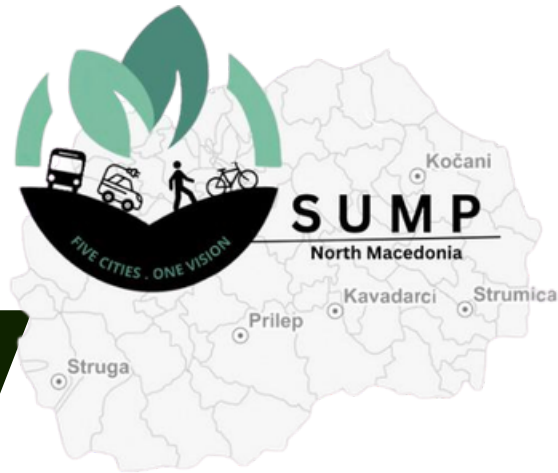
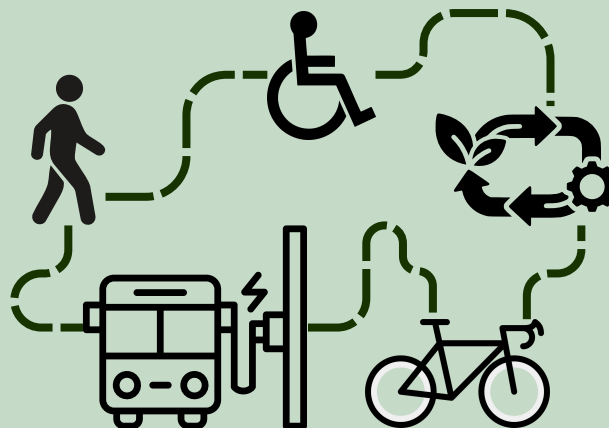


Sustainable Urban Mobility Plan 2027/2037



KOCHANI




Republic of North Macedonia
Ministry of Transport

 **BOGAZICI
PROJE A.S.**

 **TRT**

The Sustainable urban Mobility plan for Kochani, is developed by the Technical Assistance for Technical Assistance for Development of Sustainable Urban Mobility Plans for five Municipalities and providing training on developing and implementation of Sustainable Urban Mobility Plans (RFP No: LRCP-9034-MK-REol-CS-CQS-A.1.1.5) within the framework of the Local Road Connectivity Project (LRCP) No. P170267 which is financed by loan from the International Bank for Reconstruction and Development – World Bank and implemented by the Ministry of Transport – Project Implementation Unit.

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Glossary

ASI	Avoid/Reduce, Shift/Maintain, Improve
BAU	Business-As-Usual
CO	Carbon Monoxide
CO₂	Carbon Dioxide
EU	European Union
ITS	Intelligent Transport Systems
KPI	Key Performance Indicators
MOMOS	Sustainable MObility MOdel
NGO	Non-Governmental Organisation
NOX	Nitric Oxide (NO) and Nitrogen Dioxide (NO ₂)
PCIU	Project Coordination and Implementation Unit
PM_{2.5}	Fine Particulate Matter
PSC	Project Steering Committee
PT	Public Transport
RoP	Rules of Procedures
SMART	Specific, Measurable, Achievable, Realistic, and Time-Bound
SUMP	Sustainable Urban Mobility Plan
ToR	Term of Reference

1 Executive summary

The Sustainable Urban Mobility Plan (SUMP) for Kochani provides a coherent, evidence-based roadmap to improve accessibility, safety, public health and quality of life while supporting a cleaner and more resilient local economy. Developed in line with SUMP principles, the process combined technical analysis with structured stakeholder participation, ensuring that priorities reflect local needs and implementation realities.

The baseline assessment confirms that Kochani faces typical mobility pressures for a regional center. Private motorized travel remains dominant, while walking is important but not consistently supported by high-quality, continuous and fully accessible infrastructure. The vehicle fleet is largely fossil-fuel based, with 22,203 registered vehicles and a high share of diesel vehicles. Road safety remains a major challenge, with recorded fatalities and serious injuries indicating that vulnerable users require stronger protection through safer street design, speed management and improved crossings. Transport-related emissions and local air quality concerns further reinforce the need for modal shift and cleaner technologies.

Building on this diagnosis, Kochani's shared long-term vision is to become a safe, inclusive and people-centered city, where residents can move easily and affordably, supported by cleaner air, greener streets and efficient, sustainable transport options. This vision is operationalized through strategic objectives and an indicator set aligned with long-term outcomes: higher use of sustainable modes, reduced car dependency, lower emissions and improved road safety.

To translate the vision into an implementable pathway, three scenarios were developed and assessed: Business-as-Usual (BAU), Alternative Scenario 1 (AS1 – Moderate Transition) and Alternative Scenario 2 (AS2 – Ambitious Transition). Measures were prioritized through a Multi-Criteria Analysis and combined into scenario packages for modelling. Scenario evaluation using the MOMOS strategic model shows that both policy scenarios deliver clear improvements compared to BAU, particularly for emissions and safety. Quantified outcomes by the horizon year include reductions in greenhouse gas emissions, air pollutants and road casualties, with AS2 delivering the strongest environmental performance but requiring a higher implementation effort.

Based on performance, feasibility and stakeholder alignment, the plan adopts AS1 as the Preferred Scenario. AS1 balances realistic delivery capacity with meaningful impact, aiming to reduce car dependency, strengthen public transport, expand cycling, improve walkability and safety outcomes, and reduce emissions through an integrated package of measures that can be phased and financed within the local context.

The Action Plan consolidates interventions into ten policy areas: walkability and accessibility, public transport, urban cycling, access regulation and traffic calming, road networks, parking system, mobility management, electric mobility, urban freight transport, and public awareness and engagement. Measures are sequenced through short- and medium/long-term programs, supported by governance arrangements, financial planning and a monitoring framework.

Overall, the Kochani SUMP sets a clear direction: deliver safer and more livable streets, provide attractive alternatives to private car use, improve the reliability and accessibility of public transport, and enable walking and cycling as everyday modes. Through phased implementation and continuous monitoring, the plan offers a credible route to a more sustainable, inclusive and economically vibrant Kochani.

2 Introduction and Presentation

This Final Report provides a concise, decision-oriented summary of the Sustainable Urban Mobility Plan (SUMP) for Kochani. It synthesizes the outputs prepared across Tasks 1.1–1.5, covering the planning framework and stakeholder engagement, the baseline mobility assessment, strategy and scenario development, measure selection, action planning, implementation approach and the monitoring framework.

A Sustainable Urban Mobility Plan is an integrated planning instrument that coordinates land-use and transport measures to improve accessibility and quality of life. It promotes safer streets, healthier travel choices and a more efficient use of urban space, while supporting climate and air-quality objectives. In Kochani, the SUMP focuses on practical solutions that can be delivered through phased programs aligned with local capacity and investment priorities.

