Manual for Future Updates of the Kigali Master Plan

Kigali Master Plan 2050

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The Centre of Urban Excellence

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Abbreviations

CoK	City of Kigali
OSC	One Stop Center (City of Kigali and Districts)
Ex Com	Executive Committee
ESS	Electrical Substation
FAR	Floor Area Ratio
G	Ground Floor
GFA	Gross Floor Area
P	Penthouse
N/A	Not Applicable
MUN	Mixed Use Neighbourhoods
LSP	Land Subdivision Plan
TDR	Transfer of Development Rights
IZ	Inclusionary Zoning
GBMC	Green Building Minimum Compliance Guidelines
RTDA	Rwanda Transport Development Authority
WASAC	Water and Sanitation Corporation
REMA	Rwanda Environment Management Authority
RURA	Rwanda Utilities Regulatory Authority
REG	Rwanda Energy Group
MININFRA	Ministry of Infrastructure
TOD	Transit Oriented Development
NMT	Non-Motorized Transport
RCAA	Rwanda Civil Aviation Authority
PSZ	Public Safety Zone
ATZ	Aerodrome Traffic Zone

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Nyarugenge, Gasabo, Kicukiro Districts
Ministry of Infrastructure (MININFRA)
Ministry of Agriculture and Animal Resources (MINAGRI)
Ministry of Environment (MoE)
Ministry of Lands and Forestry (MINILAF)
Rwanda Housing Authority (RHA)
Rwanda Agriculture Board (RAB)
Rwanda Water and Forestry Authority (RWFA)
Local Administrative Entities Development Agency (LODA)
Rwanda Environment Management Authority (REMA)
Rwanda Association of Local Government Authorities (RALGA)
Rwanda Land Management and Use Authority (RLMA)
Rwanda Development Board (RDB)
Rwanda Transport Development Agency (RTDA)
Rwanda Utilities Regulatory Authority (RURA)
Sector Executive Secretaries
Gasabo, Nyarugenge and Kicukiro Districts
Rwanda National Police (RNP)
Rwanda Defence Force (RDF)
Rwanda Women Network
Rwanda Institute of Architects (RIA)
Rwanda Civil Society Platform (RCSP)
Rwanda Green Building Organization (RGBO)
Rwanda – National Climate and Environment Fund (FONERWA)
Rwanda Women Network
Broadband System Corporation (BSC)
Uwezo Youth Empowerment
SafeMotos
Care International Rwanda
Association of People with disabilities
Institute for Transportation and Development Policy (ITDP)

Rwanda Association of Professional Environmental Practitioners (RAPEP)
Global Green Growth Institute (GGGI)
UN-HABITAT Kigali
Swiss Resource Centre and Consultancies for Development (SKAT)
Strawtec Building Solutions
Private Sector Federation (PSF)
Institute of Policy Analysis and Research (IPAR)
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University of Rwanda (UR)
Moto Cooperative FERWACOTAMO
Institution of Engineers Rwanda
Rwanda Energy Group (REG)
Energy Development Corporation Limited (EDCL)
Development Bank of Rwanda (BRD)
Laterite Ltd.
Department for International Development (DFID) Rwanda
VNG International
World Bank Group
Rwanda Hospitality Association (RHA)
Nyamirambo Women's Center
Institution of National Museums of Rwanda
Youth Engagement in Agriculture Network (YEAN)
Rwanda Youth in Agribusiness Forum (RYAF)
Airtel
Zone Association
Yego Innovisions Ltd
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Chapter 1: Introduction

The purpose of this Manual is to provide general indications on future update processes, streamlining the workflow followed in the execution of 2019 update for future use by the City of Kigali.

The 2019 Master Plan review for the City of Kigali has been drafted combining international best practices with a bottom-up approach, based on extensive socio-economic data collection and analysis and continued interaction with local and international stakeholders. This process led the City of Kigali One Stop Centre to draft a highly customised strategy to support Kigali aspirations to become the Centre of Urban Excellence in Africa. Great attention was put in addressing the issues highlighted in 2013 Master Plan, introducing a more equitable, flexible, and incremental approach to City development, in line with the UNHABITAT New Urban Agenda, Sustainable Development Goals and with the latest and more innovative approaches being currently studied or implemented to guide the rapid urbanisation of African Cities.

The Kigali Master Plan is a living document and will therefore require regular updating and review. The Master Plan for the City of Kigali will change through time due to modifications in the socio-economic fabric of Rwanda and Kigali, evolution of market dynamics and the completion of catalytic and Capital Improvement Projects that will require adjustments to the Action Plan.

As explained in paragraph 1.7 of Zoning Regulations, the update is a comprehensive overhaul of the City's zoning and development regulations which includes updating all Zones and the uses allowed in each, updating parking and landscaping requirements and addressing the need for density in the City, among many other provisions.

A process of monitoring and evaluation should also be established as it represents one of the key components to inform future updates of the Master Plan and it must rely on a solid and comprehensive database, constantly updated, to promptly address the issues faced during the process.

1.1   Zoning Variances not requiring General Master Plan Update

Not all changes to Master Plan require major updates to its documents. In specific cases, minor localised changes can be applied to existing Zoning maps following a simpler yet transparent procedure.

Zoning Regulations allow for regular updates to the Zoning Plan. Such changes may be required by changes in CIP or Catalytic Projects' selected location, inconsistencies between proposed zone or suggested road alignment in the Zoning Plan and ground context, motivated requests by private citizens, or other institutions. In all these cases the CoK-OSC shall follow the procedure described in the Zoning Regulations and, after a detailed review, will provide its technical comment on the admissibility of such request.

The final decision on the **Zoning Variance** application will be made by the City Executive Committee (Ex-COMM) and only then, relevant modification to the Official Database can be applied. It is recommended that Variance Applications are reviewed and consolidated for Ex-COMM approval, at least quarterly.

1.2   Periodical Review of Zoning Plan and Regulations

Zoning Plan and Regulations will require to be reviewed at intervals and effectively managed by the City. It is important to define the review intervals for the Zoning Plan and Regulations to monitor and update them as per the changing socio-economic conditions and the real estate demand.

As the socio-economic environment is rapidly changing with country gearing towards growing rate of urbanization, the Zoning Plan and Regulations are recommended to be assessed and eventually reviewed at least within the interval of 3-5 years to ensure that the plan and development keep pace with the changes.

Since the Master Plan review process led to an extensive review of previous zoning Map and Regulations, it is recommended that an assessment on their performance is conducted after 3 years from their publication in the Official Gazette.

A review panel composed by City of Kigali representative as well by other relevant institutional stakeholders and representative of the private sector should be established to conduct a detailed assessment of Zoning performance. The outcome of this assessment should be a list of required modifications to the Zoning Plan and/or Regulations with the proposed changes.

The required changes shall be then discussed and approved by City Executive Committee and the City Council.

City of Kigali – One Stop Center will apply the changes following the decision made by City Management.

1.3   Periodical Review of Master Plan

The city growth and urban renewal initiatives are generally long-term proposals that will need to be updated and altered based on the changing context and economic environment. It is therefore important to consider the Master Plan as dynamic document that can be reviewed at certain intervals to revise /alter the proposals and strategies to suit the current physical, economic, and political situation of the City/ Country.

Based on the understanding of the stakeholder's needs and aspirations, the Master Plan is likely to change and evolve over time. Therefore, it is important to establish a framework for implementing and managing the current and future reviewed Master Plans to achieve a sustained and integrated and well-coordinated urban development.

It is recommended to assess the overall Master Plan Goals, Objectives and Strategies, CIP and Catalytic projects against current socio-economic and market indicators in no less than 5 years from the date of publication in the Official Gazette.

The establishment of a Participatory Monitoring and Evaluation System for the Master Plan will feed and provide a solid base for the Master Plan Review process.

The periodical assessment of Master Plan Goals, Objectives and Strategies, CIP and Catalytic projects may indicate that they are still relevant, and no in-depth review needs to be applied. Conversely, geopolitical and national context may indicate that a major shift in the strategies is required, leading to a major review of the entire Plan.

Review of the Master Plan can address the entire set of documents (Analysis and Vision, Master Plan report, Transport Plan, Zoning Plan and Regulation, Implementation Plan) or only a selection of them.

Box 1: Level of Master Plan Update				
ID	Description	Frequency	Objectives	Procedure
1	**Zoning Variance**	Quarterly	Apply minor localised changes to individual or a group of parcels or road motivated by specific reasons.	• Initiated by CoK, other institutions or private citizens. • Approved by OSC and endorsed by EXCOMM
2	**Periodical Review of Zoning Plan and Regulations**	3/5 years after adoption or depending on results from M&E system	Update of Zoning Regulations and Maps, allowing the city to approve corrective measures to unexpected or undesired results caused by Zoning documents.	• Initiated by CoK following M&E periodical assessment • Modifications suggested by CoK and discussed with relevant SH and possibly community representatives • Approved by City Council
3	**General Master Plan Review**	No less than 5 years from adoption. After, depending on M&E assessment or needs	Overall Master Plan update, assessing and redefining needs, goals, objectives, zoning, implementation, and any other document as deemed necessary.	• Initiated by CoK following M&E periodical assessment • Organisation of extensive stakeholders and community engagement processes • Needs and Gaps assessment leading to updated Master Plan • Approved by City Council

This document focuses on the Master Plan Review and aims to listing the key steps that must be followed for an inclusive and effective revision process.

Periodical Review of Zoning Plan and Regulations can be implemented by following selected tasks among the ones listed. For example, socio-economic studies may be conducted, and Stakeholders' engagement can play a stronger role to inform zoning review.

An Internal Procedural Manual is also recommended to be drafted as it is the best way for CoK to monitor the Master Plan Review, Zoning Variances, and Database Management among others.

1.4   Need for Procedural Guidelines

Procedural Guidelines are meant to set out standard procedures for the review of planning and development proposals. They should be particularly designed to assist CoK technicians in dealing efficiently with Development Applications Review, Change of Use, Zoning Variance, Change of Road layout, GIS database update and ensure integration among different departments and other stakeholders.

Procedural Guidelines may also contain participatory components to be embedded in some of the procedures such as Land Assembly, Land Subdivision Plans and Upgrading, among others.

It is recommended to draft the Manual no more than one (1) year after the adoption of this Implementation Plan to ensure its immediate application in Master Plan implementation.

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Chapter 2: MASTER PLAN REVIEW

2.1 Objectives and Scope of the Review

Master Plans, by their own nature, are live documents that need constant Monitoring and Evaluation to assess their performance in achieving the established goals or to assess the impact of new or unplanned events (change in policies, urban growth pattern, major urban transformation, etc).

The review should have as objective the assessment of Master Plan's performance, the evaluation of required changes and the update of all or part of Master Plan documents.
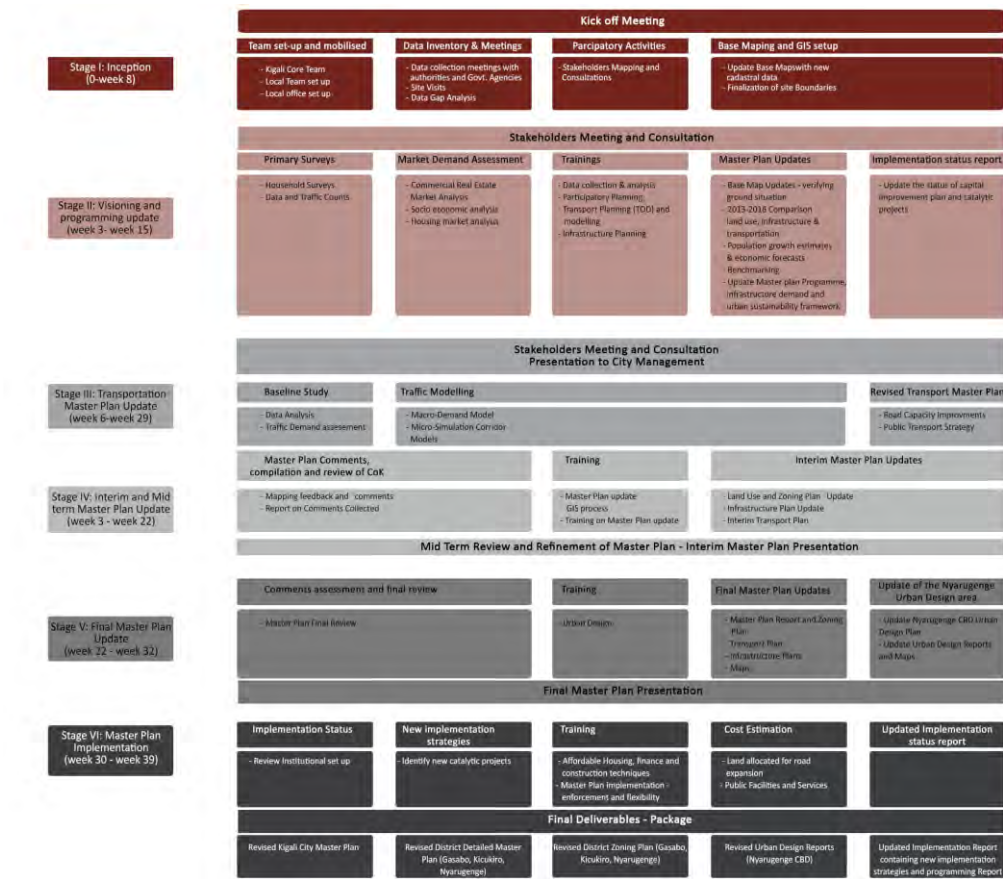
The core objective of review will be to update the Kigali Master Plan following or even improving the methodological approach followed in the 2019 review. This approach would be based on key elements:

1. An intense community engagement and outreach process should be integrated into the planning and should be aimed at deeply involving a large base of stakeholders, capable of providing valued inputs and feedback during the review process. Appropriately designed communication material should be drafted to reach the largest possible audience with ad-hoc messages.
2. The review process should be supported by updated information and data coming from most recent studies. Primary data analysis coming from household, market, environmental and traffic surveys should be considered from the beginning of the process.
3. GAP analysis of current Plan as a result of the M&E system would be the backbone of the review exercise. In 2019 the Master Planning team could count on several Audit documents however, an intense gap analysis had to be conducted to evaluate previous plan's performance. The institution of a M&E system would facilitate the assessment process.
4. M&E system would also be the base for a detailed Implementation Status assessment, suggesting amendments to the Action Plan and updating the status of each proposed in 2019. The Implementation Plan should be updated with new priority actions and a revised Capital Improvement Plan, catalytic projects list and implementation strategies.
5. All GIS material produced should be integrated into the existing database or replace older information.

2.2 Review Process

The review process conducted for the 2019 Kigali Master Plan Update followed a clear workflow that developed along almost 12 months, not including the time required for final approval by the City Council. The process was designed with the specific intent of mapping 2013 Master Plan issues and produce a better-informed plan, more adherent to Kigali reality and more open to stakeholders and communities in the city.

