



Implemented by:



Sustainable Urban Mobility Plan for the City of TIRANA

[Volume II - THE PLAN]

TRT Trasporti e Territorio

July 2020

Sustainable Urban Mobility Plan for the City of TIRANA

Project	Sustainable Urban Mobility in South-East European Countries II (SUMSEEC II) – Open Regional Fund for Southeast Europe – Energy Efficiency (ORF-EE)
Implemented by:	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH On behalf of German Federal Ministry for Economic Cooperation and Development (BMZ)
Coordinators:	Mr. Enton Punavija - Director of Transport and Road Traffic Department Mr. Ismail Beka, GIZ ORF-EE Country Coordinator Ms. Julia Nagel, GIZ ORF-EE Team Leader
Steering Committee:	Mr. Arbian Mazniku - Vice Mayor, Tirana Municipality Mr. Taulant Tusha - General Director for Public Works Mr. Ditjon Baboci - General Director of Territorial Planning and Development Mr. Enton Punavija - Director of Transport and Road Traffic Department Ms. Nevin Bilali - Department of Urban Planning, Director

Working Group:	Directorate of Transport Directorate of Territorial Planning Directorate of Strategic Planning – Consultants Directorate of Public Works – GIS and Statistics Sector Tirana Parking Agency Environment Directorate Disable Persons NGOs Related Universities Associations of Architects and Civil Engineering SEE Change Net - Fondacija Mreža za promjene Jugoistočne Evrope - Rrjeti për Ndryshimin e Evropës Juglindore (BiH) EDEN (Environmental Center for Development Education and Networking)
Expert support:	TRT Trasporti e Territorio Srl (Italy)

Summary Sheet

Document title	Sustainable Urban Mobility Plan for the City of Tirana – Volume II – The Plan
Version	1.0
Responsible authors	Simone Bosetti, Cosimo Chiffi, Sofia Pechin, Ivan Uccelli (TRT)
Responsible co-authors	Edmond Alite, Zenel Bajrami (local experts)
Date	24/07/2020
Status	Final
Contacts	TRT Trasporti e Territorio SRL Via Rutilia 10/8 20141 Milano Italy Tel. +39 02 57410380 info@trt.it www.trt.it

DOCUMENT HISTORY

Version	Date	Author/Editor	Description
0.1	11/02/2020	Simone Bosetti	First part: Status Analysis
0.2	30/06/2020	Simone Bosetti	Second part: The Plan (first draft)
0.3	06/07/2020	Simone Bosetti	Revised version with updated descriptions of SUMP scenario and measures
1.0	24/07/2020	Simone Bosetti	Final version (updated and edited as a separate Volume)

The analysis, results and recommendations in this document represent the opinion of the author(s) and are not necessarily representative of the position of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Table of Contents

- Sustainable Urban Mobility Plan for the City of TIRANA..... I**
- Summary Sheet II**
- Table of Contents..... III**
- List of figures V**
- List of tables VI**
- Executive Summary I**
 - The first SUMP of Tirana 1
 - Status analysis 1
 - Key mobility challenges..... 2
 - Vision and objectives 4
 - Key strategies and measures 6
 - What’s next? 7
- 1 Introduction..... 8**
 - 1.1 Objectives and scope 8
 - 1.2 Methodology 9
 - 1.3 Consulted documentation 10

- 1.4 Process and management structure..... 11
- 1.5 Document structure 12
- 2 Vision and objectives..... 13**
 - 2.1 Vision..... 13
 - 2.2 Objectives 14
- 3 Scenarios..... 16**
 - 3.1 Measure selection and prioritisation..... 16
 - 3.2 Key strategies..... 17
 - 3.3 Reference Scenario (RS)..... 18
 - ROAD INFRASTRUCTURE 18
 - PARKING 18
 - PUBLIC TRANSPORT 19
 - CYCLING 19
 - 3.4 Alternative scenarios 20
 - 3.4.1 HIGH INVESTMENT SCENARIO (HI)..... 20
 - 3.4.2 LOW INVESTMENT SCENARIO (LO) 21
 - 3.4.3 BALANCED SCENARIO (BL)..... 21



3.5	Assessment and comparison of scenarios	23	6.2	Monitoring and evaluation indicators	67
3.5.1	EVALUATION CRITERIA.....	23	6.3	Data reporting, analysis and evaluation methods.....	75
3.5.2	SETTING THE RELATIVE IMPORTANCE OF CRITERIA.....	26			
3.5.3	EVALUATION AND RANKING	26			
3.5.4	FINAL RESULTS OF THE ASSESSMENT.....	27			
4	Selected scenario and measures	28			
4.1	Fostering Public Transport	29			
4.2	Pushing cycling and micromobility	34			
4.3	Mobility Resilient Tirana	38			
4.4	Managing parking supply, logistics and pricing.....	44			
4.5	Kids-centered city streets	49			
4.6	Smart(er) Tirana.....	54			
5	Action planning and implementation	58			
5.1	Five-years action plan	58			
	ROAD INFRASTRUCTURE	59			
	ROAD REGULATION.....	59			
	PARKING	60			
	CYCLING	60			
	WALKING	61			
	PUBLIC TRANSPORT	62			
	LOGISTICS	63			
	SUSTAINABLE POLICIES	63			
	TECHNOLOGY AND INNOVATION	64			
5.2	Implementation planning and funding: next steps	65			
6	Monitoring and evaluation plan.....	66			
6.1	Monitoring and evaluation procedures.....	66			



List of figures

Figure 1-1: The essence of SUMP: the 8 principles	9	Figure 4-2: Fostering Public transport	31
Figure 1-2: Differences between traditional transport planning and SUMP	9	Figure 4-3: Pushing cycling and micromobility	35
Figure 1-3: The 12 steps of Sustainable Urban Mobility Planning – A decision maker’s overview ..	10	Figure 4-4: Road infrastructure interventions	39
Figure 1-4: Project team	11	Figure 4-5: Parking, logistics and pricing	45
Figure 2-1: Four dimensions of SUMP sustainability	14	Figure 4-6: Kids-centered Use of city streets and urban spaces	50
Figure 3-1: Process for the measures selection	16	Figure 4-7: E-mobility for a smart(er) city	55
Figure 3-2: Fields of intervention	17		
Figure 3-3: The 6 Key strategies for the SUMP of Tirana	17		
Figure 3-4: Road infrastructure and parking in the Reference Scenario	18		
Figure 3-5: Public transport in the Reference Scenario	19		
Figure 3-6: Cycling in the Reference Scenario	19		
Figure 3-7: Prioritization of measures of the RS in the balanced hypothesis	22		
Figure 3-8: MCA Evaluation process	23		
Figure 3-9: Ranking of alternative scenarios (scores)	27		
Figure 3-10: Ranking of alternative scenarios within each criterion (scores)	27		
Figure 4-1: Prioritization of public transport: new bus corridors in a revised traffic scheme	30		

List of tables

Table 2-1: General and specific objectives	15
Table 3-1: MCA Criteria and sub-criteria	24
Table 3-2: Weights of the evaluation criteria.....	27
Table 4-1: List of measures for strategy “fostering Public Transport”	32
Table 4-2: List of measures for strategy “pushing cycling and micromobility”	36
Table 4-3: List of measures for strategy “resilient Tirana”	40
Table 4-4: List of measures for strategy “managing parking supply, logistics and pricing”	46
Table 4-5: List of measures for strategy “kids-centered city streets”	51
Table 4-6: List of measures for strategy “Smart(er) Tirana”	56
Table 6-1: Outcome indicators	68
Table 6-2: Key output indicators.....	74

Executive Summary

The first SUMP of Tirana

This document, organised in three Volumes, reports on the **development of the first Sustainable Urban Mobility Plan of the capital city of Tirana.**

The SUMP has received support from the project “Sustainable Urban Mobility in South-East European Countries II” (SUMSEEC II) under the Open Regional Fund for South-East Europe - Energy Efficiency (ORF-EE). SUMSEEC II is implemented by **GIZ** and financed by the German Federal Ministry for Economic Cooperation and Development (BMZ).

The following **definition of a Sustainable Urban Mobility Plan** has been widely accepted in Europe and internationally: *“A Sustainable Urban Mobility Plan is a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles.”*

The development of the SUMP of Tirana follows the **European Guidelines for Sustainable Urban Mobility Planning**. The process has been recently revised in order to provide additional guidance on specific planning topics and to incorporate major new developments in the area of sustainable urban

mobility. The second edition of the EU SUMP Guidelines were published in occasion of the CIVITAS Forum Conference in Graz (Austria), 2 - 4 October, 2019.

From the geographical point of view **the SUMP of Tirana is focused on the inner part the city**, corresponding to the former boundaries of the municipality, i.e. before the 2014 territorial-administrative reform. The SUMP concept encourages a **long-term planning**. In this respect, proposed intervention measures are planned in three time horizons, as follows:

- Short-term: 2 years (2022),
- Medium-term: 5 years (2025),
- Long-term: 10 years (2030).

Status analysis

The first milestone, i.e. the analysis of problems and opportunities, has been performed through a strong collaboration with the different city departments and by gathering **information of available plans and studies drafted in the last 10 years**. These documents have provided the starting point to develop the overall framework of current infrastructural and socio-



economic conditions, as well as the urban structure, available services and critical issues that characterize the city and the mobility system of Tirana.

The final outcome has been condensed in the report “**Status Analysis: problems and opportunities for the development of the first Sustainable Urban Mobility Plan of Tirana**” (SUMP Volume I).

The comprehensive analysis is based on the evidences collected on the field by the technical experts of TRT and includes the discussion and feedbacks gathered from the stakeholders in the **workshop “Analysis and Strategies”** held on 21st January 2020 with the representatives of the SUMP working group and other city officials of Tirana Municipality.

In parallel, an **Attitudinal Survey with citizens** was carried out in December 2019. The survey explored citizens’ perceptions and attitudes towards different modes of transport and gathers insights about motivational factors which might cause a switch from driving to more environmentally friendly modes of transport, such as public transport, walking, and cycling.

Complementary to these activities, a series of **Focus Groups** initially planned in March 2020 and due to the lockdown in Tirana during the COVID-19 pandemic, have been recovered through an **online questionnaire** developed to gather input from several target groups.

Key mobility challenges

The mobility system of the city of Tirana is experiencing impacts and transformations linked to changes and developments in the urban environment, the economy of Albania and in living conditions and lifestyles of its citizens. The main challenges the city of Tirana has to face in its progress towards sustainable urban mobility in 2030 have been condensed and described along 5 topic clusters.

These are guiding the overall strategy, the objectives and the definition of the actions that will characterise the SUMP of Tirana as key planning instrument for the city.

Governing land use patterns and mobility in a fast-changing environment: the resiliency challenge

Acute, rapid and informal urbanisation of Tirana’s outskirts due to massive internal migration resulted initially in a generalised lack of infrastructures, including roads, electricity, water, sewer lines and public/social buildings (e.g. schools, healthcare services). It also resulted in poor connection to central Tirana, increase of commuting trips, traffic congestion and ecological damage.

Legalisation of informal settlements was not an easy process, particularly the repossession of occupied land for the completion and improvement of the road network. Despite the progress made since mid-2000s, the city continues to feature significant areas of unplanned informal land-use in its peri-urban territory.

Also in the compact and rationally planned central Tirana, shared and green spaces within the neighbourhoods created during socialism suffer of declining infrastructure quality, lack of maintenance and a progressive conversion of these areas into parking lots. This is reducing opportunities for active modes (walking/cycling) and for social interaction. Public space realm interventions are difficult also because of the private nature of this areas.

Both land-use and mobility planning are crucial components for improving the capability of the city to manage both ordinary and extraordinary situations.

Past and current phenomena that characterised Tirana’s rapid transformation such as demographic, economic and land use shocks as well as natural unexpected events like flooding, the recent earthquake and the

Covid-19 pandemic demonstrated the strong need of a well-planned and **resilient mobility system**. In this sense, the city can be a **peculiar laboratory at European level**.

Increasing motorised traffic pressure and safety concerns: avoiding the gridlock

Despite its relatively low car ownership ratio and as a consequence of its dense urban structure, the primary and secondary road network of Tirana is highly stressed by traffic congestion. All vehicle types' flows rely on the main radial and ring roads and on outer-to-inner Tirana trips. Car ownership doubled in the last 7 years, a fast pace.

This is a consequence of both suburbanisation of housing and commercial activities and, conversely, of concentration of urban functions in central Tirana coupled with a preference in car use of some social groups. An unsustainable speedy diversion in modal shift started immediately after the fall of communism with the removal of the car ownership ban. Unfortunately, this trend is not yet stopped nor reversed.

Besides the volumes of vehicular flows and the presence of some critical hotspots at certain intersections, road infrastructures suffer from inadequate or limited physical capacity as well as of some crucial missing links (e.g. the Outer Tirana Ring Road).

The new General Local Plan T030 finally provided the city with a more functional and hierarchical road system. Now it's time to realise and complete the primary network, to separate collective vs. private flows, regulate vehicular accessibility in certain areas and limit the presence of on-street (legal or illegal) parking that exacerbate the daily levels of road congestion also in non-peak hours.

Environmental impacts and concerns

Air pollution levels in the city of Tirana indicate values in excess of national and EU limits with transport (i.e. emissions from vehicles) being the main contributor. A city-wide official and scientifically validated air quality monitoring system covering sensitive areas is still not in place, with only two permanent stations installed but more data are continuously provided also from independent and punctual campaigns (e.g. Vodafone-Tirana Ime, Green Lungs).

This is also a reflection of an unbalanced energy mix and consumption from the transport sector because of a high share of old vehicles, mostly diesel fuelled (63%, compared to the EU average of 41%), characterising the fleet. The average age of car fleet (total and by type) is very high at 13 years on average. This is a very urgent issue to be addressed in terms of public awareness, fiscal instruments and regulatory measures (e.g. low emission zones).

Research and measurements indicate that the majority of Tirana's daytime noise is due to motorised traffic as opposite to the last decades when also the construction sector was a main source.

A hub-less non prioritised unimodal public transport system

The poor state of Albanian railways, coupled with the relocation of Tirana's main station in outer Kashar with renovation projects ongoing for both infrastructure upgrading and construction of a new node in Laprakë, created a *de facto* absence of any rail system in the city. No light rail/tram has never been operated in Tirana. Also trolleybuses never appeared on Albanian roads. An uncommon situation comparing e.g. to other Eastern European cities.

The entire public transport system relies on bus transport.

While the service frequency is adequate and the quality of the vehicles has been improved, the capacity is low and buses often overcrowded. The number of dedicated bus lanes is also limited and no segregated busways nor proper interchange nodes have been built.

Facing societal mobility challenges

Tirana is characterised by a strong dualism in terms of mobility patterns: a relatively little but increasing share of the population consider private motorised transport as predominant and car ownership as a status symbol; on the other side there are large portions of the society largely using walking as their main transport mode. The first group largely influence pro-car attitudes of young generations whereas bad mobility experiences in walking or using public transport might divert additional shares to car use from the second group. In addition, despite infrastructure investments, bicycle use is still limited.

The capability of governing and influencing mobility behaviours and socio-cultural attitudes of both citizens and city users, framing active and collective mobility in a positive light, is therefore fundamental.

Vision and objectives

The vision for the mobility in the city of Tirana on the 2030 horizon was developed with the involvement of a large group of stakeholders during the **Visioning Workshop** held at the Hotel International in Tirana on 30 September 2019:

"A smart Tirana, responding to community needs as a liveable, clean, healthy, attractive city, offering innovative, multi-modal and wide-ranging mobility, available, affordable and equal for everyone."

The **general and specific objectives** for Tirana's SUMP are articulated into in the three dimensions of the concept of sustainability. These are environment, society and economy, to which it is added the more specific dimension related to the mobility and transport sector.



Sustainable mobility: effectiveness and efficiency of the mobility system

Meeting the mobility needs of residents, businesses, city users and tourists

- **Reducing car dependency** for daily commuting in favour of more sustainable modes of transport (walking, cycling, public transport)
- **Making city streets and public spaces compatible with the needs of different road users** (pedestrians, cyclists and public transport user)
- **Optimising and integrating** the different public and / or private mobility system
- Optimizing and rationalising the **transport of goods**

Economic sustainability: innovation and economic efficiency

Enhancing innovation opportunities and pursue economic sustainability and efficiency

- Making efficient and effective public spending on infrastructure and mobility services (value for money)
- Promoting the **economic efficiency of the distribution of goods**
- **Optimising the use of resources, enhancing forms of sharing** in the use of vehicles and infrastructures **promoting technological and managerial innovation** in the transport sector
- **Making the environmental, social and health costs** generated by the various modes of transport **explicit and internalized in public policies**

Social sustainability: equity, safety and social inclusion

Ensuring adequate health, safety, accessibility and information for all

- **Reducing road accidents focusing on vulnerable users** (pedestrians / cyclists / motorcyclists / children / over 65), with the aim of **eliminating fatal accidents**
- **Ensuring the correct use of the road** through greater and more effective control of the traffic and parking rules
- **Increasing the awareness and “freedom of choice”** towards the most sustainable modes of transport, improving communication and marketing
- **Improving liveability, accessibility and attractiveness for all users** preserving the city peculiarities and the sustainability of the mobility system

Environmental sustainability: quality of the environment

Promoting and improving environmental quality

- **Reducing air polluting and CO2 emissions** attributable to the transport sector
- **Reducing energy consumption** and in particular that of fossil fuels (diesel / petrol / LPG / etc.) used by the transport sector
- **Reducing the exposure of the population to noise** by giving priority to the protection of the most sensitive areas near schools, health facilities and residential areas
- Improving the **quality of the urban landscape and limit soil consumption**

Key strategies and measures

The proposed planning scenario is the result of the assessment of three alternative options and the prioritisation of (packages) of measures by means of a **Multi-criteria Analysis**.

Six key strategies have been identified as founding pillars that structures consistent and integrated packages of measures, which are capable of achieving the SUMP objectives over the planning time horizon.



- 1) Fostering **Public Transport** to be wider, more efficient, integrated, attractive and inclusive



- 2) **Pushing cycling and micromobility** as an alternative to private motorised transport



- 3) **Mobility Resilient Tirana**: combining infrastructure investments and soft policies, making the best use of resources (both financial and spatial), and increasing the flexibility and reactivity of the mobility system



- 4) **Managing parking supply, logistics and pricing** as drivers to steer modal choice (push and pull approach)



- 5) Fostering a **kids-centered design and use of city streets and urban spaces** to increase accessibility, attractiveness and safety.



- 6) Applying ITS technologies, digital solutions, e-mobility for a **smart(er) city**

The **first strategy** looks at improving the quality of **public transport** in the city of Tirana. It entails to increase the service (in quantity and quality) while making it more efficient, integrated, attractive and accessible to all. Building on the element that makes public transport one of the most preferred modal choice by a large portion of the population and being aware of its current limits (particularly the absence of mass rapid transit and the current road capacity), the strategy seeks to reinforce the role of public transport both by expanding its coverage and capacity and by improving performances, attractiveness and level of inclusivity.

Despite the number of temporary **cycling infrastructures** have expanded a lot in recent years, with the minimum grid almost completed in central Tirana, the number of regular cyclists is not increasing at a fast pace nor convincing a significant number of car drivers to shift to cycling. This is quite normal due to the fact that cycling needs learning and frequent practice in order to become a component of the mobility culture in a sustainable city. The **second strategy** recognises the **fundamental role of cycling** covering short to medium range distances (e.g. within a radius of 7 km) in a compact city like Tirana and adds an important (and still absent) element: the use of *electric scooters* and other devices such as *hoverboards*, *monowheel*, and *segways*. The strategy is therefore set in order to properly work on all micromobility options and to target primarily car users. Bikes and active mobility are also crucial in order to multiply health related benefits for the citizens.

Resiliency should be a strong element of all city strategies and Tirana largely demonstrated its capacity to act in a fast-changing environment and react to unexpected shocks. The SUMP working group realised that numerous infrastructure interventions have been already planned in order to give to the capital of Albania a **robust and more hierarchical road network**. These interventions have been prioritised in the **third strategy** in a time frame that recognises the need to secure sufficient financial resources to more

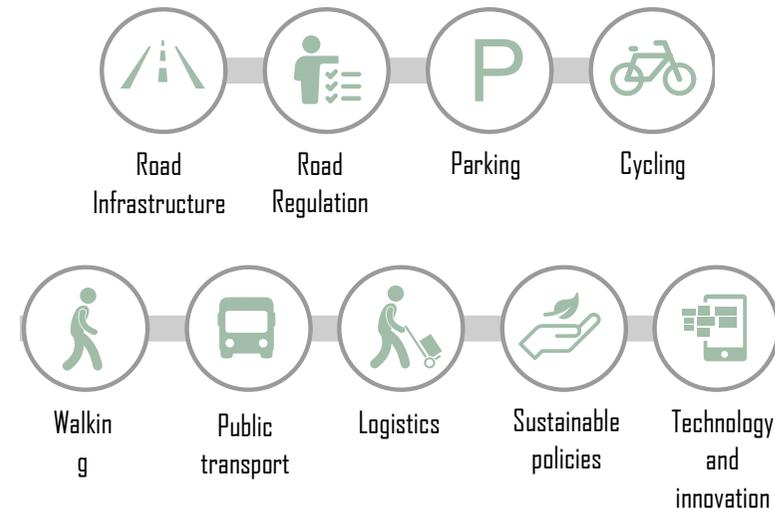
differentiated policy measures at the same time, thus allowing a sufficient level of flexibility to the mobility system. Tirana can be seen as a peculiar laboratory for the resiliency of urban mobility systems in Europe and, in this sense, the strategy gives a strong character to the SUMP.