The SUMP area of analysis and intervention is defined as the functional urban area, recognizing that daily travel patterns often extend beyond administrative boundaries. The planning boundaries were discussed and refined with the Project Steering Committee (PSC) to ensure that the plan addresses the core urban area as well as surrounding areas that interact with the city. The resulting study area incorporates the functional urban area together with the municipality's administrative boundary and the General Urban Plan boundaries.

The planning process was organized through a clear governance structure, including the establishment of a PSC and a participatory program tailored to Kochani's stakeholder landscape. Stakeholder analysis and mapping informed the selection of engagement tools such as meetings, workshops and consultations, complemented by communication and feedback mechanisms (including online channels) to ensure transparency and continuous input throughout the SUMP cycle.

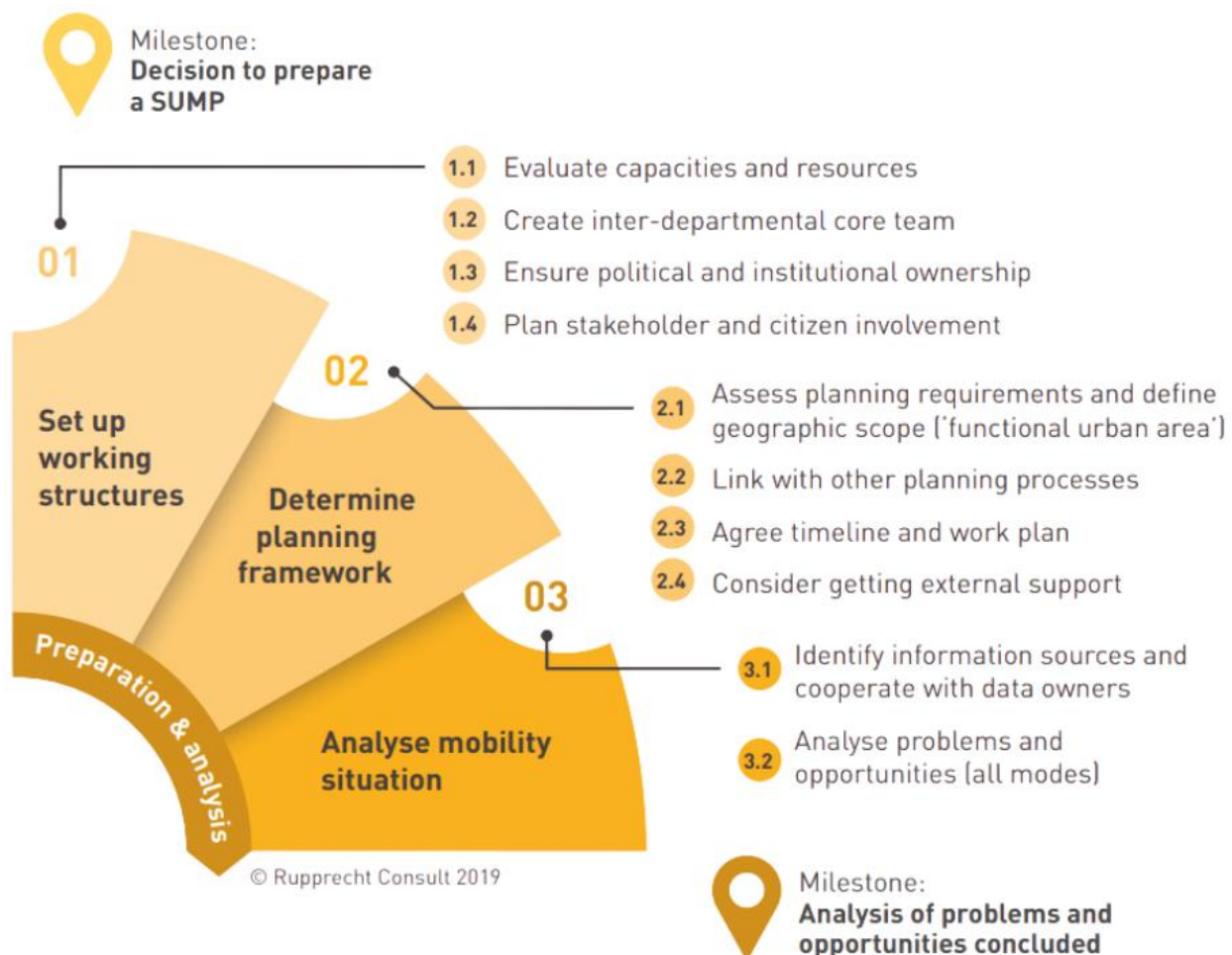
This document is structured to mirror the SUMP cycle and to support quick orientation for decision-makers. Chapter 3 summarizes the preparation and analysis work and the key baseline findings. Chapter 4 outlines the strategy development phase, including the vision, objectives, indicators and targets. Chapter 5 explains measure packaging and scenario evaluation leading to the preferred scenario. Chapter 6 presents the Action Plan organized by policy areas. Chapters 7 and 8 describe implementation planning, financing considerations and the monitoring and evaluation approach. Chapters 9–11 provide the conclusion, references and annexes.

3 Preparation and Analysis Phase

Preparation and analysis form the evidence base of the Kochani SUMP. During this phase, the project established the working structure and decision-making arrangements, clarified stakeholders and agreed a participation program, and compiled the baseline diagnosis of the current mobility system.

The phase served three functions. First, it ensured that governance and responsibilities were clear so that the process could move efficiently from analysis to decisions. Second, it built shared ownership through structured engagement and transparent communication. Third, it produced a consolidated baseline dataset that allowed priorities, objectives and measures to be tested against real conditions rather than assumptions.

The outputs of this phase were used to identify key problems and opportunities, validate priorities with local actors and ensure that subsequent strategy development and measure planning were grounded in reliable data and a shared understanding of constraints and deliverability.



3.1 Establishment of Working Structure

A clear governance and coordination structure was established to manage the SUMP process and to support timely decisions. The Project Steering Committee (PSC) serves as the core platform for coordination between the Municipality, relevant institutions and the consultant team. The PSC ensures that technical work is aligned with local priorities, that necessary inputs are provided throughout the SUMP cycle, and that the plan remains implementable within Kochani's institutional and financial context.

The PSC operates under agreed Rules of Procedure, including arrangements for meeting convocation, quorum, documentation and decision-taking. A designated SUMP Coordinator chairs the PSC, organizes meetings and agendas, ensures continuity through substitute members where needed, and may invite external experts when additional technical input is required (e.g., road safety, public transport operations, air quality, urban design).