The project flow chart depicted in the figure below shows the stages followed during the process.

Kick off Meeting

Stage I: Inception (0-week 8)	Team set-up and mobilised	Data Inventory & Meetings	Parcipatory Activities	Base Maping and GIS setup
	- Kigali Core Team - Local Team set up - Local office set up	- Data collection meetings with authorities and Govt. Agencies - Site Visits - Data Gap Analysis	- Stakeholders Mapping and Consultations	- Update Base Maps with new cadastral data - Finalization of site Boundaries

Stakeholders Meeting and Consultation

Stage II: Visioning and programming update (week 3- week 15)	Primary Surveys	Market Demand Assessment	Trainings	Master Plan Updates	Implementation status report
	- Household Surveys - Data and Traffic Counts	- Commercial Real Estate Market Analysis - Socio economic analysis - Housing market analysis	- Data collection & analysis - Participatory Planning - Transport Planning (TOD) and modelling - Infrastructure Planning	- Base Map Updates - verifying ground situation - 2013-2018 Comparison land use, infrastructure & transportation - Population growth estimates & economic forecasts - Benchmarking - Update Master plan Programme, infrastructure demand and urban sustainability framework	- Update the status of capital improvement plan and catalytic projects

Stakeholders Meeting and Consultation Presentation to City Management

Stage III: Transportation Master Plan Update (week 6-week 29)	Baseline Study	Traffic Modelling		Revised Transport Master Plan
	- Data Analysis - Traffic Demand assessment	- Micro-Demand Model - Micro-Simulation Corridor Models		- Road Capacity Improvements - Public Transport Strategy

Stage IV: Interim and Mid term Master Plan Update (week 3 - week 22)	Master Plan Comments, compilation and review of CoK	Training	Interim Master Plan Updates
	- Mapping feedback and comments - Report on Comments Collected	- Master Plan update - GIS process - Training on Master plan update	- Land Use and Zoning Plan Update - Infrastructure Plan Update - Interim Transport Plan

Mid Term Review and Refinement of Master Plan - Interim Master Plan Presentation

Stage V: Final Master Plan Update (week 22 - week 32)	Comments assessment and final review	Training	Final Master Plan Updates	Update of the Nyarugenge Urban Design area
	- Master Plan Final Review	- Urban Design	- Master Plan Report and Zoning Plan - Transport Plan - Infrastructure Plans - Maps	- Update Nyarugenge CBD Urban Design Plan - Update Urban Design Reports and Maps

Final Master Plan Presentation

Stage VI: Master Plan Implementation (week 30 - week 39)	Implementation Status	New implementation strategies	Training	Cost Estimation	Updated Implementation status report
	- Review Institutional set up	- Identify new catalytic projects	- Affordable Housing, Finance and construction techniques - Master Plan Implementation - enforcement and flexibility	- Land allocated for road expansion - Public Facilities and Services	

Final Deliverables - Package

Revised Kigali City Master Plan	Revised District Detailed Master Plan (Gasabo, Kicukiro, Nyarugenge)	Revised District Zoning Plan (Gasabo, Kicukiro, Nyarugenge)	Revised Urban Design Reports (Nyarugenge CBD)	Updated Implementation Report containing new implementation strategies and programming Report

For the purpose of this Manual, the process described in the following sections would provide an even clearer step-by-step workflow that would include some of the lessons learnt during the 2019 review. Each step would be then explained in detail to equip the City of Kigali with a proper process to follow.

2.3   Master Plan Monitoring

The long-term implementation of the Plan requires periodical review of the implementation process and identification of critical issues that may hinder the achievement of the goals set.
A periodical assessment on progress shall be established to assess three different aspects:

- The efficiency of the plan: assessing if and how the targets of the plan are being achieved. The efficiency of the plan and its context shall be assessed through routine records and Periodic Monitoring Reports, which, essentially, supplement existing systems of information gathering and record keeping.

- The context within which the plan is being implemented: the assessment of conditions and status of the Master Plan, and implementation of the proposed projects

- The impact of the project: evaluation by the stakeholders to indicate whether the intended impact is being achieved, the impact being achieved was not foreseen, or whether the plan is beneficial or not. Bi-annual reviews are recommended to allow enough time and space for the stakeholders to generate information and prepare the necessary reports.

The impact of the project will be supported by formal studies and surveys as well as less formal stakeholder interactions to permit triangulation of judgments and perspectives on project outcomes and impacts. It is recommended this exercise to take place annually.

The table below suggests key activities that shall be implemented in the Monitoring and Evaluation Procedure.

Table 1: Key activities in the Monitoring and Evaluation Procedure

Steps	Activity	Description
1	Establish the purpose and scope of the M&E	Specifying the purpose and scope of the M&E helps to clarify what can be expected of the M&E procedure, how comprehensive it should be and what resources and time will be needed to implement it.
2	Identify performance questions and indicators	A performance question is used to focus on whether a project is performing as planned and if not, why not. Performance questions will be guided by the broader development objective, the project objectives, the project outputs, as well as the M&E purpose
3	Establish M&E functions and Assign responsibilities and financial resources	Establishing M&E functions and responsibilities at the beginning of the procedure can help to avoid major communication issues, conflicts of interest, duplication of tasks and wasted efforts
4	Gather and organize data	Data is the oxygen that gives life to M&E. However, selecting methods of data collection can be confusing, unless it is approached in a systematic fashion. Rarely is any one method entirely suitable for a given situation.
5	Analyse data and prepare evaluation report	The captured and organized data needs to be analysed, and findings and recommendations summarized and compiled into a report
6	Disseminate findings and recommendations	The evaluation reports, or summaries of these reports, should be widely distributed and presented to decision-makers and key stakeholders – including those who were consulted in the M&E process
7	Learn from the M&E	Knowledge gained through M&E lies at the core of the Master Plan implementation learning process. M&E provides information and facts that, when analysed, understood and accepted, become knowledge that can be used to improve Zoning Map and Regulations.

2.4 Frequency of review and updating

The Frequency of Master Plan Review should follow the principles listed below:

1. The outcomes of the Monitoring and Evaluation process should regularly inform on the need for review.
2. The change in the geopolitical and national context that indicate requirement for a major shift in the strategies, and
3. Socio-economic modifications requiring major realignment.

Assessment on MP performance shall be conducted as per the given timeline or the conditions mentioned in Box 1: Level of Master Plan Update, of this report. The decision on the review and level of review required shall be taken by CoK after consulting with relevant stakeholders on the results of the M&E reports.

2.5 Institutions responsible

Revisions to the Master Plan shall be initiated by the City of Kigali and carried out through an extensive stakeholders engagement process.

The implementation of the strategy builds on the 2019 Kigali Master planning activities that included and engaged large stakeholders base – Focus Groups, Technical Advisory Group (TAG), Technical working groups, and all citizens at large. A variety of institutions, including governmental and non-governmental, will have a role and responsibility within the Master Plan Update. Thus, the establishment of a new multidisciplinary core, which can improve cooperation across government institutions and implement a concrete participatory approach including local communities and wider stakeholders, is proposed.

It`s important that the responsibility for the implementation, monitoring, evaluation and future review of the Master Plan should be within a legally constituted subcommittee of the CoK. The CoK should act as the governing body overseeing the new committee.

The new Management Committee shall ensure a compatible team through involvement of appropriate representation and representatives from key governmental and non-governmental organizations. The following lists the tentative representation:

- The City of Kigali
- Districts in Kigali
- Ministry of Infrastructure (MININFRA)
- Ministry of Lands and Forestry (MINILAF)
- Ministry of Agriculture and Animal Resources
- Ministry of Environment (MoE)
- Ministry of Trade and Industry (MINICOM)
- Ministry of Information, Technology and Communications
- Rwanda Housing Authority (RHA)
- Rwanda Transport Development Agency (RTDA)
- Rwanda Development Board (RDB)
- Rwanda Environment Management Authority (REMA)
- Rwanda Utilities Regulatory (RURA)Authority
- Water and Sanitation Corporation Ltd (WASAC)
- Rwanda Land Management and Use Authority (RLMUA)

In addition to governmental institutions, it is essential that this committee engages as equal partners with a variety of private sector, civil society and the local community organizations. For instance, representatives from the following organisations should also be on this management core:

- Universities and Research Institutes
- Local resident and community groups
- Cooperative and other Community-Based Organisations CBO
- Private sector representatives
- International Partners

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Chapter 3: Master Plan Review Process

3.6 Guiding Principles

Future reviews of the Kigali Master Plan will require the establishment of a clear step-by-step process to ensure that:

- Decisions on required modifications are based on objective and updated data.
- All relevant stakeholders, including representatives of the community, are involved from the early stages of the process.
- The process is conducted in a rigorous scientific manner, clearly identifies the gaps of existing plan and suggests corrective measures for the review.
- Modifications and adjustments are communicated in a clear and transparent way to the public.

The Master Plan implementation performance evaluation shall be informed by the M&E mechanism which would guide the decision of conducting a comprehensive review as planned or suggest preponing or postponing it depending on the actual performance indicators.

The Review Process should follow the steps described in the following Figure 1. Variations from the process depicted may be agreed by stakeholders depending on the outcome of the M&E.

The review process incorporates the following lessons learnt during the 2019 Kigali Master Plan review :

1. Extensive Stakeholders engagement process set-up proves successful in the Master Planning process.
2. A capable in-house team is required for efficient planning and implementation of the Master Plan. Several trainings organized for CoK staff proved successful in the overall understanding of the planning process, that would help taking the plan forward.
3. An up-to-date and accurate primary data, including Socio-economic and market indicators is critical for a rapidly changing City requiring robust development strategies.
4. Intensive research and Innovations in the planning and design approaches is key for Community buy-in and inclusive planning.

3.7 Review Stages

Streamlining the process of the Master Plan update is a critical step to ensure that officials at the City of Kigali would be able to replicate and improve the process followed in the 2019 update exercise.

The diagram depicted in Figure 1 should serve as guidance for such future updates. It is subdivided in main stages (Initiation, Inception, etc.) which are subsequently organized in specific tasks.

Each of the Stages and Tasks is described in the following pages to ensure a thorough comprehension of the objective and the importance of each of them.

The following Diagram exemplifies the overall update process.

UPDATE INITIATION

Monitoring & Evaluation ▶

Decision to Update Master Plan **2**	Preparation of ToR based on M&E Assessment **4**	Selection of consultant / In-house team assignment **6**	
Monitoring & Evaluation recommendations **1**	Concept Note preparation with stakeholders **3**	Budget Allocation **5**	**7** Project Kick Off

INCEPTION

Team Mobilization / on-site project office **8**	Secondary Data Collection / Data Gap Analysis **10**	Participation Strategy drafting **12**	TAG members selection and appointment **14**	**16** TAG Meeting	**18** Inception Report
Sectoral Sub-consultants recruitment **9**	Geo-Database set-up **11**	Stakeholders Mapping **13**	Launch of Communication campaign **15**	Focus Groups set-up **17**

Preparatory Activities

Stakeholders' Engagement Kick-off

MASTER PLAN

Primary Data Collection **19**	a)Data Analysis b)Needs & Gap Assessment c)Implementation Status **21**	**22** Socio Economic Projections
	Sectoral Studies a)Housing b)Real Estate **20**	**23** Analysis and Programming Workshop

Analysis & Programming

Interim Master Plan Report **45**	**43** TAG Meeting	Zoning Plan **41**	Environmental and Agriculture Strategy **39**	Urban green and public space network **37**	Mobility system road network and standards **35**
	44 Stakeholders Presentation	Zoning Regulations **42**	Heritage, Cultural & Public facilities **40**	Housing Strategy **38**	Integrated infrastructure network and standards **36**

Detailed Master Plan – Zoning Plan & Regulations

Transportation Strategy (TOD) **33**	Final Concept Plan **31**	Conceptual Development Scenarios **29**
Structure Plan **34**	Mixed-use Planning and Density **32**	**30** TAG Meeting

Concept and Structure Plan

		Sustainable Urban development principles **24**
		25 Stakeholders Visioning Workshops / Focus Groups
28 TAG Meeting	**27** Vision and Programming Report	Public Consultation **26**

Visioning

URBAN DESIGN

a)Detailed density b)Urban blocks c) Urban form and massing **47**	Integrated Infrastructure Design **49**	Public Space design **51**	Detailed Phasing **53**	**55** UD Report
46 Community Workshop	Land readjustment / Informal Settlements upgrading / rehabilitation planning **48**	a)Mobility Strategy b)Urban Street design c)Parking Strategy **50**	Strategic and catalytic Projects design **52**	**54** Community Workshop

Urban Design / Neighborhood Plans

IMPLEMENTATION PLAN

Implementation Framework **56**	Catalytic Projects **58**	a)Institutional Framework b)Governance **60**	Detailed Action Plan **62**
a)Capital Investment Plan b)Preliminary costing and feasibility **57**	MP Management set-up **59**	Phasing Plan **61**	**63** Implementation Plan

MP LAUNCH

64 MP Launch / Public Display	**66** Master Plan Final Draft	Publication in the Official Gazette **68**
a)28 days Public Display b)Feedback Collection **65**	**67** City Council Approval	

Monitoring & Evaluation ▶

Figure 1:Review Process Flow Chart

3.7.1 Update Initiation

UPDATE INITIATION		
This is a critical stage in which the City of Kigali, in coordination with all relevant stakeholders and considering the outcomes of the Monitoring and Evaluation process takes the decision on whether updating the Plan or not. From the moment the City decides to proceed with the MP update a series of steps should be put in place to ensure an effective organization of the process. Master Planning, including overall updates, require a well-organized and skilled management team to ensure that all the activities are conducted with a scientific approach, open to the stakeholders and the public.		
1	Monitoring & Evaluation recommendations	CoK should review in detail the outcomes of the M&E process and decide whether and when to initiate the UPDATE process. Considerations on the need to update the MP could include the following (as discussed in paragraph 1.3 of this Manual): • Evidences of the changing context and economic environment. • Understanding of the stakeholder's changing needs and aspirations • Need to assess the overall Master Plan Goals, Objectives and Strategies, CIP and Catalytic projects against current socio-economic and market indicators. • Geopolitical and national context change that indicate requirement for a major shift in the strategies
2	Decision to Update Master Plan	As explained in paragraph 1.3 and above, the decision to update the Master Plan should be the outcome of the M&E recommendations While the review of certain zoning variances can happen on a regular basis, the decision on the **Periodical Review of Zoning Plan and Regulations** and **General Master Plan Review** (as explained in Box 1 under paragraph 1.3 of this Manual) should be guided by the Monitoring and Evaluations outcomes and within the stipulated timeline, for progressive and sustainable urban development.
3	Concept Note preparation with stakeholders	Upon determining the level of MP update that would be required, this stage of Concept Note preparation is critical for the CoK to justify and secure the required budget (from the Central Government or the Donors) for the project. For inclusive and equitable planning and development, CoK shall engage the stakeholders to understand their concerns and aspirations on the development process.