The **fourth strategy** aims at properly managing private motorised passengers and urban freight traffic by using two main drivers: **pricing measures** and **nodes** where people can pass from cars to buses or micromobility options and shipments can be transferred from trucks or diesel vans to cargo bikes and micro e-vans.

The **fifth strategy** builds upon the widespread local policy that focuses on **kids and young citizens** of Tirana in order to foster social innovation and accelerate societal changes. The SUMP integrates this approach and current initiatives in the mobility sector like Urban95 or NACTO-Streets for Kids and characterises a large set of measures, from infrastructure and urban design interventions to more regulative ones, as conceived and implemented having kids as primary users and target group. The strategy embraces the overall theme of the **transformation of city streets into public places allowing all types of users**, including elderly people and people with reduced mobility, to preferably walk or stroll throughout the city instead of using motorised vehicles. Applying a kids-centered design means having a city that is accessible, safe and more liveable.

This **last strategy** includes all the different measures dealing with the use of **Intelligent Transport Systems**, the introduction of digital solutions to allow citizens to smoothly use and paying for several mobility options and services and the expansion and improvement of electric mobility in Tirana.

Within those strategies, measures (infrastructural, operational or organisational) have identified along the following **fields of intervention**.



What's next?

The SUMP would be of little use if proper tools and procedures weren't put in place for its implementation. A **five-year action plan** is proposed, to set out prioritized actions that are key steps in implementing the strategies. Recommendations for the next steps of **implementation planning and funding** are also provided.

Furthermore, the progress of the measures to be implemented, and importantly their adherence to the overall objectives and to the evolving context, should be periodically assessed with a **monitoring and evaluation procedure**.

1 Introduction

As part of the Open Regional Fund Energy Efficiency (ORF EE), the SUMSEEC (Energy-efficient Urban Mobility in South-eastern European Countries) II project aims at developing sustainable, energy efficient and green transport solutions for cities in Southeast Europe (SEE). The project is funded by the German Ministry for Economic Cooperation and Development and implemented by the German Development Agency (GIZ).

Cities and municipal associations from the SEE region are partners in the project. Capital cities in the partner countries receive direct support in the development or implementation of Sustainable Urban Mobility Plans (SUMP) based on the well-proven and widely accepted approach and guidelines implemented in the European Union, which is adapted and applied to each local context.

The SUMSEEC II supported process for the SUMP development in Tirana started in April 2019 with a kick-off meeting workshop held in the capital city at the presence of the key stakeholders responsible for urban and mobility planning. This workshop provided a common understanding of the scope and the necessary steps in the development of the SUMP, elaborated a proposal for the Plan's steering group and working groups – core and extended, based on a stakeholder mapping exercise – and proposed a timeline including key milestones.

1.1 Objectives and scope

This document, organised in three Volumes, reports on the **development of the first Sustainable Urban Mobility Plan of the capital city of Tirana.**

The adopted planning process is coherent with the aim and activities of the SUMSEEC II project and builds on the SUMP concept and approach developed in the European Union in order to incarnate the policy efforts, visions, investment and implementations in sustainable urban mobility into a proper strategic planning practice, framework and formal document adopted by the cities.

The process was launched with a Memorandum of Understanding (MoU) signed by GIZ and the Municipality of Tirana in June 2019, and it is coherent with the SUMSEEC II roadmap that condensate available knowledge and policy tools in order to develop Sustainable Urban Mobility in SEE countries, based on energy efficiency and environmental protection and encompassing also gender equality issues.

As agreed with the Municipality of Tirana, from the geographical point of view **the SUMP of Tirana is focused on the inner part the city**, corresponding to the former boundaries of the municipality, i.e. before the 2014 territorial-administrative reform.

The SUMP concept encourages a **long-term planning**. In this respect, proposed intervention measures are planned in three time horizons, as follows:

- Short-term: 2 years (2022),
- Medium-term: 5 years (2025),
- Long-term: 10 years (2030).

1.2 Methodology

The following **definition of a Sustainable Urban Mobility Plan** has been widely accepted in Europe and internationally: *“A Sustainable Urban Mobility Plan is a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles.”*

The development of the SUMP of Tirana follows the **European Guidelines for Sustainable Urban Mobility Planning**. The process has been recently revised in order to provide additional guidance on specific planning topics and to incorporate major new developments in the area of sustainable urban mobility. The second edition of the EU SUMP Guidelines were published in occasion of the CIVITAS Forum Conference in Graz (Austria), 2 - 4 October, 2019.

FIGURE 1-1: THE ESSENCE OF SUMPS: THE 8 PRINCIPLES



Source: Guidelines for developing and implementing a Sustainable Urban Mobility Plan, Second Edition, 2019

FIGURE 1-2: DIFFERENCES BETWEEN TRADITIONAL TRANSPORT PLANNING AND SUMP

Traditional Transport Planning		Sustainable Urban Mobility Planning
Focus on traffic	→	Focus on people
Primary objectives: Traffic flow capacity and speed	→	Primary objectives: Accessibility and quality of life , including social equity, health and environmental quality, and economic viability
Mode-focussed	→	Integrated development of all transport modes and shift towards sustainable mobility
Infrastructure as the main topic	→	Combination of infrastructure, market, regulation, information and promotion
Sectoral planning document	→	Planning document consistent with related policy areas
Short and medium-term delivery plan	→	Short and medium-term delivery plan embedded in a long-term vision and strategy
Covering an administrative area	→	Covering a functional urban area based on travel-to-work flows
Domain of traffic engineers	→	Interdisciplinary planning teams
Planning by experts	→	Planning with the involvement of stakeholders and citizens using a transparent and participatory approach
Limited impact assessment	→	Systematic evaluation of impacts to facilitate learning and improvement

Source: Guidelines for developing and implementing a Sustainable Urban Mobility Plan, Second Edition, 2019

The revised EU Guidelines are based on 4 phases and 12 main steps as in the following figure. The proposed steps are not merely sequential and might need to be executed in parallel or re-aligned during the process.



FIGURE 1-3: THE 12 STEPS OF SUSTAINABLE URBAN MOBILITY PLANNING – A DECISION MAKER'S OVERVIEW



Source: Guidelines for developing and implementing a Sustainable Urban Mobility Plan, Second Edition, 2019

1.3 Consulted documentation

The first milestone, i.e. the analysis of problems and opportunities (status analysis) has been performed through a strong collaboration with the Transport and Planning departments and by gathering **information of available plans and studies drafted in the last 10 years**. These documents have provided the starting point to develop the overall framework of current infrastructural and socio-economic conditions, as well as the urban

structure, available services and critical issues that characterize the city of Tirana.

The consulted documents are listed below:

- Tirana's strategic transport study, traffic and mobility strategies (part of the Tirana Boulevard Central Park and River project) – Mobility in Chain, 2019;
- Green City Action Plan of Tirana – ARUP, 2018;
- Second Five Years Review of the Albanian National Transport Plan (ANP3) – TYPASA, 2018;
- TR 030, The new General Local Plan and a Strategic vision for Tirana 2030 a Kaleidoscopic Metropolis – Stefano Boeri Architetti, 2016;
- Municipality of Tirana Bicycle vision document, Final Report – MOBYCON, 2016;
- Travel demand analysis for transportation action plan in Tirana metropolitan area - Japan Research Institute and Enton Punavija, 2013;
- The Project for Tirana Thematic Urban Planning, Final Report - JICA Study team & Enton Punavija, 2012;
- Municipal Roads Sustainable Transport Strategy, Final Report - APRI S.P.A in partnership with TBridge, 2009;
- Integrated Strategy for a Sustainable Traffic Development in Tirana, Albania – ECAT, 2007.

1.4 Process and management structure

The SUMP development process was managed by the following **steering committee**:

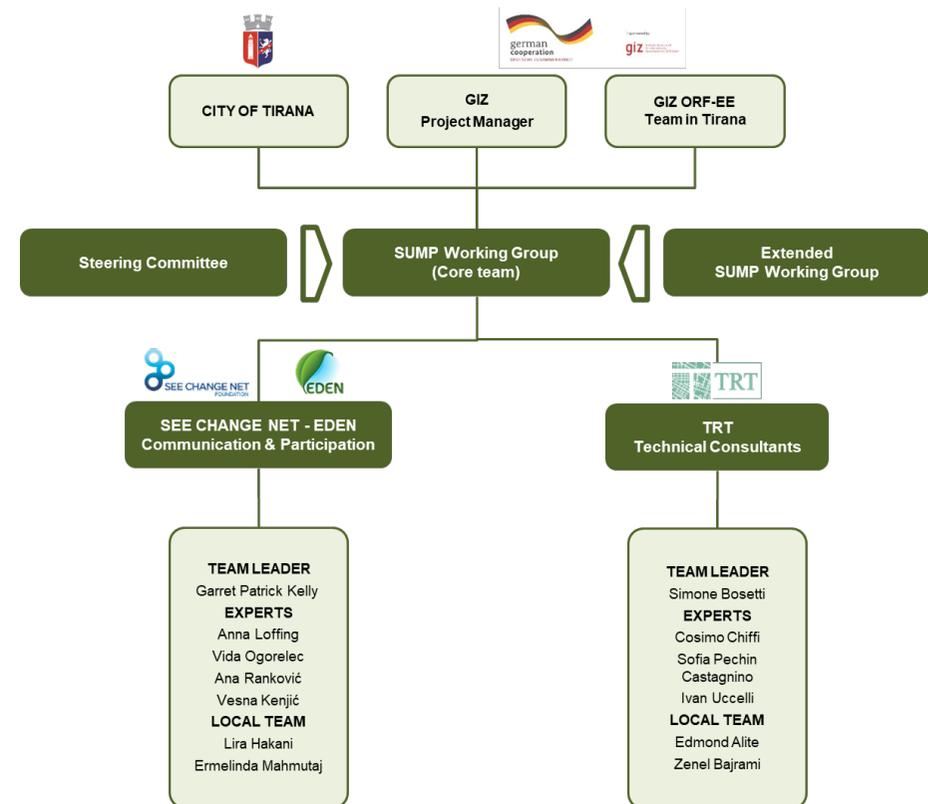
- Mr. Erjon Veliaj, Mayor
- Mr. Arbian Mazniku, Vice Mayor
- Mr. Enton Punavija, Department of Transport, Director
- Mr. Ditjon Baboci, General Director of Territorial Planning and Development
- Ms. Nevin Bilali, Department of Urban planning, Director
- Mr. Taulant Tusha, General Director for Public Works
- Mr. Ismail Beka, GIZ ORF-EE Country Coordinator

Within the Municipality of Tirana, a **SUMP working group (core team)** was established with the following participants:

- Directorate of Transport
- Directorate of Territorial Planning
- Directorate of Strategic Planning – Consultants
- Directorate of Public Works – GIS and Statistics Sector
- Tirana Parking Agency
- Environment Directorate

Moreover, an **extended SUMP working group** with representatives from local stakeholders (public authorities, transport operators, NGOs, academia, civil society, workers etc.) was involved in relevant steps as appropriate.

FIGURE 1-4: PROJECT TEAM



A multidisciplinary team supported the SUMP development. **TRT Trasporti e Territorio** (Italy), with the assistance of local experts, were the lead technical consultants, providing the key planning expertise and know-how; they are the authors of this document.

SEE Change Net (BiH), with the local partner EDEN, was responsible of communication and participation horizontal measures of participation of

citizens and stakeholders, communication strategies and information, education and promotion during the SUMP development including the visioning exercise.

1.5 Document structure

The SUMP document is organised in three Volumes:

- **Volume I - Status analysis**, which reports on the achievements of the first phase of the planning process;
- (This) **Volume II – The Plan**, which encompasses the strategic and the measure planning dimensions;
- **Volume III – Annexes**, which includes the summary of the stakeholder workshops (Annex 1) and the public participation activities (Annex 2) that were held during the planning process, as well as the alternative planning scenarios (long list of measures – Annex 3), and the **detailed description of the SUMP measures (Annex 4)**.

As it comes to Volume II, after this **introduction**:

- **Chapter 2** introduces the vision and the objectives of the SUMP;
- **Chapter 3** describes the alternative scenarios that have been designed to pursue six key strategies. Alternative scenarios have been compared and ranked with a Multi-Criteria Analysis (MCA) assessment tool;
- The selected scenario and its key measures are detailed in **Chapter 4**;
- **Chapter 5** presents the five-year action plan, which is proposed to set out prioritized actions that are key steps in implementing the SUMP strategies;
- In **Chapter 6** the Monitoring and Evaluation plan builds on selected indicators and paves the way for the future SUMP implementation.

2 Vision and objectives

2.1 Vision

The vision for the mobility in the city of Tirana on the 2030 horizon was developed with the involvement of a large group of stakeholders during the **Visioning Workshop** held at the Hotel International in Tirana on 30 September 2019 (see Annex WORKSHOP 1: Visioning). Through a gradual, facilitated process over a day, going from individuals, to small groups, and finally to a collective vision, all participants have agreed on a **vision statement** for their city.

Albanian

"Tirana inteligjente, në përgjigje të nevojave të qytetarëve si një qytet i jetueshëm, i pastër, i shëndetshëm, tërheqës, që ofron lëvizshmëri novatore, në forma të larmishme dhe mbulim të gjerë, të mundshëm, të përbalueshëm dhe të barabartë për të gjithë".

English:

"A smart Tirana, responding to community needs as a livable, clean, healthy, attractive city, offering innovative, multi-modal and wide-ranging mobility, available, affordable and equal for everyone"

During the event, it was also highlighted the importance to consider some important aspects during the SUMP drafting:

- The need for a **clean, liveable, healthy, and attractive** city, which is closely related with measures to be undertaken for **improving air quality, the health of citizens, the environment, and improved energy-efficiency**;
- The need for **education and awareness-raising activities**, which provide information to citizens in different ways and foster a **change of mentality** (also in regards to responsible behaviour while driving, using public transport, cycling, or walking). Especially the education of young people was seen as important;
- The need for a special emphasis on **inclusion, equity, accessibility, and affordability issues** to increase mobility of vulnerable groups ("Tirana for all").

Participants expressed the need for a well-connected, effective, environmentally-friendly, and multimodal transport system which focuses on pedestrians, strengthens public transportation and cycling, and also provides solutions to the needs of businesses.

The slogan of **"Smart Tirana"** calls for the implementation of innovative projects – whether this is related to apps with travel information, shared

mobility solutions, or using digital tools to provide transparency to the public about monitoring results.

2.2 Objectives

The identification of the objectives represents a fundamental step in the drafting of a SUMP capable of shaping the vision for the mobility in Tirana, to be achieved in different time horizons (short, medium and long term) until 2030.

It is through the structure of the general and specific objectives and the related targets that the different strategic pillars are shaped and the measures are identified, prioritized and categorized.

The choice of objectives is relevant both in the plan development phase, because it supports the assessment of scenarios and prioritisation of measures by means of a Multi-Criteria Analysis (MCA), and in its implementation phase (for the ex-post monitoring and evaluation).

The **general and specific objectives** for Tirana's SUMP are articulated into in the three dimensions of the concept of sustainability. These are environment, society and economy, to which it is added the more specific dimension related to the mobility and transport sector:

- **Sustainable mobility:** effectiveness and efficiency of the mobility system
- **Economic sustainability:** innovation and economic efficiency
- **Social sustainability:** equity, safety and social inclusion
- **Environmental sustainability:** quality of the environment

FIGURE 2-1: FOUR DIMENSIONS OF SUMP SUSTAINABILITY



TABLE 2-1: GENERAL AND SPECIFIC OBJECTIVES

Sustainable mobility: effectiveness and efficiency of the mobility system*Meeting the mobility needs of residents, businesses, city users and tourists*

- **Reducing car dependency** for daily commuting in favour of more sustainable modes of transport (walking, cycling, public transport)
- **Making city streets and public spaces compatible with the needs of different road users** (pedestrians, cyclists and public transport user)
- **Optimising and integrating** the different public and / or private mobility system
- Optimizing and rationalising the **transport of goods**

Social sustainability: equity, safety and social inclusion*Ensuring adequate health, safety, accessibility and information for all*

- **Reducing road accidents focusing on vulnerable users** (pedestrians / cyclists / motorcyclists / children / over 65), with the aim of **eliminating fatal accidents**
- **Ensuring the correct use of the road** through greater and more effective control of the traffic and parking rules
- **Increasing the awareness and “freedom of choice”** towards the most sustainable modes of transport, improving communication and marketing
- **Improving liveability, accessibility and attractiveness for all users** preserving the city peculiarities and the sustainability of the mobility system

Economic sustainability: innovation and economic efficiency*Enhancing innovation opportunities and pursue economic sustainability and efficiency*

- Making efficient and effective public spending on infrastructure and mobility services (value for money)
- Promoting the **economic efficiency of the distribution of goods**
- **Optimising the use of resources, enhancing forms of sharing** in the use of vehicles and infrastructures **promoting technological and managerial innovation** in the transport sector
- **Making the environmental, social and health costs** generated by the various modes of transport **explicit and internalized in public policies**

Environmental sustainability: quality of the environment*Promoting and improving environmental quality*

- **Reducing air polluting and CO2 emissions** attributable to the transport sector
- **Reducing energy consumption** and in particular that of fossil fuels (diesel / petrol / LPG / etc.) used by the transport sector
- **Reducing the exposure of the population to noise** by giving priority to the protection of the most sensitive areas near schools, health facilities and residential areas
- Improving the **quality of the urban landscape** and **limit soil consumption**

3 Scenarios

Based on the outcomes of the activities deployed in the earlier steps of the SUMP drafting process, namely the status analysis, the gathering of existing studies, projects and plans, the interaction with the core SUMP working group and the public consultation on measures developed by SEE Change Net and EDEN in April 2020 during COVID-19 pandemic crisis, different planning scenarios have been considered aiming at:

- solving the **key mobility challenges** the city is facing (see Chapter 8, Volume I);
- meeting the identified **general and specific objectives** and responding to the stated **SUMP vision for Tirana 2030** (see Chapter 2);
- providing the tools to materialize **six key strategies** described below and specially designed for the city of Tirana, which will act as policy pillars for the mobility measures and actions.

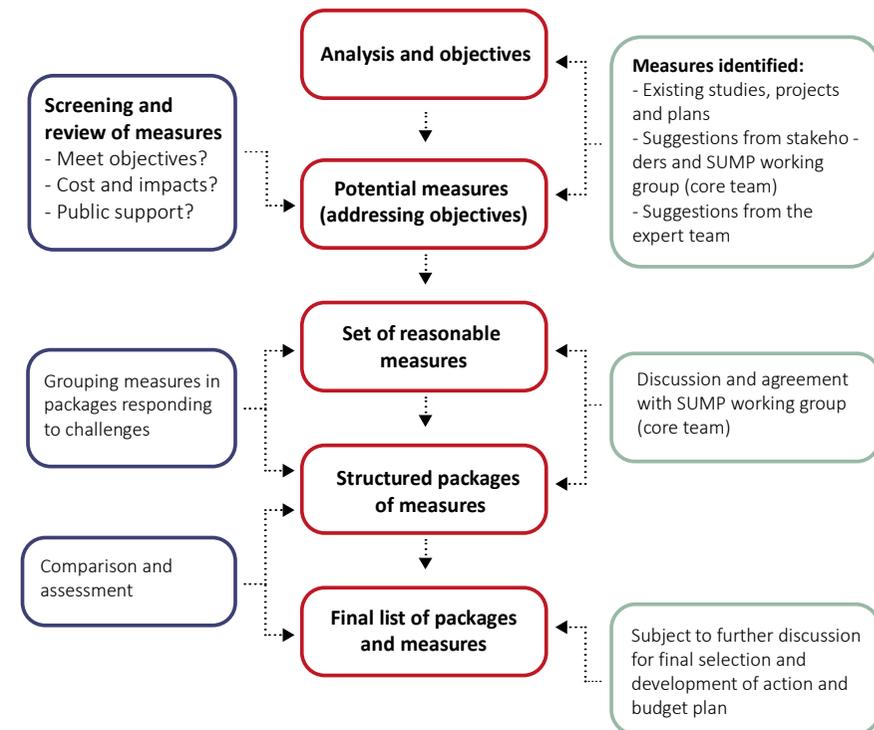
Three alternative scenarios have been designed as different ways of combining different integrated packages of measures, with different phasing of implementation (short term, 2022, medium term, 2025, and long term, 2030). The rationale and the approach behind each scenario are quite different, even if they share some common measures and assumptions (the overarching key strategies). In other to select the “winning” SUMP scenario,

they have been compared with the so-called **Reference (or Business-As-Usual) Scenario** and ranked with a **Multi-Criteria Analysis (MCA) assessment tool**.