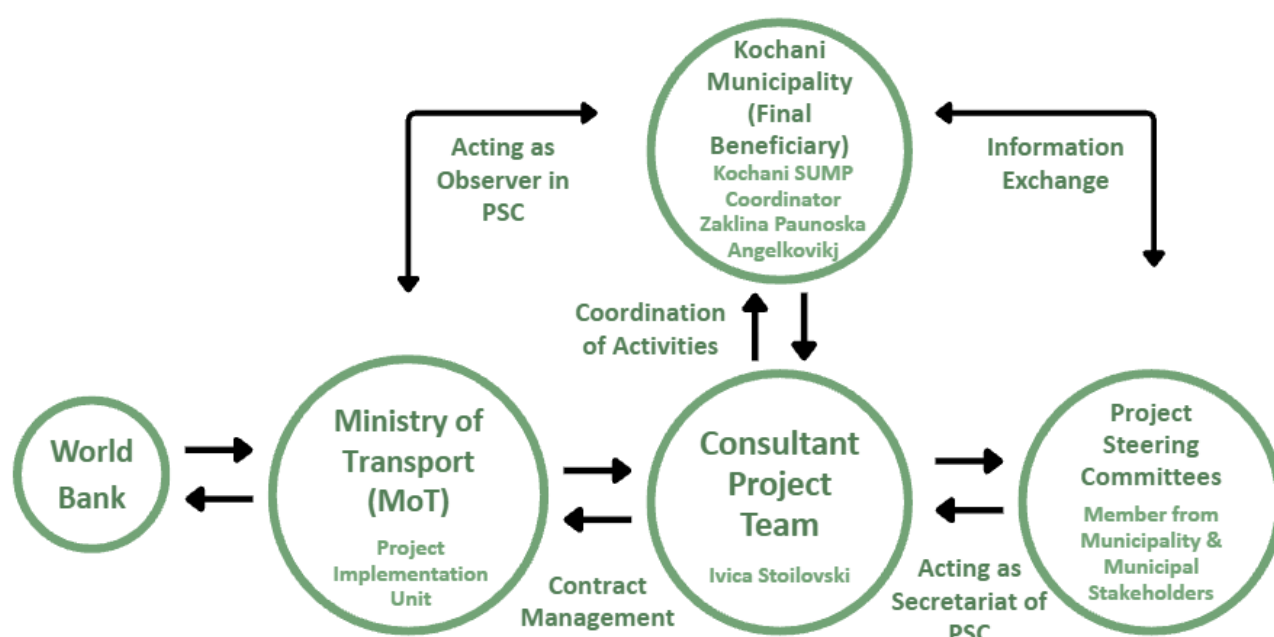


Figure 1. Project Management

In practical terms, the working structure was designed to avoid a “report-only” exercise by linking analysis and drafting to decision points. Draft deliverables were presented to the PSC for validation, and feedback was integrated before moving to the next phase. This approach strengthened accountability and reduced the risk of late-stage changes.

Key functions of the PSC and working structure include:

- guiding and validating the SUMP process and deliverables, ensuring consistency with sustainable mobility principles and local needs;
- facilitating access to municipal and national data, plans and studies required for analysis and option development;
- supporting inter-department and inter-institutional coordination to resolve issues and enable implementation readiness;
- ensuring that PSC conclusions are communicated within relevant institutions and followed up through agreed actions.

3.2 Stakeholder Clarification and Participation Program

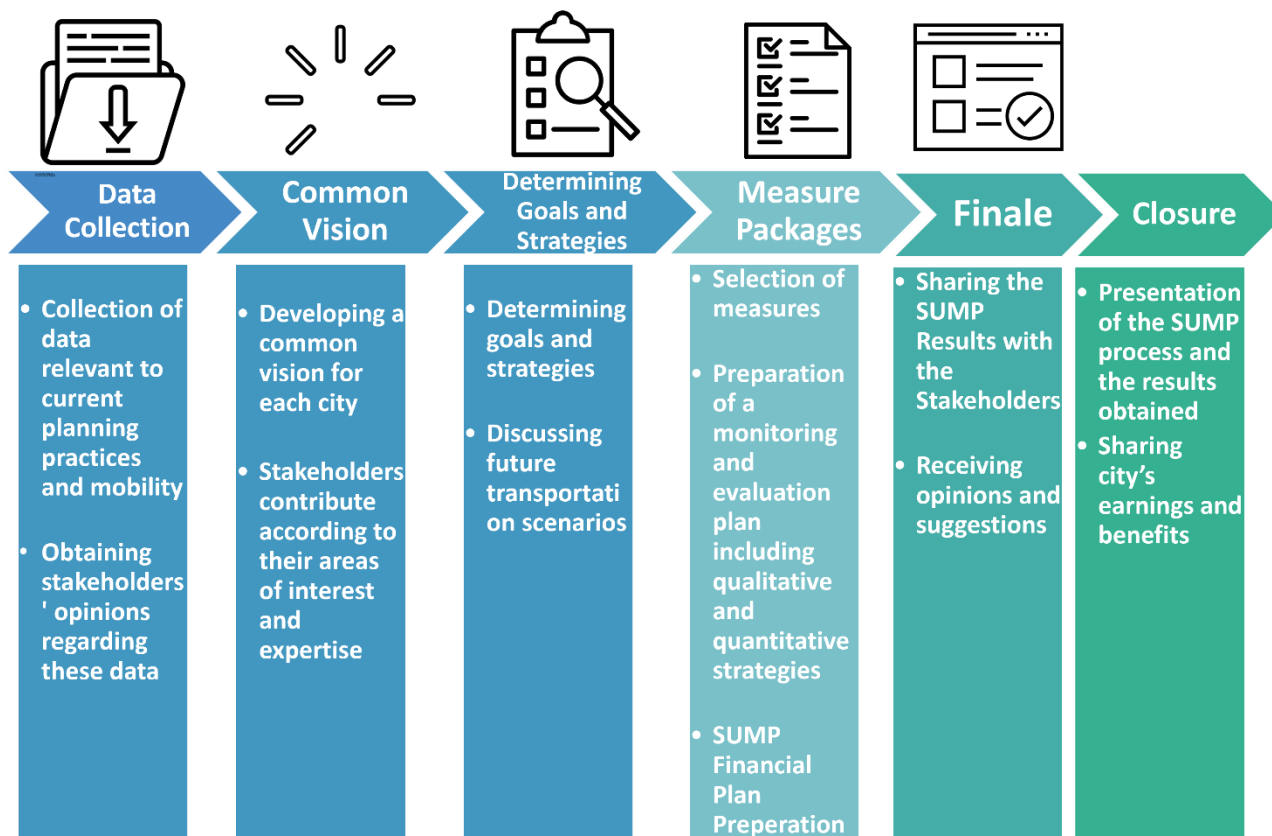
Stakeholder clarification and participation planning were carried out to ensure that the SUMP reflects local needs and builds broad ownership. A stakeholder mapping exercise identified key public institutions, service providers, businesses, civil society and citizen groups, including the needs of vulnerable and disadvantaged users. Based on influence and interest, stakeholder roles were defined to ensure that technical discussions, policy choices and public communication all reached the right audiences.