		A concept note shall provide a brief outline of the context, justifications for the proposed level of review required based on the M&E outcomes including Stakeholders' aspirations, expected outcome of the project and a budget overview.
4	Preparation of ToR based on M&E Assessment	This stage entails preparing a clear Terms of Reference for the Consultants to carry out the required review to update the Master Plan. M&E assessments provide information to help inform decisions, improve performance and achieve planned results. Therefore, the CoK or an external consultant (as decided by the CoK) shall prepare the ToR based on the M&E assessment outcomes. The preparation of the ToR shall be guided by the following M&E outcomes: • feedback on the progress being made towards achieving the Master Plan's goals and objectives. • assessment of completed or ongoing projects/activities to determine the extent to which they are achieving stated objectives and contributing to decision making • feedbacks requiring project improvements and informing planning of new projects • feedback on the existing qualified personnel to prepare and implement urban plans. • feedback requiring institutional arrangement for effective coordination and implementation. • feedback requiring legal frameworks for implementation
5	Budget Allocation	The budget allocation for the project generally follows the request made in the concept plan with strong justification. The project background and concept note with budget writeup shall be submitted to the government and or to the potential donors for approval and allocation of budget for the project.
6	Selection of consultant / In-house team assignment	Depending on the review of its institutional arrangement and technical capacity of the in-house staff, the City Management can decide whether an external consultant is required to perform the update or if there is enough qualified internal staff to perform all required activities. In case of an external consultant required to perform the update, the City Management shall decide on the counterpart staff to be involved in the project for coordination, technology transfer and capacity building.

3.7.2 Inception

INCEPTION		
Upon completion of the initiation stage to commence the MP update, the Inception Stage is critical in carrying out all preparatory activities to lay the ground for all tasks/activities to be performed during the entire assignment. The Inception shall clarify on the scope of work, revised methodology, and deliverables including milestones for presentation, stakeholders' meetings/workshops etc. among other activities.		
Preparatory Activities		
8	Team Mobilization / on-site project office	The project preparatory shall commence with team mobilization for the project from different work stream and establishment of project office. The Kick-off meeting shall be conducted at this stage to: • Introduce the team to client • Presentation of project process and methodology • Discussion on Kick-off activities – site visits etc. The preparatory activities may include: • identifying the Resident Team and the International Team (where applicable). The resident project team shall compose of the Project Manager, other required on-site consultant team members and the staff seconded by CoK. • Identifying the office which will serve as the coordination unit and interface with all sectoral teams working on the project.
9	Sectoral Sub - consultants recruitment	The recruitment of local subconsultants to conduct socio-economic and market study, traffic counts and any other required locally-base study would be key to generating up-to-date socio-economic projections, housing needs, market context and reliable data for an informed update of the Master Plan. The recruitment shall be finalized at this stage with clear and agreed Terms of Reference and methodology for the study. If the City of Kigali select a consultants, TOR for the subconsultants shall be agreed before finalizing the recruitment process.
10	Secondary Data Collection / Data Gap Analysis	After several years from MP adoption, several socio-economic indicators will need to be re-assessed and new primary and secondary data shall be collected. While primary data collection will require specific preparatory activities that will require some time, secondary data collection can start already at inception stage. This would include:

		• Collection of all new policies, by-laws, urban planning document adopted or under preparation • Collection of most recent statistical data • Collection of most recent studies The data required as per the preliminary inventory shall be collected from the CoK or from the meetings organized with all relevant government and international bodies to introduce the project, and to facilitate the collection of relevant data through key representatives from the institutions. The data GAP analysis shall be conducted to understand the data gaps/missing data that may be critical for the MP update. This activity shall be fast tracked to enable the review process and shall be intense at the beginning of the project. However, the data collection may continue (depending on the requirement) till the Final Update of the Master Plan.
11	Geo-Database set-up	Geodatabase set-up shall form a critical part of the MP Update process as this will hold a collection of geographic information of various feature types that are used to produce an array of maps and analysis. The Geo-database shall contain all existing available spatial data and shall serve as base for compiling additional set of information produced during the exercise. It shall respect technical requirements established by the GoR.
Stakeholders' Engagement Kick-off		
12	Participation Strategy drafting	Both institutional and non-institutional stakeholders shall be engaged in the review. After several years from its adoption, MP will be well-known among stakeholders and citizens and their feedback will be extremely valuable to orient the review. Stakeholders shall be consulted at all critical stages of the Review. Interim results shall be also presented at regular intervals to collect technical and non-technical feedback. A Stakeholders Engagement Plan shall be prepared at the beginning of the review process, clearly identifying key stakeholders and their role. A communication Plan shall also be drafted to ensure outreach activities are conducted and citizens are aware of the ongoing review.
13	Stakeholders Mapping	Engagement of Stakeholders shall be guided by an accurate and extensive Mapping exercise to identify most relevant actors. Potential stakeholders selected in the mapping might be: • Central Government Institution and Agencies • Local Authorities (City, Districts)

		• NGOs and CSOs operating in the City • Development Partners
14	TAG members selection and appointment	The identification and the selection of suitable Technical Advisory Group (TAG) members is critical for smooth coordination and critical decision making in the entire process of planning, management and implementation. The MP update may review the existing TAG composition of high-level officials from relevant government and non-government bodies, established to support, advice as a technical advisory group and help coordinate implementation of the MP in their respective institutions. The MP update may review the following criteria used for selection of the TAG members: • Must be from institutions that are deeply engaged in urban development sector such as, housing, urban planning, transport, infrastructure, economy, environment, etc. • Must be included from both governmental and non-governmental organizations, including private sector, international agencies, academic Institutes, NGOs, etc. • Must hold Director or similar decision-making position in respective institution. • Must have collaborated in city level urban strategies or be involved in major strategic decision-making processes at city or national level • Must have deep knowledge of the City's Urban Dynamics and Urban Development implementation mechanisms in country and/or abroad. The final composition of TAG members must be validated by the City management.
15	Launch of Communication campaign	A Communication Campaign shall form an integral part of the MP update to inform the citizens on the Master Plan review. The communication campaign shall be launched at the onset of the assignment and should continue through the entire duration of the project. At each stage, the Communication Team shall share messages to communicate the ongoing planning phase and collect relevant and informed feedback. Communication activities and information materials shall be coordinated with CoK to design an effective and innovative campaign, that is tailor made to suit the local context. The communication strategy may include the following key components:

		• Present project progress in Stakeholders Meetings at key stages of the process and collect informed feedback. • Conduct regular Focus Group Discussions to understand Issues and challenges with current Master Plan and request for improvements on different development goals/thematic groups. • Conduct Ad-hoc and on demand Technical Meetings organization to collect feedback and engage focus target groups. • Communicate the planning process to the Community regularly, with suitable communication techniques and communication material in English and Kinyarwanda.
16	TAG Meeting	There should be several rounds of TAG meetings conducted during the entire review process to present and seek advice and decision on key issues encountered in each planning stage. Each TAG member shall help coordinate decisions and implementation in their respective institutions. 1st TAG meeting shall be conducted at the very onset of the project to clearly explain the project to the team and to define the TAG members roles and responsibilities for the entire duration of the project through to implementation.
17	Focus Groups set-up	The identification, selection and grouping of suitable stakeholders for discussion on each thematic topic/development goal is critical to successfully implement the engagement process and for smooth coordination and critical feedbacks. The objectives of the Focus Groups may include: • Fostering and promoting a community-based data collection • identifying issues of previous master plan implementation plan • Fostering focus group discussions on thematic topics/development goals • Providing insight and meaningful feedback on the existing MP The establishment of the Focus Groups shall be done from amongst the targeted group of stakeholders for the MP update process. The Focus Group members shall be identified based on their relevance to one or more aspects of the updated/revised Development goals for the City. The process for the meetings may include: • Establishing specific objectives and expected outcomes and results for each meeting

		• Deciding on appropriate methods of consultation, which may include site visit, participatory mapping, design workshops and charrette. • Producing tailored materials and presentations to ensure clear transfer of information and foster discussions and sharing of thoughts and ideas. • Deciding on different venues to host the FG meetings to strengthen the involvement of the different actors, enhance the sense of ownership towards the Master Plan, and boost the engagement of the participants who will perceive to be partners in the project.
18	Inception Report	The Inception Report forms the basis for taking the project further. It shall generally cover the following for agreement by the Client: • Consolidated understanding on Terms of Reference and proposed methodology to undertake the assignment. • Detailed project organization structure, to ensure timely project execution and communication modal with the Client. • Detailed account of activities conducted in the Inception Stage, including kick-off, site visits, preliminary data collection and data GAP analysis; • Pending activities and follow up actions

3.7.3 Master Plan

MASTER PLAN		
This is a major stage of the update process as most of the primary and secondary data collected are analyzed and elaborated during this phase. This stage shall: • inform future outlooks/directions reinforce the City's role, and address challenges and issues raised. • develop Master Plan with stronger focus on current and future affordability. • consolidate the role of the City as per the community needs, socio-economic context and market trends.		
Analysis & Programming		
19	Primary Data Collection	One of the major components and basis for a successful planning is data collection. Although it can be a long process, Primary data provides first-hand, real time and accurate information for certain critical studies such as, socio-economic and market studies, traffic studies etc. for holistic and inclusive urban development. After several years from MP adoption, socio-economic indicators, housing needs, land uses, and other implementation challenges may need to be re-assessed. The Primary data may include: • Household survey data to determine housing demand at sector level and get context specific information for future land use and transport planning. • Commercial Real Estate and Market Trends data through Key informant interviews with stakeholders in the commercial real estate industry • Preliminary Environmental assessment • Geospatial data for mapping and analysis • The feedback and insights on the challenges and issues with the existing MP etc. coming from the Stakeholders meetings and Focus Group Discussions shall also serve as the primary data for the planning purpose. The findings from the analysis of Primary data (household, market, environmental and traffic surveys) complemented by secondary data shall form the basis for MP update.
20	Sectoral Studies a) Housing	This stage shall be critical in generating up-to-date projections of housing demand and supply within the City. Housing survey shall be conducted and complimented with secondary data sources for holistic understanding of the housing situation. The survey should cover an agreed sample size to provide sector level information on: • Socio economic and market current conditions and trends. • Detailed information on housing needs and affordability. • Transportation data such as commuting information, origin, destination, etc.

		The housing study process may include: • Understanding current market dynamics in the Housing Sector through collection of qualitative and quantitative information on the current market dynamics • Estimating housing demand using EICV latest data for the population projection, household size trends and housing demand projection. • Estimating Housing Supply through calculation of the number of existing houses that are suitable for habitation, and recently completed and ongoing housing developments data. • Determining Housing affordability ratios with computation of the data collected from household survey on households' monthly rents, household incomes and the value of the properties including, the cost of land on which the house is located. • Understanding potential financial solutions through key informant interviews and through interviews with supply and demand side of the housing market (tenants and house owners/developers) for affordable housing solutions in the City. The outcome of the Housing study shall provide an updated market analysis indicating current and projected supply of housing, future demand of housing in the City, housing affordability ratios, potential financial solutions to allow greater access to affordable housing in the City.
	a) Real Estate	It is important to understand the market to create a sound Master Plan for successful urban development. This study is particularly important to inform the update of the zoning regulations for balanced development of commercial real estate and affordable housing in the City. The following steps shall form the basis for the study: • Collecting quantitative data on the supply of commercial real estate, from the list of completed and ongoing projects from the Rwanda housing Authority One-Stop Centre (OSC). • Conducting key informant interviews with commercial real estate industry actors (tenants, brokers, property developers etc.) for insights on demand and most suitable pricing per sqm for rent and sale. • Conducting focus group discussions of tenants who are occupying commercial real estate in the City core areas. The outcome of this exercise shall be a quantitative and qualitative analysis of current and expected market dynamics, highlighting

21		current issues and proposed solutions to achieve better market performance.
	b)Data Analysis	This stage is paramount in providing an insight into the existing situation to understand, interpret and identify the issues and challenges, data adequacy or gap in terms of environment, topography, land use, settlements patterns, housing, infrastructure services, roads and transport network, culture and heritage etc. The data analysis may include the following broad process to inform the MP review: • Reviewing of relevant existing policies, rules and regulations, and other relevant studies for consideration and harmonization in the MP review. • Studying and updating of existing physical situation of the City including, considering the condition and adequacy of land uses, environment, infrastructure and transportation to support the population and growth, identifying gaps and potential opportunities. • Conducting surveys and interviews to understand socio economic outlook and market trends and transport outlook. • Mapping of approved projects and developments in the last couple of years. • Evaluating and incorporating changes in Informal settlements, and other proposals approved by the authority The outcome of the data analysis shall inform the estimation of the future land, infrastructure and transport demand, changes/formation of new set of objectives, strategies/ approaches for the Master Plan update.
	c)Needs & Gap Assessment	A MP Gap analysis shall be conducted to identify what are the key issues of MP performance in terms of: • Effectiveness of Zoning Regulations to achieve intended result on each area; • Social and economic impacts evaluation, generated by the application of Zoning Regulations; • Actuality of Master planning boundaries and identify areas for potential modification; • Implementation mechanism, governance, and the suggested financial models and identify areas for improvement. The Gap Analysis should be part of the Implementation Status Report and should provide indications to guide the MP review. GAP analysis should be conducted in close collaboration with relevant stakeholders.

	d)Implementation Status	The activities conducted during the M&E will be the key information source to assess the actual status of the implementation of the Plan. The outcomes of the M&E shall be used to inform decision on MP Review.
22	Socio Economic Projections	An up-to-date socio-economic projection shall be generated, and the underlying assumptions made in the existing Master Plan revised, to inform the Master Plan update. The projections should utilize EICV surveys or any other relevant data source that capture both formal and informal employment and incomes. The study shall focus on: • Updating the regional positioning of the City • Updating the analysis of existing socio-economic conditions of the City based on district and sector level disaggregated data • Modelling and projecting population numbers in 5, 10, 15 and 20 years from the base year, disaggregated at district level • Modelling employment distribution by key sectors (Primary, Secondary, Tertiary) in 5, 10, 15 and 20 years, disaggregated at district level • Modelling GDP growth by economic sector in 5, 10, 15 and 20 years, disaggregated at district level The outcome of this study shall inform the update of the socio-economic framework and enable the planning team to have a clear understanding of socio-economic trends at both district and sector level. The updated projections shall have an impact on the land use allocation requirements, zoning regulations and transport strategies.
23	Analysis and Programming Workshop	The Analysis and Programming Workshop shall be conducted to: • share and discuss data analysis outcomes and socio-economic updated analysis; • Review the Visioning and Programming; • Present and discuss the existing Master Plan Implementation status. The comments and feedback received from this workshop shall be recorded and considered for the way forward in updating the analyses, vision and programming.
Visioning		
24	Sustainable Urban development framework	The Sustainable Urban Development framework shall be updated to better suit the revised growth directions and development goals of the city. This shall involve analyzing **why** sustainability should be considered; **what** should be achieved to become a sustainable city; and **How** transformations can be initiated, nurtured, and reinforced.