3.1 Measure selection and prioritisation

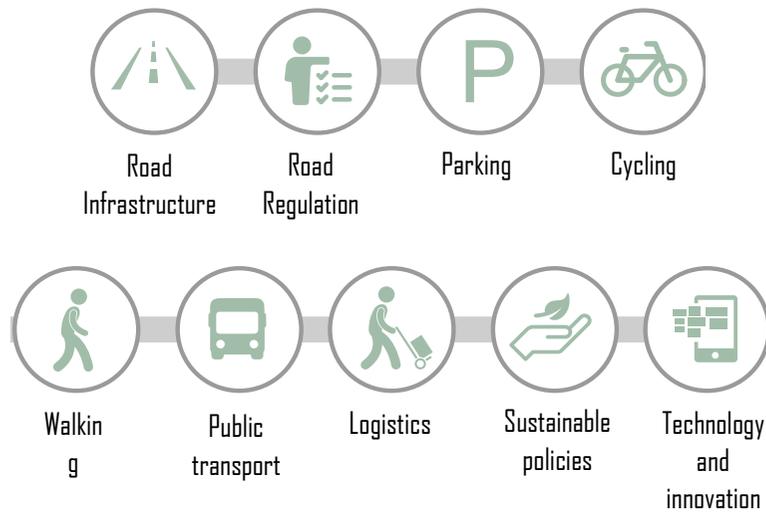
The scenario building started with the selection of a **long-list of measures**, already planned and other potential measures. The detailed measure identification and prioritisation process is summarised in the following chart.

FIGURE 3-1: PROCESS FOR THE MEASURES SELECTION



Measures (infrastructural, operational or organisational) have been subsequently grouped and classified according to the following **fields of intervention**.

FIGURE 3-2: FIELDS OF INTERVENTION



3.2 Key strategies

Six key strategies, shared and approved by the core SUMP working group, are the founding elements which guided the construction of each of the alternative scenarios. Each strategy is a **policy pillar** that structures consistent and integrated packages of measures, which are capable of achieving the SUMP objectives over the planning time horizon.

FIGURE 3-3: THE 6 KEY STRATEGIES FOR THE SUMP OF TIRANA

- 

Fostering **Public Transport** to be wider, more efficient, integrated, attractive and inclusive
- 

Pushing **cycling and micromobility** as an alternative to private motorised transport
- 

Mobility Resilient Tirana: combining infrastructure investments and soft policies, making the best use of resources (both financial and spatial), and increasing the flexibility and reactivity of the mobility system
- 

Managing parking supply, logistics and pricing as drivers to steer modal choice (push and pull approach)
- 

Fostering a **kids-centered design and use of city streets and urban spaces** to increase accessibility, attractiveness and safety.
- 

Applying ITS technologies, digital solutions, e-mobility for a **smart(er) city**

3.3 Reference Scenario (RS)

Tirana has already an ambitious outline for the implementation of a set of measures independently from SUMP in the next ten years and more. The expert team, together with the SUMP working group (core team), has done a comprehensive work to identify the measures already planned by the different levels and departments of the public administration (at a local and national level).

This resulted in the identification of the Reference Scenario (RS), also known as business-as-usual scenario, that describes the development forecasted if the current policy direction is continued and only measures that have already been planned are implemented. So, what will happen in Tirana irrespective of the SUMP in the next 10 years?

The RS is composed of an ambitious set of measures belonging to different fields of intervention. The main measures are presented as following, while a more detailed list and description is provided in **Annexes 3 and 4**.

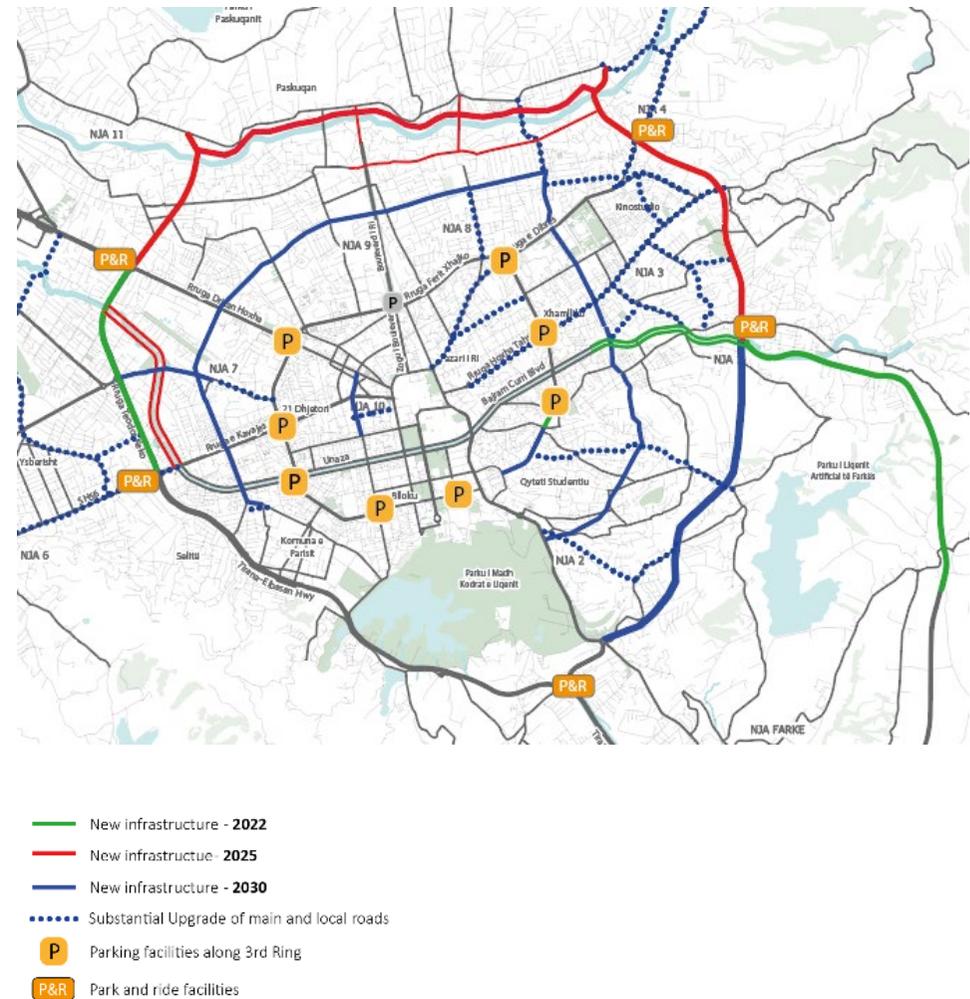
ROAD INFRASTRUCTURE

- Completion of the road network, ring road system and main access roads
- Rehabilitation/upgrade of main and secondary roads
- Traffic fluidification at some congested intersections

PARKING

- Park and ride facilities
- Parking facilities along the 3rd Ring Road

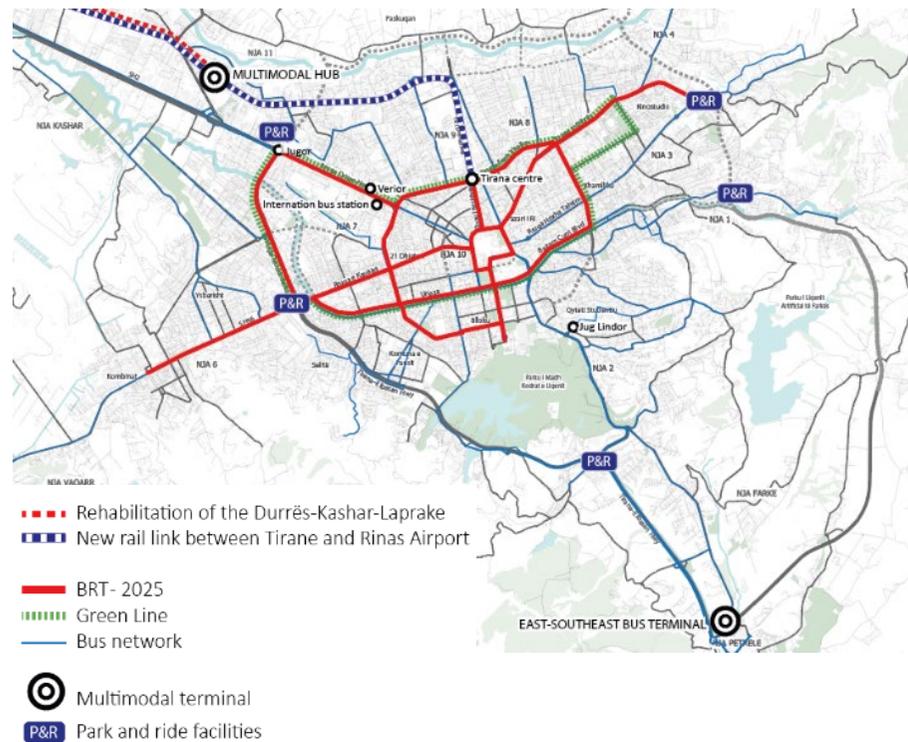
FIGURE 3-4: ROAD INFRASTRUCTURE AND PARKING IN THE REFERENCE SCENARIO



PUBLIC TRANSPORT

- Development of bus rapid transit (BRT)
- New fare and ticketing system
- Introducing electric and low emissions buses
- New East-South-East bus terminal
- Rehabilitation of rail infrastructure in the city of Tirana and new rail link to Tinas airport
- New Tirana multimodal hub in Laprake

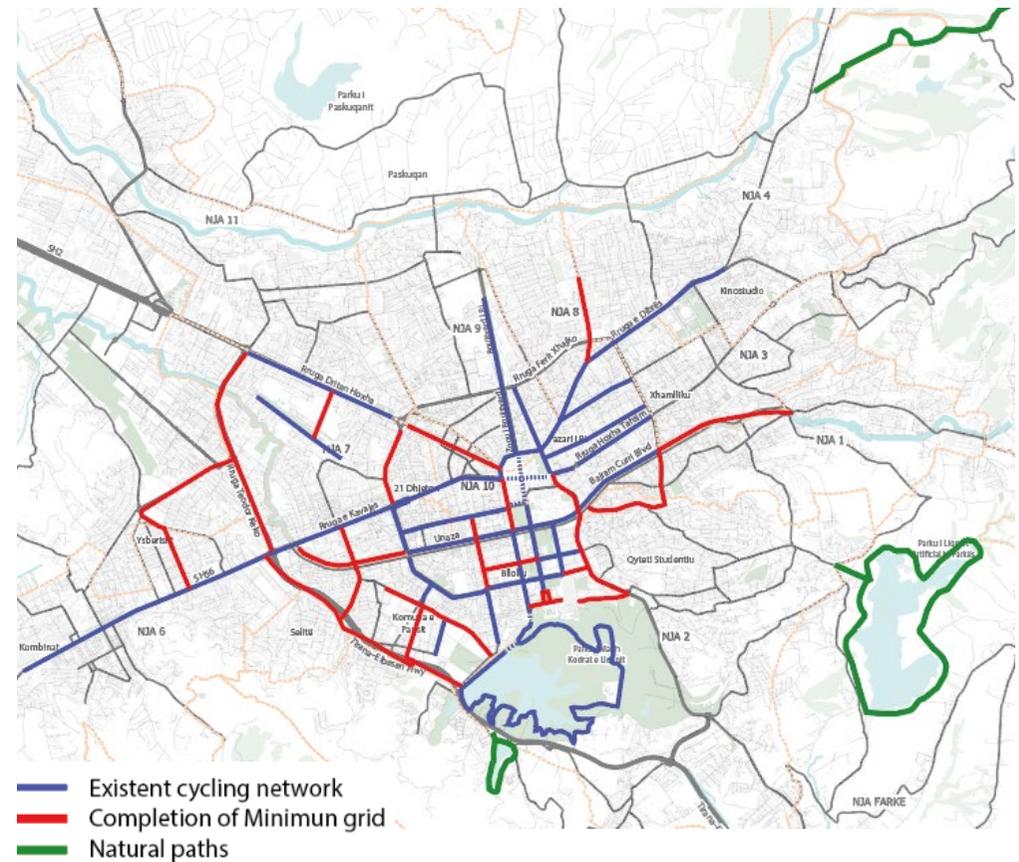
FIGURE 3-5: PUBLIC TRANSPORT IN THE REFERENCE SCENARIO



CYCLING

- Tirana ‘minimum grid’ of cycling infrastructures
- Natural bicycle trails
- Cycling network extension and upgrade

FIGURE 3-6: CYCLING IN THE REFERENCE SCENARIO



3.4 Alternative scenarios

As explained above, besides the Reference Scenario, three alternative scenarios have been designed as a combination of different sets of integrated hard (investments) and soft (policies) measures and of different phasing of implementation (short term, 2022, medium term, 2025, long term, 2030).

All the 3 alternative scenarios include all the measures foreseen in the Reference Scenario, and in addition a combination of other hard or/and soft policy measures to improve living and the mobility system in the city of Tirana. The rationale and the approach behind each scenario are quite different, even if they share some common measures (that however may differ in terms of phasing) and assumptions.

The 3 alternative scenarios are:



HIGH INVESTMENT SCENARIO



LOW INVESTMENT SCENARIO



BALANCED SCENARIO

The detailed list of measures in each of the three alternative scenarios is presented in **Annex 3**.

3.4.1 HIGH INVESTMENT SCENARIO (HI)

This scenario includes the entire ambitious set of measures already planned for the city that belong to the Reference Scenario. In addition, it includes a set of other measures and the full execution of a set of infrastructural projects with no constraints in terms of budget. To some extent, this can be seen as Tirana's dream book, were money is not a barrier and all initiatives can be implemented with no difficulties within the ten years period of the SUMP implementation.

More in details, main interventions include:

- New public transport infrastructures
 - the bus network extension and bus priority lanes
 - a new light rail service between the airport and Tirana
- Public incentives to hybrid and electric mobility
- A set of rules to reduce car pressure
 - New pedestrian areas, limited traffic zones and environmental areas
 - a congestion charge scheme controlled by cameras
- A strengthening of the available technologies for monitoring and planning, improving data production and monitoring system
- The improvement of city logistics through the revision of access restrictions, the creation of Urban and Micro Consolidation Centres and the promotion of cargo-bikes

3.4.2 LOW INVESTMENT SCENARIO (LO)

In contrast with the High Investment Scenario, this one includes only a small portion of the measures proposed in addition to the Reference scenario. It is characterized by a minimum level of additional investments, having in mind tight budget constraints (in terms of financial resources but also complexity of the implementation process). Therefore, the focus is on less ambitious measures, (soft) policy measures, regulations and low-cost solutions.

More in details, main interventions include:

- Raise awareness of the benefits of sustainable mobility
 - Development of travel plans and institution of mobility managers
 - Introduction of a road code and traffic rules to enhance cycling and walking
 - Introduction of the cycle street concept
- New image and visibility for public transport and a future public transport regulation and contracting model
- Some soft interventions like improvement of bus stops and small terminal, the adaptation of on-street loading/unloading bays and the provision of off-street delivery areas

3.4.3 BALANCED SCENARIO (BL)

The third scenario goes a step further. Instead of including the entire set of measures part of the Reference Scenario (as it is the case for both the High Investment and Low Investment scenarios), more realistically it proposes a prioritization of the already planned measures by level of urgency and complexity of the operations. It does that by revising the implementation time-frame, having in mind that some specific interventions might be achieved only beyond 2030. In this way, it opens the possibility to redirect

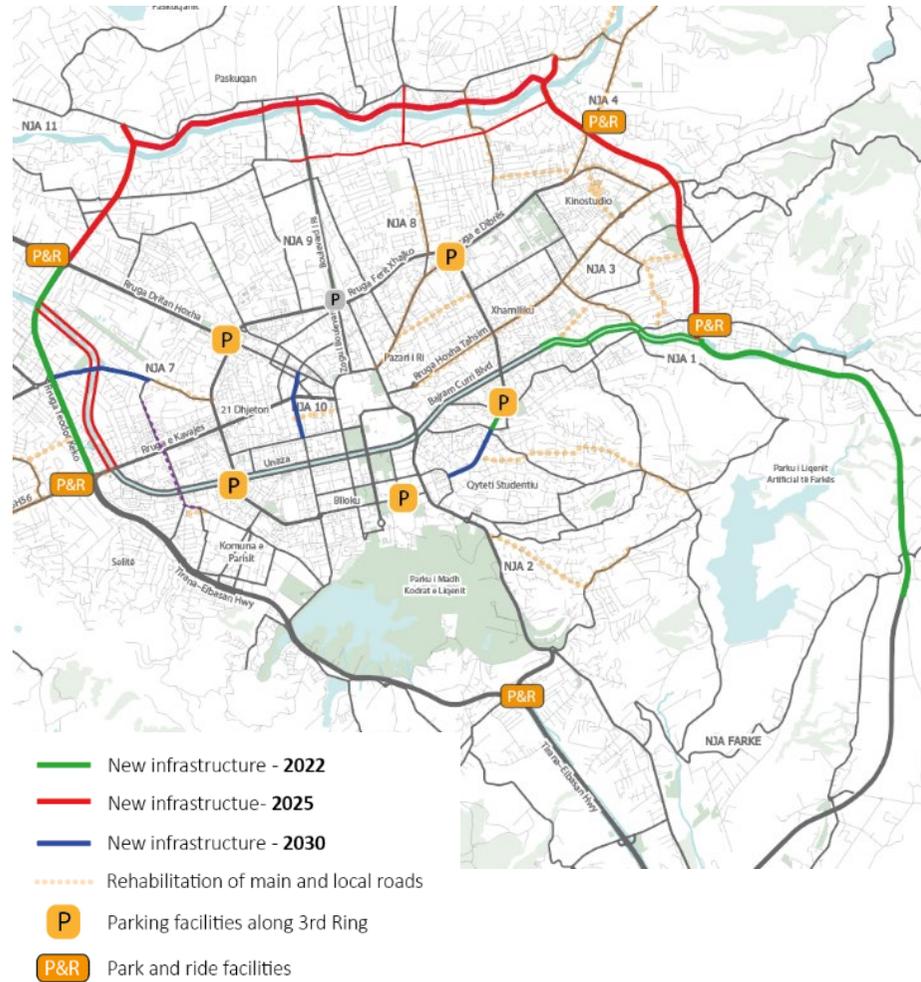
available resources to other interventions that give a greater focus on sustainability.

More in details, main interventions include:

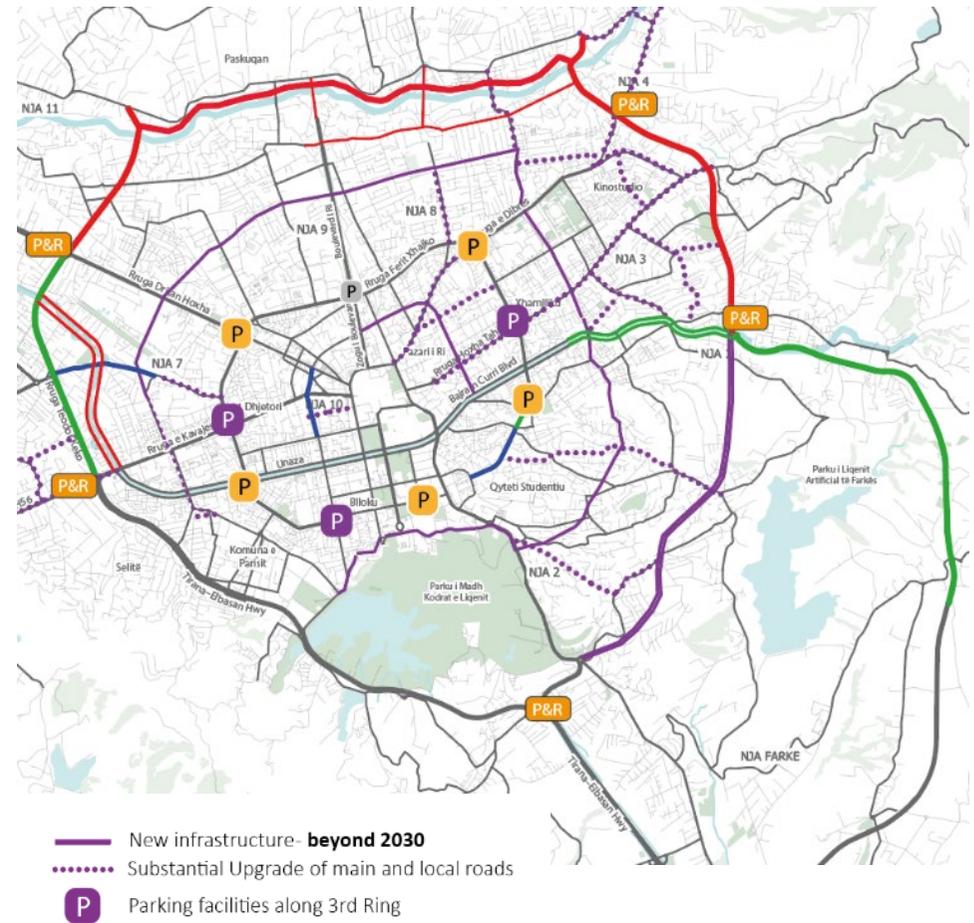
- The prioritization of the Reference Scenario measures (see figure below)
- New public transport infrastructures and a new image and visibility
- Incentives and promotion to hybrid and electric mobility
- A set of rules to reduce car pressure
 - New pedestrian areas, limited traffic zones and environmental areas
 - a congestion charge scheme controlled by cameras
- A strengthening of the available technologies for monitoring and planning, improving data production and monitoring system
- The improvement of city logistics through the revision of access restrictions, the creation of hard and soft infrastructures that facilitate an organized distribution of goods in the city
- Raise awareness of the benefits of sustainable mobility and enhance soft mobility.