The participation program combined structured events (PSC meetings, thematic workshops and consultations) with continuous communication channels to promote transparency and encourage feedback. Digital tools (municipal web content and social media) were used to announce events, share progress and provide accessible information to the wider public, ensuring that engagement extended beyond formal meetings.

Engagement was designed to support the full planning cycle:

- Information and diagnosis: presenting baseline findings and collecting local insights on problems and priorities;
- Strategy formation: co-creating the long-term vision, agreeing strategic objectives, and discussing indicators and target directions;
- Measure development and prioritization: refining measure packages, assessing feasibility and impacts, and aligning proposals with local capacity;
- Public consultation: capturing user experience through surveys and open feedback channels and ensuring that measures respond to everyday mobility needs.

By linking engagement to decision points and deliverables, the participation program supported both legitimacy and technical quality, helping the SUMP move from analysis to an implementable Action Plan.



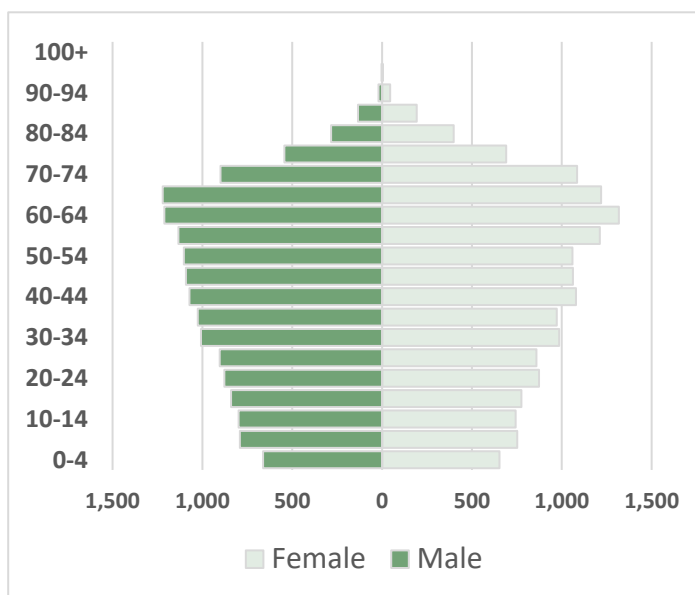
3.3 Analysis of Mobility Status

3.3.1 Sociodemographic Structure

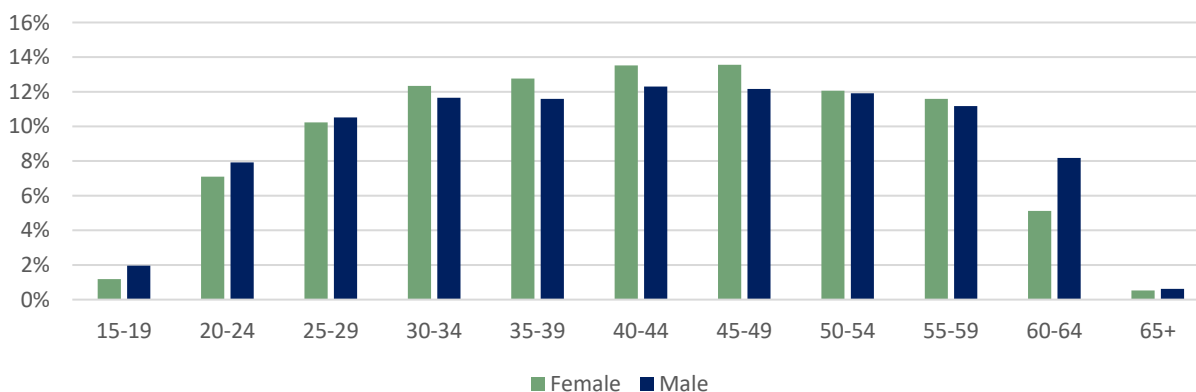
Kochani is a compact municipality in the Eastern Region of North Macedonia, with a settlement pattern that supports short-distance daily trips within the urban area. Over the longer term, the municipality has experienced population decline (notably between the 2002 and 2021 census periods), while at the same time motorization has increased rapidly. Between 2013 and 2023, the number of registered vehicles grew by around 75%, indicating a strong rise in car availability per resident and increasing pressure on limited street space.

The vehicle fleet is dominated by private cars (around 86% of registered vehicles), and the fuel structure remains heavily diesel-oriented (around two-thirds of the fleet). This socio-demographic and fleet profile has direct implications for air quality, greenhouse gas emissions, and traffic safety outcomes. It also reinforces the need for mobility solutions that remain affordable and inclusive, ensuring access for children, older people and persons with reduced mobility (PRM), while providing viable alternatives to private car use for everyday trips (education, services, health and employment).

Population	Population	31,602
Household	Household Number	12,006
	Household Size	2.63
Disability Status	Disabled People (%)	5.58%
Working Status	Employed (%)	36.6%
	Unemployed (%)	5.5%
Education Status	Literate (%)	95.3%
	Illiterate (%)	1.5%
	Unknown (%)	3.2%



