- Create systems and forums for public participation in the decision making process of 'key' issues, and for stakeholder involvement in the planning and monitoring of development projects.

With regards to finance, the following section describes the existing situation pertaining to city's revenue and expenditure, including revenue forecast and expenditure strategy in view of the mandates and responsibilities of the City Government.

1.4.4 Finance

1.4.4.1 Taxes and Revenue

Amount

The revenue collected by the City Government in 2009 was Birr 4,291,750. Tax collection amounted to Birr 5.08 Billion, Birr 5.97 Billion, Birr 8.49 Billion, Birr 11.34 Billion and 16.69 Billion in 2010, 2011, 2012, 2013 and 2014, respectively. The tax effort in 2010 and 2011 increased by about 18%, by 42% in 2012, by 34% in 2013, and by 47% in 2014.

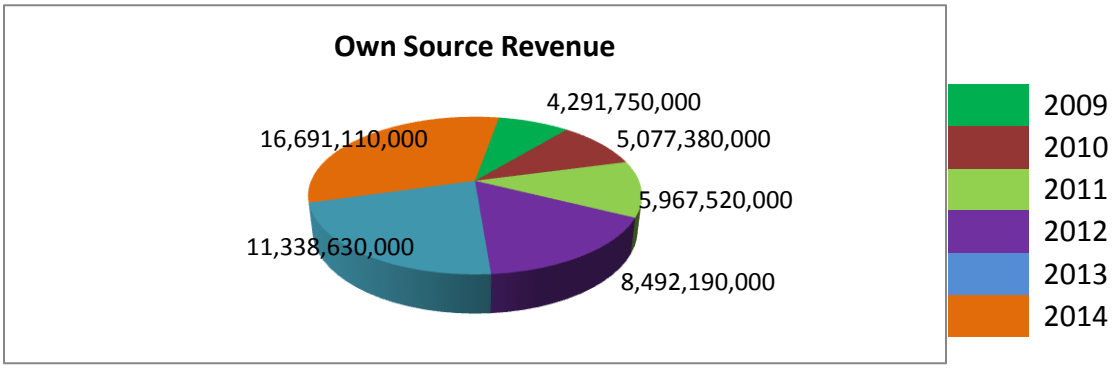


Figure 3 Revenue collected by the Addis Ababa City Government (2009-2014)

Tax Composition

The largest share of the City Government's revenue comes from taxes, and the city relies almost 98% on own source revenue. A major part of the revenue comes from the service and industrial sectors. The share of tax collected from direct incomes is about 54%, while the share from consumption taxes is nearly 26%. When direct income taxes exceeds taxes collected from consumption, it generally hinders trade and business expansion. Nonetheless, both taxes covered more than 78% of the total revenue in 2014.

The level of tax collected in 2012 was 12% of the Gross city product (GCP). In 2013, tax to GCP ratio reached 16.4%. Currently, the level of tax has reached more than 20% of GCP. In a city where the informal sector accounts for more than 60-70% of the economy, a target between 20-25% is satisfactory. This can be immensely improved to reach the optimum level of 25% with certain improvement in the overall tax system. However, going beyond this optimum level will have a deterrent effect on the economy.

Table 1 Revenue type (2009-2014)

Revenue Type	2009	2010	2011	2012	2013	2014
Income Tax	1,582.92	2,339.88	2,473.33	3,929.32	8,797.15	9,030.80
Consumption Tax	651.43	1,108.24	1,493.82	2,139.62	5,357.72	4,266.74
Non-Tax Revenue	2,669.65	1,336.48	2,550.21	4,541.79	5,317.78	3,399.18
Capital Revenue	932.08	-	1.74	-	0.00	0.78
Municipality Revenue	600.30	637.38	932.13	1,242.90	1,143.55	1,182.16
Own source Revenue	4,291.75	5,077.38	5,967.52	8,492.19	11,338.63	16,691.11
Grant	27.03	39.25	41.63	38.04	46.37	43.82
Assistance	21.32	80.44	63.39	162.18	49.33	152.66
Loan	-	4.56	68.37	1,566.14	353.18	154.75
External Source	48.35	124.5	173.39	1766.36	448.88	351.23
Grand Total	4340.10	5201.88	6140.91	10258.55	11787.51	17042.34

Source:- Addis Ababa Finance and Economic Development Bureau.

Tax Buoyancy and Elasticity

Tax is buoyant if tax revenue increases with a growth in the tax base (from households, private firms, the government, and external trade) without an expansion of the tax coverage or an upward revision of the tax rate. In other words, tax buoyancy refers to the capacity of the tax system (policy, law, structure, rate and administration) to maintain a satisfactorily high level of a buoyant economy. On the other hand, the yield of a tax may also go up on account of expansion of its coverage or a revision of its rate. Such characteristics is known as tax elasticity.

Evaluation of the Addis Ababa Tax Administration (2009-2016) indicates that tax system overhaul and improvement of the tax administration is required as soon as possible. This conclusion was reached by taking into consideration the following issues.

- a GCP Growth rate of 10.5%, tax buoyancy at 3.87 and tax elasticity at 1.21;
- tax revenue growth rate at 12.71% (without taking any improvement measure in tax administration);
- If measures had been taken to improve tax system during 2009-2014, tax buoyancy would have reached 57.75%, and the net effect would have been 45.04% (57.75-12.71).

Table 2 Tax buoyancy and elasticity (2009-2014)

Tax year	**Tax Condition 2009 to 2014**		
Initial year 2001	**Tax Buoyancy (Coefficient)**	**Tax Elasticity (Coefficient)**	**GDP Deflator**
2001	2.0	1.04	1.22
2002			1.29
Initial year 2003	**Tax Buoyancy**	**Tax Elasticity**	**GDP Deflator**
2003	4.1	1.28	1.37
2004			1.42
Initial year 2005	**Tax Buoyancy**	**Tax Elasticity**	**GDP Deflator**
2005	5.5	1.32	1.47
2006			1.5

Additional Revenue

Table 3 Forecasted revenue from additional sources (2009-2014)

Year	**Motor Vehicle Tax**	**Hotel Room Tax**	**Cigarette Tax**	**Real Property Tax**		**Municipality Revenue**	**Non-Tax Revenue**	**Total**
				Land	**Building**			
2018	376.50	44.85	95.75	46.97	32.27	2 109.00	2 300.18	**5,005.52**
2019	18.15	49.34	105.33	49.26	33.47	2 252.80	2 475.27	**4,983.62**
2020	19.97	54.27	115.86	51.56	34.67	2 396.60	2 614.37	**5,287.3**
2021	21.96	59.7	127.44	53.85	35.86	2 540.40	2 771.46	**5,580.81**
2022	24.16	65.66	140.19	56.14	37.06	2 684.20	2 928.55	**5,610.67**
2023	26.57	72.23	154.21	58.43	38.26	2 828.00	3 085.64	**5,935.96**
2024	29.23	79.45	169.63	60.73	39.46	2 971.80	3 242.73	**6,263.34**
2025	32.15	87.4	186.59	63.02	40.65	3 115.60	3 399.82	**6,925.23**

Revenue Forecast

The current practice in tax administration comprises short-term forecasting and tax elasticity method by taking into account direct income and consumption taxes. The approach is too general and top-down. Concerning property taxes, it is still at a rudimentary level since there is no valuation process, procedure manuals and use of information technology for the assessment of land as well as roof (building) taxes. This analysis deployed the bottom-up approach (detailed analysis of each tax assignment under all tax components) going from particulars to the general, mass appraisal (regarding property taxes), tax elasticity and trend projection analysis to forecast tax revenues for the period 2016-2025 based on the estimated figures of 2015. Moreover, this tax analysis and revenue forecasting includes additional tax assignments (taxes to be levied on motor vehicles, hotel rooms, cigarette, real property), municipality revenue and non-tax revenues. Forecasts on economic and employment growth made by the relevant government office, income from employment, personal income, market value of real property and income from property, number of tourists and income generated from same, and the above mentioned new sources are all taken into consideration in making the revenue forecast. Accordingly, the revenue forecasting table for the period 2016-2025 is displayed hereunder in Table 4.

Resource base: The following are proposed with respect to taxes:-

- Undertake periodic tax analysis and revenue forecasting techniques diligently.
- Recruit and develop competent manpower and equip the system with agile organizational structure.
- Enhance the revenue generation capacity of the City Government, and diversify and expand the revenue base and municipal service charge .
- Provide certain municipal services on a cost recovery basis .
- Improve the property taxation system.
- In addition to the city council, involve other relevant federal government agencies, associations and political parties in the planning, monitoring and evaluation of annual financial or Fiscal plan .
- Install/introduce a modern tax forecasting model, methods and techniques and assign competent professionals.
- Include fixed (e.g. furniture and equipment) and movable assets (e.g. vehicles) into the list of taxable properties taxes.
- Negotiate with non-profit organizations which are exempted from paying property tax to voluntarily agree to pay property taxes.

Table 4 Forecasted revenue (2016-2025)

Type of Tax	2014 (Collected)	2015 (Estimate)	Year[1]									
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Without improvement in the tax system/administration												
1.Income Tax	8311.73	11404.19	12098.56	13579.1	14871.17	16194.15	17551.25	18946.1	20382.62	21865.21	23296.68	24765.0
2.Consumption Tax	4236.14	6148.65	6881.84	7754.71	8286.82	8874.77	9524.47	10242.4	11035.7	11912.2	12696.4	13547.2
Sub-total	12547.87	17552.84	18980.4	21333.81	23157.99	25068.92	27075.72	29188.5	31418.32	33777.41	35993.08	38312.2
3.Property Tax												
Roof/Building	26.04	38.94	35.94	39.46	42.37	45.59	48.80	52.02	55.23	58.45	61.66	64.88
Land	35.62	22.12	33.91	35.74	37.58	39.41	41.25	43.08	44.91	46.75	48.58	50.42
Sub-total	61.66	61.06	69.85	75.20	79.95	85.00	90.05	95.10	100.14	105.20	110.24	115.30
4.Non-Tax Revenue	1,086.11	1,319.32	1,588.80	1,714.47	1,840.15	1,965.82	2,091.49	2,217.17	2,342.84	2,468.51	2,594.19	2,719.86
5. Municipality Tax	1,182.16	1,240.34	1,457.12	1,572.16	1,687.20	1,802.24	1,917.28	2,032.32	2,147.36	2,262.40	2,377.44	2,492.48
6. Capital Tax	0.12	25.44	25.77	25.86	25.94	26.02	26.10	26.18	26.27	26.35	26.43	26.51
7. Other Capital Revenue	8.97	9.13	12.70	13.64	14.57	15.50	16.43	17.36	18.30	19.23	20.16	21.09
Sub-total	2,277.36	2,594.23	3,084.39	3,326.13	3,567.86	3,809.58	4,051.30	4,293.03	4,534.77	4,776.49	5,018.22	5,259.94
8.Stamp Duty	30.60	32.04	47.83	45.21	42.58	39.96	37.33	34.71	32.09	29.46	26.84	24.21
9.Witholding Tax on imports	707.22	747.98	777.94	881.79	1,015.61	1,149.42	1,283.23	1,417.05	1,550.86	1,684.68	1,818.49	1,952.30
10.Others	11.71	12.96	13.78	15.33	16.87	18.42	19.97	21.51	23.06	24.60	26.15	27.70

[1] The year 2014 represents EFY starting July 8, 2005 and ending July 7, 2006. All consecutive years indicated in G.C represent consecutive EFYs.

Sub-total	749.53	792.98	839.55	942.33	1075.06	1207.80	1340.53	4909.56	1606.01	1738.74	1871.48	2004.21
11. Grant	39.99	43.82	49.17	51.47	53.76	56.06	58.35	60.65	62.94	65.24	67.53	69.82
12. Borrowings	154.75	328.82	478.74	516.22	553.70	591.18	628.66	666.14	703.62	741.10	778.58	816.06
13. Assistance	152.66	184.64	190.61	212.77	234.92	257.08	279.23	301.39	323.54	345.70	367.85	390.01
Sub-total	347.40	557.28	718.52	780.46	842.38	904.32	966.24	1028.18	1090.10	1152.04	1213.96	1275.89
Total	15,983.82	21,558.39	23,692.71	26,457.93	28,723.24	31,075.62	33,523.84	39,514.37	38,749.34	41,549.88	44,206.98	46,967.54
With improvement in the tax system/administration												
Roof/Building	------	------	------	------	15.39	17.58	19.76	21.94	24.13	26.29	28.50	30.68
Land	------	------	------	------	9.39	9.85	10.31	10.77	11.23	11.68	12.15	12.60
Sub-total												
Municipality Revenue	------	------	------	------	2,109.00	2252.80	2396.60	2540.40	2684.20	2828.00	2971.80	3115.60
Non-Tax Revenue	------	------	------	------	2300.18	2475.27	2 614.37	2 771.46	2 928.55	3 085.64	3 242.73	3 399.82
Motor Vehicle Tax	------	------	------	------	16.50	18.15	19.97	21.96	24.16	26.57	29.23	32.15
Hotel Room Tax	------	------	------	------	44.85	49.34	54.27	59.70	65.66	72.23	79.45	87.40
Cigarette Tax	------	------	------	------	95.75	105.33	115.86	127.44	140.19	154.21	169.63	186.59
Sub-total					4543.85	4,876.21	5,173.93	5,491.10	5,809.93	6,130.53	6,453.11	6,777.85
Total					4,568.63	4,903.64	5,204.00	5,523.81	5,845.29	6,168.50	6,493.76	6,821.13
Grand Total					**33,291.87**	**35,979.26**	**38,727.84**	**45,038.18**	**44,594.63**	**47,718.38**	**50,700.74**	**53,788.67**

1.4.4.2 Expenditure and Financing Strategy

Expenditure Strategy

The total estimated expenditure to implement the Structure Plan amounts to Birr 881 billion. The share of the Federal Government is Birr 49 Billon (6%), while the City Government will cove Birr 453 Billion (51%). The remaining Birr 379 Billion (43%) will be covered by private sector investment. The Federal Government's share will finance the construction of major projects such as the construction of an airport, LRT, industrial parks, inter-regional highways, stadium, athletics village, etc.

Table 5 Estimated expenditure and financing strategy to implement the Structure Plan in Millions (a)

	Finance Source						
	Local Tax/Non-Tax	**Community Contribution**	**External Loan & Assist-ance**	**Local Loan**	**Private Sector**	**Total**	**(In %)**
Federal Government	7,550.0		41552.7			49102.7	6
City Government	30,696.8	708.8	49493.8	372,102.2		45001.7	51
Private sector					378,808.4	378808.4	43
Total	38246.8	708.8	91046.5	372,102.2	378,808.4	880912.7	
Share (in %)	**4.34**	**0.08**	**10.34**	**42.24**	**43**		**100**

Land development is the sole responsibility of the City Government. This function is estimated to take up about 25% of the total expenditure. Out of this, 81% will be allocated for the provision of serviced land for housing development and the remaining 19% to prepare land for the development of city centres. Out of the total estimated cost, the share of projects accounts for 75%. And 66% of this goes to housing construction, 13% to protection of the environment, 6% to communication and transport, and 5% to municipal services.

Financing Strategy

The main sources of finance identified for implementing the Structure Plan are domestic revenues generated from taxes and non-taxes, external loan and assistance, and borrowing from local sources. Local borrowing is expected to finance about 82% or Birr 372 billion of the estimated cost and it will be utilized for housing construction, land development, the purchase of city buses, and the construction of market centres and car parking buildings. Local borrowing also includes sale of bonds. The City Government has to borrow Birr 49.5

Billion (11% of the total expenditure) from foreign sources. External loan and assistance are expected to cover partial costs of the construction of houses and industrial parks; and to finance investment projects for the establishment of abattoirs, and potable water, solid waste and sewerage projects.

Table 6 Estimated expenditure and financing strategy to implement the Structure Plan in Millions (b)

Project Type	Sources of Financing					% Share from Total
	Local Tax & Non Tax	Community contribution	External Loan & Assistance	Local borrowing	Total	
1. Land Development						
Housing Development				90,846.50	90,846.50	81.0
Main projects		0.0	0.0	207.00	207.00	0.2
Construction of city centre				21,112.00	21,112.00	18.8
Sub total				112,165.50	112,165.50	24.8
2. Projects						
Housing construction				223,675.2	223,675.2	65.6
MSE institute				1,503.4	1,503.4	0.4
Road Construction	15,237.38		15,237.4		30,474.8	
Communication & Transport projects	500.0	0.0	0.0	18,860.0	19,360.0	5.7
Municipality services	3,209.8	0.0	15167.0	0.0	18,376.7	5.4
Fire and Accident prevention	999.5	0.0	0.0	0.0	999.5	0.3
Abattoir services	0.0	0.0	1,956.6	0.0	1,956.6	0.6
Potable water	2,210.3	0.0	13,210.4	0.0	15,420.6	4.5
Other projects	500	0.0	0.0	500.0	1000.0	0.3
Environmental protection project	10,512.7	612.8	19,089.5	15,398.1	45,613.1	13.4
Tourism Development project	69.0	0.0	0.0	0.0	69.0	0.0
Urban Agriculture	668.0	96.0	0.0	0.0	764.0	0.2
Sub Total	30,696.8	708.8	49,493.8	259,936.7	340,836.2	75
Grand Total	**30,696.8**	**708.8**	**49,493.8**	**372,102.2**	**453,001.7**	
% Share from total Expenditure	**6.8**	**0.2**	**10.9**	**82.1**		

Part II The Structure Plan

It is relevant to differentiate between the three distinct but related concepts of structure plan, city structure and urban growth. The Structure Plan is a ***binding technical, institutional and policy framework*** for guiding the long-term social, economic, environmental and spatial development of the city and its surrounding. The Structure Plan has location-specific standards to guide future planning and implementation, and ordinances to safeguard its implementation. Together with important documents describing contexts and proposals, the Structure Plan clearly indicates the required institutions to lead planning and implementation. City Structure is the collective name given to major determinants of the spatial frame that are essentially the backbone (streets, centres, green and main transport axis) of a city. They are major structuring elements influencing the spatial growth as well as movement of people. History tells us that there are two approaches of urban spatial structure formation. The movement and interaction of people was the major structuring factor of old towns. On the other hand, it is nowadays believed that urban centres themselves are being shaped by planners who guide the form of movement and interaction of people. Facts show that the rebuilding of cities is a continuous process; new urban (economic, social and political) phenomena affect the formation of city structure. Recently, environment has been getting main attention in city building, and the environmental frame is considered as an important city structuring element.

Urban Growth, on the other hand, is an increase in the population living in urban centres or cities. The population increase may not be accompanied by corresponding growths in social, economic, spatial and environmental infrastructure. This has become a huge challenge to politician and planners in developing cities. Land is a limited resource; once the land is built upon on the basis of specific land use zoning, the chances of its being easily converted to another use is slim, or it will take longer or is more costly. How the different functions are organized (the land use) may sometimes be complimentary or contradictory. In the worst case scenario, its cumulative effect is the depletion of natural resource like surface and ground water. The need to increase a city's productivity and hence, its competitiveness, also greatly depends on how its space is organized. This is where the need for land use planning comes. Figuring out and planning for ways to use land for today's need without compromising the needs of future generations is what is planning is all about. Therefore, Land Use Planning is defined as the allocation of land (urban space) to meet the economic and social needs of people while safeguarding resources for future use. It is a spatial policy formulation exercise that designates and regulates the use of land in order to satisfy a community's physical, economic, and social need.

Accordingly, the Addis Ababa City Development Plan (2002-2010) had set major land use principles that had to be strictly adhered to. These were,

- Promotion of ***intensive*** uses of land and space;
- Urban- rural ***harmony***;
- ***Decentralization*** of urban activities;
- Promotion of ***mixed/compatible*** land use;
- ***Integration*** of different components along activity spine/mass transport lines; and
- Increased ***foresight*** and ***practicality*** of plan.

These principles are adapted by the current Structure Plan and will henceforth serve as major land use principles.

1. Land Use

1.1 Existing Land Use

The existing land use of Addis Ababa is analyzed based on the data collected on July 2012. The existing realities (accelerated rate of change and shifting conditions), which were mostly unanticipated by the previous plan, are also considered. The analysis is done separately on each land use and as a whole to identify and indicate in detail the land use changes between 2002 -2012. This is expected to increase the practicality and the anticipatory capacity of the new Structure Plan.

The revised structure plan (City Development Plan 2002-2010) of Addis Ababa had developed a number of tools to implement its land use proposal. Recommendations with regards to the necessary institutional and policy framework, finance and spatial interventions were forwarded. The spatial proposals had different norms and standards to ensure uniformity and implementation. To promote micro and small scale economic activities, the structure plan had allowed mixed use development in large proportion of the city. The share of the proposed mixed residential land use, which is about 48% of the built up area of Addis Ababa, is significantly large as compared to other land uses. The concept promotes working, living and getting different services nearby. This idea of mixing different economic activities within residential areas has created many jobs and somewhat relieved pressure from certain parts of the city that previously had much of economic and other activities. In a city like Addis Ababa where the proportion of street infrastructure and public transport are limited, mixed development is the most efficient solution as it decreases home-to-work trip. However, its negative consequences are also visible. Significant pollution, traffic congestion and etc. have become common features of the city. On the

other hand, very few hazardous and pollutant industries and similar establishments with greater negative implication on the environment had been zoned. Land use change in response to the economic dynamics, regardless of the plan or because of it, has occurred in many parts of the city.

- The land designated for residential area expansion will soon become exhausted in Addis Ababa. This by itself is something that cannot be reversed but that needs to be managed. Experiences in the city show that there has been much conversion of residential use to commercial purposes in some neighbourhoods, mostly along main axes and corridors. This requires additional parking space, street and other infrastructure. Hence, areas for potential mixed use development should be identified beforehand for an appropriate and anticipatory planning.
- Commercial land use includes a number of activities, facilities and interactions. There is no distinct land use specifically assigned to commerce on the City Development Plan (2002-2012). This land use is either captured within centre or mixed land use categories. Trading activities such as retail and wholesale; services such as banking and insurance are some of the activities categorized under 'commerce'. Facilities include open markets, street side commerce including shops and those held inside more complex buildings like malls. Although the 'Gulit' type petty trading still exists, economic growth has allowed for more modern and formal mall-type development of commercial activities. This has had its own implication on the existing plot configuration and neighbourhood character. Though most commercial activities are concentrated in the city centre, there are also loci of them in sub-centres. But the existing situation gives the impression that there is still more of a mono centre arrangement.

The analysis of commercial area is therefore done with centres, corridors and residential areas. According to the land use survey made, commercial areas exhibit two basic characters in the city core and peripheral areas.

- Commerce needs basic infrastructure to flourish, and requires a minimum population threshold to sustain it. Nearly all commercial and related activities are concentrated at the centre of the city. The fringe and intermediate parts of the city lack sufficient commercial facilities.
- The existing trend shows that commercial activities are concentrated along corridors and boulevards. This is the reality even within the centre. It is an indication that commercial activities could easily flourish in more accessible areas. Even though this type of commercial development is good to create vibrant street scene, it also requires parking spaces, which are currently unavailable or limited at best. It also requires adequate connection to mass transport services so that street activity will not be overloaded with vehicle traffic. This does not preclude the need for block-based commercial development. From a different perspective, commerce is the

major employer in the city. This requires smooth movement in commercial areas, among other things. Hence, commercial areas must be structured within the context of or in relation to street and transport.

- With regards to manufacturing industries and storage facilities, the gap between what had been proposed by the City Development Plan (2002-2012) and what has been implemented is significant. Two concepts were promoted in order to accelerate economic development as well as to safeguard the environment. The development plan had recommended relocating large industries to the outskirts, and that small and compatible industries and workshops should be maintained within residential areas provided that they are not pollutant. It is important to point out that the plan did not clearly state the limit or proportion or extent of mixing these industries with residences and other land uses. Nonetheless, the pollution created by even small-scale industries has not been controlled. Large industries have yet to be relocated. How to organize space for the development of manufacturing industries is a big challenge. The demand for large tracts of land, and the pressure on the environment by a random unstructured 'mixity' remain problematic.

- Although the revised plan had given less emphasis to recreational facilities, it had proposed different hierarchies of various recreational facilities including sport fields, galleries, and youth centres. However, the existing spaces and facilities are not sufficient in number to serve the existing population. In addition, the available facilities are not well distributed. They are concentrated in the older parts of the city. Due to poor planning and poor attention given to the proposed norms and standards, these facilities and open spaces are inaccessible, or are not located near residents.

- The green coverage of the city is 37% of the total area of the city. This does not mean the existing green cover has been well protected. The proportion of green areas has decreased and the violation on green spaces was large scale and had unfortunately also been done by the public sector. Such proposals as riverside development were not implemented, new parks were not successfully developed, and urban agriculture is practically none existent.

- Streets are primary structuring elements of cities, and determine movement and circulation. Due to the nature of topography and settlement patterns, radial and irregular street pattern are common. Grid iron street, loop or ring road patterns have been developed subsequently to curb the difficulties of the radial pattern. In the past ten years, Addis Ababa has been developing alternative routes, connecting missing links and doubling major arterial streets. However, the coverage still stands at 17%. Streets should be developed for people and facilitate social and other

activities, and regenerate the local economy. However, its design and every aspect of its implementation so far have given priority for vehicular movement than human interaction. It is dangerous or not convenient to cross streets, pedestrian lanes are neglected, level separate lanes and roundabouts are impossible to traverse on foot. And much needs to be done to increase density along appropriate street junctions. From economic perspective, density, pattern of street, and mass transport service provision should be central to our planning.

1.2 The Concept

The concept is the road map that will lead us to the future. It should define what the city structure would look like and produce a better organized urban space and form to facilitate development. Accordingly, the concept is expected to provide a better insight into the future and guide development, while at the same time addressing current pressing challenges. In other words, the plan will serve as a bridge between the current and future. The overall purpose is therefore to ensure that the plan creates favourable conditions for rapid, significant and integrated development.

1.2.1 Main Pillars

The three general pillars that determine or frame *the concept* are:-

- The change of scale in population size
- The environment
- Government policy: the need for a rapid economic transformation

In view of the vision of reaching middle income category, Ethiopia has embarked upon a growth and transformation path. Massive public financed development projects are underway. Although this by itself is one defining factor for the *concept plan*, the implication of these programs and projects on the city and its environs transcends the physical structure and spatial form of the area.

Infrastructure Development

The government is carrying out large scale infrastructure development in urban as well as rural areas. This is a good opportunity that will facilitate the urbanization and urban development processes. At present, the opening up of new streets and mass transport lines around Addis Ababa that go even beyond the city and its surrounding is enhancing investment and socio economic interaction between Addis Ababa and the surrounding towns.

Mass transit attracts/enables high density development along corridors. In view of the scarcity of land in the capital, inner city redevelopment could strategically focus on

densification along these corridors. In addition, mass transport route development enables to re-structure the city in a polycentric manner. By connecting centres to different parts of the city, it is possible to avoid needless commuting. Through mass transit route development, it is possible to achieve high mobility, increased connectivity and improved urban quality. Moreover, urban redevelopment is key for improving urban quality, allowing for better provision of green open spaces, plazas, squares, and parking space through surgical planning; and to get vacant/open areas for regeneration and to implement decentralized service provision.

Government- led Housing Development/Redevelopment

The population of the city and its surrounding almost doubles every 15 years. However, the corresponding urban services have always lagged far behind the demand. A good example is the existing housing problem especially in Addis Ababa. The direct provision of decent housing by the public sector and the creation of fertile ground for other actors to play the lead role are both necessary. In the past ten years, the government has tried to address the housing issue in the city by providing land for self-help housing and for real-estate developers, and by directly involving in the construction of low-cost housing. Although much has been achieved in terms of the number of the constructed houses and other related outcomes, it has had little effect as compared to the magnitude of the need (see Housing). This government initiative has surpassed expectations but it is still not enough. What is more important at this juncture though is that at least the Addis Ababa City Government cannot go on providing vacant land for housing. It is time to make a shift from focusing only on green field housing development. If housing development uses gray area, as it had for example at Lideta or Arat Killo, it would also serve in regenerating neighbourhoods. If integrated with mass transport route and boulevards, it could go beyond revitalizing communities to serve as an engine of economic growth. It is relevant to point out here that such kind of large scale housing development should not jump here and there looking for less dense or vacant areas. Rather, it should focus on strategically selected corridors and spots for maximum development effect.

MSE Development

For the past ten years, the development of micro and small scale enterprises (MSE) was successfully promoted through mixed use development. As a result, many jobs have been created. In an economy such as ours, the role of MSE development will continue to be crucial for some time to come. This plan therefore takes MSE development, particularly as it pertains to those enterprises engaged in manufacturing and workshop/repair type trades as the third pillar for framing the urban development concept. But two critical issues emerge:

- To what extent should they be mixed?
- What would be their fate when they grow and require additional land to expand?

Some of the old MSEs are found arbitrarily scattered inside neighbourhoods. Those engaged in manufacturing/production type activities have become nuisances in residential areas. Although the orderly arrangement of the newly established (through the MSE Development Program) enterprises has reduced their impact on the peace and quiet of neighbourhoods, lands they jointly occupy are on prime locations and sometimes cover large areas.

We are planning to create not only a vibrant economy, but also an attractive and liveable city. The more these functions are mixed, the possibility that the quality of the city gradually will decline is high. Residential areas may lose their quiet and peace. Hence, How to create a balance is a dilemma. If the new plan systematically connects small scale manufacturing areas with market places, the benefit will be greater. And when these MSEs graduate and grow bigger and stronger, they will require large scale inputs in terms of land and infrastructure. The urban core cannot satisfy these requirements. Therefore, they will have to be moved to expansion areas and industry zones.

1.2.2 Land Use Principles

Intensive Uses on Selected Areas: This concept is the central theme in the new Structure Plan as there is little potential space for horizontal expansion. With the advent of a dedicated mass transport line, the concept of intensive use of land becomes clearer. High density development areas are selected by considering mass transport routes and city centres. High density development areas will also be strategic investment locations (see Strategic Development Framework).

Polycentric Urban Development and Decentralization of Urban Activities: polycentric development promotes functional decentralization, provides better opportunity for effective urban mass transport system and empowers local community. Polycentric urban centre organization is selected to structure Addis Ababa. It encourages self-sufficient (in administration, service provision) smaller local entities like sub-cities.

Mixed Land Use: The economy is weak; many entities are functioning at micro scale. Except for some major uses that require separation, mixed land use will be maintained. However, adjustments need to be made to mitigate the drawbacks associated with such land use. This kind of land use, if unspecified and unregulated, will usually have negative consequences on green areas, open spaces and unassigned plots. Though in general terms mixed land use is adopted as a solution, the land use plan provides sufficient details to prevent unintended outcome. Furthermore, every land within the urban boundary will be assigned a certain function with a specific responsible entity to ensure, oversee and be accountable for its implementation. In addition, unlike the previous development plan, the concept of mixed land use in the new plan is used to increase residential housing stock. Even though the enforcement could not be easily achieved at the Land Use Regulation level, enforcement will be effectively done through the application of Construction Permit Guidelines.

Foresight and ***Practicality:*** The biggest challenge is that urban plans are not respected or strictly adhered to, even by those with authority. This trend should be changed. The binding nature of plans needs to be accepted by all, not only by law but also in faith. Moreover, a plan should be able to anticipate future developments, challenges and opportunities. It needs to be practical in a sense that it needs to be linked to the country's vision and development strategy, it ought to address pertinent and priority problems, and sufficiently linked to implementation capacity including finance.

1.2.3 Future Spatial Growth and Urban Structure

The existing spatial growth pattern has many shortcomings. Although they are distinct municipalities administratively, the towns adjacent to the capital are expanding rapidly, especially along Addis Ababa's five regional outlets. Consequently, there are a number of emerging challenges. For a more efficient functioning of socioeconomic activities and sustainable environment, and for a better arrangement to guide the development of edge settlements, a broader and farsighted strategy and collaboration is required. As per the proposed national urban system, hierarchical functional organization will enable easier management and dissemination of technology and modernization. Having this as a basic governing idea, the spatial development framework is outlined as follows.

Introducing transit oriented urban development (TOD): Edge settlements could be managed using the concept of transit-oriented urban development. The average depth from the main line (transport and highway) shall be small so that every physical development can be located within a walking distance accessible to a mass transport line. In other words, any urban extension should consider transport as an organizing element.

Development of nodes with reasonable distance (NODs): The optimum size of an urban centre is limited in space (vertical or horizontal) and depends on the size of the population it accommodates. Though the concept of optimum size of urban centre is debatable, the following factors may give some indications whether to stop or proceed with further physical expansion and population growth.

- Municipal capacity to deliver service like street network, transport, social services etc.;
- Burden on the environment; and
- Economic viability.

Hence, TOD and NODs will be the main themes for guiding and managing future urbanization. This will enable the coordination of efforts, especially the capital's and of those municipalities at the edge of Addis Ababa. Managing the physical expansion of existing edge settlements (with the framework of managing from expanding further) and

preventing the creation of new ones is mandatory. Both concepts (TOD and NOD) will also provide the basis for spatial organization of Addis Ababa.

Provision of services nearby, by developing appropriate centres and working areas (to minimize commuting), and maintaining the existing urban and rural environment by properly structuring the built environment are major elements of the future urban spatial growth strategy.

Addis Ababa is running out of vacant land in the city proper. There is a growing need of space for residence, services, access, recreation and working area. But as mentioned previously, available resort remains in intensively re-using the built up area (redevelopment). But the "how" and the "where" are major questions that need to be answered. Hence, it requires new plan with new ideas to guide the next decade of urban development by.

- Coordinating mixed use housing development and redevelopment along mass transit lines and business corridors;
- Inserting green spaces, related functions and public spaces to increase the liveability and image of the city;
- Providing production premises to MSEs nearby market areas or accessible routs; and
- Filling the gap in the provision of basic services.

Densification should be done systematically, not only to accommodate the growing population but also to regenerate the urban economy. Priority areas for densification are business corridors and LRT lines. According to the spatial development frame, development axes, centres and business corridors are the most active and dynamic parts where all urban land uses are found integrated. Development efforts on these selected areas could therefore transform urban areas, and will thus be given priority.

As a principle, redevelopment should be able to bring about the following important outcomes in the inner core of Addis Ababa and its environs.

1. **Integrated functions**: Redevelopment should integrate diversified urban functions.
2. **Productive:** Redevelopment should create efficient urban form to increase the productivity of the city-region.
3. **Cohesive**: Redevelopment should maintain the existing social cohesion.
4. **Urban quality**: Redeveloped areas must be planned in such a way as to increase the urban quality.
5. **Optimal:** Redevelopment should optimally use existing infrastructure and make certain that sufficient houses and jobs are produced.

In our context, redevelopment for the sake of improving urban image is considered a luxury. Urban design or planning for aesthetics is only considered well into the redevelopment task, which is normally undertaken with economic ends in mind. Eventually accommodating more inhabitants, new jobs, and services are objectives of redevelopment. Density analyses done on selected areas in the capital indicate that it is possible to add additional inhabitants and open up some areas for basic facilities. The density analysis was done taking the standards of the Structure Plan and other elements that determine density threshold.

Finally, "... Urban structure is the backbone of any urban centre…" It determines settlement patterns and movement of people. The determination of urban structure (or frame) is based on the existing framed structure, topography and envisaged future urban development. The major premises and framing elements behind the Structure Plan of the city are hereunder described.

Topography: topography determines the nature of all urban physical elements. Particularly mountains and rivers shape the overall settlement system and the green frame primarily rests on mountains and rivers. For three critical and important reasons the green frame is considered as a determining structure of the city.

- Protection of the environment from natural and man-made hazards;
- Recreation; and
- Food security.

Street System: Street system is also a major framing element for urban land use. Urban forms, in most cases, are dictated by the pattern of streets. In addition, it determines where and how new development areas are established. Addis Ababa's street system is a combination of radial, loop and grid pattern. Except for developing alternative routes and connecting missing links, the existing pattern will remain as it is and will provide for an important frame for the structure of the city.

Centres: multi-functional activity nodes are binding poles of all land use around which functions structure themselves. The decision to choose polycentric arrangement is the result of careful analysis on the whole urban form, street network, and efficiency of the transport system. The built environment of the capital is horizontally expanded, and there are only limited major streets that in most cases are radiating from one spot. These and the capacity of the transport system to move people and goods adequately have all had significant leverage on the choice of polycentric arrangement and hierarchy of centres. The provision of services and working places close to residential settlements may decrease unnecessary commuting; and if it is done hierarchically, the burden will be even less. Further, the undesirable bulging outwards of the surrounding towns could be curbed with hierarchical development of centres, which can easily be accomplished if Addis Ababa and these municipalities coordinate their efforts.

Major development axes: Integrated high density-mixed use development especially on urban corridors with mass transport lines is the other determining spatial frame. Here, commercial, residential, service, environment and other major uses converge.

Residential areas: one of the major challenge is how and where to provide housing for the current as well as future demand. For Addis Ababa, vertical densification is the only available option.

Manufacturing and storage: Manufacturing is expected to be the leading driver of the country's economy. Even though a city of Addis Ababa's stature is expected to specialize in services, manufacturing and storage will also contribute in framing the urban form. This land use is approached in two ways: MSEs in the core, and special zones for large scale industrial establishments.

1.3 Proposal (the Spatial Framework)

1.3.1 Major Land Use Considerations

Land use plan is the spatial interpretation of the Structure Plan. The different major land use zones are environment (green frame), urban mass transport axes, urban centres, major industrial areas, major street network and major water bodies /swamps. The above mentioned major land use categories appear on the land use map in the following form:

Although there are major redirections regarding the overall concept, the proposed spatial area organization is similar to the previous city development plan's. City centres are organized in a hierarchical polycentric pattern. What makes the new Structure Plan different is that centres are now organized up to Woreda level. And unlike the previous plan, the Structure Plan indicates actual land use, especially for special projects to minimize violation in implementation. Acknowledging the fact that there is little vacant land in the city proper, the Structure Plan opts for massive redevelopment and densification in order to accommodate the growing population for the next ten and twenty-five years. Redevelopment areas for high density housing are selected following mass transport corridors. In addition, there are specific areas selected for redevelopment in conjunction with the development of centres. Regarding the organization of the street system, mass transport is to take precedence and most of the street sections are planned to be pedestrian friendly.

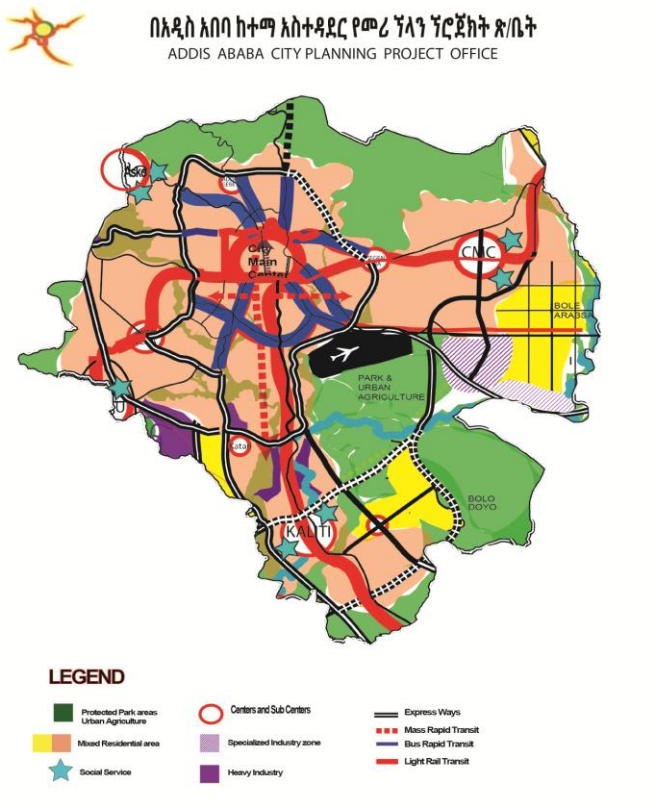


Figure 4 The Concept Plan

Commerce

Commercial land use is the most vibrant and active part of an urban area. Most of the time, a great proportion of commercial land use falls within centres, or most commercial activities (at least the higher end) are located inside or near centres. The commercial activities expected to come under commercially designated land and mixed residential areas seem similar, but they are different characteristically and in scale. The service part of commercial land use includes financial and recreational services. Retail and wholesale trade, and businesses are also commercial activities. Hence, the land use pattern and especially the urban form must follow these special characteristics of commercial activities. To make these areas active around the clock, however, it is essential that some residences are located within this land use. The blocks and superblocks for commercial functions are larger and visible, and have relatively bigger iconic structures.

Social service

To create a healthy and economically productive society, it is very crucial to nurture the human resource of a country, city-region or a city. Hence, making certain that appropriate qualities of services are made available at close proximity to users becomes essential. This includes social services such as education, sport and health facilities. As a policy, the basic levels of these services are provided by the government for free or at minimum cost. At the same time, the government promotes private sector participation in the provision of these

services to increase accessibility for the better off. At least in the foreseeable future, it is assumed that this government policy will not change. The land use plan is based on these premises. To enhance its manageability, space for the implementation of selected tiers of services are reserved (i.e. from health centres to specialized hospitals, from high schools to hi-tech specialized colleges and universities, from playground to high level stadiums). The reserved space shall be developed for the designated functions within the planning period. Location, accessibility, and compatibility are the main considerations for designating land.

Municipal services

These services are essential for the smooth running and sometimes, existence of urban areas. Cemeteries (burial places), solid and liquid waste disposal and treatment, fire hazard protection, water supply, power supply and storm water management are solely carried out by the government (by the City Government or the federal government). These important facilities require space. Each has its own standard and requirements. Population, natural resource, terrain and accessibility are major parameters determining standard. Planning and locating new cemetery considers two major issues- the number of followers of the respective religion and accessibility. Environmental susceptibility, wind direction and related with this, optimum distance are parameters to locate liquid and solid waste treatment and damping sites respectively. On the other hand, central locations (dense areas), and availability of arterial street are prime factors for locating fire stations. In fact, enhancing the capacity to avoid and alleviate future challenges in this area will take precedence over all other considerations. On-going massive redevelopment undertakings are producing a number of high rise buildings. Therefore, every station should be equipped with the necessary equipments to protect residents from potential associated challenges.

Environment

Environment is a key element of urban structure, and a significant proportion within the urban boundary falls under this broad land use category. The protection of the environment from natural and manmade disasters (landslide, earthquake, erosion, and pollution), protection of water sources (surface and ground) and development of potential public parks for recreation are given emphasis. Recreation and production of food are also basis for environmental proposals (including urban agriculture). Identification of construction material sources for city building, but done in a way that it will not compromise the environment, and increasing food supply via urban agriculture are also main areas of concern. Area for urban agriculture is reserved by considering different aspects such as soil productivity, terrain, and availability of ground and surface water. There are two diverging views on land use designated for urban agriculture. Traditionally, it is taken as a temporary use until it is replaced with other “more urban” use. On the other hand, some consider it as a permanent land use. Making a thorough cost benefit analysis and identification of the natural resources is necessary before the land is covered by physical structures.

Sloppy areas and river banks need to be covered with green to protect landslide, erosion and at the same time, to curb river pollution. In principle, areas with slopes exceeding 20% are categorized under green land use. Different locations with ground and surface water potential are identified. Furthermore, areas for ground water replenishment are identified so as they will be covered with green. In some cases, these areas will be used for urban agriculture or residential use.

Green areas and open spaces are identified for new parks. As much as possible, the selected locations for the parks are accessible and are fairly distributed in the city. These parks will also accommodate different recreational facilities.

Manufacturing and storage

Industries were previously located randomly without the slightest consideration given to its impact on the environment. Most industries were established at the cottage level, and were dispersed throughout the city. However, the Structure Plan introduces new concept to structure land use for manufacturing and storage. The location of industries is planned and a separate zone is created by considering its implication on the environment, infrastructure, economies of scale and agglomeration economies. Seventeen industrial parks are planned to be developed in different sectors of the city-region or in Addis Ababa and the surrounding towns. The parks will be provided with the necessary infrastructures like water, electricity and common waste treatment facilities.

Street Network

Two concepts are adapted regarding the street system - the first one is to develop alternative expressways to facilitate traffic. The other important concept is to develop or redesign streets for mass transport.

Mixed Residential Use

In a city like Addis Ababa where the proportion of street is limited and the provision of public transport is grossly lacking, mixed use development is almost the only sane option available. The concept of mixed use usually applies when residential function is found mixed with other compatible activities. The mixed use concept limits trips, encourages working, living and getting service nearby. The inherent idea embedded within the concept of 'mixed use' or mixity is the creation of a vibrant environment (economically and socially). To meet these important planning objectives, mixed residence land use is very important. Understanding the nature, level and form of mixity is therefore necessary to manage it well. This will in turn prevent it from becoming a liability for development. In this regard, the Structure Plan foresees mixity in two forms- in land subdivision plan (from Structure Plan up to detail plan) and in a single building.

Mixity	**Proportion of residence in buildings**
High density mixed residence (business corridors)	At least 40%
Commercial and business areas (mainly in centres)	At most 10%

Out of the major Structure Plan elements, some require strict interpretation; especially when it comes to the implementation of the concept of mixity. But there are situations where 'mixity' could occur without residences. However, this should be approached with utmost caution. Mixed residential land use includes but is not limited to residence, commerce, lower level service, access and local streets, community open spaces and playgrounds, neighbourhood parks and local markets. Although this will vary when one goes from the centre to periphery or vice versa, residential and non-residential land sharing proportion in the capital is almost fifty-fifty. With this understanding, the land allocation proportion of the city shall be guided by mixed residential density, which means what we find is an almost equal proportion of residence and non-residence land use. "*Mixed residential density is concentration of inhabitants or housing units in a defined area".* On the Structure Plan the mixed residence is divided in to three zones based on their respective density.

High density mixed residence

High density mixed residence land use is located along mass transport corridor lines with a depth of up to 80m or 120m. The land use of such area will have commercial activities and businesses at the ground floor of buildings, or the function at human scale will be commerce to make the street level activity lively. Any development within a designated high density mixed residence should accommodate at least 50% residence. Minimum gross density is 150 housing units per hectare (150hu/ha).

Medium and low density mixed residence

Within the mixed residence land use, density varies from the center to periphery depending on location in relation to the transport system and width of street. This variation in density is also reflected in building height and functions. Given Addis Ababa's context, densification on existing built up area is the available option to accommodate future urban growth. The proposed minimum gross densities for medium and low density mixed residence are 100 hu/ha and 50hu/ha respectively.

60% of the floor area in new buildings within the medium and low density mixed residence land use shall be used for residential purposes. If both density and floor area proportions

are strictly applied the overall target of providing working and living space for the projected population can be achieved.

The mixed residential density proportion applies both on the land use and at the building level. On the land use level, any designated mixed use area subjected for land subdivision should apply the density proportion assigned for the zone. Regarding individual building design, those on parcels assigned for non-residential function are not obliged to be mixed. However, a parcel designated for residential purposes can apply the concept of mixity by maintaining a similar proportion of fifty-fifty in high density mixed residence, and a proportion of sixty-forty in medium and low density mixed residence land uses.

Industry and 'mixity'

Overall, every industry must be located in a separate zone. However, small scale industries with an area up to 500 m2 could be mixed with residence in the inner core. This means that new industries with more plot area than 500m2 are not permitted or cannot be located in the inner core or cannot be located inside residential areas. Industrial plants with an area up to 2000m^2 can be located outside the inner ring road.

Table 7 Land use proportion of the Structure Plan

Major Category	Area	Percent
Administration	5560102.69	1.07
Commerce and Business	7658738.77	1.47
Environment	158557678.21	30.47
Historical Buildings and Sites	188865.85	0.04
Manufacturing and Storage	30564058.19	5.87
Mixed Residence	219072034.68	42.11
Municipal Services	6156429.60	1.18
Religious Institutions	3699328.77	0.71
Social Services	14555278.28	2.80
Special Projects	7510338.19	1.44
Special Use	3313898.72	0.64
Sport Field	191757.07	0.04
Street Network	36307891.30	6.98
Transport	11527835.78	2.22
Urban Agriculture	9239017.57	1.78
Utility and Infrastructure	6193381.33	1.19

1.3.2 Special Projects

To attract foreign direct investment (FDI) and to make the city-region favourite destination for tourists, Addis Ababa and its environ should have state of the art facilities. On the Structure Plan, lands for these particular facilities and projects are designated as separate land uses under a separate code. The identified projects and their representation are described hereunder.

Though the functions can be captured by the respective land use category they belong to, they are given different land use designation of 'special project' in order to avoid ambiguity or to prevent conversion to other/similar functions.

Table 8 Special Projects

Special Projects	Description	Location
Five star and above hotels (at least ten)	The primary objective is to increase the number of high quality hotels in the city and immediate surroundings. As much as possible and depending on the hotel character, central location is preferred	• Gottera, at the current cement factory site • Pushkin Square, at the current Adey Abeba Thread Factory site • Around Casainchis • Near Genet Hotel
High standard recreational facilities like golf course	Different recreational services are planned to enhance the competitiveness of the city-region.	• Koye Feche, south of Addis Ababa (next to the new site for housing development).
High standard shopping malls	The anticipated shopping malls are expected to be of high quality and their size should consider the different catchment.	• La Gare- south of the train station • Lafto – Hana Mariam junction • Bole – current Millennium Hall • Meri- at trade centre • Torhailoch junction
Specialized/ general/referral hospital	The city should have at least two high level specialized and/or general hospitals.	• Around Africa Union and near CMC

1.3.3 Historical Buildings and Sites

Immovable artefacts and historical structures should be conserved on site. These could include monuments and buildings as well as cultural or religious sites. Hence the Structure Plan will give protection to identified immovable objects and sites. Within the general framework of protection of historical buildings, artefact and sites the following provisions are made by the plan.

- All identified historical building and sites will appear on the Structure Plan for legal protection;
- Historical buildings and sites shall not be demolished or replaced;
- Supervised maintenance, or replacement of missing or damaged elements of buildings is allowed; and
- Separate documents that explain in detail maintenance regulation will be prepared by the responsible bodies.

2. Centres

2.1 Existing Situation

Addis Ababa in the International and the National Context

The presence of the African Union and the Economic Commission for Africa, and the 68 international flight destinations served by the Ethiopian Airlines have all created opportunities that if well cultivated, will help develop Addis Ababa into a major touristic and investment destination. However at present, the country is still far behind, ranking 19th out of the 20 preferred African destinations with an inflow of a little more than 400,000 tourists per year, whereas Egypt with 14 million followed by Morocco and South Africa with 8 Million visitors per year take the lead in this respect (source- KEK, Sheger FM radio).

On the other hand, beyond its status as the Federal Capital, Addis Ababa benefits from its central geographic location within the country and as Ethiopia's major gateway. Merkato is still the main market centre not only for the city but for the nation as a whole. The concentration of both social and financial service rendering institutions and better infrastructure constitute a major pull factor for local investment. Yet, the service industry is still deficient in terms of its quality to attract FDI. The provision of infrastructure (water, electric power and ICT) is not on par with an African or national capital.

The Main City Centre

The Addis Ababa City Development Plan (2002-2012) had proposed the development of a poly-nuclear main centre, with a Core CBD around La Gare and three important nodes (Arada, Merkato, and Arat Killo) linked through strong business corridors. The core comprises diverse urban functions within a 1km radius of La Gare. Long-standing cultural and entertainment establishments such as the National Theatre and Cinema Ambassador; large medical service providing entities such as Black Lion, Zewditu and Gandhi hospitals; the Addis Ababa Municipality and the Ethiopian Philately Museum, the Addis Ababa Museum, the National Library, the National Stadium, the Meskel Square and the Addis Ababa Exhibition Centre are all located within this core area. The area is also characterized by the concentration of government and private banks, including the National Bank of Ethiopia. There are round 20 mixed apartment/office buildings currently owned by RHA in the vicinity. There are also a number of major government offices; and some of these institutions and publicly owned properties are poorly maintained, occupying large underutilized spaces. Some uses (Ministry of Defence) are not fully compatible with the surrounding activities and restrict free movement.

The area also has some of the best hotels in the city like the Sheraton Addis and Addis Ababa Hilton. New high class hotels (like Intercontinental, Jupiter and Radisson Blue) have been constructed around Casainchis. A financial district is emerging around Sengatera area where the major banks (CBE, Awash, Dashen, Hibret and Nib) have already or are in the process of locating their head quarters in purpose-built high rise office buildings. Other newly added structures include the Oromiya Cultural centre, the Nani building and other mixed use buildings of different capacity. Major improvements and more development are still needed to satisfy both residents and the international clientele. The availability of retail facilities, space for outdoor activities and public gatherings is very limited. There is also a big deficiency in terms of parks and green spaces, while the existing ones are poorly managed. Lack of public amenities and sanitation concerns is a critical matter. Lack of urban quality, coherence and legibility in the built form has become a critical challenge. This is being partially accelerated by the City Government's seemingly short-sighted goal of generating more revenue from leasing off land, which so far has ended up in creating unhealthy densities and a 'concrete jungle' in certain parts of the city. Deviations from the plan during the implementation of the Casainchis Local Development Plan, mainly by re-parcelling larger plots and open spaces is such one example which also can be considered as a missed opportunity that could have been used to create a more attractive and liveable core.

The city core is one of the earliest parts of the city and thus has better infrastructure- old tarmac roads with a relatively better density (20% locally) and better quality. Although the long standing rail transport service from Addis Ababa to Djibouti via Dire Dawa has been disrupted during the last few years, La Gare continues to be a major hub for city buses and taxis. (Around 20 Anbessa routes that serve about 94,000 passengers per day start from the La Gare Station). With the increased traffic volume, however, junctions like Mexico and Urael are being tested.

There has been no periodic maintenance and upkeep of existing public amenities (traffic lights, walkways, building facades, green landscapes), which has contributed to the deterioration of the city's image and urban character. For instance, there is no public latrine within 1km catchment from La Gare. Although some part of the district is served by a sewer system, the available sewer network is aged and limited in capacity. Moreover, despite the expansion of new multi-storey buildings, little attention has been given to the creation of additional public spaces. Appropriation of public streets for private use as parking and private entrances has become commonplace. Despite commendable interventions by the city's beautification bureau as regards island refurbishing and greening and the associated streetscape improvements, there is a need to develop a more synchronized and well structured approach to enhance the availability of public spaces. Given the international role of Addis Ababa, safety and security in the city centre has a great significance to

residents, commuters and tourists, which underline the need to pursue integrated public space planning.

The emblematic Churchill axis that stretches from La Gare to the City Hall is a cherished character of this district. The La Gare compound, which is about 40ha at one end, to all intents and purposes, restricts direct connection between the northern and the southern parts of the city, calling for a well thought-out solution.

Sub-Centres

The main theme of the city development plan was creating the development of hierarchically organized centres and sub-centres, with the view of decongesting the main centre. This was also intended to make services more accessible for residents, thereby reducing unnecessary travel to the main centre. Moreover, the introduction of large public facilities such as new transport terminals, market areas and administrative offices were meant to trigger the development of strong sub-centres. However, the concept which could have been realized through proper location and seating of investments on public facilities, was ignored during implementation.

Secondary Centres

The development of secondary centres was planned at three locations- Megenagna, Ayertena, and Kality to service the eastern, western and the southern districts of the city respectively. This had presupposed making land free and available for new construction, as well as putting in place basic infrastructure facilities. Developing the secondary-centres in Megenagna and Ayertena, which were fully settled areas, required settling the complex issues of compensation and relocation. Moreover, the one proposed at Ayertena was hindered mainly by the construction of the ring road that entailed spatial segregation, breaking connectivity of the node. Despite the availability of land in the case of the proposed centre at Kality, lack of connectivity both at the city and local scales were major bottlenecks for new investments. The dismantling of the institution established to follow through with the development of the strategic investment areas, the Land Development Agency, halted the process. The Strategic Development Action Plan (SDAP), which identified Megenagna as a priority area, had given impetus to the commencement of the implementation process. Being a highly strategic node (given its role as the main gateway to the huge eastern settlement), high rise mixed use developments (such as Bethlehem Plaza and Zefmesh Mall) have emerged west of the roundabout, along the major axes. Moreover, both Bole and Yeka sub-city administrations are presently constructing their main offices there.

Tertiary and Local Centres

Seven tertiary centres were proposed. The one at Bisrate Gabriel has been significantly developed during the past decade, which constitute mixed use development of offices, sport and entertainment complexes and a private hospital. The rest of the proposed tertiary centres (i.e. At Gotera , Wingate, Kotari , Meri Luke, Sidist Killo, and Bole-Arabsa) could not be implemented for different reasons. Some were allotted for other uses (e.g., condominium housing in the case of Kotari), others were disrupted by unforeseen interventions (e.g., the Gotera huge interchange), while still others had poor accessibility (e.g., Wingate and Sidist Killo). In order to bring services closer to local residents and create institutions responsive to local needs and priorities, the development plan had also proposed administrative restructuring and management reform in the city. Accordingly, baskets of services to be delivered at the different levels of service centres have been defined that fit into the newly proposed decentralized administrative structure. However, no reference was made to the plan in locating and organizing sub city and Kebele/Woreda centres. The placement of public sector investments such as health centres, youth centres, public libraries, sport facilities did not support the concept of centre formation as they were haphazardly located.

Spontaneously Developed Centres

Triggered by various reasons, a number of sub-centres have emerged in areas that were not planned for same. Following measures taken by the City Government aimed at achieving efficient utilization of prime land within the city core, an initiative by the City Government took land from large government holdings along major corridors that were eventually leased out for private investments. This gave rise to the emergence of major activity nodes in areas such as Bole Medhanealem, Wello Sefer and Gurd Shola. In areas further away from the core like Bethel and Alem Bank, where vast residential expansion occurred, the presence of concentrated demand has triggered the burgeoning of activity nodes linked to transport stations. Such spontaneous development of centres has nevertheless brought about its own challenges on the overall movement pattern, the urban character of districts and the future development of planned centres. Such unforeseen activity nodes become major pull factors creating traffic jams and additional pressure on existing infrastructure. Moreover, the urban character of some districts (like the Olympia- Meskel Flower or Bole Medhanealem- Haya Hulet streets) have experienced dramatic changes within a short space of time, creating tension between different functions such as residential and late night commercial activities.

Market Area Development

Addis Ababa has around 1,300 wholesaling and 49,800 retailing establishments. About 50% of the wholesaling establishments are importers and 40% are domestic wholesalers.

Merkato, labelled for years as the 'biggest open market in Africa,' is the major area of trading. According to data obtained from the Finance and Economy Development Bureau, one-third of both wholesalers and retailers are located in Addis Ketema sub-city, presumably in Merkato area. And all kinds of formal and informal economic activities take place in Merkato .

The LDP study of the City Development Plan (2002-2012) proposed enhancing the peculiar features of the area- historical buildings with colonnaded frontage and open trade character - improving freight movement, and enhancing the quality of the urban environment. At present, however, the construction of shopping complexes is gradually replacing the open and semi-sheltered market feel of the site. Historical heritages, harmony of buildings and most importantly, Merkato's diversity and accommodative stature -both economically and socially - is fading. It is also observed that the recent trend towards the provision of commercial land solely under the lease system (i.e., under auctions excluding negotiation) has resulted in the expulsion of low income traders.

Shortage of infrastructure is a persistent challenge as can be exemplified by the lack of sewerage system in the entire district, contributing to poor sanitation and urban quality. On the other hand, loose enforcement of traffic regulations has resulted in lack of compliance in terms of parking requirement and accessibility. Atkilt Tera, which is functioning as the city's exclusive fruit and vegetable market, is facing similar problem as Merkato. The lack of storage and efficient transport system coupled with the perishable nature of the products contribute to serious sanitation and hygiene related problems.

Institutional setup like Urban Development Company (UDECOM) and Business improvement district (BID) proposed to manage the land development and the operation and maintenance works by the City Development Plan did not materialize, mainly because the necessary legal framework was not put in place.

Changing lifestyle is initiating different pattern of consumption. Shopping malls and large supermarkets are coming up along major corridors in the affluent districts such as Bole and along the CMC- Ayat road. Nonetheless, traditional and small-scale trade still dominates the market. Most traders do not have adequate finance to expand their activities. Daily small-scale purchasing is common. As per the Trade and Industry bureau, there are 157 market places in the city. But a more recent land use survey only accounted for less than 50 market places, including Gulit areas.

The proposal to upgrade already existing consolidated markets such Shola, Zenebwork and Cherkos as well as to build new ones in conjunction to sub-centres such as in Kotari and Kality did not materialize. The 'upgrading' intervention so far is limited to building low-rise structures (G+3), the design of which is not always in accordance with adequate design standards for commercial buildings. A holistic view to improving the functioning of the market is missing. Apart from shortage of goods, provision of basic public amenities, ease of

pedestrian movement, sanitation and cleanliness, safety and security are still persistent challenges. The expansion of business activities has resulted in congestion of existing market places and their spilling over along major roads, impairing traffic movement. Moreover, small trading activities and street vending are mushrooming haphazardly along major streets and around transport terminals as well as on unhygienic locations along riversides.

The absence of a responsible body to guide the development of such market places has been a major limitation. The understanding of the overall market functioning is very limited- the database is highly deficient (almost nonexistent), the actors are very diverse- suppliers, traders (formal and informal), brokers, transporters, consumers, and so on.

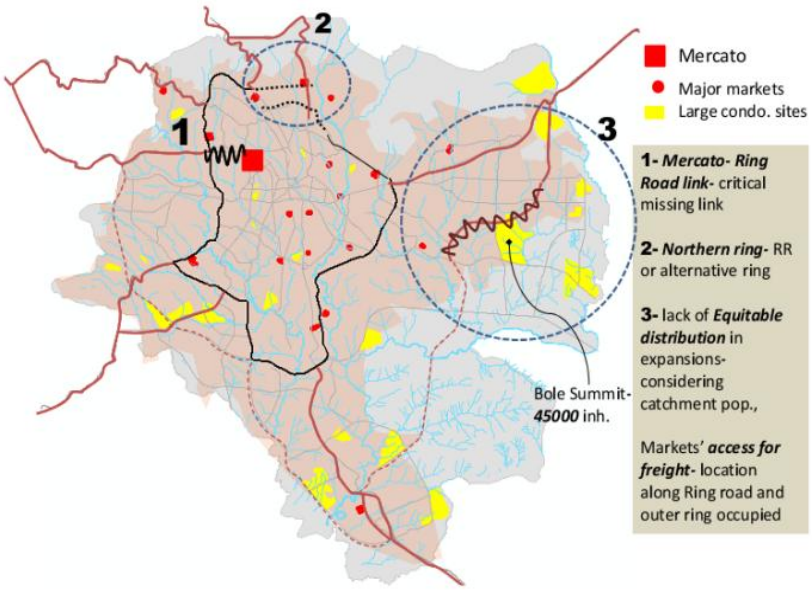


Figure 5 Existing major markets and challenges

2.2 Hierarchical Organization of Centres

Earlier towns in the world mainly developed as centres of trade and commerce; and markets were focal points of urban settlements. The industrial revolution from the mid 18th century onwards made cities grow at an unprecedented pace with heavy industries being the principal activities. The introduction of rail transport enabled increased connectivity and exchange amongst urban centres. The coming of the automobile further impacted the settlement pattern of cities. Physical proximity to live and work nearby was no more a basic necessity. Urban sprawl and scattered settlement patterns then followed. Various technological advancements that have developed to date made urban centres, as one expert put it, 'the most complex human creation' of all times. Centres are usually characterized by a concentration of a multitude of functions with varying intensity, at a highly accessible location. A centre catering for both economic and socio cultural needs simultaneously has a better chance of developing into a sustainable centre.