FIGURE 3-7: PRIORITIZATION OF MEASURES OF THE RS IN THE BALANCED HYPOTHESIS

Within the SUMP time-frame (2030)



Beyond 2030



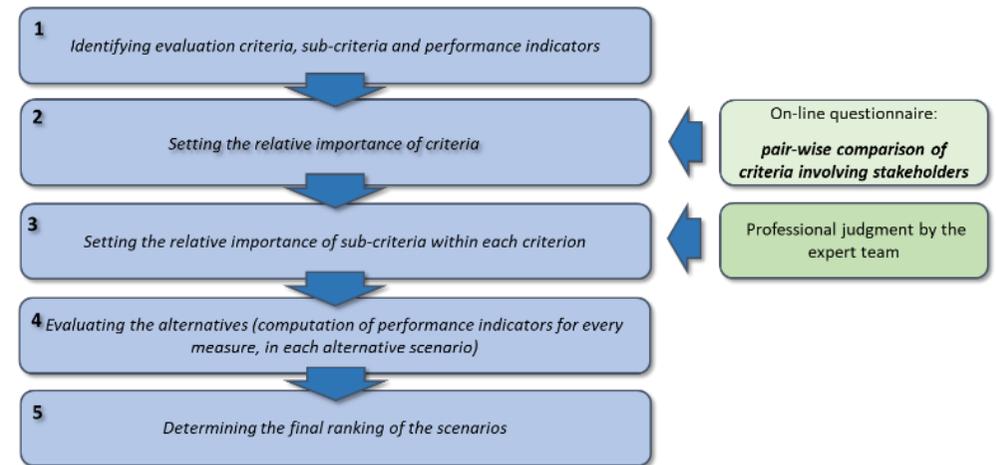
3.5 Assessment and comparison of scenarios

The development process of the SUMP for Tirana is based on the **assessment and comparison of alternative planning scenarios**, i.e. different ways of combining different packages of measures aimed at achieving the SUMP objectives.

For this goal, a **Multi-Criteria Analysis (MCA)** is used. The MCA is a tool for appraisal of different alternatives whose impacts cannot either be expressed on a monetary scale or easily be quantified, but which are recognised as important by policy makers to be formally included in the evaluation.

The strength of MCA is that it can be used with a **set of weights** that is applied to each criterion. These weights reflect the **relative importance of the policy objectives against which the performance of alternatives is measured**. They can be asserted or derived from a process that involves **multiple decision makers or stakeholders**. Weights can then be applied to the impact scores in order to aggregate them into a **single overall value and produce a ranking**.

FIGURE 3-8: MCA EVALUATION PROCESS



3.5.1 EVALUATION CRITERIA

The proposed methodology builds upon the identification of a set of criteria which analyse the soundness of the alternative scenarios from several perspectives. For each criterion, one or more indicators can be used to measure **whether, or to what extent, an alternative contributes to each individual criterion**. Indicators must provide then a ‘scale’ against which an alternative’s contribution to the criteria can be judged.

The list of proposed evaluation criteria and sub-criteria is provided in the following table. Two domains have been considered:

- Contribution to **SUMP objectives** (4 sustainability dimensions),
- Contribution to **SUMP key strategies** (6 policy pillars).

TABLE 3-1: MCA CRITERIA AND SUB-CRITERIA

Domain	Criteria	Sub-criteria
<i>Contribution to SUMP Objectives</i>	A) Sustainable mobility: effectiveness and efficiency of the mobility system <i>Meeting the mobility needs of residents, businesses, city users and tourists</i>	A1) Reducing car dependency for daily commuting in favour of more sustainable modes of transport (walking, cycling, public transport)
		A2) Making city streets and public spaces compatible with the needs of different road users (pedestrians, cyclists and public transport users)
		A3) Optimising and integrating the different public and / or private mobility system
		A4) Optimizing and rationalising the transport of goods
	B) Social sustainability: equity, safety and social inclusion <i>Ensuring adequate health, safety, accessibility and information for all</i>	B1) Reducing road accidents focusing on vulnerable users (pedestrians / cyclists / motorcyclists / children / over 65), with the aim of eliminating fatal accidents
		B2) Ensuring the correct use of the road through greater and more effective control of the traffic and parking rules
		B3) Increasing the awareness and “freedom of choice” towards the most sustainable modes of transport, improving communication and marketing
		B4) Improving liveability, accessibility and attractiveness for all users preserving the city peculiarities and the sustainability of the mobility system
	C) Economic sustainability: innovation and economic efficiency <i>Enhancing innovation opportunities and pursue economic sustainability and efficiency</i>	C1) Making efficient and effective public spending on infrastructure and mobility services (value for money)
		C2) Promoting the economic efficiency of the distribution of goods
		C3) Optimising the use of resources, enhancing forms of sharing in the use of vehicles and infrastructures promoting technological and managerial innovation in the transport sector
		C4) Making the environmental, social and health costs generated by the various modes of transport explicit and internalized in public policies
	D) Environmental sustainability: quality of the	D1) Reducing air polluting and CO₂ emissions attributable to the transport sector

Domain	Criteria	Sub-criteria
	environment <i>Promoting and improving environmental quality</i>	<p>D2) Reducing energy consumption and in particular that of fossil fuels (diesel / petrol / LPG / etc.) used by the transport sector</p> <p>D3) Reducing the exposure of the population to noise by giving priority to the protection of the most sensitive areas near schools, health facilities and residential areas</p> <p>D4) Improving the quality of the urban landscape and limit soil consumption</p>
<i>Contribution to SUMP Key strategies and policy pillars</i>	E) Founding policies and key strategies	<p>E1) Making Public Transport wider, more efficient, integrated, attractive and inclusive</p> <p>E2) Pushing cycling and electric scooters as an alternative to private motorized transport</p> <p>E3) Managing parking supply and pricing as drivers to steer modal choice (push and pull approach)</p> <p>E4) Applying ITS technologies, digital solutions, e-mobility for a smart(er) city</p> <p>E5) Resilient Tirana: combining infrastructure investments and soft policies, making the best use of resources (both financial and spacial), and increasing the flexibility and reactivity of the mobility system</p> <p>E6) Fostering a kids-centered design and use of city streets and urban spaces to increase accessibility, attractiveness and safety.</p>

3.5.2 SETTING THE RELATIVE IMPORTANCE OF CRITERIA

An important element in multi-criteria evaluation is the identification of the relative importance of different criteria (**weighting process**).

The analytic hierarchy process (AHP) has been widely used to develop weights for criteria in many types of MCA applications. The AHP provides a way for stakeholders to express their **relative priorities across multiple goals, using a set of paired comparisons of the goals**. The judgments made in these comparisons can then be used to derive the weights that stakeholders implicitly apply to each criterion.

The **advantage** offered by this methodology lies not only in the transparency of results; it also lies in the fact that the criteria utilized can be subject to scrutiny and consensus among all policy makers. The inclusion of multiple stakeholders in the decision-making process is indeed an important and, for the transport sector, often crucial factor for the successful implementation of the measures under consideration. This allows the focus on creating comparability of results and ultimately the acceptance of the ranking of alternatives.

The weights have been derived from a participatory process to be performed via an on-line questionnaire, launched during the Workshop on Alternative SUMP scenarios (18 June 2020, see **Annex 1**).

3.5.3 EVALUATION AND RANKING

The evaluation of different alternatives encompasses at first the **computation of all indicators** for all the measures of each alternative. In a second step all indicators are weighted through the defined weights, in order to derive one value for each criterion. Then all criteria values are

weighted by means of the **weights derived from the stakeholders' consultation** in order to compute the final score of each option.

In this application, the MCA is based mainly on qualitative indicators: they are to be first judged as High, Medium, Low, None according to their level of performance, and then the qualitative assessment is converted into numeric score, in index numbers (being 100 the value of the indicator in the Reference Scenario) in order to allow the comparability across the different criteria.

All indexes are reported in a way that higher values correspond to a more sustainable situation starting from the reference scenario.

The MCA developed in the previous steps leads to a scoring of the proposed alternatives, whose ranking allows for the identification of the most promising scenario.

Sensitivity tests are to be performed in order to assess the robustness of resulting scoring to change in weights and, consequently, of final ranking of alternatives.

3.5.4 FINAL RESULTS OF THE ASSESSMENT

The consulted stakeholders expressed the following weights for the evaluation criteria. Sustainable mobility, and to a less extent the level of compliance with the desired key strategies were considered as more relevant than the other criteria.

TABLE 3-2: WEIGHTS OF THE EVALUATION CRITERIA

Criteria	Weight
A) Sustainable mobility	0.233
B) Social sustainability	0.186
C) Economic sustainability	0.188
D) Environmental sustainability	0.181
E) Founding policies and key strategies	0.213

Based on those weights, the multi-criteria assessment has led to the following ranking of the three scenarios.

The Balanced Scenario (BL) got the highest score, better than the other two (HI, High Investment and LO, Low Investment) according to all criteria. It is evident that the LO scenario is able to achieve more limited impacts than the other two. On the other side, BL shows a better allocation of resources, being able to achieve better results with a more balanced investment.

FIGURE 3-9: RANKING OF ALTERNATIVE SCENARIOS (SCORES)

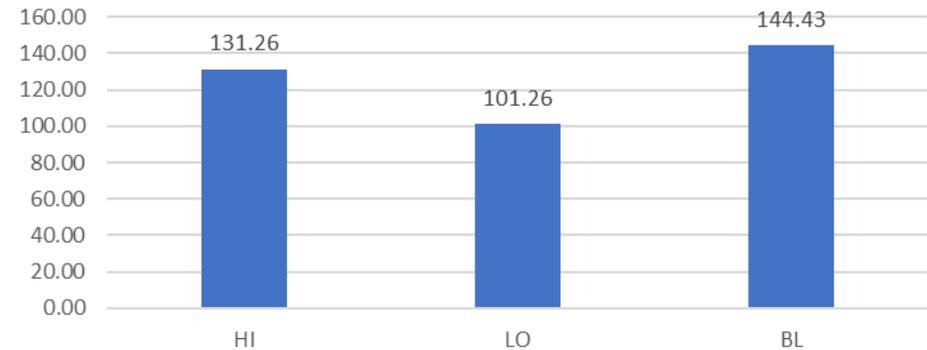
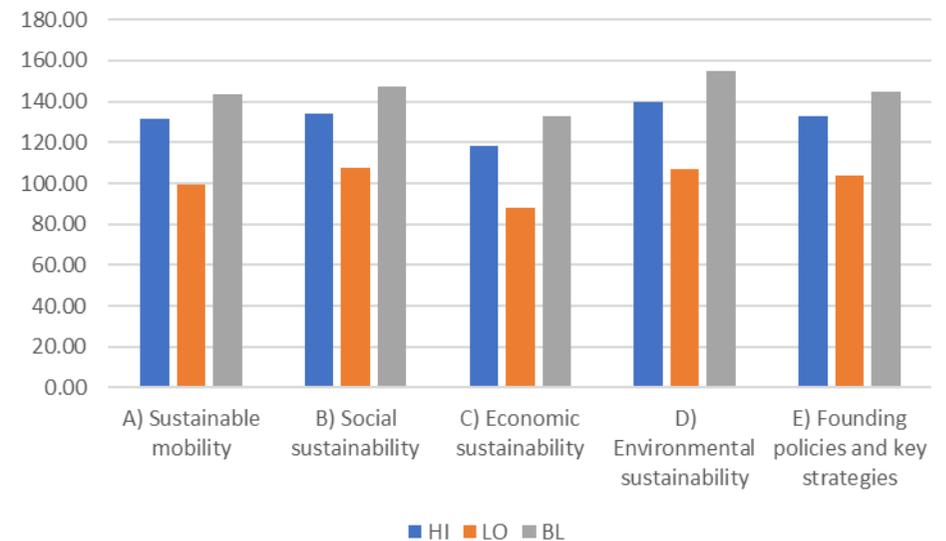


FIGURE 3-10: RANKING OF ALTERNATIVE SCENARIOS WITHIN EACH CRITERION (SCORES)



4 Selected scenario and measures

The following chapter presents the planning scenario resulting from the assessment of alternative options and the prioritisation of (packages) of measures.

It is organised around the **6 key strategies** that have been identified as founding policy pillars in order to both respond to peculiar mobility challenges (as emerged from the Status Analysis and clustered in Section 8.2), as well as to achieve the vision and objectives of Tirana's SUMP.

The 6 strategies are:

1. Fostering **Public Transport** to be wider, more efficient, integrated, attractive and inclusive
2. **Pushing cycling and micromobility** as an alternative to private motorised transport
3. **Mobility Resilient Tirana**: combining infrastructure investments and soft policies, making the best use of resources (both financial and spatial), and increasing the flexibility and reactivity of the mobility system
4. Managing **parking supply, logistics and pricing** as drivers to steer modal choice (push and pull approach)
5. Fostering a **kids-centered design and use of city streets and urban spaces** to increase accessibility, attractiveness and safety.

6. Applying **ITS technologies, digital solutions, e-mobility** for a smart(er) city

It's worth mentioning the fact that while drafting this first SUMP, we realised that both previous studies and plans recently adopted by the Municipality (e.g. TR030, Green City Action Plan) already indicated several measures to foster and favour sustainable urban mobility. The mandate of the Mayor Erion Veliaj gave also a clear direction to some policy initiatives (e.g. from cycling to public realm interventions). Furthermore, fast-changing land-use and societal trends coupled with recent shocks like the 2019 earthquake and the Covid-19 pandemic, revealed a quite detailed programming framework for several interventions and a substantial ownership of and capability to manage such measures from different city departments.

Efforts have been therefore orientated to both integrate the set of policy measures with additional ones capable of multiplying the expected positive effects but also to avoid conflicts and counter-effects among strategies and measures. The planning scenario is therefore a work of systematization, integration and also revision of the measures in the Reference Scenario. This Plan provides also a quite extensive detail of both measures and sub-measures as presented in the following sections.

4.1 Fostering Public Transport



Fostering Public Transport to be wider, more efficient, integrated, attractive and inclusive

The first strategy looks at improving the quality of public transport in the city of Tirana. It entails to increase the service (in quantity and quality) while making it more efficient, integrated, attractive and accessible to all.

Building on the element that makes public transport one of the most preferred modal choice by a large portion of the population and being aware of its current limits (particularly the absence of mass rapid transit and the current road capacity), the strategy seeks to reinforce the role of public transport both by expanding its coverage and capacity and by improving performances, attractiveness and level of inclusivity.

To make it happen, the SUMP suggests to accelerate the scenario development for **the bus rapid transit (BRT)** and for the **new rail link to connect the city centre to the Rinas airport and the Durres maritime node and commuting community**. The SUMP has also identified smart and low-cost measures for the overall reconfiguration of the bus network: the **Chronobus concept** developed in Nantes (FR) combines the use of painted-only bus lanes with priority at traffic lights making use short range RFID technology, the insertion of lane segregator/raised pavement markers, widening of the road section, dedicated PT roads, temporary bus lanes and spot check lanes.

A widespread one-way traffic scheme inside the 3rd ring road can easily create the conditions for both BRT lines and **two-ways bus priority lanes**. Moreover, the measure can be very cost effective since it does not need to modify the current road infrastructure and can be implemented in the short term. The overall idea is to prioritize public transport flows and simultaneously discourage the private motorised traffic to reduce congestion in the city centre by making use of the current available space on the streets (see also the strategy for Mobility Resilient Tirana).

The BRT calls for a **new concept for the future PT network** and this objective is now linked to a new and more hierarchical network design configuration and an expanded urban and sub-urban/rural bus network in terms of coverage/number of lines and type of services, level of service (frequency, rides), route itinerary design, minimum comfort and information levels onboard and at stops. To make it happen and in order to increase usability of the system, the SUMP has identified measures that will create a **new image and visibility for public transport in the city** particularly at bus stops and small nodes that will be also **more accessible** to people of different ages and capacities.

There is a strong need to ensure a proper level of service and guide the introduction of an integrated fare system and fleet renewal programme. This will be done by **updating the current governance and funding scheme of public transport in Tirana** that will also include the assessment of proper schemes for the introduction of **electric buses** (including the construction of charging facilities at depots or in-line at stops).

Last but not least, public transport will become also **more flexible and inclusive** by introducing special and on-demand services in low density areas and/or for multiple mobility options (night/school/disabled people)

The strategy can also build upon the new **multimodal hub** that will be realised in Laprakë, the new east-southeast **bus terminal** and the planned **park & ride facilities** to facilitate the shift from private motorized vehicles to public transport or other sustainable modes.