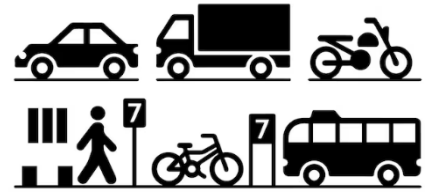
Labour Force Age-Gender Distribution



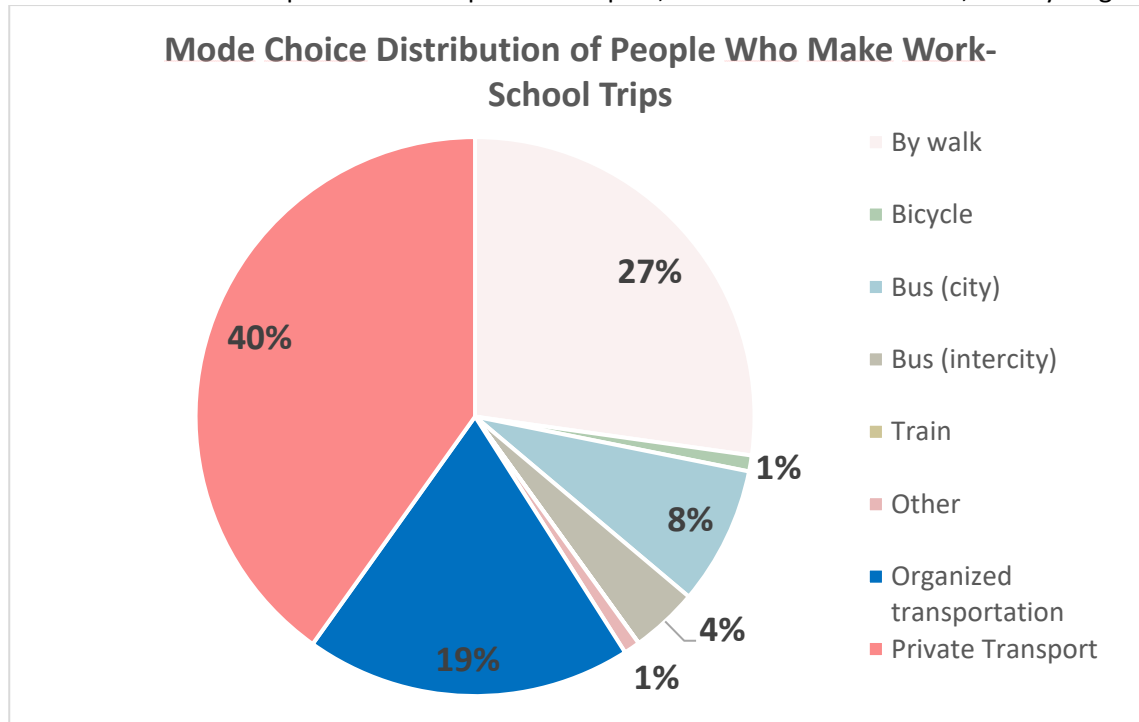
3.3.2 Mobility Status

Several important variables are considered when evaluating the overall transportation structure of Kochani. These variables include:

- The share of active transportation modes (bicycle, walking, scooter, etc.) In all journeys,
- The service level of the public transportation system,
- The distribution of all journeys according to transportation modes,
- The infrastructure created for active transportation modes,
- The hierarchical classification of the transportation network, and its evaluation within the transportation hierarchy.



Kochani's urban structure and trip distances create strong potential for walking and cycling; however, current travel behavior remains strongly car-oriented. Baseline modal split (2023) is estimated at approximately 28.0% walking, 68.4% private cars, 2.6% motorcycles, 1.0% buses, and near-zero cycling. This reflects limited attractiveness and competitiveness of public transport, and a lack of continuous, safe cycling infrastructure.



Year	Population	% (Increase/Decrease)
2002	38,092	
2021	31,602	-17,0%

Public transport services exist but currently operate with very low intensity. The main urban line is approximately 25 km long and runs only a few trips per day, resulting in long waiting times and limited usefulness for regular commuting and school trips. Bus stop quality and passenger information are additional constraints that reduce perceived reliability and comfort.

Walking remains the key sustainable mode, yet the pedestrian environment is frequently compromised by narrow or damaged sidewalks, discontinuity, accessibility barriers, and conflicts caused by illegal parking on footways and near crossings. Crossing safety and junction conditions are critical issues, particularly around the city center and key trip generators such as schools, markets and public institutions.



Cycling is constrained by fragmented or missing infrastructure, limited network continuity, and the absence of secure bicycle parking at key destinations.

Parking pressure in central areas reduces public space quality and directly affects walkability and safety. In addition, urban servicing and freight activity requires better operational management to reduce conflicts in pedestrian-priority areas and to support more efficient last-mile delivery solutions. Overall, the baseline mobility conditions point to a clear need for integrated interventions that improve safety, strengthen walking and cycling, enhance public transport service quality, and manage car access and parking demand.

City	Bike Line Length (km)	Bike Line Length per 1000 people (km)	Bicycle Use Rate %
Kochani	2,0	0,10	4
Bremen	390	0,69	20
Kopenhag	469	0,76	36
Barcelona	181	0,11	1,5
Melbourne	135	0,89	4

Bicycle use is linked to the creation of an infrastructure with safe cycle paths, and increasing bicycle use should be supported by incentive policies that can be provided to users.

Considering the general status of the pedestrian transportation system in Kochani conducted survey results indicate a **systemic underperformance of pedestrian infrastructure, limiting walkability and social inclusion**. The current situation contradicts SUMP objectives related to safety, accessibility, modal shift, and public space quality.

Recommended measures include:

- ✓ Physical interventions: sidewalk reconstruction, protective buffers (planting strips, bollards), improved lighting, and upgraded crossings.
- ✓ Traffic management measures: intersection redesigns, speed limit reductions, and traffic calming in pedestrian-priority areas.
- ✓ Regulatory and enforcement measures: stricter penalties and active enforcement against illegal parking and sidewalk occupation.



Implementing these measures is expected to:

- ✓ Improve pedestrian safety and comfort.
- ✓ Support modal shift towards walking.
- ✓ Enhance public realm quality and urban livability.
- ✓ Ensure compliance with EU accessibility, safety, and sustainability standards.



Road safety remains a concern in Kochani. Recorded traffic accidents show variation over recent years, with totals reported at **118 (2022)**, **103 (2023)** and **122 (2024)**. These figures underline the importance of systematic safety improvements through safer street design, speed management, safer crossings and intersection redesign—especially on corridors where vulnerable users are exposed to fast traffic and poor crossing conditions.

Injury/Causality	2022	2023	2024
Fatality	4	1	6
Serious Body Injury	25	20	31
Minor Body Injury	89	82	85

Parking on the road and defined parking areas are identified, highlighting the importance of structured parking management and enforcement to reduce congestion and support more livable streets.

Overall, the baseline diagnosis concludes that Kochani’s key mobility challenges can be summarized as: high car dependency and limited public transport attractiveness, fragmented pedestrian environment and safety deficits, lack of cycling infrastructure, pressure on public space from parking and traffic dominance, and the need to reduce emissions and improve air quality. These challenges directly informed the strategy, objectives, measure packages and the preferred scenario selection.

4 Strategy Development Phase



This phase transformed baseline findings and stakeholder inputs into a shared long-term direction for Kochani. Through workshops and an online survey, a common vision was defined and translated into strategic objectives, indicators and target trends. A scenario framework was also developed to test alternative development paths and to support an implementable package of measures.

4.1 Common Vision Practice

A common vision for Kochani's mobility future was co-created through stakeholder engagement and consultation. The vision process aimed to capture the city's long-term aspirations while remaining grounded in what is deliverable and measurable. Inputs were collected through structured workshops, PSC discussions and public-facing channels, ensuring that both institutional perspectives and everyday user experience informed the final direction.

The agreed vision emphasizes a safe and inclusive city where sustainable modes are attractive, affordable and accessible, supported by cleaner air and greener streets. It also reflects the need to improve reliability and user experience for public transport and to create a walking and cycling environment that is continuous and comfortable across neighborhoods.

"Kochani envisions a safe, healthy, and inclusive city where walking, cycling, and public transport are the preferred modes of travel. By 2037, the city aims to create a connected, green, and low-emission transport system that reclaims space from cars, ensures universal accessibility, and supports climate resilience and well-being for all residents"

The vision is not treated as a standalone statement; it directly informs the objectives, indicators and measure packages. This ensures that each Action Plan component contributes to a consistent end-state: lower car dependency, safer streets, healthier travel options and improved public space quality.