Poly-centricity can materialize at multiple levels and at different spatial scales. What is mono-centric at one level can be polycentric at another and vice versa. Mono-centric cities can eventually turn into polycentric city structures with sub-centres emerging as employment and service centres close to residents. Furthermore, changing lifestyles are entailing the home-to-work journey lose its ground as the most important motive for mobility, as shopping and leisure are becoming key reasons for making a journey. Shopping malls, apart from comprising retail activities, are more and more serving also as recreation centres. The development of a polycentric urban system can emerge through different paths as expressed in the figure below:

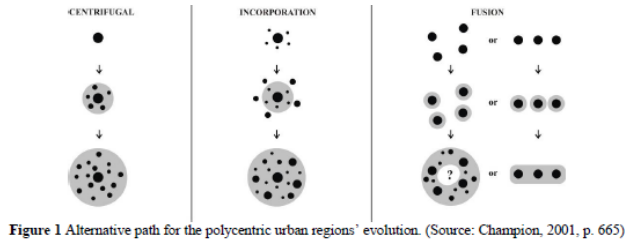


Figure 1 Alternative path for the polycentric urban regions' evolution. (Source: Champion, 2001, p. 665)

Figure 6 Alternatives in the evolution of urban region

The polycentric system at regional scale could evolve in different manners. A single metropolitan region with one main centre and smaller centres in its suburbs and hinterland is one format. Another regards a poly-nucleated metropolitan region, which is an urban territory that contains a number of cities where none is dominant. The poly-nucleated urban field would be an inter-region approach that even goes beyond country borders into transnational development schemes.

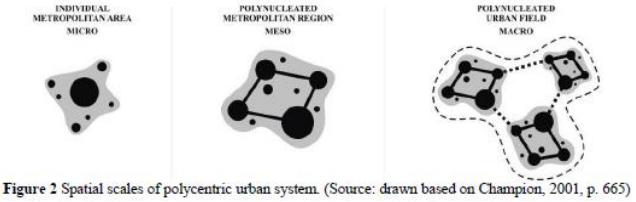


Figure 2 Spatial scales of polycentric urban system. (Source: drawn based on Champion, 2001, p. 665)

Figure 7 Polycentric urban system

At the urban scale, the main city centre usually comprises of the Central Business District (CBD) and other major civic, administration and residential uses. Competition amongst cities to attract multinational companies and organizations is intense. The attractiveness level in terms of infrastructure and service delivery is therefore a major concern for cities. The CBD is not only the economic and financial heart but also the symbolic emblem of cities worldwide. The role of sub-centres on the other hand focuses more on the issue of equitable service delivery. Certain activities that are needed on a daily basis are preferably located nearby residences (convenience shops, kindergartens, small playgrounds for children or social gathering, gulits), whereas higher-order services such as hospitals could be

located within 2km radius. Hence, the type of uses a centre encompasses depends on the size of the catchment area and population it serves.

2.3 Major Premises and Principles

The conceptual frame for organizing a hierarchy of complementary service centres is developed based on: (a) state-of-the-art theories and practices in the organization of service centres,(b) The overarching goal of the City Government and the Country at large to reach a middle income country status by the year 2025 and hence the creation of a liveable and competitive city, and by giving (c) due consideration to major city structuring infrastructure and housing development projects.

The concept will base itself on the following considerations:

- A polycentric spatial organization of the city
- The basic concepts of the Structure Plan and the corresponding assumptions about density
- Building upon what is already on the ground
- Implanting grand projects to hasten the process of centre formation

Considering the city's national and international role, developing a **strong main city centre** becomes imperative. The provision of quality services in the main centre that is on par with international standards and providing sufficient space for FDI and expatriates that would come to visit or settle is given emphasis. The main centre, especially the CBD, should have a legible and recognizable urban structure. Its quality in terms of spatial organization, the variety and type of services available and its cleanliness should be able to give residents (and all Ethiopians) a sense of common pride.

The main principle is to develop a polycentric structure at different levels. Considering Addis Ababa and its immediate surroundings, creating secondary centres providing almost all of the facilities and services being provided in the main city centre but with a lesser magnitude is crucial. A key to the realization of this is the provision of adequate (specific) service basket by considering the catchment radius and the minimum population threshold.

At the local level, creating vibrant centres needs a great diversity of uses and a pedestrian friendly environment. A holistic spatial development frame will need to ensure accessibility (well integrated with mass transport system), complementarities of use, and provision of different levels of open spaces that can have multiple uses at different times. Centre functions especially by public projects, need to be planned and implemented in a synchronized manner, and should be able to trigger more private investment.

Conducive government policy and directions

- The current national vision to become a middle income country by 2025 presupposes a competitive city at regional and even global scale that can provide a host of international standard services and infrastructure.
- Focus on urban quality and environment friendly development.
- Focus on the development of mass transport.
- The privatization effort of Hotels underway can be beneficial for improving service delivery and competitiveness.

Basic principles in the organization of centres

- Polycentric approach at different scales
- Mix and intensity of uses
- 'Complete street' approach- the public domain, the street should not only be viewed as a carriage way but space where people interact, enjoy, rest, etc.
- Urban quality

'Complete street' concept

Streets are more than carriageways. Streets are part of the public space where a lot of activities simultaneously take place. People should be able to move around, stroll and window shop in the city centre at ease, along shaded and well-surfaced walkways. They will need to be provided with seats and benches, and have the use of some decent public amenities like public toilets and water fountains.

Urban service clustering

This refers to the targeting public investments to trigger and support market-driven developments by the private sector. The public sector is actively engaged in the provision of a number of social services- health centres, youth centres, public libraries, gymnasiums and sport fields as well as amenities like public toilets and communal taps. On the other hand, bureaus like the City Beautification, Parks and Cemetery Development and Management are actively engaged in upgrading the urban quality of the city through activities like (road) island refurnishing, establishment of community parks and development of open spaces and plazas. Hence, better synchronized efforts could enable the public sector to present good model projects and create community centres that would heighten social cohesion, provide ground for petty traders and small scale enterprises to undertake economic activities in an organized/orderly manner.

Active urban corridors

Schemes to make corridors active, such as making them routes for mass transit will be used. Diversifying activities along these corridors, including reserving ground floors in buildings along such corridors for activities that enhance public interactions (e.g. cafes, shopping,

etc.), residential apartments at the top, and other businesses and offices in the middle will be promoted to encourage the mixed use settlement pattern.

Peculiar character and identity

The presence of a unique character/s and identity are the basis for creating distinguishable urban centres. This will also enhance their attractiveness. Historical heritages, emblematic buildings and monuments, street pattern, streetscape and street- building interaction as well as cultural activities to be preserved and built on are essential factors that gives a given centre its identity. Similarly, there are particular districts in Addis Ababa with their own identity such as Arada-Piassa, Churchill Road, Merkato, Shiromeda, etc. which should always be considered in the planning and re-planning of Addis Ababa.

Urban quality

In centres where concentration of uses (and hence of users) is envisaged, it would be essential to organize attractive breathing spaces to ensure comfort and ease. Open spaces of different sizes and shapes that can host different activities at different times of the day are vital to keep the centre vibrant at all times. Public parks and well-landscaped green areas create attractive places. Instating attractive urban quality works towards the betterment of the public realm- the space between buildings and the public space.

2.4 Proposals

2.4.1 Major Goals

With the vision of "Creating an attractive, vibrant and competitive main city centre fully equipped with quality services on par with an African centre", the major goals to achieve are:

a) Creating an attractive, competitive and distinguishable Main City Centre
b) Developing a hierarchically organized sub-centres
    - Establishing well-equipped and equitably distributed major Secondary/ Zone Centres;
    - Developing adequate urban design guidelines that will ensure the coherence and legibility of the urban morphology and guide private investments to align with a harmonized and structured urban fabric;
    - Promoting urban quality by providing open spaces, planned green spaces and public amenities;
    - Ensuring that the various centres are linked by a strong mass transit system; and
    - Making centres walkable nodes with attractive landscaping to ensure pedestrian comfort.

c) Developing adequate institutional framework, structure and thorough implementation strategies/ guidelines to promote the development of centres, giving special attention to the main centre

Hence the development framework consists of

- Developing a distinguishable CBD around La Gare central station
- Developing Churchill as the 'Champs Elysees' of Addis
- Developing the historic centre of Arada- Piassa, and specialized centre Merkato- as tourist attraction centers enhancing their peculiar characters and identities

Figure 8 Major goals for the Main City Centre

2.4.2 General Proposals

A number of factors have been considered in the reorganization of centres. These include urban growth pattern and major land uses that frame the city structure, the trunk infrastructure in place or under construction, and the envisaged population size and overall density.

The city's population size is expected to increase to more than 4.4 million within the coming decade and surpass 6.6 million in 25 years.

Main City Centre Development

Building a strong city centre to ensure that Addis Ababa will evolve into 'African Medina'.

a) Develop a distinguishable CBD with diverse functions

- Develop a high density CBD in Cherkos-north that will be linked to La Gare, a multi-modal transport hub to ensure seamless intermodal transfers for commuters**;** ensure diversity of uses including housing for a 24/7 vibrant environment;
- Upgrade the existing old quarter around National Theatre to enhance its attractiveness- refurbish existing emblematic buildings and public spaces that give the centre its own identity and uniqueness;

- Promote a walkable core by increasing permeability and creating pedestrian friendly and attractive streetscape by instating higher permeability through a fine-grid street pattern;
- Provide through access of large fenced compounds and convert ground floors of multi-storey buildings to public service activities to create strong street-building interface;
- Enhance urban quality by infusing multifunctional public spaces, clearing underutilized blocks within the core and creating attractive ones in districts to be renewed;
- Implant grand projects that will bear symbolic significance to portray the centre's image- mark the face of the city;
- Furnish streets with tree linings complete with all public amenities and quality landscaping; and
- Address parking provision as communal parking buildings and as underground parking in the case of plazas and buildings.

b) Enhance development of specialized centres/districts with particular identity

Heritage items contribute to the richness of urban areas and should be protected and adaptively reused to help shape the urban renewal of centres. Good urban design can contribute to place–making and community identity.

- Arada as the historic centre preserving historical structures and settlement pattern;
- Merkato as the main market and economic hub;
- Churchill Avenue as the 'Champs Elysees' of Addis with interlinked greens enhancing the character of a promenade on the southern section by adding, amongst other amenities, a second row of trees;
- Menelik II to King George Street as a major civic avenue;
- Develop realistic implementation strategies for these proposals; and
- Setup an independent institution that will manage the whole city centre development.

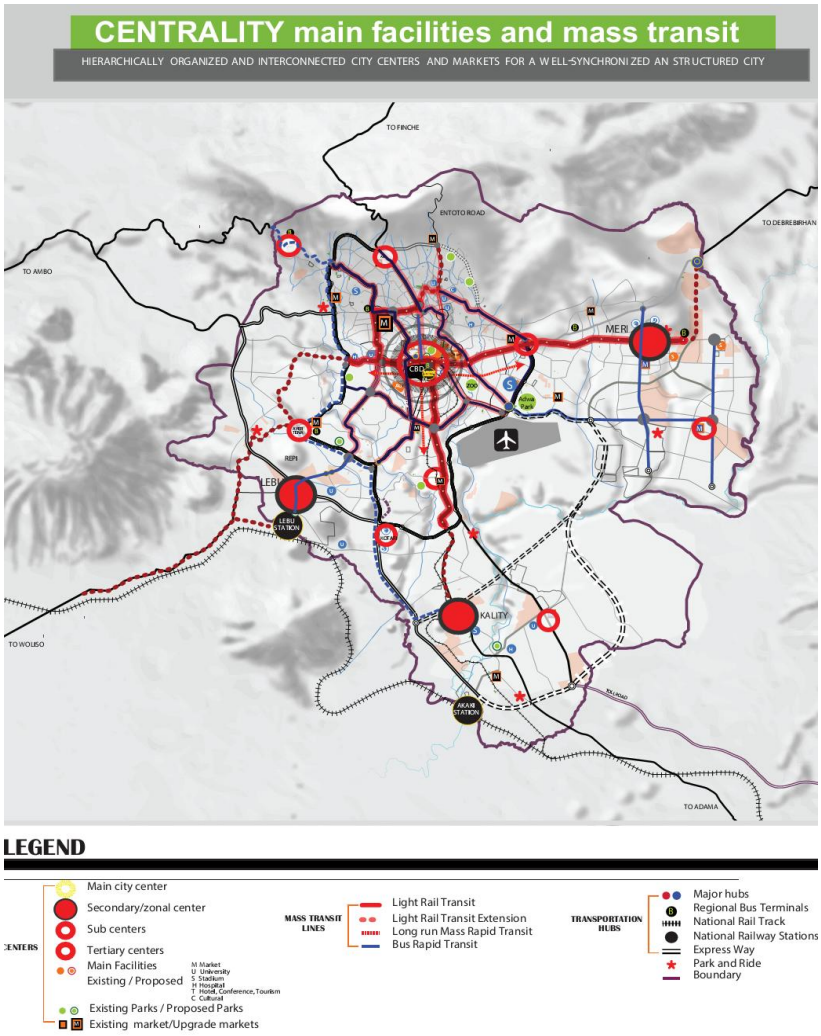


Figure 9 Centres' organization

Major Sub-centres Development

Major sub-centres will be developed to cater for the provision of services in the eastern, southern and western districts of the city. This will require refining the proposals of the previous city development plan. Taking into account appropriate population thresholds and the catchment areas of services, the development of Tertiary centres and Woreda centres are also planned.

As major attraction nodes, the various centres need to be well-connected with the main centre as well as amongst themselves through rapid, efficient and effective mass transit system. The

LRT system that is underway and the planned BRT lines as well as their major stations will have immense contributions in terms of creating such activity nodes.

Secondary Centres

The city and its environ comprises three major components - Eastern, Southern and South-western parts (sectors). Each sector is expected to accommodate an estimated 1.5 to 2 million inhabitants in the coming decade; three secondary centres are planned at Meri, Kality and Jemo-Lebu. Considering the per capita area standards for major land uses, these centres will encompass 100-180ha and their catchment radius is within 5 km.

Eastern Sector

The proposed centre at Meri is expected to eventually crystallize into secondary centre in the not too far future, especially because of the large-scale residential development underway by both the public (condominium housing) and private sectors (by real estate companies). The Integrated Housing Development Program or condominium residential housing at Bole-Summit, Bole Ayat, Yeka-Bole and Yeka-Abado, and Bole-Arabsa in Addis Ababa as well as extensive residential development by real estate companies in Legetafo-Legedadi in Oromiya Special Zone is expected to bring a very large number and concentration of people around this sector. The centre at Megenagna which has already evolved into a secondary centre for the eastern part of Addis Ababa has attracted major retail and office functions. It will continue to attract a lot of investments. In view of its catchment area, however, Meri is more centrally located than Megenagna to serve as a major centre for the Eastern Sector. This will reduce unnecessary travel of around 1.5 -2 million people. Moreover, with the upcoming LRT system, fast connection will be established between the two centres (15 minutes), which are envisaged to evolve as complementary centres to serve the population of the Eastern Sector. The presence of large scale projects already planned for implementation at Meri (such as the large Addis Ababa Convention and Exhibition Centre and the Saudi-German Hospital) as well as high density corridor development along the LRT line is expected to accentuate the crystallization of the proposed centre. Immediate intervention would be necessary to claim currently underdeveloped land to facilitate the infusion of basic facilities to the centres.

Southern Sector

With the recently built toll road on the east and the planned expressway widely known as the Trans-African Highway on the west, the traffic congestion and heavy load on the southern outlet will be alleviated. The road (current southern outlet) could be transformed into a boulevard type axis, which would accord pedestrian comfort and enhance the quality of the

urban fabric. Hence, the centre at Kality is planned to stretch southward along the axis, filling the corridor by high density mixed development and forging better links and integration with major uses like the Akaki Stadium and the Tirunesh Beijing Hospital. The outer ring from Meri passing north of the centre at Kality and through the Jemo-Lebu centre ensures good connectivity and integration between these three secondary centres. Moreover, considering the large settlement that is envisaged south-east of the sub-centre, the connection of this secondary centre with the planned tertiary centre around the recently established Technology University at Kilinto will be of major importance.

Table 9 Land Requirement per secondary centre

	1,500,000 inhabitants	**2,000,000 inhabitants**
Types of facilities		
Business and retail		
Commerce	**2- 4** ha	**4- 8** ha
Hotel/restaurant	0.6- 0.7ha	1- 1.5ha
Financial institution	0.4- 0.6ha	1- 1.5 ha
Civic and leisure		
Recreational	1.5- 2.3 ha	3- 5 ha
Cultural centre	**5- 8 ha**	**10- 16ha**
Sport complex	**7- 10 ha**	**14- 20 ha**
Green area	**40- 60 ha**	**80- 120 ha**
Major facilities		
General hospital	**2.3- 3.3 ha**	**5- 7 ha**
Specialized higher education	**2-3** ha	**4-6** ha
Home for aged/handicapped	1-1.5 ha	1-1.5 ha
Specialized workshop	4- 7 ha	8- 14ha
Administrative centre	1- 8 ha	2- 16 ha
Fire Brigade	**0.25-0.5ha**	**0.25-0.5ha**
Utility/Service/ Off	**0.25-0.5ha**	**0.25-0.5ha**
Intermodal Terminal	**6.5 ha**	**6.5 ha**
	115.9	**224**

South-Western Sector

The National Railway will establish a major passenger terminal close to Jemo area. Building on the potential multiplier effects of the proposed station that can expand into a major transport hub, linking the establishment of a secondary centre with this station will be beneficial. Moreover, the presence of recently implemented large scale projects such as the housing development in Jemo area as well as a number of private real estate developments in the surrounding areas would require placing a basket of services in the vicinity. The proposed centre would therefore comprise two nodes i.e. the Jemo roundabout at one end and the proposed train station at the other. The distance in between is 2km which will be linked through a structured corridor development. Both the Trans-African expressway and the major outlet (road) to Sebeta pass through the Jemo junction/roundabout. Ayertena, which was previously proposed as the main secondary centre in the western part of the city, will remain an important node due to its good accessibility and its potential to serve as a tertiary centre. Local development plan with detailed design to improve local accessibility and clustering around the major part of Ayertena centre (located east of the ring road) is necessary.

Tertiary Centres

Within a hierarchical organization of centres, Tertiary centres come at a 3rd level, but can be aligned with the 2nd level of administrative structure (i.e., sub-city level). The proposed tertiary centres are designated by considering a population range of 400-600 thousand inhabitants. Additional tertiary centres are proposed for the relatively large and peripherally located sub-cities such as Bole and Akaki-Kaliti that are also characterized by a concentration of residential settlements. The major types of functions and their space requirement are computed under low and high variants.

Woreda Centres

The Woreda centres each has an average area of 100 ha, whereas the area of peripheral ones ranges 500-1,000 ha. The total population of a Woreda will be in the range of 30,000- 50,000 inhabitants. Woreda level administration would need an area of 1-1.5 ha at an accessible location (MWUD, Norms and Standards 2010 draft). During the identification of potential sites for Woreda centres, heed was given to optimize the existing situation on the ground. The set of criteria considered included accessibility through collector road, balanced distribution vis-à-vis the Woreda population, possibility for future expansion and presence of other community-level facilities nearby. In this respect, the proposal has identified potential sites for Woreda centres for all Woredas. Where the spatial extent of a given Woreda is found to be very large, two or three potential centres are identified. The proposal is to upgrade and regularize existing facilities in the centre and create additional ones in the expansion area. Where Woreda

facilities exist within walking distance from the potential centre, local plans need to design good linkage and integration through pedestrian movement. Creating a legible core at Woreda level is also important.

Table 10 Land requirements per tertiary centre

Types of facilities	300,000 inhabitants	600,000 inhabitants
Business and retail		
Commerce	0.6- 1.2ha	1.2-2.4 ha
Financial institution	**1.2- 1.8ha**	**2.4- 3.6 ha**
Hotel/restaurant	0.2- 0.25ha	**3.6- 5 ha**
Civic and leisure		
Cultural centre	1.5- 2.4ha	**3- 5 ha**
Recreational	0.5- 0.7ha	1- 1.4 ha
Sport complex- zone stadium	**2- 3ha**	**4.2- 6 ha**
Green area	**12-18ha**	**24- 36 ha**
Major facilities		
Specialized high school.	0.6- 1ha	1.2-2 ha
Specialized workshop	**1.2- 2.1ha**	2.4- 4.5 ha
Administrative centre	0.3- 2.5ha	0.6- 5ha
Fire Brigade		**0.25-0.5ha**
Utility/Service/ Off		**0.25-0.5ha**
	34.25	**71.9**

Implementation Strategies

There is a need to develop appropriate implementation tools that will provide proper guidance during the implementation process. For this, focus need to be given to:

- Setting up a management and coordination body for centre development,
- Developing pragmatic plans along with financing mechanisms;
- Providing incentives to attract investments; and
- Revisiting mechanisms/strategies to undertake renewal interventions.

Management and Coordination

Instituting a dedicated body at the city level that would be responsible for the development of main city centre is critical. There may be a merit in conferring a quasi-governmental status to the institution. Such an institution should be mandated to process requests for land as well as to guide and supervise the development and implementation of both government and private projects. The major tasks to be performed by the institution will consist:

- Acquiring land in strategically located sites and areas designated for renewal following appropriate compensation and relocation procedures;
- Making a regular review of compensation and relocation procedures and come up with more workable ones;
- Ensuring that the development of basic infrastructure- road and utilities- shall be conducted in an integrated manner, following the "complete street" guidelines;
- Retuning and updating standards and guidelines for the development of the main centre;
- Creating and regularly updating graphic and statistical data bases; and
- In collaboration with the National Bank of Ethiopia and commercial banks as well as the City Government, developing viable financing mechanisms for decisive urban projects; and supervising the quality of the built structure as well as streetscapes to create a legible city centre.

Local Development Plan Preparation

Local development plans of centres need to be much more detailed than those that had been prepared in the past. Each shall incorporate detailed urban design guidelines clearly interpreting 'mixed use' classification. Moreover, LDPs of the centre shall clearly set the standard and hence the basis to evaluate residence and job densities. LDPs of the centre shall also comprise detail guidelines that would allow properly designing street patterns with a view of facilitating the movement for different modes of transport. There is also a need to give adequate heed to the provision of public amenities as well as street furniture. The financing mechanism for implementing an LDP has to be well prepared, whereby both public and private investments have to be identified and ways of securing commitments (like signing 'urban pacts') have to be clearly elaborated. Phasing of physical and financial investments should be worked out to ensure the proper development of the centre.

The focus of the public sector's engagement should be providing serviced land for investment, and handling resettlement issues. This may require revisiting relocation and compensation strategies and procedures. As the development of most of the proposed centres is to take place in already settled areas, such redevelopment works would threaten the long-established

economic and social networks in those areas. Due consideration should therefore be given to adapt participatory and inclusive planning approaches that ensure the implementation of strategies which takes into account the preferences and economic capabilities of previous/original settlers.

Strategies to Attract Investment

There is a need to adopt workable strategies that will attract investment to the centres. This may include the provision of serviced land, tax holidays, and land lease price considerations. It can also be linked to zoning such as use of outdoor space for commercial use or negotiating floor bonus/ density bonus while providing a public amenity or street furniture.

2.4.3 Specific Proposals

Main City Centre Development

The specific proposals for the development of the main city centre include:

a) Develop a **high density CBD** over 350 ha comprising
   - 60 ha of serviced land is to be made available for modern office facilities, retail & recreational facilities and Multinational Corporations;
   - 15 ha is to be developed for a central transport terminal at La Gare, which integrates regional bus terminal, train terminal, and future MRT station;
   - Refurbish 20 apartments, 6 hotels and government offices that exist in the CBD;
   - Implement 5 Grand Projects- a large Central Park in La Gare area, Filweha Spa & Resort expansion, a large park within the Jubilee Palace and Ghion's green along Banteyeketu River, 2 major malls at La Gare and TCDE LRT stations, and conversion of the Ministry of Defence administrative building into a civic/cultural centre; and
   - Introduce orbital alternative routes for traffic diversion south of the east-west axis as well as increasing accessibility of the Cherkos area.

b) Upgrade the **existing old quarter** around the National Theatre:
   - Refurbish/upgrade existing apartment buildings, hotels, hospitals, parks and the National Stadium;
   - Pedestrianize Churchill-south axis extending from the National Theatre southward to La Gare area, which will develop towards a car-free zone in 20 years;
   - Infuse multifunctional public spaces by clearing underutilized blocks within the core;
   - Open up fenced compounds and intensify use of Tele, ETV, and Post Office compounds;

- Convert ground floors to public service activities to create strong street-building interface; and
- Relocate the Ministry of Defence and convert the space into civic function with a plaza.

The Churchill Avenue with its pockets of open spaces linked with its recessed buildings and street pattern can be further enhanced and developed into a properly networked green infrastructure, including Gola Park at Tewodros square, Ethio-Cuba park, Adwa square around National Theatre, and Tikur Anbessa square at La Gare. Tikur Anbessa square could be upgraded into a large city park that can serve as a major breathing space for the proposed CBD.

Similarly, this green link can be further strengthened along the Ras Desta Damtew street parallel to the Banteyeketu stream on the north, which will enable a chain of parks and recreational facilities starting at Ambassador Park, Filwuha recreational centre, and Ghion green area.

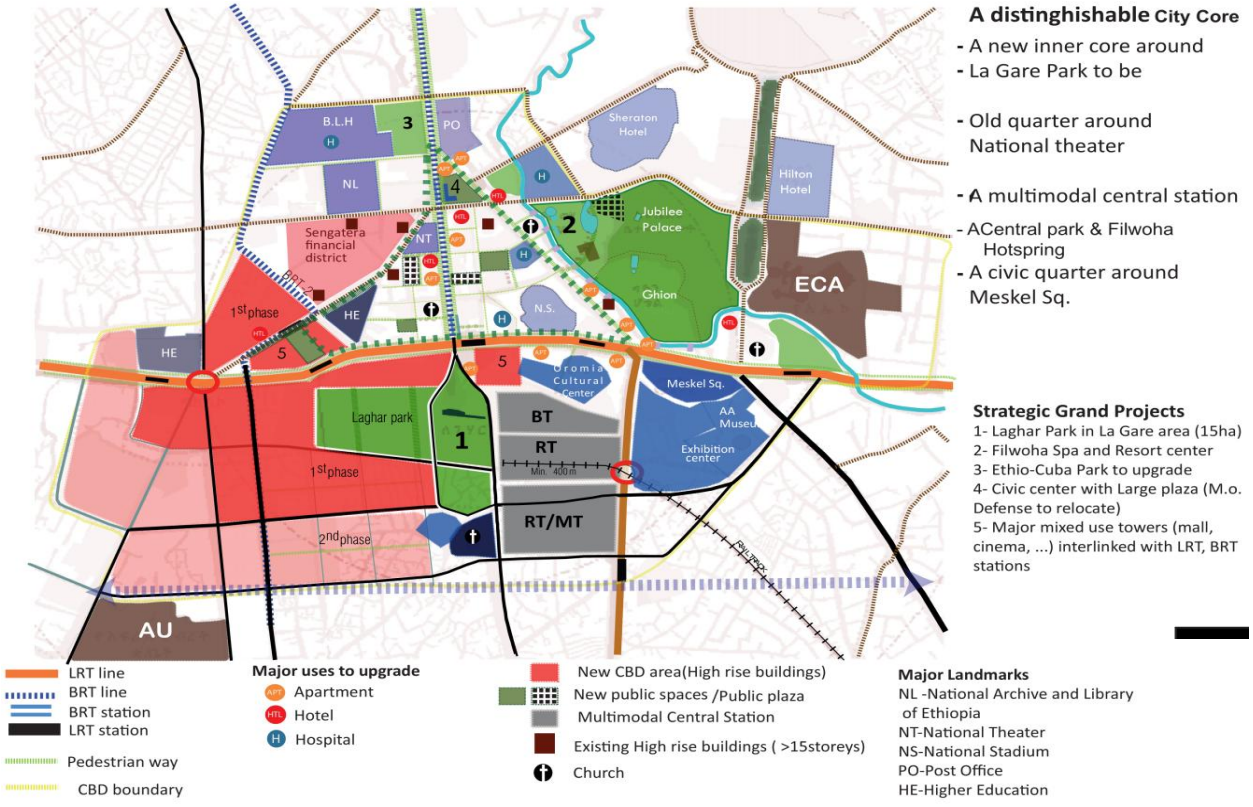


Figure 10 Major proposals of the MCC core

Development of the three Secondary Centres

The proposed secondary centres are to be linked through mass transit corridors with the main centre and among themselves. Moreover, a total of 30ha of land will be provided for new investments that will help crystallize the development of these major centres.

The **Meri** centre has already attracted anchor projects (the large convention and exhibition centre by Chamber of Commerce and the City Government, the Saudi German Hospital and a recently allotted Medical Centre by medical professionals from the US) for which land is already reserved although the construction is yet to start. Moreover, the ongoing high density apartment development will be considered as part of the centre. Considering the Ayat-2 LRT station around Meri, a 100m block is reserved along the road, including the frontage of the proposed Saudi German Hospital for high density commercial/ office complexes. To activate the 800m long front side of the CMC complex, the plan envisages rendering the front blocks directly accessible from the street and possibly changing the ground floor activities into retail services that are compatible with residential use. A large recreational park is planned on the hilly side north of the centre as part of the proposed centre.

The **Jemo-Lebu** centre is envisaged to develop into intermodal transport hub where a bus rapid transit and later, the extension of the EW LRT line will ensure a fast and efficient connection with the main city centre. At the southern node, a well designed intermodal terminal and a grand wholesale market where agricultural supplies from the hinterland as well as processed agro-industrial products will be sold are proposed as anchor projects for the proposed centre. At the northern node around Jemo, space is already allotted for a University complex, large scale shopping malls, a civic and cultural centre as well as a sport complex to be established amongst other commercial and mixed use facilities. The central axis connecting the two nodes is envisaged to be a well-designed boulevard with attractive streetscape and landscaping. It will have mixed residential complexes alongside it. The centre is also linked with Kality and Meri centres through an expressway.

The **Kality** centre is expected to incorporate an adequately designed and serviced transport terminal at the site that has started as a regional bus terminal. A large wholesale market is proposed adjacent to the regional bus terminal. A better structured corridor development stretching to the Akaki Stadium is planned, which will incorporate a civic centre, a recreational park and high density mixed commercial, residential and office apartments over a 1km stretch. With the diversion of freight and through traffic movements to expressways on either side of the road, the plan is to change this axis into an attractive urban boulevard.

Tertiary Centres

The plan is to establish six tertiary centres. The northern part will have a centre around **Addisu Gebeya**, where the market, the Sheger Park, the recently built mixed use buildings and the sub-city office already exist. The ring road connection from Wingate to Shiromeda via Addisu Gebeya is expected to strengthen its linkages with surrounding districts.

To complement the major centre at Meri which will serve the eastern settlement, the already established centre at **Megenagna** is proposed to be further strengthened by promoting a more dense development. Moreover, a second tertiary centre is proposed to be established at **'Bole-Arabsa'** (Bole-Ayat in the previous city development plan). A minimum of two anchor projects (a market area and a civic centre) need to be implemented as public investments to attract private investment to the proposed centre. A total of 30 ha need to be prepared for investment. Similarly, a new tertiary centre is planned for the large settlement anticipated south-east of Kality in the area known as **Koye Feche**. Moreover, the recently established Technology University is incorporated as a major function within the proposed centre.

Reorganizing and upgrading **Ayertena**, initiated by the former Addis Ababa City Development Plan (2002-2012) as a centre for the south-western district of the city, is proposed by this Structure Plan. The recently constructed road to Alem Bank and the future extension of the LRT passing through the centre will strengthen the importance of the node. A detailed plan will outline the reorganization of uses inside the commercial block around the node.

Saris in the south is an active commercial centre that has a potential to grow further with the upcoming LRT line. The LRT will have a major station and the next station will be located within 550 meters. This node has a great potential to grow into a tertiary centre, serving the residents of Saris Addisu Sefer and eventually those of Bulbula in the west and Lafto and Hanna Mariam localities through the recently built connection (via Dama Hotel to the Ring Road).

Bisrate Gabriel centre, which is already firmly established, will only need minor streetscape and landscape design related interventions to create efficient transport system and augment the urban quality.

Special Centres

Shiro-Meda- unlike most other markets, Shiromeda is a specialized market that could be further enhanced as a major traditional cloth cluster by providing improved infrastructure, public facilities that incorporate recreational and leisure functions. The extension of the LRT and that of the ring road from Addissu Gebeya will further enhance the centre's accessibility.

Kotari - the majority of the land that was previously reserved for the centre has been allocated for the construction of condominium buildings, and only a strip along the road remains. However, the node remains highly strategic due to the Africa Village and the Olympic Stadium that are envisaged to be built nearby. The plan has therefore reserved the front block for high density commercial activities to complement these facilities and to create an attractive node. Easy accessibility and smooth connectivity will be ensured through the existing ring road but also because of the extension of the mass transport system.

Bole Medhanealem centre, which is already firmly established, will only need minor streetscape and landscape design related interventions to create efficient transport system and augment the urban quality.

Asco - A small commercial node is anticipated to develop around the regional bus terminal at Asco. The services would not only cater to commuters but also to Asco residents. Although the Asco outlet is being sidelined as a secondary connection route due to the more direct access through the old Tatek road south of it, there is a need to serve the existing residing population in that area.

Woreda Centres

Woreda centres are categorized into two- those to be developed inside the existing Ring Road, and those to be established in the peripheral sub-cities. The ones in the city core are already supplied with facilities that will be upgraded for the future. Commercial activities in Woreda centres will be complemented by high density business corridors. A Woreda centre is planned to comprise the Woreda level administration offices together with a meeting hall and a green/recreational component. In the peripheral ones, where more generous land supply and clustering of urban facilities is plausible, Woreda centres will be organized to comprise complete service providing nodes including market area, health centre, youth centre, library, police station and administration services.

Private plots nearby should be given the option to build mixed use buildings that would house local service-orientated businesses that would strengthen the functions of the Woreda centre.

Woreda centres along major (arterial and sub-arterial) roads will have high density mixed use buildings along the road.

2.5 Local Development Plans for Centres

The plan goes further and provides more detailed development plans for selected centres, including the main city centre. Local development plans for the Main City Centre (MCC) was prepared in collaboration with the Ethiopian Institute of Architecture, Building Construction and City Development. This section provides an overview of local development plans of the MCC and Kality Centre.

2.5.1 Main City Centre

The local development plan of the main city centre aims to ensure the city's competitiveness in the regional as well Global arenas, and solidify Addis Ababa's role as an African capital. It aspires to create a competitive, vibrant, socially inclusive centre with its own distinct character.

The around 400 ha site comprises of 5 major districts, each with its own peculiar character-

- the National Theatre district with its existing distinct urban fabric comprising a number of prominent establishments and buildings with architectural significance, and Sengatera-the new financial centre (65 ha);
- the Cherkos district, a deteriorated quarter presently but with potentials for attracting transnational corporations (120 ha);
- the La Gare district surrounding the central multimodal transport hub east of La Gare old train station (60 ha);
- the Filwuha-Meskel district with its inherent potential to evolve as a central leisure and recreation area (90) ha; and
- the Churchill axis as the physical but also symbolic bridge between the historic Arada and the to-be-transformed Cherkos district (60 ha).

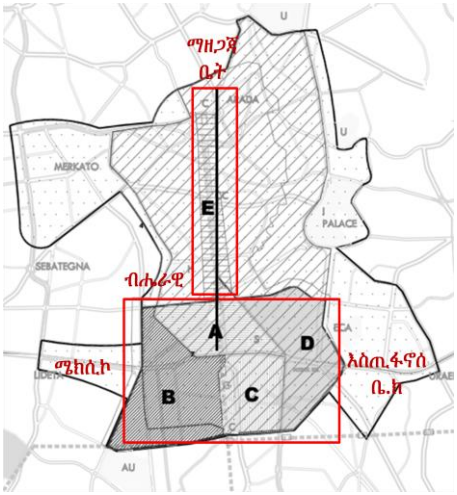


Figure 11 MCC districts

The LDP proposes the production of a minimum of 1.5 million m^2 of new floor space to achieve a satisfactory level of agglomeration economies with high end services, including corporate

offices, retail facilities, cafes and restaurants, luxury apartments as well as 30,000 dwellings ensuring a 24/7 vibrant city core. It is uniquely designed to prevent dead night life and the associated safety concerns observed in most CBDs by integrating socially inclusive public rental dwellings. A minimum FAR of 10 is enforced on lot sizes ranging from 1800m^2 to 6000m^2 in new parcelled sites. The concentration of tall buildings around Cherkos park will create a distinguishable skyline that will define the city's image.

Enhancement of the public realm is the major goal of the MCC local development plan. Parks of different sizes and specialization, creating fully equipped active but also passive natural areas for relaxation and reading, and vibrant public plazas for accommodating periodic open trading activities, bazaars and festivities are incorporated in the design. The Filwuha field, the Jubilee Palace and the Ghion hotel are anticipated to evolve into the central park of Addis Ababa, housing the Jubilee Museum, a state-of-the-art therapeutic centre, and also water fountains and enjoyable green network. Moreover, creating a walkable core that ensures pedestrian comfort is a central theme in the MCC local development plan which will be addressed by increasing permeability with shorter blocks, providing pedestrian-only streets, and leaving more than 50% of the street for non-motorized transport with green infrastructure.

Accentuating and upgrading the service quality and importance of peculiar buildings and monuments of historic significance as the National Theatre and the Lion of Judah, and also the Addis Ababa Stadium; commemorating prominent personalities as Empress Taitu, who marked the birth of the city around Filwuha springs, and also reinterpreting the existing layout of Cherkos fabric into a combination of alleys and small courtyards will endow the centre with its contextualized unique charm. Anchor projects in this regard also include the La Gare transport hub, the Filwuha central park, the landmark tower commemorating the new era, the Adwa (Andinet) square in front of the National theatre, the emblematic Meskel Square, and the Ethio-Cuba park.

The establishment of an institution, a Development Company, to oversee the realization of the MCC local development plan is strongly recommended. The institution needs to be technically fit and have good political support to synchronize all interventions to achieve the vision for the main centre. Its main responsibilities must focus on land management and development, coordination of infrastructure provision, negotiation with various stakeholders involved in the process, and marketing.

Figure 12 Central park, view from transport hub

Figure 13 Plaza on Andinet square- 3D

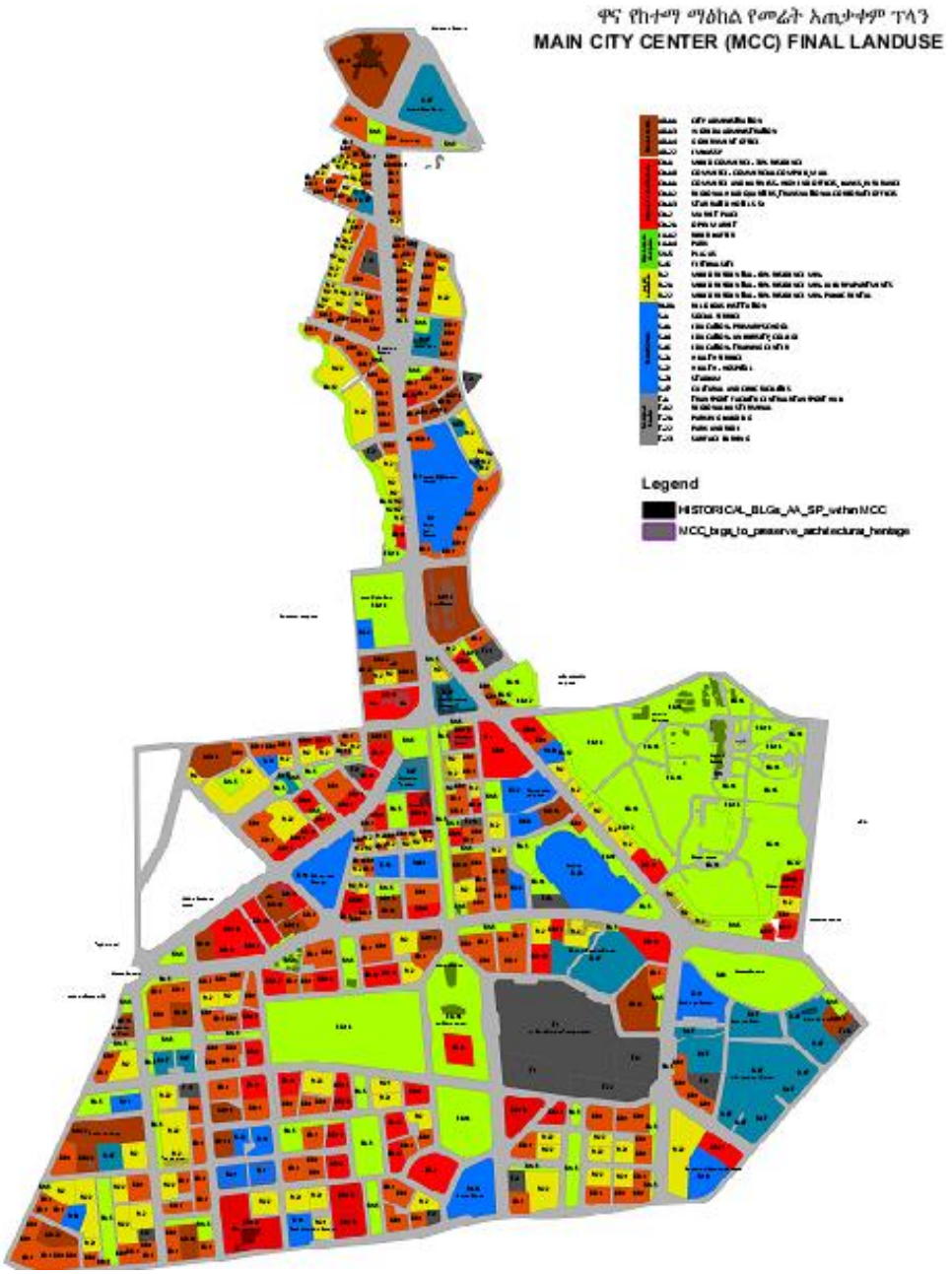


Figure 14 Main City Centre land use map

2.5.2 Kality Secondary Centre

Addis Ababa will have three secondary centres i.e. Meri in the east, Jemo-Lebu in the southwest and kality in the south. Development of sub centres along the city's growth direction is envisaged to bring balanced service distribution to inhabitants, thus reducing long distance travel as well as congestion at the main city centre. The local development plan for the Kality secondary centre was prepared in collaboration with a French consultant firm, Egis, with series of stakeholder discussions.

Kality secondary centre extends on 2km axis along the southern corridor and will provide services for about 2 million inhabitants living within 7-10 km radius. It covers 175 ha and is primarily accessible via the Debrezeit road, which is currently congested but will be upgraded in the future. The centre is also expected to become an important transport hub and modal interchange for the southern corridor:- Anbessa buses and taxis, new BRT line, LRT extension, daily trains from /to La Gare and MRT in the long run.

Akaki-Kality sub-city has about 14 condominium sites, Kilinto industrial area and a new freight terminal nearby – Endode terminal that have attracted an influx of large numbers of residents and employees, who will be better served by developing the Kality secondary centre. But this is not without its challenges. Lack of connectivity at urban and local levels makes the area less attractive for investment. Existing land use indicates that there is heavy concentration of financial institutions and commercial activities, albeit dispersed, along the Debrezeit road. There are housing units of various qualities in the inner blocks and a number of large storage facilities. Hence, expropriation and relocation are the main challenges faced in developing the centre. So far, the regional bus terminal has started operation and the sub-city's new administration building is under construction.

The concept of the Kality Secondary Centre LDP adapts the principles of Transit Oriented Development; optimization of connectivity (easy access to modal shift); pedestrian friendly compact development; and social mix (social inclusion).The local development plan also adapts obligatory mixed use proportions adapted by the structure plan. An urban design covering 51 ha of the 175 ha has been prepared that proposes the conversion of the Debrezeit road to an urban boulevard when the outer double leg to Kotari becomes operational. And main public squares will be the identity of Kaliti Secondary Centre. A 600m long public space framed by iconic buildings is the pedestrian backbone of the hub system, giving access to all the stations of mass transit. Trees and sheds will provide comfort to customers of small shops along the strip. The expressway that joins Kality to the outer ring road passes underneath a platform that accommodates the regional bus terminal and a mall. Based on the building height proposal, maximum height of G+19 and minimum FAR 5 is regulated.

An urban development company is envisaged for better implementation of local development plans, including some PPP arrangements but funded mainly by the City Government. It takes the activities of the different land related offices and thus prepares and leases land in the centre.

Figure 15 Kality sub centre- perspective from the north

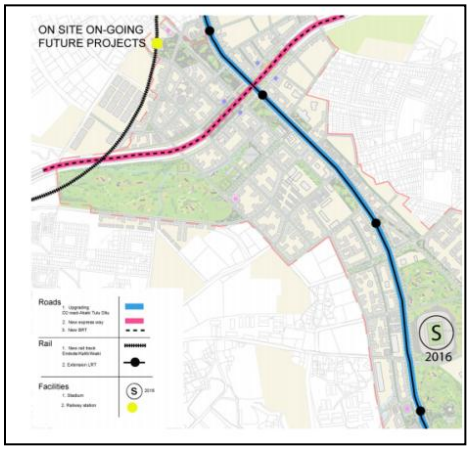


Figure 16 On going and future projects

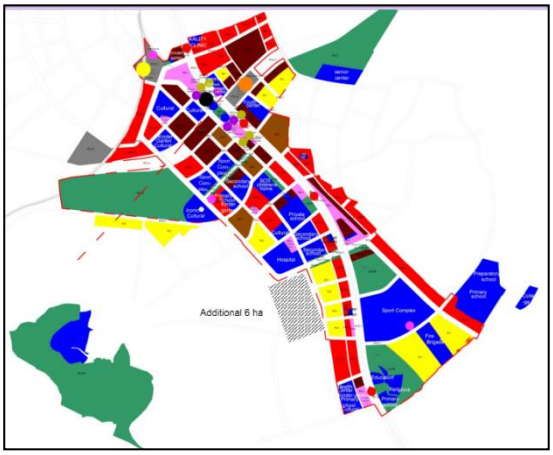


Figure 17 kality sub-centre proposed land use plan

3. Transport and the Road Network

3.1 Existing Situation

Urban transport plays an important role in transferring people and goods from a given origin to some other destination (within a city or beyond). In a context of rapid urbanization, a well planned transport system is essential for attracting investment. The presence of efficient transport system makes a city liveable and productive, enabling fast economic growth. Streets link spaces for different land uses and are vital for urban transport services. Urban road infrastructure can be planned to be either a boulevard or motorway, linked with roads of different hierarchies connecting different functions and allowing different types and volume of motorized and non-motorized traffic.

The construction of the first roads in Addis Ababa dates back to the foundation of the city in November 1886 by Emperor Menilik II and Etegie Taitu. The first roads served to link Sefers (villages within bigger settlements) by non-motorized modes of transport. The construction of modern roads was intensified during the beginning of the reign of Emperor Haile Selassie. The construction of roads during that period was carried out by the Public Works Department of the Municipality of Addis Ababa. The road construction had further been strengthened during and after the brief Italian occupation.

The total length of roads in the city before 1983 was 1,503Km, while the share of asphalted roads was below 20%. Following the establishment of the Addis Ababa City Road Authority (AACRA) in 1998, large scale road construction had commenced. The total length of roads in the city almost doubled (to 3,731km) between 1992 and 2012, and road density reached 12.9%.

Moreover, the provision of public transport and other basic services were very limited to some parts of the core area. Lack of adequate standard roads and other infrastructures because of unplanned settlements in these areas made the services provided poor. The city of Addis Ababa had provided public transport with only 10 busses in 1943. Kurukur/ scooter and horse-drawn carts were the main alternative means of transport. In 1974, small taxis (5 seat automobiles) and Anbessa Bus (then with 163 busses) were providing public transport service in the city. In 1986, mini buses (and Weyiyit) taxis were introduced in a bid to fill the big gap then observed in the provision of public transport. In more recent periods, the services of midi-buses and even maxi-buses (which are normally used in inter-city transport) are being required to fill the supply gap during peak hours.

Today, the Anbessa Bus Enterprise, which has a fleet of 733 busses that operate in 112 different routes in the city, as well as the numerous small taxis, minibuses and midi buses (“Higer Buses”) can only cover about 46% of the total travel demand. Despite the increase in the number and

quality of roads and public transport vehicles in recent years, the transport problem in the city as well as its environs has not yet been alleviated. There are a number of reasons for this but the most important one is lack of integration between land use and transport planning, while limited attention to pedestrian transport, delays in the installation of mass transit, etc all have contributed to the problem.

The modal share of private car in Addis Ababa is 5%, as the number of private cars reached 40,344 in 2011 (CSA, 2011). The car-people ratio is estimated to be 17:1000 now as there are a total of 200,000 cars in the city.

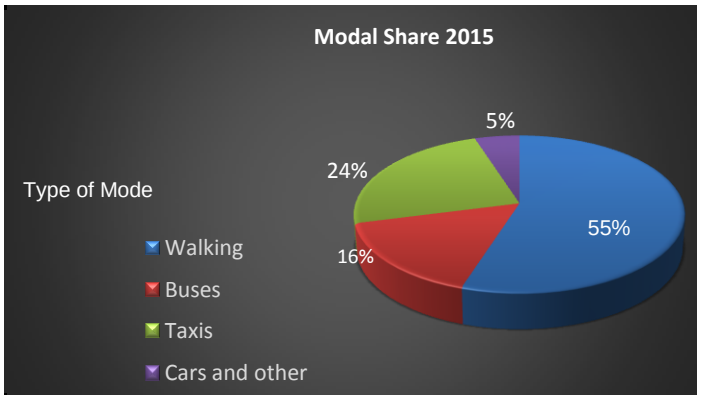


Figure 18 Modal share

The other important components of the transport systems are terminals and parking. Terminals also function as social and cultural focal points and provide an interface between intercity and intra city traffic, between people and transport modes, between mode and activity, and among modes themselves. Terminals are also an important feature of urban landscape, and can be important landmarks and elements of identification. The construction of terminals consumes large amount of resources, as they require an extensive land at strategic locations and incur huge capital outlays for their development and maintenance. Car parking plays a key role in influencing travel decisions, in terms of route, mode and destination. Often the cost and availability of parking are factors when making decisions about whether or not to drive to a particular location.

Non –motorized Transport

Walking constituted the largest modal share in 2005 (60.5%). According to the household survey by CES, average walk trip is estimated to be 1.49km (CSA, 2005). Walking was still the dominant mode accounting for 55% of modal share in 2011. According to travel demand projections, the share of walk trips is estimated to be around 45% in the year 2020.

Cycle transport is negligible; terrain and absence of cycle lanes have contributed to discouraging its use. Lack of attention given to this mode by policy makers and planners over the years seems to have shifted since there are now 3 cycle routes in the city.

Motorized Transport

Total travel demand in the city was expected to reach 3.2 million person trips per day in the year 2010 (CES, 2005). The modal share of public transport was anticipated to reach only 40% (bus 16% and taxis 24%) in 2010. With the assumption that the city's population will only reach 3.7 million by 2020, the same study had projected travel demand to rise to 5.6 million in the same year. The plan estimates population of the city will reach 4.4 million in 2025 and 6.4 million in 2040. With this in mind, it is estimated that travel demand will reach 6.6 million in the next 10 years, and will increase to 9.7 million in 2040.

At present, there are 8,500 minibus taxies, 442 midi buses, 1006 Anbessa city-buses and other 6,000 support vehicles that provide public transport service in the city and its immediate environs. Fleet availability has declined from 85% ten years ago to 64%. Due to various reasons, only 650 of Anbessa busses are presently working in 119 different routes. Maximum passenger carrying capacity of Anbessa city bus ranges from 100 to 150 persons. Recent data from Addis Ababa City Road Authority (AACRA) and Transport Bureau shows that there are about 488,028 passengers per day travel by Anbessa city bus, and a slightly smaller amount (479,182 passengers per day) by mini bus taxis. Nonetheless, the overall public transport system in Addis Ababa is critically inadequate to provide service for the existing travel demand.

The multi-dimensional effect of lack of integration between urban land use and urban transport has given rise to unnecessary trips, congestion, costly fuel consumption, pollution and low productivity. This is also partly due to poor transport planning and implementation.

Constraints in road transport infrastructure, lack of efficient public transport system and increase in private vehicle ownership have all contributed to high traffic congestion. In addition, the city is facing problems of road traffic accidents and air pollution. The growing usage of motorized private vehicles coupled with the increasing congestion levels led to increased fuel consumption, thereby making the transport system expensive and economically unsustainable.

Centres, market areas, working places are not well connected with residential areas by public transport. People are obliged to travel to city centres and recreation areas which give rise to unnecessary trips. These places are almost always congested by private cars and commercial vehicles during the day. Hence, market and business areas are not suitable areas for walking.

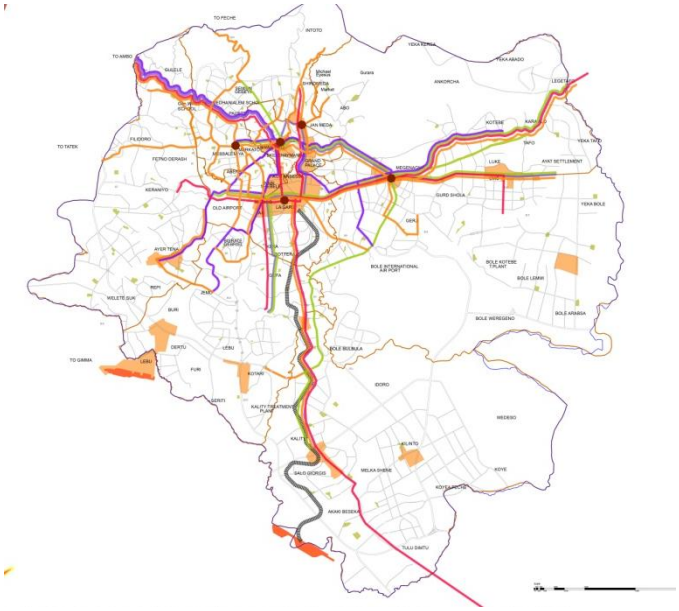


Figure 19 Anbessa bus route

Transport fares have been constantly increasing and this has almost doubled in the last 3 years. Mass transport system has become unaffordable to the majority of residents. In the absence of parallel increase in income, the share of transport cost is expected to increase dramatically and this may have forced many to switch to walking. In addition to causing travel delays, this lowers productivity and increases costs.

Railway Lines

The Ethio-Djibouti railway line within Addis Ababa has 2 legs, i.e. the first stretch starts from La Gare and reaches Akaki, which is about 16km; the second stretches from La Gare to Bole Customs and is 5.4km. However, both are not currently being used as there are no locomotives. The last City Development Plan had recommended the reservation of right-of-way for both railway and road (15m on each side of the railway line). At present, however, except for the stretch from La Gare to the airport, most of the space had been taken up by individuals.

Street Network

The city currently has mainly radial and orbital road pattern where main roads radiate from the centre to the 5 outlets; and the ring road encircles the core and intermediate parts of the city, serving to link the peripheral areas of the city.

According to the City Development Plan of Addis Ababa (2002-2012), road hierarchies are classified into five:

- Express way (the ring road 40m width and above) with controlled access and high speed;
- (PAS) Principal Arterial streets above 30m width (East –West, and North – South axes);
- (SAS) Sub-arterial streets 20m – 25m width;
- (CS) Collector streets 15m-19m width; and
- (LS) Local Street (<15m width) and other exceptions such as Bole Michael to RR foot Bridge.

The total roads of the city (of 7m width and above) are 3,731km. Out of these 1,807km (48.4%) is asphalted, 1,777km (47.63%) is gravel and 147km (4%) is cobblestone. There are currently around 214 roads of arterial level (PAS and SAS) that structure the city. The total length of the major roads (PAS, SAS and CS) constructed in the past ten years is about 468.63km. 38 major roads were proposed by the pervious city development plan to be built in the planning period. Out of these, 42% have already been implemented (constructed). The rest either under construction, under design or in the process of entering into contracts. Few have yet to be implemented.

At present, the existing road density is below the universally accepted standard of 25%. Road density of the total built up area is about 13%. On the other hand, the total urban space is about 54,000ha. This makes the gross density less than 10%, and the area covered by road is about 5199ha. The road infrastructure is insufficient and not comfortable for smooth vehicle movement. Most of the intersections are very narrow and prone to traffic congestion.

Addis Ababa is linked with the surrounding towns and beyond mostly by single-legged roads, except for the southern (a new toll road) and western corridors (an alternative road via Tatek). The south outlet carries about 73% of incoming and outgoing traffic, and is connected by a toll road that extends to Adama. Contrary to the areas along these regional outlets, those rural and suburb areas located inside and far from roads (although out of Addis) have not benefited.

24kms of the planned 33km of Phase I and II Ring Road (RR) was implemented, which is an expressway. The ring road plays a significant role in linking the 5 regional outlets and distributing the incoming traffic. Access is controlled throughout the stretch except at 17 junctions. It is composed of interchanges, and grade separated intersections. The average distance between two functional accesses is about 2km. The maximum access distance along the road between Torhailoch and Wingate is about 2.8km. Ring road Phase III is implemented along the route Wingate – Gojam ber. But the IV phase (Addisu Gebeya – Kebena) has yet to be implemented. The interval of pedestrian crossings, including overhead crossing and at roundabouts is 1.5km. The distance has led those living on either side of the road to jump rails to cross the expressway, exposing many to traffic accidents.

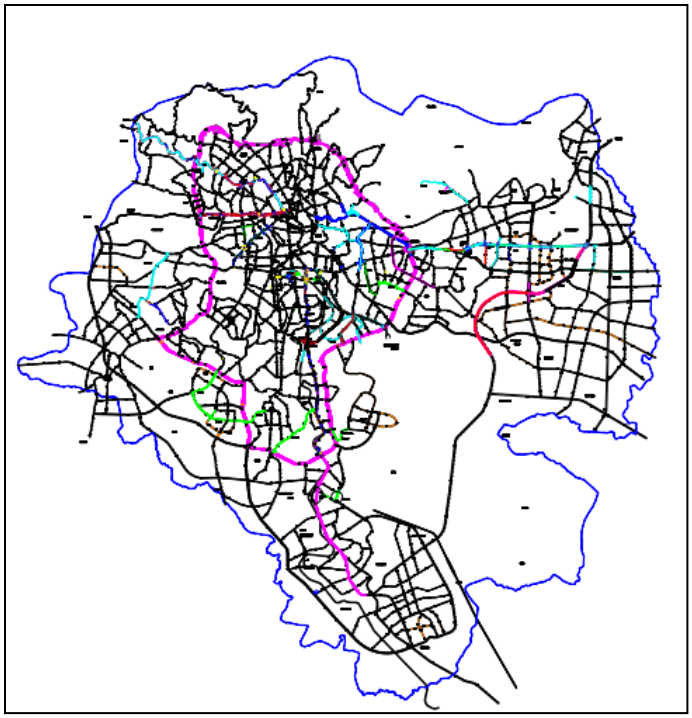


Figure 20 Road inventory

The absence of adequate transport infrastructures (parking, loading and unloading, etc.) and weak traffic management are major factors behind congestions around major business areas. This affects the performance of the road network. The other thing is that the existing road hierarchy is currently characterized by roads built without knowing the real volume of pedestrians and vehicles, and had been designed without adequate consideration given to land use. Violation of width (right-of-way) and connection of incompatible road hierarchies created pressurized routes.

The city does not have comprehensive and safe pedestrian facilities. The total length of the pedestrian pathways constructed in the last 10 years in the city is about 440km, which is almost 12% of total road length. 53% of streets in the city core do not have enough pedestrian facilities. Existing walkways and streets are congested due to on-street parking, passenger and goods loading/unloading activities, and informal trading activities.

Parking

On-street and off-street parking are common in Addis Ababa, but the first one is the most practiced. Consequently, it has contributed to inefficient utilization of the road network, safety

problems and congestion, especially close to junctions. There are only few off-street parking areas or parking space inside buildings. There is no readily accessible parking area near public transport terminals. Thus, parking remains one of the critical issues that need to be addressed. There are no properly planned terminals for medium and heavy freight vehicles in the core and intermediate areas of the city. These areas do not have sufficient spaces for parking, or freight loading and unloading. Loading and unloading spaces are also rarely found in the compounds of producers and distributors. As a result, such vehicles contribute to congestion particularly in the core and market areas.

Terminals

Inter-city Passenger Terminals

There are two main/central inter-city passenger terminals- one existing in northwest part of Merkato and another one in La Gare. Five (5) new intermediate regional bus terminals (i.e. at Kaliti for southern entry, Asco for Ambo Ber, Lamberet for Dessie Ber, Ayertena for Jimma Ber, and Addisu Gebeya for Gojam Ber) were proposed by the previous plan. Merkato is still functioning as central regional terminal; three intermediate terminals (Asco, Kality and Lamberet) are in place. However, they are not functioning in an integrated manner with the central terminal. The other proposed inter-city regional terminals have not started operation either because of delayed implementation or the sites' poor accessibility. Lack of appropriate organization of intra-city terminals, absence of off-street parking and spaces for loading and unloading passengers are also causes for the increase in traffic congestion.

Intra-city Passenger Terminals / Bus Depots

There are four bus depots serving exclusively Anbessa busses located at Gerji (AMCE), Lebu/Jemo, Akaki Tulu Dimtu and Shegole, each with an area of 95,289 m2, 56,814m2 and 81,044m2 respectively. These depots function as workshops where Anbessa busses park for the night, or for repair and maintenance, etc. Anbessa Bus Enterprise, which is currently organized under Addis Ababa Transport Bureau, is responsible for the construction and management of these depots.

There are currently a total of 36 intra city terminals (major origin and destination areas for busses and taxis) in the city. Those terminals that were proposed by the previous plan were 15, but only five had been implemented as per the proposed plan (City Development Plan). These are the Megenagna, Sar Bet, Ayertena, Wingate and Bole terminals, while the remaining (CMC,

Bole Lemi, Kotebe, Bela /Ferensay/, Akim Ginbata /north of Sidist Killo, Piassa, Kaliti, , and Kotari) have not been implemented.

On the other hand, there are a number of bus and taxi terminals that were not proposed as terminals by the City Development Plan but are now functioning as such. These include Shiromeda, Asco, Kolfe, Mexico, Addisu Gebeya, La Gare, Saris, Kera and Torhailoch. There are stations, stops and bays such as Torhailoch and Alert Taxi bays. The terminals, even those considered as standard, are not fully equipped with the necessary facilities and passenger amenities such as shades, walkways, separated parking for busses and taxis, wide entrance and exit areas, etc.