FIGURE 4-1: PRIORITIZATION OF PUBLIC TRANSPORT: NEW BUS CORRIDORS IN A REVISED TRAFFIC SCHEME

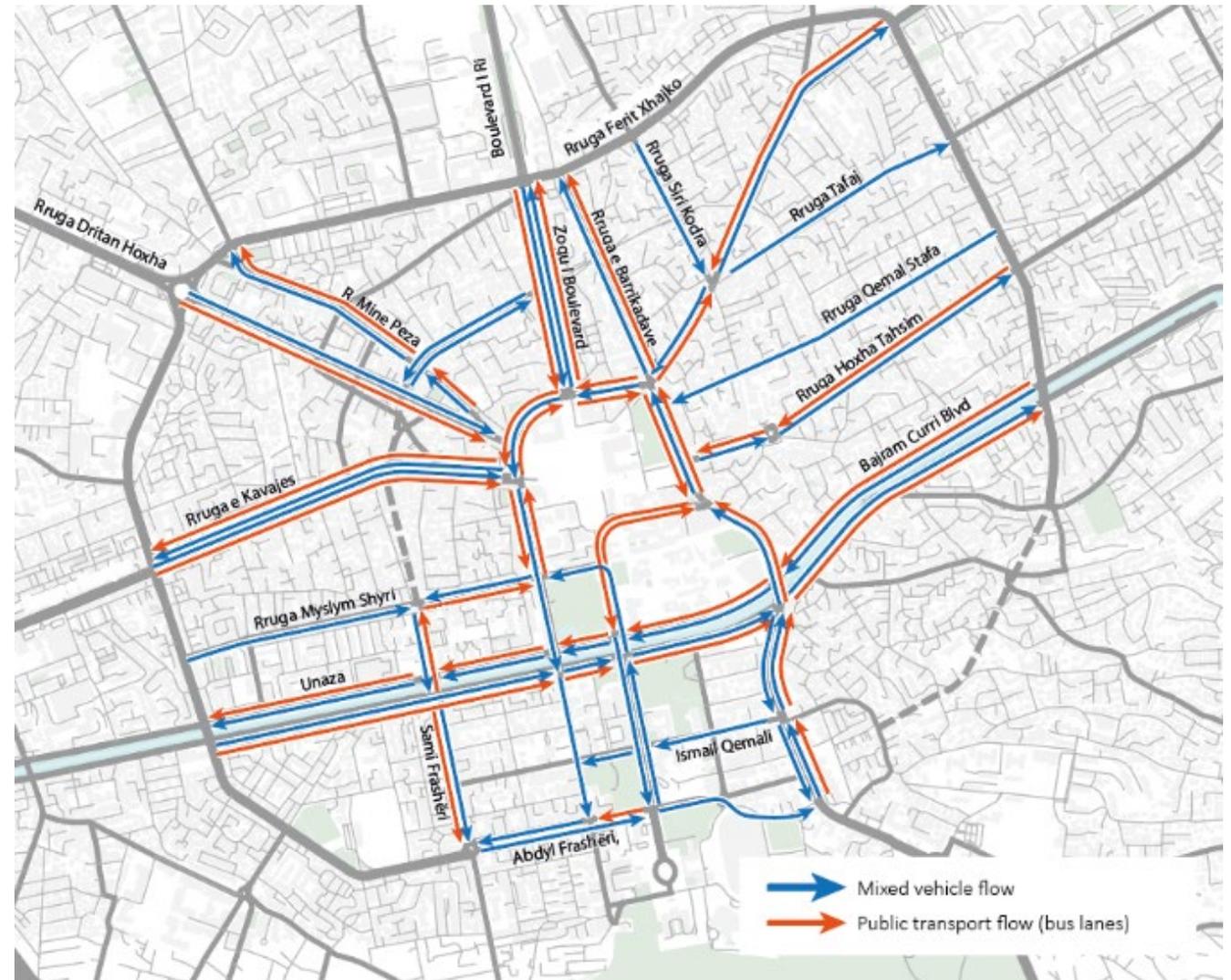


FIGURE 4-2: FOSTERING PUBLIC TRANSPORT

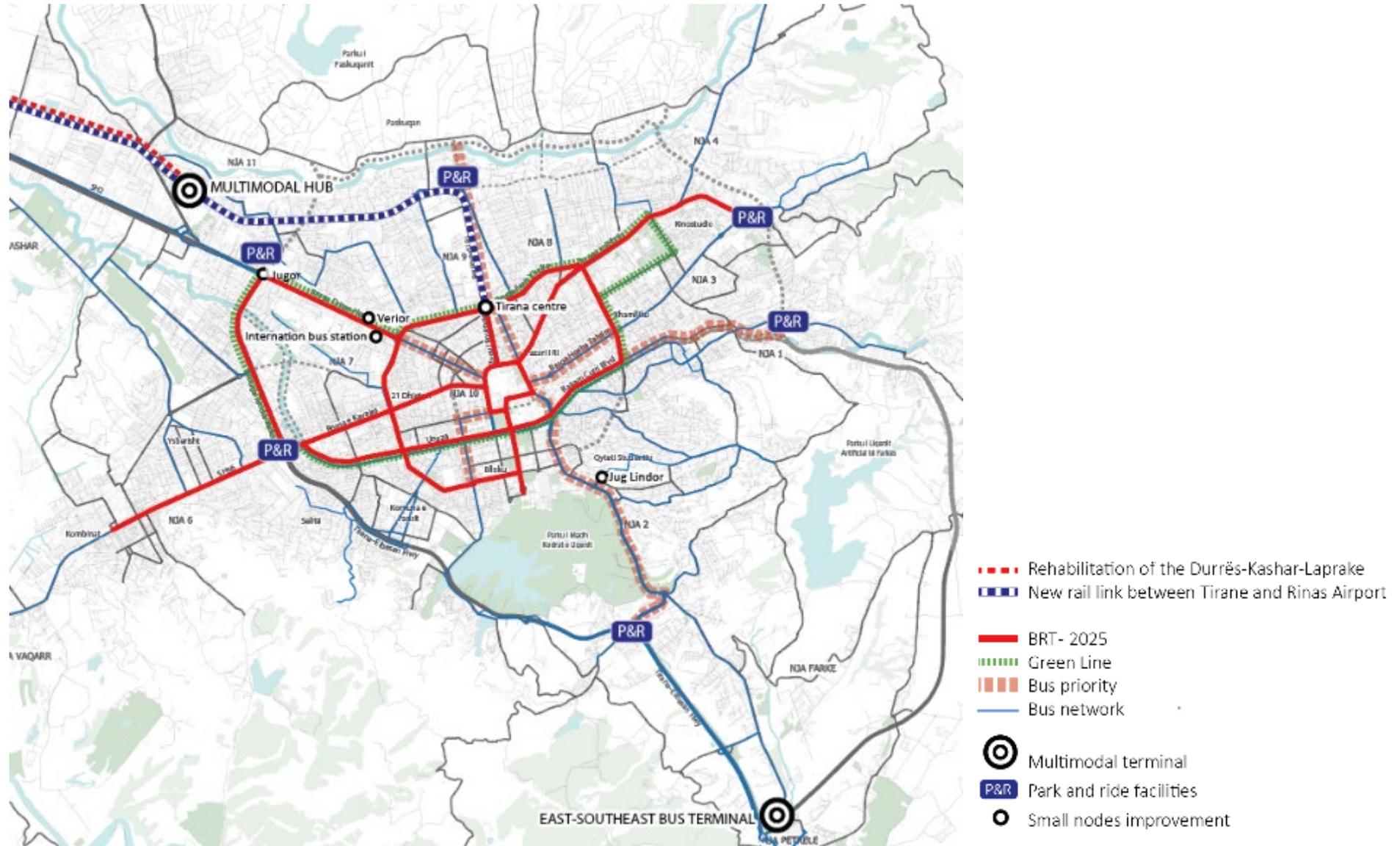


TABLE 4-1: LIST OF MEASURES FOR STRATEGY “FOSTERING PUBLIC TRANSPORT”

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
PT	Field of intervention: Public Transport						
PT1	Development of bus rapid transit (BRT)	Construction and operation of BRT Line 1 Kombinat - Kinostudio	2025				
		Construction and operation of BRT Line 2 Tirana e Re	2025				
		Construction and operation of BRT Line 3 Unaza	2025				
PT2	New fare and ticketing system	New Fare Structure	2022				
		Cashless and integrated ticketing system	2022				
		Full implementation of the new system					
PT3	Introducing electric and low emissions buses in Tirana	Green Line test and study	2022				
		Zero and Low-emission bus programme	2025 /30				
PT4	New east-southeast bus terminal	Construction and operation of the new Terminal	2022				
PT5	Rehabilitation of rail infrastructure in the city of Tirana and new rail link to Rinas airport	Rehabilitation of the Durrës-Kashar-Laprake rail section	2025				
		Construction of the new rail link between Tirana and Rinas Airport	2025				
		Rehabilitation of the Laprake-Tirana city centre rail section	2030				
PT6	New Tirana multimodal hub	Construction and operation of the new Multimodal Hub	2019				
PT7	Future public transport regulation and contracting model	Study	2022				
		New Tendering Programme	2025				
		Contracts Award	2025				
PT8	Bus network extension and improvement	Completion of the planned bus network	2022				

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
PT	Field of intervention: Public Transport						
PT10	Bus network design and operation						
PT11	Introduction of the chronobus concept (bus priority)	Analysis and Identification of Priority Solutions					
		Bus Lanes Extension					
		Priority at Intersections					
PT12	New image and visibility for public transport	New Visual Identity					
		Investments and coordination of rebranding activities					
		Marketing campaigns					
PT13	Small nodes: improvement of bus stops and small terminals	Improvement and/or relocation of existing nodes and stops					
		Installment of new facilities					
PT14	School and inclusive on-demand transport services	School transport upgrade					
		Special transport for disabled and physically impaired users					
		Assessment and testing of on-demand buses in low density areas and/or for inclusive/multiple mobility options (night/school/disabled)					
PT15	Financial/regulative incentives to hybrid and electric taxi						

4.2 Pushing cycling and micromobility



Pushing cycling and micromobility as an alternative to private motorised transport

Despite the number of temporary cycling infrastructures have expanded a lot in recent years, with the minimum grid almost completed in central Tirana, the number of regular cyclists is not increasing at a fast pace nor convincing a significant number of car drivers to shift to cycling. This is quite normal due to the fact that cycling needs learning and frequent practice in order to become a component of the mobility culture in a sustainable city.

This strategy recognises the fundamental role of cycling covering short to medium range distances (e.g. within a radius of 7 km) in a compact city like Tirana and adds an important (and still absent) element: the use of *electric scooters* and other devices such as *hoverboards*, *monowheel*, and *segways*. The strategy is therefore set in order to properly work on all micromobility options and to target primarily car users. Bikes and active mobility are also crucial in order to multiply health related benefits for the citizens.

It aims at accelerating the **completion of safe and separated cycling lanes** as planned by Municipality and introduces new mostly regulatory and lowcost instruments like **shared-use dotted bike lanes and cycle streets** together with a **revision of the Road Code** to include specific norms for micromobility users. The selected (balanced) planning scenario targeted also the **extension and upgrade of the cycle network outside the city centre** with segregated

and secured cycling infrastructures as well as the elimination of “black spots” at intersections.

The measure dealing with **natural paths** will also define a standard for the mobility system of the ecological corridors to link the future orbital forest system around the city. The whole network is also seen as a tool to relaunch smaller centres and promote Tirana as a **new cycle tourism destination** in Europe.

The current bike **sharing services** will be expanded and improved to include all micromobility vehicles (i.e. e-scooters) but also electric cargo bikes and made available especially at P&R facilities. The SUMP will look at new PPP schemes and suggests to focus more on a network of hosting stations (staffed offices or shops where the bikes can be picked up and must be returned).

In terms of **on-street and off-street parking facilities** the strategy foresees the creation of social bike stations at existing points (local shops, associations, buildings) that includes self-repair services and promotional/community initiatives and the improvement and extension of on street bike racks and tools.

The strategy has also a second core component: a **coaching and learning programme** inspired by the Bike Experience initiative in Brussels and addressed primarily to adults and students to help them achieving practice, confidence and a permanent cycling (but also micromobility) pattern. To this component are also linked the measures dealing with the promotion of active mobility (e.g. **car-free days**).

FIGURE 4-3: PUSHING CYCLING AND MICROMOBILITY

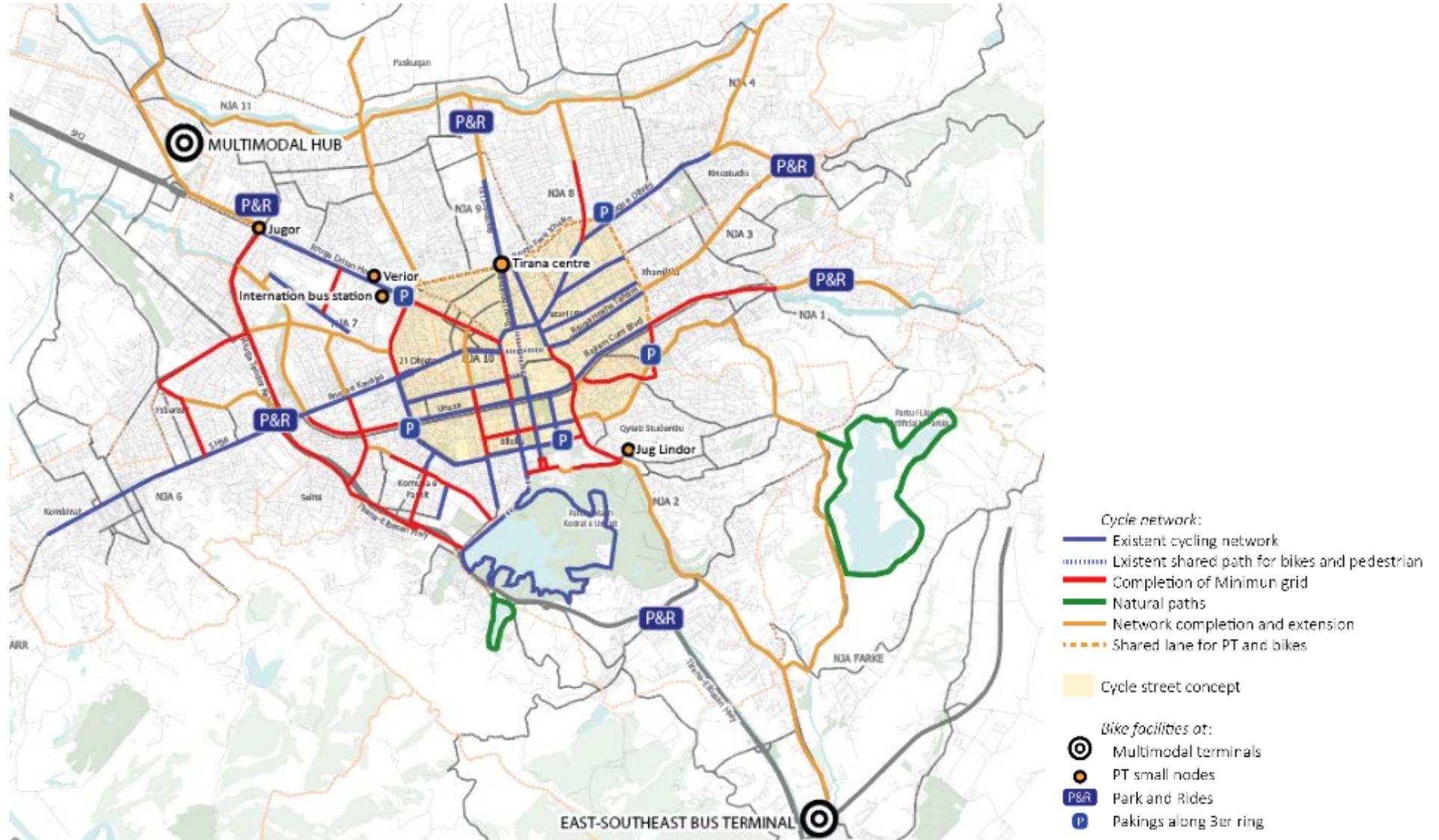


TABLE 4-2: LIST OF MEASURES FOR STRATEGY "PUSHING CYCLING AND MICROMOBILITY"

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
C	Field of intervention: Cycling						
C1	Tirana 'minimum grid' of cycling infrastructures	Extension of temporary bike lanes and completion of the minimum grid	2022				
		Improvement of "black spots" at intersections and maintenance of the existing network	2025 - 2030				
		Construction of segregated and secured cycling infrastructures	2030				
C2	Natural bicycle trails	Bicycle trail, pedestrian and running track at "Park of Farka Artificial Lake"	2022				
		Bicycle trail "Shtish-Tufinë"	2022				
		Bicycle trail, pedestrian and running track at "Liqeni I Thate"	2022				
C3	Cycling network completion and extension	Implementation of a shared lane for bikes and buses along the 3rd ring road					
		Completion and sewing of the minimum grid missing connections					
		Extension of the cycle network with temporary bike lanes (phase 1)					
		Extension and upgrade of cycling corridors with segregated and secured cycling infrastructures (phase 2)					
C4	e-bike sharing and charging points at the grand park and in Marmica- Petrelë		2022				
C5	New PPP scheme for bicycle and e-scooter sharing schemes in Tirana						

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
C	Field of intervention: Cycling						
C6	Cargo-bike and e-scooter sharing system based on hosting stations						
C7	New system of cycle & micromobility parking facilities	Creation of social bike stations at existing points (local shops, associations, buildings) that includes self-repair services and promotional/community initiatives					
		Improvement and extension of on street bike racks and tools					
C8	Bike coaching & learning program						
C9	Tirana as cycle tourism destination						

4.3 Mobility Resilient Tirana



Mobility Resilient Tirana: combining infrastructure investments and soft policies, making the best use of resources (both financial and spacial), and increasing the flexibility and reactivity of the mobility system

Resiliency should be a strong element of all city strategies and Tirana largely demonstrated its capacity to act in a fast-changing environment and react to unexpected shocks (in less than one-year Tirana experienced a devastating earthquake and the Covid-19 pandemic).

The SUMP working group realised that numerous infrastructure interventions have been already planned in order to give to the capital of Albania a robust and more hierarchical road network. These interventions have been prioritised in a time frame that recognises the need to secure sufficient financial resources to more differentiated policy measures at the same time, thus allowing a sufficient level of flexibility to the mobility system.

In the planning scenario, this was translated into a **postponement of some interventions beyond 2030** (of both new roads and parking facilities) and the preference to **rehabilitation projects** (e.g. of main urban roads) instead of substantial upgrades. The southeast trunk of the 5th Ring Road (Sauk roundabout - Rruga Sotir Caci/SH54) and part of the construction of the 4th Ring Road won't be part of this planning period. Also the realisation of the

west (final) segment of the Lana River Corridor is has now integrated a project for the recovery of the river bank and the creation of a natural path for cycling and walking only.

This approach allows not to lose the desired road network effect and improvement of current (especially safety) conditions but released more financial and spacial resources for soft and smart policies as well as for **additional infrastructure interventions** that can multiply the effectiveness of other measures (e.g. at urban blocks and on local roads in combination with urban design projects).

The strategy for a resilient Tirana includes also some **soft measures** like the widespread one-way traffic scheme (see also strategy “Fostering Public Transport”), awareness campaigns, the introduction of company travel plans and the institution of mobility managers at schools and large businesses.

This strategy embraces more measures than the ones listed in the following table: the flexible/on-demand PT services or the numerous ITS-related measures can be also considered as resiliency-related.

Tirana can be seen as a peculiar laboratory for the resiliency of urban mobility systems in Europe and, in this sense, the strategy gives a strong character to the SUMP.

FIGURE 4-4: ROAD INFRASTRUCTURE INTERVENTIONS

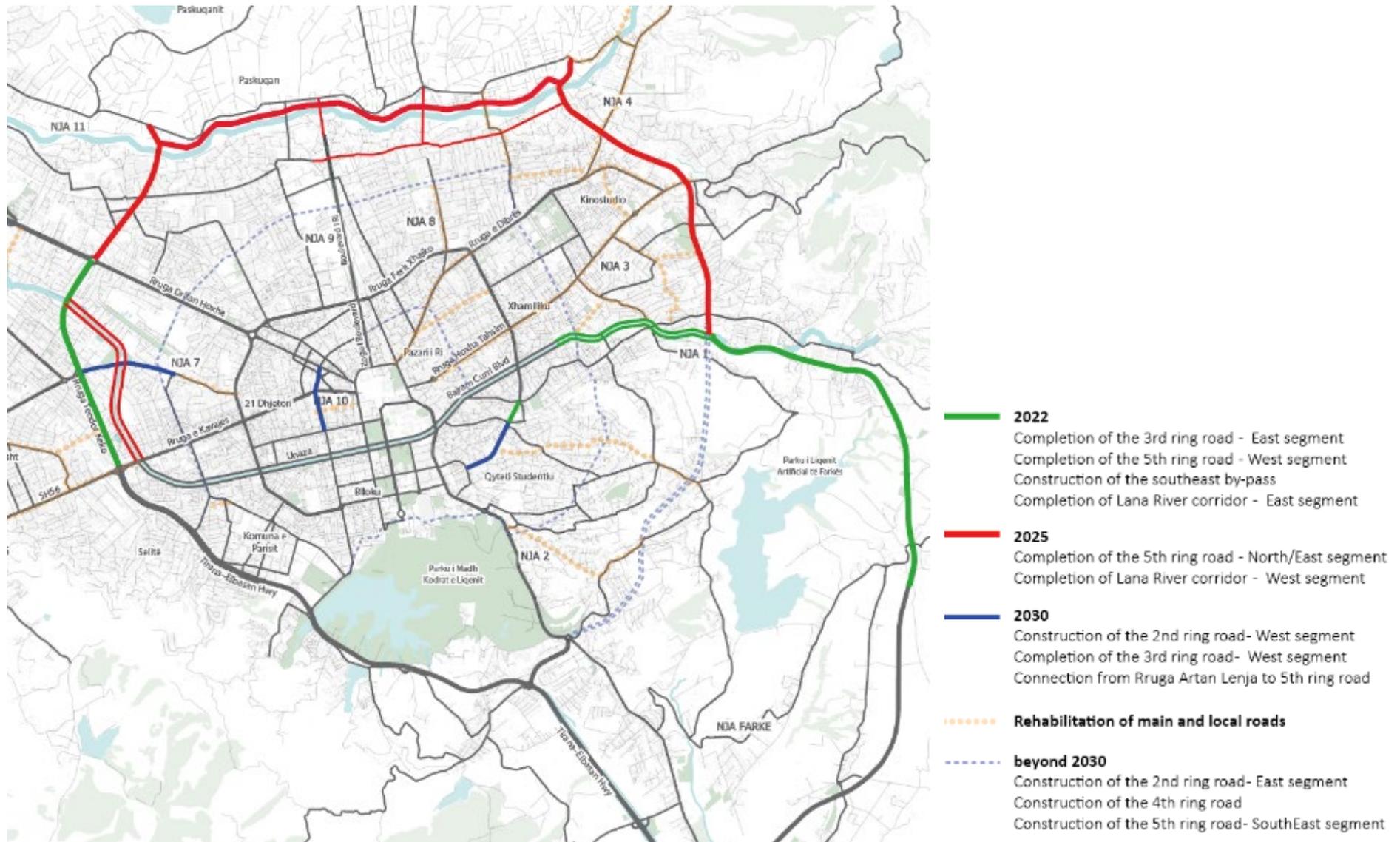


TABLE 4-3: LIST OF MEASURES FOR STRATEGY "RESILIENT TIRANA"