4.2 Strategic Objectives

Building on the vision and consultation synthesis, the strategy defines a set of objectives that guide both investment decisions and day-to-day policy choices. The objectives are aligned with the policy areas used in the Action Plan, ensuring a direct link from strategy to implementation.

The strategic objectives include:

- **Reduce car dependency** and shift trips towards walking, cycling and public transport, particularly for short urban trips and in central areas.
- **Improve public transport performance** by increasing reliability, coverage and user experience, including accessibility and passenger information.
- **Improve road safety for all users**, with a focus on vulnerable users and high-risk locations through safer design, speed management and targeted interventions.



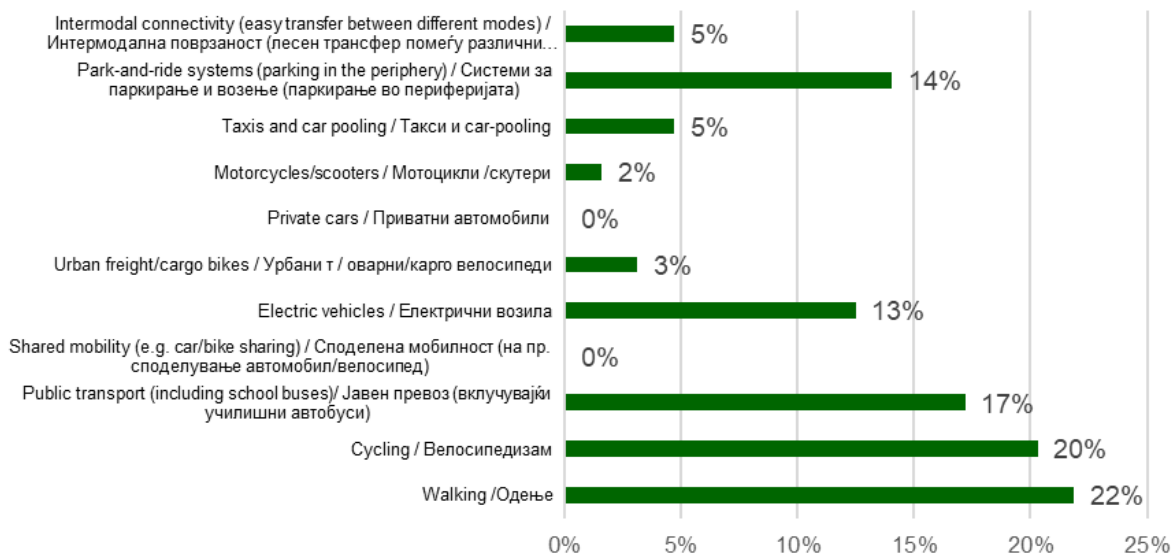
- **Enhance walkability and accessibility** by improving continuity and removing barriers in the pedestrian network, especially near key destinations.
- **Develop a connected cycling system** supported by safe routes, junction treatments, secure parking and integration with public transport.
- **Reduce emissions and energy use** by supporting modal shift and cleaner technologies and aligning transport actions with air quality priorities.
- **Manage traffic and parking demand** to support livable streets and a more efficient use of public space.

To track progress, the plan adopts an indicator framework aligned with long-term outcomes. Core indicators include modal split (walking, cycling, public transport, car), car ownership rate, CO₂ emissions, PM₁₀ emissions, NO_x emissions, fuel consumption, and road safety outcomes (fatalities and injuries). Targets are expressed as trend directions toward 2037 (increase in sustainable modes and decreases in car use, emissions and casualties), and scenario evaluation provides quantitative reference values for monitoring.

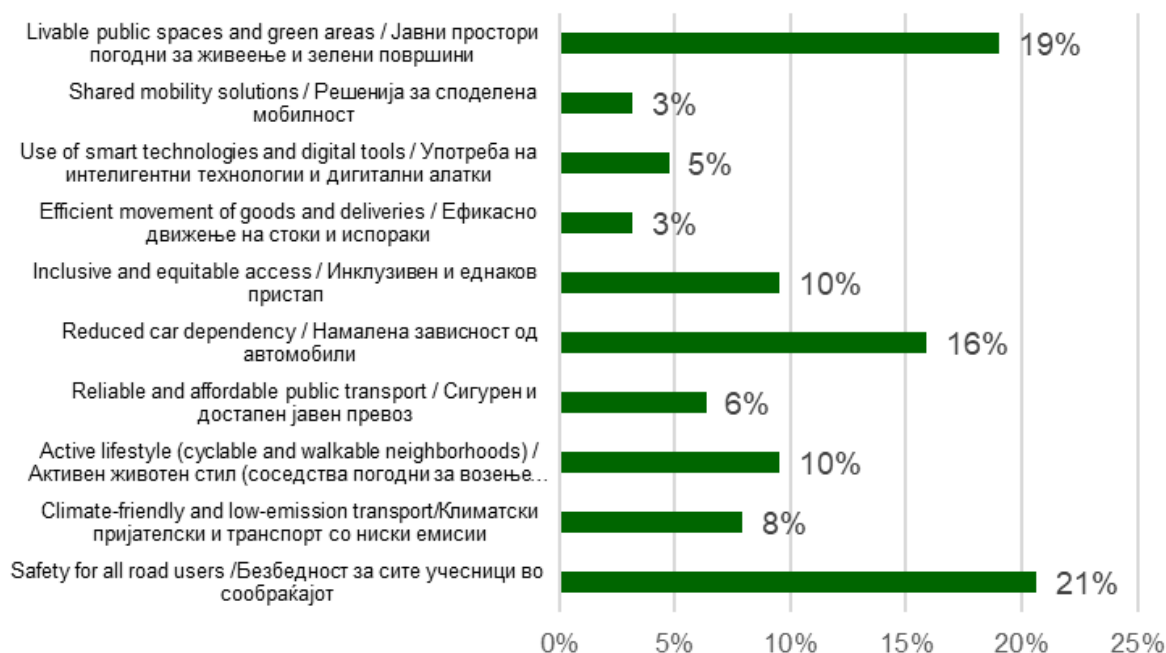
What should urban mobility in your city look like in 10 years?