Freight Terminals and Depot

The City Development Plan (2002-2012) envisaged rail and road freight terminals at Kality. Currently there is no formal rail or road freight terminal in the city. Space in the Custom's Office and other public institutions compound are being used for this purpose. The absence of parking for freight vehicles in market areas has resulted in congestion and pollution (particularly in Merkato), as the vehicles use the streets for parking, and loading and unloading cargo.

Traffic Management

The 2012 Transport Policy was designed by the Addis Ababa Transport Bureau to improve and manage the city's traffic. There is high traffic congestion on the streets of Addis Ababa, mostly due to inefficient traffic management. Problems of road furniture, inconsistency of zebra crossing, lack of adequate traffic signs and road markings, numerous U-turns on the same street and lack of alternative routes are all contributors to the challenge. 73% of the streets in the city are without traffic signs. Traffic accidents are high and rising, while fatality rate has been one of the highest in the world. The implication of high congestion and low road safety on productivity is detrimental.

3.2 New Paradigm for Streets and Mobility

Addis Ababa's structure is organized with one strong main city centre and sub centres. In addition to these centres, certain localities (usually on the outskirts) with high residential areas, industrial zones and markets are main attractions foci, thus generating trips. Government policies and strategies also impact upon ongoing and tomorrow's development, significantly affecting and shaping mobility. Finally, there is a need to acknowledge that Addis Ababa is still a primate city and faces serious challenges of rapidly increasing population.

The concept of developing transport and road network in the city and its environs is based on two premises i.e., a polycentric city with one strong centre; and limiting traffic in the city core. The need to ensure high accessibility by public transit of the core with radial and ring road transit routes is considered.

Having a comprehensive transport plan and system in place is necessary for social, economic and environmental sustainability and competitiveness. Therefore transport supply and services shall:

- Ensure economic sustainability and competitiveness within the framework of affordability and efficiency;
- Allow for all the basics access and development in the sector for social sustainability;
- Limit emission to acceptable standard and use of renewable resources for environmental sustainability;
- Increase the capacity of the street to move more people than more vehicles;
- Promote sustainable transportation such as mass transit, walking, and cycling;
- Adapt safety as a key concept in the design of streets; and
- Design a street network with equitable distribution of space between the different users.

Energy-efficient Transport System

For the next planning period, mass transport and non-motorized transport will be significant transport modalities for the city. The share of mass transport will increase. Non-motorized transport (pedestrian and cycle transport lanes) will be provided in almost all parts of the city within the inner ring road, especially in the Main Centre. Therefore, wide pedestrian access and cycle lanes will be provided on business streets and in market areas. There will be certain streets dedicated only for non-motorized traffic.

Connectivity

The former full express orbital inner ring road will be converted to roads of partial expressway. This is expected to relieve the city core from traffic pressure. Since freight transport will not be allowed into the centre except at limited time periods, one additional full expressway (intermediate ring road) will be constructed to facilitate this particular mode of transport. The outer ring road (the third) is recommended to be located outside of the city boundary, thus connecting the towns surrounding Addis Ababa.

Connectivity is also about linking market and service areas to residential settlements, linking different neighbourhoods, linking industrial areas to service and market areas, etc. Connecting the main centre with sub-centres by mass (public) transport services is envisaged. In addition, connecting the capital and other towns and settlements in the area via different modalities and by hierarchically structured street network system is planned.

Traffic Minimization

Twenty-eight high rise structures/buildings dedicated for vehicle parking will be constructed inside the inner ring road. Park and ride facilities will be provided on the outlets to reduce the number of private vehicles entering in to the city centre. These facilities will be located at the farthest extension of the city's regional outlets at origin/destination points for mass transport services. Parking facilities shall also be introduced for cycle and private car users around mass transit stations, mainly outside the main centre. All these measures will reduce congestion and pollution in the city core.

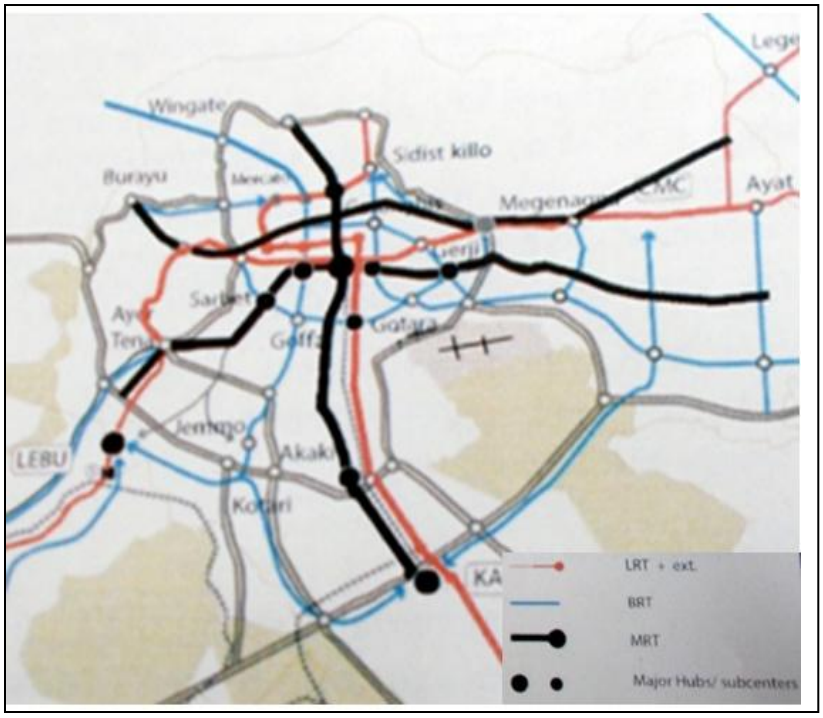


Figure 21 Transport concept plan

3.3 Proposals

3.3.1 Major Goals

Transport System

- Prepare an Integrated Transport Plan for the city for the next 10 to 25 years;
- Reduce walking distance to the nearest public transport system to 500m;
- Reduce home-to-work travel to 1 hour;
- Promote healthy mobility with efficient traffic management systems, proper parking and terminal facilities;
- Reduce waiting time for mass transit service to 5 minutes;
- Reduce by half the annual average of 940 traffic accidents in the city; and
- Enforce environmental standards on vehicle use and reduce carbon emissions by half.

Street Network

- Increase road density from the existing 13% to 25%;
- Provide comfortable road infrastructure and related facilities to the elderly, children, persons with disability, cyclists and pedestrians;
- Dedicate 50-60% of the street area at centres located inside the existing ring road and identified sections along transit oriented development corridors for NMT; and
- Provide a hierarchically organized street network with the necessary infrastructure.

3.3.2 Non-motorized Transport

Three only pedestrian walkways will be provided in certain localities inside the inner ring road at business and market areas. These selected places will be accessible for mass transport and non–motorized transport. More attention shall be given to the planning and implementation of pedestrian pathways that also accommodate disabled persons. Overpass pedestrian crossing will be constructed on expressways. Planting trees in appropriate places, especially on walkways, islands, squares and open spaces will be given priority. 19 pedestrian crossings are proposed on east–west and north- south LRT route. In addition 14 pedestrian and 4 vehicular crossings are added in the inner ring road. Dedicated bicycle lanes will be introduced in zones that have gentle slopes.

3.3.3 Motorized Transport

The LRT (electrified light rail transit) has a total length of 34.25 Km (North-South line 16.9km and East- West line 17.35 km). These two lines (N-S & E-W) use a common track stretching for about 2.7Km (Higher Court- Stadium), and total passenger capacity is 60,000-80,000 passenger per hour.

Based on passenger transport survey, the passenger flow of East-West route in Addis Ababa LRT is estimated to be 734.4 thousands persons/day and 536.9 thousands person/day in the North-South direction. The LRT project will extend from Ayat to Tafo roundabout, from Ghiorgis to Shiromeda, from Torhailoch to Jemo-Lebu Centre, and from Kality Interchange to Kality Centre.

15 Bus Rapid Transit (BRT) lines are proposed to serve the congested corridors of the city and to feed the east - west and north - south LRT systems. The BRT Project is also an urban project that will contribute towards improving the whole public space along the corridor, facilitating a safe pedestrian movement. In many BRT systems around the world, it is common to have several lines operating along the same corridor on stretches where need for traffic is high.

The right-of-way for metro/subway will be reserved. The MRT system is expected to be implemented in 25 years, and will have an alignment loop and radial network.

3.3.4 National Railway Line

The historical national railway line will serve the regional transport operation once again stretching up to the main city centre (La Gare). The main centre at La Gare will be connected with the Sebeta – Meisso railway line which is the national freight and passenger transport route. The whole right of way from La Gare to Akaki with a 30m width is reserved for the national rail and mass rapid transit.

3.3.5 Street Network

Road hierarchy is based on local area or "Sefer" needs. A specific area or a Sefer is a part of the urban fabric that is contained within a "block" bordered by traffic carrying roads or other physical boundaries.

- People tend to regard an area within 500m of their residence as their home area; and
- This distance is within the principles of desirable spacing of accesses from the Sefer to the traffic carrying roads, bus route spacing/station or bay, and acceptable walking distances.

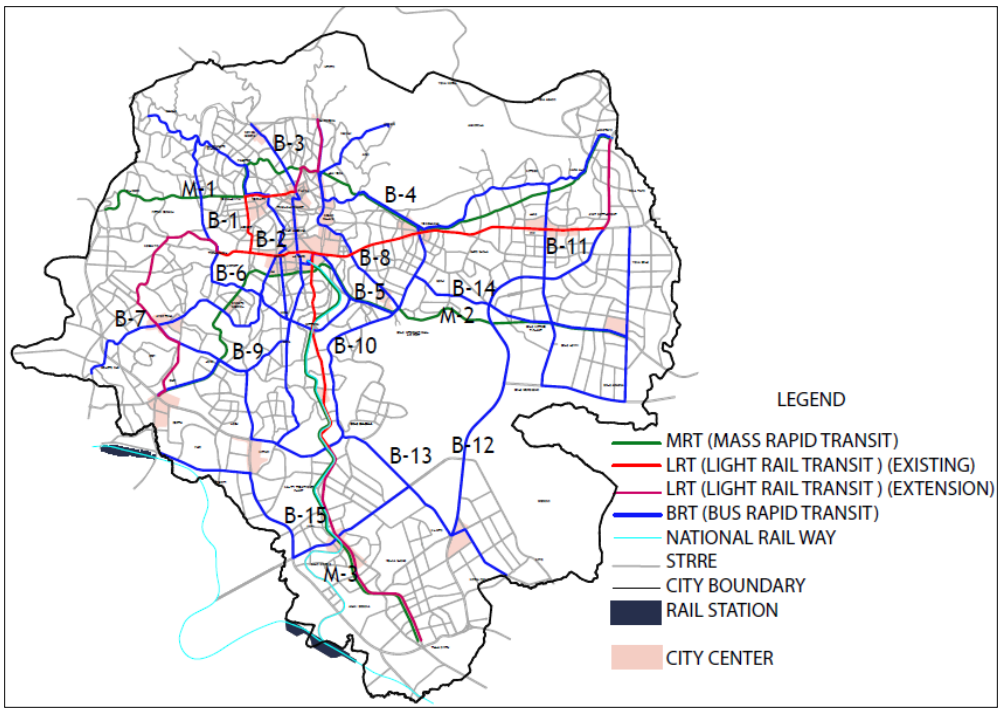


Figure 22 Transport network

Function of street type:

PRINCIPAL ARTERIAL STREET– will carry through traffic, longer distance traffic, line haul public transport, primary freight and dangerous goods routes.

SUB ARTERIAL STREET – will serve as connections between local areas and arterial roads, connections for through traffic between arterial roads, access to public transport, through movement of public transport, regional – local cycle movements (off road) and pedestrian movement.

COLLECTOR STREET – will carry traffic having a trip end within the specific area, will provide direct access to properties, access to public transport, pedestrian movements and local cycle movements.

LOCAL STREET – will provide direct access to properties; will be used for pedestrian and local cycle movements.

Span (Planning standard)

PAS – Every 2 km

SAS – Every 1 km

CS – Every 0.5 km

Right of way width: PAS – 60,50,40 and 30 m, SAS – 30m and 25m, and CS – 20m and 15m

PAS can either take the form of expressway (highways for fast moving traffic, freight or dangerous goods movement) and runs along the periphery and links major cities, or boulevard streets (an urban street inside a city for public transport route that links the city's major centres).

Table 11 Street share

Road type	**Share on right - of - way**	
	Non- motorized transport	**Motorized transport**
Boulevard (PAS and SAS)		
• CBD	60%	40%
• Within the inner ring road	50%	50%
• High density corridors	50%	50%
• Outside the inner ring road	30%	70%

• Other centres	based on the LDP	based on the LDP
Express way	30%	70%

System of Road Network

The system of roads can vary from place to place. It can be orbital and a radial system for the major PAS and SAS; and grid for collector roads.

Orbital Roads: The existing orbital inner ring road will be converted to roads of partial expressway. This is expected to relieve the city core from traffic pressure. One additional full expressway (intermediate ring road) will be constructed at a reasonable distance from the existing one. An outer ring road (the third) will be located outside of the city boundary and will connect the towns surrounding Addis Ababa.

Radial Roads: There will be 6 major outlets that will serve as boulevards moving out of the city. These are: 3 roads to Bishoftu/Debriziet - one boulevard street via Tulu Dimtu, one expressway or the existing Addis- Adama toll road, and another expressway as an extension in the south to the former Trans African Highway; 3 outlets via Legetafo serving as boulevards (Megenagna via Wesson Karalo, Ayat to Kora Gido, Summit via Bole Lemi to Koye Feche); 2 outlets via Burayu (a boulevard street via Asco, and an expressway via Tatek); 2 boulevard streets to Sebeta via Welete Suk; and 3 roads to Sululta via Addisu Gebeya, one will be a boulevard street and the remaining two shall be expressways.

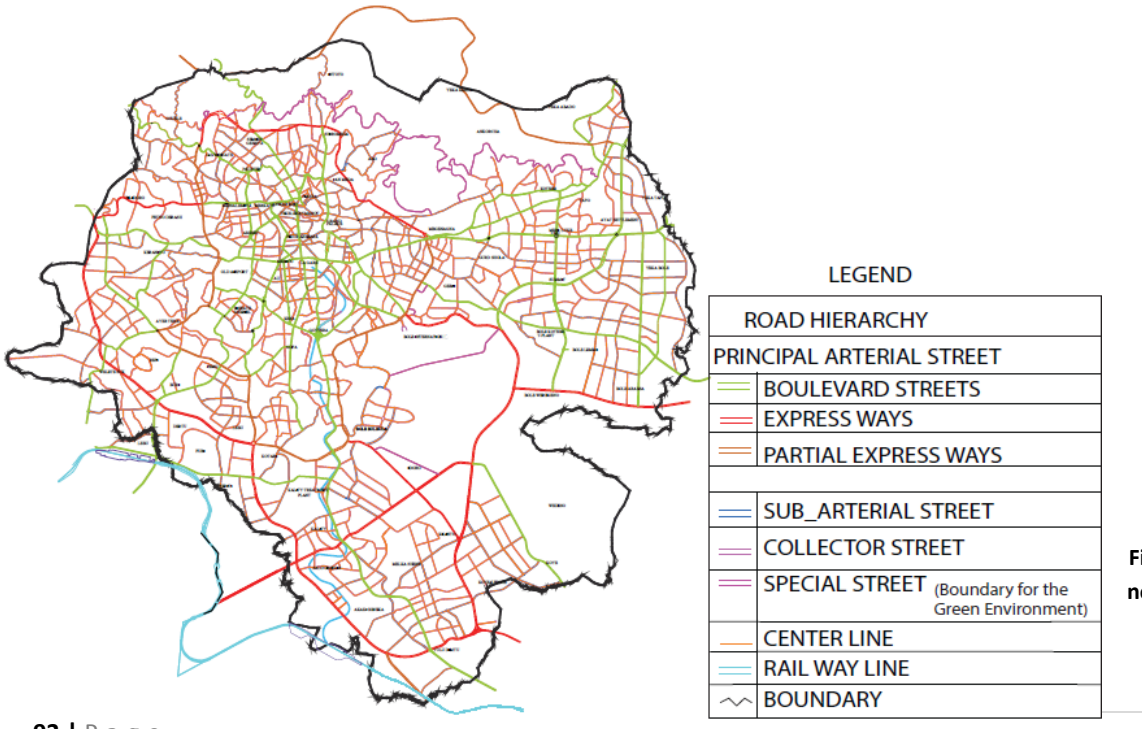


Figure 23 Road network

3.3.6 Terminals

Intra-city Terminals

Intra city terminals (for conventional public road transport providing vehicles including Anbessa buses) are proposed inside centres, on the existing transport origin and destination spots, near LRT and BRT stations. Economic activity will be enhanced when terminals locate in such areas. 20 hierarchically structured intra city terminals will be located in the city and its immediate surroundings.

1st level Terminals size 2-2.5ha

2nd level Terminals size 1-1.5ha

3rd level Terminals size 0.2-0.5ha

Inter City (Regional) Terminal

There will be six inter-city passenger transport terminals in Addis Ababa. These will be located around La Gare, Addisu Gebeya, Lebu, Lam Beret, Asco, and Kaliti. Merkato Main Terminal (Autobus Tera) will no longer provide service. Instead of Ayertena's terminal proposed by the previous plan, Lebu shall serve as terminal for intercity passenger transport from/to the southwest. The capacity of the existing terminals at Asco, Lam Beret and Kaliti is expected to double in the coming ten years. This means that the area of each terminal will have to increase 100% by 2025. While the space used by the first two are expected to triple in 25 years, the later (Kaliti) will remain as it is. The demand for buses at Kality terminal is expected to decrease after 10 years due to the availability of alternative regional transport (i.e. national railway line).

La Gare terminal is proposed to be the main transport hub where different transport modes interchange. It will also be the area where both intercity and intra city passenger terminals can be found together. The total area reserved for the terminal is 14ha. Different mass transport modalities such as taxis, Anbessa city bus, the national railway line, inter – regional buses (longer distance inter-city buses), LRT, BRT and eventually MRT will converge at La Gare.

Freight Terminals, Loading and Unloading Spaces

Freight terminals will be built near the proposed industrial areas at Akaki in addition to Kality, Fillidoro, Bole Kotebe (Goro), Tulu Dimtu, Ayertena (Repi). Heavy duty freight vehicles will not

be allowed into the city core outside the allotted time. Freight loading and unloading stations will be allocated at the five outlets (including the one at Lebu national railway terminal).

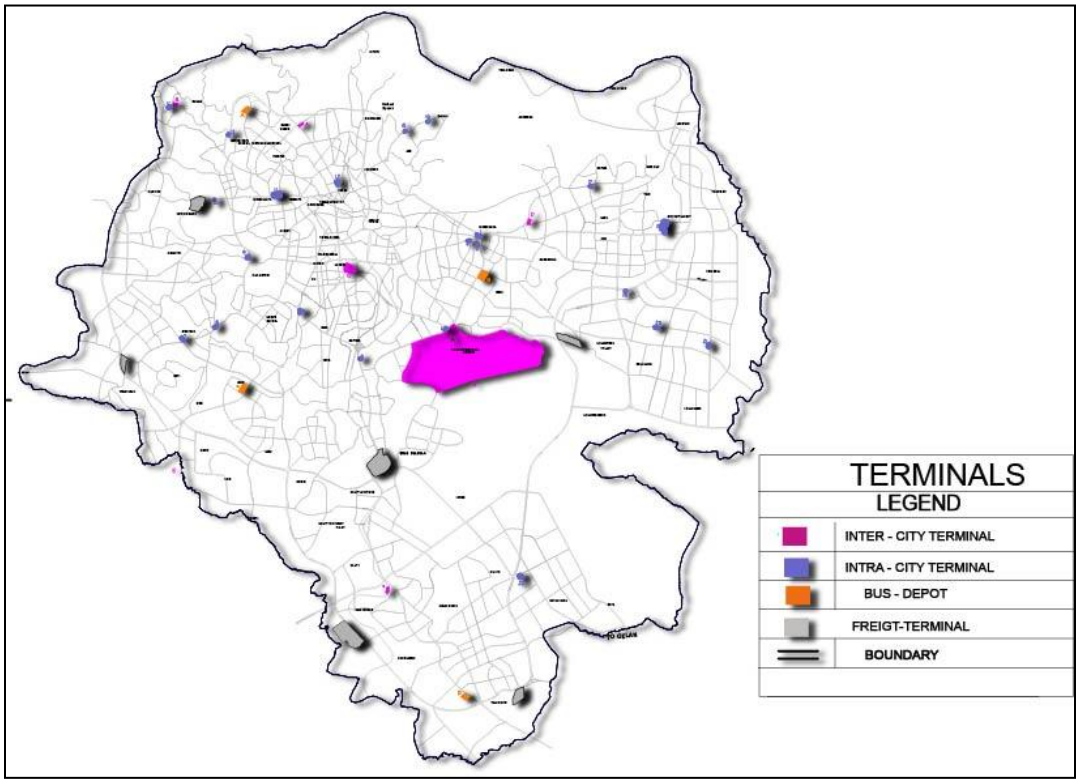


Figure 24 Passenger and freight terminals

3.3.7 Parking

6 identified open spaces at the outlets shall serve as “park and ride” points. Park and ride facilities will be used by commuters who will park their private vehicles to change to mass transit modes (LRT and BRT) for travelling into the centre of the city. These open surface car parking/facilities are accessed either by major arterial or collector roads. The purpose is to reduce congestion inside the city.

Location of the park and ride sites

Park and Ride 1 – At Addisu Gebeya

Park and Ride 2- At Asco, end of second Phase BRT B2 Route (area 2.2 ha)

Park and Ride 3 – At Jemo-Lebu Centre, end of second Phase LRT Route (area 3.0 ha)

Park and Ride 4 – At Kality regional terminal (area 2.7 ha)

Park and Ride 5 – At Bole Lemi (area 1.4ha)

Park and Ride 6 – At Ayat (Area 2ha)

Multi-storey Car Parking

Sites have been selected to construct 60 buildings to be used for car parking. The selection was made based on certain criteria, including accessibility. The purpose is to completely abolish on-street parking inside the inner ring road. All parking buildings will be accessible. A few had been proposed inside high density condominium sites (Jemo 1, 2, 3, Ayat 1, 2, Ayat Bole, Yeka-Abado, Semit, and Mickey Leland.).

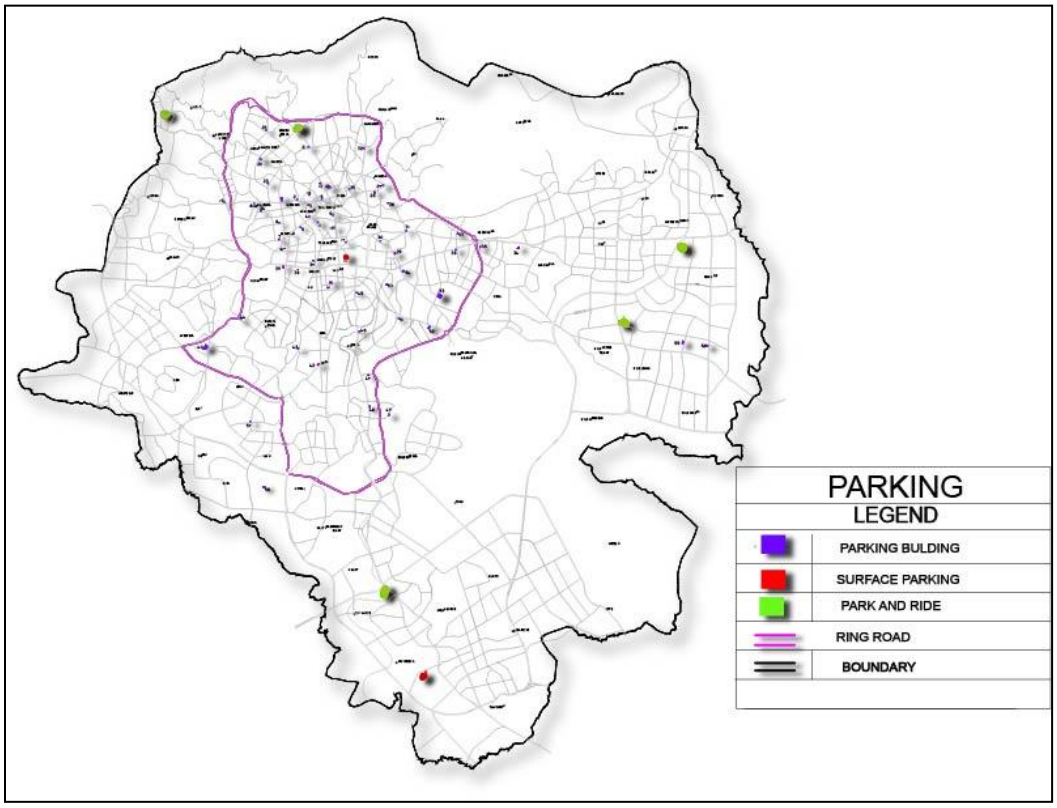


Figure 25 Car parking

3.3.8 Traffic Management

***Ban on street car parking on PAS and SAS*: -** On street car parking is restricted on major streets (PAS and SAS) inside the inner ring road.

***Ban aged cars*: -** Cars aged above certain years (to be determined after extensive technical and cost-benefit analysis) will be prohibited from moving within the inner ring road.

***Animal movement restriction*: -** On foot pack animal and cattle movement is also restricted on PAS and SAS.

Freight movement

Heavy freight movement is restricted within the inner – ring road between 06:00am- 08:00pm. During the day time, goods movement will be carried out by small vehicles. Freight loading and unloading terminals and parking places for construction vehicles are identified.

Car restricted zone

Private cars are restricted from entering some identified places (Ras Mekonnen Bridge – Degol square, in side Merkato (Existing main regional bus terminal-Gojam Berenda- Teklehaimanot via Anwar Mosque- Abinet roundabout- to existing main regional bus terminal via Sebategna) and from the national post office to La Gare.

Prohibition of using pedestrian walkway for private purpose

Public good is commodity or service that is provided without profit to all members of a society, either by the government or by a private individual or organization. Streets are public goods and as such, no one has the right to block or use the street for private purposes. But at present, both governmental and private organization use pedestrian walkways and sometimes streets for purposes they were not intended for. The plan proposes all organizations and individuals should remove their properties from pedestrian walkways. Addis Ababa transport bureau together with AACRA will be responsible for the enforcement.

Street Vendor Management

Street vendors in the city sell their properties mainly on pedestrian walkways and in some places, they sell on the main roadway. Street vendors have significant role for the city's economic growth, but if the trading system continues like this, it will worsen to clog the mobility system, cause delays, accidents and uncomfortable pedestrian movement.

Street vendors prefer to sell their commodities on places where there is more demand for their goods. Piassa, Megenagna and Mexico are places where too many street vendors are found during peak hours. Other main origin and destination spots for inter-city traffic also attract large number of street vendors.

4. Social Services

Definition: Although the term "Social Services" can be defined to encompass wide ranging benefits provided by different entities to improve the life and living conditions of residents, the scope in the context of the Structure Plan is limited to educational and health services as well as sports facilities.

4.1 Existing Situation

The Addis Ababa City Development Plan of (2002-2012) has played significant role in guiding the development of the City during the last ten years. However there were gaps in addressing some of the strategic issues it had proposed due to, among other things, institutional and organizational constraints as well as some inherent limitations of the plan. There were major gaps in implementation identified by the evaluation study (EiABC, 2011) with regards to education, health, recreational and sport related services. The gap in the implementation of recreational and sport facilities was particularly huge. For instance, a city park and an International Stadium at Gerji and a national Stadium near the Ayat residential area have not materialized. Moreover, an Olympic Stadium and an Olympic Village that were proposed at Kotari and Furi respectively, have not been implemented, whilst the upgrading of the existing Addis Ababa and Akaki stadiums remains unaddressed. The reservation of available vacant spaces for schools/local sports activities at Woreda and Kebele levels were no given due consideration, while there were even instances where some of the existing playgrounds were taken for other purposes.

Educational Service: According to data obtained from the Educational Bureau of Addis Ababa, educational services were being provided by 1000 kindergartens, 767 primary, 188 secondary, and 85 preparatory schools as well as by 380 colleges & TVETs and five higher educational institutions in 2012. The majority of the schools in the city (76% of the KGs, 61% of the primary, 46% of the secondary, 51% of the Preparatory, 85% of the TVET and 91% of the Higher Institutions) belonged to the private sector. This is due to government policy to encourage the involvement of the private sector in the provision of education services. Data obtained from the same source showed that a total of 755,928 students were enrolled, including those in KGs (118,840), primary (484,517), secondary (109,731) and preparatory (42,840) schools in 2012.

There is generally a more or less uniform distribution of schools as calculated by the school-population ratio at the sub-city level. Lideta and Addis Ketema are the exceptions. When disaggregated by grade level, the distribution appears to be uneven especially in case of

secondary schools for which the ratios vary from the highest in Arada Sub-city (1:12,091) to the lowest in Lideta Sub-City (1:64,488).

According to data obtained from statistical abstract produced by the Educational Bureau of Addis Ababa, gross enrolment ratio in 2011 for kindergarten, primary school and secondary school levels was close to 89, 108 and 80 respectively. The ratio for primary school is above 100, which is reckoned to be due to the presence of considerable enrolment outside the eligible school age bracket (7-14). Examination made on the trend of enrolment ratios since 1999 generally revealed an increasing trend in the case of kindergartens, a declining trend in case of primary schools and a constant trend for preparatory schools.

The major problems related to the education services include: low enrolment ratio (68% in case of KGs, 73.4% in case of Primary schools and 36.1% in case of Secondary schools), dominance in the number of private schools which are not affordable to the majority of low income population, occupation of below standard plot size (50% of the KGs, 80% of the primary schools and 52% of the secondary schools), incompatibility of schools with nearby functions (which refers to 14% of the secondary schools) and shortage of laboratory facilities in secondary schools.

Health Service: There were in total 48 hospitals of different levels in 2013 of which, 36 were privately owned. Out of the 48 hospitals 5 (all of which are government owned) were Specialized Hospitals (Black Lion, Torhailoch, St. Paulos, Amanuel, and St. Petros Hospital), whereas the remaining 43 (which include all of the 36 privately owned hospitals) were General Hospitals. The seven General Hospitals that belong to the government are Ras Desta, Yekatit 12, Ghandi Memorial, Zewditu, Balcha, Police and Tirunesh Beijing. Even though these hospitals provide city-level service, the concentration of most of these hospitals in and around the centre makes them far from some parts (esp. expansion area settlements)

In addition to the hospitals, there were 96 government health centres (only 70 were functional, while the remaining 28 were under construction). There were also a total of 676 privately owned clinics of different level: higher level (138), medium level (259), lower level (159) and special clinics (90), and dental clinics (29). In addition, 293 pharmacies and 235 drug vendors were providing service (AACAHB, 2012). The majority of the general hospitals and almost all of the lower level health institutions (clinics, pharmacies and drug vendors) belong to the private sector and this has created more access to health service at neighbourhood level, even though affordability is always an issue.

Regarding health centres, the population – health centre ratio computed at the sub-city level indicates that the distribution of the health centres across sub-cities is more or less uniform except for Kolfe Keranyo Sub-City which has a lower ratio (1: 55,685). On average, a health centre in the city was providing service for close to 35,000 population, which is higher than the standard adopted by Health Bureau of Addis Ababa City Government (1:40,000). The Health Bureau of Addis Ababa has a plan to gradually upgrade one health centre out of five closely located health centres into a Primary Hospital. So far, the previous Kotebe Health Centre has been upgraded in to a primary hospital in 2013.

Sport Facilities: Currently, there are about 359 sport fields of different type in the city which include football, volley ball, basket ball, ground tennis fields, gymnasiums (AACGSC, 2012). The figure on sport fields includes all facilities which are found in government institutions, schools, and military camps. In addition, there are three stadiums (i.e. the Addis Ababa Stadium, Abebe Bikila and Akaki Stadiums). The first two are equipped to hold international competitions, although their standard is low compared to other stadiums in Africa. The Akaki Stadium, even though it occupies a large plot, does not have any facility. At present, efforts are underway to upgrade the Akaki Stadium.

The number of sport fields available in the city appears to be inadequate when the number of Woredas in the city is taken in to account. Presently the city is organized under 10 sub-cities and 116 Woredas. The number of each type of sport field, except for football, is significantly lower. Moreover, there is an overt demand by different sport clubs for plots. Other problems associated with sport fields is the absence of standardized sport facilities to host international and national tournaments, limited private sector involvement and land use violation (plots reserved for sport fields are being used by other functions).

4.2 Major Principles

The provision of social services in the Integrated Plan is anchored in seven planning principles: equity, centrality, connectivity, accessibility, adequacy, quality and compatibility. Equity refers to addressing the interests of the various social groups; centrality deals with optimum organization and distribution of service baskets according to the hierarchical arrangement of centres; connectivity refers to the degree of connection social services will have with other land uses (residence, commerce, manufacturing and administration); accessibility emphasizes ease of reaching services at reasonable cost (affordability) and time; adequacy refers to the availability of services that fulfil prescribed standards and their convenience for users; quality obviously refers to the inherent characteristics of particular services vis-a-vis customer

satisfaction; and compatibility refers to the location of social service facilities in a manner that will maximize positive externalities and minimize the occurrence of negative externalities.

In addition, standards and norms set by the ministries of Education and Health, the Sport Commission and other institutions have been considered to address current backlog and future demand of social services in Addis Ababa and its environ, while giving heed to the above-mentioned principles.

4.3 Proposals

4.3.1 Goals

- Expand the coverage of government schools, health services and sport facilities;
- Improve the quality of educational and health services; and
- Ensure equitable spatial distribution and better access of sport facilities.

There are a number of opportunities that can be maximized to achieve the above mentioned goals. One important aspect has to do with government policy and the public sector in general. For instance, the attention given by the City Government to address problems related to social services in general and to improve the quality of education in particular; and the creation of an environment conducive for private sector participation in the field. Similarly, the presence of various sport clubs and fans can play important role in promoting various types of sports and sports facilities. Meanwhile, challenges associated with shortage and management of land remain huge.

4.3.2 General Proposal

Education

- Ensure balanced spatial distribution of schools;
- Renovate existing primary and secondary schools;
- Provide laboratory equipment to secondary schools;
- Allocate area (space) for expansion of schools that have below standard plot size;
- Ensure that plots to be reserved for the construction of additional schools are sufficient and compatible with nearby functions;

- Develop and enforce a guideline to regulate and/or prohibit functions which are not compatible with existing schools; and
- Arrange short term and long term training programs to upgrade knowledge and skills of teachers.

Health

- Ensure balanced spatial distribution of health institutions;
- Construct additional health institutions;
- Upgrade existing health centres into primary hospitals;
- Ensure the availability of medical personnel according to the recommended standard by adapting appropriate remuneration and incentive mechanisms
- Arrange short and long term training programs for health personnel to upgrade their knowledge and skills;
- Provide public health institutions with the required medical equipment and instruments.

4.3.2 Specific Proposals

Education

Reserve plots for the construction of;

- 36 primary schools
- 5 secondary schools
- 12 preparatory schools
- 10 TVETs

Health

Reserve plots for the construction of

- 49 health centres
- 29 primary hospitals
- 2 specialized hospitals

Sport Facilities

- Reserve plots for sport fields at Kebele level;
- Reserve plots for play grounds at the neighbourhood level;

- Reserve plots for medium size stadium, gymnasium and ground tennis court at the Sub-city level;
- Rehabilitate and upgrade the existing sport facilities (Addis Ababa, Akaki and Abebe Bekila stadiums).
- Implement the previous plan's proposal to construct a large stadium
- Reserve plots for the construction of Olympic and National Stadiums;
- Reserve plots for traditional sport facilities;
- Protect plots reserved for sport facilities from illegal occupation and construction;
- Encourage the private sector to engage in provision of sport facilities and services;

5. Municipal Services

The Addis Ababa City Development Plan (2002-2010) had established that there is shortage and uneven distribution of worship places. But their proliferation in inappropriate locations, increasing requests for new plots by new and growing number of religious denominations were also identified as major challenges. Moreover, the incompatibility of worship places with nearby functions had been pointed out as requiring immediate redress. Regarding cemeteries, the City Development Plan had identified, among others, lack of ownership, inconsistency in the size of land being provided for cemeteries, poor management of existing facilities, poor sanitation condition and aesthetic quality, and saturation of burial grounds in existing cemeteries as the situation on the ground. Insufficiency of fire brigade stations, the need for more abattoirs and the incompatibility of existing ones with neighbouring functions were also pointed out as major challenges. Strategies to address some of these challenges had been forwarded, although very few had actually materialized.

5.1 Existing Situation

Worship Places: Orthodox, Protestant and Catholic Christians, and Muslims are the major religious groups in Addis Ababa. The results of the 2007 population and housing census showed that followers of Orthodox Christianity constituted close to 75% of the total population in the city followed by followers of Islam that accounted for 16%. Forty two different religious denominations that belong to the Protestant faith currently exist in the city.

According to data obtained from the Land Development and Administration Agency of Addis Ababa City as well as from religious institutions, the total number of worship that existed in 2013 was 723. Some religious groups have very large number of worship places as compared to the number of followers they have. Worship places are also being constructed in areas not reserved for religious functions. Shortage (for some religious groups) and uneven distribution are also existing challenges.

Cemeteries: According to data obtained from the Land Development and Administration Agency and different religious institutions, there were 71 cemeteries in Addis Ababa In 2013. The cemeteries that belong to the Orthodox Christian religion constituted close to 76% of the total. In addition to the cemeteries that belong to the major religious groups, there is a cemetery for Jews, another one known as “Baitewar Cemetery” that mainly serves for persons whose bodies are not claimed by anyone, and an incineration site known as Banyan

incineration, all in Addis Ketema Sub-city. A total of 16 municipal cemeteries exist in Addis Ababa, under the ownership of the Sanitation and Beautification Agency. Eight of these sixteen cemeteries provide burial services for both Christians and Muslims. In each of these cemeteries, each religious group (including the different types of Christians) has distinct and delineated plot, the size of which is generally related to the number of the respective followers. Effort is being made by the Agency to modernize and better manage the existing cemetery facilities. The cemeteries at "Kechene Medhanealem" and "Ferensay Gurara" are well planned and properly managed. Efforts are also being exerted to effectively manage the St. Yosef cemetery by introducing a recycling system. However, shortage, uneven distribution, occupation of large tracts, poor aesthetic value, poor sanitation situation, incompatibility with other nearby functions, limited accessibility to and within cemetery sites, the increasing requests for new sites are some of the problems associated with burial sites that need to be addressed during the planning period.

Abattoir: There were three abattoirs in 2013, one of which is privately owned, that are providing slaughtering services to the residents of the city. The main abattoir, namely the Kera Abattoir located in Nefas Silk-Lafto sub-city occupies an area of 47,328m^2 and is the oldest of the three. The relatively recent abattoirs, Akaki Kera and Kara Allo, are located in Akaki and Yeka sub-cities respectively. The main problems related to the provision of abattoir services in Addis Ababa include land use incompatibility, poor waste management and pollution and lack of facilities as well as the proliferation of illegal slaughtering activities.

Fire and Emergency Prevention and Control Service: such services are provided by a public organization and the organization has a head office and seven branch offices located in seven sub-cities namely Arada, Addis Ketema, Kirkos, Bole, Akaki, Nefas Silk-Lafto and Kolfe-Keranyo. Three sub-cities, Gullele, Lideta and Yeka do not have fire protection stations within their administrative boundaries.

Inadequate spatial distribution of fire protection brigades, absence of water at hydrant points, narrow width of access roads inside neighbourhood, traffic congestion along main roads, difficulty to control the expansion of fire hazard especially in sub-standard and overcrowded neighbourhoods, budget constraints to introduce state of the art technology for fire protection and the organization's lack of mandate to regulate the construction of buildings for safety are some of the issues that challenge fire fighting services in Addis Ababa.

5.2 Main Principles and Considerations

Definition: Municipal services are services which municipalities provide mainly to residents and businesses within their administrative boundaries. The plan (mainly) considers the spatial aspects of cemeteries, abattoirs and fire protection services. Although worship places are not municipal services, they have been included as they are very much related with cemeteries.

Planning Principles: The study on municipal services is conducted taking into account the planning principles such as equitable distribution, accessibility, adequacy, quality and compatibility.

Standards and Norms: Manual of standards produced by the Ministry of Urban Development and Construction has been considered in forwarding proposals to address current backlog and future demand of municipal services.

5.3 Proposal

5.3.1 Major Goals

- Revise the existing worship place/followers standard as per the city's context and provide land as per the norms and standards of the Structure Plan;
- Provide adequate, accessible and properly managed municipal cemeteries;
- Reduce illegal slaughtering, and sheep and goat sales by 50%; and
- Reduce property losses, human injuries and fatalities caused by fire accidents by 50%.

The resolve to relocate the existing main abattoir in the capital and ongoing efforts being by the Sanitation, Beautification and Recreation Development and Administration Agency to modernize cemeteries are opportunities that can positively influence the provision of better municipal services. But land related problems (shortage and poor management) remain detrimental in the provision of improved municipal services, including worship places.

5.3.2 General Proposals

Worship Places

- Ensure equitable spatial distribution of worship places; and
- Develop a regulation to control unplanned development of worship places.

Cemeteries

- Adopt modern cemetery management systems and encourage reusing existing cemeteries; and
- Create buffer zone between existing cemeteries and surrounding functions.

Abattoir

- Encourage the private sector to establish additional abattoirs; and
- Relocate the existing main abattoir.

Fire Protection and Prevention

- Establish additional fire protection stations;
- Establish additional hydrant points in strategic locations and ensure 24-hour availability of water at hydrant points;
- Improve the provision of access roads in slum neighbourhoods (by preparing and implementing LDPs) to facilitate easy manoeuvring of emergency vehicles; and
- Extend the mandate of FEPPA so that it can regulate building safety standards as per the relevant proclamation.

5.3.2 Specific Proposals

Worship places: There is a need to revise the worship place/number of followers ratio in use, which is 1:20,000. Meanwhile, land for worship places can be provided in mixed residential land use respecting the standards set by the Structure Plan (see Part III, section 2.9.2).

Cemeteries: The 16 cemeteries which are under the management of the municipality are adequate to accommodate need during the planning period as the total area under these cemeteries amount to 452 ha. This is extremely larger than the burial space required during the planning period (146 ha). Through reuse, the municipal cemeteries could serve for longer period of time even beyond the planning period. Estimation of demand for cemetery is made based on the expected number of deaths during the planning period. The number of deaths is estimated based on the projected number of population/ followers and future expected deaths (10 per thousand populations per year). And the standard burial space requirement for a single person is 3.38m2. Accordingly, even though burial spaces under municipal cemeteries is more

than enough to accommodate everyone, due to religious and cultural reasons, all together 376ha land is allocated for cemeteries.

Abattoir: Since the existing main abattoir is incompatible with nearby functions, its relocation to the industry zone in Furi Hana (20ha.) being processed. The abattoirs in Yeka and Akaki-Kality sub-cities will continue operation. According to discussions conducted with officials of the main abattoir and the Agricultural Bureau of Addis Ababa, the main abattoir need to have 5 satellite abattoirs located in the direction of the five gates of Addis Ababa. Moreover, plots will be provided for at least one shoat slaughter house together with a shoat market in each Woreda. This is expected to curb illegal trading and illegal slaughtering along roads and rivers.

Fire Stations and Sub-Stations: According to information obtained from Addis Ababa Fire and Emergency Prevention and Control Agency, the office has a plan to open 3 stations and 5 sub-stations. The stations will be constructed in Bole (around Summit), Nefa Silk-Lafto (around Jemo) Yeka (around Ferensay Gurara) and in Gullele sub-cities. Similarly, sub-stations are proposed to be built in Bole (around Bulbula), Akaki, Yeka (around Kotebe) and Lideta sub-cities.

6. Housing

The magnitude of the need for social services and infrastructure such as housing depends, among others, on the size of the population and its growth. The population of Addis Ababa will reach at least 4.4 million at the end of the plan period. Since urbanization is unavoidable particularly in light of the transition the country is making from a predominantly rural towards an urban-based economy, one of the immediate challenges is "how to provide affordable and adequate housing within a liveable environment". This chapter presents a short summary of the housing strategy of the plan for the next ten years.

The first two parts will present the forecast made regarding the number of houses that will be needed during the next ten years and the general principles that the plan has adapted. This is followed by the goals and strategies to guide the delivery of housing and address some of the challenges that beset the sector. The fourth part deals with two critical issues of the sector: housing typologies and land requirement. The fifth section deals with housing finance. The remaining three parts describe macroeconomic implications of housing finance, institutional and regulatory interventions, and phasing.

6.1 Housing demand

The demand for housing during the planning period is forecasted taking into account six important variables, namely the existing stock, population growth, backlog, dilapidation, overcrowding, conversion and contingency.

More specifically these variables refer to the number of housing units currently in use, housing that will be needed to accommodate new family formation (which is a function of population growth), housing units to be constructed to meet the current backlog, housing units to be demolished due to their dilapidation, housing units that will be needed to address overcrowding, housing units that will be converted into other uses, and contingency. Thus, considering these factors, the total number of housing units that have to be built during the next ten years within Addis Ababa is estimated to be **1,172,195**.

Table 12 Estimated housing need (2013-2023)

Population in 2023	Address new family formation	Replace dilapidation	Address Backlog	Contingency (20%)	Total needed
4,408,656	207,015	269,814	500,000	195,366	**1,172,195** rounded off **to 1.2 million**

6.2 Guiding principles, Goals and Strategies

Considering the vision of making Addis Ababa "Africa's diplomatic capital", the plan adapts the following five guiding principles:

- Compact and green development with good balance between open and green spaces and the built form;
- Mixity among income groups, housing typologies and land uses;
- Balanced growth through appropriate distribution of housing, economic activities and infrastructure;
- Efficient use of land in the city centre, along mass transit lines (along LRT, BRT and future Metro lines) and renewal of slum neighbourhoods; and
- Environmental sustainability through protection of the natural ecosystem.

Apart from estimating the magnitude of housing requirements during the planning period, an important question to ask is "how to build 1.2 million housing units during the next 10 years and address other challenges in the sector." Part of the answer to this question lies in understanding the government's position towards the sector as stipulated in its policy documents including the GTP, the broader national urban development policy and the more specific housing policy. The general direction that is stipulated in these documents focuses on the following five "guiding principles": affordability, social mixity, compact development (vertical development rather than sprawl) and strong government intervention in the delivery, improvement of quality of housing stock and living environment through upgrading and renewal, and linking employment creation efforts with housing programs. On the basis of these positions, the Plan has developed five goals and specific strategies to achieve each goal.

- Increase the housing stock in the city with particular focus on affordable housing;

- Improve the quality of housing stock and the living environment in residential neighbourhoods;
- Ensure balanced social and land use mix;
- Achieve compact and green development; and
- Guarantee shelter for the homeless.

Goal 1: Increase the housing stock in the city with particular focus on affordable housing

The Plan adopts two types of strategies. The first and the most important one is related to the production of affordable houses. The share of the low income group which represented 80% in 2002 has declined to 66% in 2012 and is expected to go further down to 35% when the country achieves the middle income status. The issue will thus be how to build **420,000** housing units for the low income group. As will be indicated below, considering different subsidy packages, the Structure Plan recommends that the government focuses on this particular sector. The second set of issues refers mainly to "choice of tenure type", which has to be seen in combination with affordability. This is also very important since in many countries the way people want to occupy a house is not necessarily related to their ability to pay but "with their choice/preference to own or rent". Thus, what is depicted in the diagram below shows a combination of the most feasible housing delivery options.

Table 13 Distribution of households by income group

Income group	**Share by 2002 (%)**	**Share by 2012 (%)**	**Share by 2023 (%)**	**Share of housing units by 2023**
Low income	80	66	35	**420,000**
Middle income	16	26	50	**600,000**
High income	4	8	15	**180,000**
Total	100	100	100	**1,200,000**

Given its experience in constructing more than 150,000 units during the last few years, the government has successfully built the capacity of the construction sector. Thus, there is now more confidence if the role of the government is limited to the following:

- Direct provider of low cost housing (to 35% of the families) and infrastructure (i.e. mainly access roads, drainage canals and water lines);
- Developer of serviced land to meet the estimated requirements (almost 889 ha/year);
- Regulator of distortions in the market as a result of lack of information, monopolistic and oligopolistic behaviour of actors, etc.;
- Protector of public interest through standards and regulations; and
- Enabler of the private sector to perform efficiently.

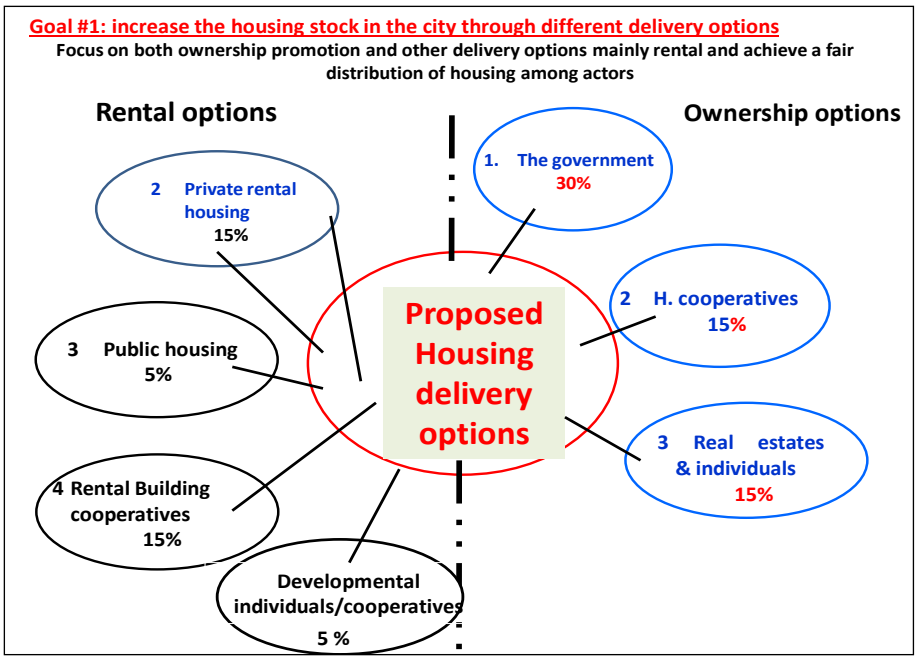


Figure 26 Proposed housing delivery options

Goal 2: Improve the quality of the housing stock and the living environment in residential neighbourhoods

Of the total of 628,986 housing units that were available in 2007, about 40% (270,000) are considered unfit for living (i.e., of substandard quality)[2]. According to the data obtained from

[2]**Substandard neighborhoods:** besides the poor quality of the housing units, such neighborhoods also lack related services such as access to safe roads, mass transport facilities, water, sewerage and drainage systems, open spaces for recreation and interaction, public services such as for health, education, etc.

CSA, 40% of the units constitute single room housing, 14.3% do not have toilet facilities, 20% do not have kitchen, 2.32% lack private water connection. From the living environment point of view, many of the residential communities in the city lack proper open spaces for socializing. Towards making the city "liveable," the following strategies are suggested:

In-situ redevelopment: this is a kind of redevelopment that is undertaken without relocating existing residents. Relocation is avoided unless found necessary for safety, security, environmental reasons, etc. Under such circumstances, relocation will be undertaken on voluntary and group basis by giving fair compensation to those to be relocated. The imperative in promoting in-situ redevelopment benefits residents through improvements in living environments, while preserving their social capital and economic networks.

Conditional privatization/restitution of public owned houses: though most of the Kebele owned houses that are known for their dilapidation and poor aesthetic quality are located within the inner city, there are also quite a considerable number of Kebele houses located within the intermediate and outer zones. Housing improvement objective will not be attainable if these houses are disregarded. Thus, the most feasible strategy to upgrade the quality of these houses is conditional "privatization"; transfer to sitting tenants under the condition that ownership will only be transferred when the houses are improved to a minimum level of standard.

Conditional legalization of informal settlements: legalization and conditional legalization on the basis of investment on the stock (as elaborated later) is another strategy to improve housing conditions in informal areas.

Plot rearrangement and compulsory public space sharing: As mentioned above, particularly in the already built up areas, acquiring adequate land for infusing neighbourhood level infrastructure and services such as access roads and playgrounds is very difficult unless some demolition is made. The major reason is the haphazard plot arrangement in residential neighbourhoods, while in some cases schools and other government institutions also contribute to the situation. A neighbourhood level plot rearrangement as well as partnership agreements in the use of facilities and spaces could be one strategy not only to overcome the shortage of land for community use but also to promote the efficient use of land in urban areas.

An independent design jury: in consideration of the new government sponsored multi-storey housing projects that so far have exhibited a stark similarity and monotony, a committee made up of, among others, architecture and urban planning departments in higher educational institutions, professional associations, residents, and the City Government could be established to supervise the quality of building and/or housing designs to be submitted by design studios. By bringing different professionals and experiences together, such a committee could contribute to the creation of a pleasant urban environment.

Goal 3: Ensure balanced social and land/building use mix

Addis Ababa is currently facing three serious problems regarding the desire to achieve a balanced housing mix. The first is related to the more recent proliferation of gated communities, especially in recently developed settlements and older neighbourhoods where the affluent reside. Such gated communities are mushrooming at an alarming rate, which is going against the mixed social fabric that identifies the city from most other cities. Today, many old established communities and new public housing areas are putting concrete walls and gates following the pattern set by some developers on the outskirts of the city. If this trend continues unabated, we will witness the tragic transition from "Addis Ababa: the African city where the poor and rich live together" to "Addis Ababa: the city of gated communities." The second problem is related to the mix of residential functions with other socially unacceptable uses such as the so called "Massage Bet", "Shisha Bet", "Zig Bet", "Chat Mekamia Bet", "Chifera Bet", etc. that have penetrated and in some cases, have taken over many decent residential neighbourhoods in the city. The third is related to centres. Developments in such areas and along major development corridors do not leave space for residential functions since it is less profitable. The result is that such areas in the city have become dull outside working hours and during weekends (Sundays) and holidays, thereby killing the vitality and vibrancy of such areas. One of the goals of this plan is therefore to address these two critical issues.

As a strategy, the first challenge requires that, at least in the short term, all fences in gated communities that have blocked access to public spaces (such as streets, parks, open recreational areas, etc.) have to be removed to increase the rate of social and housing mixity in the already built up areas of the city. Development of housing for low and middle income groups on adjacent land to real estate developments, and infill/densification of condominium sites that have low density through the introduction of middle and high income housing should be applied. Apart from the above two strategies, the future of housing development has to see the promotion of compulsory social mix at the level of blocks and/or buildings (when high rise buildings are selected), providing financial incentives in the form of low land lease price, and the provision of development priority and incentives to those that develop socially mixed housing.

Regarding housing mix with other non-compatible uses, the application of prohibitive planning approach for specific type of functions that are not compatible with residential functions has to be instituted. To attain mixed land/building uses, the provision of conditional building permit to those that mix housing with other uses and incentives (planning, financial, etc.) can be used.

Goal 4: Achieve compact and green development

More than 90% of the houses in the capital are one storey buildings which indicates that land is not efficiently used. Out of the total built up area, almost one third (8,339 ha) is occupied by one storey mud houses. Other than this, population density is close to 65 people/ha for the total land area; and net population density (for the built up area) is 125 people/ha. This makes Addis Ababa more densely populated than some of the most populated metropolis in the US (New York and Los Angeles) and Europe (Moscow and Paris), Tokyo and Buenos Aires. Addis Ababa is the fourth most densely populated city in Africa following Lagos, Cairo and Kinshasa. Paradoxically, housing density in the city is much lower than what is found in some of these cities. This is also an indication of overcrowding. Nonetheless, for a city whose expansion area is already exhausted, a plausible option for housing development for Addis Ababa remains increasing density.

Linear redevelopment: the first two blocks (100 m depth) on both sides of LRT lines and one block on both sides of BRT lines (50m depth) should be identified as strategic corridors for intensive residential development (150 hu/ha.). Densification along such areas, besides making the investment in mass transit more profitable, will also allow people to get access to such transportation services nearby.

Inner city renewal: at least 50% of inner city slum areas will be identified for building walk-up apartments by way of promoting vertical redevelopment. It is estimated that more than 90% of the built-up area within 5km radius from the city centre is considered as slum. Though this proportion is expected to have been slightly reduced as a result of recent large scale renewal activities undertaken by the City Government, such areas still hold potential for redevelopment. Yet, existing residents should be integrated within the new built environment to be eventually developed as suggested in Goal 2.

Table 14 Built up ratio in selected condominium housing sites

BUR in selected condominium sites	**Site**	**Jemo**	**Lafto**	**Gelan**	**Gotera**	**Bole Ayat**	**Mickey Leland**
	BUR in %	15.6	17.1	14.8	20.9	15	20.8

Infill in low density condominium sites having a Built up Ratio (BUR) below 20%: the idea of densification of some of these sites is to attain social mixity and also to justify investment in mass transit towards such locations. In the former case, some of the open sites could be identified for multi-storey high and low-income housing as these sites are predominantly settled by the middle class.

Land readjustment/sharing: informal settlements will be regularized during the planning period by adapting the principle of land sharing. As many of the informally developed areas are low rise and with low density, there is a merit in promoting densification in informal settlements that undergo regularization.

Goal 5: Guarantee the provision of shelter for the homeless

It is estimated that between 10,000-20,000 people in Addis Ababa are homeless. As shelter is a basic human right, the following strategies are devised to provide shelter to the homeless.

Religious organizations: the provision of social support to the needy is a major part of the obligation of religious institutions and it is on the ground of such humanitarian and spiritual justifications that such organizations are granted urban land free of charge. Thus, one of the strategies to be adapted is to convince religious institutions to provide shelter to the homeless as part of a broader social development intervention.

Woreda administrative offices to mobilize resources for the construction of social housing: Woreda offices have the capacity and experience to mobilize financial resources from people residing and working within their respective jurisdictions (and philanthropic institutions) for social purposes, including the provision of modest shelter for the homeless. Kebeles have an added advantage of identifying land that can be (at least temporarily) used to construct such shelters.

Thus, if churches, mosques, Kebeles and other philanthropic institutions can build shelters that can provide sleeping spaces or beds for 10,000 homeless people per night at least, the target could easily be attained.

6.3 Housing Typologies and Land Requirement

Once the backlog is identified and the goals and strategies are defined, the next step is identifying housing typologies for the different income groups, estimation of land requirement and housing finance as well as defining appropriate institutional arrangements.

6.3.1 Housing Typologies

Identification of appropriate housing typologies that meet the needs of the different income groups is important. As shown in the table below, the proposal ranges from the "site and service" type of incremental houses to the most luxurious villas and multi-storey buildings that are intended to attract FDI. This step is very important to calculate the amount of land that would be required to build the total of 1.2 million houses within the next ten years.

Table 15 Proposed housing typologies

Income groups	Housing types	Total number of houses for each group
Low income	**High rise** • Skeleton/ super structures or semi-finished units in walk-up buildings (G+4 and G+5) • Subsidized finished units in walk-up condominium buildings (G+4 and G+5) • Subsidized town houses (the so called studio types in G+2 stories **Special housing** • Incremental housing in site and service schemes (50m2/household) up to G+2 stories • Chika houses in site and service schemes (50m2/household) with possibility to accommodate vertical development (G+1)	**35%** 420,000
Middle income	• Walk-up condominiums (20/80 types) • Incremental housing on single plots (73 and 94m2) • High rise buildings (40/60)	**50%** 600,000
High income	**High rise** • Walk-up apartments (G+4 and G+5) • Luxury apartment houses (40/60 condominium buildings and others) **Special housing** • Special houses in the form of villas and multi-storey individual buildings on single plots	**15%** 180,000

	Total	**1,200,000 units.**

Note: Improved Chika (mud-constructed) housing is promoted to make housing affordable for most.

6.3.2 Land Required for Residential Construction

Housing density

This is related to a development ratio between "brown land" (to be reclaimed from slum neighbourhoods and underutilized inner city areas for redevelopment) and "Green land", which are either vacant to be allocated for urban uses. Since its development has already reached its administrative boundary, Addis Ababa is left with very little vacant land for expansion. Out of the estimated 1,172,195 units (rounded off to 1.2 million) needed for Addis Ababa, 53.76% (app. 645,120 units) will be built in the city proper and the remaining 554,880 units need to be accommodated on land reserved for the expansion of its built-up area on the periphery.

If world-class standard of amenities and liveability is expected, Addis Ababa can only accommodate a gross density of more than 90 persons/ha in the plan period, which will come near to the density levels of Sao Paulo and Cairo. This still requires radically transforming the City Government's infrastructure and service provision capacity as well as vertical expansion. With this premise, the total number of residents that Addis Ababa can be home to cannot go beyond 4.9 million people. This is a critical issue that needs policy intervention at the highest level as the city's population is expected to reach 5 million in 2040 (CSA, 2013). Nonetheless, addressing the current housing shortage and other housing related challenges as well as planning for a population size of 4,408,656 requires preparing residential land.

The next step is to determine different density proposals for residential development in the brown and green land areas, which will serve as a basis to estimate the amount of land that will be required in each location during the plan period. The determination of density level is based on the five guiding principles developed for the sector. It is important to note that some of the well served European cities such as London and Paris have some neighbourhoods with dwelling densities ranging from 150 to 400/ ha, while the range is much smaller in African cities (40-10 housing units per ha). Housing density of the built up area of Addis Ababa at present (in 2013) is estimated to be around 29 housing units per ha. In order to address the pressing need of accommodating the growing population and housing demand in the planning period, and taking into consideration infrastructure and service provision capacity of the City Government, there is no other option but to raise neighbourhood level density in certain parts of the city. One option could be to prepare **4,301 ha** of land to accommodate the 645,120 units in the inner part of

Addis Ababa (brown land) with housing density of 150 units per ha; and another **4,586 ha** of land on expansion areas to accommodate 554,880 units by applying a density standard of 121 units per ha. All in all this will require **8,887 ha** of land.[3] Depending on a holistic cost-benefit analysis of preparing residential land inside the city proper vis-a-vis its capacity of providing adequate infrastructure and other services, the City Government could have pursued a number of other alternatives by mixing different combinations of housing units and location. Unfortunately, this is impossible because vacant land left in the expansion area that can be used for the construction of residential housing is not more than 3,800 ha.

6.4 Housing Finance

To build a total of 1.2 million units in the plan period, the city needs an estimated amount of Birr 268 Billion, which is equivalent to an annual average amount of Birr 26.8 billion per year. This is a larger amount in comparison to the annual GDP of the city, which was Birr 22 billion in 2010, and by far exceeds manifold the biggest allocation ever for the integrated housing development program during the years 2005 and 2006, which had been Birr 5.8 billion and Birr 11.3 billion respectively[4].

In 2016/17 for instance, the City Government's annual budget was announced to be slightly more than Birr 28 billion. The question is where will this money come from? In its housing policy and other documents, the government has already identified a number of finance sources. Some of the most important ones (including a few identified by the plan) include the following:

Potential source of finance

Housing saving scheme: Though long term housing finance was a serious constraint to the sector, the implementation of bond financing as part of the government's condominium housing scheme has enormously relieved the burden. Added to this, the recently implemented compulsory saving based housing program, which succeeded in mobilizing more than a million people to save, is another strategy that can be adapted.