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
I	Field of intervention: Road Infrastructure						
i1	New configuration of the 1 st ring road	Segment from Parku Rinia till Piazza Maritim Hotel (traffic restricted to PT vehicles only)					
i2	Construction of the 2 nd ring road	Detailed design of segment 1 from Rruga Myslym Shyri to Rruga e Durrësit	2022				
		Construction of segment 1- from Rruga Myslym Shyri to Rruga e Kavajes and further on up to Rruga e Durrësit	2030				
		Construction of segment 2 - from Rruga Fortuzi and Bulevardi Zogu to Rruga e Dibrws and continuing to Bulevardi Zhan D'Ark.					
i3	Completion of the 3 rd ring road	Construction of segment 1 - from Rruga Ali Demi to Rruga Petro Nini Luarasi	2022				
		Detailed design of segments 2 and 3	2025				
		Construction of segment 2 - from Rruga Petro Nini Luarasi to Rruga Pjeter Budi	2030				
		Construction of segment 3 - from Rruga Pjeter Budi to Rruga e Elbasanit	2030				
i4	Technical design of the 4 th ring road	Technical design for the segment from Rruga e Kavajes to Rruga Dritan Hoxha	2022				
		Construction of new segments					
		Reconditioning of existing segments					

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
I	Field of intervention: Road Infrastructure						
i5	Completion of the 5 th ring road	Re-construction of the WEST trunk	2022				
		NORTH trunk (Shqiponja Square – Fresku)	2025				
		EAST trunk (Fresku - Rruga Sotir Caci/SH54)	2025				
		SOUTH-EAST trunk (Sauk roundabout - Rruga Sotir Caci/SH54)					
i6	Construction of the east-southeast by-pass	Construction of segment 1 Farkë e Madhe – Çollak (km 2,2)	2022				
		Construction of segment 2 Çollak - Shkozë - near Materineti Koço Gliozheni (km 3,3 includes the EAST section of Lana River Corridor, Measure nr. 17))	2022				
i7	Completion of the Lana River corridor	WEST Segment (Pallati me shigjeta - 5th Ring Road segment)	2022				
		EAST Segments (Jean d'Arc Boulevard – connection with the east-southeast by-pass)	2022				
i8	Completion of the central park and river project	Completion of the Northern Boulevard, including the public space/park at the intersection of Tirana River	2022/25				
i9	Substantial upgrade of radial access roads	Dibra Road					
		Hoxha Tahsim & Khanfize Keko Road					
		Komuna e Parisit & Medar Shtylla Road					
		Aleksander Moisiu Road					
		Myslym Keta Road					
		Kavaja Road					
I10	Rehabilitation of main urban roads	Aleksander Moisiu Road	2022				
		Myslym Keta Road	2022				

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
		Hoxha Tahsim & Xhanfize Keko Road	2025				
		Rehabilitation of roads along the BRT system (Rr. e Kavajes, Rr. e Durrës, Blv. Zogu I, Rr. e Barikadave)					
		Further interventions (to be identified) for the rehabilitation of main urban roads					
I11	Substantial upgrade of secondary roads	CBD Area (4 Deshmoret, and Cameria Roads)					
		Northern Area (5 Maj, Gaqo Tashko, Njazi Meka, and Abedin Cici Roads)					
		Eastern Area (Kahraman Ylli, Marie Kraja, Filip Shiroka, Sadik Petrela and Endri Keko Roads)					
		Southeastern Area (Ali Visha, Todi Shkurti, Mihal Grameno, 3 Vellezerit Kondi and Shefqet Ndroqi Roads)					
		Southwestern Area (section connecting "Robert Zhvarc" and "Isuf Elezi" Roads)					
		Western Area (Artan Lenja Roads)					
		Outer Western Area (existing Besim Alla, 3 Deshmoret, Todo Manco and Krist Maloki Roads)					
		Northeastern Area (Faik Kulla Road)					
i12	Rehabilitation of local roads and urban blocks	Rruga Xhon Belushi	2022				
		Rruga Liman Kaba to Rruga Muharrem Butka	2022				
		Block boundaries: BLV. Bajra Curri- Blv Petro N. Luarasi - Rruga Taulantia - Rruga Ali Demi – Phase I (design & implementation)	2022				
		Block boundaries: Teodor keko, Tom Plezha, Mikel Maruli dhe Loni Ligori (design)	2022				
		Wilson plaza	2022				
		Bank of Albania	2022				

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
		Rruga Luigj Gurakuqi	2022				
		Further interventions (to be identified) for the requalification of local roads and urban blocks					
i13	Traffic fluidification at some congested intersections	Intersections along the 3rd Ring Road	2025				
		Intersections along Lana river corridor	2025				
		Intersections along “Kinostudio-Kombinat” public transport line. (focus on the intersection between the 5th RR, Kavaja street and the Lana River boulevard)	2025				
R	Field of intervention: Road Regulation						
R1	Introduction of traffic rules for cycling	Drafting of cycle and micromobility-related traffic rules including cycling streets	2022				
		Achieving unity with existing signs and rules and signage adaptation	2025				
		Communication campaigns to achieve behaviour improvement	2022/25				
R3	Widespread one-way traffic scheme in the city centre						
S	Field of intervention: Sustainable policies						
s6	Development of travel plans and institution of mobility managers	Home-work travel plan					
		Home-school travel plan					
s7	Campaign to raise awareness of the benefits of sustainable mobility	map indicating distances and travel times on foot or by bike between places of interest					
		Information campaigns and educational initiatives in schools.					

4.4 Managing parking supply, logistics and pricing



Managing parking supply, logistics and pricing as drivers to steer modal choice (push and pull approach)

This strategy aims at properly managing private motorised passengers and urban freight traffic by using two main drivers: pricing measures and nodes where people can pass **from cars to buses or micromobility options** and shipments can be transferred **from trucks or diesel vans to cargo bikes and micro e-vans**.

The push and pull approach means also that sustainable modal shifting is governed not only by the **provision of (mostly parking) facilities** but also through the definition of their preferred use (e.g. P&R vs. parking garages along the 3rd Ring Road, the latter partly postponed and more devoted to residents/property tenants and off-street city logistics operations) and the **revision of city-wide parking regulation strategies** including parking pricing and limitations to protect residents on high demand areas and enhance responsible use of public spaces, discouraging the use of on-street parking but also **rigorous monitoring and increase of sanctions for irregular behaviours and practices**.

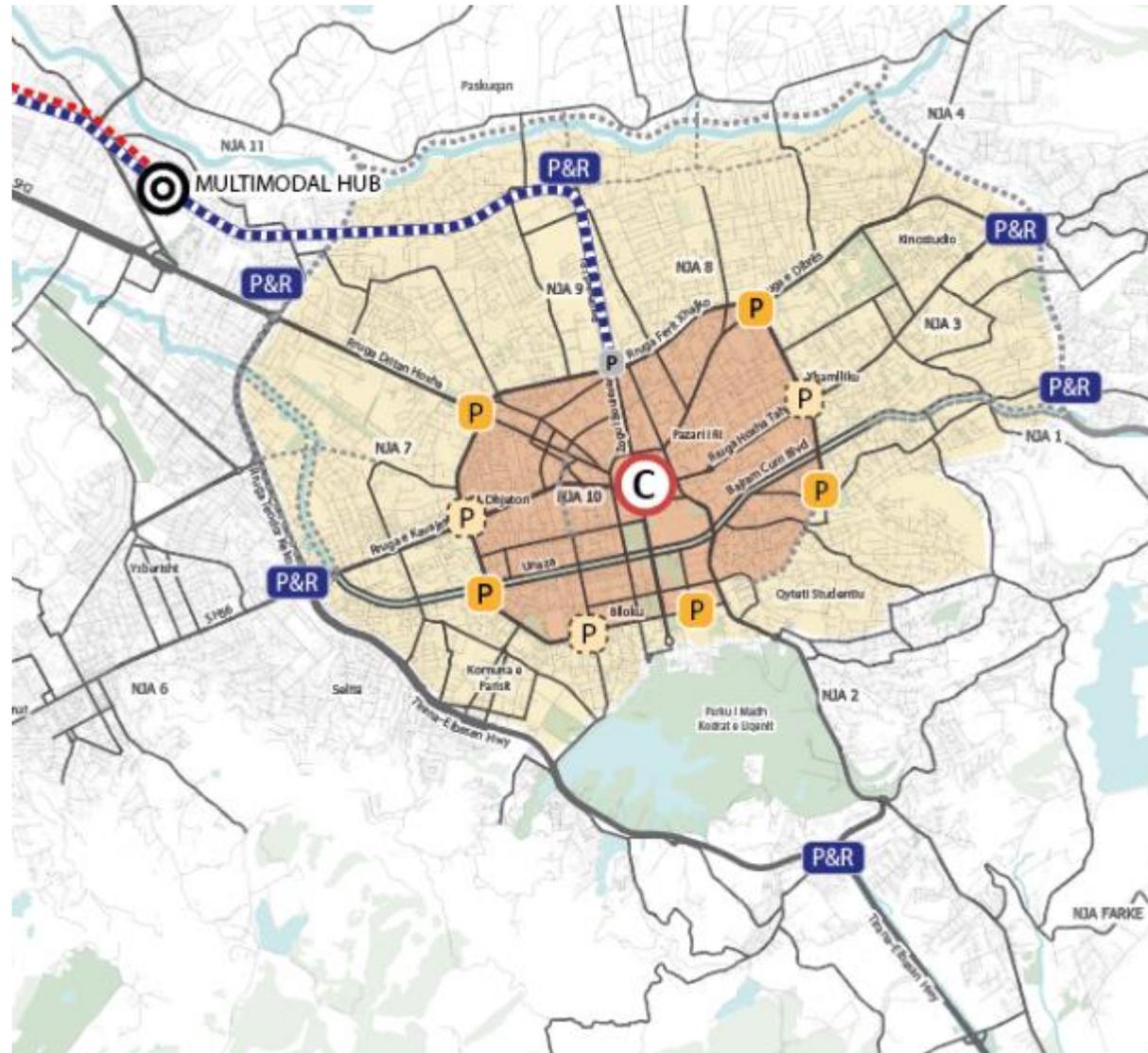
The SUMP foresees in particular the introduction of **a Congestion Charge scheme all along the 3rd Ring Road** with enforcement primarily based on

automatic number plate recognition (ANPR) and fees charged on most cars and motor vehicles being driven within these boundaries. A road pricing scheme is one of the most effective measures for reducing congestion in the city centre while allowing for an acceleration of the fleet renewal process (e.g. by differentiating tariffs according to emission standards) and the consolidation of multimodal mobility patterns (i.e. easily shifting from cars to other more sustainable modes). The Congestion Charge is also beneficial for public transport and active mobility as the experiences of London and Milan already demonstrated.

A novelty for the planning practices of the Municipality is the insertion of a **complete set of measures dealing with urban freight logistics**. Up to now this was a neglected policy area despite the presence of a variety of logistics needs, from small local shops to public markets and other businesses located in central Tirana, and the never disappeared use of cargo tricycles for last mile deliveries.

The set of measures embraces the conduction of a first city logistic study, the reorganization of existing on-street loading/unloading bays (including the testing of intelligent multi-use bays), the revision of access restrictions for freight vehicles and the creation of a network of Urban Consolidation Centres (UCCs) and Urban Micro Consolidation Centres (UmCCs).

FIGURE 4-5: PARKING, LOGISTICS AND PRICING



PROPOSED PARKING STRATEGY



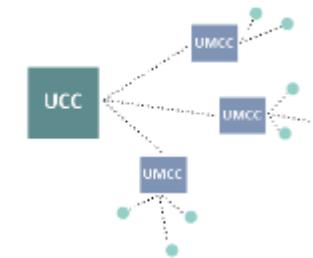
Increase control



Increase signs and guidance

Driver to steer modal choice
Protect residents on high demand areas and enhance responsible use of public spaces.

PROPOSED LOGISTIC STRATEGY



Electric Vans



Cargo-bikes

Sustainable logistic distribution. Urban Consolidation Centres, Urban Micro Consolidation centres and use of more sustainable means for last mile distribution

- Congestion charge
- Access regulation for urban freight transport
- Multimodal terminal
Freight transportation by rail
- Park and ride facilities
- Parking facilities bordering the Congestion Charge
- Future parking facilities (build beyond 2030)

TABLE 4-4: LIST OF MEASURES FOR STRATEGY “MANAGING PARKING SUPPLY, LOGISTICS AND PRICING”

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
R	Field of intervention: Road Regulation						
R9	Implementation of a congestion charge scheme in the city centre						
P	Field of intervention: Parking						
P1	New parking study for the city of Tirana	Study	2022				
P2	Park and ride facilities	Rruga 29 Nëntori	2025				
		Rruga e Kavajës	2030				
		Rruga Myslym Keta	2030				
		Rruga Ali Shefqeti	2030				
		Tirana–Elbasan Highway	2022				
		Rruga Dine Hoxha (Grimshaw Plan)					
P3	Parking facilities along the 3 rd ring road	Rruga e Durrësit	2025				
		Rruga e vjeter e Dibres (Military Hospital)	2025				
		Rruga Hoxha Tahsim					
		Rruga Ali Demi	2025				
		Air Albania Stadium	2025				
		Rruga Sami Frashëri					
		Bajram Curri Blvd	2025				
		Rruga e kavajes					

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
P	Field of intervention: Parking						
P4	New parking strategy for the city of Tirana	Revision of parking pricing, define different tariffs according demand levels (higher tariff in the city centre and around specific point of interest) and for on-street and off-street parking					
		Identification of high rotation areas (time limits in high demand areas)					
		Protective policies for residents, dedicated spaces and subscriptions					
		Revision of parking standards in new built areas					
P5	Increase control to avoid irregular behaviour and practices						
P6	Reduction of search time and search traffic (vms)						
L	Field of intervention: Logistics						
I1	City logistics study						
I2	Freight quality partnerships	Designation of a City Logistics Manager (CLM)					
		Regular meetings to discuss problems and solutions					
I3	Revision of time/enviromental/size access restrictions for urban freight transport	Size and time restrictions					
		Enviromental restrictions					
I5	Creation of urban consolidation centres (UCCs)						
I6	Creation of urban micro consolidation centres (UMCCs)						
I7	Reorganisation of loading bays supply	Reorganization of existing on-street loading/unloading bays					

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
		Implementation of intelligent multi-use loading/unloading bays					
18	Provision of off-street delivery areas						
19	Financial/regulative incentives to hybrid/electric light duty vehicles and cargo bikes						

4.5 Kids-centered city streets



Fostering a **kids-centered design and use of city streets and urban spaces** to increase accessibility, attractiveness and safety.

This strategy builds upon the widespread local policy that focuses on kids and young citizens of Tirana in order to foster social innovation and accelerate societal changes. The SUMP integrates this approach and current initiatives in the mobility sector like Urban95 or NACTO-Streets for Kids and characterises a large set of measures, from **infrastructure and urban design interventions to more regulative ones**, as conceived and implemented having kids as primary users and target group.

The strategy embraces the overall theme of the transformation of city streets into public places allowing all types of users, including elderly people and people with reduced mobility, to preferably walk or stroll throughout the city instead of using motorised vehicles. Applying a kids-centered design means having a city that is accessible, safe and more liveable.

The most representative measures include the implementation of the already planned **pedestrianization of street segments and traffic calming interventions** which, in some cases, might include also **traffic restrictions**; the **improvement of safety and security conditions** for pedestrian and cyclists and a significant upgrade in the quality of open spaces. In addition, it

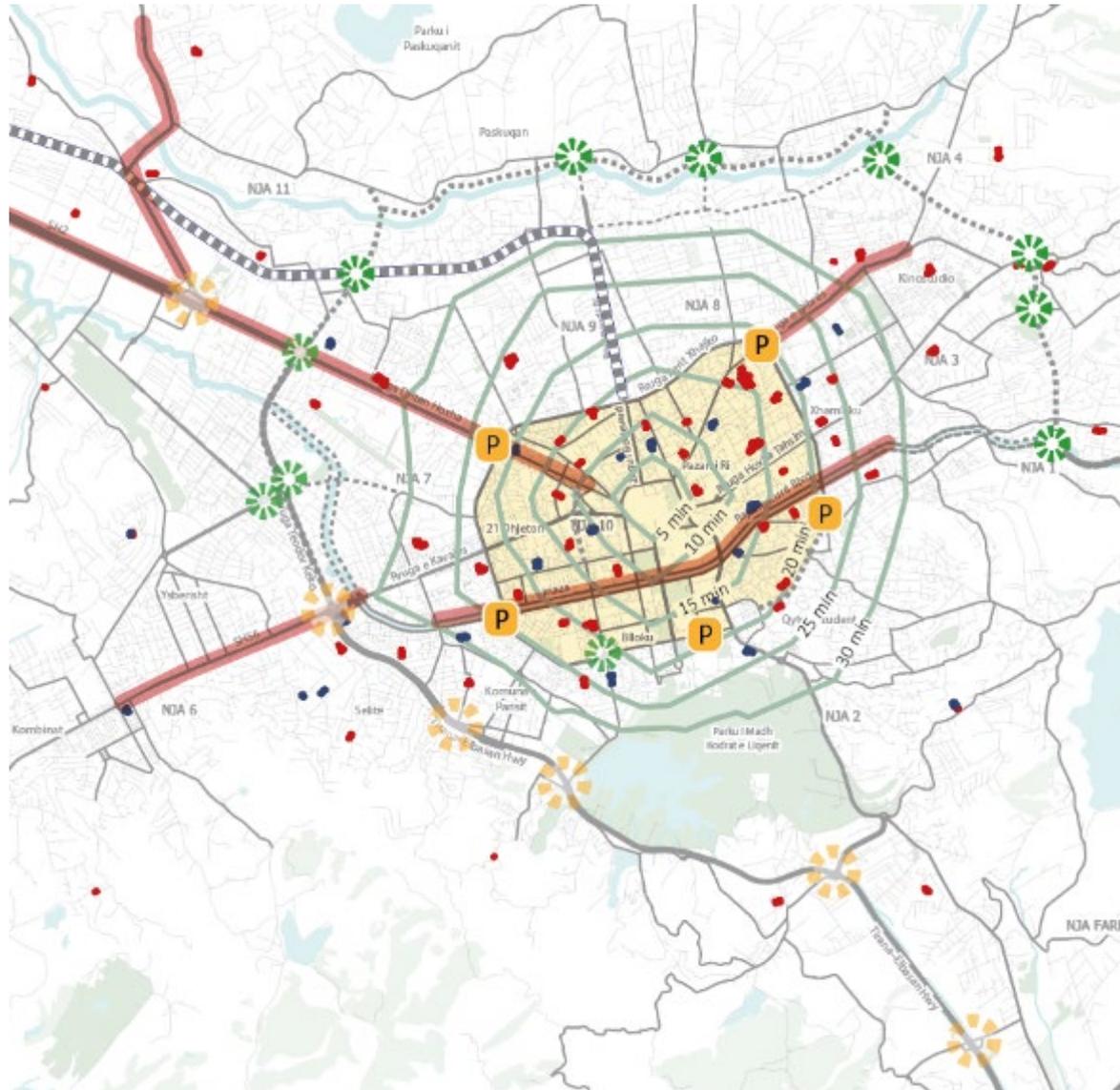
proposes new pedestrian areas and promotes the creation of **play streets** inside the neighbourhoods.

Among the regulative measures, the SUMP introduces a more systemic approach for planned urban vehicle access regulation schemes and urban design interventions: it takes inspiration from the **Superblock concept** (developed in Barcelona and applied in several Spanish cities) that is a set of basic roads forming a polygon or inner area that contains within it several blocks of the current urban fabric. This new urban cell has both an interior and exterior component. The interior is closed to through vehicles and open to primarily to residents by combining physical interventions (from temporary/tactical urbanism to more permanent ones) and highly expanded road space for walking and social purposes.

Other measures concern the **improvement of safety conditions and quality of the public space** all along home-to-school routes and the most dangerous roads axis. Roundabouts and split-level junctions will be increased in order to further improve the perception of walkability in Tirana.

The strategy also includes the realisation of **raised or tactile markings for the blind and the instalment of sound signalling devices at street, road crossings and on public transport vehicles** thus having also a strong accessibility character.

FIGURE 4-6: KIDS-CENTERED USE OF CITY STREETS AND URBAN SPACES



- 
Pedestrian areas
- 
Playing streets
- 
Superblocks
- 
Environmental areas
- 
Smart crossing

Combination of rules and urban design interventions to increase security and enhance people to walk.