		The social, economic and environmental indicators of the City shall be considered in preparing the Sustainable Urban Development framework, for sustainable urban transformation and resilient communities. The sustainable urban development framework shall be an outcome of community values, aspirations, issues and challenges, green growth, socio-economic situation, best planning practices, and planning objectives.
25	Stakeholders Visioning Workshops / Focus Groups	The stakeholders visioning workshops/focus group discussions should be organized where each focus group is asked to provide few aspirations for their city that would guide towards a collective vision. The objectives of the meeting may include: • Modalities for the development goal/thematic topic • Problem identification and prioritizing • Identification of strategies and actions • Draft Action Plan • Review of the Vision for Master Plan update For each Focus Group Discussion, specific objectives and expected outcomes and results shall be established to properly design the participatory session and select the appropriate methods of consultation. Tailored materials and presentations will be produced to ensure a clear transfer of information and foster the discussions and sharing of thoughts and ideas. Outcomes of these workshops shall provide the planning team with the local knowledge and wisdom on implementation issues, support the data collection and analyses process, and ensure planning solutions that are tuned to the local context and aspirations and needs.
26	Public Consultation	Public participation in the management of Cities has become key for the sustainable development of the communities. A multi stakeholder's consultation and decision-making process shall be established to: • reach out and penetrate communities of every walks to take their pulse and seek opinions • ensure that plan is socially inclusive, and the stakeholders can make informed decisions. • Help create inclusive strategies and approaches that are sustainable in terms of social, environment and economic growth of the cities Public consultation shall be conducted to seek opinions, feedback and comments on the Visioning for the City. The consultations may

		be in the form of social and digital platform such as, Facebook, Twitter, SMS, Digital Board, and Radio. The comments, opinions and feedback received through these social tools shall be recorded and considered in the MP update for inclusive and equitable planning and development.
27	Vision and Programming Report	The Visioning and Programming Report should be a comprehensive report including the findings and analysis through studies, surveys, Stakeholders meetings, focused group discussions and Technical Advisory Meetings (TAG). The following explains the broad process involved in formulating this report: • Conducting a primary household survey to generate current socio-economic, market conditions and trends, housing needs and affordability, as well as transportation patterns data • Reviewing the current national level policies, strategies and initiatives and incorporating into the updated Master Plan • Reviewing the city development strategies and existing urban plans to update the growth directions of the city. • Updating the detailed analysis of existing physical context and conducting comparative analysis of City development to identify prevailing key development issues and challenges • Revising the Urban Sustainability Framework to address the current key economic, social and environmental issues • Benchmarking of relevant and comparable international best practices on development models and projects proposed for the City • Determining and updating the broad land requirements for accommodating various future land uses including infrastructure. • Refining the development vision, goals, objectives and development strategies for the MP Update. • Conducting Stakeholders Meetings, Focused Groups Discussion and Technical Advisory Group Meetings in parallel during the project stage to engage the communities in data collection, ideas sharing, master plan updating progress, comments and feedback. This report forms the basis for elaborating and working on clear proposals for each thematic topic and updating zoning plan and regulations.
28	TAG Meeting	At this stage, TAG meeting shall be conducted to present and discuss: • findings from the data analysis • socio-economic projections and market studies

		• the focused group discussions
		• comments collected from other forums
		• review of the Vision for Master Plan update.
		This stage is critical for receiving informed advice on the current Master Plan status and update needs.
Concept and Structure Plan		
29	Conceptual Development Scenarios	With the updated and informed look on the development trend of the City and aspirations of the community, this stage entails working on updated and alternate Conceptual Development Scenarios.
		The spatial growth strategies and key opportunities shall be identified and, the direction set by these development strategies shall guide the development of conceptual development scenarios. The Conceptual scenarios may include the following broad strategies:
		• Establishing a range of employment centers in the City; • Creating affordable and quality living environments in the City; • Developing compact, vibrant & transit-oriented City; • Managing and improving the environment and infrastructure; • Preserving urban heritage & enhancing public greens; and • Consolidating and reserving land for future needs
		Generally, two (2) alternate Conceptual Options shall be prepared. These scenarios shall be tested against the planning site in terms of: ▪ Overall growth direction; ▪ Physical feasibility and appropriateness; ▪ Developable area and carrying capacity of the planning area; ▪ Position/location of various land uses in terms of inclusivity, compatibility, efficiency and environmental situations; ▪ Harmony with the existing relevant national polices, strategies and other relevant studies.
30	TAG Meeting	The Conceptual Scenario options shall be presented to the TAG for deliberation and selection of one (1) scenario. It may be a selection of one of the scenarios or a combination of the two scenarios. The feedback and comments shall be recorded to finalize the Concept Plan.
31	Final Concept Plan	The Final Concept Plan shall be a result of revision and refinement on the selected conceptual scenario option, incorporating comments and feedback from TAG.
32	Transportation Strategy (TOD)	The ToD strategy is generally adopted in the planning and development process for inclusivity, equity, and long-term sustainability of the cities.

		Specifically, the ToD strategy should: • ensure achieving targeted ridership and financial sustainability in the long term; • bring people closer to work, home, play, and shop; • provide access to all at affordable cost for Citywide resources and build resilience to climate change and other disasters. The MP update shall review if the ToD strategy adopted in the existing Master Plan has been effective in terms of: • connecting a high number of riders within the city in a comfortable, affordable and efficient way. • Providing adequately for pedestrians and cyclists encouraging the use of non-motorized transport to and from the transit hubs. • Investments being made on the public transport as compared to infrastructure for cars. • Efficiency of the mixed-use neighborhoods' modal in terms of travel distance between home, work and play. • Connecting public spaces and vibrant commercial frontage with transport network for all. • Creating inclusive and vibrant integrated neighborhoods with variety of housing choices and easy access to quality, affordable facilities.
33	Mixed-use Planning and Density	To transform physical spaces in cities, and to strengthen socially inclusive planning and design approaches, one of the key themes of development should be mixed-use planning. Mixed-use planning shall foster community development that integrates social, economic and environmental aspects. The mixed-use planning objectives should be: • To achieve a balance between residential, commercial, retail and public spaces. • To ensure inclusiveness, affordability and diversity in the residential community. • To ensure that public spaces and facilities, and parking spaces are well distributed for common use. Density forms a critical factor in the effectiveness of the mixed-use planning model. The MP update shall study the mixed-use and density proportions in the neighborhoods, in terms of: • Affordability within mixed-use areas that are integrated, well connected and have vibrant commercial, public spaces and facilities that attracts diverse users.

		• Provision of mixed density in creating a range of housing options to create inclusive, diverse and a vibrant community • Implementation of inclusionary zoning and density bonuses in inducing higher density development with affordable housing • Development of high-density housing at strategic locations around transit corridors and employment centres • Improvements in the usage of public transport and the integration of transport services and Non-Motorised Transport (NMT). Stakeholder engagement, specially the Focused group discussions would be effective in identifying issues and challenges and potential strategies in developing sustainable and affordable mixed-use neighborhoods.
34	Structure Plan	Structure Plan should provide the structure of the development areas and location of the key activities within the City. It shall include basic minimum requirements regarding spatial development to produce a socially, economically and environmentally coherent Master Plan. The MP update should review the existing Structure Plan and identify issues or its effectiveness, in terms of: • Urban nodes hierarchy and sustainability of the proposed City Centres and Regional Centres • Consolidation of industrial clusters for well-connected employment zones; • Improvement in connectivity and accessibility via transit corridors; • Meeting the infrastructure demand; • Implementation of mixed-use zones at key locations along public transit corridors and in proximity to employment centres, to create well connected system of housing, jobs and public transport; • Redevelopment of existing unplanned settlements into higher density residential developments; • Development of clusters of consolidated housing in the rural areas; • Conservation of nature areas and protection/ restriction of development on steep slopes The Structure Plan is a link between the vision and the rational decisions regarding long-term physical planning of urban areas. Therefore, this shall form the urban development framework in the Master Plan update.
Detailed Master Plan – Zoning Plan & Regulations		
35	Mobility system road network and standards	The Transport planning stage should be carried out in parallel with land-use planning. This process for the MP Transport Plan update shall include:

•Transport Data Collection Requirements:
- ➢ 12-hour Classified Intersection Counts (including pedestrians) and Vehicle Occupancy Surveys at key locations
- ➢ 7 day Electronic Traffic Counts
- ➢ Public Transport Data (Routes, Capacities, Demand, User Charges, Fares)
- ➢ Journey Time Surveys along key routes
- ➢ Household Travel Surveys

•Transport Status Quo:
- ➢ Review of existing Transport policies and standards
- ➢ Benchmarking and best practices with respect to transport planning
- ➢ Map Existing Road Network
- ➢ Map Existing Public Transport Network
- ➢ Map Existing Non-Motorised Transport Network
- ➢ Determine Implementation Status of Previously Proposed Projects

•Strategic Transport Demand Model:
- ➢ Develop and calibrate the strategic model to survey data
- ➢ Determine future demand based on planning inputs
- ➢ Analyzing the effect of the forecasted upgraded land-use and the effect thereof as derived from the Macro simulation model.
- ➢ Identifying network upgrades due to land use changes and developments.

•Transport Needs Assessment (Future Transport Demand Estimation):
- ➢ Road network: Establishing an efficient highway grid and arterial system ensuring the long- term regional and local connectivity recommending road capacity improvements. Review and improve road network standards to match international best practice while meeting local requirements.
- ➢ Public Transport network: Establish an Integrated Transport Network with defined modes, routes and purposes.
- ➢ Freight network: Determine freight corridors and logistic hub locations
- ➢ Non-Motorised Transport Network: Establish an accessible Non-Motorised Transport Network with phased prioritized implementation.
- ➢ Policy Implementation: Review existing policy implementation procedures and identify areas for improvement.

36		➢ Universal Access: Review and develop guidelines to ensure that all transport implementations follow best practices for accessibility where possible. ➢ Parking: Develop Parking Strategy The Transport Master Plan shall be an outcome of a thorough analysis, traffic study and stakeholder's engagement: Stakeholders meetings, Technical meetings, Focus Group discussions (FGD), Technical Advisory Groups (TAG). The comments and feedback collected from all meetings, discussions and digital platforms shall be incorporated in the interim assessment and the revised Macro-Demand Model shall be incorporated in the updated Detailed Master Plan.
36	Integrated infrastructure network and standards	Efficient and effective infrastructure plays a critical role in achieving the United Nations' (UN) Sustainable Development Goals (SDG). The MP update shall review the effectiveness of the existing Integrated Infrastructure Plan and its projects as per the following criteria: • Availability – Access to basic services; • Reliability – Meeting performance standards for a desired duration; • Appropriateness – Relevant service and technologies to meet demand; • Affordability – Available funding for implementation and reasonable tariffing for consumers; • Sustainability – Meeting current needs without compromising future social, environmental and economic standards The study shall update the Master Plan Programming, with a revised estimation of future land and infrastructure demand required for the next 30 years. At this point the planning approach, strategy, targets and KPI's should be established. It is imperative that the recommendations from the previous master plan are looked at in terms of the relevance and importance, and then considered for any future updates. The Infrastructure Plan Update including the projects for prioritization shall be an outcome of thorough analysis and Stakeholder engagement: Stakeholder meetings, Technical eetings, Focus Group discussions, TAG and other digital forums. It is critical that corridors are secured in the plan for future infrastructure construction.
37	Urban green and public space network)	Sustainable Cities and Communities is one of the goals (no. 11) of the Sustainable Development Goals (SDGs) to be achieved by all nations in the world by 2030. Therefore, the Green network plan

		shall be prepared considering the following broad strategies towards maintaining a Green City: • Planning for compact and integrated development with green transport, well connected public spaces promoting universal access • Promoting green buildings and resilient infrastructure for efficiency and improved livelihoods. • Leveraging natural resources for green economic activities such as, wetland parks, recreational parks, green hiking and biking trails, and sustainable harvesting of forest and wetland resources; and Stakeholder engagement is crucial for successful progress and achievement of the green space plans for the City. The Urban green network would be an outcome through extensive stakeholder input into the development process.
38	Housing Strategy	The MP update shall provide a critical look into the Housing affordability in the City as it plays an important role for the community and its economic growth. The results coming out of the Primary Household survey along with other available secondary data shall be analyzed to determine the status of housing, income and demand for various housing typologies in the City. The housing scenario shall be assessed in terms of: 1. Availability of adequate quality affordable housing; 2. Density of urban settlements; 3. Redevelopment /upgradation of underserviced and unplanned settlements; and 4. Public open spaces and social infrastructure within residential areas This MP update shall investigate the effectiveness of the following housing strategies adopted in contributing towards housing affordability: • Zoning ordinances allowing mixed-use development which would encourage integrated, compact and affordable developments • Provision for Incremental development as per availability of resource and requirement. • Use of local materials and compact typologies in addressing affordability issue. • Implementation of Land readjustment / land consolidation schemes to assemble land and promote integrated mixed-use, mixed income development.