Strengthening of Mortgage bond financing: also known as bank issued mortgage- backed securities, these bonds constitute the backbone of housing finance in many countries (Chile for

[3] Norms and Standards stipulates that housing density in the CBD is 150hu/ha, 100hu/ha in the inner city and 50hu/ha in expansion areas.

[4] Note: This study was finalized in 2013 and all data are from previous years.

example). The bank's client guarantees the servicing of the bond by offering as a collateral a specific perfectly identified property which could be the same property for which the loan is demanded or another property. The face value of the issued bond can be for up to 75% of the market or appraised value of the property given as collateral. The involvement of **institutional investors** (such as pension and other long term saving and insurance institutions) to provide long term mortgage to private owners and rental housing market will also be essential (as different from the government financed housing scheme).

Mobilization of private saving through profit making housing schemes: the Plan recommends fostering "rental building cooperatives".

Mobilization of finance from private companies and public institutions: big institutions like universities, the Ethiopian Airlines, defence forces, big corporations like MIDROC, etc can be involved in the delivery of housing for their employees.

Promotion of saving through indexisation of inflation: The short term nature of deposits and the long term nature of housing investment being contradictory, inflation index (indexed saving and lending system) has proved to be successful in promoting saving in many developing countries. This can also be tried in our context as it is found to be key to attract private deposits in inflation prone settings.

Identifying foreign sources of finance: tapping possible funding from multilateral agencies such as the World Bank and bilateral donors should be explored as an additional source of finance.

6.5 Macroeconomic Implication

Apart from identifying feasible sources of finance for the new houses to be constructed, another challenge is managing the macroeconomic impact of pumping such a huge amount of money into the economy. As indicated above, the amount needed to build the required 110,000 housing units annually amounts to Birr 26.8 billion, which is about nine times bigger than the annual average of 3-4 billion borrowed in the past five years from government banks just by the public sector housing program (Birr 12.8 billion by floating municipal bonds and Birr 3.2 billion from the treasury). Big projects that pump large money into the economy have the tendency to contribute to inflation and this is what the country is witnessing today. This is an issue to be taken up for further consideration by national economic planners.

6.6 Institutional Arrangement and Regulatory Intervention

The institutional aspect of housing is as important as its financing but the existing institutional arrangement is too weak to undertake such a huge task. Currently, the housing sector seems to be fragmented and disorganized. The government has its own institutions providing and financing housing, with the AAHDPO standing at the forefront. The private sector, on the other hand, operates almost unchecked. The following institutional arrangements are proposed to better address the housing issue:

At national level: establishment of an independent Federal Ministry of Urban Development and Housing is worth considering[5].

Reorganization of housing related institutions: the housing delivery process in Addis Ababa is undertaken by different institutions with little coordination. This requires the reorganization of these institutions under the umbrella of a single organization that would not only oversee specific issues but also coordinate the different aspects of the housing sector. Among other things, it will coordinate tasks related to the planning, design, financing, regularization, slum redevelopment, and all other implementation related tasks.

6.7 Phasing

As previously indicated, about 55.76% of the units will be built in brown land (through renewal, redevelopment and land readjustment). This requires the clearing of a large part of slums and inefficiently used land. Since the government is planning to build one million houses within the next five years, it is important that priority should be given to building these houses in the inner parts of the capital as this would allow using the existing infrastructure as well as to efficiently exploit the built mass transit facilities. Besides, since most of the families that will be accommodated in these houses will be middle and low income groups, such locations will allow them to reside near their jobs. This will reduce transportation related expenses and congestion. The next phase, which is 5-10 years, will be more dominated by green field development. By then, Addis Ababa will have sufficient revenue to provide services and infrastructure and promote housing and other related developments.

Factors influencing phasing: the phasing of housing development is influenced by different factors. In view of the frameworks provided in the GTP, the government has been and will be the most influential force dictating the pace of housing construction. The pace and price at

[5] Note: This materialized before this report went into publication.

which land is developed/cleared and prepared affects housing development probably more than any other issue.

The proposed phasing and land allocation strategy is presented in the following table.

Table 16 Proposed Phasing

Phasing	**Number of houses to be built**	**Land allocation strategy**
Short term (1-3 years)	350,000	• City centres, sub-centres • Along LRT and BRT lines • Business corridors, major transport corridors, nodes and • Slum areas to be identified for renewal
Medium term (3-5 years)	442,000	
Long term (5-10 years)	408,000	• Greenfield development

Table 17 Distribution and financial requirement to build 1,200,000 units during 2013-2023

Income group	**Share of the total by 2023 (%)**	**Number of houses needed for each group**	**Housing type and average area coverage**	**Unit cost (Birr)**	**Total cost (Birr)**	**Annual requirement (Birr)**
Low income	35%	**420,000**	Studio and 1BR type **30-55 m2**	**38,000-128,590**	210,000 x 38,000= **33,849,774,420** + 210,000 x 128,590= **7,980,000,000** **Total=41,829,774,420**	**4,182,977,442**
Middle income	50	**600,000**	2BR **75 m2**	**200,475**	120,285,000,000	12,028,500,000
High income	15	**180,000**	3BR **100m2**	**320,000**	57,600,000,000	5,760,000,000
Sub Total	100	**1,200,000**			219,714,774,420	21,971,477,442
• Cost of infrastructure= Birr 595/m2 • Total area of the houses x 595 Birr/m2 • (**420,000 x** 43m2average) + (**600,000 x** 75) + (**180,000 x** 100) = **18,060,000**+ **45,000,000**+ **18,000,000**= **81,060,000m2** • **Total cost = 81,060,000m2 x 595 = 48,230,700,000**					**48,230,700,000**	**4,823,070,000**
Total finance needed for the planning period					267,945,474,420	26,794,547,442

7. Social Development

7.1 Conceptual Framework

According to some studies, individual and aggregate well-being depends in the long run both on **material growth** and on **social** and **cultural development**. Where material needs have been satisfied to a substantial degree, as it is the case in advanced economies, well-being depends to an increasing extent upon social factors, like social environment, individual relative position and social status, ability to construct and enjoy meaningful and satisfactory relations with other people, and so on.

Since the Industrial Revolution, a significant fraction of the world has kept growing at a positive rate, accumulating physical as well as human capitals and developing better technologies. Indeed, these processes have captured the most part of economists' attention, whereas social and cultural dynamics have remained at the margin of economic analysis. In recent years, however, an increasing number of economists have begun to pay attention to the interplay between these two broad aspects. New approaches (human development and capabilities, for example) have helped to broaden the focus from narrowly economic indicators and outcomes. Policy shifts since the mid-1990s have drawn attention to social sectors and policies as important complements to economic development strategies that contribute to human capital formation, productivity and growth. Despite such progress, significant shortcomings remain in the way and the extent to which the social has been integrated into development thinking.

In case of urban planning, report produced by the World Bank on the urban planning practices experienced by developing countries in the world indicated that one of the problems related with urban plans in most of these countries is the fact that the plans fail to take economic as well as social development issues. The plans are prepared without giving heed to socio-economic dimensions. Socio-economic studies are conducted merely to provide spatial proposals (housing units, schools, health institutions, etc).

Unlike previous planning efforts experienced in the country in general and in Addis Ababa in particular, this plan integrates social development issues in such a way as to, among other things, minimize the negative impacts of the implementation of the plan, and strategize to address challenges which negatively affect the planned development.

Negative impacts of plan implementation include the displacement of residents because of proposed inner city redevelopment, deterioration of social relations and social values as a result of potential displacement and technological advances.

Challenges to development include unwillingness and attitudes that prohibit the proper use of the outcomes of development (infrastructure, public amenities, etc), irresponsive actions and negative interventions against sustainable urban development, and perpetuation of social malaise that is detrimental to social and economic development.

7.2 Existing Challenges

7.2.1 Displacement of Farmers

Although there is a regulation regarding compensations to be paid to those households displaced because their farmland had been reclaimed for urban activities, data collected indicates that most claim have been mistreated, and some have not been properly compensated. This is due to:

Administrative and management problems: There is inadequate stakeholder consultation before displacement. Moreover, the fact that the compensation amount is calculated based on previous years' prices of crops fails to account for current price and thus, potential benefit accruing to these households. Lack of subsequent programs to help these household use their compensations productively by integrating into a new (urban) way of life, for instance by organizing them into MSEs has resulted in many squandering their money and remain without any source of livelihood.

Corrupt practices: The overall compensation process, from valuation to payment, lacks transparency and accountability. Often, households face great difficulties to get their compensations. Even though farmlands are measured properly, incorrect information regarding the size of the farm (lower than the actual size) is given to the farmers in a piece of paper. Those who had filed complaints were mistreated. Others had been asked to pay bribes in order to receive their compensation.

Service and infrastructure problems: Farmers relocated are often settled in areas where there is lack of adequate social services and local roads.

7.2.2 Displacement from Inner Cities

At present, the relatively larger urban centres in the country are exhibiting rapid transformation. Decayed inner parts of major cities are being replaced with new buildings through urban redevelopment schemes. Urban dwellers that are displaced from their usual places of residence because of such schemes in Addis Ababa are being transferred to condominium houses built in different parts of the city. The Urban Renewal Program that started 10 years ago in the capital has two objectives. The first objective is to change the image of the city, while the second is to provide better residential units to low and middle income residents. Meanwhile, it also enables the City Government acquire land that it can lease off for office buildings, commercial establishments, real estate development, thereby generating significant revenue. On the other hand, the City Government also uses this newly acquired land as an instrument for achieving its social objectives (construction of condominium houses, social services, etc).

But there are a number of problems observed in these processes.

Administrative and management problems: Even though the policy is to give priority to affected households (who have resource capacity) to redevelop their landholding, this is usually not followed through. Moreover, more often than not, the City Government fails to keep its promise of relocating displaced households within 5km of their previous locations, which forces many to commute long distances to and fro their work places. In many instances, the City Government has also failed to provide condominium houses and shops according to the preference of displaced households as promised. Here also, affected households complain that they were not sufficiently consulted before being uprooted from localities and properties they had resided in for a long time. Failure to resettle as a group those displaced households at least in an area where they can maintain their old social ties has contributed to the disintegration of the social fabric of the city. The fact that the compensation amount fails to consider location value and proximity to economic activities has made most unhappy. Affected households also face excessive difficulties to get their compensations.

Corrupt practices: The overall compensation process, from valuation to payment, lacks transparency and accountability. Those who had filed complaints were mistreated, and complaints are usually not addressed. Households asked to pay bribes in order to increase or even receive their compensation.

Service and infrastructure problems: Resettlement areas do not have adequate social services, including those related with security.

Economic problems: There is a high number of unemployed persons in these displaced/resettled households; some had lost their employment because of additional transport costs or failure to arrive at work place on time. Their relocation to new (often far) localities had forced many, especially those that depended on their networks in their original localities to earn their daily income, to feel helpless. Higher rental cost in these new localities depletes the disposable income of those employed. In addition, the increased prices of commodities in new settlement sites that are far from the centre, and the inconveniency of the new units to continue petty trading activities are the new faces of economic problems the displaced households have to grapple with.

7.2.3 Beggary

The number of street beggars in Addis Ababa, which was 114,000 eight years ago, is estimated to have grown to 175,000. The fact that the number of beggars is increasing and those who are healthy and capable of working are involved in beggary indicates that beggary is being considered as a source of income. And people have gotten used to it that it is almost as if it has become a social norm rather than a shameful act, or the last resort. Although giving alms to the needy has been built into the social fabric because of religious reasons, abuse of peoples' goodwill and current trends in its social acceptability is worrisome.

Our survey indicates that more than 90% give alms to beggars. But out of the total persons engaged in begging, a considerable proportion (35% or about 61,250) are those who are healthy, in the productive age group and capable of being engaged in productive activities. These beggars have their own property and some are even relatively wealthy. Beggars use different techniques, which had grown more difficult to detect, so as to seem crippled or incapacitated.

A beggar can get between birr 20-50 on any working day and more than birr 100 on a holiday. This means that beggars in Addis Ababa collect about birr 8.8 million on a holiday (weekend, festivals) and birr 3.5 million on any working day. Generally, billions of birr are being given to beggars in the form of alms annually. Unfortunately, at least more than half of this is going to the pockets of those beggars who are healthy and capable of being engaged in productive activities, or who are richer than some of those people they beg from.

7.2.4 Development and Social Values

Some of the social values and norms of Ethiopian society include nationalism, patriotism, hospitality, respecting elders, generosity, compassion, truthfulness, and helping one another in time of need. The social development aspect of the plan focuses on the value related to the longstanding tradition of helping one another, as it has direct or indirect relation with most of the other norms.

Ethiopians, regardless of identity markers or social standing, have always helped each other out in times of crisis. It is commonplace, especially in heterogeneous urban settings, to observe this social value transcend communities to encompass strangers, neighbours, relatives and friends alike. This in part is translated in associational life, where people help one another financially or otherwise during times of sadness (when death occurs, a person falls ill, etc) and happiness (during wedding, child delivery, etc).

In order to identify and hence minimize the negative impact of development (plan implementation) on such invaluable social values, assessment was made to investigate the implication of displacement on the culture of helping one another. The study was conducted on households who had been displaced from their original localities and are now living in condominium housing units. Their associational life through our basic social institutions such as “Edir”, “Equb”, “Mahiber”, “Kircha” and “Coffee Ceremony”, and the traditions of celebrating holidays with neighbours, which together contribute to the maintenance of our values, is compared before and after displacement/relocation.

Data collected from 212 households in condominiums at Bole, Yeka, Nifasilk Lafto and Kirkos sub-cities indicate that there was stronger social interaction and ties among the residents in their previous settlement areas. But the social fabric is becoming loose after displacement/relocation. 84%, 81%, 72%, 56%, 54% and 52% report that they used to drink coffee with their neighbours (in the traditional way), were members of Edir, celebrated holidays with their neighbours, had Equb, were members of Kircha and Mahiber, respectively. After displacement/relocation, these had gone down to 7%, 4%, 3.8%, 3.8%, 3%, and 1.2%, respectively. 84% reported that residents in the previous respective settlement areas were used to helping each other in various aspects, while only 3% said that this still is the case in their new localities.

Generally, it can be concluded that deteriorating associational life is negatively affecting our culture of helping one another. This has also caused residents in condominium areas to limit

even their relationship with their families as the way of life in condominiums make one more self reliant and a little bit selfish as well. When robbers break in to the next door, neighbours usually remain silent without offering any help. This in a sense is also a reflection of the attitude of the general public.

7.2.5 Attitude

The scope of 'attitude' in social development issues as it pertains to the plan is limited to lack of sense of ownership and concern.

Disposal of waste on roads and rivers, defecation and urination in public spaces, intentional tampering with or vandalism on public and communal property, and destroying green plants, etc. is common in Addis Ababa. This may be linked to lack of sense of ownership or negative attitude towards the 'public'. Reactions by individuals and residents at large against awful acts by persons who purposely destroy or robe public property, or pollute the environment are rare. Dismantling and looting of infrastructure furniture is frequently carried out without anyone trying to stop or report. For instance, data collected for this purpose indicates that about 73% prefer to keep silent, pretending they did not see when these acts are committed by others. This is because they think what is being perpetuated does not directly affect them.

7.3 Proposed Solutions

7.3.1 Goal and Objectives

Goal - Ensure social transformation in accordance with the valued traditions and norms of the society, and on par with economic development and urbane way of life in a city of an international stature.

Objectives

- Create civilized and shared urbane norms and generalized positive attitude;
- Create a citizenry that has an aversion to corruption; that respects, protects and preserves its social values; and
- Develop the sense of ownership of the public regarding development projects, public infrastructure, facilities and spaces.

7.3.2 Proposal

In order to minimize problems arising following future development programs, the following solutions are proposed.

Regarding displacement of farmers

Ensure transparency and accountability: Conducting rigorous discourse and consultations with affected households need to be conducted before paying compensations. These consultations need to clarify to affected households about the overall process, including which properties on landholdings are eligible for compensation payment, how compensations are calculated, the processes they will encounter and the conditions they need to fulfil to receive compensation, how and where to file complaints when they need to, etc,. Communication has to be in a language that these affected farm households are able to understand.

Agreement on the (real) size of their farm holdings, an official paper attesting this fact with all the names of the members of the household should be handed over to the head of the household, and posting official notice of these facts and the amount of compensation on a public notice board will make the process more transparent. Posting another notice on an accessible public notice board about all the requirements that displaced persons ought to fulfil to receive compensation, information on the location of offices that provide services related with the matter to these households, the time it takes to provide specific service provided that households can bring all the required documents and information makes the process less tedious as well as more transparent. Conducting monitoring and evaluation by an independent organization, for instance by Urban Planning Institute of Addis Ababa City Government; and ensuring that transgressors are held accountable, including punishing those who mistreat customers are also essential.

Revise compensation formula: Current market prices should provide the main premise for the calculation of compensations.

Job creation and rehabilitation: The City Government is responsible for the well-being of residents and in particular. to make certain that these farm households are well integrated into urban life, it can provide/do the following:

- raise their awareness on how to productively utilize the money they receive in the form of compensations well before releasing the compensation,

- design development projects they can invest in and/or organize the displaced households into MSEs,
- give displaced households priority in terms of for jobs opportunities and to participate the developmental activities in their localities, and
- give special assistance to the elderly who have no support.

Regarding displacement from inner cities

Ensure transparency and accountability: Conducting rigorous discourse and consultations with affected households need to be conducted and collective agreements reached on a number of issues before households are displaced/resettled. These include, among other things, the following

- properties eligible for compensation,
- formula for calculating compensations,
- timeframe for vacating landholdings; and
- process of filing complaints, etc.

Maintaining public trust is very important. Therefore, the City Government should develop within its entities negotiation and consensus building skills; and then only make pledges that it can keep. And whatever collective decisions are made should be strictly adhered to.

In-situ redevelopment: As much as possible, the City Government should consider resettling displaced households within the redevelopment site; or if not possible, not far from their previous place of residence. It is recommended that those displaced from one locality are relocated/resettled as a group inside one locality (not very far from each other).

Redevelopment priority: Affected households should be given priority to redeveloping their properties on their landholding as per what is stated in the LDP or the redevelopment project plan.

Infrastructure and social services: When resettlement occurs in new areas, the City Government must make certain that at least the minimum basic infrastructure and social services including police stations are in place before moving displaced households into new locations. Proactive development of resettlement areas softens the pain of being uprooted and lessens the burden of additional economic and social costs.

Job creation and rehabilitation: Organizing the unemployed under MSE Development Program and consumers associations is helpful.

Revise compensation formula: Compensation need to consider current construction prices as well as location value of properties.

Generally, the provision of compensations alone cannot bring improvement on the livelihood of displaced households, or maintain the social values and norms that facilitate peaceful coexistence and ensure liveable environment. It is essential, therefore, to properly undertake successive activities that strengthen trust and relational ties in addition as well as rehabilitation tasks. Moreover, the City Government ought to ensure timely provision of compensations.

In order to minimize problems arising following future development programs and certain other social challenges to development, the following solutions are proposed.

Regarding beggary

- identify those for whom alms ought to be given;
- raise awareness regarding the need to provide support in an organized manner, and institutionalize organized support;
- prohibit street-side begging in the main centre, secondary centres, along major roads, and near major hotels and recreation areas;
- establish through time social security system for the vulnerable (esp. the elderly, poor children or orphans and the disabled) before they are out on the street;
- discourage begging and put in place systems to control beggars migrating from other places to the city;
- inculcate into elementary level education or launch awareness raising programs in schools to teach children that begging is a dishonourable and shameful act;
- establish local units responsible for providing support for persons who face temporary problems like lack of money for emergency medicine or transportation to travel back to their homes outside the city; and
- **Prohibit beggary:** after first prohibiting begging in some selected areas; and second, ensuring that there is organized support for the needy; finally, enact and enforce a law that prohibits begging in Addis Ababa.

Regarding social values

Our social fabrics (Edir, Equb, Kircha, having coffee with neighbours, etc) sustain our values and provide social security to the urban poor. The survival of the poor depends on these media for social interactions that enable them to receive help from their neighbours in the form of material and other goods and services including food. It is these fabrics that strengthen our

social values and the culture of helping one another. It would, therefore, be crucial to take every caution not to break the social fabric (established through long period) during any local development endeavours.

Thus in order to protect the social fabric from disintegration, the City Government must facilitate situations where residents to be displaced by redevelopment projects are either

- resettled in the same or nearby locality; or if this is not possible,
- resettled together elsewhere.

Development need not ignore our values. Rather it would be necessary to introduce modern ways of strengthening our values. Otherwise, it would be more probable that the next generation would be fragmented and irresponsible. Therefore, in order to protect the disintegration of our social fabrics and ultimately, the deterioration of our values, effort need to be exerted to address the problem at the source. One of the characteristics of values is the fact that it takes time to exhibit change in values.

In order to preserve and strengthen our values and social relations, which are currently found on the verge of vanishing especially in condominium housing, the following are proposed:

- encourage condominium residents to participate in local development activities and local security issues;
- facilitate regular get together programs to enable open discussion and exchange of ideas between condominium residents;
- provide community spaces, children playgrounds and recreational facilities inside condominium blocks;
- provide youth centres and libraries in condominium sites;
- prepare a small facility or enclosure where residents jointly slaughter cattle/ Kircha/ and celebrate particular holidays together;
- establish police sub- stations to control crime in general and robbery in particular; and
- raise awareness and build consensus in the use of communal spaces and facilities, waste management and other/ economic activities taking places inside condominium sites.

Regarding attitudes

In order to address problems to development related to general negative attitudes, in addition to those proposed to strengthen social ties and social values, the following are proposed to be implemented through a coordinated effort by families, religious institutions, schools and the media.

- encourage volunteerism;
- develop trust between the public and public sector entities;
- mobilize communities in the planning and implementation of local development activities in order to create a sense of ownership;
- since families can play the major role and should taking the first responsibility of raising ethical children, the media ought to agitate communities/families regularly towards discharging this responsibility;
- schools ought to exert effort to ensure that ethics education strengthen social values and is a regular part of their curriculum;
- control drug sell and use;
- encourage the involvement of non-governmental organizations, private organizations and religious institutions by creating favourable conditions;
- develop rules and regulation related to environmental sanitation (urinating along roads, discharging toilet waste in to drainage lines, roads, etc) and act accordingly.

8. Local Economic Development

8.1 Existing Situation

The transformation of Addis Ababa has especially been rapid since 1991. Its population has grown by more than 80% to 3.5million (2013) in the last twenty years. Innovative projects linking employment creation with housing and infrastructure development during the last ten years and large scale urban renewal projects underway have significantly contributed in altering both the morphology of the city and wealth distribution.

Although much still remains to be done, a lot has been achieved in improving the poverty and unemployment situation in the city. The city has benefited from the different national policies and programs implemented during the past two decades. The market-led economic system introduced by the EPRDF government and the ensuing private sector development; the government's decentralization policy and subsequent public sector capacity building programs; and the 'developmental state' role of the government and large infrastructure investments (especially during the last ten years) all had accelerated the process of change. 72% of the total asphalted road (1,807kms in 2013) had been built after 1991. Improvements in the production and distribution of potable water which has grown 177% to 239,000 cubic meters per day since 1991 is also a testimonial to the magnitude of the changes introduced via public investment in infrastructure. The City Government has also undertaken a number of reforms to improve its revenue and municipal service provision. The revenue the city collects from its own sources has increased almost ten-fold (in nominal terms) from the 707 million birr it used to generate ten years ago. But in 2015, according to GTP 2, it had reached more than 26.8 billion birr. This enabled the City Government to spend a relatively increasing share of funds on capital investment (70% of its budget in the past 8 years) including on the development and expansion of social infrastructure. Moreover, policy and institutional reforms to enhance the affordability and accessibility of health services and education in the city have contributed to improving the well-being of residents.

Employment creation efforts by the city through its MSE development program had been able to generate more than 850,000 jobs during the past ten years and improve the livelihood of a modest portion of the city's residents. The effect of the Integrated Housing Development Program on asset creation and wealth redistribution has also been considerable. The physical implication of these changes has been visible throughout. All these projects have been influential in reshaping the spatial organization and productivity of economic activities. As a result, the total built up area of the city has increased by at least 25% in the last decade only. In addition, the city has developed its own five-year strategic plan as per the national Growth and

Transformation Plan (in the process of developing the second). Future interventions under GTP are expected to have even more implications on the physical aspect and spatial organization of the city and the wider region.

Despite these strides, the city is still facing a number of socioeconomic and governance related problems. The volume and quality of infrastructure services lag far behind demand. Although 98% of the housing units have electric connection, the service is prone to frequent interruptions. The volume and frequency of water supply in the city is low; and it is characterized by frequent service disruptions. Only 7% of the existing housing stock is connected to the sewerage network.

Ownership and management of urban land is the responsibility of the City Government. Land in our urban context is essentially the most crucial factor input. As such, it can either be instrumental in facilitating growth and in mobilizing resources; or its mismanagement can deter development and have a detrimental effect on the workings of the macro economy. The land management system in place is inadequate and besieged by irregularities and corruption. This has had an undesirable effect on multiple facets of urban life and the economy. Although there are some encouraging developments (i.e. computerizing primary data), lack of transparency and accountability in the tax system is another important governance issue that requires immediate redress. The implication of both on investment is believed to have been significant.

Economic structure and employment: Unemployment rate is high at 23% and 28% of the population lives is below the absolute poverty line. A double digit inflation rate (hitting a high at 38% during the past two and three years), life has increasingly become too expensive for a great majority of Addis Ababa's residents.

Addis Ababa's GDP at constant prices had increased from 9.5 billion birr to 22.7 billion birr (1.2 billion USD) between 2001 and 2011. According to the city (BoFED), the city's economy has been growing by an annual average rate of 10.3% during the past five years. Compared to other cities of comparable stature (national capitals of more or less similar population sizes) in the region, for instance relative to cities such as Nairobi or Johannesburg, the size of Addis Ababa's economy is at least twenty and seventy times smaller. Even though the contribution of the city to the national economy has been declining, the city's PCI 7,322 (430 USD) in 2011 was higher than the national average by at least 75 USD. However, the GTP2 document claims that the city's GDP has reached 95 billion birr in 2015, and will be growing by close to 15% annually in the coming five years. It also states that PCI has passed the 1000 USD mark in 2014.

The manufacturing sector's contribution to Addis Ababa's GDP was 1.4 billion birr in 2003 (13% of City's GDP). This is expected to have reached Birr 2.6 billion (11% of the city's GDP) in 2010.

Despite the fact that 86% of the industries in the city are micro and small scale (cottage and handicrafts, and small-scale), the majority of the country's large and medium scale industries are found in the city. Even though Addis Ababa's share at the national level had decreased from 60% in 2003 to 38% in 2011, there have been noticeable increases registered in other aspects of industrial growth. For instance, regarding the number of persons employed by the sector, gross value of production, value added, fixed assets and additional investments, all have grown considerably in the city during the period considered.

The service sector is both the largest contributor to the city's economy and the largest employer. It contributes to 76.4% of the city's GDP while industry's share makes up (almost all) the rest. This sector is dominated by three major sub-sectors: Transport and communication; Real estate, Renting and Business services; and Trade, Hotel and Restaurants. The service sector has also been responsible for more than 50% of the growth in the estimated annual growth of the city's GDP. Although 75% of employment in the city is also generated in the service sector, a large proportion of the employed work in low skill and low paying jobs as shop sales persons, petty and 'gullit' traders, sales workers in small shops, domestic helpers or doorkeepers and restaurant service workers. The employment structure within the service sector does not leave much room for innovation. Most of the employed in the city are engaged in service related and elementary line of works. This does not indicate that the structure of the city's economy provides the basis for a larger proportion of the labour force to add value to the city's economy. Although unemployment level has gone down in recent years, almost a quarter of the economically active population cannot find a job. And of those employed, the majority (close to 66%) in the city is engaged in low skill and low paying jobs.

Labour productivity in Ethiopia, like in most Sub-Saharan Africa, is low as compared to other regions of the world. As indicated in the ILO KILM (2011) report, Ethiopia's labour productivity (GDP per person engaged) was only USD 2,087 in 2011 using constant 1990 US$ at PPP, which placed the country in a third position from the bottom. It is not expected that Addis Ababa's case will be significantly different from the national average.

Industrial development and MSEs: The manufacturing sector's contribution to Addis Ababa's GDP was 1.4 billion birr in 2003 (13% of City's GDP) and is expected to have reached Birr 2.6 billion (11% of the city's GDP) in 2010. As per the Addis Ababa Trade and Industry Bureau, the number of industries in the City had reached 5,730 with a total capital of Birr 5.997 billion in the same year (EiABC, 2011).

In terms of numbers, it is the micro (cottage and handicrafts) and small-scale that makes up for at least 86% of the industries in the city. And most industrial establishments are cottage and handicrafts industries (60%). Equally true is that in 2009, 46.42% of the country's large and

medium scale industries (LMMSI) were concentrated in Addis Ababa, although this share has gone down to 40% in 2011. There were 873 large and medium scale manufacturing industries in Addis Ababa in 2011. Food, leather and beverage industries dominate large and medium scale industries (31%); paper products and printing (11%); and fabrication of other non-metallic mineral products (11%).

The MSE Development Program has created large employment opportunities between 2004 and 2012 (more than 843,000 people). However, these numbers consider both temporary and permanent jobs. The program has contributed significantly to reducing the number of those living under the absolute poverty line. Nevertheless, many doubt its success in creating credible future development partners or future industrialists. The creation of sustainable jobs and the promotion of innovation have yet to be given due emphasis by the program. A graduation rate of less than 2% does not indicate that the program had been successful in creating future industrialists.

Finance and investment: The number of finance institutions (banks, insurance and micro-finance institutions) in the city has dramatically increased over the past ten years. There are 349 branches of banks in Addis Ababa, which is 36% of the entire commercial banks branches functioning throughout the country. Similarly, 50.7% branches of insurance organizations in the country (out of 221 total branches) are located in the capital. By the end of 2010/11, the number of microfinance institutions (MFIs) operating in the country had reached 31. Out of all MFI's in the country, 14 (46.7%) have been operating in Addis Ababa. Although more financial institutions mean more choice for users, they lack the capacity (in terms of capital and other resources) to provide adequate and specialized services in diverse areas.

The World Bank has ranked Ethiopia as one of the lowest savers in the world (118th out of 136 countries). But according to MoFED (2013), domestic saving has increased from 5.2% in 2009/10 to 16.5% in 2011/12. Saving in Addis Ababa is 20% of the GDP, which is almost equal to the sub-Saharan average. Given that we are at the early stages of sustained growth and that the city's GDP is still low, this level of saving needs to be sustained to establish a firm basis for future investments. Not only this, a better strategy to channel this saving into productive use has to be put into effect. Another potential source of finance is remittance. According to the National Bank of Ethiopia (NBE) and the World Bank, Ethiopians abroad send 1.5 billion dollars worth remittances per year, which accounts for at least 5% of the country's GDP. It is safe to assume that a large amount of this remittance (at least 40% or at least 600 million dollar per year) is coming to the city. This is almost 50% of the city's GDP. It is however difficult to establish what proportion is being used for productive purposes, or how much of this had been re-invested in the city and how much is simply consumed (aggravating the already too high

inflation). If the City Government is able to find a way of channelling at least half of this resource to productive use, its implication would be considerable.

Gross domestic investment as a percentage of the national GDP is 26% for the year 2011/12 (Public investment 19% and private investment 7%). This is the same for Addis Ababa. According to MoFED, Addis Ababa has attracted a larger share of both domestic and foreign investments in the country in (2011/12). The share of Addis Ababa in domestic investment has increased from 27% in 2002 to 52% in 2011, while its share in foreign investment has declined from 51% to 48% during the same period. And the total number of foreign investment projects has decreased from 1394 to 952. FDI inflow to Ethiopia is around 399 million dollar per year (less than 2% of the national GDP). This is very low as compared to the 37 billion dollar (only 1.56%) that flows annually to sub-Saharan Africa. And assuming that 192 million dollar (48% of total) is the share of the city, this makes FDI 15.6% of the city's GDP.

Because of stiff competitions in attracting investment, developed countries have started gearing their policies towards retaining those firms that have already gone operational. However, developing countries like Ethiopia still need to promote themselves in order to attract local and foreign direct investment if they are to survive in this age of globalization. Although more than 27,350 investment licenses have been issued in Addis Ababa either by the Ethiopian Investment Agency or the City's Investment Bureau since 1992; sadly, only 9% of the licensed investments have gone operational. These investments, had they all gone operational, would have created permanent jobs for more than 900 thousand people. Addis Ababa hence needs to streamline investment policies and related activities in order to be among the preferred destination for potential (foreign and local) investors. For instance, a local survey has disclosed that the land lease price is beyond what most (local) investors believe is worth potential returns, and access to land and its delivery is the major constraint faced by local investors. Moreover, delay in getting access to infrastructure service (especially electricity and water), and an inadequate (in both quality and volume) infrastructure service makes conducting businesses expensive. In addition to increasing production cost, the quality of products is being affected. Since competitiveness can be critically affected both by the cost of business transactions and direct costs of production, the implication of an expensive or inadequate infrastructure service (i.e. water, electricity, telecommunication, etc) on investment has been and will continue to be detrimental. For instance, the cost of telecommunications in Ethiopia is among the most expensive in the region (in addition to its poor quality). Problem of network queuing (both for mobile and internet) has become critical in the city which needs further rectifications.

Public finance: The City Government's revenue has increased by over 300% during the past seven years (in nominal terms). And the revenue the city collects from its own sources has increased almost ten-fold from the 707 million birr it used to generate ten years ago. This has enabled the City Government to spend relatively more funds on capital investment (58% of its budget in the past 8 years). In 2009, the city's per capita total spending was 8 times higher when compared to other regions' average per capita. This comes to between 70-110 USD (in better times) per capita spending. The level of per capita public capital expenditure vis-a-vis the challenges or the existing demand is what should define whether public spending indeed is significant or not. As compared to the 15-20 USD per capita expenditure of the late 90's, it has shown significant improvement. Nonetheless, in a city where almost all infrastructure service is being provided by the public sector, this definitely is not sufficient in view of what is lacking and what is missing.

8.2 Major Premise

Local economic Development (LED) strategy may have different meanings and scope. In general, the purpose of designing a local economic development strategy is to build the economic capacity of a local area (can be a city) to improve its economic future and improve the living situation of residents. It may constitute a comprehensive economic development plan. A few had chosen to emphasis welfare and had opted to design a poverty reduction and/or employment generation plan as their primary LED strategy. For others, it simply means developing a framework to guide concerted activities to attract more investment (international and/or local) in one or more sectors. This mainly implies providing targeted support to a number of winning sectors or sub-sectors that have the potential to become the competitive advantage of the city in the global economy.

Although major intervention areas of LED strategies have evolved since the early 1960's, current focus include:

- making the whole business environment favourable,
- making highly targeted investment attraction interventions in the service and manufacturing sectors, and
- building on the competitive advantage of cities.

Tools being used include facilitating the development of economically-linked clusters, and that of collaborative business relations and networks.

In situations where LED has been practiced by local governments and local communities, it has often emerged as a response to local development challenges. If strategically designed, it can prove to be the most effective instrument to both enhance economic growth and reduce poverty. Hence, depending on its strategic orientation, it can take on either of (or a combination of) two broad approaches. Some literatures classify these approaches as either **pro-poor** and **pro-growth**, or as **broad-based** and **market-driven.**

Pro-poor or broad-based approach to local economic development focuses on poverty reduction. Pro-poor LED strategies are more inclined towards addressing poverty and unemployment. Hence interventions are specifically designed to improve the livelihood of poor communities or of the wider poor populous. At the meso-level, municipalities try to reduce poverty with multiple interventions like infrastructure development, land management, housing and housing finance, MSE development and credit, and employment creation. Pro-poor community-based economic development on the other hand would constitute, among others, local safety nets, basic service delivery, housing/settlement upgrading, MSE development and other intervention targeted at improving the livelihood of a community. This type of locality-based or community-based pro-poor LED strategy usually focuses on social work type projects with more welfare elements, giving little attention to sustainability of businesses.

The pro-growth or market-driven approach emphasizes business development. It primarily aims at ensuring economic growth by focusing on investment attraction (especially high profile businesses). Building sustainable growth, systemic competitiveness, entrepreneurship, expansion of market, etc. are given more emphasis. Major growth-oriented interventions include industrial parks, cluster development, attraction of foreign direct investment, venture capital provision, targeted tax incentives, business incubators, and human capital initiatives.

Regardless of what approach is adapted, whether a city is able to innovatively use its existing and potential opportunities will determine the rate at which its economy grows; and hence, if the livelihood of poor communities are to be improved and poverty reduced. Its success in turn is determined by how it is translated into and is implemented via strategic projects and activities. Hence, designing this kind of strategy will require understanding the competitive advantages and potentials of Addis Ababa as well as its immediate surroundings.

As mentioned in the introductory section, a number of national programs and meso-level projects have been implemented in the city. These interventions have mainly been pro-poor. The pro-growth or market-driven approach has always been relegated to secondary position when designing annual or medium term plans. Aside from preparing ‘industrial zones’, no intervention that takes into consideration the unique features and comparative advantages has been systematically adapted by Addis Ababa to build its competitiveness. Given on-going

development strategies and efforts, the LED strategy of this plan, while supplementing the GTP, focuses on triggering kick-off to the economy of the city and its environ. However, ensuring that benefits are not concentrated in the hands of the few but trickle down to stimulate productivity and growth in other sectors of the economy will be the main challenge.

The Integrated LED strategy emphasizes identifying sectors/projects/activities that enhance the competitiveness of the city.

8.3 Proposals

Goal One: Economically flourishing society and city by 2040.

Major Objectives:

- To eradicate absolute poverty;
- To reduce unemployment by 50%;
- To increase the share of private sector investment to 65%;
- To raise the proportion of the middle class to 50%; and
- To integrate those communities to be affected by urbanization.

Major Strategies:

- Recognizing the significance of the service sector as the main engine for the city's economic growth, and creating business environment conducive for it to thrive in;
- Creating a more favourable business environment for private sector investment;
- Make the urban region become one of the largest industrial regions in East Africa;
- Enhancing labour productivity (transforming work culture and attitudes);
- Attracting FDI (via, among other things, concerted efforts in place marketing); and
- The provision of special skill training to integrate rural communities into urban life.

Although it has multiple objectives, one primary target is to ensure the long term prosperity of Addis Ababa and its surroundings. Another is to facilitate the growth and the transformation of the country's economy as a whole. These will depend, among other things, on whether the city is able to take advantage of opportunities for sustained and rapid economic growth.

The strategy aims to completely eradicate absolute poverty from the city in the coming twenty-five years. No resident shall lack the means to at least consume the minimum calorie food intake required to sustain the human body.

Reducing unemployment by half is another goal. The population of the city is estimated to reach 5 million by 2040. Provided that nothing very dramatic happens, the age structure is expected to remain unchanged. This means that at least 62% (3.1 million) of the population is going to be economically active. A 50% decrease in the unemployment rate requires that at least 2,728,000 are employed, which means that 1,190,800 additional jobs need to be created during the coming 25 years. A thriving economy and a prosperous society where no less than half of the residents fall within middle income category is also what the integrated plan is aspiring to achieve in under three decades.

Major strategies include increasing the role of the private sector in the economy and enhancing labour productivity. But the most important strategic direction for this LED strategy is industrial specialization. It is crucial for Addis Ababa focuses on developing its service sector as part of its basic economy. It needs to develop the service industry that serves the international market. But the development of specialized manufacturing industry becomes equally important for the realization of the GTP. A number of intervention areas including designing and implementing articulated measures for attracting foreign direct investment, especially to create a competitive manufacturing sector, need to be taken.

Two major goals have been set to be achieved by 2025. Both can be taken as critical paths for attaining Goal One. Making the city a centre for competitive and innovative businesses, and a thriving 'African Capital' and international destination is what is going to make the major objectives under the creation of a economically flourishing city and society possible.

Goal Two: Centre of competitive and innovative businesses for the transformation of the national economy by 2025.

Major Objectives:

- To increase the annual rate of growth of the city's GDP to 16% and increase PCI to above 1,000 USD by 2025;
- To create fertile ground for the establishment and sustenance of productive businesses;
- To establish/facilitate the establishment of 500 competitive MSEs annually, of which at least 40% is in manufacturing;

- To upgrade at least 70% of these MSEs to medium and large-scale industry level by 2025; and
- To provide special assistance (foreign market, technology, premise, etc.) to already established and productive manufacturing clusters.

Major Strategies:

- Special support package for innovative and competitive businesses (cluster development, R&D and technology transfer, venture capital, operating premises, etc.);
- Infrastructure development.

Goal Three: A thriving African Capital and major international destination by 2025.

Major Objectives:

- One of the top two hosting cities of international conferences in Africa;
- One of the top two favourite locations in Africa as home of headquarters of multilateral organizations (i.e. African, UN and international NGOs);
- Preferred location for at least 50% of new regional headquarters of TNCs establishing offices in Africa; and
- Major training zone for long distance running in the world.

Major Strategies:

a. Serviced land for

- Real estate development (higher standard residential /rental housing) in selected localities.
- 2 international (community) schools
- 1 general hospital
- 10 (at least 5 star) hotels
- An international standard stadium
- A golf course

b. A lively, pedestrian friendly and fully serviced major centre

- Office space for TNCs in the main centre
- Hotels, gym & tennis courts
- Malls/shops providing high order goods and services
- High clientele bars and restaurants, clubs
- Museums, cultural centres, and theatres
- Sewerage system

c. Enhance safety and security by:

- networking with already established security reporting networks for reporting crimes on foreign visitors and the international community,
- building the capacity of the police force or establishing a special unit for instantaneously responding to such reports and bringing the perpetrators to justice.

d. Making the business environment favourable in highly targeted investment areas (manufacturing and high-order services)
e. Regulating the provision of services in identified strategic areas (manufacturing and high-order services)

Maintaining a higher two-digit economic growth in the next decade is a necessary condition to achieve the GTP. The city has to play a leading role as the source of innovation and technology transfer. A scheme to develop MSEs (can be as part of the existing MSE Development Program) that focuses on innovation, competitiveness and sustainability has to be implemented. Major diversion is needed from current emphasis on job creation. The support package in place, which has rather perpetuated dependency, need to be redesigned. For instance, venture capital schemes can be used to mobilize private capital for this purpose. Incentives could be put in place for redirecting the large amount of money that enters the city through remittance to initiate and finance new businesses. The concept of clustering has to incorporate all aspects of (forward and backward) linkages in the value chain.

As the oldest free African nation with a long history of indigenous civilization, the name Ethiopia had been synonymous with anti-colonial struggle and the movement of pan-Africanism. Addis Ababa, as the nation's capital, is emblematic of these values. Consequently, its international role has historically evolved over time. As a result of this and the political ingenuity of its leaders, the capital has continued to be the seat of the African Union (formerly known as the Organization of African Union) since its establishment fifty years ago. It is now the third largest diplomatic centre in the world with more than 115 embassies. It is therefore

paramount that Addis Ababa provides high quality services on par with its stature as the diplomatic capital of Africa. It should be able to recreate itself and make Africa proud.

Africa has become one of the fastest growing continents and with its Renaissance in the horizon. Addis Ababa's significance in the international scene can be used as a trigger point for revitalizing its economy. This will ultimately create the capacity to build a city and an economy that is worthy of the country's position in international geopolitics. The city has never attempted to make focused and intentional intervention to convert this great potential into capital. Hence in the coming decade, Addis Ababa will make a conscious effort to

- generate additional foreign currency from conference and athletics tourism;
- attract the establishment/relocation of international companies; and
- attract foreign direct investment.

The city will provide serviced land for a number of projects that are believed to have a leverage effect on attracting and maintaining expatriates that are going to come to the city either as tourists or semi-permanent residents. These projects are worth more than 17 billion birr. In addition to making the business environment (including investment incentives, licensing and taxation) conducive, development of the city's main centre will be given emphasis. Facilities that can provide standard services (health, education, entertainment and shopping) will be built at accessible locations.

The city will prepare itself to host a number of regional/African sport events. Among these, the 2021 African Cup of Nations is going to be the most important. The city will need at least one international standard multi-purpose stadium in the coming 5-6 years. In addition to launching a marketing strategy, this will require developing the necessary infrastructure and vying for the honour of hosting the competition.

Specific Proposals

Any economic growth strategy to be designed for the city has to give due consideration to the service sector. The current situation does not indicate that the structure of the city's economy provides the basis for a larger proportion of the labour force to add much value to the city's economy. Short term policy implication may be to design skill development programs that aim at improving the quality of the human resource in the leading labour absorbing sectors. The long term aim should however be different. Since the conventional wisdom perceives that the sector has limited potential to export or achieve economies of scale and thus is mostly unable to benefit from expanding global trade, the city needs to build on those (service) activities that

have the potential to grow, generate foreign currency, and be competitive beyond the domestic market.

Hence, the following specific strategies are proposed:

Regarding the service sector: recognizing the service sector as the mainstay of the economy, the city should create a business environment conducive for enhancing the competitiveness of this sector. Successive policy and institutional reforms pertaining to the service sector in general, and as it relates to the city's basic economy in particular need to be made. Targeting the international market will provide the basis for integrating into the global economy. And this will require purposeful and perhaps gradual restructuring of the service sector, as well as the city structure.

- Putting the advantages of being the 'African Diplomatic Centre' into use to enhance foreign exchange earnings (mostly, from conference tourism) and to trigger investment (including foreign direct investment) is identified as the most plausible pro-growth LED approach the city can adapt.
- Because of various factors including shortage of land, Addis Ababa can specialize in high-tech industries and in the transfer of technology and knowledge (within the manufacturing sector) by focusing on innovation. A different approach to MSE development, a support program that focuses on innovation, competitiveness and the sustainability of businesses need to be taken. Such schemes as venture capital provision, business incubators and cluster development should be clearly thought out/understood and implemented. Traditionally home-grown innovative businesses (esp. in manufacturing) should be supported.
- Under the framework of the country's and the City's GTP plans for industrial sector development, improvements in the performance of the manufacturing sector need commitment. In this regard, the city's performance in land provision (including in making it affordable) should be scaled up. Other constraints such as lengthy process for acquiring license and the absence of certain tax incentives and the like have to be well addressed if the sector is to play a pivotal role. The provision of investment incentives, creating access to finance and investment promotion are among the most important intervention areas that need detailed activity enumeration, phasing and implementation. Due consideration should also be given to infrastructure development.
- The government is still the largest investor (70%) in the city. The share of private sector investment has to be enhanced for a more sustainable economic growth.
- If the City Government is able to find a way of channelling at least half of the remittance that flows into the city to productive use, its implication would be considerable. It is

estimated that a large amount of the remittance (at least 600 million dollar per year, which is almost 50% of the city's GDP) comes to the city. It is however difficult to establish what proportion is being used for productive purposes, or how much of this had been re-invested in the city and how much is simply consumed (aggravating the already high inflation).

- It is believed that at present the city can provide adequate number of skilled manpower for any (primary, secondary and tertiary) industrial level or sector. In terms of quantity, even provided that the double digit economic growth is maintained for another decade, the rate at which the city is producing skilled manpower will remain sufficient to sustain an economy of moderate technology. The most important questions one should ask oneself are: 'does this human resource have the necessary quality to make it competitive in any market? Is it productive enough to attract foreign direct investment?' Low labour productivity should be of a primary concern as it is one of the lowest in the world. Intervention in this sphere should perhaps give more emphasis on elevating attitudes to encompass social responsibility.
- The city attracts the largest share of domestic investment (more than half) in the country. But the overall trend in both the total number of projects and capital invested in the city had shown a decline. Because of stiff competitions in attracting investment, developed countries have started gearing their policies towards retaining those firms that have already gone operational. However, developing countries like Ethiopia still need to promote themselves in order to attract local and foreign direct investment if they are to survive in this age of globalization. Hence, cities like Addis Ababa need to streamline their investment policies and build their institutional capacities in order to put themselves among the preferred destination of potential (local and international) investments.

8.4 Major Collaboration Areas

Attracting investments (including FDI): - the surrounding towns and Addis Ababa can collaborate and intensively work on marketing the economic region. But prior to this, a clear road map for policy and institutional reforms has to be designed.

Ensuring industrial linkages: - industrial development in the region has to be implemented in such a way as to maximize benefits

- from the forward and backward linkages between industries (not only within the manufacturing sector) at different stages of production;

- from cluster developments and specialization;
- from research and development; and
- from technology transfer.

Land and Infrastructure development: Coordinated land use planning (for large-scale Real Estate Development, industrial zones, high order social services and hotels, etc.), land development and allocation, transport planning, and major infrastructure development will allow optimum use of resources and knowledge sharing.

Sustainable environment: Integrated efforts for river and ground water pollution control, hazardous waste management, and green belt and green infrastructure development will create a sustainable urban region.

9. Industry

9.1 Major Government Policies and Regulations

Accelerated industrial development, as it has been stated in various government policy documents, is one of the main urban development agendas in Ethiopia. This part of the report outlines the strategic plan for an accelerated industrial development in Addis Ababa, along with future directions to be adapted in promoting industrial development. Plausible solutions are also elaborated to address current problems besetting the sector. The main focus of the plan in this regard is to promote investment in the industrial sector with the view of reinforcing the realization of the national growth and transformation plan. The term industry here, unless specifically indicated otherwise, refers to all those activities falling under 'industry' in the gross domestic product of a country except mining, construction, energy and water.

GTP: The Growth and Transformation Plan (GTP) states Ethiopia's vision of becoming a middle income economy by 2025. Towards this, the country aims to build an industrial sector that plays a leading role. By then, the share of agriculture in the national GDP is expected to decrease to 29%, while industry (including mining, construction, energy and water) will account for 32%. The service sector will account for the remaining 39%.

The GTP's main target regarding the industrial sector is to enable the micro and small scale enterprises sector to play a significant role for national development, particularly in creating employment opportunities and alleviating poverty. Accordingly, targets such as creating employment opportunities for about 3 million people through the provision of full-fledged support, and developing 15,000 hectares of land to construct shades and buildings for operators organized in micro and small enterprises had been set.

Federal Green Economy Plan: The Climate-Resilient Green Economy (CRGE) initiative follows sectoral approach and has so far identified and prioritized more than 60 initiatives to achieve development goals, while limiting GHG emissions to around 150 Mt CO2e. The green economy plan is based on four pillars:

- Improving crop and livestock production practices for higher food security and farmer income, while reducing emissions;
- Protecting and re-establishing forests for their economic and ecosystem services, including as carbon stocks;
- Expanding electricity generation from renewable sources of energy for domestic and regional markets; and

- Leapfrogging to modern and energy-efficient technologies in transport, industrial sectors, and buildings.

Building the green economy requires an estimated total expenditure of around USD 150 billion over the next 20 years. By developing a green economy, exchanging GHG emissions abatement for climate finance to fund some of the required investment could be achieved.

Ethiopia's current contribution to the global increase in GHG emissions is practically negligible. Even after years of rapid economic expansion, today's per capita emission of less than 2 t CO2e is modest compared with the more than 10 t per capita on average in the EU and more than 20 t per capita in the US and Australia. Overall, Ethiopia's total emissions of around 150 Mt CO2e represent less than 0.3% of global emissions.

Environmental Management

Environmental Management System (EMS) is defined in the latest draft revision to ISO 14001 (ISO/DIS, 2003) as: "Part of an organisation's management system used to develop and implement its environmental policy and manage its interaction(s) with the environment". Meanwhile, "management system" includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources.

Setting up EMS for a given industry will increase its efficiency in using environmental resources, and achieve the following benefits: reduction in costs especially in water, energy and solid wastes disposal**;** more efficient use of materials**;** improved internal communication and public image; and increase environmental awareness.

Proclamation No. 295/2002, provides for the establishment of Environmental Protection Council and Environmental Protection Authority (EPA) at the federal and regional levels, with the main purpose of inspecting and follow up of environmental considerations in the overall developmental process as well as to provide appropriate advice, and to review and approve directives, guidelines and environmental standards. Proclamations no. 299/2002 on Environmental Impact Assessment, no. 300/2002 on Environmental Protection and Control, no. 197/2000 on Water Resources Management, no. 456/2005 on national Rural Land Administration and Use are among the proclamations that are relevant to the management of industrial pollution. Moreover, Ethiopia has ratified international conventions on natural resources and environmental management (i.e., Convention on International Trade in Endangered Species (CITES) through Proclamation No. 14/1970, Framework Convention on Climate Change through Proclamation No. 97/1994, Convention on Biological Diversity through Proclamation No. 98/1994, the United Nations Convention to Combat Desertification through

Proclamation No. 80/1997, the Cartagena Protocol on Bio-Safety to the Convention on Biological Diversity through Proclamation No. 362/2003). The federal EPA is designated as the focal point for the implementation of the above conventions.

9.2 Existing Situation and Main Challenges

Types of Industry and Investment Trend

Out of the total number of industries, the manufacturing sub-sector has the largest share in the level of employment and size of capital, accounting for more than 25% in both cases. It is also the sub-sector with the highest value added. In terms of capital asset share, the textile and garment sub-sector is the largest with 26.83%. And it is closely followed by manufacturing, which accounts for 25.71%. The amount of capital assets formed is essential to make technological upgrades and thereby to improve their efficiency and competitiveness. Manufacturing, and chemicals and pharmaceuticals are the two leading industries in terms of employment generation with the respective share of 25.14% and 19.67%. On the other hand, size of value added contribution by sector from largest starts with manufacturing and then follow iron and steel, textile and garment, leather and leather products, and paper and printing.

Nonetheless, 50% of these industries have been operating for more than 10 years, and only 16.56% are less than five years old. 83.43% are between 15 to 20 years and find it difficult to compete with new generation firms. Hence, there is a need to reassess hardware capability, and make continuous investments for upgrading machinery and equipment.

Educational Status of Industrial Workforce

A sample survey conducted on a total of 229 manufacturing firms employing 57,525 persons had shown that 10% of the workforce is illiterate; 45% has education of elementary level (grades 1 to 8); and another 35% is at high school level (grades 9 to 12). The remaining 7% and 2.5% are diploma and degree holders, respectively. What is astonishing is the fact that over 90% of the workforce has no skill at all, at least at the time of employment. Nor there exists any system for on-the job training. Of the entire workforce, less than 1% is said to have received some sort of short term training. Thus, whatever skill the labour force has, it was acquired through experience.

Perhaps the most important aspect of education from the point of view of building technological capabilities is the technical knowledge of productive workers. In this regard, only

12% of the total workforce (or 19% of production workers) are engaged in activities requiring some level of technical skill. 80% of production workers has no technical knowledge, and less than 2% have diploma and above. Therefore skill and human resource development is essential to raise current skill levels, and it is vital to plan for those skills that are needed in the future, particularly those needed in the more advanced and specialized sectors that will drive future growth.

Micro and Small Scale Industries

MSEs clustering through construction of working premises started in 2003 in Addis Ababa. 120 hectares of land was provided to 130,852 individuals in 2004 and 2005 through Micro and Small Scale Enterprises Development scheme. Most working premises were provided for free or at a highly subsidized rent for an average monthly payment of Birr 2 per m^2. From 2004 until 2011, a total of 17,904 MSEs are reported to have benefited from such support.

Some of the working premises provided were G+4 buildings, especially for the textile and garment sector. Sheds constructed from iron sheets were provided for those engaged in construction material input production, wood and metal work, and food-processing sectors. The working premises for a specific sector can be found located close to each other or scattered here and there based on the availability of usable open space.

Pollutant Industries

According to a survey undertaken by the Addis Ababa Environmental Protection Authority (AAEPA), 90% of the pollutant industries in the city discharge their wastes without any treatment. Industrial acids, suspended materials, oil and grease, and different types of toxic material directly go to the local river systems, thus causing destruction on aquatic ecosystem. Another study conducted in 2007 by AAEPA on the level of waste discharges by selected tanneries, textiles, paint, food and beverage industries in Addis Ababa disclosed that the majority of the industries surpassed the permissible effluent standards. The data collected on Biological Oxygen Demand (BOD) and acidity (PH) test of the effluents shows that in case of most of the industries, particularly the National Alcohol Factory and the Addis Ababa Abattoir, the concentration is well above EPA's standards. This underlines the need to institute a strong management and action to avoid further damage on the environment.

Table 18 Industry investment trend by type (1992 - 2011)

Type of Industry	No.	Capital Formed '000'	Employment		% share in no of industries	% share in employment	% share in capital
			Permanent	Temporary			
Textile and Garment	50	774,507	9410	1450	7.23	11.25	26.83
Leather & Leather Products	51	325,956	3316	232	7.37	4.73	9.46
Agro-Processing	6	94,807	421	190	0.87	1.38	1.20
Food and Related	48	218,930	1926	158	6.94	3.18	5.49
Beverage	9	739,863	998	100	1.30	10.75	2.85
Coffee Roasting and Grinding	4	11,847	98	70	0.58	0.17	0.28
Chemicals and pharmaceutical	51	1,354,043	1709	503	7.37	19.67	4.87
Manufacturing	194	1,730,620	9015	2720	28.03	25.14	25.71
Glass Factories	7	145,751	479	310	1.01	2.12	1.37
Paint Factories	10	26,676	263	55	1.45	0.39	0.75
Cement and Related Products	54	103,838	1557	1199	7.80	1.51	4.44
Iron and Steel Factory	85	882,158	2947	735	12.28	12.81	8.40
Electro Mechanical	42	169,232	889	411	6.07	2.46	2.53
Paper and Printing	59	199,200	1334	66	8.53	2.89	3.80
Wood and Metal Works Household & Office Furniture	22	107408	708	209	3.18	1.56	2.02
Total	**646**	**6,884,836**	**35,070**	**8,408**	**100.00**	**100.00**	**100.00**

Source: Analysis made on data provided by the Ministry of Industry

Figure 27 BGI waste water treatment site

To summarize, There are a number of challenges that the manufacturing sector in Addis Ababa is facing today. These include:

- Low level of industrial development and its low percentage contribution to the city's GDP;
- Absence of an integrated industrial development strategy at the city level;
- Weak enforcement of environmental regulations, high level of pollution and location of polluting industries amidst residential areas;
- Most industries are still at their infant stage, producing more consumption goods than investment goods;
- Inadequate and inefficient infrastructural services resulting in high production and transaction costs, also restraining the entry of new investments;
- Low proportion of industrial projects that have entered the operational stage; and related with this, land speculation;
- Complex credit procedures including collateral requirements to secure loans for investment in new industrial projects;
- Limited experience of the industrial workforce to operate modern industrial plants and equipment, and low level of productivity, which has a bearing on competitiveness; and
- Poor training systems and facilities to upgrade the technical skill of the industrial workforce.

One of the main reasons for the low level of industrial development is the very low attention given to industrial/urban development until very recently. In addition, many of the existing industries use outdated technologies, resulting in inefficient use of scarce resources and low productivity. The predominantly foreign-based raw materials and spare parts requirement of the sector has also restricted forward and backward linkages.

The inadequate supply of basic infrastructure has been a major constraint to attracting new industrial investments. Industrial pollution has been another major challenge, whereby

effluents from tanneries and textile factories in particular pollute ground and surface water bodies, posing health threats to residents as well as to those residing in downstream locations.

9.3 Main Concept

Industry Parks

An industrial park or estate is a community of manufacturing and service businesses located together on a common property. Member businesses seek enhanced environmental, economic, and social performance through collaboration in managing resources and environmental issues.

Figure 28 Eastern Industry Zone Gate

In other words, an Industrial Zone (IZ) is an area where enterprises specializing in the production of industrial goods and in the provision of services for industrial production are concentrated. Industrial zones are comprised of groups of industries clustered together in a given geographical area because of collective benefits such as industrial linkages as well as access to labour, infrastructure, services and land. Besides providing adequate infrastructure, industrial zones offer numerous environmental advantages as such an arrangement brings together waste producers and waste users. The key to the success of this approach, however, is the ability to select an appropriate combination of plants. The proper selection of compatible manufacturing businesses is one of the prerequisites to ensure an environmentally responsible and efficient industrial complex. Components of this approach include green design of park infrastructure and plants (new or retrofitted); cleaner production, pollution prevention; energy efficiency; and inter-company partnering. An IP also seeks benefits for neighbouring communities to assure that the net impact of its development is positive.

Accordingly, industrial zones (IZs) should designate large tracts of developed land (provided with infrastructural facilities) to be leased out to investors. The purpose of providing such package of services and facilities is to stimulate entrepreneurship, which is an institutional

mechanism for healthy operation and expansion of the zones. To this effect, there are 40 IZs throughout Ethiopia including four IZs in Addis Ababa and two IZs in Dire Dawa. The remaining 34 IZs are located in Oromiya, Amhara, Tigray, and Southern Nations, Nationalities and Peoples regions (IPS, 2004). The pre-existing industrial zone located inside the then Wereda 19 Kebele 55 was established in 1982 in line with the intention of the previous government to establish a model industrial estate in Addis Ababa, while the other one was located in Akaki-Kality.

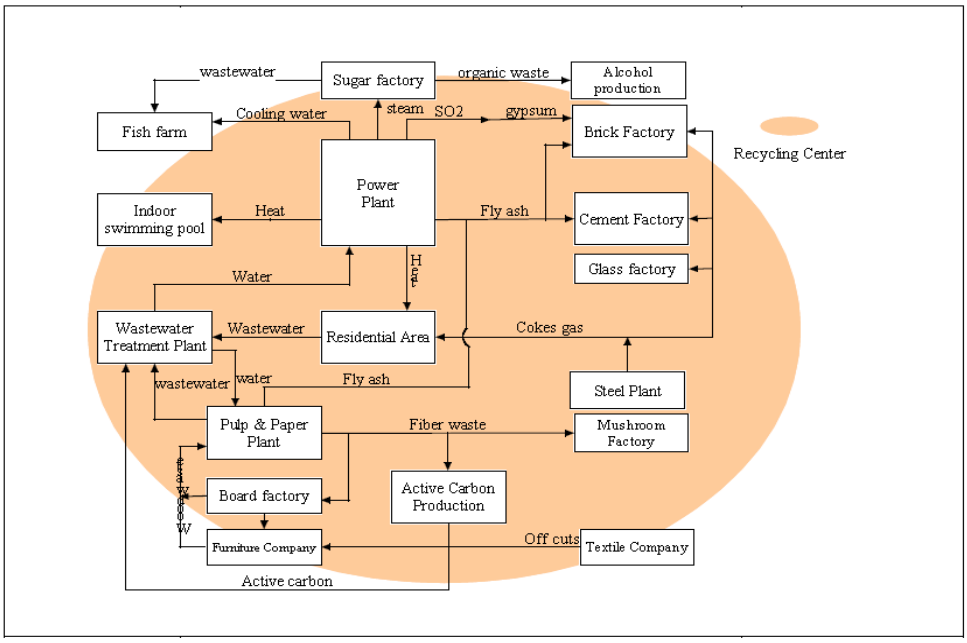


Figure 29 Diagram of Industrial Park

A number of prerequisites have to be fulfilled for IPs or IZs to function well.

- ***Maintaining a well planned infrastructure***: This involves selecting sites for industrial parks in the city and its surrounding. The limits will be defined by assessments to be made on the ecological carrying capacity of such sites, minimizing local environmental impacts by integrating the IP into the local landscape, hydrologic setting, and ecosystem; reducing contributions to global environmental impacts, i.e. greenhouse gas emissions; and designing water flows to conserve resources and reduce pollution through strategies similar to those described for energy and materials – cascading through uses at different quality levels.