Focus on KIDS to give to chase a BETTER CITY ACCESSIBLE TO ALL

-  Protected intersections along dangerous axis
(concentration of fatal accidents)
-  Protected intersections along fast road connections
 -  Split Level Intersection in elevated sections of main axis
 -  Roundabouts
 -  Priority Intersections in at grade junctions
-  Introduction of cycle street concept
Priority to cycling and walking
-  Park and walk to the city center
- Securing access routes to schools
 -  High Schools
 -  Secondary Schools
-  Reachable places in 30 minutes
Benefits of a walkable city

TABLE 4-5: LIST OF MEASURES FOR STRATEGY “KIDS-CENTERED CITY STREETS”

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
R	Field of intervention: Road Regulation						
R2	Municipal regulation for urban vehicle access restrictions						
R4	Introduction of pedestrian areas in selected neighbourhoods/squares/streets						
R5	Introduction of corridor or area-based limited traffic zones (LTZ)	1. Introduction of an LTZ scheme in Blloku area					
		2. Introduction of LTZs in selected neighbourhoods					
R6	Introduction of low emission zones (LEZ)						
R7	Implementation of the superblock concept in selected neighbourhoods	Superblocks implemented with tactical urbanism and signage only interventions (phase 1)					
		Superblocks implemented and enforced by moving bollards/cameras and permanent physical interventions (phase 2)					



CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
W	Field of intervention: Walking						
W1	Urban design interventions to create new pedestrian areas and public spaces	1. "Ish-thesari", Intersection of Rruga Bako Dervishaj - Rruga Mustafa Lleshi	2022				
		2. "Tirana Mosaic", Mihal Ciko street	2022				
		3. "Rruga Pjeter Bogdani"	2022				
		4. "Rruga Jul Varibova"	2022				
		5. "Rruga Kont Urani" and "Mihal Duri"	2022				
		6. Brigada e VIII					
		7. Ismail Qemali					
		8. ikolla Tupe					
		9. Identification of further needs and prioritization of interventions					
W2	Securing access routes to schools	Limited speed zones					
		Car free roads in front of the school (permanent or temporary)					
		Identification, reporting and promotion of priority home-school routes					
		Securing existing pedestrian crossings					
		Identification of areas equipped to support active mobility (walking and cycling) near schools					
W3	Playing streets and plazas						
W4	Protected intersections and removal of physical barriers	Removal of physical barriers and provision of accessible footpaths					
		Improvement of Split Level Intersection in elevated sections					
		Traffic Lights Controlled Intersection in at grade					

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
		junctions with primary roads					
		improve pedestrian and cycling safety at roundabouts					
		Priority Intersections in at grade junctions with secondary roads					
S	Field of intervention: Sustainable policies						
s3	Promotion car free days	1. Promotion of car free days	2022				
		2. Promotion of HARP Park(ON) – Tirana Park(ing) Days	2022				

4.6 Smart(er) Tirana



Applying ITS technologies, digital solutions, e-mobility for a **smart(er) city**

This last strategy includes all the different measures dealing with the use of Intelligent Transport Systems, the introduction of digital solutions to allow citizens to smoothly use and paying for several mobility options and services and the expansion and improvement of electric mobility in Tirana.

The first group of measures includes the **further upgrade of the Tirana's Urban Traffic Control Centre (TUCC)** with new sensors/functionalities and variable-message signs (VMS) but also the completion of the green-wave concept at every intersection regulated by traffic lights. The TUCC should also incorporate all the necessary system equipment to allow the road pricing scheme (e.g. camera-based gates on main road axis) and be linked to new data sources to allow proper traffic predictive strategies. In this sense, the SUMP highlights also the importance of integrating the future process of decision making and monitoring process with the implementation/update of a **multimodal transport model** to support the Mobility Department in its daily work but also other departments with proper simulation in a modified land-use scenario.

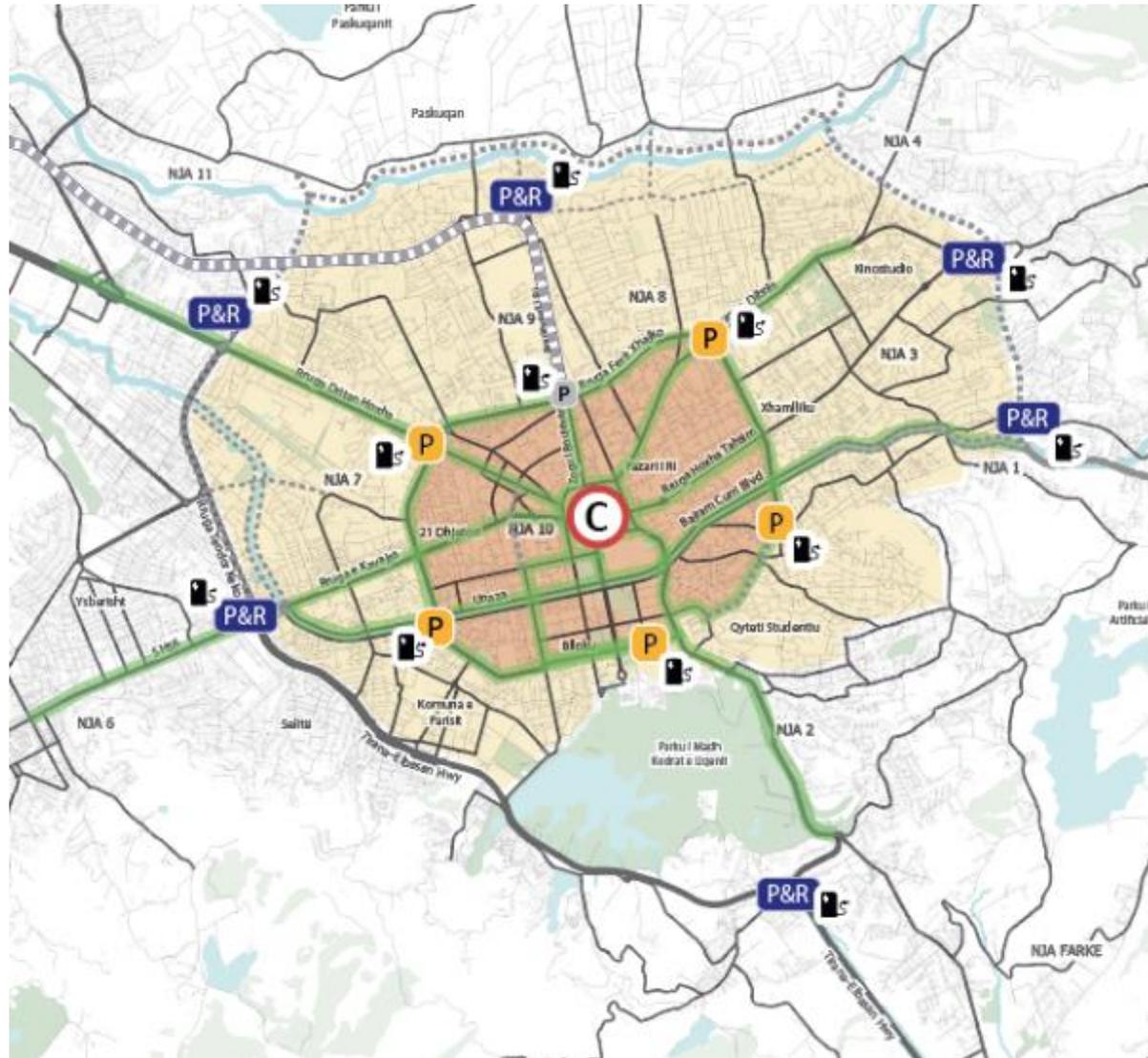
Tirana should also improve its capability to monitor road safety and air quality data, so that the provision of a **road accident register computerised system** and the improvement of **air quality monitoring stations** are also foreseen.

Also the upgrade and extension of the info-mobility application for smartphones **Tiranalme** is a core element of the SUMP. Its functionalities will include all new regulated parking areas but could be also linked to the new e-ticketing system for buying multiple mobility services (public transport, ride-hailing, bike sharing).

The Municipality is already carrying on an initiative to deploy electric vehicle charging points across the capital. The plan contributes towards a coordinated parking strategy with **EV charging infrastructure roll-out**. It also suggests to work on new building regulations able to encourage the equipment of residential buildings with private recharging infrastructures ("wall box").

The SUMP also entails the introduction of new standards and incentives to **replace the existing taxi and bus fleet** with hybrid or electric models in line with those already introduced by the Albanian Government for greening the private fleet.

FIGURE 4-7: E-MOBILITY FOR A SMART(ER) CITY



- Promote "wall box" and electric mobility** (Icon: Electric car charging station)
- Improving the sensors' infrastructure (VMS – CCTV – Smart lights)** (Icon: Camera and sensor array)
- Traffic model and data production** (Icon: Bar chart with upward trend)
- Smart user-friendly apps** (Icon: Person using a smartphone)
- Air quality monitoring** (Icon: Air quality sensor and graph)

Improving the quality and accuracy of data production makes it easier to identify problems and find proper solutions to shape the future

- Parking facilities equipped with charging stations
- Maximise the systems' capabilities of the TCC
Improving green way schemes, prioritization of public transport
- Congestion charge, no charge for electric vehicles
- Access regulation for urban freight transport
Enhance the use of cleaner vehicles

TABLE 4-6: LIST OF MEASURES FOR STRATEGY "SMART(ER) TIRANA"

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
S	Field of intervention: Sustainable policies						
s1	Deployment of electric vehicle charging infrastructure	1. Establish at least one EV charging infrastructure supplier with 500 charging points in public highways, in public car parks and highly frequented areas	2025				
		2. Information campaigns and educational initiatives in schools.	2025				
s2	Greening the private vehicle fleet	1. incentive ranging from 5% to 10% of the purchasing cost for a new electric car	2022				
		2. free maintenance and ancillary services for electric car owners	2022				
		3. incentives and discounts offered also to hybrid car owners.	2022				
s4	Further expansion of electric vehicle charging infrastructure network						
s8	New building regulations to promote "wall box"						
I	Field of intervention: ITS						
t1	Maximise the systems' capabilities of the traffic control centre	1. Improving the sensors' infrastructure (CCTV and VMS systems)					
		2. Improving functioning of the info-mobility application for smartphones TiranaIme					
		3. Improving green waves scheme					
t2	Road accident register computerized system						
t3	Improvement of air quality monitoring						

CODE	MEASURES	SUBMEASURES	TIME FRAME				
			RS	2022	2025	2030	Beyond 2030
t4	Upgrade of the electronic car park payment system (app based)						
t5	Creation of a traffic model						

5 Action planning and implementation

The SUMP would be of little use if proper tools and procedures weren't put in place for its implementation. In this chapter, first of all a five-year action plan is proposed, to set out prioritized actions that are key steps in implementing the strategies. Recommendations for the next steps of implementation planning and funding are also provided.

Furthermore, the progress of the measures to be implemented, and importantly their adherence to the overall objectives and to the evolving context, should be periodically assessed with a monitoring and evaluation procedure (see next chapter 6).

- the responsible authority in charge for the implementation of the measure and/or for the achievement of the results;
- the time frame (years from 2021 to 2025) in which measures (or part of them, according to the phasing) should be implemented;
- the implementation steps (planning/design and realisation/development).

Measures that are part of Reference Scenario (RS), whose implementation is already in the pipeline, already follow their own action planning and therefore are not included, unless their definition has been revised in the SUMP.

5.1 Five-years action plan

The **prioritisation of the SUMP actions and measures** is provided in the following tables. For each measure, listed according to field of intervention (road infrastructure, parking, cycling etc.), the action plan contains:

- a synthetic description of the measure and sub-measures (detailed description of each measure is provided in Annex 4);
- the related key strategy;
- the type of the measure (infrastructural, operational, organisational);
- the priority (High, Medium, Low);

Step		Planning/design
		Realisation/development
Key strategy		Fostering Public Transport
		Pushing cycling and micromobility
		Mobility Resilient Tirana
		Managing parking supply, logistics and pricing
		kids-centered city streets
		Smart(er) Tirana

ROAD INFRASTRUCTURE

	New configuration of the 1st ring road	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
1-1. Segment from Parku Rinia till Plaza Maritim Hotel (traffic restricted to PT vehicles only)						
	Rehabilitation of main urban roads <small>* revised measure of the RS</small>	Type: Infrastructural Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
10-4. Rehabilitation of roads along the BRT system (Rr. Kavajes, Rr. Durrës, Blv. Zogu I, Rr. e Barikadave)						
10-5. Further interventions (to be identified) for the rehabilitation of main urban roads						
	Rehabilitation of local roads and urban blocks <small>* revised measure of the RS</small>	Type: Infrastructural Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
12-8. Further interventions (to be identified) for the requalification of local roads and urban blocks						

ROAD REGULATION

	Introduction of traffic rules for cycling <small>* revised measure of the RS</small>	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
R1-1. Drafting of cycle and micromobility-related traffic rules including cycling streets						
	Regulating and introducing new limited traffic zones, low emission zones and pedestrian areas	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
R2-1. Municipal Regulation for urban vehicle access restrictions						
R4-1. Introduction of Pedestrian Areas in selected neighbourhoods/squares/streets						
R5-1. Introduction of corridor or area-based Limited Traffic Zones (LTZ)						
R6-1. Introduction of Low Emission Zones (LEZ)						
	Widespread one-way traffic scheme in the city centre	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	Implementation of the superblock concept in selected neighbourhoods	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
R7-1. Superblocks implemented with tactical urbanism and signage only interventions (phase 1)						

PARKING

	New parking strategy for the city of Tirana * revised measure of the RS	Type: Organisational Priority: High Responsibility: MoT – Public Works				
		2021	2022	2023	2024	2025
P4-1. Revision of parking pricing, define different tariffs according demand levels (higher tariff in the city centre and around specific point of interest) and for on-street and off-street parking						
P4-2. Identification of high rotation areas (time limits in high demand areas)						
P4-3. Protective policies for residents, dedicated spaces and subscriptions						
P4-4. Revision of parking standards in new built areas						
	Increased control to avoid irregular behaviour and practices	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	Reduction of search time and search traffic (VMS)	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025

CYCLING

	Cycling network completion and extension	Type: Infrastructural Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
C3-1. Implementation of a shared lane for bikes and buses along the 3rd ring road						
C3-2. Completion and sewing of the minimum grid missing connections						
C3-3. Extension of the cycle network with temporary bike lanes (phase 1)						
	Pedelec, Cargo-Bike & E-Scooters sharing services	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
C5-1. New PPP scheme for bicycle and e-scooter sharing schemes in Tirana						
C6-1. Cargo-bike and e-scooter sharing system based on hosting stations						
	New system of cycle & micromobility parking facilities	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
C7-1. Creation of social bike stations at existing points (local shops, associations, buildings) that includes self-repair services and promotional/community initiatives						
C7-2. Improvement and extension of on street bike racks and tools						

	Bike coaching & learning programme	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	Tirana as cycle tourism destination	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025

WALKING

	Urban design interventions to create new pedestrian areas, public spaces and playing streets <small>* revised measure of the RS</small>	Type: Infrastructural/Operational Priority: High Responsibility: MoT - Urban Design Unit				
		2021	2022	2023	2024	2025
W1-6. Brigada e VIII						
W1-7. Ismail Qemali						
W1-8. ikolla Tupe						
W1-9. Identification of further needs and prioritization of interventions						
W3-1. Playing streets and plazas						

	Securing access routes to schools	Type: Infrastructural/Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
W2-1. Limited speed zones						
W2-2. Car free roads in front of the school (permanent or temporary)						
W2-3. Identification, reporting and promotion of priority home-school routes						
W2-4. Securing existing pedestrian crossings						
W2-5. Identification of areas equipped to support active mobility (walking and cycling) near schools						
	Protected intersections and removal of physical barriers	Type: Infrastructural/Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
W4-1. Removal of physical barriers and provision of accessible footpaths						
W4-2. Improvement of Split-Level Intersection in elevated sections						
W4-3. Traffic Lights Controlled Intersection in at grade junctions with primary roads						
W4-4. improve pedestrian and cycling safety at roundabouts						
W4-5. Priority Intersections in at grade junctions with secondary roads						

PUBLIC TRANSPORT

	Bus network extension, design and operation	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
PT10-1. Bus network design and operation						
	Introduction of the Chronobus concept (bus priority)	Type: Infrastructural/Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
PT11-1. Analysis and Identification of Priority Solutions						
PT11-2. Bus Lanes Extension						
PT11-3. Priority at Intersections						
	New image and visibility for public transport	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
PT12-1. New Visual Identity						
PT12-2. Investments and coordination of rebranding activities						
PT12-3. Marketing campaigns						
	Small nodes: improvement of bus stops and small terminals	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
PT13-1. Improvement and/or relocation of existing nodes and stops						
PT13-2. Instalment of new facilities						

	Small nodes: improvement of bus stops and small terminals	Type: Organisational Priority: Low Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
PT15-. Financial/regulative incentives to hybrid and electric taxi						
	Small nodes: improvement of bus stops and small terminals	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
PT14-1. School transport upgrade						
PT14-2. Special transport for disabled and physically impaired users						
PT14-3. Assessment and testing of on-demand buses in low density areas and/or for inclusive/multiple mobility options (night/school/disabled)						

LOGISTICS

	City logistic study and reorganisation of loading bays supply	Type: Infrastructural/Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	L1-1. City logistic study					
	L7-1. Reorganization of on-street loading bays					
	Freight quality partnerships	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	L2-1. Designation of a City Logistics Manager (CLM)					
	L2-2. Regular meetings to discuss problems and solutions					
	Revision of access restrictions and promotion of cleaner vans	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	L3-1. Size and time restrictions					
	L9. Financial/regulative incentives to hybrid/electric light duty vehicles and cargo bikes					
	Rationalization of freight distribution through development of new infrastructures	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	L5-1. Creation of Urban Consolidation Centres (UCCs)					
	L6-1. Creation of Urban Micro Consolidation Centres (UMCCs)					
	L8-1. Provision of off-street delivery areas					

SUSTAINABLE POLICIES

	Rehabilitation of main urban roads	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	S8-1. New building regulations to promote "wall box"					
	Promotion of car free days and other campaign to raise awareness of the benefits of sustainable mobility	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	S7-1. Map indicating distances and travel times on foot or by bike between places of interest					
	S7-2. Information campaigns and educational initiatives in schools.					
	Development of mobility management actions and promotion of a car-pooling platform	Type: Organisational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	S5-1. Development and promotion of a carpooling platform					
	S6-1. Home-work travel plan					
	S6-2. Home-school travel plan					

TECHNOLOGY AND INNOVATION

	Maximise the systems' capabilities of the traffic control centre	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	T1.1. Improving the sensors' infrastructure (CCTV and VMS systems)					
	T2.2. Improving functioning of the info-mobility application for smartphones Tiranalme					
	T3.3. Improving green waves scheme					
	T2-1. Road accident register computerized system					
	Improvement of air quality monitoring	Type: Operational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	Upgrade of the electronic car park payment system (app based)	Type: Operational Priority: Medium Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025
	Creation of a traffic model	Type: Organisational Priority: High Responsibility: MoT – D. of Transport				
		2021	2022	2023	2024	2025

5.2 Implementation planning and funding: next steps

Before measure implementation, a thorough financial plan is needed to ensure that the previously identified measures and actions are economically sound and financially viable.

First of all, a **detailed cost estimation** for the defined measures is needed. Whenever necessary, operational costs or costs for studies and concept designs should also be defined. If feasibility studies are being carried out for some projects (see BRT), the cost estimates from those studies should be included.

Availability of funding and financing sources, as well as the ability of the responsible authority (the MoT) to access or capture them, should be assessed. Financing instruments and funding sources for the selected actions might go beyond the local budget.

An inventory all potential funding sources and competing budgetary needs (by other sectors) is needed in order to present the amounts that would realistically be available for the urban mobility sector both for investment and operational expenditures. They normally include:

- Local taxes: a special local transport tax for public transport paid by public or private enterprises, developers;
- Revenue funding: tickets, parking fees, congestion charging, congestion charging, advertisements;

- Private sector involvement in either capital, investment, operations, or a combination of both. E.g. through public- private partnership arrangements;
- Fundraising activities involving appropriate sponsors;
- Local budgets: from different departments and different policy domains;
- National subsidies and EU funding;
- External loans, municipal and green bonds.

Based on the above, a **financing plan** for all SUMP measures is to be drafted, with indicative sources of funding and financing and detailed financing plan for priority actions, that contains all projected expenditures (up-front investment), as well as operation and maintenance costs and related revenue streams per year, including taxes and contingencies, as well as revenues on an annual basis for the duration of the financing plan.

The final result will be a **revised implementation schedule and a time-based action plan**, considering the availability of funds (in volume and over time), taking into account the sequential stages of implementation, particularly the time required for feasibility studies, environmental and social assessments, review and approval of all stakeholders, mobilization of resources, establishment of specific institutional and legal arrangements if required (as in the case of public private partnerships), preparation of detailed engineering whenever necessary, selection of suppliers and contractors, etc.

6 Monitoring and evaluation plan

Evaluation and monitoring activities are important steps in the implementation of Sustainable Urban Mobility Plans that serve the purpose of **timely identification of success or the need for readjustment of a SUMP and its measures**. They provide regular information to decision makers, potential funding bodies and local stakeholders to assess whether a SUMP has or will deliver benefits to the community, provides value for money, is worth continuing or requires modifications to be successful.

Monitoring and evaluation are closely related and share many elements such as data sources and objectives, but there are some relevant differences. The main one lies in the purpose: **monitoring** aims at providing information for potential adjustments and re-planning during the course of a SUMP, in order to improve outcome and thus occurs at shorter periodic intervals. In contrast, the **evaluation** is of a more strategic nature and provides information to learn from and improve future plans. As such, evaluation occurs less frequently, generally after specific planning phases of a SUMP.