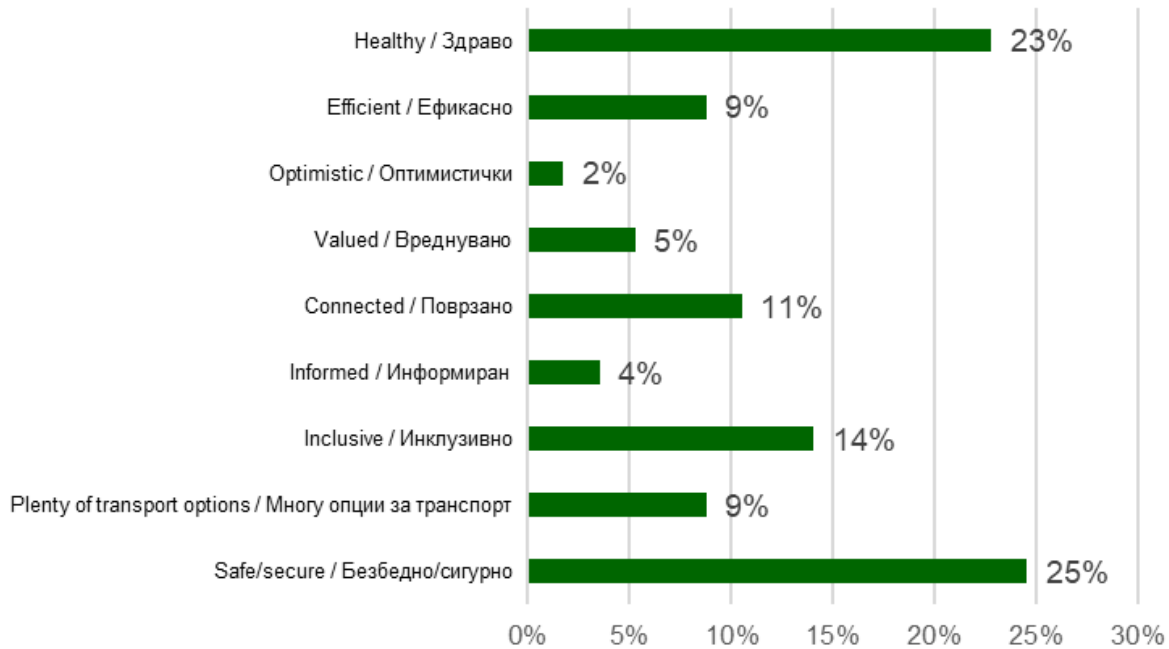
What mobility modes should your city prioritize in the long term?



Which of these principles should shape the future mobility vision of your city?

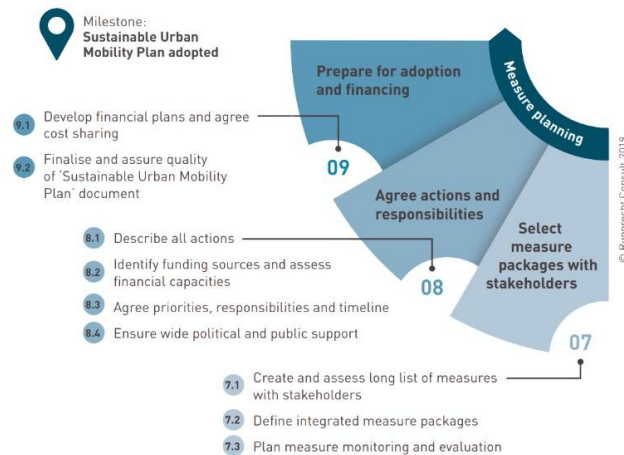


What one word best describes how you want people to feel when moving around your city?



5 Measure Planning

Measure planning translated the long list of candidate measures into a coherent, prioritized program that



can be implemented by the Municipality and partners over the SUMP horizon. Building on the diagnosis, vision and targets, the project team compiled measures across ten policy areas, assessed them for feasibility and impact, and structured them into packages that reflect the Avoid–Shift–Improve (ASI) approach.

To ensure that the final plan is both ambitious and deliverable, measures were first screened against local constraints (institutional capacity, funding, acceptance and implementation timeframe) and then tested as integrated scenario packages using the strategic MOMOS model. This step provided evidence on how

different levels of ambition would perform against the agreed indicators for safety, environment, accessibility and network efficiency.

This phase translated the strategy (vision, objectives and targets) into a coherent and deliverable set of interventions. Measures were derived from the baseline diagnosis and stakeholder input, and then structured into packages aligned with the policy areas used in the Action Plan.

A Multi-Criteria Analysis (MCA) was applied to prioritize measures in a transparent way and to assemble internally consistent scenario packages for testing. The resulting packages were then assessed through strategic modelling and an agreed indicator framework, providing the evidence base for selecting the preferred scenario.

The measure package development followed a structured sequence: identification of candidate measures, screening and consolidation, MCA-based prioritization, and integration into scenario packages.

The MCA evaluated measures across five weighted dimensions: Cost (17%), Implementation Time (13%), Financing Feasibility (37%), Efficiency/Impact (23%), and Public Acceptance (10%). The ranking supported the selection of measures that are both impactful and realistically implementable in Kochani.

Scenario evaluation combined strategic modelling with a harmonized indicator framework covering transport, environment and road safety. The MOMOS strategic forecasting model was used to simulate the baseline and the policy packages over the planning horizon, using local demographic, spatial and mobility inputs and agreed assumptions on exogenous trends.

Key results illustrate the expected direction of change under the preferred scenario (AS1):

- Car dependency decreases from 70.8% to 62.0% by 2037, while public transport rises to 8.2% and cycling reaches 1.3%.
- Greenhouse gas emissions from transport reduce by 17.4%, with major reductions in local air pollutants (PM2.5 by 36.0% and NOx by 54.7%).
- Road safety improves significantly, with traffic fatalities and injuries falling by nearly 40% compared to 2023 levels.

Based on performance, feasibility and stakeholder consensus, AS1 was selected as the preferred scenario. It offers a balanced pathway that delivers measurable benefits while remaining achievable within local delivery capacity and funding realities. AS2 provides stronger ambition but implies higher investment needs and greater implementation risk.

Measures were grouped into integrated packages reflecting the main mobility policy areas:

- Walkability and Accessibility
- Access Regulation and Traffic Calming
- Road Network
- Parking System
- Urban Cycling
- Public Transport
- Mobility Management
- Electric Mobility
- Urban Freight Transport
- Public Awareness and Engagement

Based on the prioritized measures, three scenario packages were prepared for evaluation: Business-as-Usual (BAU), Alternative Scenario 1 (AS1 - Moderate Transition) and Alternative Scenario 2 (AS2 - Ambitious Transition). BAU reflects a continuation of current trends, while AS1 and AS2 represent increasing levels of policy intervention. AS1 consists of 20 integrated, cost-effective measures; AS2 comprises 30 more transformative measures with higher investment requirements.

The selected package logic and the preferred scenario are reflected in the Action Plan presented in Chapter 6.

5.1 Measure Packages

Measures were organized into policy-area packages so that actions reinforce each other (e.g., pedestrianization combined with traffic calming, or public transport upgrades paired with parking management). Packaging also supports phased delivery: quick wins and regulatory measures can start early, while larger infrastructure elements are prepared through design, budgeting and stakeholder coordination.