- ***Providing competitive products /cost reduction***: this refers to promoting the cost-effectiveness and competitiveness of companies to be established in such industrial parks.
- ***Promoting the industrial symbiosis concept*** (which refers to the exchange, reuse, recycling and recovery of waste or use of common waste treatment plants): This involves encouraging materials flows and 'waste' management for the whole site; emphasizing cleaner production and pollution prevention; seeking maximum re-use and recycling of materials among IP businesses; reducing risks associated with toxic materials through material substitutions and integrated site-level waste treatment; linking the IP tenants to companies in the surrounding region as consumers and generators of usable by-products via resource exchanges and recycling networks.
- ***Supply chain development***: the management body of such industrial parks will link or network companies with suppliers and customers in the wider community.
- ***Promotion of social responsibility***: the parks will value good relationships with interest groups, take care of the well-being of personnel and the safety of industry park products. Thus, it will enhance the social cohesion in neighbourhoods with open information, thereby contributing to the development of the area.
- ***Transfer of environmentally sound technologies***: this will rely on energy systems, which will maximize energy efficiency through facility design or rehabilitation, co-generation, energy cascading and other means; achieve higher efficiency through inter-plant energy flows; and extensive use of renewable sources of energy.
- ***Protecting the environment***: industries should institute proper Environmental Management System (EMS) with ISO 14001 standard. All industries in the city and its environs are expected to reduce their effluent emission levels and meet EPA's standard by 2025. All new industrial development parks will be required to do a Strategic Environmental Assessment or Environmental Impact Assessment (EIA). In the case of industrial parks, new development or change of use will be permitted provided that it will not lead to a concentration of uses that prejudices the dominance of industry and business in the area or cause the loss of important industrial sites; not cause residents or visitors in any hotel, hostel, residential institution or housing to suffer from unacceptable living conditions; buildings and storage facilities in the area could be built at a scale appropriate to the site; and comply with policies for the EPA standard of EIA as appropriate; not harm the quality of the environment to such an extent that other new industries and business development will be discouraged; and be adequately served by transport facilities and offer safe access to major road and railway networks and appropriate off-street parking.

9.4 Proposals

Goal

The goal of the industrial development plan is to make the city become “the most competent IT and related high order manufacturing industrial agglomeration in East Africa”.

9.4.1 Infrastructure Development and Capacity Building

Public sector investment required for the overall development of the industrial sector will focus on infrastructure development and must cover:

- Water supply costs
    - Water reservoir cost
    - Transmission and distribution cost
- Treatment plant development
- Power supply
- Telecom facilities
- Road access
- Capacity building
- Compensation for to be relocated settlers
- Compensation for industrial establishments to be relocated
- Shed and building construction for MSEs cluster development program.

In general, the allocation of sufficient resources for developing, managing and monitoring such infrastructure will create an enabling environment, and will attract foreign investment in the industrial sector. This will have to be facilitated by way of creating macroeconomic stability, modernizing the financial system, creating dependable physical infrastructure services, developing effective human resources, creating efficient civil service and fast and efficient technology system that supports industrial development.

Professional Capacity Both at Higher and Medium Levels

An industrial manpower training system should be established in the form of an independent entity with its own distinct interests that will not overlap with those of other public or private training providers. Arranging training programs through competitive bidding and partnership arrangements between public and private organs will create a synergy that will synthesize a robust industrial training program. Projections should be made about the medium and long term demand in industrial manpower, and training should be provided at the level of individual

industrial units. The government and other stakeholders should be in charge of pooling resources earmarked for industrial training and manage them efficiently to produce the required skills. The government should play a key coordination role by outsourcing training to competent private and public training providers through close collaboration and partnerships with industrial units. TVET and public training institutions should be strengthened and well equipped to achieve world class training capability.

Capitalizing on linkages between industrial park development partners, government industrial sector development institutions and other concerned bodies is necessary. This pertains to the type and timing of trainings to be offered, number of trainers and other issues concerning the trainings to be delivered. Moreover, this will require negotiating with developers and others, and entering into legal agreements to provide training facilities by way of helping training agencies and community groups find suitable accommodation.

9.4.2. Industrial Parks

IT and Manufacturing Parks

The parks will be located at Kilinto, Bole Lemi and Lebu, covering a total area of 3,137.3 ha. The parks will be located 0.5-3km from existing or planned railway lines or highways, and will be provided with the requisite infrastructure (e.g. access roads, storm water drainage, water supply, sewage treatment, and electrical facilities), training centre, IT centre, banks, a security post, and excise/tax office and warehouse facilities. The Industrial parks will keep sufficient distance from environmental sensitive areas. Industries that need to be re-located from different parts of Addis Ababa will be settled in these industrial parks. The selected sites consider favourable slopes and the North Easterly wind.

The IT Park will have the following mix of industrial establishments: assembly of computers, UPS & other accessories, TV sets, electric wires and cables, electrical appliances, and solar technology.

Existing Area [ha]	Additional area proposed (ha)	Total (ha)	Main Industry Type
1,320.6	1,816.7	3,137.3	IT and manufacturing

Strong Institutions for Managing Industrial Parks

Industrial parks will serve as powerful tools for the diffusion of new technologies and for catalyzing the presence of a vibrant physical and ICT infrastructure. This guarantees efficient and timely delivery of services. Together with competitiveness enhancing programs and sectoral development strategies, industrial parks will be key for implementing the projected sectoral goals, supporting existing industries, and introducing and leveraging new industrial niches.

Industrial park management and coordination units should be established at different levels to ensure the delivery of outcomes according to apriori defined action plans, whilst clear procedures should be instituted to receive regular progress reports from all respective coordination units on the status of implementation vis-à-vis the action plan. Thus, an integrated industrial park management system need to be established at the city level to monitor all dimensions of industrial park operations both at the macro (whole Industry) and micro (enterprise) levels. It will be in charge of the coordination of IZ or IP implementation with regard to building local capabilities (human resource development training facilities, technology upgrading, system development, quality control, credit facilitation, infrastructure and utilities maintenance and up grading) for enterprise level competitiveness program. Decentralized structures that will represent such an entity will be established at sub-city level. The industrial park management and coordination units should also evaluate and give support to enterprise development over time, especially with regard to technological improvement, workforce training for skill upgrading, value adding measurement, export development, research and development activities, and provision of infrastructure and utilities. A stakeholders' forum should be established at all levels as a vehicle for conducting regular monitoring and evaluation so that gaps can be identified in time to promptly take corrective measures.

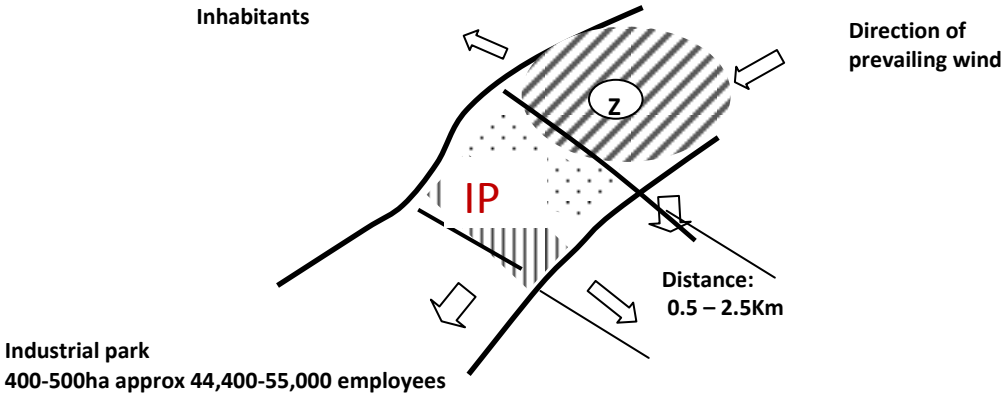


Figure 30 Industrial Park Seating

Commitment to create an enabling environment for the development of manufacturing enterprises is a core requirement for success. Therefore the institutional set up for overseeing the implementation of such a strategy and assuring the associated outcomes is of utmost importance to translate this strategy into reality.

Finally for each industrial park, there will be a Local Industrial Development Coordination Committee that will monitor the delivery of resources, infrastructure and different services to local enterprises. Such committees with have boards that will constitute representation of all stakeholders from relevant sectoral ministries, private developers, export councils, local municipalities, and others.

The coordination Committee will be in charge of the management and the implementation of:

- Sector development strategies;
- Business competitiveness programs;
- Value chain (suppliers) development programs;
- Export development and promotion strategies;
- Financial support programs;
- FDI promotion plans;
- One-stop-shop facilities; and
- Individual business development plans.

The next phase is to develop a detailed policy and action package for a selected model project with the involvement of the relevant stakeholders. Finally comes the implementation phase which has to be supplanted by continuous monitoring and evaluation of performance.

Resources and Responsible Institutions

The implementation of Industrial Park development programs will be undertaken mainly by the government and its development partners. The participation of the private sector, nongovernmental organizations, and the public at large in the development process has been significantly increasing. Thus, the contribution of the private sector as well as governmental and non-governmental organizations is included as a critical element of the overall financing strategy for the realization of the industrial park development plan.

Clarifying the roles and responsibilities of all actors (domestic and foreign investors, donor organizations, development partners and other stakeholders) for undertaking investments in the industrial sector should be facilitated by the government.

The industrial park management competitiveness program and sectoral development strategies should arrange financial and other resources that will be required to implement the envisaged

industrial investment activities, support existing industries, promote investment opportunities, and leverage new industrial niches.

9.4.3. Relocation of Pollutant Industries

According to article four of the Council of Ministers' Industrial Pollution Prevention Regulation No 159/2001, all manufacturers are responsible for the respective inputs and by-products as well as solid and liquid wastes generated. They are liable for any damage on the surrounding environment as well as public and animal health. Article 12 provides all existing industries a grace period of five years (until December 2013) to put in place a proper environmental management practice. If Industries do not meet these requirements, environmental protection authorities to be established by special city administrations and regional governments are given the authority to take action towards the relocation of such industries to appropriate locations or their closure.

The EPA of AACA had given such notices five years ago to a total of forty different industries. The majority of the industries identified by the assessment carried out by the EPA were food and beverage, tannery and leather, and chemical factories. Therefore, those industries which are located in or close to environmentally sensitive areas (such as residential neighbourhoods, rivers and other water bodies), those industries whose current location is not appropriate in relation to current or planned transport systems and those industries which are located in the inner city will be relocated to the proposed industrial parks. This is expected to help reduce local emissions and congestion in these areas. Providing for ways to mitigate emissions and congestion with circulation by improving is a key priority for the inner city.

Accordingly, existing industries that are located along major river courses or water bodies (within 50 meter distance) should be relocated to the proposed industrial parks. On the other hand, those industries and warehouses on less than 500m^2 area (plot size) can continue operation within a mixed land use arrangement, and can expand their respective plant within the existing plot. Existing industries with a plot size between 500m^2 and 2000m^2 can continue within mixed zones (but outside the inner ring road) as long as they do not put in requests for further expansion of plant. If these industries need plant expansion in their original (mixed use) location, they shall not be allowed. Those industries or warehouses that have more than 2,000m^2 can continue to operate on the same site provided that they fulfil the land use requirement of the area; but shall be relocated to the respective industry zones by the end of the planning period. Meanwhile, industries which are located along major boulevard roads should use their frontage for commercial or office purposes by placing entrances (for industrial purposes) at the back of plots.

- There is a need to institute a well organized procedure for implementing the relocation of longstanding industrial establishments. Such a procedure should at least encompass the following: Organizing consultative fora and awareness creation trainings for enterprise owners and other stakeholders (including local the administration and community representatives) to facilitate the smooth implementation of the relocation process.
- Arranging sufficient amount of funds to effect compensation, including the preparation of replacement plots/lands so that the industries to be relocated can be re-established at the new locations on time.
- Signing a Memorandum of Understanding providing a guarantee that the new site that the industries will be relocated to shall be provided with the necessary facilities.
- Providing those plots to be prepared as a replacement for those industries to be relocated with all the necessary infrastructure and utilities.

10. Environment

As urban areas play vital roles in socio-economic development of local, regional and national entities, productive and healthy metropolitan areas are essential to ensure integrated development that promotes the socio-economic well-being of citizens. Environmental planning contributes towards these broader goals through the identification and prioritization of environmental issues, and formulation of issue-specific strategies and projects. Accordingly, key environmental issues have been identified and appropriate recommendations as regards the strategies to be adapted for Addis Ababa. The key environmental issues addressed include waste management and environmental pollution, energy, green spaces, natural resources and natural hazards.

10.1 Existing Situation

Waste Management and Pollution

The ever-increasing economic, social and administrative activities in the city generate various sorts of wastes that need to be properly managed. About 25% of the solid waste generated in Addis Ababa is indiscriminately dumped within residential neighbourhoods, while the remaining 65% is collected but disposed off in unsanitary manner at Repi controlled dumping site. The Repi site has served beyond its design period and has been a source of serious public and environmental health threats. The practice of waste separation at source is almost absent and only 10% of the solid waste is reused/recycled, including organic waste that is composted.

Similarly, the availability of household level sanitation facilities leaves a lot to be desired. About 70% of the population uses pit-latrines as onsite sanitation facility, while the available few public toilet (1 public toilet: 50,000 population) are either inaccessible, out of use or mismanaged. Moreover, the Addis Ababa Water Supply and Sewerage Authority's (AAWSA) recent business plan indicates that only 6.5% of the population in Addis Ababa is connected to the municipality-managed centralized sewerage system that employs waste stabilization pond treatment technology. The use of such type of technology is not suitable for a city like Addis Ababa in view of escalating land values and presence of large settlements. Despite the preparation of a sewerage master plan for Addis Ababa a decade ago, its implementation has been partial. Currently, the AAWSA is executing three major sewerage system development related projects that aim at serving about 4 million inhabitants by 2030.

Pollution of surface and ground water resources, which emanates from domestic and industrial wastewater discharges as well as urban runoff, is another critical problem faced by the city. There is a high concentration of different categories of industries that utilize and/or manufacture large amounts of chemicals including leather, food and beverages, textile, plastic, and printing. Most of these industries discharge their untreated wastewater effluents into nearby rivers and drainage systems. The effluents contain various categories of organic matter, nutrients and heavy metals that are often beyond the permissible concentration levels indicated in the Ethiopian ambient guideline standard for water quality. The available studies on ambient surface and groundwater qualities indicate the presence of high concentrations of different physico-chemical and microbiological parameters. A nitrate concentration level of as high as 112 mg/l was reported in some aquifers located in the central parts of Addis Ababa, which is more than double the maximum recommended by the World Health Organization. The high concentration of nitrate is attributed to the widespread use of pit latrines in densely populated parts of the city. Pollution of water in Addis Ababa has major socio-economic and ecological impacts particularly in downstream areas. The streams that cross the city have already been grossly contaminated by domestic and industrial discharges and become odorous and ugly. Moreover, the use of polluted water for domestic and irrigation purposes may be a source of major health hazards in Addis Ababa and the wider surrounding region. High level of pollution that characterizes the Awash River and Lake Koka, for example, indicates how big the footprints of such polluting activities in upstream areas are.

There are indications that outdoor air pollution emanating from vehicular and industrial emissions, burning of solid waste, and other sources could become an issue of concern for the city and its immediate environs. With emissions from vehicles currently being a major source of air pollution, the presence of a large number of operating vehicles older than 20-30 years is found to contribute, among others, to this high level of air pollution. Air pollution has several health effects that range from minor eye irritation and diseases of the upper respiratory system to lung cancer. Acute respiratory diseases that are known to be linked to air pollution are major public health concerns.

Noise pollution has become a serious problem in Addis Ababa. It is the second major source of environmental complaints lodged in Addis Ababa after air pollution. The major sources of noise pollution are identified to be vehicles, repair shops (garages), metal and wood workshops, religious institutions, domesticated animals, music and video shops, nightclubs, large sporting venues and airplanes. On the other hand, serious weaknesses are observed in terms of enforcing noise pollution control regulations as manifested by the widespread generation of loud noises in living and working areas both during the day and night.

The recent introduction and widespread use of glazed glasses on buildings is becoming another form of pollution in the planning region as it results in reflection of solar radiation that has become a source of complaint from pedestrians and drivers. The type of glazing material used and architectural designs determine the amount of reflection. But because there are no standards and guidelines that are put in place to control glare pollution, this has so far been an unchartered area.

Visual pollution, which results from the inappropriate placing of advertising signs and structures in public and private spaces, is also becoming a growing concern. Appreciating the issue, a draft regulation has recently been developed by the Addis Ababa City Government to regulate such advertisements.

Energy

In this plan, energy related issues are addressed in consideration of its relationship with the physical environment. The major energy sources of Addis Ababa include biomass, electricity and petroleum products. A study conducted in 2009 (AABOFeD, 2002 E.C) indicated that the household sector consumed close to 45.3% of the energy produced followed by commercial (31%) and industrial sectors (23%). The following are some of the salient energy related facts.

- The city's residents (about 29%) use fuel wood for cooking in combination with kerosene. The use of such sources of energy leads to significant levels of indoor pollution.
- Traditional fuel account for 80% of energy consumption. During the last decade, traditional fuel use increased by 10% while modern energy use increased by 50%.
- Cooking accounts for 85% of the total household energy consumption, while 6% is used to heat water and (indoor) spaces, and about 1% is used for lighting.
- According to the city's previous development plan, of the total 2.2 million transport users, about 69% were using taxis, 27% were using buses, while the rest 4% were walking. The role of bicycles in Addis Ababa is negligible. This is mainly attributed to the topography of most parts of the city.

In summary, the assessment carried out on the sources and consumption of energy revealed the following major environmental challenges: outdoor and indoor air pollution as well as dwindling forest resource that is also serving as the major sources of biomass energy. The major factors include high dependence on traditional fuel sources for domestic use, heavy reliance on fossil fuel sources for transportation, limited use of renewable sources of energy,

widespread use of energy inefficient cooking appliances and vehicles, lack of adequate mass transport systems and growing dependence on private vehicles.

Urban Greenery

Notwithstanding the emergence of dense concrete buildings in some parts of the city, Addis Ababa is still considered by many as the greenest city with its natural and artificial fauna. Nonetheless, the presence of planned public green areas is limited in terms of its availability and distribution. The World Health Organization (WHO) standard is 9 m^2 per person and that of Africa 7 m^2 per person. At present, there are well over 18 functional recreational parks in Addis Ababa with total area coverage of 113.7 ha, which puts the current per capita available green space of Addis Ababa at less than 1 m^2 per person and as one of the lowest by international standards.

Deforestation, land degradation and proliferation of unplanned (informal) settlements have affected the structure and function of the mountain landscape. The mountains in Addis Ababa are either planted with Eucalyptus trees or are being used for field crop farming. Land degradation, as manifested in the form of soil erosion, is conspicuous even within the Eucalyptus plantation. Parts of the upper catchments of Addis Ababa are increasingly being occupied by residential buildings and industries. A recent study from the Environmental Protection Authority has shown that 12,486 residents live in the upper catchment of Ankorcha, 16,519 in Kotebe, 8,981 in Entoto, and 2,470 in Sansusi. In the absence of soil conservation measures in upstream areas and planned drainage infrastructure, storm water that could have permeated into the soil is being transformed into runoff, significantly affecting both infrastructure and the livelihoods of people residing in the central and southern parts of the city.

The riverbanks of Addis Ababa are occupied by unplanned (informal) settlements and serve as outlets for household refuse and industrial effluents. This opens access for the direct release of both solid and liquid wastes into the river body, further blocking waterways and causing flooding. The use of polluted rivers for irrigating vegetable farms, particularly those found in the southern parts of the city, is a possible source of contamination of vegetables by heavy metals.

The availability of street plantations in connection with pedestrian roads and medians is quite limited, and those that are available are unsustainable due to improper site management and lack of post-plantation follow up. Another problem lies in the selection of appropriate tree species; the selection of tree species has been based on aesthetic considerations and shade provision rather than temperature regulation. It is commonplace to see trees planted along

medians creating visibility problems for vehicular movements, thereby hindering smooth traffic flow, while most pedestrian roads are not provided with tree shades.

Natural Hazards and Resources

The major natural hazards that threaten the city are flooding, landslide and earthquake. Several points adjacent to Kechene, Kurtume, Banteyeketu and Kebena rivers are frequently affected by floods during the rainy seasons. The risks of landslide are found to be high on steep and geologically weak terrains such as those of Yeka, Gullele, Nefasilk-Lafto and Kolfe-Keranio sub-cities.

The construction material sector has opened huge job opportunity for several citizens. The key actors of the sector are private enterprises, MSEs and unions, Addis Ababa City Government and Addis Ababa Road Authority. For instance, unions have produced about 980000 tonnes of cobblestone annually and more than 80% of the aggregate production has been carried out by private investors. Nevertheless, a large amount of construction materials is required to meet the developmental targets of the country of which the lion share is consumed in the city and its environs. Currently, over 100 million tonnes of earth materials are involved in the manufacturing of concrete products, road materials and other ancillary products. There are a number of quarry sites within Addis Ababa that meet part of the city's total demand for construction materials, most of which are concentrated in Bole and Akaki-Kaliti sub-cities. Moreover, an estimated 250-380 million tonnes of aggregates is required to meet the construction sector targets of the GTP-1. At present about 46000 tons of sand is extracted and supplied to Addis Ababa daily from an average distance of 230 km. This contributes to the very high overall construction cost. It is therefore important to search for construction materials sources within short distance. As some of the quarry sites are located on steep and landslide prone areas as well as close to living and working areas, and as there are also abandoned quarry sites that are not properly closed and reclaimed, they represent serious environmental degradation and hazards to the residents of the city.

10.2 Concepts and Principles

As quality of life is an important element of their competitive advantage, cities have to ensure clean, green and safe environment for residents. Dealing with pollution caused by improper management of solid and liquid wastes, inadequate and degraded green spaces and incidence of natural hazards should therefore be given priority.

Various concepts and principles have been used in developing the environmental proposals of the Structure Plan. Sustainable waste management is the guiding principle to improve the poor waste management services and environmental quality of the city. The concept of sustainable waste management recognizes waste as a resource and makes use of a hierarchy of options. The most preferred waste management option is prevention and minimization followed by reuse, recycling and resource recovery; whereas the dominant waste management practice employed in the city, i.e. collection and disposal, is the least preferred option. The solid waste generated contains items such as bottles, papers, plastics and metals that can be directly reused or used after some recycling processes. Moreover, a large part of the solid waste is composed of organic matters that can be transformed into composts. Successful implementation of sustainable solid waste management, however, requires separation of waste at the source and the active involvement of the public in the process. Proper implementation of such strategy creates job opportunities and minimizes burdens on the natural environment. The small proportion of the solid waste that must be disposed off should be properly buried in a well designed sanitary landfill. A sanitary land fill site should be developed and operated in such a way that it would not pose threat to public and environmental health. Sanitary landfill sites that can serve Addis Ababa and the surrounding towns have been proposed as they constitute both environmentally and fiscally sound waste disposal options. Transfer stations are also proposed to ensure efficient delivery of solid waste collection and disposal services. Such transfer stations shall serve as a bridge between community-based solid waste collection endeavours and a waste disposal facility. In its simplest form, a transfer station is a facility with a designated receiving area where waste collection vehicles discharge their loads. The waste is often compacted, and then loaded into larger vehicles for long-haul transport to a final disposal site like a sanitary landfill.

Pollution of surface and ground water bodies can be minimized by preventing and controlling sources of pollution. The major media of pollution include domestic and industrial wastewaters for which specific points of entry to a receiving water body can be identified. Proper collection and treatment of domestic wastewaters using technologies that suit the topography, socio-economic and environmental conditions of the specific locality can greatly reduce pollution. Accordingly, it is preferable to make use of a mix of centralized and decentralized offsite and onsite liquid waste management systems as well as wastewater treatment technologies that do not consume large tracts of land. In line with the envisaged industrial parks development, the use of common industrial effluent treatment plants shall avail the benefits of scale economies (i.e., of large scale operation). It will also reduce the number of industrial discharge points, contributing towards effective enforcement of applicable effluent standards and use of limited skilled manpower.

Sustainable urban storm water management can contribute to the minimization of pollution and flooding. Sustainable storm water management reduces surface runoff by enhancing infiltration and minimizing directly connected impervious surfaces as it can be practiced in low and medium density settlements. The qualities of surface and ground water bodies can be protected and maintained by identifying critical pollution source areas and allowing compatible land uses.

The major source of air pollution in the planning area is vehicular emission. It is therefore important to ensure that vehicles with high levels of emissions are repaired or immediately retired from the road. Studies indicate that emissions from old vehicles are 10 times greater than from new ones. Promotion of energy efficiency and use of clean energy sources also contribute to the goal of clean environment. Mixed land use and compact urban form also contribute to the reduction of air pollution by minimizing mobility.

Noise pollution has adverse health and psychological effect. In addition to addressing the immediate noise problems through strict enforcement of applicable standards, it is important to develop strategic noise map for the city. Strategic noise mapping gives a global assessment of noise exposure of an area from different noise sources.

The following guiding principles are followed in the planning of green spaces in Addis Ababa.

- Environmental features of a landscape characterized by climate, soil, water, topography, flora, fauna and their ecological relationships determine the suitability of the landscape for a certain type of green space.
- Emphasize the multi-functionality and multiple ecosystem services to urban and peri-urban population. Multifunctional green space refers to different functions or activities taking place on the same piece of land and at the same time. For example, a flood plain providing a repository for flood waters, grazing land, a nature reserve and a place for recreation.
- Ensuring the sustainability of green space and the ecosystem entails providing services not only for the current generation but also for generations to come.

Following the above guiding principles, the planning of green spaces has been based on the ecosystem services approach. This approach allows taking the goals of sustainable development into account in developing ecologically sustainable urban regions.

Ecosystem services are the benefits/services that a functioning ecosystem provides to people. Ecosystem services are classified into provisioning, regulating and cultural services. Provisioning services are material benefits that ecosystems generate, such as food, fresh water or timber

products. Regulating services regulate e.g., climate and air quality, hydrological and biochemical cycles and soil processes, and are essential preconditions for other ecosystem services. Cultural services are non-material benefits that humans obtain from ecosystems such as recreation, health benefits or the accumulation of knowledge.

Addis Ababa and its environs can become safe by reducing vulnerability to flooding, landslide and earthquake. Conventional flood management practices that simply try to attenuate flood and/or protect adjacent properties using engineering fixes are not sustainable. Such approaches simply shift the problem from upstream to downstream areas. Sustainable urban flood management that combines different engineering and land use planning solutions are preferred. The proposed green space planning, which is based on ecosystem services approach, contributes to the reduction of flood risks.

In line with development activities that are taking place in the city, there has been huge expansion of quarrying related activities. As can be evidenced by casual observations and widespread public complaints, a variety of social and environmental effects occur in connection with the development and management of quarry sites. To minimize these problems, sustainable quarry development and management is recommended. There is a need to identify and reserve quarry sites that can be temporarily used for compatible activities such as agriculture. Abandoned quarry sites should also be rehabilitated and used for functional landscapes like parks, agricultural activities, etc., which can be achieved, among others, through the establishment of a quarry rehabilitation fund.

10.3 Proposals

10.3.1 Goals

As per the long-term vision of Ethiopia for growth and transformation, the Structure Plan for environmental protection and development aims at contributing to the liveability of Addis Ababa by:

- Ensuring clean environment;
- Providing adequate, accessible, networked and functional green spaces;
- Ensuring sustainable natural resource utilization and management; and
- Reducing exposure to natural disasters.

There are relevant national and regional level legal and policy frameworks and strategies that can contribute to the realization of these environmental goals. There are also several urban development and environmental initiatives that can be used as leverages to fulfil the envisaged environmental goals. The importance of having and sustaining clean, green and safe environment has already been aired out by citizens. This can be taken as an opportunity for ensuring participatory environmental management interventions. On the other hand, the proliferation of settlements on river corridors and other environmentally sensitive areas are some of the challenges that may slowdown the proposed environmental interventions. Moreover, the current low level of wastewater management infrastructure makes the proposed improvements challenging and demanding.

The plan envisages achieving the following issue-specific environmental goals and objectives.

Goal 1: Effective, efficient and sustainable waste management services

Ensure clean environment through proper and timely collection and management of solid and liquid wastes by implementing sustainable waste management hierarchy. Attainment of this goal improves quality of life, raises image of the city and creates job opportunities.

- Reduce the amount of solid waste indiscriminately dumped in residential neighbourhoods;
- Minimize the amount of solid waste to be transported to landfill sites;
- Responsibly manage the solid waste to be transported to landfill sites;
- Increase the coverage of the sanitary sewer system;
- Increase the amount of domestic wastewater that is treated; and
- Abolish open air defecation.

Goal 2: Clean water and air

Ensure that surface and groundwater resources are clean, and support relevant socio-economic and ecological functions. Maintain good outdoor and indoor air quality to minimize public health threats.

- Identify the magnitude and extent of air pollutants;
- Reduce water pollution from point and non-point sources;
- Reduce emission of air pollutants from mobile and stationery sources;

- Enhance energy conservation and use of clean energy sources; and
- Improve indoor air quality.

Goal 3: Quieter and comfortable environment

Address emerging environmental concerns such as noise, glare and visual pollution in the city.

- Identify the magnitude and extent of noise pollution associated with major sources, and reduce the number of complaints associated with noise pollution;
- Minimize glare pollution from buildings; and
- Minimize advertisement-related visual pollution.

Goal 4: Networked multifunctional green spaces

Bring networked multifunctional green spaces that could contribute to environmental protection, economic development and social equity.

- Increase the per capita accessible green space; and
- Increase the total coverage of green area providing multiple ecosystem services.

Goal 5: Safe environment

This can be ensured by protecting citizens' life and property from natural hazards such as flooding, landslide, and earthquake.

- Reduce the risk of life and property loss from flooding;
- Reduce the risk of life and property loss from landslide;
- Reduce the risk of life and property loss from earthquake;
- Institute a holistic natural hazard planning, response and recovery system; and
- Minimize complaints and hazards associated with active and abandoned quarry sites.

10.3.2 General Proposals

Effective, efficient and sustainable waste management services

- Ensure that each condominium block, planned residential neighbourhood, large institutions and restaurants have adequate waste separation bins;

- Provide adequate and appropriate waste separator containers at market places and in unplanned settlements; and
- Develop and operate a sanitary landfill at Chembe.

Clean water and air

- Designate water uses for each major water body and set corresponding ambient water quality level;
- Enforce and monitor attainment of industrial effluent standards;
- Encourage construction of common industrial effluent treatment plants in industrial zones;
- Relocate polluting industries that are found within 50m distance from river banks to designated zones;
- Ensure that discharges from municipal wastewater treatment plants meet applicable standards;
- Restrict development near surface water and on groundwater potential areas;
- Expand energy conservation in buildings and manufacturing industries;
- Promote the use of solar energy for public and private buildings as well as street lighting; and
- Design and construct roads and walkways that are pedestrian friendly and encourage walking.

Networked multifunctional green spaces

- ***Rehabilitation of river buffers***: Provide up to 50m wide buffer along river courses as the situation allows. River buffers should be developed in such a way that they provide multiple functions that include (a) Conservation forestry on sloppy areas with perennial vegetation (b) Vegetable and fruit tree production on gentler slopes (c) Recreational park development on gentle slopes,
- ***Street trees***: All pedestrian walkways should be planted with shade trees; road medians should be planted with shade providing plants; street corridors should be planted with ornamental and shade providing plants, and
- ***Development and management of multifunctional green space*** on hills and mountains: This is proposed to provide the following functions: (a) Conservation Forestry on fragile areas, with shallow soils and steep slopes (>30%): Conservation forestry will be used for the conservation of flora and fauna and thus only locally adapted indigenous and plant species need to be planted. (b) Agro forestry and production forestry on gentle slopes

(15-30%). It involves plantation of wood for fuel and construction and high value fruit trees.

Safe environment

- Construct flood control structures at or upstream of major flood prone areas,
- Ensure that the design and construction of buildings is in compliance with applicable seismic code of the country,
- Establish disaster preparedness and emergency programs,
- Prepare detailed seismic and engineering geological map of the region,
- Close and reclaim unsuitable quarry sites located within living areas, and
- Develop quarries at appropriate sites.

Implementation-related proposals

- Develop specific and comprehensive regulations and guidelines on hazardous waste management;
- Encourage private sector participation in solid waste collection and waste recycling and resource recovery activities;
- Establish green benches and complaint reporting hotlines to ensure efficient environmental quality standard enforcement;
- Enact policy and legal frameworks for green space development and management;
- Equip relevant environmental institutions with adequate and appropriate human and technical capacities;
- Rearrange the existing institutions for green space development and management both at city, sub-city and Woreda levels; and
- Conduct at all levels regular awareness raising programs on integrated waste management, pollution prevention and control as well as green space development and management.

10.3.3 Specific Proposals

Effective, efficient and sustainable waste management services

- Develop three transfer stations with material recovery facilities (south, east, west);

- Ensure three-way waste separation at source (recyclable, bio-degradable and hazardous) in 2025 and five-way waste separation at source (paper, plastic, other recyclables, bio-degradable and hazardous) in 2040;
- Increase the percentage of recycling to 10% in 2025 and 20% in 2040;
- Increase the percentage of organic waste transformation (e.g. composting, animal feed) to 25% in 2025 and 40% in 2040;
- Close down the Repi dumpsite and convert it into a public green space;
- Provide centralized/decentralized sewerage systems that can serve 70% of the population in 2025 and 100% of the population in 2040;
- Upgrade and expand wastewater treatment plant at Kality and develop additional three plants with a total design capacity of 400 000 m3/day by 2025;
- Develop additional wastewater treatment plants to achieve a total design capacity of 1,000,000 m3/day in 2040;
- Improve the accessibility, usability and management of existing public toilets; and
- Construct 30 new public toilets (with 15 seats) at busy quarters (e.g. market centres, transport stations and parks)- 50% by 2025 and the remaining 50% by 2040.

Clean water and air

- Replace 30% and 10% pit latrines by improved onsite sanitation facilities in underserved areas in 2025 and 2040, respectively;
- Commence within five years on-road inspection of vehicles for emission levels in high traffic areas; and promote BRT lines along major corridors and hybrid private cars;
- Expand the use of ethanol-blended petrol and increase the mix proportion to the maximum feasible level;
- Operate all public transport buses using CNG or biodiesel by 2040;
- Reduce the dependence of households on traditional fuels to 30% in 2025 and 10% in 2040 through the use of electricity from the national grid as well as solar panels; and
- Install ambient air quality monitoring stations and monitor priority pollutants in the city centre, residential quarters in the south-western part of Addis Ababa and at Entoto by 2025.

Quieter and comfortable environment

- Strictly enforce and monitor attainment of noise pollution control regulations by 2025;
- Carry out strategic noise mapping for major roads, railways, and airports by 2040;
- Ensure that architectural design of buildings include measures that minimize glare pollution by 2025; and

- Develop and strictly enforce regulations regarding advertising signs and structures by 2025.

Networked multifunctional green spaces

- Development and management of recreational and special function parks

Recreational parks are established with a view of providing recreational and other social services. A total of 2730 ha recreational parks are proposed in Addis Ababa at the City, Sub-city and Woreda levels. Several neighbourhood level parks to be located within 300m radius are also proposed.

Table 19 Recreational parks

Park	Size (ha)	Catchment Radius	Area, ha
City park	>10	10.0 km	2437
Sub-city park	1-10	5.0 km	237
Woreda park	0.3-1	1.5 km	56
Neighbourhood park	<0.3	0.3 km	~ 90

Special function parks are primarily established for conservation, education, research and recreation. The following special function parks are proposed.

Table 20 Special function parks

Park	Area (ha)	Location	Function
Gullele Botanical Garden	689	Gullele Sub-city & Sululta Woreda	Conservation, education, research and recreation.
Peacock Zoological Park	36	Bole Sub-city	Conservation, education, research and recreation.

Proposed per capita green space

The proposal of recreational park development targets at increasing the current per capita green space to at least 5 m^2 per person in 10 years and 9 m^2 per person in 25 years. The area of proposed recreational parks from Woreda to city level is 2730 ha. It is assumed that about 80%

of the Gullele Botanic Garden and 90% of the Addis Zoo Park will also be accessible and used for recreation. The total river buffer area is about 4500 ha of which 50% are assumed to be accessible. Moreover, an estimated 90 ha of neighbourhood parks will be developed. This results in a total accessible green area of 5700 m^2. If 40% of this total area is developed in 10 years, the per capita accessible green area becomes 5.2 m^2. Development of all accessible green area in 25 years results in a green share of 8.9 m^2 per person.

Safe environment

- Construct two detention ponds on Banteyiketu-Kurtume river system and two weirs on Kechene-Kebena river system by 2025; and
- Introduce sustainable storm water management measures at selected locations by 2025.

10. 4 Geo-Environment

In addition to guiding development, urban plans should be able to ensure overall safety, or at the very least, serve as plausible instruments for safeguarding the lives of urban communities and their properties. This in turn facilitates credibility of plans and their being accepted. It becomes particularly difficult to ensure the credibility and social acceptance of such plans under contexts where different forms of social, economic, political, physical and environmental stresses persist. Consequently, appropriate data acquisition, synthesis and integration into the planning process by various disciplines regarding relevant issues becomes paramount to enhance urban resilience; and hence, the credibility and social acceptance of urban plans.

In view of the above, the Addis Ababa Structure Plan integrates Geo-environmental considerations, by identifying and delineating potential geo-environmental hazardous areas, and natural resources for protection and development use.

Geology, Geo-morphology and Seismo-tectonic Conditions: The earliest Cenozoic volcanism in East Africa occurred in Southwest Ethiopia and the Turkana depression in northern most Kenya at 40–45 Ma. Approximately 2 km of basalts and subordinate Rhyolites then erupted rapidly across the Ethiopian Plateau at 29–31 Ma prior to or concomitant with the onset of rifting in the Red Sea and Gulf of Aden. This includes additional local relief in areas such as the Simien, Choke, and Guguftu shield volcanoes. The local geological conditions of Addis Ababa and its' urban land mass is part of the Ethiopian Plateau where the Miocene – Pleistocene volcanic

succession from bottom to top (stratigraphically) are Alaji Basalts, Intoto Silicics, Addis Ababa Basalts, Nazareth Group and Bofa Basalts.

The urban geo-morphology is directly dictated by the tectonic and volcanic activities of the nearby Afar Rifting System. The western, north and north eastern land mass is either part of or is bounded mainly by mountain plateau that include Furi, Wochecha, Jemo and Entoto mountain ranges. The central part of the urban land mass has been characterized by rolling land features and denuded small hills.

Many faults and fault-like structures which vary in length are observed in the wider expanse of the city. The existing fault development is strongly related to the regions' tectonic and volcanic activities. Similarly, the types and characteristics of groundwater, soil and rock in the area have been influenced by the regions' geo-environmental conditions and activities as well as man-made urban activities.

Rocks and soils for construction: Addis Ababa and its environs lies on volcanic regime where volcanic products like basalt, Rhayolites, Ignimbrite and scoracious material and tuffs predominate. In most parts of the built up area, these geological materials have been exposed to a long term weathering process. As a result, large quantities of red-brown and black clays, which are playing significant role in the construction sector, have developed. The Structure Plan identifies and delineates around 2500 ha of land in important sites for potential exploitation of aggregates and sub-base materials to serve the construction sector for the plan period.

Groundwater potential for drinking, industry, therapeutic use and recreation: There is significant groundwater in different parts of the urban region. Even though rising and falling land forms predominate, there is a potential to exploit groundwater in areas where pockets of depression exist. Accordingly, places for potential groundwater abstraction have been identified and delineated with buffers to minimize contamination.

In certain areas, hot water gushes out to the surface from deep water wells. This may be due to the presence of shallow magma ascending to the surface through the existing fault lines in the fracture zone by joining the groundwater. Accordingly, in Bole sub-city (Weregenu locality), more than 240 ha. of land has been delineated. Further investigations should be made to harness and convert this potential to productive use in the health (thermal therapy) and hospitality sectors.

Wetlands and environmental sensitive areas: Wetlands are natural entities that can have various environmental functions. Research has shown that wetlands play a crucial role in the defence against flooding and pollution, and as areas for recreation. Aquatic species conservation is another function of wetlands. Accordingly, to foster economic and

environmental advantages from wetlands, more than 10 ha wetland area is identified and delineated by the Structure Plan.

Geo-hazards and environmental constraints: The general area is found in close proximity to the East African Rift System where tremors of earthquake shocks are reported daily (Addis Ababa University Observatory). Although there is lack of reliable data with regards to Addis Ababa and its environs, lives have been lost and properties damaged because of recurrent geo-hazards such as floods and landslides. Accordingly, flood and landslide prone areas are identified and delineated.

Knowledge and skills: In any type of planning, performance quality and outcomes strongly depend on the quality of available data and in the skills of interpreting these data. Technology allows man to easily analyze very complex data. The geological, hydro-geological and seismological data obtained from the authorized government institute, the Geological Survey of Ethiopia (GSE), does not permit to accurately predict and/or discriminate geo-hazard vulnerable areas and locate available natural resources. The scale of the map describing the existing situation is too small (1:250,000) to produce credible outputs at the urban scale. Most appropriate scale for urban planning is 1:24,000. If this is not possible, a scale of 1:50,000 must be used. Apart from fulfilling data quality gaps, additional expertise in the area of interest and technological upgrading are crucial.

11. Urban and Peri-Agriculture (UPA)

11.1 Existing Situation

Over 70% of total income of the urban farming community in the city is derived from crop and livestock production, with crop cultivation contributing to 30%, while livestock (mainly dairy production) accounts for 40%. Livestock production refers to dairy farming, cattle fattening, sheep and goat rearing, and poultry farming. The share of none-farm income for these communities at 30% is relatively low. According to estimates by the Addis Ababa Bureau of Finance and Economic Development, the contribution of urban agriculture to the GDP was 0.3% in 2013. The attention given to urban agriculture has increased in recent years associated with the MSE development strategies promoted by the City Government. During 2009 and 2010, 461 MSEs were engaged in urban agriculture, employing around 4,870 youth and women.

The Addis Ababa City Development Plan (2002-2012) had indicated that the livelihoods of 51,000 families in Addis Ababa were associated with farming. It argued that urban and peri-urban agriculture (UPA) should be encouraged, especially in the south-eastern part of Addis Ababa. It proposed horticulture development along riverbanks and livestock production on the peripheries. Overall, 13.82% of the city's land area (7,175 ha) was delineated as agricultural land. However, other than this reference, UPA was not featured in the planning tools for regulating the actual implementation of the plan (i.e., Strategic Development Framework, Strategic Development Action Plans; and Local Development Plans).

Urban expansion has resulted in the conversion of agricultural lands to built-up areas. For instance, the implementation of large scale housing projects under IHDP claimed agricultural land and greenery sites proposed around Jemo. A gap between planning and implementation due to technical inconsistency was also observed (technical advice was not sustained throughout plan implementation). The urban agriculture unit of the Addis Ababa City Government underwent various structural changes during the last 20 years. Concurrently, its name changed from Agricultural Development Bureau, Agricultural Office, and Agricultural Department. At present, it is renamed as the Agricultural Extension Service Core Process (AESCP) under Bureau of Trade and Industry. This indicates that the organizational structure of the sector was shrinking in terms of mandate, resource allocation, institutional capacity and service coverage, rendering it unable to effectively expedite its responsibilities.

Table 21 Existing Land use for UPA in Addis Ababa

Akaki-Kaliti	Arada	Gullele	Yeka	Kirkos	Addis Ketema	Kolfe-Keranio	Lideta	Bole	Nefas Silk-Lafto	Total
4,328.4	-	-	923.0	0.4	-	369.6	-	1,186.0	365.8	7,172.2

Opportunities and Threats

The opportunities include the existing conducive policy environment and political commitment, rapid economic growth in the nation in general and in Addis Ababa in particular, the availability of well developed infrastructure and concentrated market for food, suitable agro-ecology, existence of productive labour force, access to modern technologies and global partnerships in the area of value chain development.

The major threats include: environmental degradation and soil, water and air pollution; public health hazards due to contamination of farm produce during irrigation (associated with the use of polluted water) and due to air pollution caused by vehicular emissions and that affect road side farmlands; land tenure insecurity; negative attitude towards urban agriculture as well as the proliferation of illegal slaughtering and unregulated movement of livestock within Addis Ababa which is causing traffic problem and sanitation problems.

11.2 Demand and Supply of Some High Value Agricultural Products

Milk

In Addis Ababa**,** an estimated 20 million litres of non-pasteurized milk per year, which is produced in backyard dairy farms within the city, is directly supplied to consumers by the producers. Above-normal profits are earned with very low capital input by even the owners of the smallest-scale backyard dairy units in the city, who are generally women.

Apart from the production by the government under the Dairy Development Enterprise (DDE), there are 5,167 dairy cows in Addis Ababa. Most of the farms (93%) have one to five cows, while the rest have 6 or more cows. Annual milk production is about 44 million litres (an average of 2 litres per cow per day). The major constraints faced by dairy farmers include

shortage and high cost of feeds, low price of milk, heavy taxation, and marketing and management problems.

Income elasticities of milk, poultry products, meat, fruits and vegetables are 2.1, 1.9, 1.1, 5, and 1, respectively, which means as income increases in certain proportion, the amount of demand for such products will increase more than the proportionate change in income. Assuming that Ethiopia will reach the middle income status by 2025, whereby the per-capita income of Ethiopia in general and Addis Ababa in particular would increase by more than double, and that the population of Addis Ababa will reach 4.4 million, this is expected to bring huge demand for these kinds of agricultural outputs.

The current per-capita consumption of milk in Addis Ababa is 17 litres. Given the total population of Addis Ababa, which was around 3.6 million in 2013, the annual consumption of milk in Addis Ababa was (3.6Mx17L) 61.2 million litres. Out of this, 65% (39.78 million litres) was supplied by producers within Addis Ababa.

Case1

If the per capita demand will not change, the total demand of milk by the end of the planning period will be:

4.4M x 17L=74.8ML/ annum and the deficit will be 26.18ML (35%)

Case2

Since the elasticity of demand for milk is 2.1, the per capita milk consumption will increase to 51 L if per capita income reaches 745 dollars. Hence, the total demand for milk will be:

4.4M x 51L=224.4ML/ annum and the deficit will be 78.54 ML (35%)

Poultry

There are specialised dairy and poultry farms in the city. The major poultry farm is ELFORA, a private enterprise, where there are about 340,000 chickens with the capacity to produce about 18 million eggs annually. In addition, there are also some 29 small poultry farms with a total number of about 350,000 chickens. Production of poultry products is constrained by lack of adequate space/land, problem of feed availability and short supply of day-old chicks.

On the other hand, at present, the annual per capita consumption of poultry products including egg in Addis Ababa is 5kg. Given the total population of Addis Ababa in the same year (2013) is 3.6 million, the total annual consumption of poultry in Addis Ababa was approximately 3.6M x 5kg= 18M kg/ annum (out of this, 30% is supplied by producers within Addis Ababa).

Case 1

If the per capita demand remains the same, the total demand will be 4.4M x 5kg=22M kg/annum and the deficit will be 15.4M kg (70%).

Case 2

If the per capita income reaches at least $ 745, the per capita consumption is expected to reach 10kg per capita (since the elasticity of demand for poultry products is 1.1). The total demand for poultry products will then be 4.4MX10kg =44M kg per annum, while the deficit will be 30.8 M kg (70%).

Meat

The current per capita consumption of meat in Addis Ababa is 19kg. Given the current total population of Addis Ababa (in 2013), the total amount of meat consumed in Addis Ababa in the same year was approximately 3.6M x 20kg =72 M kg/ annum. According to Addis Ababa Urban Agricultural Office, more than 75% of the livestock comes from the northern, eastern and southern parts of Ethiopia, while the contribution of Addis Ababa and its hinterlands is low.

Case 1

If the per capita demand will not change, total demand by the end of the planning period would be 4.4M x 20kg = 88M kg/annum and the deficit will be 66M kg (75%)

Case 2

If the per capita income reaches at least $ 745, the consumption level would reach 60 kg/capita, since the elasticity of demand for meat is 1.9. The total demand for meat will then reach 4.4M x 60 kg = 264M kg per annum and the deficit will be 198 M kg (75%).

Vegetables

In 2013, the per capita consumption of vegetables in Addis Ababa was estimated at 109.5 kg. Given the total population of Addis Ababa at the time, the total consumption of vegetables was 3.6M x 109.5 kg = 394.2M kg/annum. Only 30% of the total vegetable demand of the city is met by urban and peri-urban production.

Case 1

Assuming no change in the per capita demand, total demand for vegetable products would be 4.4M x 109.5 kg =481.8M kg/annum, while the deficit will be 337.26 26M kg (70%).

Case 2

If the per capita income reaches at least $745, the per capita consumption is expected to increase to 127.75 kg/capita, since the elasticity of demand for vegetables is 1.1%. The total demand for vegetables will be 4.4M x 127.75 kg = 562.1M kg per annum, while the deficit will be 393.47 kg (70%).

In general, the demand-supply analysis shows that there is a deficit of at least 30% or 70% in the supply of high value agricultural products. The problem is expected to get worse if appropriate planning interventions are not taken to meet the increasing demand for such high value agricultural products, which will be fuelled by the expected increase in population and income.

11.3 Concepts

Urban and peri urban agriculture (UPA) can briefly be defined as the growing of crops and trees and rearing of livestock within or on the fringes of urban areas. It also includes other activities related with the provision of agricultural inputs, processing and marketing of agricultural produce as well as services focusing on environmental sustainability. UPA focuses on intensive and market orientated production of fresh and high value agricultural products like vegetables, dairy and poultry products. Moreover, the production of mushrooms, silk, fruits, herbs, ornamental plants, flowers and tree seedlings is an emerging business.

UPA brings numerous benefits to urban centres, and the transformation of urban centres from sole consumers of agricultural produce (mainly food) to producers of agricultural products

contributes to sustainability, improved public health, employment generation and poverty alleviation.

The benefits UPA brings can be categorized and discussed under urban food security and nutrition, local economic development, social impact and environmental management dimensions.

Urban Food Security and Nutrition

The contribution of UPA to food security and healthy nutrition is probably its most important asset. Food production within a city's administrative boundary is often a response by the urban poor to inadequate, unreliable and irregular access to food and lack of purchasing power. In the urban setting, lack of income translates more directly into lack of food than in a rural setting. According to FAO (the Food and Agriculture Organization of the United Nations), the urban poor spend between 60% and 80% of their income on food, making them very vulnerable to higher food prices. The costs of supplying and distributing food from rural areas to urban areas are rising continuously, and distribution within cities is uneven. As a consequence, the situation of urban food security especially for poor households will further deteriorate.

Taking part in UPA practices is seen mostly as informal activity. But in many cities where inadequate, unreliable, and irregular access to food is a recurring problem, urban agriculture has been a positive response to tackling food concerns. Households and small communities take advantage of vacant land and contribute not only to their household food needs but also to the needs of other residents. In addition to enhanced food security and nutrition of the producers themselves, large quantities of food are also produced to augment the supply of food for other parts of the population.

Poverty Reduction

In developing countries, the majority of urban agricultural production is for self-consumption, with some surpluses being sold in the market. It is known that a large part of the people involved in urban agriculture is poor. UPA provides food and creates savings in household expenditure on consumables, thus increasing the amount of income allocated to other uses. UPA surpluses can be sold in local markets, generating more income for the urban poor. UPA also enhances the development of microenterprises in the production of necessary agricultural

inputs (e.g. fodder and compost); processing, packaging and marketing of products and the provision of services such as animal health services, artificial insemination, and transportation.

Some of the major social benefits to be obtained from urban agricultural practices include better health and nutrition, and employment (especially self-employment) generation. UPA can be seen as a means of improving the livelihoods of people living inside urban centres and their fringes.

UPA may function as an important strategy for poverty alleviation and social integration (social inclusion) of disadvantaged groups like women, the youth, HIV/AIDS victims, discriminated minority groups, disabled people, elderly people without pensions, and other vulnerable and marginalized community groups to find work and generate income, and be self reliant. UPA helps to build up a community and also serve as social safety net. Agricultural gardens in the urban areas serve a lot in terms of educating the community and providing meaningful physical and recreational activities that directly relate to the health and productivity of the community.

Environmental Management

Wastewater that can be used for irrigation and organic solid waste that can be used as fertilizer are useful resources for UPA. The use of wastewater for irrigation improves water management and increases the availability of freshwater for household consumption. UPA can help preserve bioregional ecologies from being transformed into mono crop farmlands. Urban agriculture also contributes to save energy that would have been consumed in transporting food from rural to urban areas. Local production of food also allows energy savings in storage and cooling. It minimizes wastage, especially in case of perishable farm products. UPA contributes to the improvement of the urban micro-climate (wind breaks, dust reduction, shade) and the maintenance of biodiversity and greening, carbon sequestration. It also reduces an urban area's ecological footprint by producing fresh foods close to the consumers.

Economic Development

In order to be sustainable, UPA should be profitable and economically viable. The economic impacts of UPA can be distinguished at the following levels:

The household level: the direct economic benefits for urban households involved in agricultural production include: self-employment, income from sales of surplus products, savings on food and health expenditures. Important factors influencing net income of an urban farm household

are: degree of market-orientation; farm size; family labour budget and possibility to get and cost of hired labour; choice of crops and animals; availability and cost of basic inputs (and especially the use of local resources such as organic wastes and wastewater); the opportunity for dry-season irrigation; available technology and capital; access to markets and prices; and capacity to store, process and preserve products.

UPA can be a profitable undertaking at the household level, especially when producing products that are high in demand and that have a comparative advantage over rural production such as perishable products (e.g. green leafy vegetables and milk), poultry, mushrooms, flowers and ornamental plants. Urban animal husbandry can also be a profitable business, although it generally requires higher start-up capital than other forms of informal UPA. Studies indicate that irrigated open-space vegetable production, especially in peri urban areas, allows significant profits and is one of the most productive farming systems in Africa, despite its informal and seldom supported character.

Poultry meat and egg is among the high value agricultural products that is in demand by high income households and this demand is also elastic with increase in PCI. It is possible for households to run a profitable poultry business even at small scale in their backyards. The financial resources required and the management skill needed by this sector is not beyond the capability of the poorest sections of the community (like women, the youth and persons with disability), particularly if some level of extension and financial support can be provided. Ornamental plant and/or flower production appears to be the most profitable undertaking that can achieve significant benefits if the necessary inputs can be made available. Additional benefits can be obtained by farm households by engaging in processing and marketing activities (e.g. preparation of street foods, operating small local shops and/or street carts and cleaning/packaging of food for sales to supermarkets).

The city level: At the city level, the aggregate income and employment effects of UPA have to be weighed against the costs of the assistance supplied to the urban farmers (extension and training, quality control, etc.). The aggregate indirect costs and benefits of UPA for the city (also called externalities) such as positive and negative effects on the social, health and environmental situation of the population must also be considered. The positive effects, such as recycling of wastes, greening, better health status derived from better nutrition of the urban poor, mitigation of the effects of HIV-AIDS, landscape protection, and the negative effects such as water pollution caused by agrochemicals, erosion, more health problems and associated risks can be quantified and economically valuated. The positive effects bring an added value to the city (enhanced income or reduced costs) and the negative effects require extra

investments. So far, few attempts have been undertaken to quantify the positive and negative effects of UPA at the city level, and even less, to estimate its economic value. Most researchers and practitioners on UPA agree that the positive effects of UPA on health and environment far outweigh the negative ones. When the socio-economic benefits are taken into account, the balance is clearly in favour of UPA.

The macro level: the contribution of UPA to the gross domestic product (GDP) and its effects on the efficiency of the national food system can be significant. UPA provides products that rural agriculture cannot supply easily (e.g. perishable products, products that require rapid delivery upon harvest), can substitute for food imports and can release rural lands for export production of commodities.

11.4 Proposals

The goals that are set for the UPA include: improving food security, generation of employment and income, and supply of raw materials for agro-industries, which are directly related to the national development vision.

Goals

- Cover at least 50% of the demand for high value agricultural products (vegetables, milk, poultry meat and egg) in Addis Ababa with food to be produced within the city;
- Increase farmers' annual income from urban agriculture from $ 294 to $ 882. (Note: urban farmers get 70% of their annual income from agriculture and the remaining 30% from off-farm income sources);
- Create additional employment opportunity for 500,000 residents of the city;
- Reduce natural resource degradation and environmental pollution caused by UPA by 80%; and
- Double the supply of raw materials for agro-industries (milk, poultry products, vegetables, fruits, hides and skin, etc.).

UPA can be practiced temporarily within areas reserved for a variety of uses by the Structure Plan. This includes in areas categorized under 'special land use', which are areas restricting the utilization of chemicals; 'reserved' and 'protected' with strict restriction of chemical use especially in the latter; and in 'social service' areas that are allocated for education, health, sport fields, and government institutions; and in residential areas.

- The proposed urban and peri-urban agricultural goals can be attained by putting in place appropriate implementation strategies to solve the various challenges. The introduction and appropriate utilization of better agricultural technologies through appropriate linkages between farmers and the research and extension system could be taken as an effective strategy to boost productivity and profitability of the sector. Thus, those engaged in UPA should be provided with training on technical skills, business administration and marketing, etc.
- Improving access to farm inputs (for example the supply of compost and irrigation water) and facilitating the decentralized production and distribution of such resources (for instance, by establishing low-cost facilities for sorting organic wastes and producing compost, animal feed or biogas); implementing pilot projects with decentralized collection and treatment of wastewater generated by households with a view of reusing it in local agricultural production; and providing technical and financial support (for example tax reductions) for enterprises producing ecological-friendly inputs such as natural fertilizers, bio-pesticides, soil amendments and open pollinated seeds.
- Facilitating the access of urban farmers to credit and finance (with an emphasis on women producers and the resource poor farmers)
- Creating efficient, effective and transparent agricultural marketing system by providing farmers with technical support to organize themselves in to cooperatives and/or marketing groups. There is also a possibility to link producers with alternative market outlets under contractual arrangements with buyers.
- Micro and small enterprises (MSE) should be organized around locality-specific potential agricultural activities and has to be supported by the government. Farmers should be encouraged and capacitated to contribute to value addition in the production and marketing of a particular product in the form of processing, handling and storing, packaging, and direct marketing. This is expected to allow MSE operators maximize the benefits they obtain by getting involved in value chain improvement.
- Organic wastes to be generated at the household level require segregation at for recycling. The production of multi-purpose agro-forestry production such as mango and avocado should be encouraged in parallel with physical conservations and agro-ecological production methods linked with eco-sanitation / sustainable waste management practice.
- There is also a need to promote strong participation of stakeholders, which is critical for gaining all rounded support. This includes the government, and non-governmental, research and academic institutions as well as public and private organizations. The availability of conducive policy framework and financial support is critical. Since UPA is

a cross-cutting issue, there is a merit in following a multi-sectoral approach combined with inter-institutional and public-private cooperation.

- A water treatment plant facility should be established to monitor and regulate the pollution of river water that would potentially damage the livelihood of urban and downstream peri-urban farmers and the wider community. A decentralized and community based public health and environmental risk management system has to be in place to control waste at source.
- A special subsidy support program based on the polluter pays principle should be designed to charge the pollution generating entities and at the same time to collect money that can be paid to victimized families residing in downstream locations and whose livelihoods depends on river water for irrigation, and household and livestock consumption.
- It is essential to set up a city level statistical and spatial database on UPA for effective and participatory planning. Such data base will also provide reliable information on successful policies and projects, appropriate technologies, research methodologies and available expertise.

Health and Environmental Risks

Health risks occur when UPA is not practiced in the right way. Crops may be contaminated by pathogenic organisms when polluted streams or inadequately treated wastewater sources are used for irrigation, or due to the unhygienic handling of especially vegetable products during harvesting, transporting, processing and marketing. Crops and/or drinking water sources may also be contaminated by residues of agrochemicals (fertilizers, pesticides, fungicides). Contamination of crops by heavy metals may occur due to contamination of soils, air or water caused by heavy vehicular traffic and/or industrial emissions. There is also a possibility for the transmission of diseases from domestic animals to people (zoonosis); and occupational health risks and hazards, for example, due to improper handling of agrochemicals and use of untreated wastewater in food production and food-processing industries.

The effect of UPA on the environment could create large environmental risks if it is not handled correctly. It may lead to the contamination of local water sources, especially if large amounts of chemical fertilizers and pesticides are used. Moreover, the excessive use of nitrate-rich manures (such as chicken or pig manure) can contaminate groundwater. In particular, wastewater discharge from intensive poultry farms can carry heavy loads of micro-organisms and may contaminate drinking water supplies. Furthermore, under certain situations, inappropriate farming practices may lead to reduction of vegetation and siltation of water bodies. Because of the limited attention UPA generally receives and the stiff competition for

land, urban agriculture is often pushed back to marginal areas within the city, such as wetlands and hill slopes as well as fringe areas, where it may result in significant harm on the fragile ecosystems if not properly guided.

Proposed Measures

The main measures that are suggested to prevent and reduce the abovementioned risks include:

- Monitoring the quality of irrigation water to be used in UPA and the agricultural products marketed;
- Educating farmers about the health risks associated with the re-use of waste in agriculture;
- Conducting farmer education about the proper management of agrochemicals;
- Making appropriate choice about the types of crops to be produced on land watered by treated wastewater. It is not appropriate, for example, to grow vegetables such as tomatoes, lettuce, parsley, cucumber and mint on such land, while it is more suitable to produce fodder, fibre, timber and cereals;
- Applying drip irrigation or other localized irrigation methods (rather than sprinkler, gravity or spraying). Irrigation with wastewater must be stopped three weeks prior to harvesting;
- Educating consumers about the importance of scraping and washing fresh vegetables, and in proper food cooking practices, especially regarding meat and fish obtained from wastewater-fed crops, animals and ponds;
- Establishing adequate wastewater treatment facilities with appropriate water treatment technologies (e.g. waste stabilization pond systems rather than sludge treatment plants, as the former are cheaper to establish and maintain as well as being more useful to retain more nutrients), and reduction of wastewater disposal into streams used for irrigation;
- Institutional coordination and development of integrated policies;
- Promoting ecological farming practices, replacing chemical based pest and disease control practices by integrated pest and disease management (IPM);
- Undertaking periodic testing of farmlands and irrigation water for heavy metals in areas that are likely to be exposed to such contamination (e.g., areas that are located close to manufacturing industries, within short range of main highways, etc.);
- Separation of solid wastes generated by households, industrial establishments and hospitals; and promote waste treatment at source;

- Developing and enforcing quality standards for municipal waste streams and composts to be produced by recycling municipal wastes;
- Creating buffer zones: maintaining a minimum distance between agricultural fields and polluting industries (by considering the predominant wind direction) and main highways by planting trees or shrubs;
- Washing and processing of contaminated crops to reduce heavy metal content;
- Treatment of contaminated soils, for instance, with lime for removal of heavy metals or by growing specific plants;
- Introducing properly designed water tanks and irrigation systems in peri-urban areas to prevent the incidence of malaria;
- Educating farmers about the ideal breeding conditions for anopheles mosquitoes and on-farm waste management practices; and
- Introducing the use of protective clothing and equipment by farm workers.