		• Provision of Incentives to developers for creation of affordable housing • Redevelopment of unplanned settlements into medium-rise residential. Stakeholders engagement of the residents from the early stage would develop a cohesive community with strong sense of ownership in the planning and development of affordable housing.
39	Environmental and Agriculture Strategy	The National directives on Green Growth concept underlying the environmental and natural resource plans shall form the basis for the MP update. Concept The MP update shall consider some of the following broad environmental and agriculture strategies for the sustainable development of the City : • Protection and Conservation of Slopes, Wetlands and Forests, allowing for regulated sustainable use in less fragile areas for recreational activities, agriculture, and local material extraction (where applicable); • Restoration of wetlands, waterbodies and forests encroached by human livelihood and urbanization activities and relocation/resettlement of households inhabiting restricted and hazardous areas; • Preservation of net area of agricultural lands, while boosting productivity through agro-ecological best practices, reduced reliance on inorganic fertilizers and pesticides, and development of irrigation systems; • Promotion of agroforestry and sustainable forestry favoring native species to restore ecosystem services such as watershed protection, slope protection, and production of timber, fuel wood, fruit, nuts, medicine, etc.; • Development of integrated environmental management plans

40	Heritage, Cultural & Public facilities	The MP update should take into consideration the heritage and cultural aspects of the City. Heritage, Cultural and Public facilities play an important role in creating a sense of identity. They create a link to the past providing lessons, and in connecting tangible and intangible narratives of places. The cultural and heritage assets of the City shall be identified for preservation/conservation and or restricted uses. The criteria for identification may include: • Aesthetics: reflected in design, style, construction and age; • Historical significance: influenced by the historic event, phase or activity; • Social value: where buildings and structures have become a focus for spiritual, political or national cultural sentiment; • Technological significance: the degree to which a building, structure or monument reflects the technology available at the time of construction As the city rapidly urbanizes, the importance of cultural heritage assets identification, developing policies, strategies and incentives to promote heritage conservation and management becomes pertinent for re-emphasis in the MP update.
41	Zoning Plan	The Zoning Plan provides landowners and developers with a clear picture of what uses can be developed on any plot. The Zoning Plan shall identify specific zones within the planning area based on the revised predominant land uses, and the desired intensity, building height and density for that area. Zoning Plan shall be updated when there are issues/changes identified in terms of: • National polices and directives • population and employment scenario of the City • land requirements and density reforms • socio-economic projections • affordability and housing needs from socio-economic studies and commercial real estate trends • community/stakeholders' aspirations
42	Zoning Regulations	Zoning Regulations shall explain and guide the public and private sectors, international organisations and citizens at large, to follow the stipulated set of development regulations and guidelines that reflect the vision proposed in the Master Plan. The zoning regulations shall broadly cover: • Permitted, Prohibited and Conditional Use of land in the City including agricultural resources;

		• Regulation on the location, use, height and bulk of buildings and structures including industrial and public facilities requirements; • Provisions for housing choices, incentives and economic diversity in housing; • Regulation on the location and use of parks, public and private open spaces; • Regulations on preservation of desirable open space, historic and cultural resources, water resources, wetlands, forests, and other environmentally fragile and important areas; • Provisions on community utilities and facilities such as transportation, water, sewerage, and other public requirements; Zoning Regulations shall allow for regular updates to the Zoning Plan and the CoK shall establish procedure for zoning variance request.
43	TAG Meeting	The TAG meeting at this stage in the MP update shall be conducted to present and discuss: • Updated Interim Master Plan including: Zoning Plan, Infrastructure and Transport Plan • Any other issues or decisions required. This stage is critical for receiving informed advice and decisions towards finalizing the Master Plan.
44	Stakeholders Presentation	The Stakeholders meeting shall be conducted to present and seek feedback on the proposals coming from the: • Updated Interim Master Plan including: Zoning Plan, Infrastructure and Transport Plan • Update on the Comments Collected through stakeholder engagement The comments and feedback received from the Stakeholders meetings, TAG and other forums shall be incorporated to inform the preparation of Final Master Plan.
45	Interim Master Plan Report	The preferred vision and development directions once identified according to the current issues, challenges, and aspirations shall guide the development of an updated Interim Master Plan. The process for the preparation of Interim Master Plan Report may include: • Identifying Founding Principles of the Master Plan • Developing updated Structure plan based on the updated analysis and identified development directions • Developing detailed land use requirement as per the updated socio-economic study

		• Updating Master Plan (including updated land use plan) based on the proposals/strategies identified for each development goals/thematic topics. The updated Master Plan shall be read in conjunction with the updated Zoning Plan and Regulations, which is generally compiled as a separate report. • Extensive Public participation & Engagement approach which forms the basis for all decisions towards an inclusive plan

3.7.4 Urban Design

		URBAN DESIGN
		This stage is pertinent in realizing the proposals made in the Master Plan for certain priority areas of the City. The selection and prioritization of the urban design areas form an integral part of this stage. Urban design is usually prepared for a distinct urban block but would require an integrated way of planning, for the whole and the parts to form a unified architecture of the city. An urban design plan shall consist of: schemes that integrates social, economic and spatial aspect in urban development, zoning plan and regulations, and detailed phasing plan, for sound implementation.
		Urban Design / Neighborhood Plans
46	Community Workshop	Community Workshop shall be conducted at the onset of preparing Urban Design Plans, and an extensive stakeholders' consultation process shall be carried out through Focus Group Discussion, Stakeholders Meeting, and other digital platforms to identify the changes required in terms of vibrancy, accessibility, affordability and inclusion. The 1st community workshop shall be the key in: • ensuring a common understanding of the urban design target areas and the physical environment; • identification of issues and opportunities in selected target areas; • guiding the interaction on selected thematic topics; • developing shared strategies for the future development of the selected design area. The Community Workshop organized during the Analysis Phase, provides the Planning Team with an important insight into the local knowledge, aspired vision, improvements required and to collect significant primary data through the interaction with stakeholders having deep understanding of the existing MP.
47	a) Detailed density	There are social, economic, and environmental benefits of living in higher density areas that are designed for mixed-use, walkability, human scale and efficiency. The urban design shall consider higher density development such that they: • Operate efficiently with commercial dynamism, and pedestrian access to amenities. • Reduce automobile dependence and traffic congestion with walkable areas and focus on greater transportation options.

		• Increase safety, social cohesion and convenience by providing amenities within proximity of each other. • Reduce encroachment on rural/agricultural land and greater environmental sustainability. • Provide more efficient and economically feasible infrastructure.
	b) Urban blocks	With ever increasing city dwellers, the type of urban blocks and urban form are critical to cope with and accommodate the population influx. The urban blocks are fundamental component that gives physical structure to the urban areas and should be critically reviewed in terms of: • size, dimensions, and shape - they contribute to the formation of the character of the surrounding environment • position of the blocks - they define the edges and pattern of streets and squares; and • formation of blocks –are effective in determining traffic patterns and visual corridors.
	c) Urban form and massing	The urban form describes the city's physical characteristic and it forms a critical element in shaping the structure of the City. The following urban form characteristics shall be reviewed in the Urban Design Update: • Housing type mix and level of mixed uses to provide variety of opportunities and social interaction • Creation, protection and enhancement of view corridors. • Walkability with access to services and facilities • Connectivity of the street system An efficient urban form shall follow the following broad principles: • Respects and works well with topography, wetlands, open spaces and view corridors. • Allows compact developments and densification with possibility of incrementality. • Promotes integrated mixed-use urban form that minimize travel distance and time, contributes towards protecting green spaces, reducing construction material usage, and promoting economies of scale. • Promotes use of passive energy through orientation of buildings, layout design, urban densities, and landscaping. • Ensures clear street edge along the commercial corridors with active uses at the ground level.

		• Ensures relationships between Buildings, Streets, and Open Spaces by controlling building massing to a scale compatible to its context • Promotes integrated transportation network and pedestrian oriented design. • Ensures accessible streets, attractive and human scale streetscapes, attractive public spaces and community open spaces. • Ensures height, form, massing, and scale of development have a balance between consistency and variety.
48	Land readjustment / Informal Settlements upgrading / rehabilitation planning	The MP Update shall review and identify any issues or challenges in the implementation of land readjustment schemes identified in the existing Urban Design Plan. The land readjustment schemes shall follow the following process: • Participatory approach for agreement in pooling all land parcels of the project area and planning as one unit. • Deduction of an agreed proportion/percentage of land from the original land size for roads, public spaces, infrastructure etc. • Redistribution to the original landowners after deducting the land required for roads, other infrastructure, reserve land, public open spaces, etc. The implementation of such a scheme should render an inclusive community that is happy and willing to work together. Each landowner shall get back a plot that is smaller than the original area, but with enhanced value.
49	Integrated Infrastructure Design	The Urban Design update shall make considerations to support integrated infrastructure design that: • provides a natural relief to the built environment through green, low-carbon and sustainable approaches, • improves the street aesthetic, and • delivers benefits to the community through efficient and well-coordinated infrastructure provisions (avoiding conflicts between transportation, utilities and other infrastructure). It is important that the focus is not only on one specific type of infrastructure, its function, construction, materials etc. But rather on how it will fit in with other infrastructure

		services and be spatially integrated into the urban and natural environments. The integrated infrastructure design should provide better co-ordination across institutions, enable cost effective deployment of resources and maintenance of infrastructure, create green and efficient streets and buildings, efficient technologies for reduction in energy use and resilient infrastructure.
50	a) Mobility Strategy	The MP update shall study the effectiveness of the proposed green mobility strategy through: • Extent of the NMT network and their vibrancy • Level of improvement to and additional pedestrian infrastructure and signages • Level of improvement in the public transport both in terms of infrastructure and usage. • Analysis of the neighbourhoods for their walkability and connectedness. The Urban Design Update shall study how the built environment influences travel to provide strategies that are appropriate for all groups of people. The following criteria shall be taken into consideration: • Density: Ratio between people and structures in specific land area. • Diversity: Mixed balance of uses. • Design: Street network characteristics. • Destination Accessibility: Ease of access. • Distance to public transport: Shortest route from home/ work/shop to nearest stop.
	b) Urban Street design	The urban street design shall ensure vibrant and active commercial frontages that are well connected, pedestrian friendly and safe. The design of the urban streets shall take the following into consideration: Topography- The existing topography shall be respected as much as possible, but the design of the street needs to control grade and alignment to ensure smooth connectivity between streets. Building interaction with the street – The design shall ensure that the building front alignment with arcade at the ground floor and terraces or balconies at the first floor will offer variety of opportunities for interaction with the street. Legibility - The design shall ensure legibility of streets through proper signages, easy and safe crossings and clear connectivity.

		The street design should promote: • People and pedestrian oriented movement; • Development along and near high quality Public Transport; • vibrant commercial frontage and squares • Safety and surveillance of the streets • Well-connected streets with efficient parking strategy for sustainable mobility.
	c) Parking Strategy	The main objective of the parking strategy is to reduce parking demand and not to accommodate the expected growth in parking demand. Meanwhile, the parking strategy must also ensure adequate accessibility for the support of businesses and the economy. The strategy shall determine the following: • Location of all on-street and off-street parking, including freight loading bays; • Confirmation of ownership (Private or public); • Estimate public Utilization during a representative weekday; • Estimate purpose and duration; • Identify critical areas where parking is fully utilized and identify areas where high parking demand leads to illegal parking. The MP update shall identify and recommend minimum and maximum parking standards and policies based on local objectives and international best practice.
51	Public Space design	Public Space designs are critical to create lively, vibrant, well-connected and aesthetic neighborhoods. The designs shall: • focus on the relationship between people and the surrounding. • analyze what type of and where should the public spaces be located. • Determine the rights and responsibilities for safeguarding public spaces The following broad objectives shall be considered in the design of public spaces: • Connect public spaces with neighbourhood uses, and with streetscape to complement as extensions of sidewalks.

		• Locate and design public spaces to maximize physical comfort and visual access • Express neighbourhood's unique character and culture • Support Public Transport and NMT • Design sidewalks to enhance pedestrian experience through sidewalk • Design public spaces to encourage social activity, play, and rest • Integrate sustainable practices into the landscape designs
52	Strategic and catalytic Projects design	After several years since MP adoption, a new set of strategic and catalytic projects designs would be required to align with the evolving socio-economic situation in the City, changes in the national and local policies, and market trends. Objectives of identifying Strategic and Catalytic Projects for design may include: • Strengthening and rethinking the role and re-organizing the structure of the area; • Enhancing mixed-use and entertainment precincts for vibrancy and attractiveness of the site; • Developing urban design guidelines for key precincts to guide development of a vibrant and attractive environment • Enhancing pedestrian and green links/corridors in the areas • Incorporating all recent projects in the design and aligning with market trends. The design of the projects shall be an outcome of the updated primary data analysis, extensive interaction with stakeholders and deep understanding coming from many years of implementation. The selected Strategic and Catalytic projects shall form a part of the Implementation Action Plan.
53	Detailed Phasing	The update shall include detailed phasing for implementation of each project. The phasing maps shall clearly identify the phases for development projects within the urban design areas and help source adequate funding to finance the project. The prioritization of developmental activities within each phase shall consider: • requirement for relocation of people, • land management approaches,

		• funding availability, and • relevant policies and legislation. Each phase of development shall contain adequate infrastructure and other public facilities to allow the phase to stand on its own without depending on the development of subsequent phases.
54	Community Workshop	At this stage, the Community workshop shall be conducted to present the draft urban design plans including zoning plan and regulations to seek final opinions, comments and feedback from the stakeholders. The final comments received shall be considered and incorporated in the Draft Final Urban Design Report. The urban design plan including the zoning plan and regulations shall be an outcome of the Community Workshops, Focused Group Discussions, and dedicated Participatory Workshops (for specific areas) conducted during the Master Plan review process. The process helps the design team in identifying the changes required to facilitate development.
55	UD Report	The UD Update shall focus on reviewing the design and addressing the issues faced by the authorities and the stakeholders in the implementation of the existing Urban Design. The UD update may include additional areas for urban design or with changed boundaries, as identified and agreed by the City Management through stakeholder engagement. The Urban Design Report may broadly include : • Analysis of the Urban design sites – Physical context and Implementation issues, constraints and opportunities, urban design area boundaries etc. • Redefining vision and strategies • Proposals for connectivity enhancement and public spaces, parks and green network plan • Proposals for workable and enhanced urban form, density, identity, and vibrancy. • Zoning Plan and Zoning regulations to achieve the specific desired urban character, and ambience at the ground level. The provisions made in the UD zoning regulations therefore shall supersede the general zoning regulations of the City Master Plan.

3.7.5 Implementation

IMPLEMENTATION		
This stage is pertinent to guide the implementation of the Master Plan by providing a clear implementation framework and action plan for the identified projects. Unless supported by effective implementation strategies, the Master Plan by itself cannot induce economic growth and improve the quality of life of the people.		
Implementation Plan		
56	Implementation Framework	The Implementation Plan shall include the Implementation Framework to guide the implementation with a holistic view of the current implementation arrangement, issues and challenges. The process shall include: • Review of the existing implementation framework, including any recent changes in the implementation arrangement; • Identifying core implementation issues, challenges and priority needs; • Establishing objectives and strategies for the Master Plan Implementation based on the planning strategies, goals, targets and KPIs developed during the Master Plan review. • Developing proposed Implementation Framework, considering the priority needs and core implementation challenges. The Implementation framework shall suggest clear direction for City's priority interventions in terms of Institutional framework, CIP and Catalytic Projects among others.
57	a) Capital Improvement Plan	The Capital Improvement Plan (CIP) are long term infrastructure and environmental projects identified through projected needs of the City and lists' the planned public infrastructure projects such as, Transport, Power, Water, Sanitation, etc. that are to be budgeted by the government for capital improvements. The CIP Projects shall be analyzed to determine the detailed physical requirements and the implementation mechanism. Although the CIP projects are funded by the government, strategic public private partnerships shall be explored to minimize the financial burden on the public sector.