The evaluation and monitoring plan for the SUMP of Tirana, described in this section, follows the approach recommended by the CH4LLENGE European

project¹ and intends to ensure that resources for evaluation and monitoring are used efficiently and provide suitable evidence of impacts against set objectives and targets.

6.1 Monitoring and evaluation procedures

The **MoT Directorate of Transport** will be responsible of monitoring and evaluating the SUMP implementation.

Regular monitoring activities should be performed, with annual reports. These should be concentrating on indicators for which data can be continuously collected.

Periodical large-scale evaluation exercises for overall strategies, for which larger data collection exercises are needed, e.g. household surveys, will be carried out at less frequent periods (2 to 5 years depending on measures). Special evaluation of individual interventions can be performed once they

¹ www.sump-challenges.eu

are implemented. This is particularly important for novel interventions such as the introduction of new technologies or transport concepts (see BRT).

6.2 Monitoring and evaluation indicators

A detailed list of indicators has been developed for the SUMP of Tirana, including methods of measurement and data needs. The definition of indicators enables to measure the performance of the SUMP, which is the basis for their evaluation.

A distinction is made between the following two categories of indicators, which helps to measure and monitor different aspects of the SUMP implementation:

- **Outcome Indicators** measure the actual impacts against set objectives;
- **Output Indicators** measure the extent to which SUMP measures have been implemented and services improved.

Outcome indicators are anchored to the set of EU Sustainable Urban Mobility Indicators (SUMI) developed and validated by the European Commission – DG Move as a tool for cities and urban areas that are developing Sustainable Urban Mobility Plans (SUMP) to identify the strengths and weaknesses of their mobility system and to focus on areas for improvement.

This comprehensive set² of practical and reliable indicators support cities to perform a standardised evaluation of their mobility system and to measure improvements that result from new mobility practices or policies.

² https://ec.europa.eu/transport/themes/urban/urban_mobility/sumi_en

SUMI Indicators are supplemented by an e-course available free of charge and the provision of excel files and guidance for their calculation, including references for data collection and ways to solve data gaps. What is relevant for the purpose of the SUMP of Tirana is the possibility to link the progress of the Plan to some benchmarking values from other cities having similar characteristics thus complementing the information coming from the first baseline that will be set up.

The key output indicators are linked to the SUMP strategies and particularly to some measures.

The possibility to easily calculate all indicators has been preliminarily assessed by cross-checking available data collected during the Status Analysis and also available datasets regularly published on Open Data Tirana (<https://opendata.tirana.al>).

The first table below describes outcome indicators and performance targets for the (general and specific) objectives as described in chapter 2.

In the subsequent table, key output indicators are provided to monitor the progress of implementation of individual strategies and related measures.

TABLE 6-1: OUTCOME INDICATORS

SPECIFIC OBJECTIVE	INDICATOR	DEFINITION	METHODOLOGY AND DATA NEEDED	DIRECTION OF CHANGE/ TARGET	NOTES AND REFERENCES
Sustainable mobility: effectiveness and efficiency of the mobility system					
<i>Meeting the mobility needs of residents, businesses, city users and tourists</i>					
Reducing car dependency for daily commuting in favour of more sustainable modes of transport (walking, cycling, public transport)	Modal split of commuting trips	Total number of commuting trips for sustainable modes compared to the total number of commuting trips for all modes within the urban area	Calculation (model); Vkm/passenger km/tkm/number of trips/vkm per trip; Estimation from an aggregated/simplified modelling tool or a survey are also possible to fill the gaps.	increase of cycling and PT modal shares based on recent trends	The calculation of the modal split for all trips constitutes an important parameter for the calculation of several of the indicators reported below. https://ec.europa.eu/transport/themes/modal-split_en
	Access to mobility services (public transport)	Percentage of population with appropriate access to public transport	GIS (analysis); Location of stops of bus/ train plus sharing points and frequency of PT service during an average weekday for each stop; distribution of the population in the area	Increase based on SUMI benchmark	SUMI Indicator Nr. 6 - It is complemented also with bike and micromobility sharing services. https://ec.europa.eu/transport/themes/access-mobility-services-indicator_en
Making city streets and public spaces compatible with the needs of different road users (pedestrians, cyclists and public transport users)	Opportunity for active mobility	The length of roads and streets with pavements, bike lanes, 30 km/h zones and pedestrian zones related to total length of city road network (excluding motorways).	GIS (analysis); length of active mobility roads/areas and total length of the city road network	increase, based on SUMI benchmark or recent trends	SUMI Indicator Nr. 10 https://ec.europa.eu/transport/themes/opportunity-active-mobility-indicator_en

SPECIFIC OBJECTIVE	INDICATOR	DEFINITION	METHODOLOGY AND DATA NEEDED	DIRECTION OF CHANGE/ TARGET	NOTES AND REFERENCES
Optimising and integrating the different public and / or private mobility system	Congestion and delays	Delays in road traffic and in public transport during peak hours compared to off peak travel (private road traffic) and optimal public transport travel time (public transport). Weighted sum of delays over representative corridors.	Calculation (model) or field measurement on 10 identified road corridors	decrease, based on SUMI benchmark or recent trends	SUMI Indicator Nr. 8 https://ec.europa.eu/transport/themes/congestion-and-delays-indicator_en
	Multimodal integration	Index between 0 and 1 showing the average level of multimodal connection of the interchange points within an urban transport network	Existing data; number and characteristics of each interchange node	decrease, based on SUMI benchmark	SUMI Indicator Nr. 11. An interchange is any place where a traveller can switch from one mode of travel to another, with a minimum/ reasonable amount of walking or waiting. The more modes available at an interchange, the higher the level of multimodal integration. https://ec.europa.eu/transport/themes/multimodal-integration-indicator_en
Optimizing and rationalising the transport of goods	Efficiency of city logistics schemes	Percentage of urban deliveries moved through urban consolidation and micro consolidation centres (UCC, UmCC)	Calculation (model); UCC/UmCC vkm related to total vkm for urban freight transport in the city	increase based on previous trends	
Social sustainability: equity, safety and social inclusion					
<i>Ensuring adequate health, safety, accessibility and information for all</i>					
Reducing road accidents focusing on vulnerable users (pedestrians / cyclists / motorcyclists / children / over 65), with the aim of eliminating fatal	Traffic safety of vulnerable users - Fatalities of vulnerable users in traffic accidents in the city in relation to their exposure to traffic	Number of deaths within 30 days after the traffic accident as a corollary of the event per annum involving vulnerable road users	Existing data and calculation (model); number of fatalities (pedestrians/cyclist) and number of trips per year (same data as for modal split): Pedestrians, Cyclists	decrease based on previous trends	This is an adaptation of the SUMI Indicator Nr. 13 Traffic safety of active modes https://ec.europa.eu/transport/themes/traffic-safety-active-modes-indicator_en

SPECIFIC OBJECTIVE	INDICATOR	DEFINITION	METHODOLOGY AND DATA NEEDED	DIRECTION OF CHANGE/ TARGET	NOTES AND REFERENCES
accidents	Road deaths by all transport accidents in the urban area on a yearly basis	Number of deaths within 30 days after the traffic accident as a corollary of the event per annum caused by urban transport per 100,000 inhabitants of the urban area	Existing data: Number of road deaths per transport mode, number of inhabitants	decrease based on previous trends	SUMI Indicator Nr. 5 https://ec.europa.eu/transport/themes/road-deaths-indicator_en
Ensuring the correct use of the road through greater and more effective control of the traffic and parking rules	Correct use of the roads	The average reported satisfaction of the correct use of the road expressed by pedestrians, cyclists and public transport users	Population survey	increase	https://ec.europa.eu/transport/themes/satisfaction-public-transport-indicator_en
Increasing the awareness and “freedom of choice” towards the most sustainable modes of transport, improving communication and marketing	Propension towards sustainable mobility behaviours	The average reported awareness towards practicability and utility of sustainable mobility behaviours	Population survey	increase	
Improving liveability, accessibility and attractiveness for all users preserving the city peculiarities and the sustainability of the mobility system	Quality of public spaces	The average reported satisfaction of green (parks, gardens) and non-green (markets, squares, pedestrian areas) public spaces.	Population survey	increase	SUMI Indicator Nr. 14 https://ec.europa.eu/transport/themes/quality-public-spaces-indicator_en
	Accessibility of public transport for mobility-impaired groups	The proportion of total public transport services where accessibility has been facilitated for individuals who would otherwise be unable to use them.	Existing data; Total number of ticket machines/PT vehicles/stops/stations and number of these elements qualified as accessible, Total number of PT travellers per annum	increase, based on SUMI benchmark or recent trends	SUMI Indicator Nr. 2 https://ec.europa.eu/transport/themes/accessibility-public-transport-mobility-impaired-groups-indicator_en

SPECIFIC OBJECTIVE	INDICATOR	DEFINITION	METHODOLOGY AND DATA NEEDED	DIRECTION OF CHANGE/ TARGET	NOTES AND REFERENCES
	Affordability of public transport for the poorest group	Share of the poorest quartile of the population's household budget required to hold public transport (PT) passes (unlimited monthly travel or equivalent) in the urban area of residence.	Existing data; monthly PT price, household size, monthly income 25% poorest	increase, based on SUMI benchmark or recent trends	SUMI Indicator Nr. 1 https://ec.europa.eu/transport/themes/affordability-public-transport-poorest-group-indicator_en
	Urban functional diversity	Functional diversity refers to a mix of spatial functions in an area, creating proximity of mutual interrelated activities. Average presence (value 1) or not (value 0) out of 10 spatial functions related to daily activities except for work in grids of 1 km x 1 km.	GIS (analysis); Presences (yes/no) of different functions in each area (1 km ²), Share of the population living in each area (1 km ²)	increase, based on SUMI benchmark or recent trends	SUMI Indicator Nr. 15 https://ec.europa.eu/transport/themes/urban-functional-diversity-indicator_en
Economic sustainability: innovation and economic efficiency <i>Enhancing innovation opportunities and pursue economic sustainability and efficiency</i>					
Making efficient and effective public spending on infrastructure and mobility services (value for money)	Cost recovery for transport investments	Ratio of transport investment funding to investment expenditure	Existing public finance data; costs are limited to CAPEX (CAPital EXpenditure)	increase	
	Cost recovery for transport operations	Ratio of city government annual revenues from transport related charges (all modes) to total annual operational costs related to city transport (all modes)	Existing public finance data; costs are limited to OPEX (Operational EXpenditure)	increase	
Promoting the economic efficiency of the distribution of goods	Congestion and delays of urban freight transport	Delays in road freight traffic during off peak hours compared to optimal delivery time. Weighted sum of delays over representative corridors.	Calculation (model) or field measurement on 10 identified road freight corridors or delivery areas	decrease, based on SUMI benchmark or recent trends	This is an adaptation and extension of the SUMI Indicator Nr. 8 to cover also urban freight transport
Optimising the use of resources, enhancing forms of sharing in the	Motorization rate	Number of private cars owned over 1000 inhabitants	Existing data; number of private cars and total number of residents	decrease based on recent trends	

SPECIFIC OBJECTIVE	INDICATOR	DEFINITION	METHODOLOGY AND DATA NEEDED	DIRECTION OF CHANGE/ TARGET	NOTES AND REFERENCES
use of vehicles and infrastructures promoting technological and managerial innovation in the transport sector	Use of vehicle sharing services	Number of trips made by all forms of vehicle sharing services (car, van, bike, cargo bike, e-scooters) for a single user	Calculation (model) or existing data from vehicle sharing operators	increase based on recent trends	
	Use of shared urban logistics infrastructures	Load factor: monthly average based on cargo shipments loaded and unloaded in shared urban consolidation and micro consolidation centres (UCC, UmCC) related to their total capacity (in volumes or number of shipments)	Existing data from urban freight operators; number and volumes of cargo shipments, capacity of UCC/UmCC)	increase based on recent trends	
Making the environmental, social and health costs generated by the various modes of transport explicit and internalized in public policies	Coverage of environmental, social and health costs of the mobility system	Ratio between monetised impacts on environment, society and health and actual tariffs paid by mobility users as well as value of public policies specifically aimed at reducing environmental, social and health impacts of the mobility system	Monetisation of impacts; tariffs paid by mobility users and value of public policies aimed at reducing impacts	decrease	
Environmental sustainability: quality of the environment					
<i>Promoting and improving environmental quality</i>					
Reducing air polluting and CO2 emissions attributable to the transport sector	Air pollutant emissions	Air pollutant emissions of all passenger and freight transport modes (exhaust and non-exhaust for PM2.5) in the urban area	Calculation (model); Vehicle-km of passenger vehicles (or Passenger km) per mode, vehicle-km of freight vehicles (or tkm per mode), Vehicle fleet composition per vehicle type, fuel type and emission standard (%)	decrease, potentially based on national targets	SUMI Indicator Nr. 3 https://ec.europa.eu/transport/theme/s/air-pollutant-emissions-indicator_en

SPECIFIC OBJECTIVE	INDICATOR	DEFINITION	METHODOLOGY AND DATA NEEDED	DIRECTION OF CHANGE/ TARGET	NOTES AND REFERENCES
	Greenhouse gas emissions	Well-to-wheels GHG emissions by all urban area passenger and freight transport modes	same of air pollutant emission indicator	decrease, potentially based on national targets	SUMI Indicator Nr. 7 https://ec.europa.eu/transport/themes/greenhouse-gas-emissions-indicator_en
Reducing energy consumption and in particular that of fossil fuels (diesel / petrol / LPG / etc.) used by the transport sector	Energy Efficiency	Total energy use by urban transport per passenger km and tonne km (annual average over all modes).	same of air pollutant emission indicator	decrease, potentially based on national targets	SUMI Indicator Nr. 9 https://ec.europa.eu/transport/themes/energy-efficiency-indicator_en
Reducing the exposure of the population to noise by giving priority to the protection of the most sensitive areas near schools, health facilities and residential areas	Noise hindrance	Percentage of population hindered by urban transport noise, based on hindrance factors for noise exposure data of population by noise bands.	GIS (analysis) or field measurement; Number of people exposed to different noise bands related to major roads/railways/airport	decrease, based on EU noise directive	SUMI Indicator Nr. 4 https://ec.europa.eu/transport/themes/noise-hindrance-indicator_en
Improving the quality of the urban landscape and limit soil consumption	Mobility space usage	Proportion of land use, taken by all city transport modes, including direct and indirect uses.	GIS (analysis); Direct and indirect land use (ha) differentiated by mobility-related items	decrease, based on SUMI benchmark	SUMI Indicator Nr. 17 https://ec.europa.eu/transport/themes/mobility-space-usage-indicator_en
	Quality of public spaces	The average reported satisfaction of green (parks, gardens) and non-green (markets, squares, pedestrian areas) public spaces.	Population survey	increase	SUMI Indicator Nr. 14 https://ec.europa.eu/transport/themes/quality-public-spaces-indicator_en

TABLE 6-2: KEY OUTPUT INDICATORS

SUMP STRATEGY		INDICATOR
 Fostering Public Transport to be wider, more efficient, integrated, attractive and inclusive		Length of BRT lines in operation
		Share of public transport services arriving at stops within set punctuality limits
		Number of PT vehicles with cleaner fuel propulsions in operation
		Number of PT prioritised road intersections
		Number of small nodes and PT stops upgraded
		Service area covered by school and inclusive on-demand PT services
 Pushing cycling and micromobility as an alternative to private motorised transport		Length of cycling / walking facilities implemented and upgraded
		Number of bikes, cargo bikes and e-scooters available and in operation
		Number of social bike stations created
		Number of on street cycling and micromobility parking facilities implemented and upgraded
		Participants at bike coaching and learning initiatives
 Mobility Resilient Tirana: combining infrastructure investments and soft policies, making the best use of resources (both financial and spatial), and increasing the flexibility and reactivity of the mobility system		Length of new infrastructure construction by mode and type
		Events to promote sustainable travel organised
		Number of main urban roads rehabilitated
		Extension of urban block areas rehabilitated
		Number of Employers / Schools with travel plans
 Managing parking supply, logistics and pricing as drivers to steer modal choice (push and pull approach)		Average daily vehicle flows reduction inside the 3rd Ring Road
		Size / number of Park & Ride facilities
		Number of tickets sold in P&R facilities
		Congestion Charge system implemented
		Number of Urban Consolidation Centres and Urban micro Consolidation Centres implemented
		Number of on-street loading/unloading bays upgraded
 Fostering a kids-centered design and use of city streets and urban spaces to increase accessibility, attractiveness and safety.		Number and extension of newly designed public spaces
		Number of Limited Traffic Zones and Pedestrian Areas created
		Number of securing access routes to schools
		Share of pedestrian crossings with facilities for disabled people
		Participants at car-free days and other sustainable urban mobility initiatives
 Applying ITS technologies, digital solutions, e-mobility for a smart(er) city		Number of intersections and roads segments covered by intelligent traffic management systems
		Number of EV charging infrastructure installed
		Number of regular users of Tirana IME App
		Number of CCTV and VMS systems installed
		Number of air quality monitoring stations implemented and maintained

6.3 Data reporting, analysis and evaluation methods

Depending on the data availability and type of measure, as well as the experience and capacity of MoT staff, different methods for the reporting, analysis and aggregation of data can be applied.

The methods that are planned for Tirana are:

1. Data reporting methods:

- Summary tables
- Visualisations of indicator developments (charts, maps)
- Pictorial records (photos, videos)
- Qualitative descriptions

Summary tables will be included for all quantitative data and the development against base year illustrated by charts for key indicators. Maps are particularly valuable to illustrate spatial differences and developments, in particular for accessibility, noise exposure or traffic flows and speeds.

Pictorial records comparing before and after situations can be a powerful tool to visualise changes in townscape after implementation of improvements to the built environment and are particularly useful for indicators dealing with perceptions of quality of transport supply.

2. Data analysis methods:

- Descriptive statistics (means, medians, pie/bar charts histograms)
- Regression analysis
- Inferential statistics
- Qualitative analysis

Descriptive statistics, usually reported together with the summary tables, provide a summary of the main features for indicator data and an easy way to identify changes over time. Simple trend estimations can be achieved

using regression analysis. However, in order to be able to derive reliable conclusions from the analysis of the data, inferential statistical methods, e.g. hypothesis testing, need to be carried out. This is recommended only for the evaluation, not the monitoring of indicator data.

It is important to include comments on the statistical robustness of data and report any data issues that might have occurred during collection, e.g. changes or failures of monitoring equipment or skewed samples for surveys.

3. Evaluation techniques

- Checklist approaches
- Cost-benefit analysis (CBA)
- Multi-criteria analysis (MCA)
- Cost-effectiveness analysis (CEA)
- Mixed CBA and MCA methods

In contrast to the previous methods, data driven methods that help to understand developments, evaluation methods are judgemental techniques to present and aggregate data in a way that allows comparison to objectives.

In its most simple form, the development of SUMP indicators can be monitored by comparing their development against desired targets or directions of change in a **checklist format**. This approach is useful in particular during monitoring, if a limited number of indicators is observed, or in the evaluation of SUMP to assess whether the development of transport activity indicators follows the desired path.

However, in order to provide decision-makers with information how to assess the extent of target achievement or how to weigh up trade-offs between the achievements of different objectives, more formalised aggregation methods are required, such as cost-benefit analysis or multi-criteria analysis.

A **cost-benefit analysis** (CBA) adds up all positive and negative impacts of projects, expressed as monetary values, to a comprehensive measure of

overall welfare impacts of interventions on society. CBA provides decision-makers with a comprehensive and easy to understand measure of 'value for money'. A full CBA should be carried out for large infrastructure investments.

However, a significant shortcoming of CBA is the necessity to provide monetary values for impacts that have no market price, in particular impacts on environment and equity. Generally, such monetary values exist for journey time savings, accidents and only a limited number of environmental impacts such as greenhouse gas emissions, noise and air quality. In addition, CBA assumes that all impacts can be traded off against each other and losses for some parts of the population today or in future can be compensated for by gains for others. These assumptions can contradict the objectives of sustainable development, in particular for long-term, irreversible and socially unacceptable or unfairly distributed impacts.

Hence, for the evaluation of whole SUMP, a **multi-criteria analysis (MCA)** approach is recommended which allows a more comprehensive inclusion of impacts. A MCA approach was used in the drafting process of the SUMP for Tirana to compare alternative intervention scenarios (see section 3.5 above).

Cost-effectiveness analysis (CEA) combines elements of both CBA and MCA by measuring the costs to achieve a particular target of potentially scored outcomes.

Other methods have been developed that **mix MCA and CBA elements**. Commonly the core of this particular appraisal methods is a CBA which is complemented by additional non-monetary assessments of environmental or regional impacts. For the SUMP development, though, we recommend incorporating CBA results into the wider MCA framework through summary goal achievement tables or weighted approaches.

A formalised aggregation method such as CEA, MCA or CBA is should only be applied to outcome indicators. Other indicators should be used to explain

trends and analysing developments leading to this outcome but not be aggregated with the outcome.