Specific Proposals

Land and water are the most valuable and hence scarce resources competed for by different uses in the urban setting, which demand the selection of economically feasible, socially just, environmentally sound and culturally acceptable agricultural initiatives.

Accordingly, different project proposals for horticultural and fruit production, dairy farming, poultry production, apiary farming, ornamental plants and floriculture are identified for implementation. In addition, agricultural marketing centres, income generation activities for displaced farmers, natural resource conservation and environmental protection interventions, animal health clinic and artificial insemination centre are proposed to be established.

A total area of 7,3892.2 ha of agricultural land is proposed for growing vegetables, apiculture, and for dairy and poultry production.

Table 22 Proposed institutions and locations

No.	Type of proposals	Proposed locations
1	Regulatory services	
1.1	Agricultural inputs product quality control unit	One in each sub city (10)

1.2	Animal breed improvement and health service (veterinary clinic rank C and AI) centres	At Hanna Mariam, Shegole, and Yeka to be integrated with livestock markets
1.3	Modern and standardized abattoir centres	Shift main Abattoir from existing place to Furi Hana industry zone /Nifasilk-Lafto/
2	Establish modern agricultural product marketing centres and strengthen the existing ones	
2.1	Vegetable and fruit markets to be integrated with other market centres	One in each of the Woredas of Addis Ababa
2.2	Grain markets integrated with other marketing centres	One in each of the Woredas of Addis Ababa
2.3	Integrated livestock market + AI + Clinic rank	At Hanna Mariam /Nifasilk-Lafto/, Yeka and Shegole
3	Integrated watershed development	Areas already identified for watershed development at local level
4	Sustain the livelihoods of citizens to be displaced due to urbanization and urban infrastructure development	Prepare and implement sustainable livelihood projects like rehabilitation program

12. Tourism

12.1 Definitions

The term tourism has been defined in different ways by different authors. However, for the purpose of this Structure Plan the following two definitions are considered as relevant.

The first defines tourism as "the activity of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited." (UN World Tourism Organization).

The second one defines it as "the sum of the phenomena and relationships arising from the interaction of tourists, business suppliers, host governments, and host communities in the process of attracting and hosting these tourists and other visitors." (McIntosh)

The second definition mainly identifies four different perspectives;

- **The tourist**: the tourist seeks various psychological and physical experiences and satisfactions. The nature of these will largely determine the destinations chosen.
- **The businesses providing tourist-orientated goods and services:** business people see tourism as an opportunity to earn income and make profit by supplying the goods and services that are demanded by tourists;
- **The host government:** local governments and politicians view tourism as a source of wealth. Their perspective is related to the incomes their citizens can earn from the business. Politicians also consider foreign exchange receipts from international tourism as well as the tax receipts collected from tourist expenditures, either directly or indirectly.
- **The host community;** the people consider tourism as a cultural and employment factor. Of importance to this group, for example, is the effect of the interaction between large number of international visitors and residents.

According to the Proclamation No. 209/2000, **Cultural Heritage** means anything tangible or intangible which is the product of creativity and labour of man in pre-historic and historic times, which describes and witnesses the evolution of nature and which has the major value in its scientific, historical, cultural, artistic and handicrafts content.

Intangible Cultural Heritage means any Cultural Heritage that cannot be felt by hands but can be seen or heard and includes different kinds of performances and shows, folklore, religious

belief, wedding and mourning ceremonies, music, drama, literature and other similar cultural values, traditions and customs of nations, nationalities and peoples;

Tangible Cultural Heritage means Cultural Heritage that can be seen and felt and includes immovable and movable historical and man-made cultural heritage;

Movable Cultural Heritage means Cultural Heritage attached to the ground with a foundation and which can be moved only by dismantling and shall include:

- Sites where Cultural Heritage have been discovered, paleontological historic and pre-historic archaeological places;
- buildings, memorial places, monuments and palaces; and
- Remains of ancient towns, burial places, cave paintings, and inscriptions.

Immovable Cultural Heritage means Cultural Heritage not attached to a foundation and that can be moved from place to place easily, and which is handed down from the past generation and shall include:

- parchment manuscripts, stone paintings and implements, sculptures and statues made of gold, silver, bronze, iron, copper or of any other minerals or wood, stone, inscriptions of skin, ivory, horn, archaeological findings, and also paleontological remains;
- written and graphic documents or cinematographic and photographic documents or sound and video recordings;
- coins made of gold, silver, bronze, copper or of any other materials; and
- Ethnographic implement, ornament or any other cultural object of nations, nationalities and peoples.

Based on the above definition **historical structures** are broadly defined as:

- Structures referring to buildings, monuments or statues that were built during a period that has historical significance; and
- Sites referring to large settlements/groups of buildings, constructed at a similar time that have historical significance or an area that served as a ceremonial or festival place for the community.

12.2 Existing Situation

In order to meet the psychological and physical expectations of international and domestic tourists, the various actors in the tourism sector in Addis Ababa and its surrounding (i.e. business establishments providing tourist orientated goods and services; Addis Ababa City Government; and the host communities) are expected to provide tourism products and services that will meet international standards. Among the tourism "products", natural and manmade heritages constitute the major tourist attractions globally.

Being the gateway to all destinations within Ethiopia, Addis Ababa hosts more than 90% of the country's total inbound international tourist arrivals in a given year. It is estimated that each inbound vacation tourist, regardless of his/her eventual destination, spends at least two nights in Addis Ababa during arrival and departure and spends at least an average of 200 US dollars, while the typical business or conference tourist stays longer and spends more money. Compared to other regions of the country, Addis Ababa is currently enjoying the largest share of the inbound international tourist arrivals and foreign exchange earnings from the tourism sector.

The major factors that provide opportunities for the development of tourism in Addis Ababa include the following:

- Owing to the location of the Bole International Airport, Addis Ababa serves as the main gateway for the African Continent as well as for all tourists planning to visit tourist attractions in the various parts of Ethiopia. The Ethiopian Airlines, which is one of the first airline companies in Africa, has more than 90 destinations throughout the world and uses the Bole International Airport in Addis Ababa as its main departure and arrival terminal. Other airline companies make connection flights to Addis Ababa, and this has given the city the opportunity to receive numerous international arrivals.
- Addis Ababa is the diplomatic capital of Africa, the seat of United Nations Economic Commission of Africa (UNECA) since 1958, and the seat of Organization of African Unity (OAU), now the African Union, since 1963. This has enabled it to become a major venue for conference tourism in the continent. It is also the third important diplomatic capital city in the world next to Geneva and New York in terms of the number of Embassies, consulates and international organizations.
- Addis Ababa is one of the safest and secure capital cities in Africa that is also currently experiencing one of the fastest demographic, economic and infrastructural growths among the metropolises of the developing world.

Addis Ababa has tourism potentials that would enable it to become one of the major tourist attractions for international and domestic tourists. The natural and manmade attractions of the city are discussed hereunder.

Climate: the weather and climatic conditions in Addis Ababa such as temperature, rainfall, humidity, winds, length of sunlight, etc, which are influenced by its location on a high altitude (2,100-3,200 meters above sea level), makes it the third highest capital city situated next to Lapaz and Quito.

Water bodies: It has rivers (Akaki, Kebena, Ginfile, Kurtume, etc.), thermal springs (the Addis Ababa Filwuha).

Flora: Indigenous plants and flowers that are found in the various city parks, church yards, embassy compounds and the like.

Fauna: few number of mammals, including the black mane lions at Sidist Killo Zoo, and over 250 species of aquatic and terrestrial birds that exist in and around the city.

Landscape: the mountains of Entoto, Furi, and Yerer, and nearby Menagesha and Zikwala as well as the valley where certain parts of the urban settlements in the city are located.

Intangible manmade heritages include:

- Meskel Festival, celebrated on September 27 every year;
- Timket Festival, celebrated on January 7 every year;
- Eid, Arafa, and Maulid, celebrated every year; and
- Cultural and traditional way of life of the various communities living in Addis Ababa.

Immovable tangible heritage in the city, on the other hand, include:

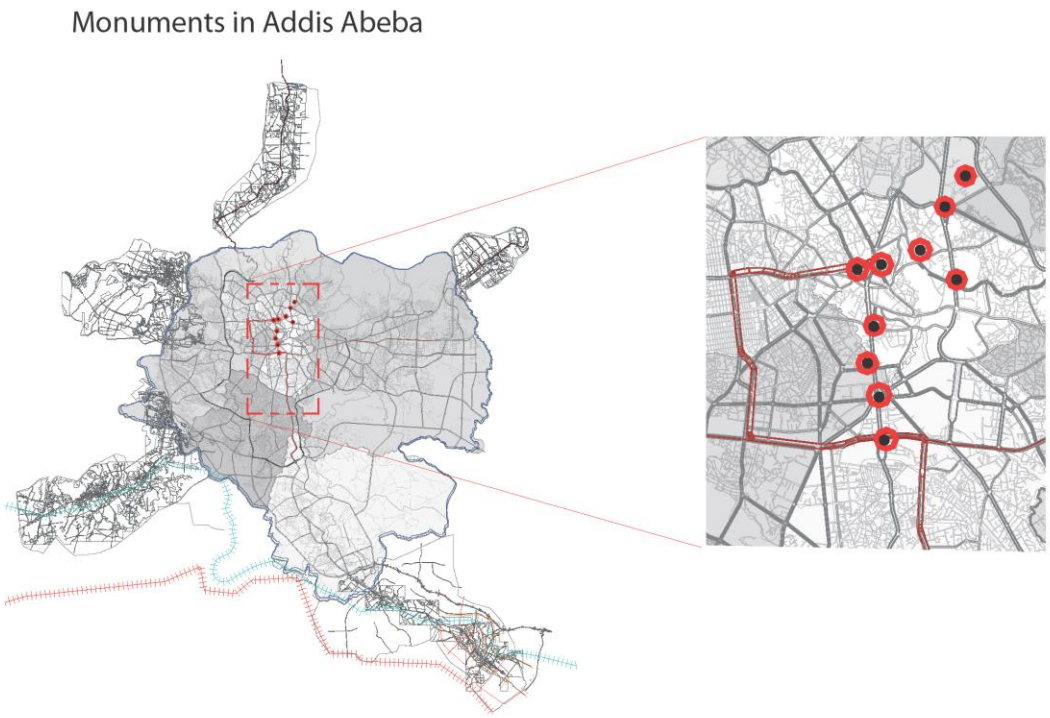
- Four (4) palaces: the Menelik Elfign and Reception Hall at Entoto, the Grand Palace or Gibbi, the Guenete Le'ul Palace (inside the Addis Ababa University), and the National or Jubilee Palace;
- 11+1 Museums: Entoto Mariam Museum, Ethnographic Museum (Institute of Ethiopian Studies Museum), National Archaeological Museum, Patriarchate Museum, Natural History or Zoological Museum, the Trinity Cathedral Museum, the Be'ata Mariam Museum, the Addis Ababa Museum, the Martyrs Museum, the National Postal Museum, the St George Museums and the Korean Patriots Memorial Museum;
- Monuments: Menelik Equestrian, Abune Petros, Sebastopol, Tiglachin, Lion of Judah (near National Theatre), Lion of Judah (near the Rail Way Station), Freedom (Arat Killo),

Martyrs (Sidist Killo), Marx (near AA University), Ras Mekonnen (Seba Dereja), Menelik statue (inside Menelik Hospital), Ethio- Korea Veterans of Qagnew Shaleqa (near Nigeria Embassy); and newly erected ones, including that of Abune Paulos (near Bole Medhanealem Church), that of Carl Heinz (near Sar bet), other monuments at the premises of the National Museum and newly inaugurated squares;

- A total of thirty-five churches belonging to the Ethiopian Orthodox Tewahido Church; the Greek Orthodox Church, the Catholic Church and one Armenian Church as well as three mosques.

According to a study undertaken by the Addis Ababa City Culture and Tourism Bureau, 128 residences of former prominent personalities, 26 public buildings, 16 caves, 16 historical and worship places, 12 monuments and 3 bridges are recently registered as additional immovable heritages.

Figure 31 Locations of major monuments



12.3 Proposals

During the pre-2003 period, the master plans/ development plans of the city were employing sole selection criterion, namely the age of structures and sites. However, in the City Development Plan of Addis Ababa (2002 – 2012), additional criteria were considered. These were historical and cultural significance; architectural and aesthetic value; land mark, archaeological, and technological significance; and craftsmanship. The Structure Plan has adapted these criteria, and adds natural elements that have recreational, aesthetic and attractive characteristics that appeal to the curiosity and interest of both domestic and international tourists. They include;

- Landscapes that include elevated grounds (mainly the surrounding chains of mountains), depressions, plains, basins, river courses and the like;
- Climatic conditions, including temperature, rainfall, humidity, wind, air pressure, and others;
- Hydrographic elements or water bodies such as hot springs, water reservoirs, and rivers;
- Flora (plants), which may be found within religious institutions' premises, city parks or zoos, and in the compounds of other institutions including embassies, etc. Due attention need to be given only to the indigenous plants species that attract international tourists with scientific interest; and
- Fauna (mammals and avifauna) that can be investigated with the aid of certain documents from the Ethiopian Natural and Wildlife Society, Ethiopian Wildlife Conservation Authority and other pertinent organizations.

Goals

2025

- To increase the number of domestic visitors to Addis Ababa and its environs (62, 880 in the year 2011) to 244,974 in the year 2025;
- To increase the number of international visitors to over 2.4 million in 2025 from the 524, 000 in 2011;
- To increase the number of international hotels (117 in the year 2010) with 6000 rooms and 8000 beds to 536 hotels with 27481 beds by 2025;
- To increase the number of tour operators (320 in the year 2010) to 1466 by the year 2025;
- To increase the number of amount of foreign exchange earnings (133 million US dollars in the year 2010) to 2.4 billion US Dollars by 2025;

- To increase the number of additional job opportunities generated from conserved natural and cultural heritage sites and tourist services (from the 2010 figure of 154,000) to 400,000 by 2025;
- Outsource half (33) of the 67 historical buildings registered in the Addis Ababa City Development Plan 2002-2012 to private developers for renovation by the year 2025;
- Renovate (using government budget) (8) of the total of 17 registered historical buildings that are found in bad physical condition;
- Outsource the remaining 34 historical buildings; and
- Renovate (using government budget and external funds) the remaining (9) historical buildings in bad condition.

2040

- The total international tourist arrivals will reach 6 million per annum by the year 2040;
- The total number of international hotels will reach 1,340 with 68,703 beds;
- The total number of tour operators will grow to 3,664;
- The total foreign currency earnings from the tourism sector will reach 10 billion US Dollars;
- The number of domestic visitors to Addis Ababa and its environs will reach 1,340,866 in the year 2040;

Major Strategies

- Set up and implement coherent tourism marketing, promotion and advertising programs;
- Integrate and coordinate activities adhering to a policy of stakeholders' participation in major decisions affecting more than one institution;
- Conduct continuous awareness creation program in the form of workshops and symposia;
- Improve the level of various tourist–orientated facilities and services to international standard;
- Promote the production of handicrafts, souvenirs and other creative products in sufficient variety, quality and quantity;
- Develop in different locations of the city permanent spaces for displaying and selling handicrafts and souvenirs;
- Establish the All Ethiopia Village that fully fitted with amusement and entertainment facilities;

- Establish additional new museums of different kinds;
- Establish theme and animal parks with various wildlife species in and around the capital city;
- Implement the development of the already planned Adwa Park;
- Implement the envisaged African Village;
- Establish tourist orientated lodges on Entoto;
- Promote networks and forums for cooperation among city, regional and federal level organizations pursuing similar goals and objectives;
- Design a marketing project to enhance tourism promotional activities;
- Create extensive employment opportunities for communities residing near tourist sites; and
- Construct a minimum of 10 additional 5+ star hotels Addis Ababa.

12.4 Specific Projects

The Structure Plan proposes a number of projects to be undertaken. It is recommended that these proposed projects should be implemented through partnership with different actors.

Hot Spring (FILWEHA) Extension Project

The hot spring in Addis Ababa is one of the reasons for the establishment of the city. Its use as a public bath has continued to this date, although it is yet to attract international tourists. According to detail studies conducted by the Ministry of Mines and the Ethiopian Tourism Commission, the potential capacity of this hot spring is more than enough to develop additional large and small sized indoor and outdoor swimming facilities, which can be used to prolong the stay of especially conference and business tourists as well as transit passengers, the Diaspora community and visiting relatives and friends (VRF) in Addis Ababa.

Other potential users of the hot spring will be expatriate residents, embassy staff, and staff of international and non-governmental organizations.

If possible, the project can also include the establishment of a tourist hospital providing spa treatment and other medical services. The objective of this project is to further exploit the Finfine Hot Spring for therapeutic treatments and recreations.

Additional Museums

Currently, there are 11 museums in Addis Ababa with different collections and purposes, excluding those small ones housed in private residences that are not officially open to the public. However, the above mentioned museums are not sufficient to exhibit the vast and rich political, cultural and socio-economic history of the country. There is a need to establish additional museums based on detailed feasibility studies:

- City planning museum inside the Grand Palace; and
- War museum (about the longstanding struggle against foreign invaders).

Permanent Handicrafts Display and Sales Centre

Currently, there are more than one hundred and fifty small and medium sized souvenir shops scattered throughout the various parts of the city, mainly around Merkato and the Churchill Road. But these private shops do not seem to satisfy the demands of international tourists.

Therefore, it is more advantageous to have a large mall for handcrafts shops somewhere in Merkato instead of the usually dispersed small souvenir shops.

Adwa Park

This refers to an ongoing study and is located near Bole International Airport.

According to the analysis undertaken as part of the design of the park, it will require a total of 112 ha (with a perimeter of 6,280 meters) for its development.

The park shall incorporate the following two major characteristics:

- Passive spaces: recreational and botanical gardens and water bodies; and
- Active park areas: theatres, exhibition centres, amusement spaces, sport facilities, and recreational places.

Based on the above two categories of spaces, the suggested facilities for both indoor and outdoor activities are:

- A gallery with semi-permanent and permanent exhibition facilities;
- A library which includes information centre;
- Activity areas with amphitheatre, shades, and yards;

- Entertainment facilities that incorporate cafes, kiosks, coffee ceremony areas;
- Movement (circulation) spaces that have winding paths with respect to the topography, buildings, street sculptures and seats; and
- Water bodies with developed streams for sport activities, artificial pools and ponds, fountains and falls within an overall green cover or garden.

African Village

There has been a plan to establish an African Village around Jemo and Hanna Mariam area (although the proposed site is reportedly allocated for another purpose). The City Government had prepared a draft Terms of Reference (TOR) which was also discussed with the then Chair person of the African Union (AU).

The village has been envisaged to comprise at least the following facilities:

- Exhibition centre to be commonly used by all member countries;
- African type open-space for performing outdoor activities;
- Recreational facilities: cafeterias and restaurants typical of African countries;
- Outdoor swimming pools reminiscent of great African lakes and rivers;
- Buildings with traditional African architecture;
- Open terrain walkways and green areas; and
- Major monuments of African countries.

This project already exists and is only mentioned here to avoid duplication of the same idea.

Tourist Information and Convention Centre

Tourist information booths where visitors can obtain detailed descriptions of the places they would like to visit, and suggestions about other places or practical information on how to travel, are of paramount importance in promoting the development of tourism. Such centres will serve as points of reception, information, orientation and interpretation. These centres need to be equipped with good audio-visual instruments and also retail spaces for handcrafts.

Therefore, in addition to tourist information centres available in Bole International Airport terminal and other locations with limited facilities, detail study should be undertaken for the establishment of a central city-level information centre at an appropriate location, most probably in the present Exhibition Centre.

Paragliding Project

So far in Ethiopia, paragliding have only been tried as recreational sport by adventurers in select places such as Debre Libanos over the Jemma River Canyon, Sankale Faris which is a hill behind the town of Ambo, the Wenchi crater hills, the Tulu Dimtu Mountain in Bale, Lake Langano, Lalibela, Asheten Plateau, Debre Sina and Hakim Gara around Harar.

The paragliding project (with communicated events) is proposed for Addis Ababa and its environs, especially in places like the mountains of Entoto, Wechecha, Furi, Yerer, Zequwala, the Canyon of Muger Valley, etc. in order to attract international adventure tourists.

Electric Cable Line

In view of the existence of significant elevation differences and rugged terrain that prevents road access between otherwise closely located areas, there is ample opportunity to introduce and expand cable line transport system in Addis Ababa.

Part III Implementation Strategies and Tools

1. Building Height Regulation

1.1 Introduction

The aim of the building height regulation is to facilitate the implementation of the Structure Plan by enabling the efficient use of land. It also aims to bring about a harmonized skyline by taking into consideration the role and history of the city, development need and opportunities, land use functions and the transport system.

Buildings for social services such as schools and hospitals; festival and other cultural activity purpose buildings; buildings for manufacturing, storage, inside military camps and international organizations (embassy); and sport facilities are excluded from the new building height regulation. Whereas the maximum height shall be governed by their respective zones, the minimum building height for these functions is not predetermined by this regulation.

The city developed as low rise and low density settlement in a seemingly disorderly manner, where the height of building structures and blocks give incoherent image. Some areas have become denser over the years but with medium rise developments. Prior to the 1986 Master Plan, the city had developed without building height regulations and most part had remained with low and inharmonious skyline.

The first Building Height Regulation was prepared in the 1986 Master plan. This regulation had limited the minimum and maximum height for specific locations. However, without being fully implemented, the regulation was revised in 2002. The 2002 Building height Regulation lowered the minimum building height and deregulated the previous height requirements in most parts of the city. In accordance with this regulation, many buildings with 10 stories and above were built.

Again in 2010, the 2002 Building Height Regulation was revised by the Ethiopian Institute of Architecture, Building Construction and City Planning (EIABC). The major considerations in this new regulation were: development pressure, efficiency in utilization of land and infrastructure,

heritage preservation, social equity, safety, security and aesthetics. With regards to the construction of high-rise buildings, it was believed it would attract investment and international tourism. It was also believed that it would enhance the city's status as the African diplomatic capital by symbolizing the country's historical and cultural identity and its political and socio-economic transformation. It had considered economic, infrastructure, climate, aesthetic issues and height/floor area proportions. Accordingly, a polycentric development concept consisting of 10 areas was adopted. This arrangement is consistent with the development trend of the city and the Structure Plan. The other provision, which is new, envisaged maintaining the history and quality of the city and as a means to generate income from tourism.

The provisions in 1986, 2002 and 2010 regulations are the basis for the new building height regulation. This new Building Height Regulation is specially tailored to simplify the process of implementation and to reduce some of the challenges faced in implementing the previous regulations. Some of the shortcomings of the 2010 Building Height Regulation, for instance, included:

- It had given little consideration to the limited capacity and the ever changing demands of local developers and the market; and
- In view of the shortage of new area for expansion, it had delineated large tracts with no significant heritage value as historical.
- It failed to produce skylines and streetscape with block identity and character.

The new regulation increases the intensity of development by exploiting the advantages of the location of key areas of the city. By defining strong provisions to regulate the height, setback, and relative volume/bulk of developments, the regulation attempts to bring a decent city skyline and streetscape, and overall image for city branding.

This section simply provides a summary of the new Building Height Regulation by highlighting some of the expected challenges in and of its implementation, and existing opportunities for its implementation; main principles and goals; and important provisions in the regulation.

1.2 Existing Challenges and Opportunities

Challenges

The main challenge is the increasing prices of land (shortage of land), which drives investors to build higher by also minimizing the area left in their respective plots for green so as to get maximum economic return on their investment. Equally, the City Government has yet to

commit to allocating land for green spaces as its focus in land allocation has thus far been for construction. Increase in temperature /urban heat islands/ and solar radiation in Addis Ababa makes the overall built environment very harsh, with its own implication on the productivity and competitiveness of the city. There is a general tendency by public officials to consider green spaces as a waste. With the proposed increased density and intensity of developments, there should be large green open spaces to produce the required oxygen and offset pollution.

The other challenge is that increasing building height has its own economic costs. As experience shows, most developers borrow money with 30/70 loan arrangement. With this arrangement, they can afford to push lease prices to ridiculous amounts since they will not have to pay the whole amount immediately. Without inferring to what this implies on inflation and the macro economy, the burden of the very high rental fees they ask is indirectly shouldered by residents who buy the goods and services sold by businesses renting this buildings. The small number of plots introduced in to the market by the City Government and the high cost of construction are contributing to increasing the overall cost of development and living in the city.

The other challenge is related with land clearance, compensation and resettlement. There are some practices that undermine the rights of residents. In some cases, residents do not sufficiently participate in the process and are suddenly forced to vacate their landholding without consensus well before adequate time has elapsed after notification. Most of the time, they are resettled very far from their previous localities. This has its own sizable social implication not only for those affected, but also in the overall development of the city.

The other critical challenge pertains to infrastructure services. There is a critical shortage of water, electricity is unreliable and often prone to frequent interruption, and the sewerage network only covers 8% of the total area of the city. These, unless radically transformed, will make high-rise, dense and intensive developments almost impossible.

The other challenge is the restriction of civil aviation that limits development in some areas of Addis Ababa. Moreover, the limited experience in handling historical sites, buildings and structures registered as historical and cultural heritages may pose its own challenges. Last, there is the issue of certain parts of Addis Ababa being located in the seismic zone. Due to all these facts, the implementation of the new Building Height Regulation is expected to face certain difficulties.

Opportunities

On the other hand, there are certain issues that can facilitate the implementation of this Building Height Regulation. One such opportunity is the experience and capacity gained in implementing the previous regulations. The other opportunity is improvements in the investment environment. New ideas and innovations in construction and infrastructure are also being adopted. Skill and practical experience is being accumulated in construction technology and management.

The other principal opportunity is the professionally trained human resource. Most universities and colleges in the country train urban related courses such as architecture, urban planning and engineering. These will create favourable condition to construct multi-storey buildings in general and high-rise or sky scrapers in particular.

1.3 Main Principles and Goals

1.3.1 Main Principles

The concepts adapted are:

- **Resilience:** The capacity to be able to anticipate, cope and easily adapt to or influence changes;
- **Sustainability:** creating a liveable environment that also maintains sustainability of the environment for future generations;
- **Efficiency:** Optimization of the use of resources such as land and infrastructure. Optimal use means preventing both overuse which may entail poor quality life, and underuse that may cause wastage of scarce resources;
- **Imaging and branding:** The vision to develop a city with a recognizable and attractive visual qualities;
- **Feasibility:** Financially doable with reduced social, environmental and economic costs; and
- **Progressive:** balancing the interests of developers and the community, while protecting historical sites and scenic areas.

1.3.2 Goals

Addis Ababa needs vibrant centres and corridors of medium and high density with well-defined architectural characteristics. Localities with their own identity and good enclosure give a sense of place and enhances investment. Moreover, creating liveable neighbourhoods that maintain the 'mixity' and inclusivity the city is known for is paramount. This requires, among other things, putting in place globally accepted standard of green spaces inside neighbourhoods. The main goals of this Building Height regulation is therefore to enable these through:

- compact and intensive development; and
- a new urban landscape with harmonious and characterized skyline that gives a recognizable city image.

Specific Goals:

- Intensive development in main city centre with gross density of 150 h/ha;
- Efficient utilization of urban infrastructure and services;
- Accommodative and progressive building height requirements ranging from a single storey zone to a free upper limit zone with a minimum 70m building height;
- Harmonized skyline, memorable city image and comfortable streetscape; and
- Appropriate proportion of open and green spaces.

1.4 The Regulation

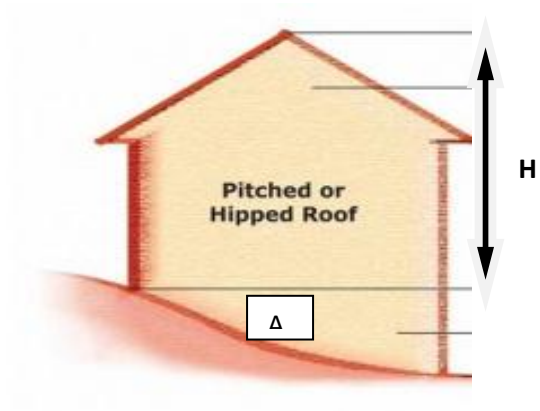
1.4.1 Tools and Measurements

It is proposed to limit and simplify the tools for regulating building height to make it user-friendly. Accordingly, the proposed tools are:

- **Building Height**: Fix - minimum or maximum height (in meter)
- **FAR** : Fix - minimum or maximum FAR
- **Setback**: only front setback
- **Road width**:- to control density along local roads (roads width <15m)

BUILDING HEIGHT

The height of a building is measured from ground floor finish level to the upper most rooftop of the building as indicated in picture (A), by letter (H), which is 3.5m on average. Roofs, parapets and mechanical rooms are counted as part of the height.



FLOOR/STOREY HEIGHT

One floor/story height means the height of a building from a given floor level to the next floor level, which has a height of 3.5m on average. However, depending on the use of a building, the given floor height could vary as different functions require different heights. What can not vary is the maximum and minimum height of the building proposed by this regulation. Overall, the building height cannot exceed the maximum height or be less than the minimum building height prescribed under each zone. In case of mezzanine floor (at any level), floor to floor level can vary but the maximum height of the buildings and floor area should fall within the given range.

FLOOR AREA RATIO (FAR)

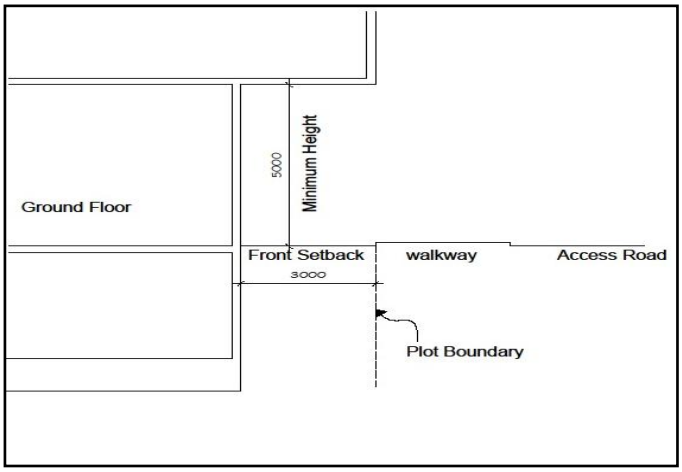
FAR (the ratio of development in relation to the size of a plot) is the most important factor in building height regulation. It is the intensity of activities that a development brings to an area and not the relation between open and built up space that determines the quality of such places. The appropriate density for a locality depends on FAR.

Hence, the FAR in the new Building Height regulation is the following:

- For the Main City Centre: Minimum FAR is 10;
- For other centres and mass transit corridors: Minimum FAR is 5;
- For any other area/locality within the inner ring road: Minimum FAR is 2;
- For areas outside of ring road and not covered in the above categories: the minimum FAR is 0.5;
- For Historical zone (HZ): Maximum FAR is 4; and
- For green infrastructure in the city: FAR is below 0.005 for erected construction.

FRONT SETBACK

The front setbacks defined in the Structure Plan, LDPs and urban designs shall be respected but shall not be lower than 2m for local and collector roads, and 3m for PAS and SAS. For all the street setbacks, the air right is the plot owner's. The plot owner can use above 5m air space of his/her air right on street setback for additional floor space by cantilevering and leaving the arcade open for public use as shown in the above drawing.



1.4.2 Building Height Zone-1

- **Building height:** the minimum building height for building height zone-1 is 70m. The area does not limit with a maximum height.
- **Floor Area Ratio (FAR):** the minimum floor area ratio (FAR) for building height zone-1 is 10, which is ten times the size of the given plot. Maximum FAR as not fixed to provide the developer the opportunity of building up to the maximum allowable building height of the area.
- **Location:** Main City Centre including National Theatre, Sengatera , La Gare, Cherkos, Tikur Anbessa and Mexico-Lideta.

1.4.3 Building Height Zone-2

- **Building height:** the maximum building height for building height zone-2 is 70m.
- **Floor Area Ratio (FAR):** the minimum floor area ratio (FAR) for building height zone-2 is 5, which is five times the size of the given plot. The building height cannot exceed 70m.
- **Location:** sub-centres, mass transport corridors (LRT and BRT lines), and areas adjacent to the main city centre.

1.4.4 Building Height Zone-3

- **Building height:** the maximum building height for building height zone-3 is 35m.
- **Floor Area Ratio (FAR):** the minimum floor area ratio (FAR) for building height zone-3 is 2, which is 1.5 times the size of the plot. The building height cannot exceed 35m. The FAR for buildings facing local streets (street width less than 15m) however is restricted to FAR 3.
- **Location:** tertiary centres, areas between building height zone-2 and the inner ring road.

1.4.5 Building Height Zone-4

- **Building height:** the maximum building height for building height zone-4 is 35m.
- **Floor Area Ratio (FAR):** the minimum floor area ratio (FAR) building height zone-4 is 0.5, which is 0.5 times the size of the plot. The building height cannot exceed the maximum height of the zone is 35m. The FAR for buildings facing a local street (street width less than 15m) however is restricted to FAR 3.
- **Location:** The location is dominantly on the exterior of ring road and some localities relatively further away from the Main City Centre.

Table 23 Zoning and Building Height Regulation Provisions

Zone	FAR			Building Height (meter)	
	min	max		min	max
1	10	Free		70	Free
2	5	free	≥CS		70
	5	5	LS		35
3	2	free	≥CS		35
	2	5	LS		
4	0.5	Free	≥CS		35
	0.5	3.5	LS		
HZ	0.5				21
Green		0.05			6

1.4.6 Historical Sites

Arada-Piassa is one of the old districts in the city with their own histories worth preserving. The existing urban form of Piassa requires maintenance rather than changing. Building heights in Piassa, especially close to the Addis Ababa municipality (Mazegaja Bet) and the St. George church (Ghiorgis) is limited to a maximum of 21m.

1.4.7 Aviation Zone

The Ethiopian Civil Aviation Regulation categorizes the aviation area into A, B, C1, C2, and D zones as indicated in Figure 30. The stipulations of the Ethiopian Civil Aviation Regulation override all provisions under this Building Height Regulation in the aviation area A,B,C1,C2 and D.

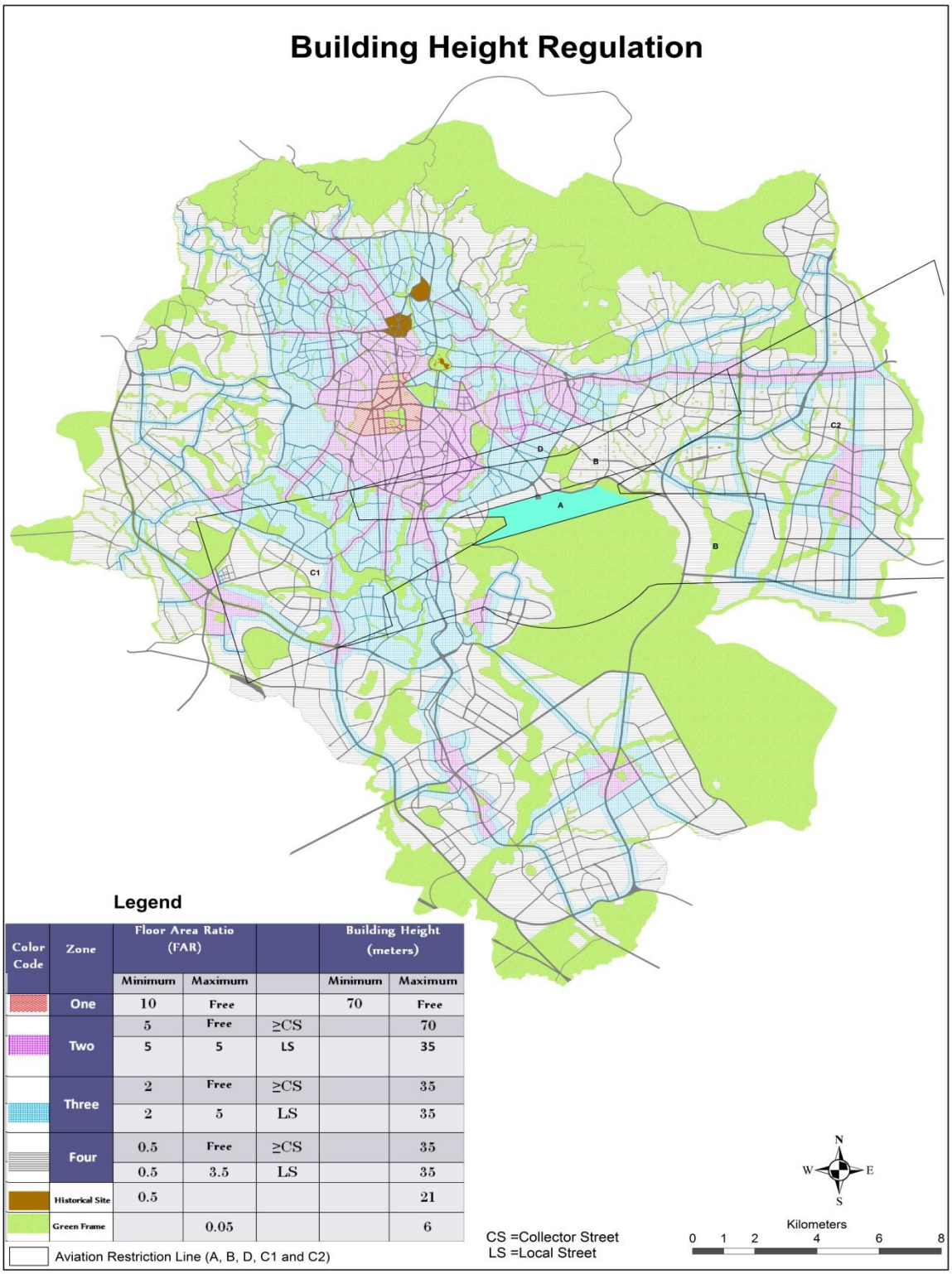


Figure 32 Building height regulation and aviation zones

2. Norms and Standards (2016-2040)

2.1 Introduction and Objectives

Theoretically, there is a consensus on the strategic nature of the concept of a 'Structure Plan'. Nonetheless, its characteristics may vary depending on its level of detail, the specific context and the goals it aims to achieve.

The Ethiopian Urban Planning Manual defines a Structure plan as " a legally binding plan along with its explanatory text formulated and drawn at the level of an entire urban boundary that sets out the basic minimum requirement regarding physical development the fulfilment of which could produce a coherent urban development in socio economic and spatial sphere" (MUDC, 2012). This general definition forms the basis for the new Structure Plan of Addis Ababa. And its level of detail is customized to the prevailing context of the city, and to what the city envisions to achieve by 2040.

The spatial components of the Structure Plan are the direct reflection of economic, social and environmental targets of the Structure Plan. In a city like Addis Ababa, where physical development /spatial transformation is going at a faster rate, spatial proposals in the Structure Plan (the spatial framework) focus on broader scale strategic issues (see Part II section 1.4) that should be considered or cannot be violated in any way or form during implementation. However, its broad scale may create loopholes and/or hindrances during implementation. To safeguard major assumptions and principles of the Structure Plan as well as to allow some level of flexibility during implementation, it is mandatory to develop spatial implementation guidelines with defined standards and norms.

This section gives the norms and standards pertaining to planning for the provision of public services and gives some explanations whenever necessary, further detailing the provisions of the Structure Plan and facilitating its implementation. It also provides insights into the degree of flexibility and rigidity that can be exercised in the implementation of the Structure Plan.

Contextually, standard and norms are hereunder defined.

Standard: A concept applied in spatial planning in quantifiable SI unit of measurement that explains sufficiency in terms of space (distance, area) and compatibility (function, height), etc. in planning.

Norm: Socially accepted rule or idea that is applied in detail spatial planning.

A third key issue in facilitating planning for the provision of public services is planning guidelines. **Guidelines** should indicate the sequence of tasks to be done during planning; or concepts that should be adhered to (or taken into consideration) in due course of planning. A complete set of guidelines, however, cannot be provided at this stage because such task requires implementing pilot projects. Nonetheless, there are certain sections that indicate planning/implementation guidelines.

Objectives

The Structure Plan has two levels of planning: **One-time** planning that is done every ten or fifteen years; and **on-demand** planning that is conducted during the implementation or the actualization of the one-time plan. The output of the latter, commonly known as Local Development Plan (LDP), is prepared for various reasons by various actors to scale down the Structure Plan, by customizing it to the local context but within the provisions of the Structure Plan. Even though the reasons, the actors and also the timeframe for the preparation and implementation of LDPs may vary, using the provisions of the Structure Plan makes the overall outcome consistent.

With the aim of safeguarding the major assumptions and principles of the Structure Plan and allowing some level of flexibility during implementation, the main objective of " Norms and Standards" is to create a link between the provisions of the Structure Plan (principles, concepts and targets) and local plans. This section can serve as

- a mandatory reference for local development planning;
- a checklist to inspect detail plans or project plans; and
- a standard to be adopted by the relevant bodies in sectoral planning and implementation.

The purpose and type of a local development plan determine which type of standards, norms and guidelines to use. Though not exhaustive, some types of local development plans and the reasons that trigger their preparation are listed hereunder.

Redevelopment plan: A plan prepared to transform the existing slum, blighted, impoverished and low density areas in the oldest parts of the city by creating better living and working environment. This is achieved by designing adequate open space, streetscape for proper pedestrian and vehicle circulation, and mixed land use by respecting the allowable density and building height in the respective sites.

Centre development plan: Centres are planned hierarchically from city to Woreda level. Conceptually, centres are locations for concentration of services and jobs. The development plan of centres primarily integrates and enhances the accessibility of commercial activities, services, residential functions, and open spaces (through soft and hard landscaping).

Neighbourhood plan (Housing development plan): this type of plan is conducted on a land use designated as mixed residential area, and focuses on housing development by incorporating facilities for health and educational services, open spaces, access roads, etc.

Street design: this is a design based on standards indicated in the Structure Plan. Apart from the engineering standard (which are not indicated here), the street design shows street carriage width, pedestrian pavement width, on-street parking, street plants and infrastructure integration.

Riverside development plan: This plan aims to make land demarcated on the Structure Plan as a river buffer green and attractive for recreation, and ultimately to make rivers clean. Depending on the objectives, land use adjacent to the river buffer can be incorporated in the riverside development plan.

Public park development plan: park development plan is prepared on areas designated as Public Park. Following the park hierarchy from city to neighbourhood levels, the content and detail of a park development plan may vary. But green area and walkways, and park furniture like benches are universal fixtures.

Market area development plan: Market places are planned hierarchically from city to Woreda level as spots for the provision of basic goods and service to communities. They are organized to provide basic consumer items or as special markets (e.g. livestock markets). Detail plan prepared for a market place will include shades, public toilets, etc.

Special project development plan: Special project planning is usually conducted on a single or a couple of plots covering a small or relatively large area for the purpose of either residential housing, government offices, university, manufacturing and storage, or other specific purposes. Access, green, density and arrangement of blocks are some of the focus areas in this kind of project planning.

Conservation plan: A number of historical buildings and sites are identified on the Structure Plan. Elevating their presence through urban design and their upkeep, while maintaining their cultural or sentimental value, is the prime focus of a conservation plan.

In addition to these plans and depending on whether there is demand, different types of plans with various scales and depths can be evoked but the process will still be the same as stated in the Federal Urban Planning Manual.

2.2 Mixed Residence

The concept of mixed residence implies the integration of different but compatible activities inside residential neighbourhoods. This limits trips by encouraging working, living and getting services nearby. The inherent idea embedded within the concept of mixed use or 'mixity' is the creation of a vibrant environment. This requires mixing residential housing with commerce and a local market complete with but not limited to lower level services, access and local streets, community open space and playgrounds, and a neighbourhood park.

STANDARDS

DENSITY: Housing density is the number of residential housing units in a designated land area. The Structure Plan sets three levels of gross density for mixed residential land use. These are High Density Mixed Residence, Medium Density Mixed Residence and Low Density Mixed Residence.

Table 24 Density standard in mixed residence land Use

Mixed Residence	Minimum Gross Density (housing units per hectare)	Location
High density mixed residence	150 hu/ha	Centres, corridor, high density mixed residence zones and commercial areas.
Medium density mixed residence	100 hu/ha	Mixed residence inside the inner ring road.
Low density mixed residence	50 hu/ha	Mixed residence outside the inner ring road.

RESIDENCE SHARE: It is the proportion of residence that should be available when individual building design is prepared.

Table 25 Residence share in a building inside a mixed residence land use

Mixed residence zones	Mandatory Share of Residence from Total Floor Area
High density mixed residence	50 %
Medium density mixed residence	60%
Low density mixed residence	60%

EXCEPTIONS

Though residence is a mandatory function in a mixed residential land use, there are buildings and uses that are exempted from incorporating residence. These are (public) administrative buildings and other social and municipal services, corporate headquarters, building for car parking, hotel, mall, fuel station and public parks.

BUILT UP AREA, GREEN AREA AND STREET NETWORK PROPORTIONS

The standard for the proportion of the built up area, green area and street networks adopted by the Structure Plan for mixed residential land use are indicated in the following table (28).

Table 26 Share of the built up area, green area and street network in mixed residence land use

Uses	Proportion	Remarks
Built up area	40%	All mix of uses are included here.
Green area, open space, plaza, etc.	30%	
Street network	30%	

Note: During detail plan preparation, the requirements specified in table 28 for green, street and built-up area should be taken as benchmark. However, depending on the location and whether the area already has sufficient proportion of either green/open and street, this proportion can be reduced. The proportion of the built-up area cannot be reduced.

NORMS

Table 27 Land Uses allowed in mixed residential area with strict supervision

Function	Challenges	Requirements to Operate in Mixed Residential Area
Woodwork	• Dust pollution • Sound pollution • Vibration • Untreated Liquid waste	Intensive and continuous supervision for compliance during building permit stage and operational stage is required.
Metalwork		
Car repair (garage)		
Flourmill		

Table 28 Functions allowed in mixed residence land use but restricted to certain locations

Function	Challenges	Location	Prohibited locations
Nightclub/Bar	Sound pollution and Social problems	City Main Centre, secondary centres, high density mixed residence and along arterial streets.	Within 500m radius of schools (elementary-university)
Chat kiosk/ shop			

Note: The occupancy permit system in collaboration with local trade offices and the Police should monitor these functions to ensure compliance with the assigned locations.

Table 29 Prohibited functions in mixed residence land use

Prohibited Functions	Exceptions
Manufacturing and storage that require plot area of more than 500 m2 inside the inner ring road, and more than 2000 m^2 outside the inner ring road	Clothing design and sewing; computer and related items assembly; shoe design and small scale high tech shoe production; and leather product manufacturing that does not require massive energy intake, that does not produce by-products with negative implication on the environment, and that can be housed in mixed residence and mixed commercial land use.
Treatment plant and landfill sites	Transfer station and garbage bin with appropriate planning to protect the environment as well as the quality of neighbourhood.
Cemetery	
Stadium	
Quarry	

Note: Religious institutions are part of mixed residential land use. However, in order to get construction permit, their title deed should clearly indicate that the particular plot can be used for such land use.

2.3 Environment

Environment is one of the major components of the Structure Plan and comprises green infrastructure, waste and natural resource management. Urban agriculture is included as part of Environment in this section.

"Urban agriculture" is the production, processing and distribution of crops, fruits, vegetables, livestock and their products within or on the fringes of urban areas.

"Green infrastructure" is defined as a physical green environment within Addis Ababa city proper. It is a network of multifunctional open space, including formal parks, gardens, woodlands, green corridors, waterways, street plantation and open courtyard.

"Waste management" is a system that comprises of planning and managing the proper and timely collection and disposal of solid and liquid waste.

2.3.1 Urban Agriculture

STANDARDS

Table 30 Urban agriculture and permitted functions

	Permitted Function	**Remark**
Urban agriculture zone	• Crop and vegetable farming, livestock production and poultry, dairy farming, and other related agricultural activities • Permanent fruit tree farming • Fuel wood production	
Urban agriculture in river buffer zone	• Permanent fruit tree planting • Bee keeping	
Urban agriculture in multifunctional forest	• Permanent fruit tree planting • Bee keeping	

Urban agriculture inside *water protection zone*, including in river buffers and multifunctional zones		• Chemicals and fertilizers are not allowed • Cattle fattening, dairy farming, poultry etc. not allowed

2.3.2 Multifunctional Forest

Multifunctional forest is network of multipurpose green spaces that contribute to the protection of the environment, economic development and social equity.

STANDARDS

Table 31 Standards for Multifunctional forest and river buffer

Types of green	• Agro forestry on less than 15% slopes. • Production forestry between 15%-30% slopes. • Conservation forestry on slopes greater than 30%.
Allowed function in multifunctional forest	• Construction of structures aboveground is prohibited. However, the construction of necessary structures for soil conservation and flood control, inspection posts and walkways are allowed.
Maximum built up area	• The maximum built up area should be 5% of the total area.

2.3.3 Public Parks

It is an open and green space reserved primarily for recreational purposes. Public parks are planned hierarchically.

STANDARDS

Table 32 Public park hierarchy, size and catchment

Park	Size (ha)	Catchment (radius)
City park	>10	10 km
Sub-city park	1-10	5 km
Woreda	0.3-1	1.5 km
Neighbourhood park	<0.3	300 m

Note: Public parks with an area of less than 0.3 ha and that do not appear on the Structure Plan map will be administered by the Woreda or a community.

Table 33 Woreda park design (0.3-1ha)

Functions	Descriptions
Landscape vegetation and planting	• 80 % of the total surface area of a park shall be covered in green. Significant proportion of the green will be drought resistant and shade plants.
Sport field	• Open area (informal sport field) • Sport filed (football, tennis courts, volleyball and others)
Access	• Permeable walkways, access for the disable
Park furniture	• Seats (benches), picnic tables • Dust bin • Water features • Monuments • Stands for public art
Signs	• Information signage • Directional signage

Table 34 Elements of a public park

Elements of Public Park	Remark
Footpath	• The elements of public park shall only cover 20% of the park area. The remaining 80 % shall be strictly used for soft landscaping, vegetation and trees. • Depending on hierarchy and size of the public parks, the area reserved for a restaurant (building) or related facilities should not be more than 5% from the 20% allowed area for elements of parks.
Cycle lane	
Water features (fountains, ponds, waterfalls, etc.)	
Restaurant	
Public toilet	
Seats	

2.3.4 Special Parks

Special parks have many similarities with Public Parks. They are primarily established for conservation, education, research and recreation. Special parks could be created anywhere in multifunctional forest or river buffer zones, depending on the need and potential.

STANDARDS

Table 35 Locations of Special Parks

Park	Area (ha)	Location	Function
Gullele Botanical Garden	689	Gullele sub-city 7 Sululta Woreda	Conservation, education, research and recreation.
Peacock Zoological Park	36	Bole sub-city	Conservation, education, research and recreation.
Yeka Theme Park	574	Yeka sub-city	Amusement park, sport park, children park.
Bole Weregenu Park (at the back of Bole Airport)	2498	Bole sub-city	Conservation, artificial lake etc.

Note: Yeka Theme Park and Bole Weregenu Park will offer full day engaging services.

Table 36 Elements of Yeka Theme Park

Yeka Theme Park Minimum Functions	Remark
Amusement park • Children park • Water park • Food park • Game park	
Sport park • Tennis courts • Swimming pools • Running tracks • Basketball court	
Green/flower park • Landscaped green	At least 80 percent of the total surface area of a park shall be composed of planting materials (grass, ground covers, plant beds). Of that amount, a minimum of 50 percent (or 40 percent of the total

• Accessible open forest • Hiking zone	surface area) shall be turf grass or a low-growing and stable ground cover capable of supporting foot traffic. Ground cover shall be accessible as required.
Star hotels • different category hotels • bars, cafes	Only five percent (5 %) of the park area can be used for these facilities.
Street • Access street • Pedestrian Street, trek lines for hiking, cycle lane	Access street for cars should be minimum and must not cover more than five percent (5 %) of the park area.

Table 37 Elements of Bole Woregenu Park

Bole Weregenu Park	Remark
Water park • Swimming pools • Artificial lake	More than fifteen percent (15%) of the park area should be used for water park.
Sport park • Horse tracks • Golf course	More than fifteen percent (15%) of the park area should be used for sport park.
Green/flower park • Landscaped green • Accessible open forest • Cycling and hiking zones	At least 80 percent of the total surface area of a park shall be composed of planting materials (grass, ground covers, plant beds). Of that amount, a minimum of 50 percent (or 40 percent of the total surface area) shall be turf grass or a low-growing and stable ground cover capable of supporting foot traffic. Ground cover shall be accessible as required.
Star hotels • Different category hotels • Bars and cafes	Only five percent (5%) of the park area can be used for these facilities.

Street • Access street • Pedestrian Street (hiking etc.)	Access street for cars should be minimum and must not cover more than five percent (5%) of the park area.
Shopping Malls	Shopping mall/s cannot cover more than one percent (1%) of the entire park area.
Luxury Villa	Luxury villas cannot cover more than one percent (1%) of the entire park area.

2.3.5 River Buffer

Ultimately, by developing the river buffer as a network system connecting the upper part of the city to downstream areas, it is possible to achieve numerous but implicit social and economic benefits. For instance, a river buffer enables to reduce the inflow of undesirable substances to water bodies, which decreases the cost of water purification.

STANDARDS

Table 38 River buffer development standard

River buffer functions /elements	• Footpath/access street • Urban agriculture (permanent fruit tree) • Soil protecting green and ornamental plants • Benches	
Slope	• >30% • 15-30% • up to 15%	• Conservation forestry on sloppy areas with perennial vegetation • Vegetable and fruit tree production on gentler slopes • Recreational park development on gentle slopes, .
Built up area	• 5% or less from the total	Access street, footpath and other hard

	project area	landscaping are included in this category.
Buffer space from the centre line of the river	• Ranges from 10m-30m	The exact length of the buffer is indicated on the Structure Plan map.
Green	• Indigenous trees and shrubs	

NORMS

- Open spaces in mixed residential areas that are not indicated on the Structure Plan shall remain with green area status; and the management of such spaces can be carried out by the community, Woreda or sub-Woreda level administration.

- Multifunctional forests and river buffers shall be developed by government institutions, and remain under the sole ownership of the respective government institutions. However, some of these areas are under private holdings currently. When this is the case, private owners will continue to develop these lands as per the land use regulation until the City Government takes over the development of the multifunctional forest and/or river buffer following the necessary planning/resettlement and compensation procedures.

GUIDELINES

The development of Bole Weregenu Park (in relation to Yerer Mountain) and Gullele Botanical Garden (in relation to Entoto Mountain) must preserve the natural identities and ecosystems of the respective localities. Conservation and park service are the primary objectives of these parks. However, these two concepts can be contradictory. Hence, the following guidelines shall be adapted to balance the two objectives.

- Care must be taken to protect flora and fauna as well as historical/cultural features;

- The carrying capacity of the park must be determined so that it will not be overcrowded;

- Establishment of site camps, creation of access to the sites, construction of internal roads, and etc. shall be done in a way that does not adversely affect the environment; and

- Mechanisms for waste and noise pollution control (solid waste management, effluent and wastewater management), and fire prevention should be in place before the park becomes operational.

Indigenous Trees and Shrubs

Indigenous trees and shrubs to be planted on streets (pedestrian walkways, medians and street corridors), parks, multifunctional forest and river buffer are listed in the following table.

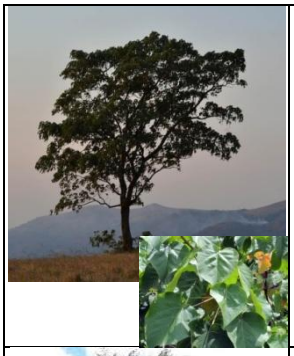
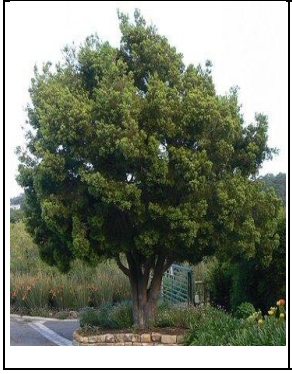
Table 39 Indigenous trees and shrubs

Functions	Tree / shrub name
Ornamental Tree	Draceana steudnaria
	Phoenix reclinata
	Albizia gumifera
Shading tree	Acacia abyssinica
	Carissa spinarum
	Capparis tomentos
	Ficus sure
	Euphorbia abyssinica
	Combretum molle
	Cordia Africana
	Podocarpus falcatus
	Albizia gumifera
Soil protection tree /shrubs	Combretum molle
	Ricinus cumminus
	Draceana steudnaria
	Sesbania sesban
	Phoenix reclinata

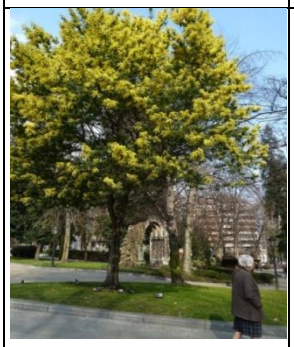
	Arundnaria alpine
Fruit tree	Combretum molle
	Cordia Africana

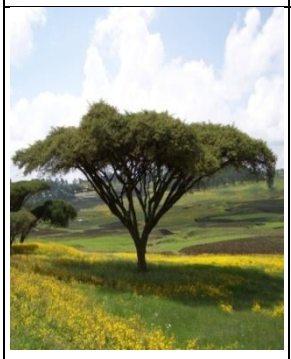
Table 40 Types of vegetation

Type of Tree/Shrub	Scientific/Common Name	Plant Characteristic and Suitable Agro Climate	Recommended Use
	Jacaranda mimosofilia (የጠመንጃ ዛፍ)	• Suitable temperature 12-24°C. • Average annual rainfall 800-1200mm. • Suitable altitude 1600-2500m. • Tree height 5-15m.	For parks, roundabouts, plazas
	Schinus molle (ቁንዶ በርበሬ)	• Suitable altitude 1500-3000m. • Tree height 3-15m. • Native to the arid zone of northern South America and Peru's Andean deserts.	For parks, roundabouts, plazas
	Gravilia robusta (ግሪቪሊያ)	• Suitable altitude up to 3000m. • Average annual temperature 14-31°c. • Average annual rainfall 600-1700mm. • Native to Australia. • Tree height 12- 40m.	For road sides and parks
	Cordia africana (ዋንዛ)	• Suitable altitude 1400-2500m. • Average tree height 30m.	For parks and plazas

	Croton macrostachyu (ብሸና)	• Suitable altitude 600-2,200m. • Average tree height 25m.	For park and plazas
	Cupres lustanica (ጽድ)	• Suitable altitude 1,100-3,500m. • Average annual rainfall 400-1,200mm. • Tree height 30-50m.	For park and plazas
	Olea europaea (ወይራ)	• Suitable altitude 1,600-3,000m. • Average tree height 15m. • Suitable for light (sandy), medium (loamy) and heavy (clay) soils, prefers well-drained soil and can grow in nutritionally poor soil. Suitable pH: acid, neutral and basic (alkaline) soils. It cannot grow in the shade. It prefers dry or moist soil and can tolerate drought. Able to tolerate extreme soil and climate conditions.	For parks and plazas
	Podocarpus falcatus (ዝምባ)	• Average tree height 46m. • Altitude 1,550-3,000m. • Mean annual temperature 13-20^{o}c. • Mean annual rainfall 1,200-1,800mm. • Rich, well-drained soils are needed for P. falcatus; mainly found on humus-rich soils. • A humid and warm climate is preferable.	For parks and plazas

	Millettia ferruginea (ብርብራ)	• Suitable altitude 1,000–2,500m. • A large shady tree to 35m. • It performs well in moist and wet Kolla as well as dry, moist and wet Weyna Dega agroclimatic zones.	For parks, plazas and riverside
	Casuarina cunninghamina (ሸውሸዌ//አርአለባኖስ)	• Grows to a height of 10-35m. • Suitable Altitude: 0-2,200m. • Mean annual temperature 13-29^{o}c. • Mean annual rainfall 500-1,500mm.	For parks and plazas
	Acacia melanoxylon (አሜኣላ)	• Acacia melanoxylon is 6-45m tall. • Native to Australia. • Grows in cool and warm humid climatic zones, but it is common in the warm sub-humid zone. • Altitude 2,000-3,000m.	For parks and plazas
	Spathodea campanulata (የአፍሪካ ቱሊፕ)	• Tree height 7-25m. • Altitude 0-2200m. • Mean annual temperature 27-30^{o}c. • Mean annual rainfall 1,300-2,000mm.	For parks, plazas and road sides

	Dracaena steudneri (እፀጳሳ)	• Suitable altitude 700-2,200m. • Tree height 15m.	For parks and plazas
	Erythrina brucei (ኮርች)	• Tree height 5-15m. • Altitude 1,250-2,400m. • Mean annual temperature 10-26 °c. • Mean annual rainfall 800-2,000mm. • Grows best in well-drained soils of pH 3.5-5.	For parks and plazas
	Acacia decurrens (አካቻ)	• Tree height 5–15m.	For roads , park and plazas
	Lucinea Lecosophala (ለሲኒያ)	• Suitable altitude 0-2,200m. • Average temperature 25-30 °c. • Average rain fall 500-3,000mm • Tree height 3-15m.	Park and riverside

	Sesbania sesban (ግራንግሬ)	• Tree height 1-7m. • Altitude 100-2,300m. • Mean annual temperature: 18-45^{o}c. • Mean annual rainfall 500-2,000mm	Park and riverside
	Pennisetum purpureum (Elephant grass) (የዝሆኔ ሳር)	• Tufted perennial grass up to 4m tall.	Riverside (especially industrial areas)
	Acacia abysinica (ግራር)	• Flat-topped tree to 16m height. • Suitable altitude above 1,500m.	For park and plazas
	Callistemon citrinus (Bottle Brush)	• Height up to 5m.	Road side, parks, roundabout
	Euphorbia pulcherima	• Small tree or shrub up to 4m tall with few, stout, hairless branches.	Parks and roundabout

	Phoenix reclinata	• Height 7.5m-15m. • Native to Senegal. • Suitable altitude up to 3,000m. • 800-1,400 mm rainfall.	Roadsides and parks
	Pinus patula	• Native to Central America. • Grows up to 30m high. • Suitable altitude 1,600-3,000m	For park, plazas and road side
 	Rosa rechardi		Parks and roundabout
	Flowered Climbers (Pirostegia Venusta, Begonia, Bougainvillea, ipomea)	• grows easily with less water	For public spaces in parks, LRT, Plazas

2.3.6 Waste Management

STANDARDS

Table 41 Waste management facilities standard

Service	Physical standards
Sewer	• 100% covered by sewerage with 90 % centralized sewer system and 10% by decentralized sewer system.
Storm Water	Drainage network covering 100% road length on both sides of the road. And the minimum drainage slope of streets should be 2.5%. • Micro drains to cover all road types on both sides, • Macro drains (less than 30 m) to cover sub-arterial roads on one side of the road, • Macro drains (more than 30 m) to cover arterial roads on one side of the road, and • Natural drains to cover 20% of arterial and sub-arterial roads.
Solid Waste	• Suggested average waste generation level → 0.5-0.8 kg/c/d. • Separation of waste into three streams (Organic Wastes, Hazardous Wastes and Recyclable Wastes). • Provide Material Recovery Facilities (MRF) at each solid waste transfer station.