		The CoK shall, following the phased implementation of the Master Plan set in the Action Plan, establish Project Teams to secure the delivery of the key development projects of the Master Plan.
	b) Preliminary costing and feasibility	A preliminary/ broad costing for key priority CIP projects shall be included in the Implementation Plan to provide a notion to the responsible authorities for budgeting purposes.
58	Catalytic Projects	The catalytic projects such as, city center development, affordable housing, mixed use development, upgradation etc. are identified to induce timely development in the surrounding areas as per the planning intentions and to demonstrate successful implementation benchmark for similar developments in the City Kigali. Similar to the CIP Projects, Catalytic projects shall also be analyzed to determine the detailed physical requirements and the implementation mechanism. Potential Implementation models such as land readjustment, PPP etc. shall be explored to secure land and implement the projects. The CoK shall, following the phased implementation of the Master Plan set in the Action Plan, establish Project Teams to secure the delivery of the key development projects of the Master Plan.
59	MP Management set-up	The Master Plan implementation shall require clear mechanisms for its continuous adaptation to the constantly changing environment to ensure correspondence between Master Plan's strategies, socio-economic, and market conditions. Therefore, the Master Plan Management set-up is critical to recommend a set of processes and procedures to enable enforcement of the Master Plan. Some of the processes and procedures may include: • Master plan review process and procedure • Participatory Monitoring and Evaluation mechanism The Implementation update may also include additional tools for an efficient Urban Management, such as: • Master Plan Database Management for safe-keeping and updating the Master Plan Database • Internal Procedural Manual to monitor the Master Plan Review, Zoning Variances, and Database Management among others.

		• Periodical Review of the Master Plan, Zoning Plan and Regulations to monitor and update them as per the changing socio-economic situations, national directions etc. • Sectoral Management Plans for CoK to equip itself with a new set of management plans and professional skills for the changing strategies and implementation modalities. • Master Plan Monitoring and Evaluation System that enables a comprehensive database, that can be constantly updated, to promptly address the issues faced during the implementation process.
60	a) Institutional Framework	The review of institutional arrangement is essential to understand the adequacy of the institution for planning and implementation of the Master plan. The Implementation Plan shall therefore provide indications regarding sector specific institutional improvements for the effective urban management of the City. Some of the recommendations in designing the new institutional structure may include: • Reinforce, streamline or strengthen relevant departments/units in the CoK to enable higher responsibilities and effective facilitation for planning and implementation. • Establishing a Zoning Variance and Special Projects Committee to assess zoning variances and special projects application and provide technical feedback to guide the decision-making process. • Establishing Master Plan Management team to coordinate monitoring and updating of the Master Plan implementation based on M&E outcomes.
	b) Governance	Implementation Plan shall include a Good Governance component as it is critical in the future development of the City, for an integrated, inclusive and sustainable development. The actions to enhance and promote Good Governance may include: • Coordinating Body for Urban Development that helps in coordination and collaboration of different institutions to harmonize and expedite the development process.

		• Additional Policies and Strategies to support the implementation of the Master Plan • Implementation Toolkit to ease the burden on the Government and implement more innovative and inclusive tools to achieve the desired development such as, Incremental Development, Land readjustment, Transfer of Development Rights (TDR) etc. • Potential Financing Mechanisms as implementation enablers.
61	Phasing Plan	The phasing plan is a key tool for the implementers to prioritize development in a particular area of the City, and source adequate funding to finance the project. The Implementation Plan shall include the Phasing Plan that clearly demarcates the City into a number of phases, as per the broad land requirements calculations, for the projected population and employment. Each demarcated phase shall contain adequate infrastructure and public facilities to allow the phase to stand on its own without having to depend on subsequent phases. The key factors for phasing demarcation may include: • Phasing duration/Development programme; • Catalyst Programme and Implementation Projects; • Priority areas in upgradation of unplanned settlements or redevelopment of urban renewal areas; and • Priority areas in redevelopment of peri-urban and green field areas; The prioritization of developmental activities shall consider, relocation of people, land management approaches, funding availability, and relevant policies and legislation, that maybe required.
62	Detailed Action Plan	The Action Plan shall be developed with an understanding of, not only the current and probable challenges that might be faced by the City in implementing projects, but also to track the implementation status of all activities proposed in the Implementation Action Plan. The Action Plan database shall be organized in a form of a matrix, following a standard structure, and may include indications on: • **Implementation Component:** as included in the proposed implementation framework • **Location:** in which the specific actions shall take place. • **Description:** detail on the nature of the action.

		• **Status:** of the projects (new, ongoing, completed etc.) • **Implementers:** the responsible institution for the implementation of each action as well as the contributors towards inter-institutional coordination and integrated planning. • **Possible implementation model:** such as, PPP, Land Assembly, etc. • **Priority:** suggest the priority of the specific actions. • **Indicators:** suggested to help in the monitoring of each action. • **Baseline:** the starting point from which the monitoring is starting • **Phasing:** the phase in which each action should start or should be completed. • **Cost:** a broad costing for key priority CIP projects, for budgeting purposes. This Action Plan database shall be used as a monitoring tool by the CoK, to keep track and identify bottlenecks on the proposed projects.
63	Implementation Plan	This Implementation Plan shall focus on providing a clear plan of action to realize the Master Plan, considering the current key implementation challenges / issues faced by the City and other probable challenges and needs that the proposed Master Plan could encounter in the process of implementation. The Implementation Plan shall broadly include: • Strategies that should be implemented to achieve specific implementation objectives; • Action plan with a clear implementation approach, timeline, and broad costing (for key priority projects) to implement the identified projects for harmonic and balanced urban development; • Improvements that need to be applied to the Implementation framework including, the institutional and governance framework to support Master Plan's management and implementation; • Role of the public institutions and private sectors, international partners and, citizens to make the vision a reality; • Priority actions and projects that define specific roles to be taken by the various stakeholders, for coordinated

█		implementation, monitoring, enforcement and management of the Master Plan.

3.7.6 Launch

MP LAUNCH		
This is yet another milestone in the Master Planning process. It is required by the law to display the Master Plan for public viewing to include larger participation base and to receive objections (if any), opinions and comments on the Master Plan proposals.		
Master Plan Launch and Display		
64	MP Launch / Public Display	The CoK in collaboration with relevant stakeholders shall launch the Draft Detailed Master Plan for public viewing and for collecting any final comments, objections, and feedback. The Master Plan shall be put on public display in the CoK website as well as on the display panels at CoK premises.
65	a) 28 days Public Display	The Master Plan shall be on display for 28 days, following the National directive on public displays. Within these 28 days, all comments, opinions and feedback coming in shall be recorded for review and incorporation in the Final Master Plan.
	b) Feedback Collection	The feedback shall be collected by the CoK through various medium (verbal, notes, emails, twitter, messages etc.) and compiled for review and incorporation after the 28 days display is over.
66	Master Plan Final Draft	The Master Plan Draft Final shall incorporate the changes after a thorough review of each objection/comment/feedback received from the Public Display.
67	City Council Approval	The Master Plan Draft Final shall then be submitted to the City Management for presentation and approval by the City Council.
68	Publication in the Official Gazette	The Master Plan once approved by the City Council shall be published in the Official Gazette and released for implementation. It will become effective and all development will be subject to its prescription and adherence by the CoK and all stakeholders.

4

Chapter 4:Future Review of Geodatabase and Portal

4.1   Database Design

The purpose of a database design is to provide a spatial framework, to support decisions for the intelligent use of spatial data, as well as to manage it efficiently. Hereafter, database will be called as "Geodatabase" in this report. It will illustrate the design specifications and approach to develop the new GIS Data model/ schema for Kigali City Master Plan.

The concept of a Geodatabase is to provide a set of best practices, for the creation of a data model, that addresses the need for storing geographic data and provide a set of rules that govern the posting and extraction process.

The Geodatabase is a collection of geographic datasets of various feature types. This geographic information model is to organize GIS data into thematic layers and spatial representations. The Geodatabase is a comprehensive series of application logic and tools for accessing and managing GIS data. This application logic is accessible in software like ArcGIS Desktop, other ESRI Software, QGIS, Super GIS desktop and other GIS based software.

From a broad perspective, a database design provides a snapshot of the current state of an organization's data infrastructure. The database design also begins with identifying the layout and the current state of an organization's database as well as in the future. The Database design is usually an iterative process, and there should be enough flexibility to accommodate the modifications in the future.

The proposed database design must be well structured to accommodate all requirements mentioned in the Master Plan. Inherently, the Geodatabase is divided into Feature Datasets. Internally, each Feature Dataset has feature classes and topology rules in order to serve the organisation's business and database requirements.

Proposed Geodatabase organisation for the Kigali Master Plan 2019 is below:

Kigali City Master Plan 2019.gdb
- Administrative_Boundaries
- Implementation_Projects
- Infrastructure
- Infrastructure_Phasing
- Landbase
- Others
- Overlay_Plans
- Topography
- Transportation
- Fifteen_Meter_DTM
- Five_Meter_DTM
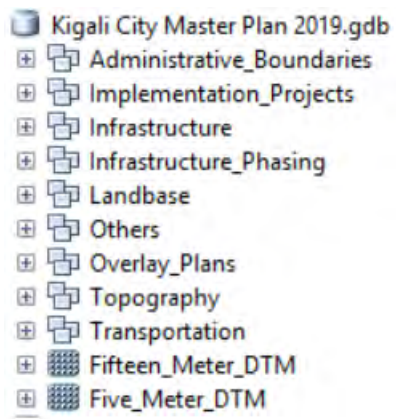
4.2   Procedure for Zoning & Land use Database update

Changes in the Zoning Database can be subdivided into two main categories:

- Directly change an entire zoning district (if new proposal zoning boundary exactly matches with our current zoning parcels)
- Split / Divide zoning parcel from current zoning

A. DIRECTLY CHANGE THE ZONING DISTRICT:

In this sample, CoK GIS TEAM is requested to change the zoning to the entire Zoning District (unique polygon)

1. Open final zoning geodatabase   2. Identify and select polygon to be updated
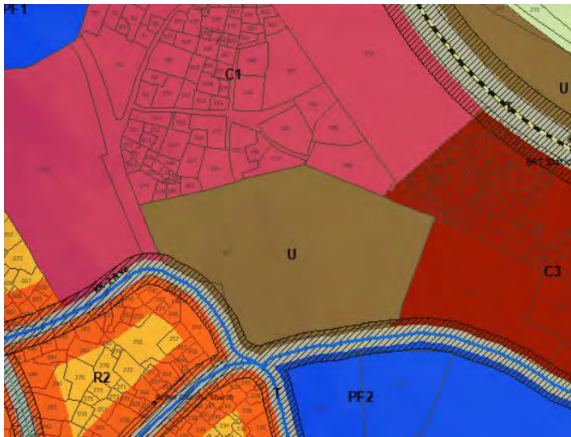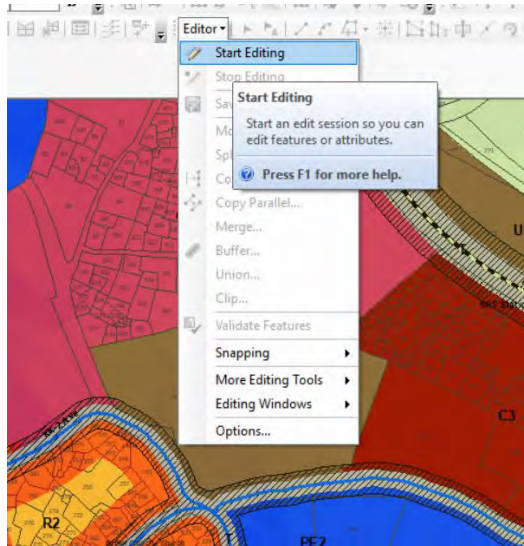
3. Click **Start Editing**   4. Select parcel to be updated

1. Click **Attributes** in **Editor Menu**
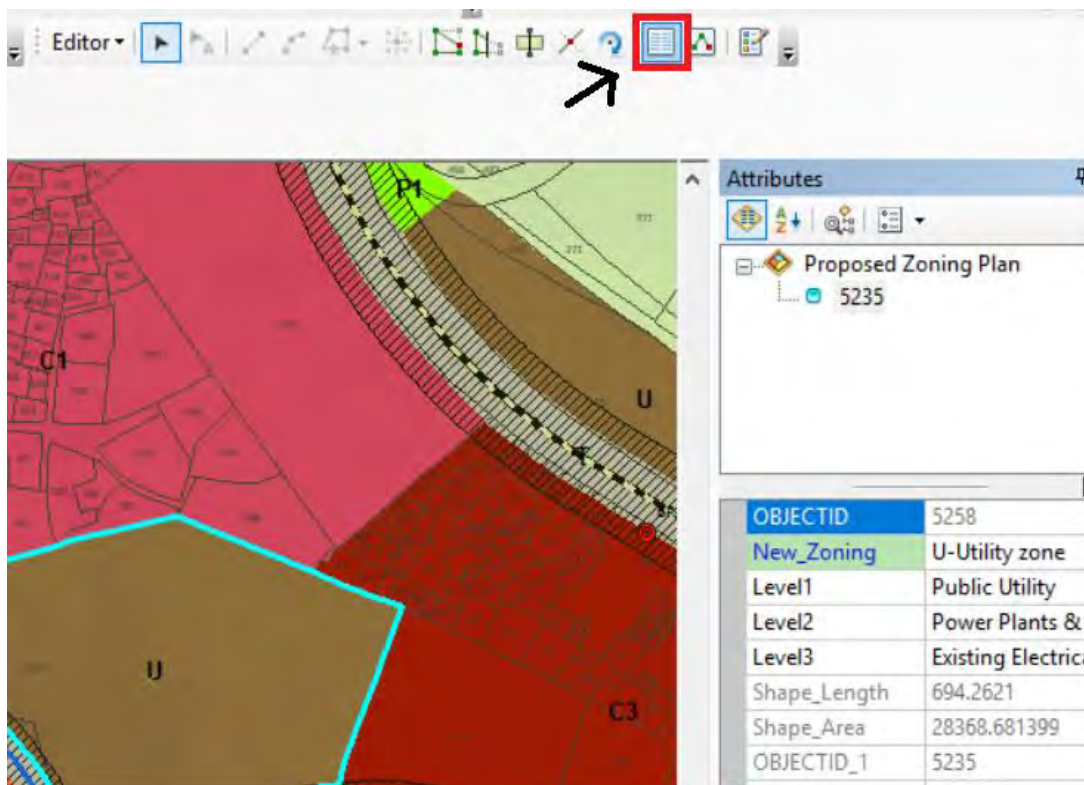
2. Attributes pop up window will appear   7. Click **zoning name field**

8. Select R1A and Click OK

9. Final Output

B. SPLIT / DIVIDE ZONING PARCEL FROM CURRENT ZONING

In this case CoK GIS TEAM is requested to partially change the Zoning Districts (Polygon split)

1. Open Zoning file and zoning comments file

2. Select Zoning Parcel

3. Overlay updated Cadastral data
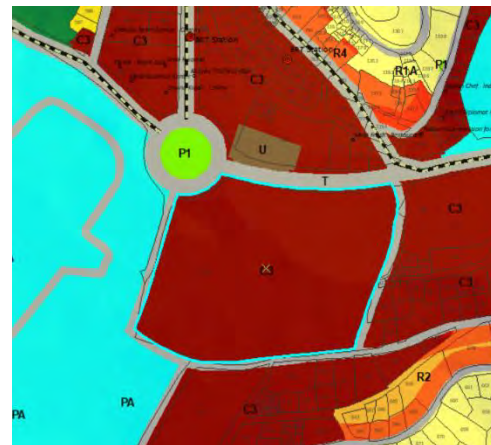
4. Click split polygon Tool and start tracing from outside and end at outside

5. The Polygon created after digitizing
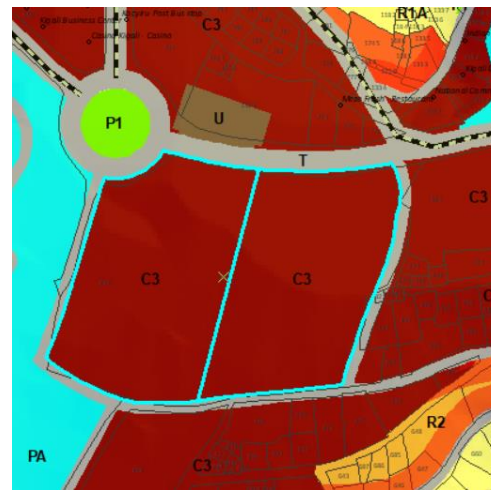
6. repeat **Procedure A** to direct assign Zoning with Attributes Tool to the new polygon
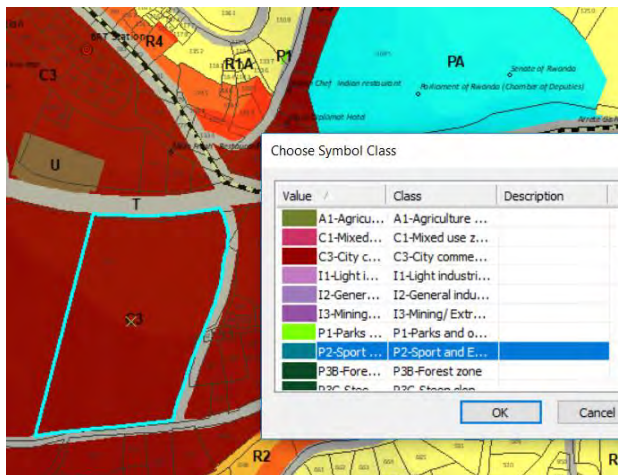
8. Final Output
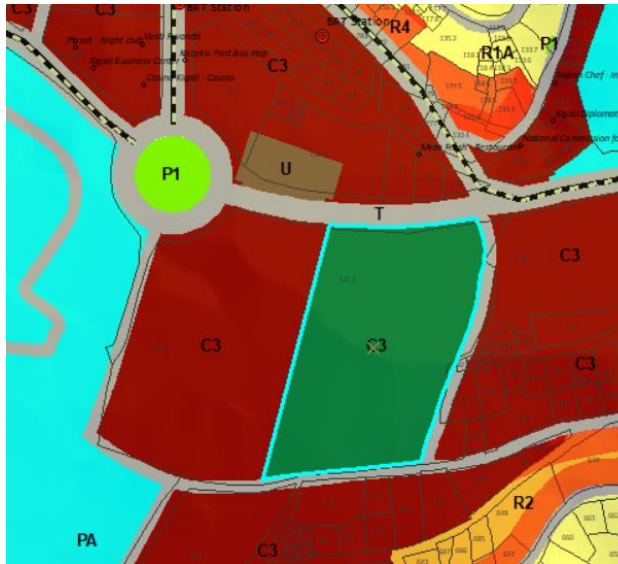
4.3   Procedure for Roads Database update

This procedure guide cok -GIS technicians in the necessary steps to update centre line and/or Right of way.

1. Open road network shp and Identify the centre   be updated and removed line to

3. Export as separate shp file only modified part
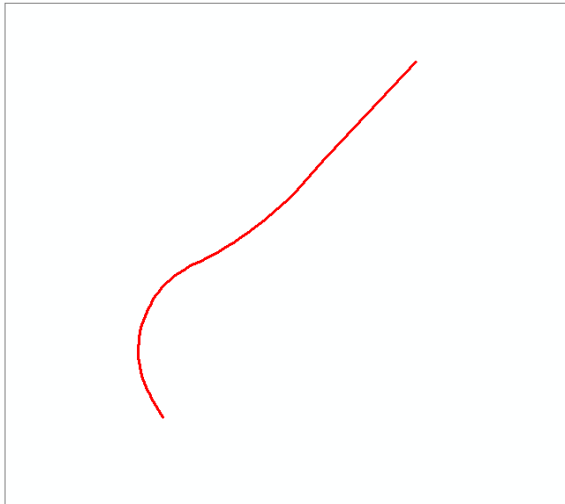
4. Generate buffer for this Centreline
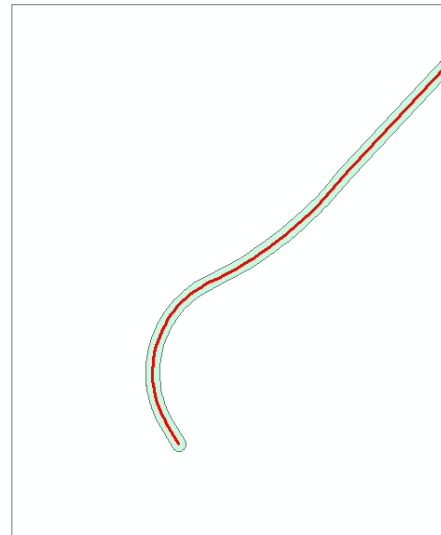
5. Go to -→ → →

And erase the generated buffer from Landuse and Zoning files

6. **Merge** land use/zoning file and newly generated buffer

Go to Menu bar → Geoprocessing → Merge and then drag zoning and newly generated ROW
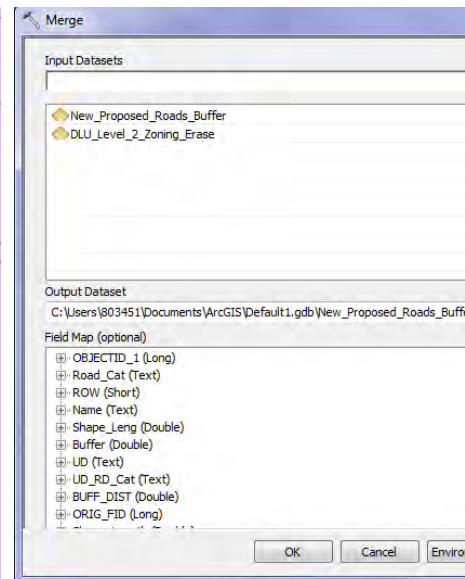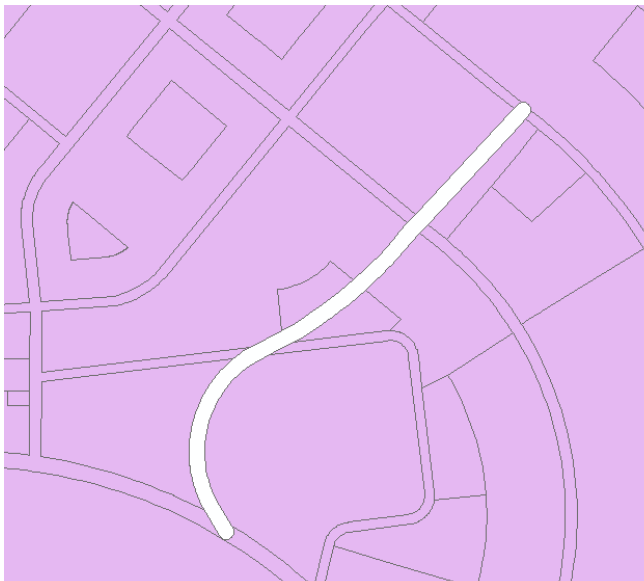
7. Merge new buffer with existing Road Buffer
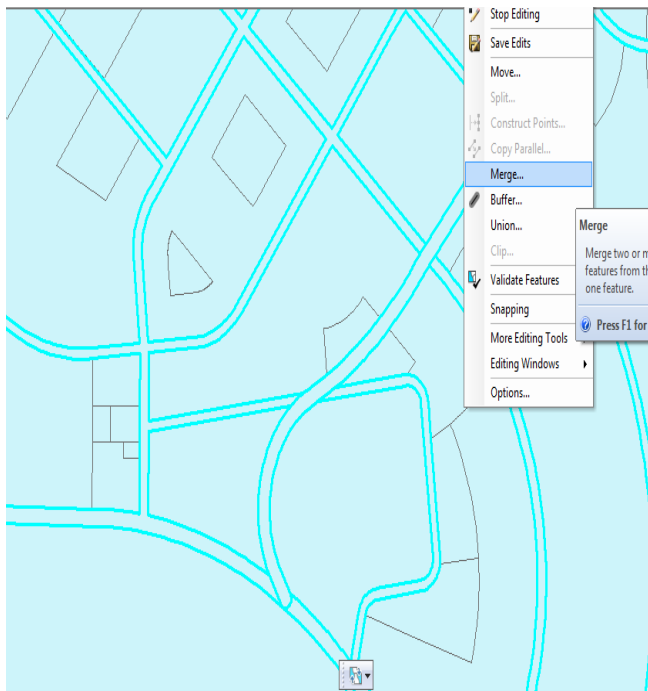
8. Select newly generated row and existing row and go to editor → **Merge**
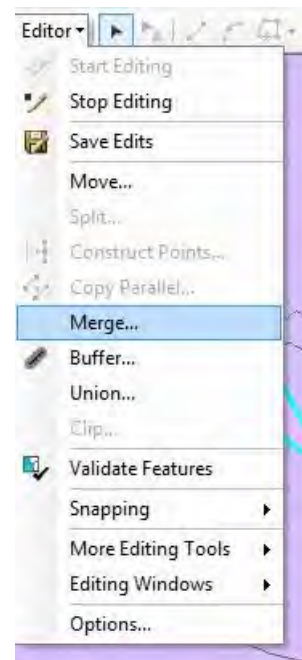
9. Change old ROW in Zoning and PLU Layers to match surrounding zoning and land use as per procedure at paragraph 3.7 A.

Below the Final Output
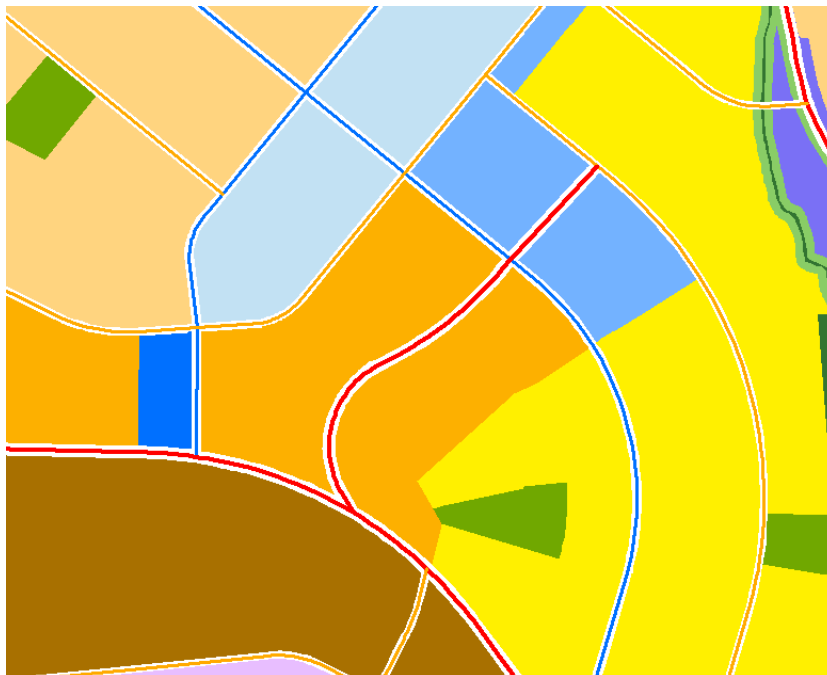
4.4 Existing Land Use update

- Updating the Existing Land Use (ELU) database is critical to properly monitor and identify potential gaps in the actual implementation of the Master Plan.
- Each Approved Development Proposal submitted to City and District One Stop Centers should be regularly incorporated in the ELU database.
- CoK-OSC Planning team should regularly elaborate the data and highlight potential issues so to put in place corrective measures through amendments to Zoning Plan, Zoning Regulations and City Acts and Policies.

Role and responsibility

- CoK-OSC GIS Technicians to export data from the CPMIS Approved Application and elaborate statistics on Approved Application showing data such Typology, Use(s), GFA per use, Approval date, location, etc.
- CoK-OSC GIS Technicians to update the ELU according to approved applications.
- OSC Director and Planning team to monitor Construction Permitting trends and evaluate corrective measures with CoK Executive Committee as needed.