GUIDELINES

How to locate waste separation points

- Waste separation point should be organized where garbage bins are located.
- The space required for waste separation point shall depend on the size and type of waste. The space shall accommodate at least three garbage bins (for Organic Wastes, Hazardous Wastes and Recyclable Waste), and some space for extraction.
- Garbage bins shall be positioned in mixed residential areas with a minimum access road of 10m width; but shall not be located near playgrounds or green areas.

2.4 Manufacturing and Storage

"Manufacturing" represents different production and processing industries including textile and garments; leather and leather products; food and beverages; chemicals and pharmaceuticals; paper and printing; manufacturing; and etc. These industries are classified under heavy industry, medium-scale industry and micro and small scale industries (in the form of cluster). "Storage" on the other hand stand for large warehouses for temporarily keeping different items, including grain silos and fuel depots.

STANDARDS

Table 42 Location of Manufacturing and storage

location	Manufacturing and Storage with area ≤ 500 m2	Manufacturing and Storage with area between 501 m2 and 2000 m2	Manufacturing and Storage with area >2000 m2
Inside the inner ring road	***		
Outside the inner ring road		***	
Separate zone for industries			***

Note: separate zone for manufacturing and storage is reserved by the Structure Plan. This includes Kilinto Industrial Park and Bole Lemi Industrial Park, and industrial clusters in Akaki-Kaliti, Lebu, Hujan, Yoseph (previous Kefitegna 19 Kebele 55), Gurd Shola, and Summit.

GUIDELINES

Consideration to be taken on detail plan preparation for industrial cluster/zone

- Linkages and functional relation of different industries must be identified for clustering.
- Access and circulation should be designed for pedestrians, cyclists, cars and trucks hierarchically.
- The minimum width of roads should be 20m in order to facilitate all type of traffic.

- Consideration must be given to how to treat waste locally (without entering the municipal line).
- Depending upon the type of industries identified, sites and facilities for common services such as liquid waste treatment plant, power plant, composting site, recycling site, storm water management, etc should be incorporated .
- At least 10-15% of the area should be considered to incorporate MSEs in each industrial park.
- More than 50% of the separate zone for industries, IPs or IZs, or industrial cluster should be used for industrial plants; ancillary functions including storage should not take more than 20%.

Plot size, setback and access

- Industrial plot parcellation can be flexible inside the zone. However, the minimum lot size for the respective industrial plant should not be less than 2000 m^2, and the maximum is 20,000 m^2.
- Optimum industrial plot size proportions such as 1:2, 1:2.5 and 1:3 (width/ length of the plot) can be exercised in different manner for planning purpose. However, to minimize wastage of land during parcellation, uniform length (depth) should only be used to increase the plot size in a block but with similar proportions. For instance, when the proportion 1:2 is applied, two or more adjoining plots of 35m by 70m (2450m^2 each) can be joined and allocated to form a plot size of 70m by 70m (4900m^2); or three plots can be joined to form a plot size of 105m by 70m (7350m^2), etc.
- The access way to an individual industrial lot shall not be less than 4.5m width.

Landscaping and greening

- Onsite conservation of rainwater, and landscaping that minimizes water consumption is encouraged.
- Each industrial lot shall have a minimum of 5% green coverage.

Parking

- The number cars and size of parking area in each industrial lot shall be determined according to the standards of the building permit.
- Car parks must have a green buffer (setback) of minimum 1.5m from the edge of a building.
- Car parking areas should be planted with canopy trees with 1 every 6 bays.
- Large car parks shall include landscape "islands" to allow additional canopy tree and shrub planting.

Relocation of Manufacturing and Storage

- Manufacturing and storage with an area of more than 500 m^2 currently located inside the ring road shall be relocated within five years' time. And manufacturing and storage with an area of more than 2000 m^2 currently located outside the ring road shall be relocated within ten years' time to their respective industrial zone.

Fuel Stations

A fuel station has both the character of retail commerce and storage. With all necessary precautions, fuel stations can operate in commercial zones and mixed residential areas. But they shall be located on collector roads, PAS and SAS.

2.5 Transport and Street Network

2.5.1 Streets

Streets or roads are public spaces for the movement of people and traffic. Roads of 15m and above are visible on the Structure Plan. However, local roads do not appear on the Structure Plan as they may change subject to changing urban form. The standards for streets are shown in the following table.

STANDARDS

Table 43 Classification of roads and width

Road Type	Width (meter)
• Arterial	
• Expressway	60
• Partial expressway	>40
• Boulevard	40
• Sub Arterial	25-30
• Collector	15-20
• Local	10

Minimum standard for access roads

- Local street that connect two streets should have a minimum width of 10m.
- There should be a minimum of 4m width access road for a single plot and 6m width for shared access (for use by more than one plot).
- Special design and traffic management considerations should be taken into account.

Table 44 Standard for street spacing

Streets	Standard Spacing
Arterial	Every 2km
Sub arterial	Every 1km
Collector	Every 500 meters
Local	150-300 meters

- Depending on the required design speed and angles of the junction, the minimum corner curvature for roads entering a junction or roundabout squares should be between 7m and 15m.
- The radius of a roundabout island should not be less than 8m; and for wider carriageways, it should be greater than one-third of the carriageway.

- The minimum horizontal alignment curvature of a road with a design speed of 60 km/h is 150m radius; and for a road with 80-100 km/h design speed, minimum radius is 230m.
- The maximum recommendable vertical grade for asphalted arterial street is 12%.
- The standard (requirement) of vertical open space for motorway is 5.4m.

Table 45 Design speed standard

Street Type	Design Speed
• Arterial	
• Expressway	>80km/h
• Partial expressway	>80km/h for high speed lane and 40-60km for side lane
• Boulevard	40-60km/h
• Sub Arterial	40-60km/h
• Collector	20-40km/h
• Local	<20km/h

STREET SECTION

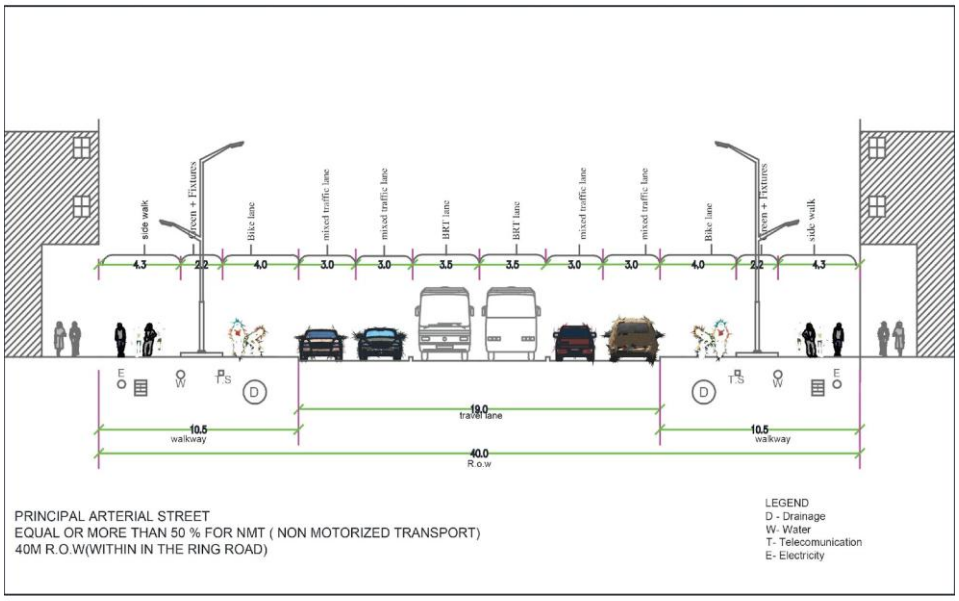


Figure 33 Street section (a) of Principal Arterial Road inside the inner ring road

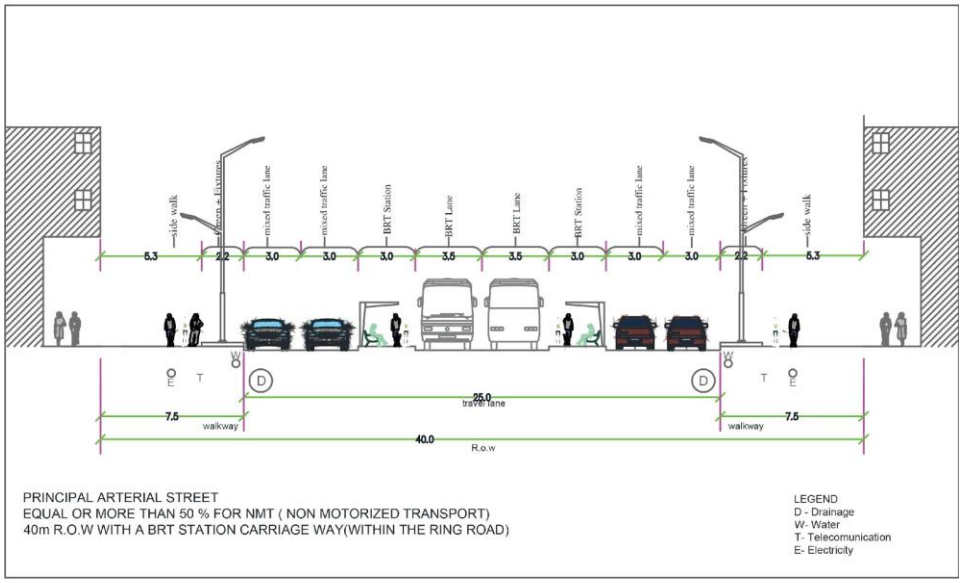


Figure 34 Street section (b) of Principal Arterial Road inside the inner ring road

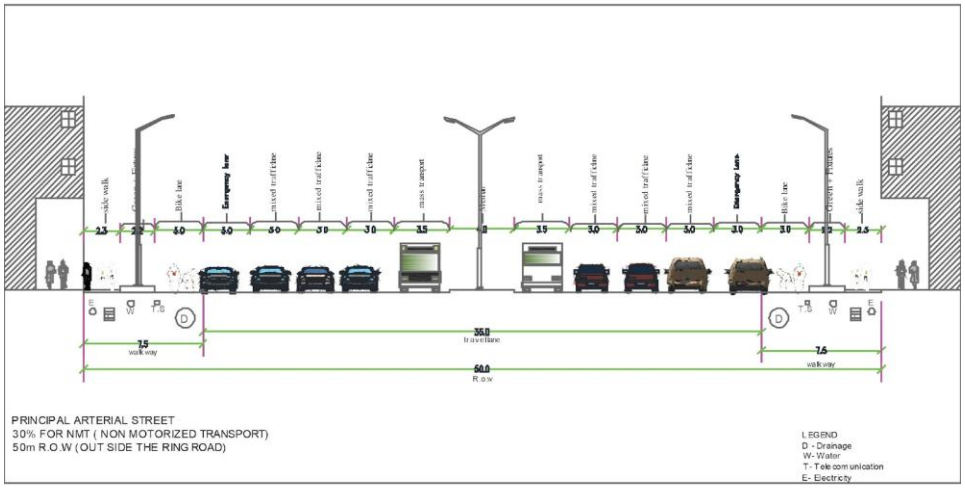


Figure 35 Street section (a) of Principal Arterial Road outside the inner ring road

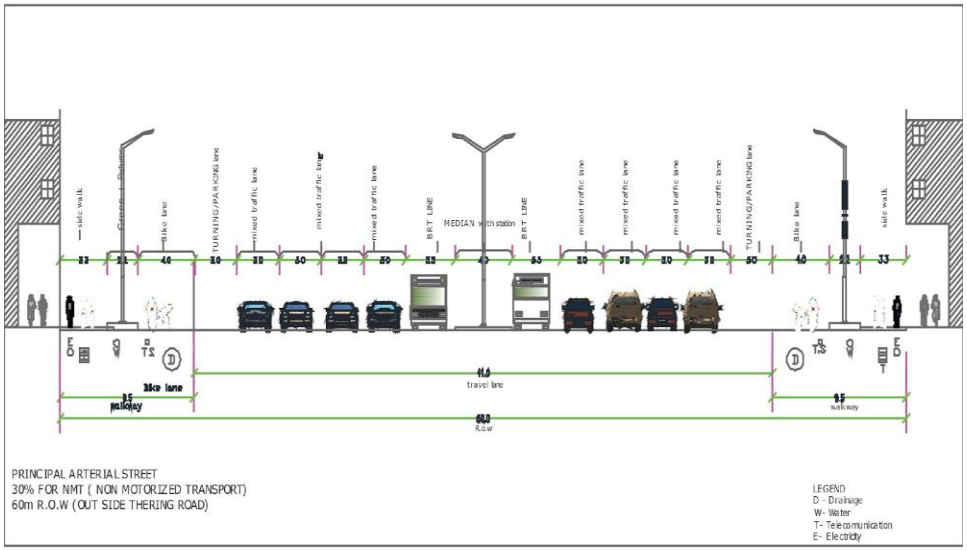


Figure 36 Street section (b) of Principal Arterial Road outside the inner ring road

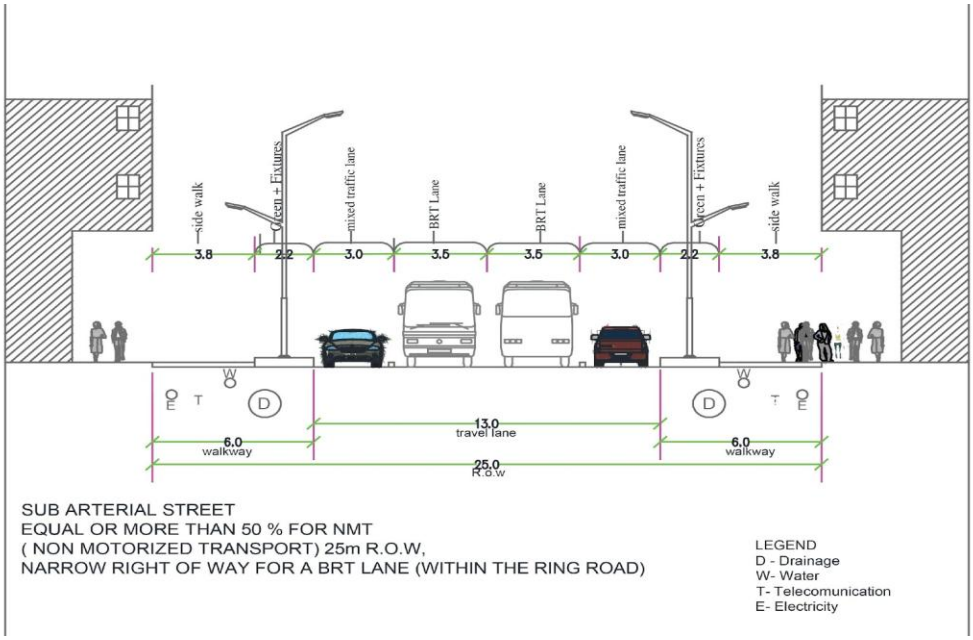


Figure 37 Street section (a) of Sub-Arterial Road inside the inner ring road

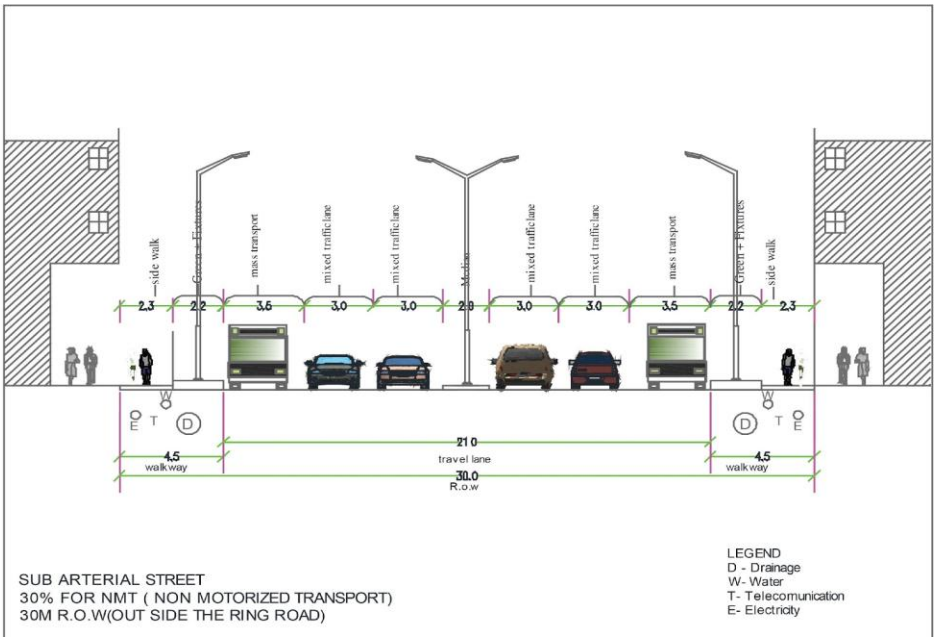


Figure 38 Street section (b) of Sub-Arterial Road inside the inner ring road

Figure 39 Street section (a) of Sub-Arterial Road outside the inner ring road

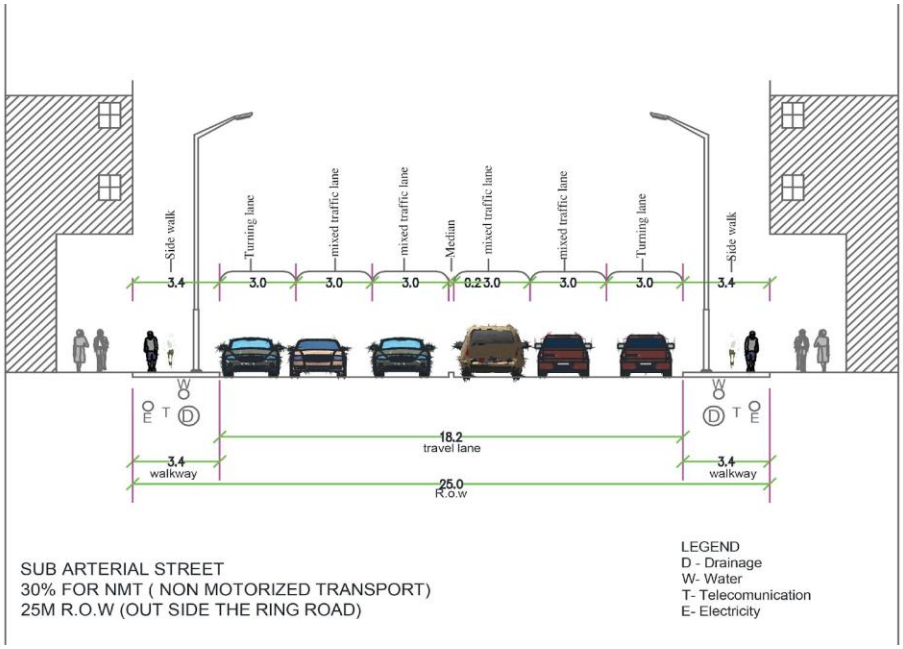


Figure 40 Street section (b) of Sub-Arterial Road outside the inner ring road

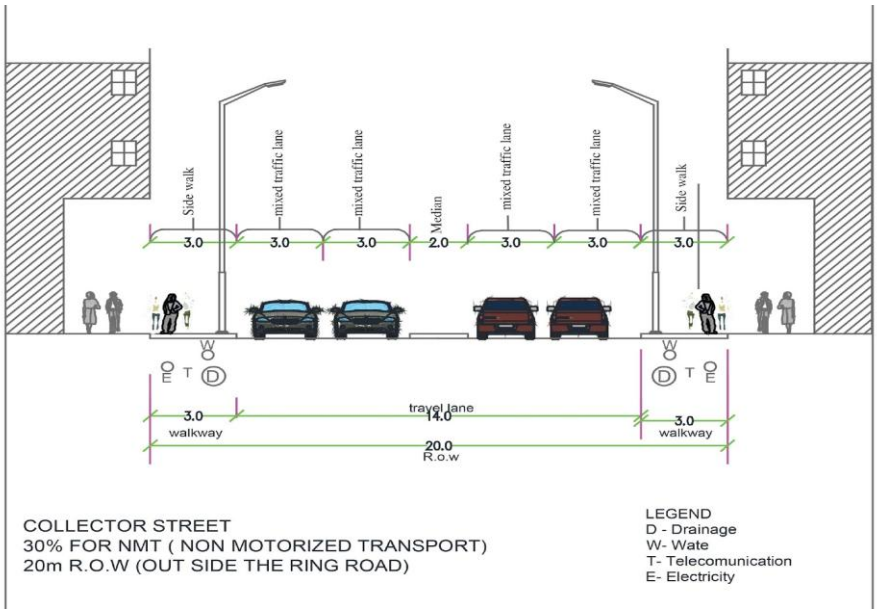


Figure 41 Street section of Collector Road outside the inner ring road

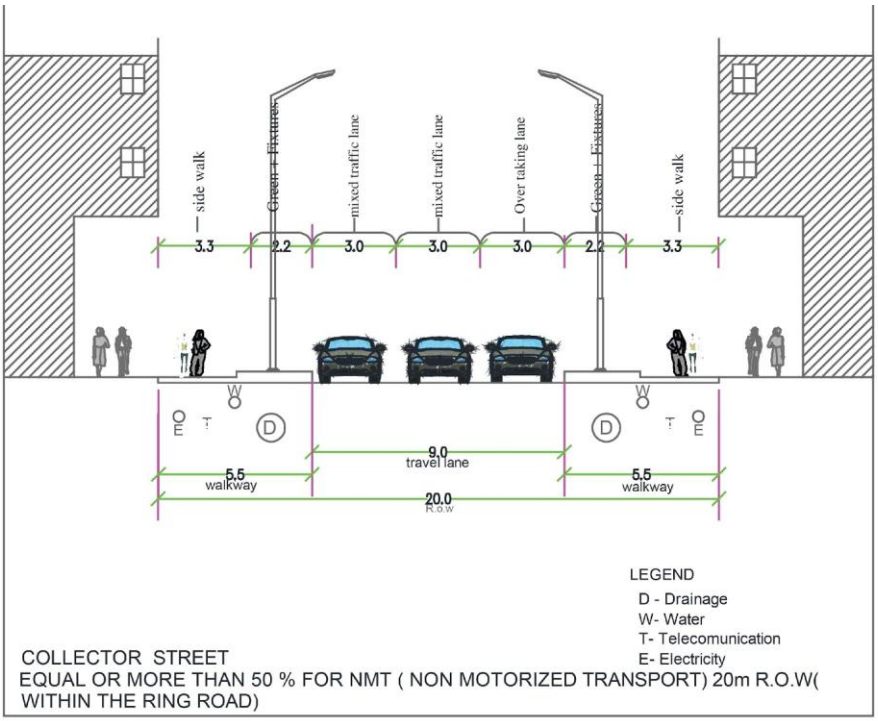


Figure 42 Street section of Collector Road inside the inner ring road

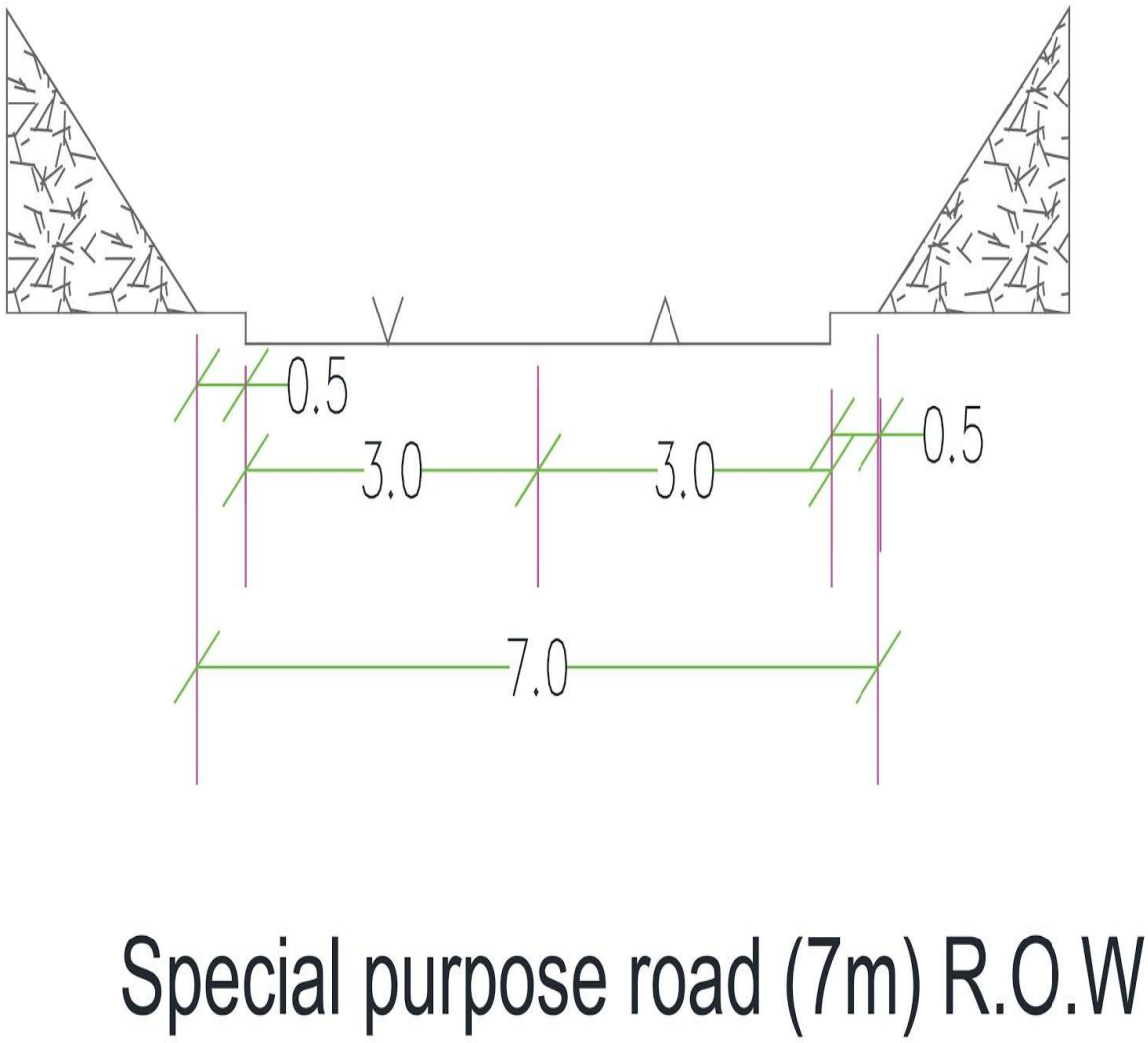


Figure 43 Street section of Special Purpose Road

	Typical footprint	Typical height	Locations and frequency	Ideally sited	Sample Images
Bench	2.4m by 0.75m	0.4-1.0m	Every 50 m in commonly used pedestrian areas, or more frequently on sloping footpaths. Provide also at bus stops and shelters	Within street furniture zone if zone is more than 0.9m wide. Within frontage zone if zone is more than 0.9m wide. At least 0.5m from the edge of the through route. At right angles to the through route.	
Bollard	0.3m diameter	0.6m to 1.2 m	As required, but no more than 1.4m apart.	At most 0.3m from kerb and wholly within street furniture zone.	
Bus stop **shelter**	2.6m by 1.4m	2.5m	As required by bus services	Where there are large numbers of passengers, within the street furniture zone. The through route width should be maintained which may involve using kerb extensions.	
Litter bin	0.8m diameter	1.3m	As required. Consider for areas where litter may be generated, such as bus stops transport interchanges and fast-food outlets.	Centred within street furniture zone if zone is more than 0.9m wide.	
Parking meter	0.3 m by 0.15 m	1.5 m	As required by on-street parking.	Centre of supporting post should be 0.8m from kerb.	

Planter	Varies	Varies	As required. More effective if much lower than human scale.	Within street furniture zone if zone is more than 0.9m wide. Removable planters are permitted within the frontage zone as long as they do not intrude into the through route.	
Light pole	Up to 0.6m by 0.6m	Varies	As required to provide a suitable lighting level	Centre of supporting post should be 0.75m from kerb or centred in street furniture zone if it is greater than 1.5m. Poles should be aligned along the road corridor.	
Pole – signal	0.55m by 0.55m	Varies	As required by standards for traffic signal installations	Centre of supporting post should be 0.75m from kerb or centred in street furniture zone if it is greater than 1.5m.	
Sign – public transport **Sign – parking** **Sign – street name**	65mm diameter pole 65mm diameter pole 65mm diameter pole	Minimum 2.5m Minimum 2.5m Minimum 2.5m	As required by bus-operating companies. As required by on-street parking.	Use existing signpost or utility pole to place sign. For new posts, centre of pole should be 0.45m from kerb with the closest edge of the sign 0.3m from the kerb. Use existing signpost or utility pole to place sign. For new posts, centre of pole should be 0.45m from kerb with the closest edge of the sign 0.3m from the kerb. Use existing signpost or utility pole to place sign. For new posts, centre of pole should be 0.45m from kerb with the closest edge of the sign 0.3m from the kerb.	

Table 46 Street furniture

2.5.2 Parking

Addis Ababa is organized in hierarchically arranged multi nodal city centres. It is envisaged that the multitude of activities in these centres will attract heavy traffic flow. Due to the value of land, the provision of on and off-street parking will be problematic. To alleviate existing and impending challenges associated with growing economic activities in these centres, a number of strategic sites for car parking are identified and indicated on the Structure Plan. Allotting space for car parking does not mean individual buildings do not require parking space.

STANDARDS

Street Parking

For mixed use urban setting, provision of street side parking is very important even though it impacts traffic flow as well as the smooth running of roadside activities. On street parking is only allowed on Arterial Street that does not have LRT and BRT lanes, and on collector and local streets. On Arterial Street with BRT and LRT lines,, only off-street parking is allowed. The pattern and orientation of parking arrangement is very important in all cases.

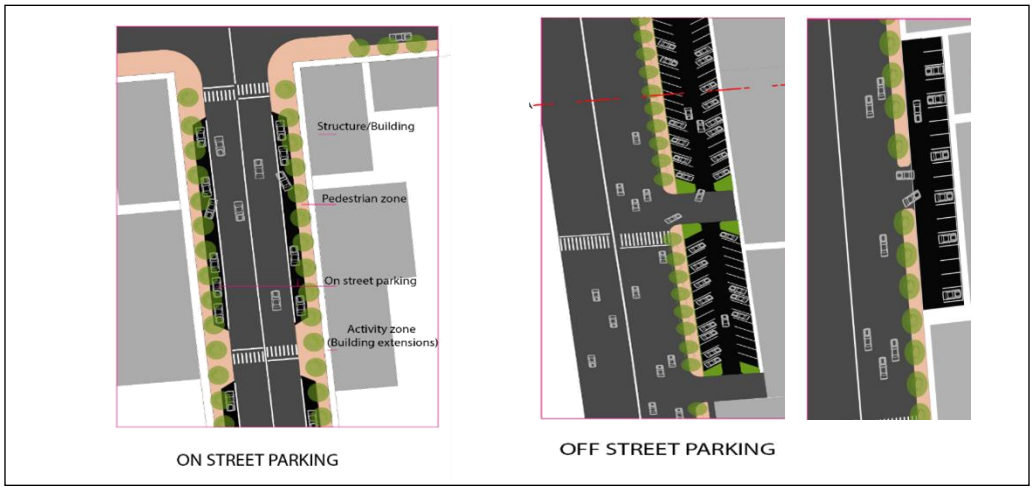


Figure 44 On-street and off-street parking

Car parking buildings

The following critical elements should be checked in the building permit provision process for a car parking building.

- Separate entrance and exit accesses. If separate access for entrance and exit is not possible, the minimum width of the entrance should be at least 5m.
- The entrance or exit of a parking building should have a waiting space for 2-3 cars, both before entering the parking building and the main street.

Parking requirement for individual buildings

In addition, each individual building should be able to accommodate the traffic generated due to its functions.

Table 47 Parking space requirement for buildings

Building Type	Parking Requirement
Rental apartment (flats) and condominium housing	1 car parking space /5 flat
Offices	1 car parking space /150 m^2 floor space
Supermarkets, department stores, shops, etc.	1 car parking space /150 m^2 floor space
Primary and secondary schools	1 car parking space /2 classrooms
Universities	1 car parking space /5 lecturers
Hospitals	1 car parking space /5 beds
Museums and libraries	1 car parking space /150 m^2 floor space
Hotels and motels	1 car parking space /5 beds
Theatres and Cinemas	1 car parking space /10 seats
Stadium	1 car parking space /10 seats
Restaurants, bars, cafes, pastries, etc.	1 car parking space /150 m^2 floor space

Park and Ride

To encourage the use of mass transport and decongest city centres, surface parking space is reserved at the three major secondary centres. It is presumed that people will park their car at these sites to board the available mass transport system. Subordinate functions like security, shopping facilities etc. can be organized near the park and ride sites.

2.5.3 Pedestrian Ways

STANDARDS

- Pedestrian ways should be provided on both sides of Collector and Arterial streets.
- Pedestrian ways should be raised 15-20cm above the carriage way.
- The capacity of a pedestrian lane should be 30 to 50 persons per minute.
- The gradient of continuous ramps should not be steeper than 10%.
- Signage should clear a minimum height of 3m aboveground.
- Cars should not be allowed to jump raised curb stones to park/ use pedestrian lane.

Table 48 Pedestrian lane width standard

Street types	Average Width Proportion of Pedestrian Ways
Ring road and TOD corridor	50 % of the right of way
Streets within the CBD	60 % of the right of way
Principal arterial, Sub arterial, collector street	30 % of the right of way

2.5.4 Junctions

GUIDELINES

Junctions are critical parts in a street system. Appropriate junction design facilitates traffic and ensures road safety. Determination of appropriate design of street junctions depends on the hierarchy and function of streets.

The junction between a local street, collector street and arterial street can have slow traffic with smooth passing lane and grade intersection. Street parking is possible. It is also possible to have many intersections as the minimum distance between two sub-arterial streets is 1km.

In general, allowing a left turn will obstruct smooth traffic flow. As much as possible, the turn should only be allowed at a street junction where automobile speed is low. A perpendicular right angle left turn around a green island will enhance the carrying capacity of street, decrease traffic congestion and minimize accident.

Table 49 Street intersection, spacing, junctions and crossings

Intersection	Vehicular junctions	Pedestrian crossing	Minimum Spacing between Two Successive Intersections
Expressway and expressway	Grade separation	Grade separation /only underpass and overpass	2km
Expressway and Boulevard	Grade separation	Grade separation /only underpass and overpass	500-1000m
Boulevard and Boulevard	Signals roundabout	Grade separated or signal controlled	500-1000m
Boulevard and Sub Arterial	Signals roundabout	Signal controlled	500-1000m
Sub arterial and Collector	Uncontrolled T-junctions or roundabout	Signal controlled	300m
Collector and local	Uncontrolled	Signal controlled	

Left Turn

Vehicle movement should not be obstructed by a left turn. Instead, vehicles should make a left turn at a right angle as indicated in the following figure to minimize obstruction and accidents.

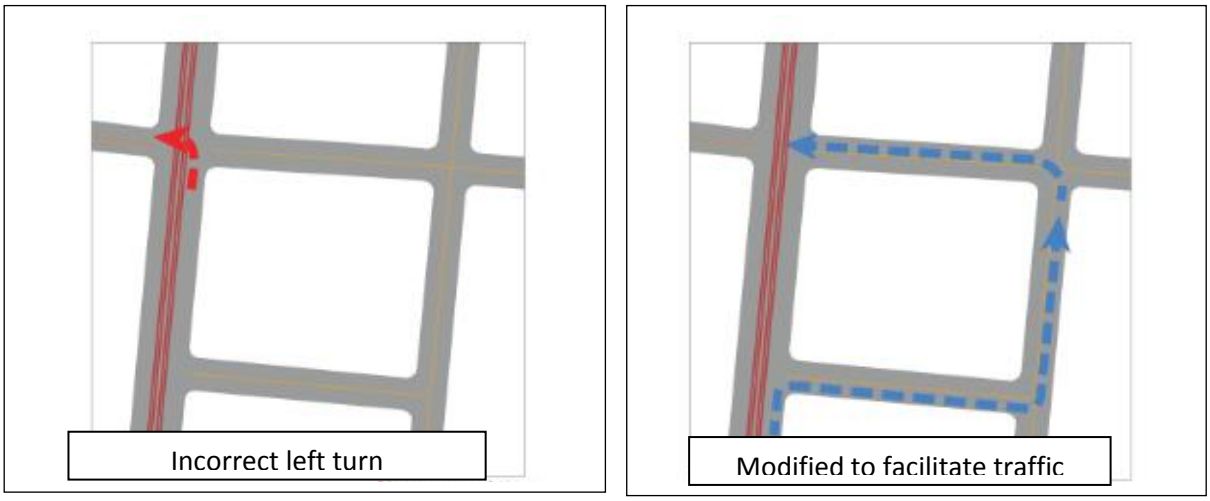


Figure 45 Left turn

Roundabouts

Roundabouts are most common in the urban setting than elsewhere. These types of junctions, if appropriately designed, can provide safe and continuous traffic flow. Roundabouts provide such advantages as forcing drivers to reduce their speed when they approach, do not require additional traffic management system (through traffic lights and police), and also eliminate dead-time at traffic light stops.

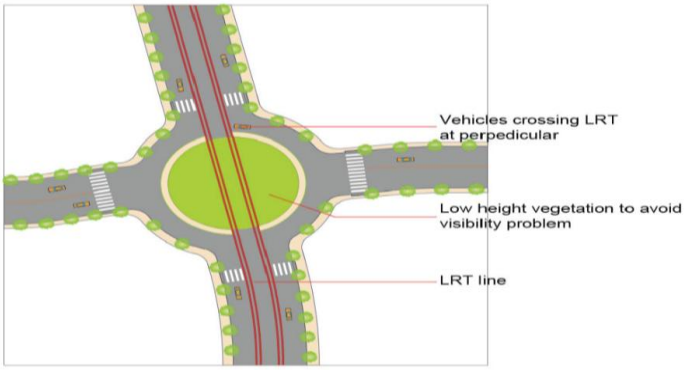


Figure 46 Roundabout

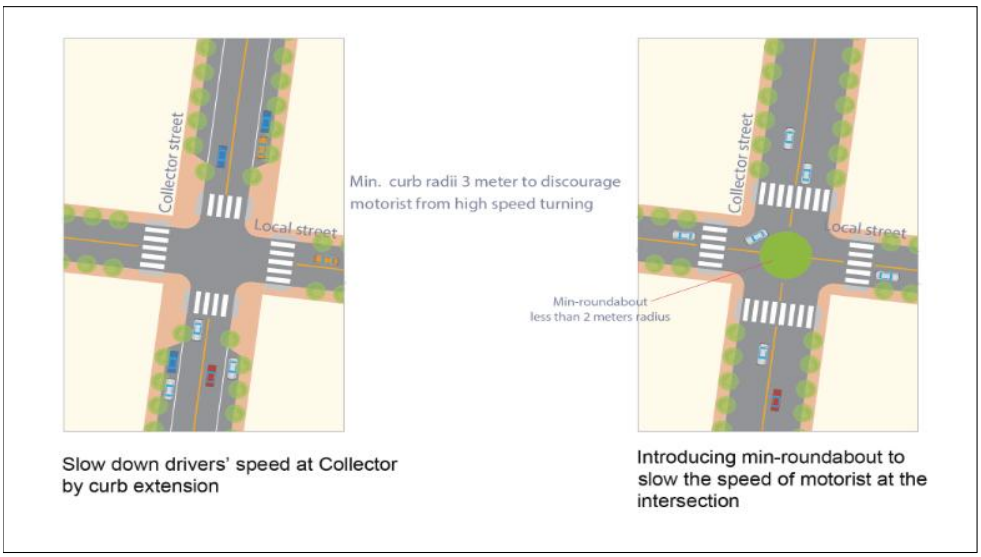


Figure 47 Collector and local street junction

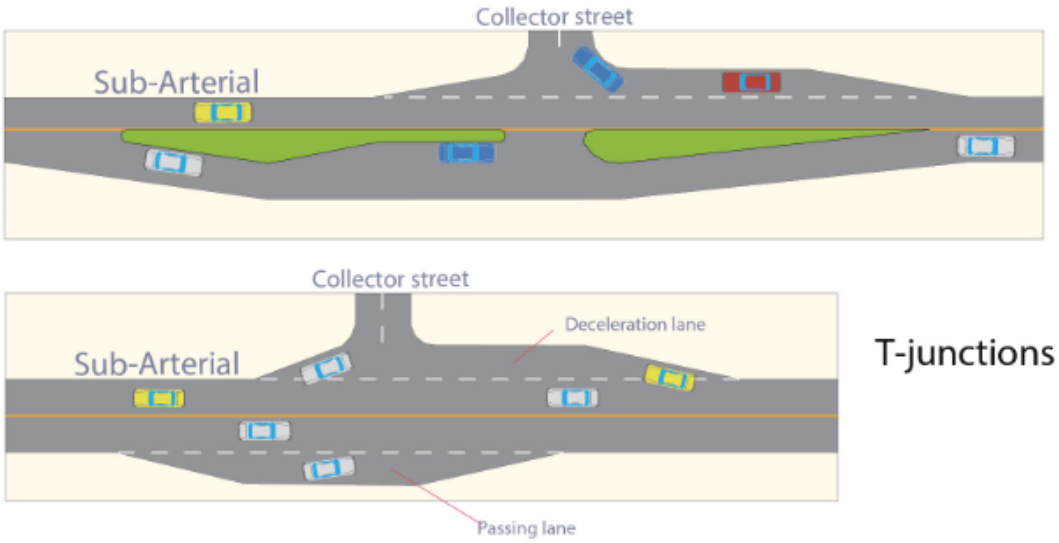


Figure 48 T-junction between Collector and Sub-Arterial Street

Sight distance and junction setback

Determination of building line especially at junctions depends on the speed limit of street. This applies on all streets except on expressways. The urban automobile speed is limited to 60 km/h. The minimum reaction time to stop a car in our context is about 5 seconds. The sight distance is about 83 meter. The minimum sight distance for local street (with the design speed of 20km/h and 5 minute reaction time) is 27.7m. Hence, by keeping the general standard of building line (i.e. 1m for local streets, 2m for collector streets and 3m for arterial street), the setback of building line from junctions should adapt the principle of sight distance.

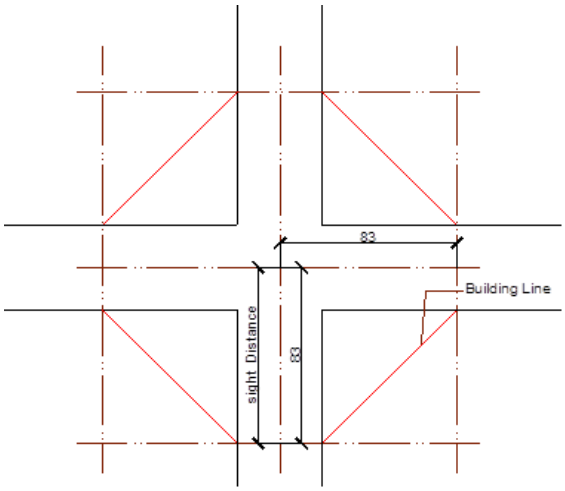


Figure 49 Building line at junctions

Additional Control Options

Roadblocks and road bumps: In principle, public roads should never be blocked by any physical obstruction like fencing or gates. However, road bumps for speed breaks are allowed under the following conditions.

- If the road width is >15m /local road/;
- If there are markets, schools, playgrounds and other similar services along the road; and
- If communities and other stakeholders in the neighbourhood made special request to the Plan Commission and their request was granted.

Angle design and radius of road curvature at junctions:

- The connection angle between two streets should not be less than 30º .
- The radius of road junction /junction curves/ should consider whether the roads are connected at acute or obtuse angle, the minimum curve radius should be 3m radius for plot boundary and 6m radius for vehicular carriage way.

2.6 Utility Infrastructure

Utility infrastructure is planned integrated with the street network's right-of-way.

STANDARDS

Water Supply
- Addis Ababa City → 130-150lpcd
- Public stands → 40lpcd

Table 50 Minimum horizontal distance between utility lines in meter

Water	Water	Sewer	Power line	Telephone, etc.	Gas line	Fuel line
	-	1.5	0.7	0.7	0.7	1.0
Sewer	1.5	-	1.0	1.0	1.0	1.0
Power line	0.7	1.0	-	0.5	0.5	1.0
Telephone, etc.	0.7	1.0	0.5	-	0.5	1.0
Gas line	0.7	1.0	0.5	0.5	-	1.0
Fuel line	1.0	1.0	1.0	1.0	1.0	-

Table 51 Minimum covering by soil or selected material of utility lines in meters

Utility	Covering
Water	1.5
Sewer	1.5
Power line	0.5
Telephone, telegraph	0.5 (above conduits)
Gas line	1.0
Fuel line	1.0

General standard for drainage, and sanitary and water supply line construction

- In no case shall a sanitary sewer be placed above a water main.
- Minimum requirement to locate water supply lines is 3 m from the nearest sewer or gas main.
- Water wells are recommended to be at minimum distances of 15m from septic tanks and sewers, 30m from drainage fields, and 45m from cesspools.
- A minimum depth of 2 to 2.5m below ground level is sufficient for sanitary sewer in parts of the city where basements are frequent.
- A depth of 1.25m of sanitary sewer line may be sufficient to provide protection against superimposed loads.
- Manholes at intervals of not more than 150m are required wherever a drain changes size, slope or alignment, and a tributary drain joins a main line in the drainage system.
- Fire hydrants should not be more than 500m apart to avoid excessive head loss in small diameter hose.

Electric line clearance standard

- The vertical clearance of the overhead current conductor from the ground shall at least be
    - 450cm for 0.4 KV bare overhead line.
    - 400cm for 0.4 KV aerial bundled conductors.
    - 600cm for 15 KV bare overhead line.
- The vertical clearance of the overhead current conductor from growing trees under the line shall be at least
    - 250cm for 0.4 KV bare overhead line.
    - 250cm for 15 KV bare overhead line.
    - In cases where the vertical clearance is lower than the above mentioned figures, the horizontal clearance shall be at least 400cm.
- When the horizontal clearance of the overhead current conductors of low voltage line from any part of a building is less than 200cm, its height above the referred part of the building should at least be 300cm.
- When the horizontal clearance of aerial bundled conductors from any part of the building is less than 50cm, its height above the referred part of the building should at least be 200cm.
- The horizontal clearance of 15 KV overhead lines from buildings shall at least be 300cm.
- The clearance of a dead-ended point of a current conductor line from a window or other similar openings of a building as well as from eaves of rooftops sloping towards the dead-end point of the line shall be at least
    - 100 cm for 0.4 KV bare overhead line.
    - 50 cm for 0.4 KV aerial bundled conductors.
- The vertical clearance of the overhead current conductor from the surface of a main road and railway shall be at least
    - 800 cm for 0.4 KV bare overhead line.
    - 800 cm for 0.4 KV aerial bundled conductors.
    - 850 cm for 15 KV bare overhead line.

- The vertical clearance of the overhead current conductor from the surface of public street and private drive ways shall at least be
    - 550 cm for 0.4 KV bare overhead line.
    - 500 cm for 0.4 KV bundled overhead line.
    - 600 cm for 15 KV bare overhead line.
- The minimum clearance distance a overhead line with supports or stays shall be 90cm. However, when it is possible, distance of 200cm is recommended.
- When the underground power line lies underneath a pedestrian way, the cable shall be buried at least at a depth of 100cm; and the horizontal clearance from the edge of a road shall be 90cm.
- When the underground power line lies underneath crossing asphalted road, the cable shall be encased in concrete pipe with a diameter of 20cm and buried at a depth of 100cm.
- High-tension line leading to 5 MW sub-station requires a corridor of 30m (15m buffer on either side).

Telecommunication line clearance standard

- The distance between two manholes or hand holes for duct cable installation should not exceed 200cm.
- Cables shall be placed in chambers or cable vaults/trenches in such a manner that they do not block vacant ducts and/or restrict working space.
- Aerial cable shall be regularly suspended at 50cm from top of each pole.
- The optimum pole span shall be approximately 40m and shall not exceed 50m without any strengthening measure.
- The covering depth from the top of PVC ducts to the ground shall be
    - Sidewalk, farm land, forest - 80 cm or more.
    - Carriageway - 100 cm or more.

Table 52 Minimum underground clearance between telephone lines and other utility lines

Utilities	Parallel	Crossing
Power lines	45 cm (short span)	45 cm
Water pipes	30 cm	15 cm
Sewerage	30 cm	15 cm

NORMS

- Utility lines underneath, on or above right-of-way of roads should apply the required institutional standard and shall not adversely affect road construction, maintenance, operation, or safety.
- Utility lines shall be installed underneath sidewalks as long as it does not create problems and obstruction for pedestrians, and/or difficulty of excavation.
- Utility lines must be installed in such a way that they can cause minimal visual and physical obstruction.
- Right-of-way space usage for accommodating utility lines should be minimized.
- Safety of users, passersby and utility lines shall be considered in the installation, operation and management of utility lines.
- Utility lines should be located with proper plan to minimize need for changes.
- Storm sewer should be located on the opposite side of the street from the water line.
- Conduits should be provided for utilities like road lighting, traffic signal, etc at the initial construction stage.
- Utilities requiring frequent servicing such as water supply lines and gas lines, should be encased or installed in tunnels for servicing without disrupting traffic flow.
- The horizontal and vertical location of utility lines within the right-of-way limits should confirm to the specific conditions of the particular road section.
- Attachment of utility lines to bridge structures should be avoided.

- Placement of power cables shall consider minimizing damage by traffic and providing safe access for inspection and maintenance.

2.7 Social Services

2.7.1 Education

Future requirement of schools are estimated based on future enrolment and the standard set by Ministry of Education (MoE). Scarcity of land is also considered.

MOE establishes national standards regarding optimum number of students and classrooms per school (kindergarten, primary and secondary) under a single and two shift systems. However, the plot size standards set by MoE cannot be applied for lack of space in Addis Ababa. Accordingly, the revised standard and means for economical utilization of land are recommended below to accommodate the required number of schools in the city.

STANDARDS

Table 53 Space requirement and building typology standard for schools

School Level	STANDARD PLOT SIZE (M^2)		
	HIGH DENSITY ZONE	MEDIUM DENSITY ZONE	LOW DENSITY ZONE
COLLEGE/UNIVERSITY	-	40000	40000
TECHNICAL SCHOOL	12000	20000	20000
SECONDARY SCHOOL (9-12)	12000	20000	20000
PRIMARY AND SECONDARY SCHOOL (1-12)	20000	30000	30000
PRIMARY SCHOOL (1-8)	12000	15000	15000
K.G, PRIMARY AND SECONDARY SCHOOL (K.G - 12)	20000	35000	35000

KINDERGARTEN	2500	2500	2500
K.G AND PRIMARY SCHOOL (KG - 8)	15000	17000	17000

Table 54 Minimum elements of different levels of schools

	Minimum requirements
Kindergarten	• Rooms for learning • Rooms for sleeping • Rooms for dinning • Toilet • Green space • playground
Elementary school	• Classrooms • Playground /basketball courts…or any other form of open space • Separate toilet for girls and boys • drinking water fountain
Secondary school and TVET	• Classrooms • Separate toilet for girls and boys • Playground, /basketball courts…or any other form of open space • water fountain
Colleges	• Class rooms

GUIDELINES

General considerations for choosing the location of schools are

- The specific nature and characteristic of services;
- The catchment area for which the service is provided;
- The location area of the users /serviced population; and
- The availability of appropriate of land (topography, size).

Secondary schools should be located

- Near intersection of roads and mass transport system;

- Within a walking distance (500m) from public transport services;
- Along collector roads; but at least 100m far from an arterial road;
- Within 3-5km of the respective catchment areas; and
- Bar, nightclubs, chat bet and shisha bet should be located at least 500m away from secondary schools or TVET.

In addition, the following should be considered

- Incremental development of schools through designed phasing should be encouraged.
- The plot area of schools can be reduced (in consultation with the Plan commission) when there is a possibility to construct multi-storey buildings.
- Appropriate governmental institution should check and follow-up that projects are realized according to the guidelines and standards.

2.7.2 Health

Based on future population projection and existing backlog, the number and type of health facilities to be developed is indicated in the Structure Plan. The space standard of the Ministry of Health (MoH) is customized to Addis Ababa's context.

STANDARD

Table 55 Health facilities and planning catchment

Types of Health Facilities	Population served	Remarks
Referral Hospital	1:5,000,000	• Should be located along public transport route. • Should be located in high density residential settlement and located at centre of service area. • Shall not be located adjacent to railroads, freight yards, and airports, grinding mill, traffic pools, industrial plants and waste disposal plants.
Regional Hospital	1:1,000,000	• Site should be within walking distance of secondary centres and mass transport services.
Health centre	1:25,000	• Within residential area; near intersection of residential roads; far from noisy activities. • Site should be accessible.
Health post	1:5,000	• Size for such services should be near a Kebele centre and with easy access to public transport.

Table 56 Area size requirement for health facilities

Types of Health Facilities	Plot size standards (M^2)	
	Minimum	**Maximum**
General Hospital	10,000	11,000
Special Hospital	7000	8000
Health Centre	4500	5000
Health Posts	1500	2000

Note: Similar with school, the minimum and maximum space requirement for hospital should be followed during LDP planning. Private developers can provide these services inside smaller plot sizes, but respecting the minimum functional requirements of MoH .

2.7.3 Sport Facilities

There are two types of sport facilities on the Structure Plan. These are community sport facilities and formal sport facilities. These facilities are established at different administrative levels to provide recreational services.

STANDARDS

Table 57 Sport facility standard per administrative hierarchy

Types of facilities	Plot size standards (M^2)		
	Woreda level	**Zone level**	**City level**
Stadium	29000	31,000	40,000
Sport complex/Gymnasium	4000	6000	9000
Swimming pool	7600	7600	12,000

Note: Playgrounds with an area of 0.2ha should be reserved in residential neighbourhoods and shall be administered by the community or Woreda administration.

2.8 Municipal Services

Such municipal service facilities as cemeteries, slaughter houses, and fire protection and control are provided by the City Government. These and other important facilities like cultural and civic centres require space. Each has its own standard based on population size, accessibility, natural resource and terrain.

Locating a new cemetery considers two major factors i.e. population number with the respective religion/denomination and accessibility. On the other hand, central locations and availability of arterial street are prime factors for locating fire protection and control stations. With ongoing massive development and redevelopment activities, increase in the number of high-rise buildings is expected, which also requires every station to be equipped with modern facilities.

2.8.1 Cemeteries

STANDARD

Cemeteries are planned taking into consideration population size and spatial growth direction. All cemeteries located outside the boundary of a religious institution are considered as municipal cemeteries.

- Develop standardized, economical and healthy burial practices through planned land utilization of cemeteries, use of "Fuka" and recycling, etc.
- Catchment radius 5-10Km.
- A 2m by 0.80m grave should be dug per body.
- Space requirement per burial with a gravestone/statue is 5.38m2, and 3.38m2 without.
- A green buffer strip of 100m should be maintained between residential housing areas and cemeteries.
- Maintain a setback of 20m from major roads.
- There shall be no interference by religious institutions on the management of a municipal cemetery.

2.8.2 Worship Places

STANDARDS

Spatial Standard for existing worship places

- Worship places are allowed only in a mixed residential zone.
- If worship places do exist inside environmental protection zones such as inside a multifunctional forest and a river buffer, only 5% of the permitted title deed area is allowed for construction of a building and related physical structure.
- Worship places should have access through a road with a width of at least fifteen meters (15m).
- The minimum plot area of a worship place is 1000m2 and the maximum is 5ha.
- Only schools, health facilities, home for elderly, feeding centre and similar facilities are allowed inside the compound of a worship place.
- The front view of the worship place, which is the view from the main access, should not be obstructed by a building.
- The structure for worship place should be constructed at least 10m away from the main street.
- The minimum distance between worship places for a similar religious denomination should be 1.5km.
- The minimum distance between worship places for different religions should be 100m.

2.8.3 Fire Control

STANDARDS

Fire and emergency station (focal points to dispatch services) are located throughout Addis Ababa. Spaces are reserved in all corners of the city, with special emphasis given to the city

core (due to high density high-rise development) and industrial area (due to the prevalence of accidents related to manufacturing activities).

The spatial standards to locate this facility are

- Minimum plot area of a fire station is 5,000 m^2, and the maximum is 10,000m^2.
- Fire hydrants should be located along all arterial streets, collector street and around water reservoirs. The distance apart should be as per the standard of the relevant public organization (Fire and Emergency Prevention and Protection Agency, FEPPA).
- Every public and apartment building should have system of fire protection (water sprinkler, smoke detector and related new technologies).

2.8.4 Abattoir

STANDARDS

Allocation of land, waste disposal and treatment design and construction requirements, of abattoirs should be guided by the standards and regulation of the Ethiopian Livestock Authority. General norms and standards of location are stated below:

- A slaughter house or an abattoir cannot be mixed with residence or commerce. This facility should be built only on land reserved for such purpose by the Structure Plan or in industrial zone.
- It should be at least 2km away from sources of water (e.g. deep wells, ponds, lakes, etc.).
- Its location should be against the prevailing wind direction of the town.
- The site should be free from big trees that may harbour scavenging birds.
- It is preferable if the slope is about 5% to protect the facility from rainwater runoff and runoff from the dirty part of the premise.
- It should be accessible at least with a compacted gravel collector road.
- It should be located at least 5km away from runways of airports.
- It should not be located in expansion areas.
- Infrastructures such as water supply, electricity, etc. should be available.

Table 58 Area standard for abattoir

Type of Abattoir	Capacity	Required area (ha)	Maximum Site Occupancy of Structure (% of site area)
Small abattoir	Up to 50 cattle/day and 100 shoats/day	1-1.5	50
Medium abattoir Satellite	50-75 cattle/day and 100-200 shoat/day	1.5-2	50
Higher abattoir	75-100 cattle/day and 250-300 shoat/day	2-2.5	50
Export abattoir	An average of 90 cattle/day and 225 shoats/day	1.8-2	50
Shoat Abattoir	An average of 60-100 shoat/day except on holidays	0.05-0.1	60

Source: MWUD (2006)

Note: The maximum site occupancy is only for the built super structure, the remaining shall be used for circulation, greening and independent waste treatment facilities.

2.8.5 Cultural and Civic Centres

The Structure Plan proposes different hierarchically organized recreational and cultural facilities at different administrative levels. Cultural facilities such as museums, art galleries, amusement centres, festival sites, and civic centres including youth centres are few examples. These cultural and civic centres are part of the different hierarchy of urban centres and their respective functional elements are listed in section 2.10.

2.9 Centres[6]

As important multi-functional activity nodes, centres are important structuring elements of the urban form and land uses. Services are organized hierarchically in centres.

Important parameters that need to be considered in local development plan for a centre are:

The mix of functions: different uses need to be availed in centres. Table 59 and 60 show the list of basic uses that need to be incorporated per hierarchy of centres. Although centre use will predominantly consist of office space and retail facilities, mix of residential area is mandatory. In the MCC, 30% of the total floor area of a building is planned for residential use.

Density: overall gross residential density is 150 hu/ha in the Main City Centre (MCC). The viable residence to working area ratio in the MCC ranges from 1:3 to 1:6. The minimum FAR is 10 for the MCC and 5 for sub-centres.

Mobility and transport system: Centres should be walkable districts. Hence, streets in centres should be pedestrian friendly. The preferred mode of transport to access centres is mass transit system. At least 50% of streets have to be dedicated for NMT transport. Vehicular through movement should be discouraged. Parking facilities need to be organized in forms of multilevel aboveground or underground parking structures.

The streetscape design: Universal accessibility, easy movement and proper pedestrian comfort has to be given due emphasis. A minimum walkway width of 3m is mandatory. Adequate street furniture has to be put in place. The street walls, ground floors of buildings need to be highly interactive with passersby.

Public plazas and park development: Different size parks that give quality to the centres and resting place to passersby, visitors and inhabitants; and plazas in conjunction with large commercial complexes, civic activities, and mass transport stations need to be designed.

Urban quality and landscaping: harmony between building scale and massing, façade treatment, but also proper design of the space between buildings and the streetscape all contribute to the quality of the centres.

[6] Refer to the detail plan, urban design and land use regulation of MCC for implementation guidelines and standards adapted for the development of different districts of the Main City Centre.

Identity and character: attributing or enhancing the peculiar identity of centres through spatial configuration, vistas, landmark sites, symbolic architecture has to be considered in the detail urban design.

STANDARDS

Table 59 Catchment and area requirement for a Secondary Centre

Population to be served		**1,000,000**	**2,000,000**
		Area need (ha)	**Area need (ha)**
Types of facilities			
Business and retail			
Commerce		2- 4 ha	4- 8 ha
Hotel/restaurant		0.6- 0.7ha	1- 1.5ha
Financial institution		0.4- 0.6ha	1- 1.5 ha
Civic and leisure			
Recreational		1.5- 2.3 ha	3- 5 ha
Cultural centre		5- 8 ha	10- 16ha
Sport complex		7- 10 ha	14- 20 ha
Green area		40- 60 ha	80- 120 ha
Major facilities			
General hospital		2.3- 3.3 ha	5- 7 ha
Specialized higher education		2-3 ha	4-6 ha
Home for aged/handicapped		1-1.5 ha	1-1.5 ha
Specialized workshop		4- 7 ha	8- 14ha
Administrative centre		1- 8 ha	2- 16 ha
Fire Brigade		0.25-0.5ha	0.25-0.5ha
Utility/Service/ Office		0.25-0.5ha	0.25-0.5ha
Intermodal Terminal		6.5 ha	6.5 ha
Total		**115.9**	**224**

Table 60 Catchment and area requirement for a Tertiary Centre

Population to be served		**300,000**	**600,000**
		Area need (ha)	**Area need (ha)**
Types of facilities			
business and retail			

Commerce	0.6- 1.2ha	1.2-2.4 ha
Financial institution	1.2- 1.8ha	2.4- 3.6 ha
Hotel/restaurant	0.2- 0.25ha	3.6- 5 ha
Civic and leisure		
Cultural centre	1.5- 2.4ha	3- 5 ha
Recreational	0.5- 0.7ha	1- 1.4 ha
Sport complex- zone stadium	2- 3ha	4.2- 6 ha
Green area	12-18ha	24- 36 ha
Major facilities		
Specialized high school	0.6- 1ha	1.2-2 ha
Specialized workshop	1.2- 2.1ha	2.4- 4.5 ha
Administrative centre	0.3- 2.5ha	0.6- 5ha
Fire Brigade		0.25-0.5ha
Utility/Service/ Office		0.25-0.5ha
Total	**34.25**	**71.9**

Table 61 Catchment and area requirement for a Woreda Centre

Major facilities	Area (ha)	Issues to consider
Woreda administration complex	0.5- 1	
Meeting hall		
Cultural and sport activities		
Public library	0.25-0.5	
Youth centre	0.25-0.5	
Recreational facilities	1-1.5	sport fields, gymnasium, and previous Kebele recreation centres if they exist, etc.
Woreda police station	0.25- 0.5	
Woreda health centre	0.5-1	
Woreda market area	1-1.5	Open markets, shops, MSE display and shops, street-side commercial activities, etc.
Total	**3.75-6.5**	

Note: Each Woreda's context and existing facilities need to be considered.