Review process
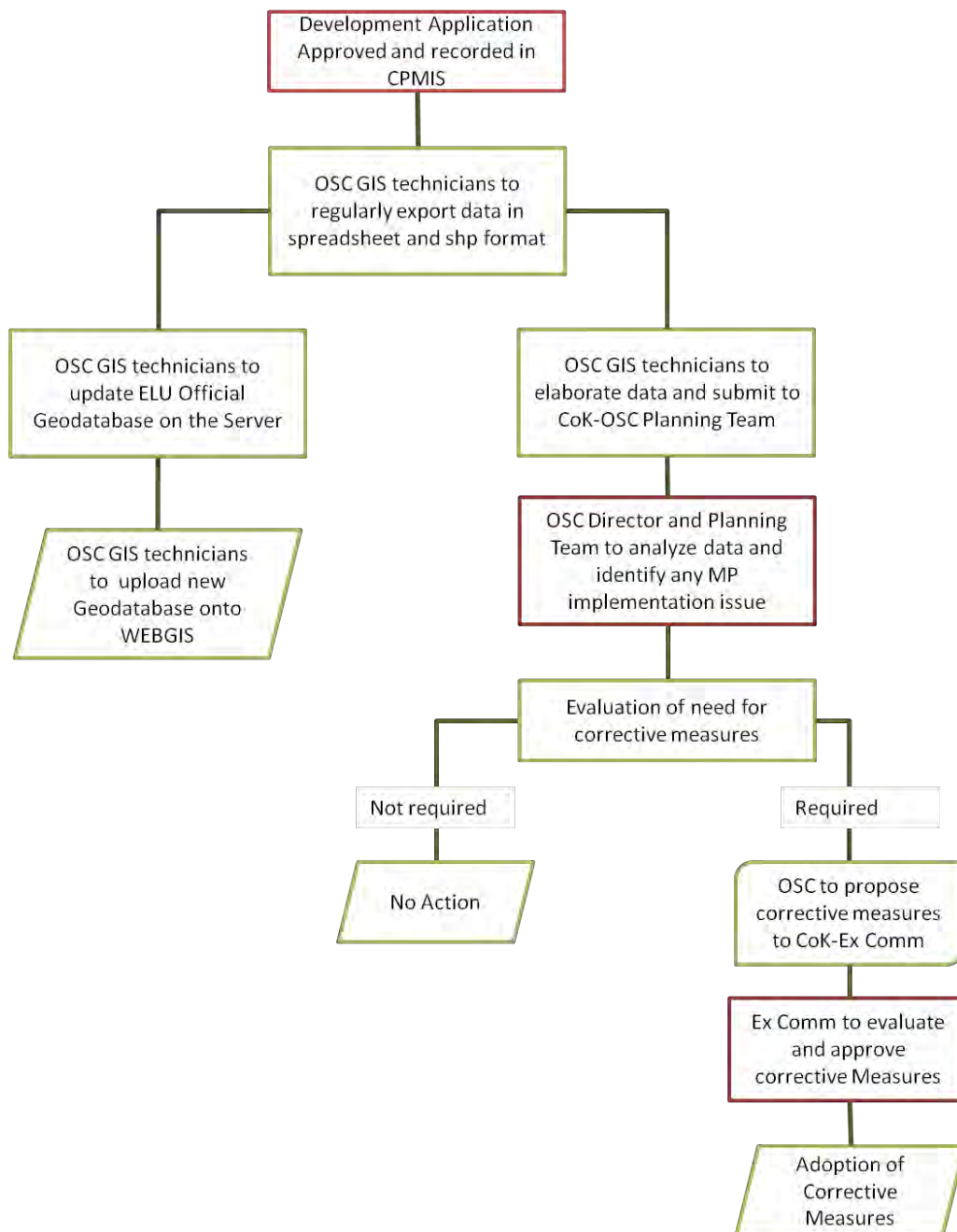
Review outcome

- Updated ELU Geodatabase as per Approved Application in CPMIS database
- CoK-OSC and CoK Ex Comm to adopt corrective measures to address Master Plan Implementation issues if needed.

Technical Procedure for ELU Geodatabase Update[1]

Changes in the Existing Land Use (ELU) Database can be subdivided into two main categories:

- Directly change a cadastral parcel data in the case ELU affect the whole parcel;
- Split / Divide a parcel if different used coexist on it.

A. Changing the entire cadastral parcel data

In this case a commercial will have to be updated to Government Areas, affecting the entire parcel

1. Open existing land use shp file from current database and identify the parcel to be updated.	2. Click **Start Editing**, and start editing ELU (or PLU)
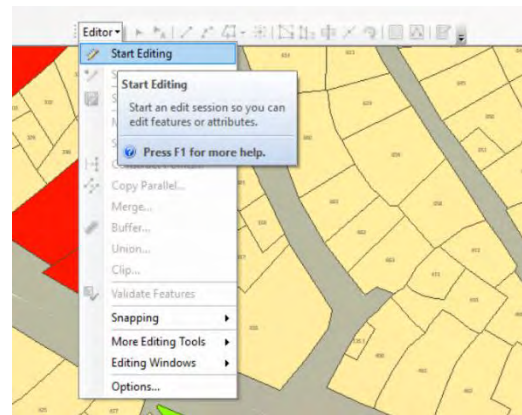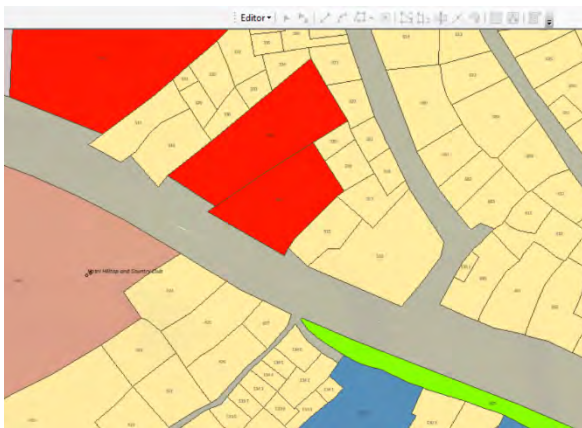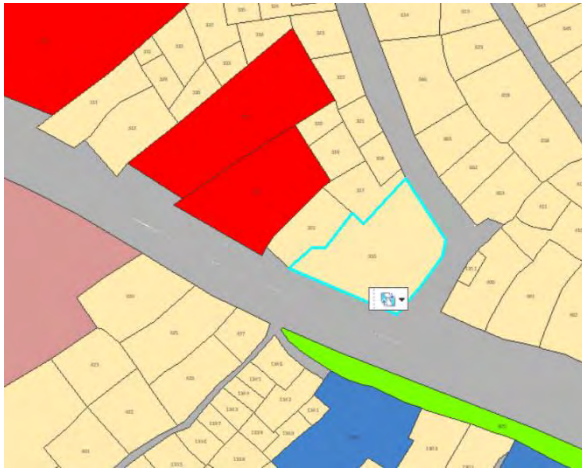
3. Select parcel	4. Click **Attributes**, in the Editor Menu

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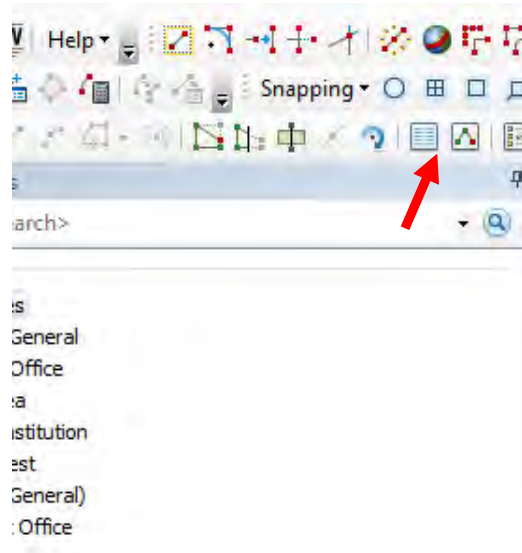
[1] **N.B.** The same procedure can be followed for the Proposed Land Use (PLU) database.

5. Attributes pop up window will appear
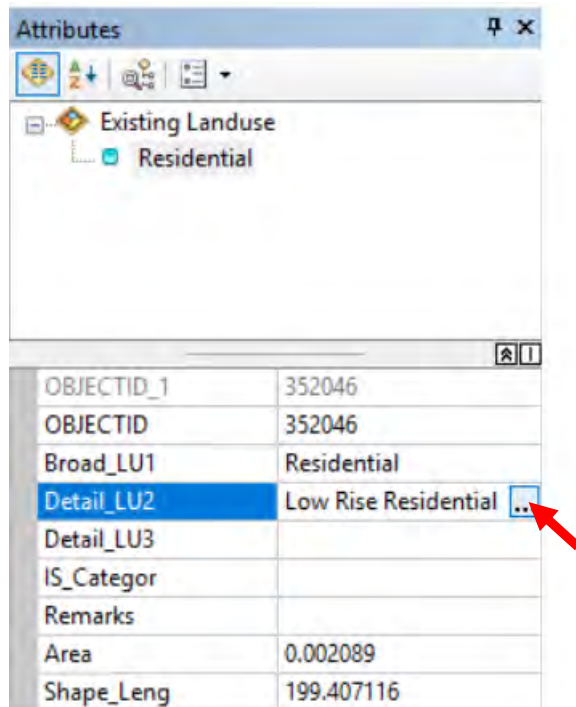
6. Click **Detail_LU2** field
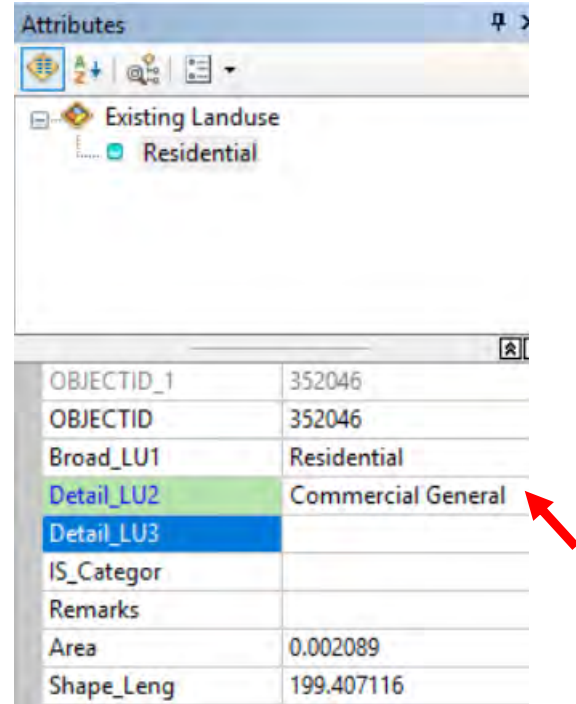
3. The following pop up will appear. Change from Residential to **Commercial General** and Click OK
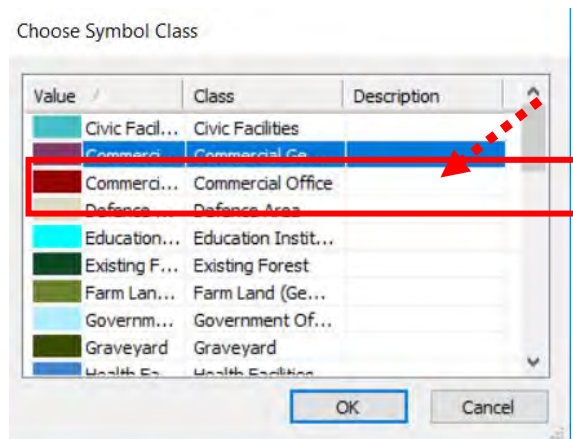
8. The final output will be look like below as Residential Land use changed to **Commercial General**
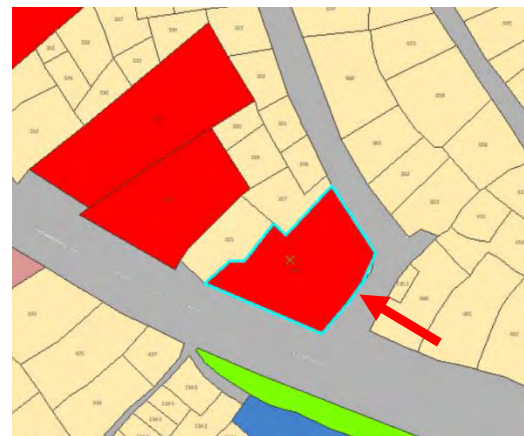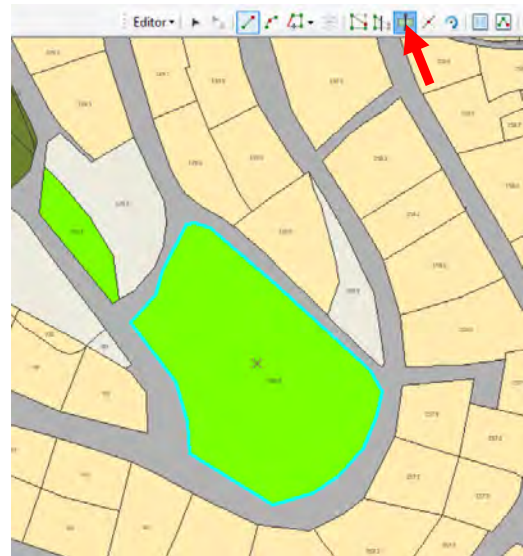
B. Changing portion of the Parcel

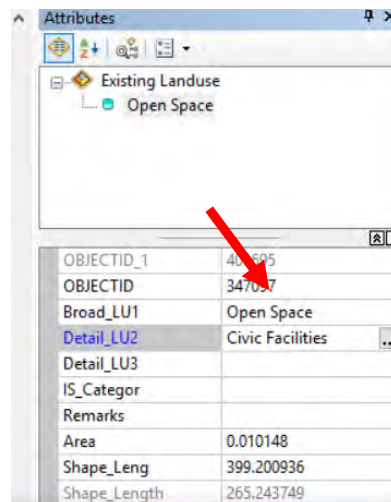1. Open existing ELU current database, identify and select the parcel to be modified
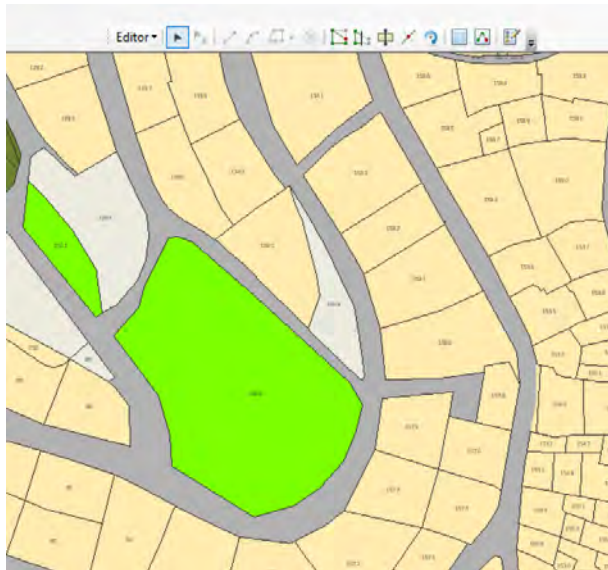
2. Click **Editor**, **Start Editing** ELU and then **Cut Polygon** Tool

3. Identify boundary of the new ELU and split the parcel using [icon] cut polygon tool. In case of approved projects, the boundary should come from the approved Project in MIS.
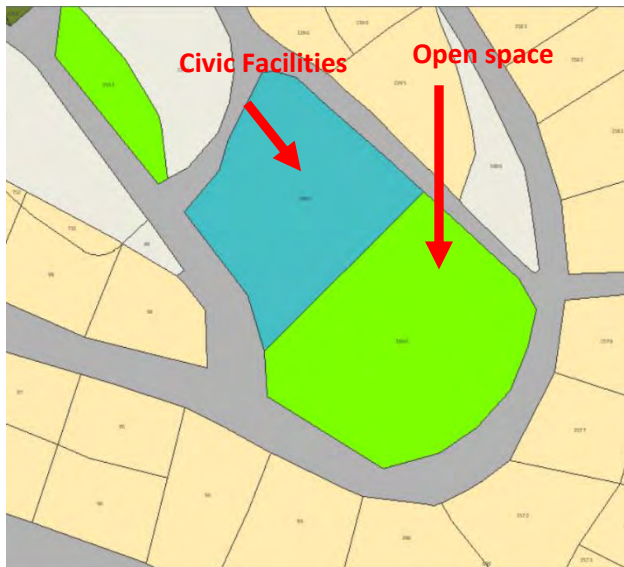

4. The parcel is now subdivided into two distinct polygons. It is now possible to change ELU category following previous **section A** procedure for direct assignment.

5. Final Output of two different ELU

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