GUIDELINES

It is possible to design fully equipped Woreda centres in the periphery on vacant land. Detail studies for Woreda centres in the built up part of the city need to look into the following issues:

- Assess all existing Woreda administrative functions and facilities within the Woreda boundary.
- Evaluate if existing facilities are easily accessible to all living in the Woreda and determine which shall continue where they are.
- Design the Woreda centre site so as to incorporate the missing facilities into a well-organized centre.
- Private lots located within the boundary of the Woreda Centre will need to be compensated duly and resettled nearby. Possibilities of reallocating former Kebele administration office holdings for resettlement can be investigated.

2.10 Market Area

Different market types with different hierarchies are planned throughout the city. Most market areas are planned as part of commerce. However, in the case of small open markets (Gulits), the market could be setup with minimum structures like shades and stalls with parking and public toilet. Such small market could be setup as required by lower level administrations in a mixed land use. Livestock markets are located in specific locations by taking into consideration the direction of livestock flow and future urban growth pattern.

2.10.1 Market Hierarchy

STANDARDS

Table 62 Market hierarchy and location

Market hierarchy	Catchment area	Catchment radius (km)	Market area (ha)	Service standards
Primary	City/national/ international		115	Selective/wholesale

Secondary	One trip/mass transport	5-7	4-6	Specialized shops/high order goods/supermarket /department store
Tertiary	Walking distance	1-2	1-2.5	Mini- supermarket/food items and services
Local level	Walking distance/ neighbourhood level	0.5-0.75	0.25-0.5	Open or covered market accessible with short distance

Note: The area required for circulation is nearly 10.25 percent of the total area reserved for the market.

GUIDELINES

Existing Market Rehabilitation

Efforts to rehabilitate existing markets should incorporate the following.

- Project detail design- appropriate building design, site layout, flow of people and goods.
- Provision of adequate infrastructure- utilities lines (water, power, sewer and drainage).
- Pedestrian comfort- paved walkway surface, shade trees, benches, dustbins, free movement zone (no obstruction by displays).
- Garbage collection system, adequate disposal site and public toilets.
- Safety and security.
- Mass transport accessibility.

New open market design

Open markets catering for low and middle income citizens will specialize in the trading of low order goods and services. Hence, such markets do not require building complexes.

- Simple shade structures with adequate stall layout.
- Well surfaced non-slippery walkways.
- Public toilets.
- Proper garbage collection and disposal.

2.10.2 Livestock Markets

The Structure Plan identifies potential locations for cattle markets along the main entry points to the city. Livestock market development will adapt appropriate design standards and shall include spaces for trading cattle and equine animals. Shoat markets will be accommodated in mixed residential areas as home slaughtering is expected to continue into the foreseeable future.

STANDARDS

Table 63 Livestock market standard

Level of Service	Number of Livestock			Area Required in m^2			Total Area in ha
	Cattle	Shoats	Equine	Livestock	Circulation	Facilities*	
Local	≤ 500	≤ 1000	≤ 20	2830	290	1040	0.42
Tertiary	750-1000	1500-2000	30-40	4245-5660	435-580	1560-2080	0.62- 0.83
Secondary	1500-2000	2500-3000	50-60	7950-10240	815-1050	2922-3763	1.17- 1.51
Primary	>3000	>4000	70	14730	1510	5413	2.17

Note: The area required for circulation is nearly 10.25% of the total area reserved for the market. 3.5m^2 per cattle, 0.90m^2 per shoat and 4.5m^2 per equine have been assumed to determine area required for livestock market. Moreover, facilities include administrative office, public toilet, incineration facility for solid waste, water reservoirs, etc.

GUIDELINES

Livestock market development should consider the following issues.

- Location should be along collector roads with 10m setback from road right-of-way.
- Easily dismountable shade structures.
- Adequate water supply and waste disposal systems.
- Simple see-through fencing with adequate safety and security.

2.11 Historical Buildings and Sites

GUIDELINES

The following guideline should be adapted in the local development planning with regards to historical buildings and sites.

- Historical buildings can be used for other uses (e.g. restaurant, art gallery, library, museum, souvenir shop, etc.) depending on the condition they are in, location and their sentimental/cultural value.
- Monuments and statues should be supplemented with green areas, seats and pedestrian path.
- Only low rise buildings of (not more than G+2) shall be constructed within 20m radius from identified historical building or site.
- The front view of a historical structure should not be obstructed by new structure.

2.12 Special Projects

STANDARDS

One of the objectives of the Structure Plan is to create conducive environment for high-end services in order to make the city competitive at the Global stage.

Table 64 Area standard for special projects

Special projects	Minimum area per special project inside Main City Centre and high density corridor	Minimum area per special project outside Main City Centre and high density corridor	Mandatory urban functional requirements
Five+ Star Hotel	5000m2	5000m2 -10000m2	Green area Parking space
Specialized	4500m2	10000m2	

Hospital			
Shopping Mall	5000m2	10000m2	Green area Parking space Shopping mall must accommodate street side shopping to make the street active
Horse field, golf course , amusement parks, etc.	As indicated on the Structure Plan map	As indicated on the Structure Plan map	
Recreational Watchtower	As indicated on the Structure Plan map	As indicated on the Structure Plan map	Except the watchtower, other uses are not allowed.

2.13 Protected Areas

2.13.1 Underground Water Protection

Addis Ababa gets its water supply from surface and underground water (boreholes) sources. Protecting these sources from pollution is mandatory.

Underground water sources are difficult to protect and the most viable option is bit different from the way surface water is protected. The catchment is vast, and it is not possible to protect all areas from physical development. But certain points in downstream areas, where the water table is close to the surface, are areas for intervention.

GUIDELINES

- Manufacturing and storage development are not allowed in water protection zone.
- Urban agriculture is allowed in the protection zone but without fertilizer/chemicals.
- Low rise residential development that bring minimum impact is allowed.

2.13.2 Aviation Zone

The area around the runway of the airport is subject to strict regulations especially regarding land use and building height.

STANDARDS

Table 65 Maximum building height in aviation restricted zone

Zone	Description
Aviation zone A	No construction is allowed except aviation related building
Aviation zone B	(Run way Elevation)a +45 meter –project site elevation
Aviation zone C1	(Run way Elevation)b +(2% X) –project site elevation
Aviation zone C2	(Run way Elevation)a +(2% X) –project site elevation
Aviation zone D	(Run way Elevation)a +55 meter –project site elevation

Note: (Runway elevation) a = 2312 meter; (Runway elevation) b = 2318 meter.
X is the distance from the object parallel to extended runway centre line perpendicular to L1 for C1; and distance from the object parallel to extended runway centre line perpendicular to L2 for C2

GUIDELINES

In aviation zone A,

- High density residential development is not allowed.
- Smoke and fume emitting development is not allowed.
- land uses that attract large birds are not allowed.

2.13.3 Quarry Site

Quarry sites to extract natural resources (stones, red-ash, and gravel) for construction purposes are planned for temporary use. The regulation on the development of quarry site principally focuses on how to achieve healthy exploitation and return the site for permanent land use. These are important guidelines for exploiting quarry sites.

GUIDELINES

- Quarrying activities for the exploitation of resources should come prior to any housing or environment protection project on-site.
- Deep excavation is strictly prohibited. Excavation and extraction should be to a degree that the quarry can be reused for other allowable land use after abandonment.
- Abandoning a quarry by leaving it open is strictly prohibited.
- Filling up a quarry with dirt, waste, etc. for reclaiming the land is prohibited.
- Depleted quarry should be properly rehabilitated with green, water feature, landscape etc.

2.14 Urban Redevelopment

Different from the previous nine plans of Addis Ababa, the implementation of the new Structure Plan heavily relies on urban redevelopment. Redevelopment of a specific locality should respect the following basic standards.

STANDARDS

- Except in the City Main Centre, all dwellers affected by urban redevelopment should be resettled on site within 500m of their original home; and the plan should clearly show how.
- Except in the City Main Centre, private owners (lease or non-lease) should be given priority to redevelop the site their property lies on.
- If there is no land available on redevelopment site for private homeowners and relocation is inevitable, compensation should include the provision of land in the city and finance for the construction of similar property.

GUIDELINES

- Urban redevelopment plans should be supported by financial plans.
- Detail urban design should be prepared for all urban redevelopment projects.
- All urban redevelopment intervention should be based on detail local development plans.
- The core concept of an urban redevelopment plan should be endorsed by the affected communities living and working in the site before the plan is approved by the City Government.
- All urban redevelopment projects shall be implemented during the plan period (10 years).

2.15 Environmental Impact Assessment

A large share of the city's land use is reserved for environmental related functions (multifunctional forest, river buffer, parks, etc.). However, during project and detail planning at site level, an environmental impact assessment should be done. The following plans require environmental impact assessment studies.

- Redevelopment plan;
- Centre development plan;
- Neighbourhood plan (Housing Development Plan);
- Street design;
- Riverside Development Plan;
- Public Park Development Plan (from city to neighbourhood levels);
- Market area development plan;
- Special project development plan; and
- Industrial site spatial plan.

3. The Strategic Plan

3.1 Introduction

Rapid urbanization in 21st Century Ethiopia comes with its own challenges. The effective management of this urban transition is more urgent in Addis Ababa. In spite of significant achievements registered in economic growth, acute and widespread poverty still persists in the capital. Low levels of employment and labour productivity, lack of adequate housing and transport services are pressing challenges. Other basic services including in drinking water, sanitations and sewerage, and electricity are lacking. This has a detrimental effect on creating and maintaining a liveable environment. It also impacts productivity and hence, the potential for development. Serious capacity constraint to deliver these utilities and social and economic services has often been cited as one major reason. Lack of a transparent and accountable system of administrations is also a major impediment. In addition, lack of strategic planning and management capabilities, also observed in the absence of comprehensible development strategy, lack of norms and standards for development activities, weak regulation and enforcement by implementation agencies, and lack of finance.

With regards to strategic planning, the Addis Ababa City Development Plan (2002-2012) made a ground breaking effort to facilitate its implementation by developing a five-year Strategic Development Action Plan (SDAP). Nonetheless, due to a number of interrelated problems, it failed to materialize. The fact that it was not ratified by law and was designed with minimum stakeholder involvement contributed to this. More importantly though, it could not muster the commitment of the leadership as the city administration including Mayors have changed more than five times since its design.

Strategic planning is necessary to achieve tangible and sustainable results. By focusing on existing advantages, without disregarding prevailing and potential impediments, it enables coordinated and efficient intervention in moving from plan to action. Strategic planning facilitates making short-term decisions based on long-term implications. Its process also enhances buy-in from the relevant stakeholders. More specifically, strategic planning can provide the following benefits.

- Prioritizing and being selective in interventions allows that available resources are put to the best possible use;
- Its process provides opportunity for dialogue, consensus and ownership;

- Its focus provides clear direction and allow effective coordination in implementation;
- Its detail in cost break down and activities facilitate monitoring and evaluation, and thus ensure transparency and accountability;
- It allows to make short term planning (e.g. annual plans) not only to implement step-by-step the enumerated activities of projects, but also to plan for countering existing/potential impediments against the realization of the projects; and
- Its specificity in terms of particular projects, time frame and location enhances efficiency.

Building on these and the experiences of the previous attempt, the new strategic plan of the Addis Ababa Structure Plan is designed with a detailed cost breakdown of prioritized projects and sources of finance, implementation tools including the necessary activities to be undertaken by the respective implementation agencies. This ten-year strategic plan has two phases (the first five-year EFY 2008-2012) and second five (EFY 2013-2017) and the second five-year). Regardless of changes in the city's leadership, it will serve as a roadmap that the City Government can follow with regards to directing public sector investment decisions and making related policy interventions.

The main objective of this strategic plan is therefore to build consensus, and enable planned and coordinated intervention by implementing agencies. It is developed with the aim of achieving the national vision as well as addressing current (and potential) challenges of the city.

The major approaches adapted in its design include,

- Negotiating and building consensus on the overall direction with the relevant stakeholders;
- Establishing concrete first-five year and second-five year goals for each project; and
- Revising the mission and overall direction of implementation agencies accordingly.

The strategic plan serves as major long-term development framework comprising two medium term (five-year) plans. Based on five criteria (i.e. poverty and unemployment, revenue, city image, urban quality, and spill over effect and linkages), five thematic issues were selected from the Structure Plan to prepare the long term implementation framework. Each of the thematic issues of the Structure Plan is weighed against its contribution to poverty reduction and unemployment; investment promotion, improving the living standard of residents and the revenue of the City Government; enhancing the city's image as the African Capital; reducing pollution, keeping the city clean and green; and stimulating the city's economy and economic linkages. These criteria were developed to achieve the overarching national vision of reaching a

middle income status by 2023. In addition, the extent of the prevailing challenges), the feasibility of the projects or investment requirement vis-a-vis financial resource capacity and affordability, and human resource capacity were taken into consideration in the selection process. Accordingly, the thematic issues singled out (i.e. **Transport and Road Network**, **Housing**, **Centres**, **Environment**, **and Industry)** as potentially having a significant effect on the stated criteria. Moreover, recognizing the overall effect and cross-cutting implication, **Capacity Building** makes the sixth component of the strategic plan. Based on their significant impact, a number of special projects related with urban agriculture and tourism, and the city's economic development strategy as indicated by the Structure Plan are also included. The role of Micro and Small Enterprises is also recognized; and thus, its development is incorporated in each of the selected thematic areas and projects.

3.2 Transport and the Road Network

3.2.1 Transport

LRT

The Structure Plan allocates 50-60% of the city's roads (inside the inner ring road) for non-motorized road use. And regarding public transport, expansion of LRT and BRT projects, modernization of the Anbessa City Bus are proposed. Accordingly, the LRT (now 34km) will extend to 64km over the first five years, which will be from Ayat to Tafo roundabout, from Ghiorgis to Shiromeda, from Torhailoch to Jemo-Lebu Centre, and from Kality Interchange to Kality Centre.

BRT

With regards to the BRT expansion out of the total 64km, the subsequent lines to be built in the first five years are B2 (22km) Winget-Merkato-Mexico-Gofa Gabriel-Gofa condominium-Mekanisa-Jemo, B4 (19km) Shiromeda-Arat killo-Megenagna-Kotebe-Karalo, B5 (11km) Megengna-Bole Airport-La Gare, B14 (11km) Emperial-Goro-Bole Arabsa . Similarly, in the second five years, 65.1km will be built, which will be B1 (7.5km) Winget-Holland Embassy-3 Kutir Mazoria, B3 (16km) Gullele-La Gare-Gofa Gabriel-Lafto HanaMariam, B6 (9km) Torhailoch-Lideta-Kera-Bole, B7 (12.6km) Wolete Suk-Ayertena-Total-Bisrate Gabriel-Pushkin Square-Mexico roundabout, B8 (12km) Ayertena-Total-Bisrate Gabriel-Pushkin-Mexico, B9(8km) Bole-Ureal-Casainchis-Arat killo-Sidist Killo-Ferensay.

Public Buses

The number of Anbessa city bus fleet shall increase to 1600 over the first five years, and will reach 2400 at the end of the second five year. In addition, more private sector involvement in the public transport sector is envisaged.

Implementation tools

The following implementation mechanisms will be used to implement the above proposals.

- Harmonize all modes to provide transport services covering all lines;
- Establish an institution that coordinates the flows and smooth operation of public transport, which is supported by modern IT;
- Enhance maintenance capacity;
- Provide tax holidays and/or reduce custom tax to the private sector for the importation of public buses;
- Provide continuous traffic management awareness for users through public media; and
- Provide standard traffic light and signs at street junctions and roundabouts.

NMT

50% of the proposed roads are going to built inside the existing inner ring road in the first five years, and 60% of these inside the main centre will be allocated for non-motorized transport, while a slightly less proportion (50%) of the roads inside the inner ring road but outside the main centre will serve NMTs. Usage on roads along high density corridors will adapt the same (50-50) proportion, while LDPs will specify the respective proportions inside secondary and other centres. The remaining 50% of the proposed roads are all to be built outside the inner ring road in the second five years, and will dedicate 30% to NMTs.

Roads from the National Theatre to La Gare will be allocated for only pedestrians and public transport in the first five year. The Piazza-Adwa Avenue and Merkato around Adarash will be dedicated for only pedestrian usage and public transport in the second five year.

Multi-storey Car Parking

Overall, 60 parking buildings will be built in different parts of Addis Ababa in the coming ten years, 30 in each five-year.

Park and Ride

In addition, park and ride facilities will be built in Ayat, Jemo-Lebu Centre, and Kality regional terminal over the first five years, and at Asco and Addisu Gebya in the second five years.

Freight Terminals

In the first five years, a modern railway station has been proposed to be built at La Gare, and Taxi and bus stations are proposed to be built the same place in the second five-years phase. As stated in the structural plan in Addis Ababa six freight terminals at Akaki, Kality, Fillidoro, Bole Kotebe (Goro), Tulu Dimtu, Ayertena (Repi) will be built in the first five years.

Finance

About 18.9 and 8.7 billion birr are required in the 1st and 2nd five years planning period, respectively. Overall, a total amount of 27.7 billion birr is required in the ten year planning period.

Implementation tools

The following mechanisms are recommended to implement the above proposals.

- Existing and proposed new roads required to be favourable for non-motorized transportation;
- Constructing underground parking in the long run, and linking park and a ride with malls and marketplaces;
- Strictly forbidding the movement of freight trucks inside the inner ring road from 6:00am-8:00pm and building stations for loading and unloading;
- Supporting annual vehicle status check-up with sudden on-the road compulsory vehicular checkups.
- Construct modern city bus stations;

- IT based traffic controlling with trained and qualified professionals, and use F.M radio traffic information dissemination.

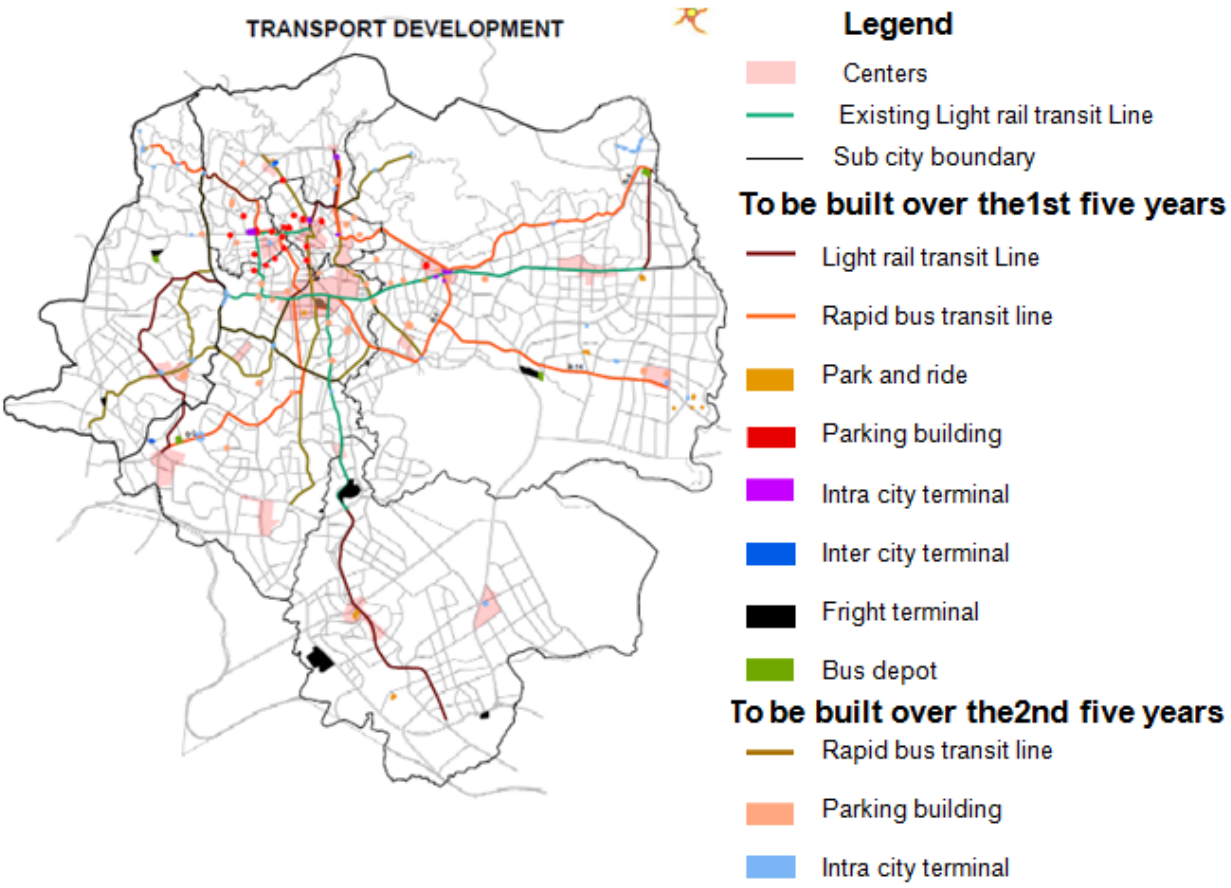


Figure 50 1st and 2nd five-year projects for efficient transport

3.2.2 Road Network

Roads to be built in the city are selected and prioritized on the basis of their contribution to facilitating connectivity and productivity. The selected roads, however, do not include the roads that the respective LDPs will propose. Therefore, the number and length of roads is expected to increase when LDP road proposals are included.

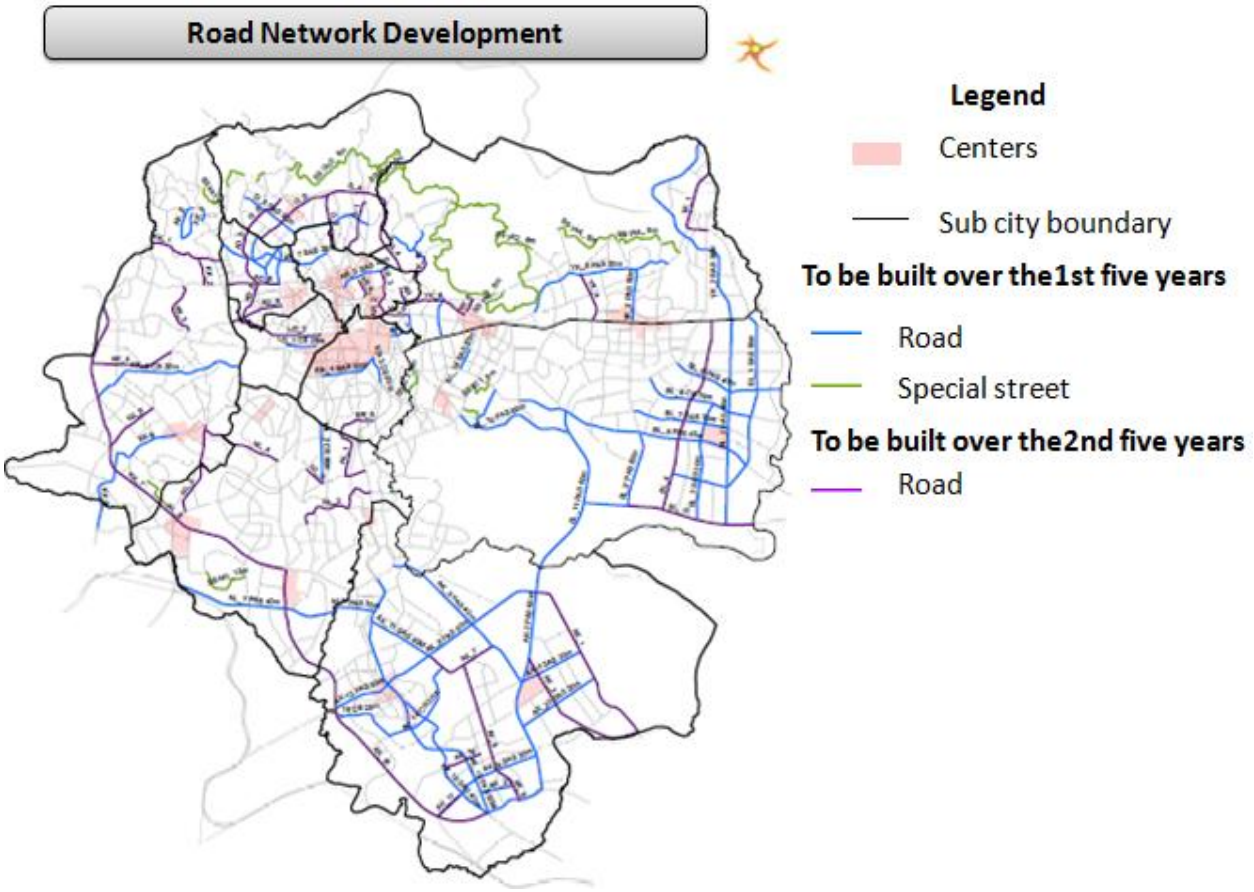


Figure 51 1st and 2nd five-year road projects

Table 66 Roads to be constructed at sub-city level

Sub-city	Number of roads	The 1st 5 years (km)	To build over the 2nd 5 years (km)	Total (km)
Lideta	2	1.1	0.5	1.6
Arada	5	1.7	3.3	5.0
Kirkos	5	5.2	1.5	6.7
Addis Ketema	7	8.7	8.8	17.4
Gullele	6	5.4	15.1	20.4
Nefas Silk-Lafto	8	9.5	17.9	26.3
Kolfe-Keranio	10	14.9	18.9	33.4

Yeka	12	22.7	6.3	29.0
Bole	14	70.8	11.6	82.2
Akaki-Kality	21	78.5	28.1	108.1
Total	90	218.2	112.0	330.2

The total number of roads proposed to be built over the coming ten years is 90. In length, this will come to 218km in the first five years and another 117km in the second five years. New residential settlements are expected in expansion areas such as in Yeka and Bole sub-cities. Therefore, relatively more new roads are proposed in this area. In addition, parts of Gullele and Akaki sub-cities are expected to be developed as centres. As such, the number of new roads proposed in these sub-cities are also relatively higher.

Implementation tools

The following mechanisms are recommended to implement the above road proposals.

- Involvement of experts in urban design and urban planners in road design;
- Continuous capacity building for those participating in road design and road construction;
- Decentralization of road maintenance services;
- Continuous monitoring of roads using road cadastre;
- Community participation in the construction of local roads;
- MSE involvement in the production of different materials required for the construction of roads;
- All new roads must follow the standard stated in the Structural Plan and under Norms and Standards (following section);
- Upgraded standard of road construction;
- Give more attention to pedestrian friendly designs;
- Reserve appropriate lanes for mass transit lines; and
- Plan local and collector roads to support vehicular and pedestrian mobility.

Finance

To construct 330km of roads over the 1st and 2nd five years, a total of 8.32 billion and 5.02 billion birr are required, respectively.

3.3 Housing[7]

Main housing development goals are:

- Increase the housing stock in the city with particular focus on affordable housing;
- Improve the quality of the housing stock and the living environment;
- In-situ redevelopment;
- Ensure balanced social and land /building use mix; and
- Achieve compact and green development.

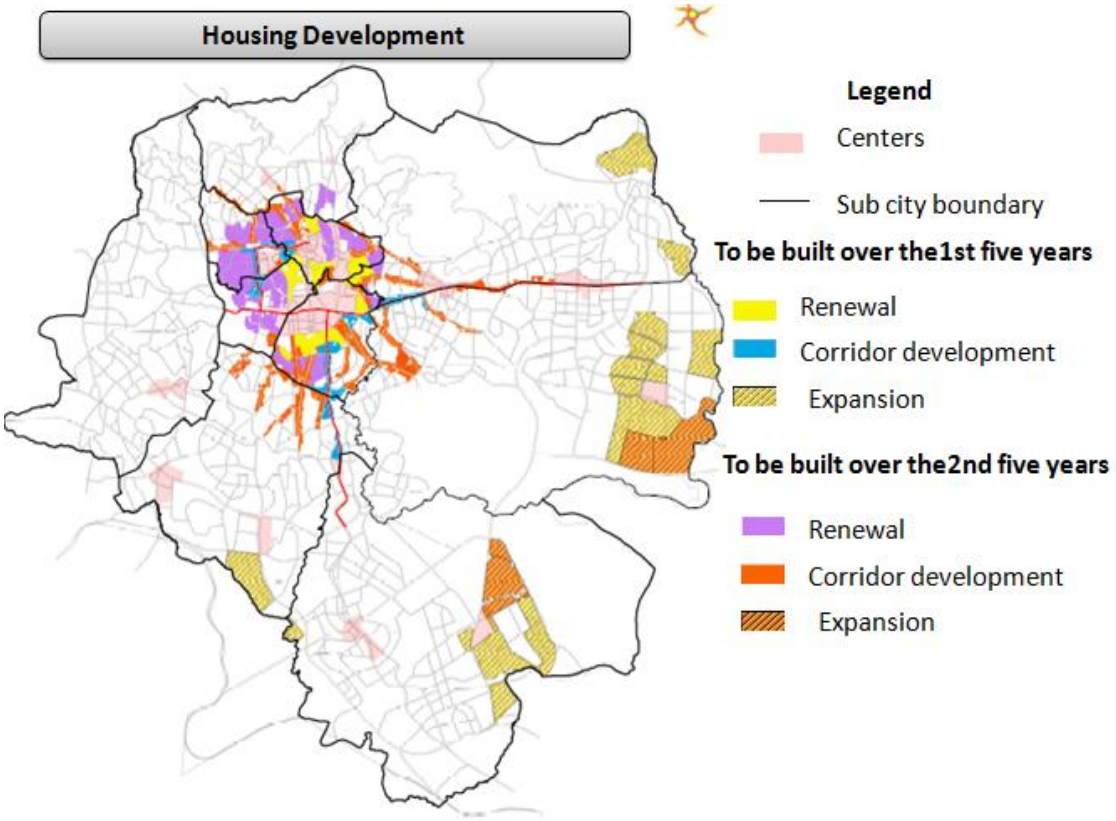


Figure 52 1st and 2nd five-year housing intervention

[7] Due to the heavy resource (finance and land) implication of the proposal by the Structure Plan, the strategic plan has made certain changes regarding residential housing development. For instance, it has taken out the 20% contingency provision from housing demand, housing finance and land requirement. It has also made some minor modifications regarding housing density.

Without the 20% contingency, the total number of houses to be built in the plan period is 976,800. The Structure Plan proposes that the government focuses on addressing housing shortages of the low income (336,000 housing units), providing serviced land and enabling. The specific strategies suggested by the plan include inner city renewal, corridor redevelopment and densification.

Table 67 Total number of housing units and the required size and location of land.

Location		**The 1st five years**		**The 2nd five years**		**Total**		**Remark**
		Housing units	**land in ha.**	**Housing units**	**land in ha.**	**Housing units**	**land in ha.**	
Expansion		225000	2500	81000	900	306000	3400	Bole-Arabsa, Yeka-Abado, Koye Fiche and Chefe
	Corridor	75000	500	120000	800	195000	1300	
	Centre	30000	200	45000	300	75000	500	
	Other	52500	350	188300	1200	240800	1550	
Infill in low density areas		40000	10000 plots	120000	30000 plots	160000	40000 plots	
Total		**422500**	**3550 + infill**	**554300**	**3200 + infill**	**976800**	**6750 + infill**	

Finance

To build the planned housing units about 73.2 and 100.8 billion birr are required in 1st and 2nd five years, respectively. Half of the total amount is allocated for the provision of service land, while the other half will be used in the construction of low income housing units.

Implementation tools

In order to implement the above mentioned activities with regards to housing, it is important to acknowledge that mere government effort will not be sufficient. Therefore, the involvement of other stakeholders is central to addressing the housing issue. Hence, only 50% of the proposed housing units are to be built by the government. This is expected to address at least 77% of the estimated demand by the low income and will be in the form of public rental housing. On the other hand, 20% of the remaining housing units will be built by cooperatives, 20% by real estate developers and 10% by private builders.

Regarding developments in expansion areas, it is necessary to consult and reach a consensus with farmers to be affected regarding compensations. And the compensation needs to be linked with sustainable livelihood of the farmers. Along with this, the allocation of land should be organized as per the respective share of each developer i.e. real estate (20%), the government (50%), cooperatives (20%) and private developers (10%). To implement this effectively and efficiently, it is better to manage the coordination centrally, and to provide only serviced land (with the necessary infrastructure) for housing.

All areas that are going to be developed through urban renewal are identified. And hence, households to be affected should be informed a year before redevelopment work starts. Similarly, the affected people should be provided compensation and plots for resettlement /alternative housing units at least six months ahead of relocation. Moreover, it is imperative to relocate affected households within 1km radius of their original location. Condominium houses in the inner city should be reserved for those displaced from the inner city, free from the lottery system.

Continuous consultation with the university community and research centres for the adaptation of new technologies in housing construction, especially related with condominium housing, is important. On the other hand, there should be a clear legislation on rental houses and rental prices. Application of the building permit should facilitate cooperative housing and densification on private plots.

3.4 Centres

The Structure Plan aims to make the different hierarchy of centres central for the provision of services close to the people. In addition, special projects to leverage the dynamism of the city's economy are integrated with the development of centres. Accordingly, the selected projects over the next five and ten years are:

Table 68 Centre development

Activities	In the 1st five years	In the 2nd five years
700 ha main centre development	National Theatre, Cherkos, Filwuha, Meskel square, La Gare, Casainchis, Churchill Avenue, Arat Killo, Sidist Killo and Merkato and Piazza (50%)	National Theatre, Cherkos, Filwuha, Meskel square, La Gare, Casainchis, Churchill Avenue, Arat Killo, Sidist Killo and Merkato and Piazza (50%)
450 ha (3) secondary centres development	Kality, Meri and Jemo-Lebu (50%)	Kality, Meri and Jemo-Lebu (50%)
490 ha for 7 tertiary centres development and 3 special centres	Bole-Arabsa, Koye Fiche, Megenagna, Ayertena, Saris, Addisu Gebeya, Shiromeda, Bisrate Gabriel (50%)	Bole-Arabsa, Koye Fiche, Megenagna, Ayertena, Saris, Addisu Gebeya, Shiromeda, Bisrate Gabriel (50%)
	Asco, Bole-Medhanealem , Kotari and Shiromeda (50%)	Asco, Bole-Medhanealem , Kotari and Shiromeda (50%)
Woreda centres	Every Woreda	Every Woreda
Special projects	International standard hospital at Meri, 5+ Star hotels (5), International stadium and Convention Centre	Community schools (2), 5+star hotels (5) Golf field near Bole Airport

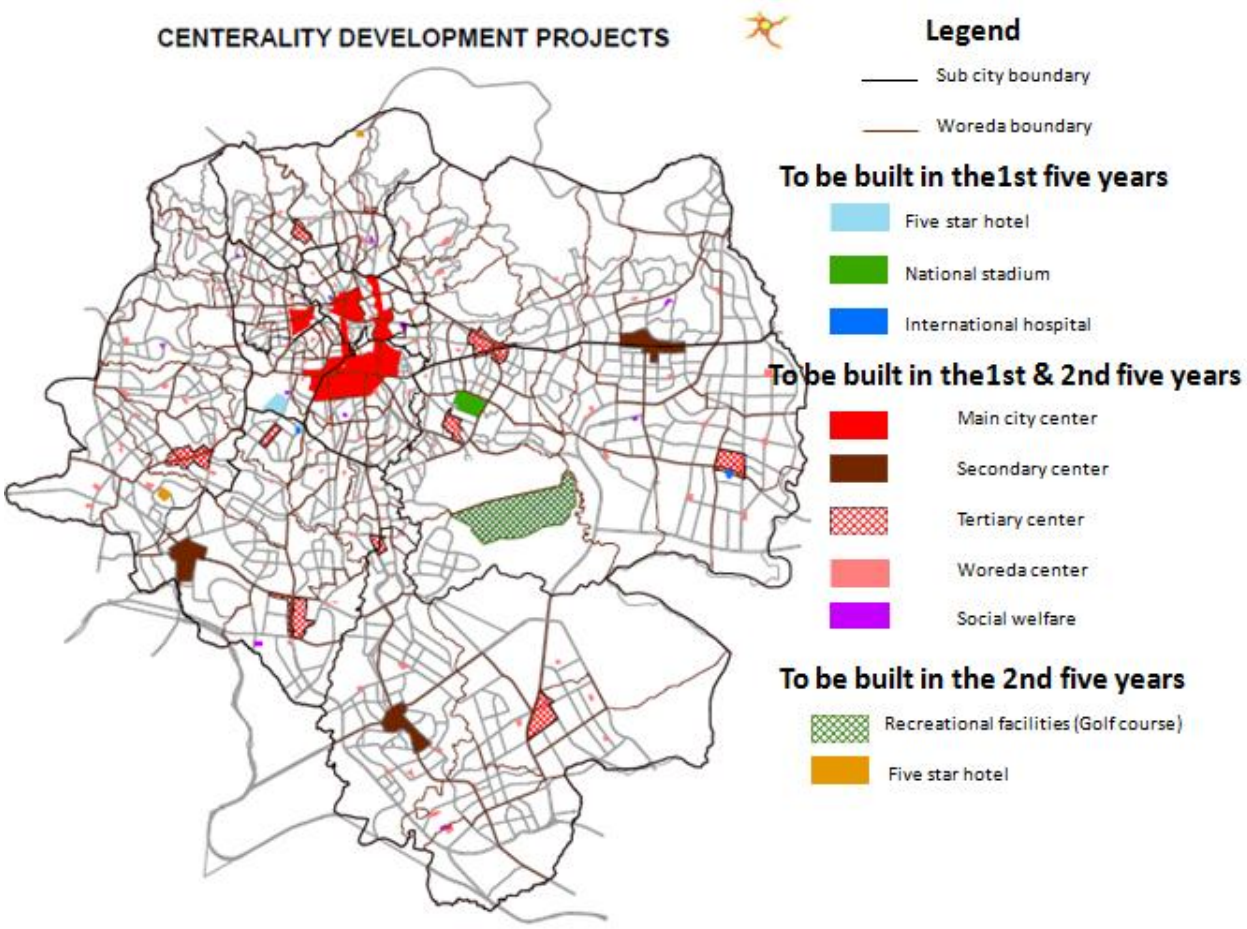


Figure 53 1st and 2nd five-year centres development

Finance

The main role of the government will be promotion and preparation of land for private developers. In general, about 16.1 billion birr and 14.06 billion birr respectively are required over the first and second five-years to implement the proposed centres.

Implementation tools

The main implementation strategies to be followed include:

- Establish a responsible body at city level with a mandate to prepare and transfer land, and to provide building permit and follow-up for development of the main city centre and secondary centres;
- Establish a permanent platform which is working with the project offices and private investors.
- Developing adequate Urban Design Guidelines for development of the Centres
- The city Government must work on promotion tasks on permanent basis
- 70% of market places should prearranged for MSE development

3.5 Environment

In general, the Structure Plan for environmental protection and development aims at contributing to the liveability of Addis Ababa by:

- Ensuring clean environment;
- Providing adequate, accessible, networked and functional green spaces;
- Ensuring sustainable natural resource utilization and management, and
- Reducing exposure to natural disasters.

Accordingly, the proposals regarding environmental issues shown in the following table will be implemented over the next ten years.

Table 69 Green development

Green development		**Development time and location**	
		In the 1st five years	**In the 2nd five years**
Park develop-ment	City	Gottera, Makelawi, Adwa and Repi	Asco, Saris Abo, Meri, Torhailoch, Lebu and Winget
	Sub- city	20 places	30 places
	Woreda	120 locations	
	Special parks	Gullele Botanical Garden and Peacock Zoological Park	
River buffer development		Along Banteyiketu-Kurtume River and Kechene-Kebena River (**29 Km**)	Along Kebena River (**22 km)**
Mountain areas		Entoto, Gullele, Yeka, Ankorcha,	Entoto, Gullele, Yeka,

development	Lebu, Ertuna, Repi	Ankorcha, Lebu, Ertuna, Repi
Ambient air quality monitoring stations	Legedadi-Dire and Gefersa- Gerbi water development	Aba Samuel Lake

Table 70 Liquid Waste Management

Modern liquid waste management	**Development time and location**	
	In the 1st five years	**In the 2nd five years**
Develop a liquid wastewater treatment plant	Improve existing systems at Kality and Kotebe; and develop a new treatment plant at Chefe. Increase overall capacity to 565000 M^3.	Increase overall capacity to 665000 M^3.
New sewerage line	Increase coverage to 40%	Increase coverage to 70%
Develop a wastewater treatment plant	At Legetafo (Chembe)	
Public toilets	Construct 15 public toilets each with at least 15 seats	Construct another 15 public toilets each with at least 15 seats

Table 71 Solid Waste Management

Effective, efficient and sustainable waste management services	**Development time and location**	
	In the 1st five years	**In the 2nd five years**
Develop a wastewater treatment plant	At Legetafo (Chembe)	
Develop two transfer stations	Repi, Bole-Arabsa and Akaki	
Waste separation at source	Achieve 40% separation at source using 3 methods (recyclable, bio-degradable and hazardous),	Achieve 100% separation at source using 3 methods (recyclable, bio-degradable and hazardous)

Increase the percentage of recycling	Increase organic waste transformation (e.g. Composting, animal feed) to 15%	Increase organic waste transformation (e.g. Composting, animal feed) to 25%
	Increase inorganic recycling to 5%	Increase recycling to 10%

Table 72 Pollution control

Pollution control	**Development time and location**	
	In the 1st five years	**In the 2nd five years**
Air pollution control	Start on-road inspection of vehicles for emission levels in high traffic areas	Install 4 ambient air quality monitoring stations at Akaki-Dukem Industrial zone, in Addis Ababa main city centre, residential quarters in the south western parts of Addis Ababa, and at Entoto.
Noise pollution control	Carry out strategic noise mapping in all Woredas at Woreda level	
Industrial pollution control	Relocate all pollutant industries as per the Structure Plan proposal and carry out strict follow-up and monitoring.	

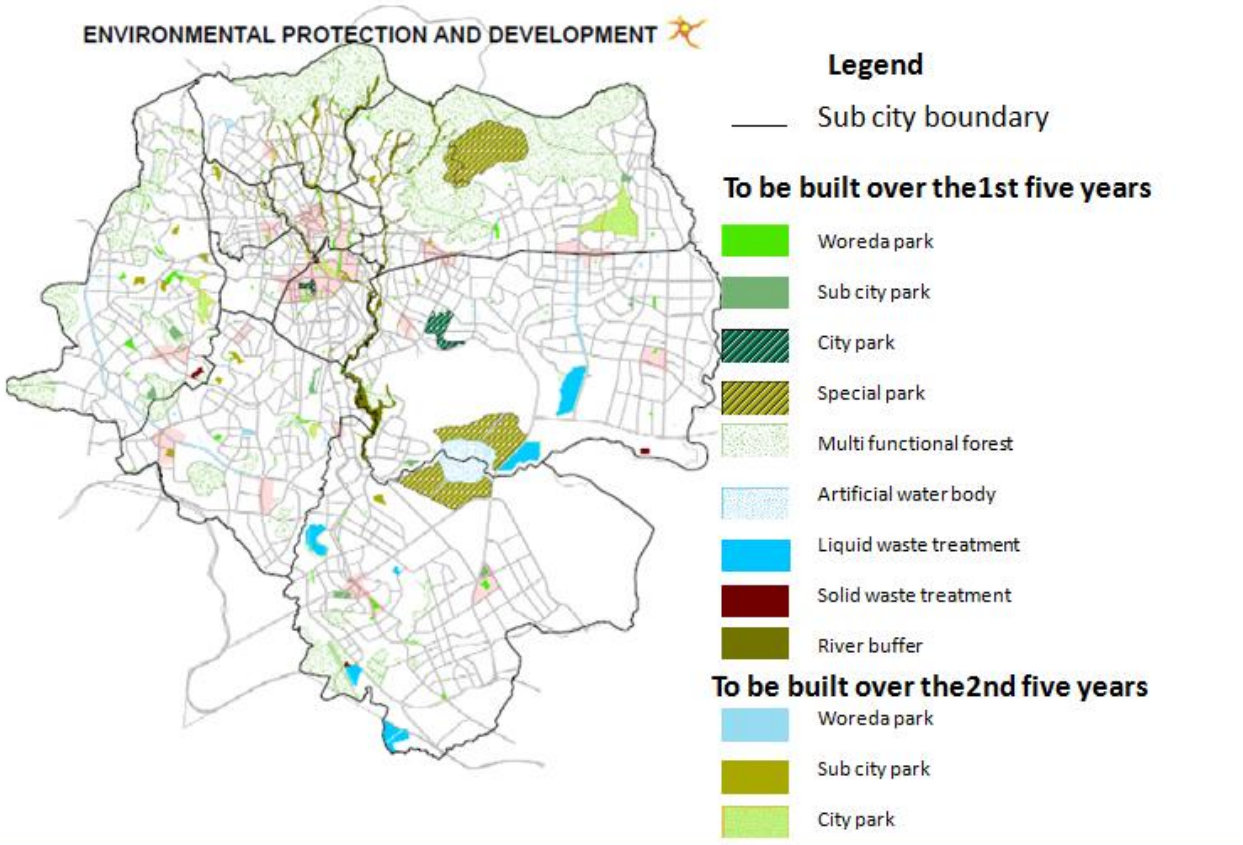


Figure 54 1st and 2nd five-year environment related projects

Finance

To implement each of the above mentioned activities, the required financial resources are 37.8 billion birr and 24.5 billion birr in the 1st and 2nd five years, respectively.

Implementation tools

The main implementation strategies to be followed include:

- Establish a Green Court mandated to monitor and take measure on any misconduct carried out regarding the delineated green places;
- Encourage private sector involvement in solid waste collection, recycling and resource recovery activities;
- Promote MSE involvement in planting trees;

- Establish complaint reporting hotlines to ensure efficient environmental quality standard enforcement;
- Equip relevant environmental institutions with adequate human and technical capacities; and
- Continuous awareness raising programs on waste management, pollution prevention and control. and green space development and management at all levels.

3.6 Industry

The Structure Plan envisages creating vast employment opportunities, strengthening MSEs through forward and backward linkages, and for the sector to contribute a larger share to the city's economy. The plan clarifies future directions for accelerated industrial development, and this strategic plan identifies strategic projects for same, and indicates the required financial resources.

Table 73 Required finance for industry land preparation

Location	The 1st five years		The 2nd five years		Total Land in hectare	Total Finance in billion birr
	Land in hectare	Finance in billion birr	Land in hectare	Finance in billion birr		
IT Park Bole Woreda 11 (Bole-Arabsa /Bole Lemi)	180	1.62	-		180	1.62
Bole Woreda 11 (Bole-Arabsa /Bole Lemi)	293.2	2.64	377.09	3.39	670.29	6.03
Akaki-Kality Woreda 9 and 10 (Kilinito)	589.46	5.3	-		589.46	5.3
Akaki Kality Woreda 10	-	-	270.46	2.43	270.46	2.43
Akaki Kality Woreda 5	250.38	2.25	-		250.38	2.25
Nefa Silk-Lafto Woreda 01 (Jemo)	114.44	1.03	212.76	1.91	327.20	2.94
Total	1427.48	12.84	860.31	7.73	2287.79	20.57

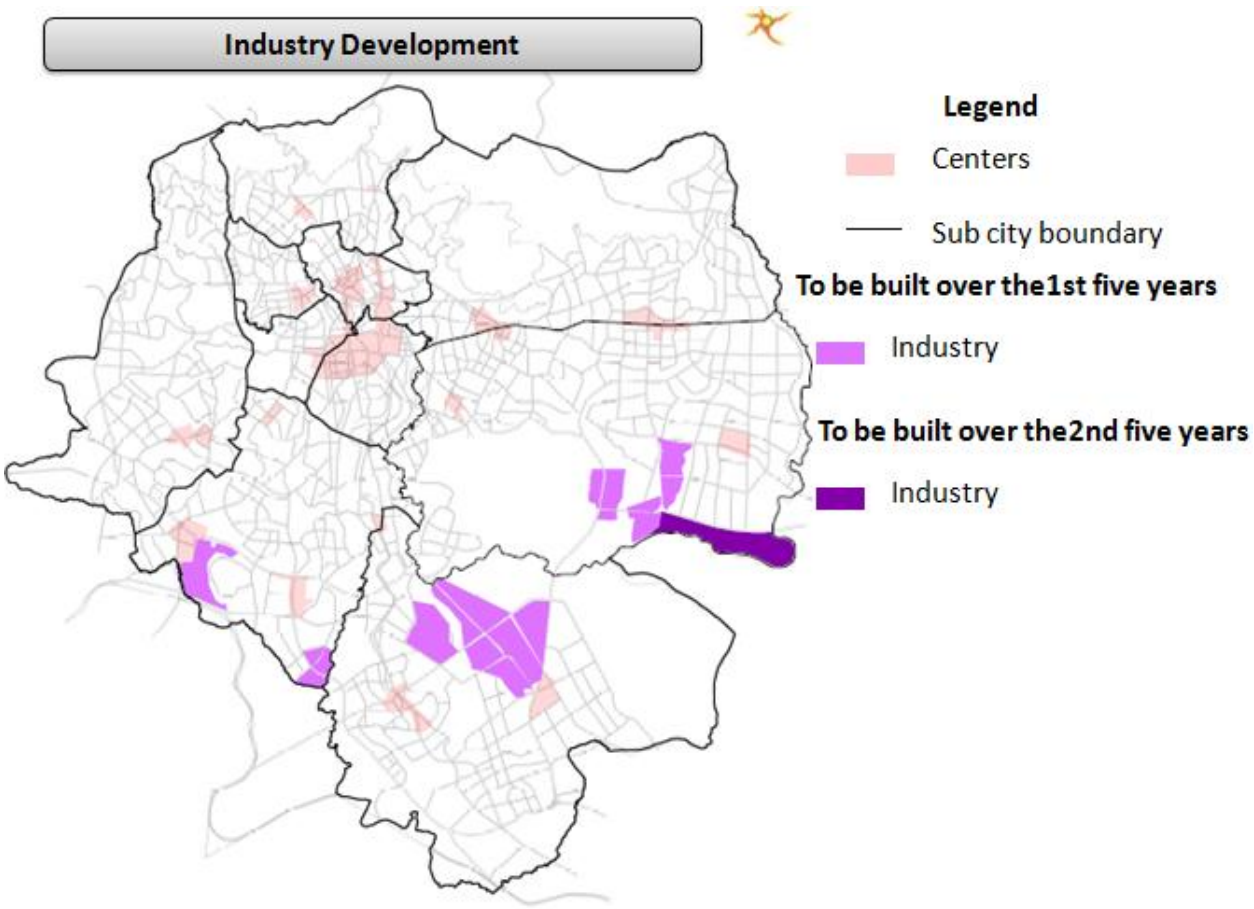


Figure 55 Industry area development

Finance

Overall, the required financial resources are 12.84 billion birr and 7.73 billion birr in the 1st and 2nd five years, respectively.

Implementation tools

The main implementation strategies to be followed include:

- Common platform representing investors, the public and local administrations;
- 10-15% of the space inside industrial parks are to allocated for MSEs;
- The city specializes on high-tech industries with little operational space requirement;

- The Industrial Parks will be fully serviced and fitted with the necessary facilities; and 70% of the utilities and necessary infrastructure should be provided by the government;
- Each industrial Park will have a permanent office for monitoring and overall management of the sites; and
- Similar industries and industries with within the same value chains will be clustered in the Industrial Parks.

3.7 Capacity Building

This component forwards the administration structure and capacity building required to implement the Structure Plan. The following activities are included in the strategic plan for capacity building.

- Preparation of local development plan (LDPs) together with implementation strategies and feasibility studies, and standard guideline manual plan;
- Plan monitoring and evaluation;
- Provide domestic and international trainings on Cadastre plan preparation, environment quality management, land management and administration, landscape design, urban design, transportation planning, and ethics.
- Provide consecutive awareness creation programs regarding the Structure Plan to the public at least on yearly basis, and to implementing agencies as the need arises; and
- Strengthen Plan Commission's human and institutional capacity.

Table 74 Required finance for capacity development

Activities	**Number**	**Finance in billion birr required in the 1st five years**	**Finance in billion birr required in the 2nd five years**	**Total**
conferences	20	0.020	0.020	0.040
experience sharing program for higher officials abroad	200	0.020	0.020	0.040
2nd degree scholarship	200 (120 the 1st five years; 80 in	0.048	0.032	0.080

	the 2nd five years)			
Electronic media		2.00	2.00	4.00
Modernizing documentation system		4.00	-	4.00
Total		6.088	2.072	8.16

Finance

Overall, the required financial resources for capacity building are 6.088 billion birr and 2.072 billion birr in the 1st and 2nd five years, respectively.

Implementation tools

The following mechanisms are recommended to implement the above road proposals.

- Continuous skill assessment by the respective City Government institutions;
- Annual capacity gap identification by the Plan Commission;
- Provide on the job training and short-term local trainings; and
- Provide medium-term trainings (locally and abroad) on specific skills on prioritized areas.

3.8 Required Finance and Sources

The table below summarizes the total required finance to implement the strategic sectors over the plan period (in the 1st and 2nd five years).

Table 75 Total required finance in billions

Sectors	Finance in billion birr required in the 1st five years	Finance in billion birr required in the 2nd five years	Total (in billions)	Remarks
Roads and transport	27.9	13.8	41.7	For both roads and transport
Housing	73.20	100.80	174.0	For the provision of

development				serviced land (infrastructure development costs) and low cost housing
Centres	16.10	14.06	30.16	
Environment	37.80	24.50	62.30	
Industry	12.84	7.73	20.57	
Capacity Building	6.088	2.072	8.16	
Total	173.8	162.8	336.6	
15% contingency	26.0	24.4	50.4	
Grand total	199.8	187.2	387.0	
USD[8]	8.6	8.14	16.7	

For the implementation of the strategic projects, a total of 387.0 billion birr is required over ten years. Out of this amount, 199.8 billion birr is required for the first five years. When we change the required amount of finance into one budget year, nearly 38.7 billion birr is required each year.

Potential Sources of Finance

City administrations worldwide often indicate that they lack financial resources to implement their plans. The conventional view dictates that cities should be able to finance themselves instead of heavily relying on national governments and other external sources. To a certain extent, the difference between expenditure needs and the availability of resources can be adjusted through reforms in local government finance. This, however, greatly depends on numerous factors, including the tax mandates of cities vis-a-vis their responsibilities Therefore, it is clear that substantial resources are required to change their plan into reality.

The Addis Ababa City Government, therefore, needs to enhance its revenue collection and generation to cover the public investment cost of the Structure Plan. In EFY 2006, it had collected 8 billion birr and in EFY 2007, the amount projected to be collected rose to 13 billion birr. In general, there is a huge gap between the total amounts of finance required to implement the proposed strategic projects and the amount of revenue the city government is able to generate. However, it is believed that the City Government can generate additional revenue by expanding its revenue base.

[8] 1usd=23birr

Here are some potential sources of finance.

***Loan*:** The city government should be able to borrow from private and government financial institutions without the involvement of the federal government. Partnership with sister cities can also be used to finance the implementation of strategic projects. In line with this, enhancing the credit worthiness of the city for accessing long-term finance for infrastructure development must be given due attention. Both foreign and local private enterprises may be interested in funding the projects in exchange for sharing the profits once the projects become operational.

***Sale of Bonds*:** Sale of bonds to provide long-term funding for infrastructure investment is another option the City Government can exploit. Again, enhancing its credit worthiness is crucial for this purpose.

***Improving Tax Collection System*:** It is necessary to design a modern tax collection system in line with the federal government tax system to achieve public policy objectives. Towards this end, the City Government should put in place a strategy to collect a significant amount of tax arrears that remains uncollected. More specifically, setting up an arrears management program in the first five years will go a long way in improving the tax collection system. In line with this, the online tax system has significantly reduced tax-collection costs and increased tax-collection accuracy. As the discretionary use of tax rules and regulations needs to be corrected as it may also motivate businesses to go 'underground'.

***Tax-net Expansion*:** There is significant potential for enhancing the city's revenues by expanding the tax-net coverage in almost all tax bases.

***Cost Recovery through Cross-subsidization*:** Based on careful cost-benefit assessment, the City Government can improve certain public services and implement a strategy for cross-subsidization.

***Business Sector Involvement and Community- based Investment*:** The private sector should be encouraged to participate in social development and in local infrastructure improvements activities. The City Government must therefore facilitate opportunities for business communities to fulfil their social responsibilities. Community-based infrastructure development programs need to be strengthened.

***Savings*:** Current efforts that promote and taps in household savings for development projects must continue.

Expected Challenges

To mobilize the necessary financial resources in order to implement this strategic projects, some challenges associated with corruption, shortage of skilled manpower, lack of modern data management system, inadequate internet connection, etc., are foreseen. The following need to be implemented by the respective City Government organs to curb these challenges.

Human resource Development and Management: It goes without saying that a skilled and committed human power is vital for the mobilization of the necessary financial resources. It is therefore necessary to follow merit based recruitment of professional and to provide on the job and other trainings to the relevant clerks and experts.

Good Governance: Increased attention is being given to the role good governance plays in development. Without good governance, it is highly unlikely that the necessary financial resources can be mobilized for the implementation of the Structure Plan in general, and for the identified projects in this strategic plan in particular. Good governance not only depends on the ability to exercise power, and make good decisions over time and across a spectrum of economic, social, environmental and other issues, but also on the empowerment and mobilization of the public for joint transformation ends. The City Government must increase transparency and accountability in the conduct of its business and all together get rid of the widespread malpractices in the public sector. This is linked with the City Government's capacity for mediation and maintenance of key relationships as well as resource allocation and implementation.

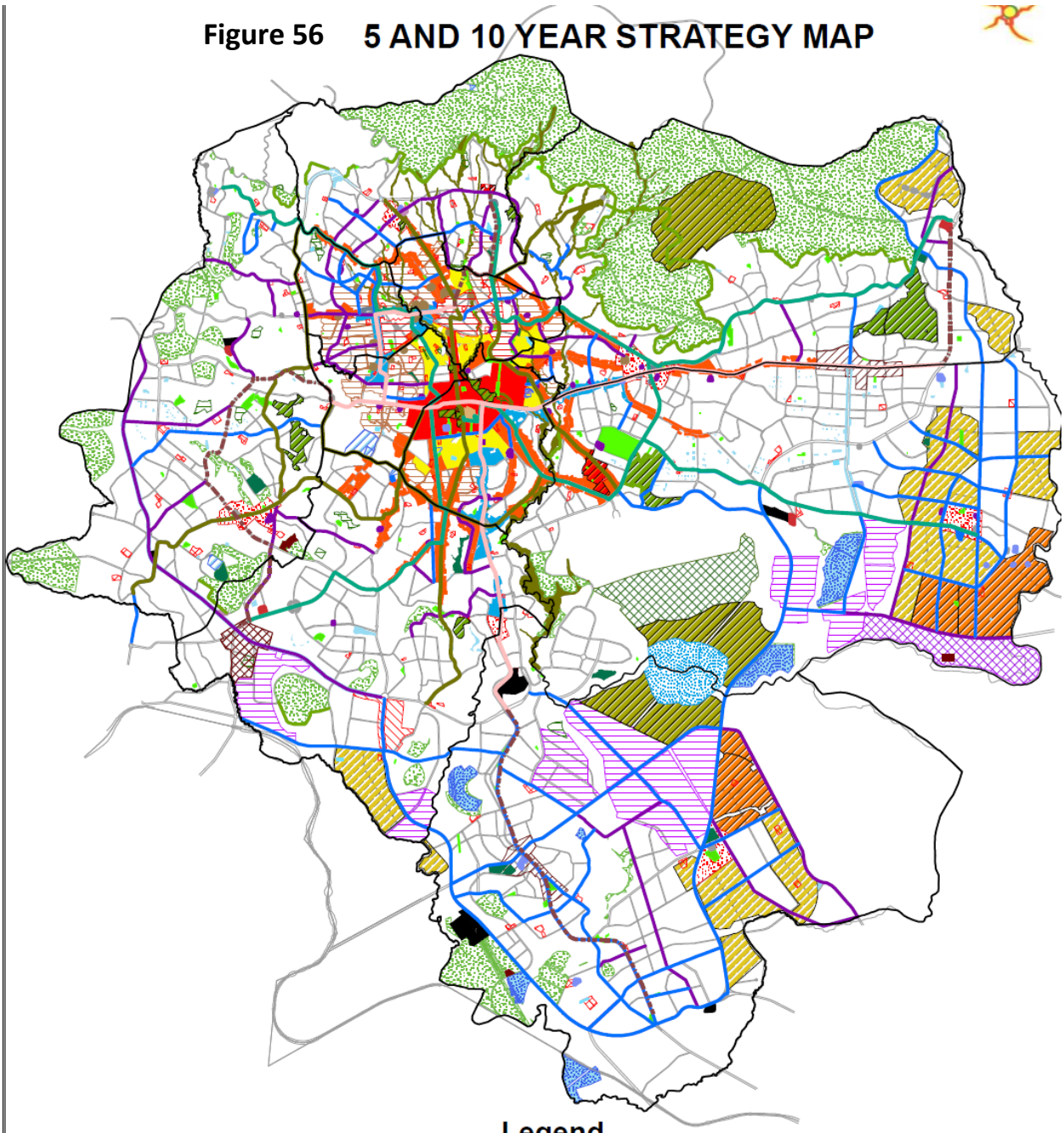
ICT Infrastructure Development: Infrastructure development is a vital component in encouraging a city's economic growth. Information and communication technologies (ICT), which potentially affect every sector of the economy, have become a growing source of innovation and wealth elsewhere. The City Government need to invest heavily in improving its ICT infrastructure and work with the relevant Federal Government agencies to improve internet access and quality.

Effective Data Management: The City Governmentneed to improve its data collection and management system. Emphasis must be given to maintaining institutional memory.

To conclude, this strategic plan is a road map for the respective City Government offices to follow over the 1st and 2nd five year phases of the plan period. Accordingly, the City Government and the respective offices are expected to allocate the necessary budget and the necessary human power to finance and manage public sector capital investments. This requires

constant monitoring. The need for close interaction between the City Government and other stakeholders is indispensable for the timely and successful implementation of the strategic plan.

Figure 56 **5 AND 10 YEAR STRATEGY MAP**



Legend

To be built over the1st five years

Road network and Transport system
- Light rail transit line
- Rapid bus transit line
- Road
- Special street
- Inter-city Terminal
- Intra-city Terminal
- Bus depot
- Parking building
- Freight Terminal
- Surface Parking
- Legehar transport hub

HOUSING
- Corridor development
- Renewal
- Expansion

Industry
- Industry

CENTERS
- Main city center
- Secondery center
- Teritery center
- Special center
- Woreda center
- Social welfare
- Five Star Hotel
- International Level Hospital
- National Stadium

ENVIRONMENT
- Woreda park
- Sub_city park
- City park
- Special Park
- Multi Functional Forest
- River buffer
- Artifical water body
- solid waste treatment
- Liqued waste treatment

To be built over the 2nd five years

Road network and Transport system
- Rapid bus transit line
- Road
- Intra-city Terminal
- Parking building

HOUSING
- Corridor development
- Renewal
- Expansion

Industry
- Industry

CENTERS
- Main city center
- Secondery center
- Special center
- Five Star Hotel
- Recreational facilities (Golf Course

ENVIRONMENT
- Woreda park
- Sub_city park
- City park