A Multi-Criteria Analysis (MCA) was applied to prioritize measures in a transparent and repeatable way. The criteria and weights were agreed through the technical process and stakeholder inputs: Cost (17%), Implementation time (13%), Financing feasibility (37%), Efficiency / impact (23%), and public acceptance (10%). The MCA results were cross-checked through stakeholder workshops and the public survey, and then used to assemble alternative packages for scenario testing.

Three scenario packages were defined for modelling and decision-making:

- **BAU (Business-as-Usual):** continuation of current trends and already-committed interventions, providing a reference against which policy choices can be compared.
- **AS1 (Preferred Scenario – balanced):** a moderate but integrated package (20 measures) combining high-performing and feasible actions across all policy areas.
- **AS2 (Ambitious Scenario):** a more transformative package (30 measures) that accelerates network transformation and decarbonization, requiring higher investment and stronger enforcement.

For each measure, a cost catalogue and MOMOS input assumptions (e.g., network lengths, coverage shares, charging infrastructure targets) were prepared to support realistic scenario testing and implementation programming. The resulting packages feed directly into the Action Plan structure in Chapter 6.

Measures were grouped into policy-area packages to ensure internal coherence and to support phased delivery. The packaging approach combined technical feasibility with stakeholder priorities and was refined through a Multi-Criteria Analysis (MCA). The MCA applied weighted criteria to compare measures consistently and to assemble scenario packages for testing.

- **MCA weighting:** Cost (17%), Implementation time (13%), Financing feasibility (37%), Efficiency/impact (23%), Public acceptance (10%).
- **Scenario packages were prepared for evaluation:** Business-as-Usual (BAU), Alternative Scenario 1 (AS1, 20 measures) and Alternative Scenario 2 (AS2, 30 measures).

The preferred scenario selection informed the Action Plan structure and the prioritized short-term and mid-long term implementation program.

5.2 Scenario Evaluation

Scenario evaluation used the MOMOS strategic model to quantify how each package performs against the SUMP objectives. The assessment covered environment (greenhouse gases and pollutant emissions) and road safety (fatalities and injuries), providing quantitative evidence to support selection of the preferred scenario.

The realization of measures is inherently contingent upon securing the requisite Financing from diverse sources or benefiting from incentives such as grants. Within this context, the evaluation of financing options plays a pivotal role, with the availability of resources garnering a high score. Recognizing the critical interplay between financial viability and project implementation, the assessment prioritizes situations where robust funding mechanisms or incentivized support exist.



Cost:

The financial dimension plays an important role in the overall scoring criteria within the project life cycle. As a result, it is expected to be between 10%-20% of the project cost to be evaluated.



Time:

Since the implementation period of the measure is directly related to the success of the application, it is expected to be between 10%-20% of the total.



Finance:

The issue of financing the measure is another important issue, therefore its weight in the total score is expected to be in the range of 30%-40%.



Efficiency:

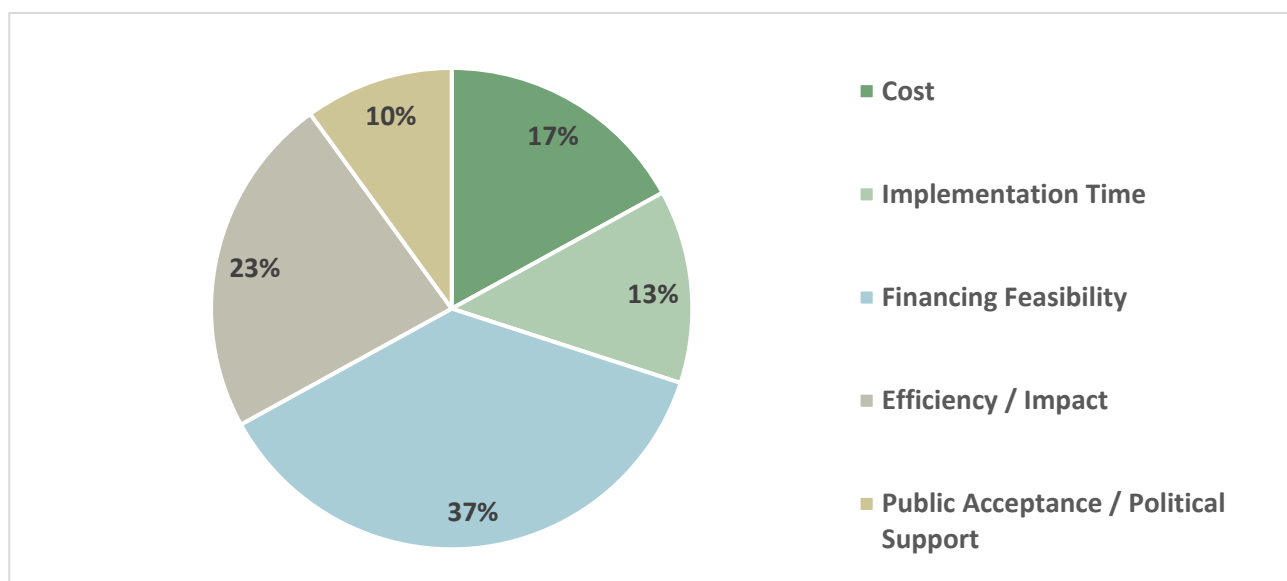
Another important issue is the determination of measures directly related to the Chisinau Sump vision goals and objectives. Efficiency weight in the total score is expected to be in the range of 20%-30%.



Public acceptance / political prioritization:

Public acceptance weight in the total score is expected to be in the range of 10%-20%.
political prioritization weight in the total score is expected to be in the range of 10%-20%.

According to the surveys conducted with the project steering committee members the weighted average values for the criteria listed above is given.



The MCA methodology followed a structured three-stage process:

- ✓ Definition of Evaluation Criteria and Weight Factors: Criteria were agreed with the PSC to reflect local priorities and strategic goals established in Task 1.3. Expert-defined ranges were provided to guide discussions and ensure consistency in scoring.
- ✓ Scoring of Measures: Each measure from the long list was scored through a collaborative assessment workshop, where PSC members applied the agreed criteria to assign relative performance values.
- ✓ Weighted Aggregation and Ranking: Scores were weighted according to the adopted factors and aggregated to produce a final prioritization index. This allowed the identification of high-priority measures suitable for integration into scenarios and simulation through the MOMOS model.

Results show that both policy scenarios deliver clear benefits compared to BAU. By the modelling horizon year (2037), the quantified outcomes include:

- **Greenhouse gas emissions:** BAU declines from 18,417 kton CO₂-eq (2023) to 16,020 kton (–13.0%). AS1 reaches 15,209 kton (–17.4%) and AS2 reaches 13,513 kton (–26.6%).
- **PM_{2.5} emissions:** 6,517 kg (2023) reduces to 4,284 kg under BAU. AS1 reaches 4,170 kg (–36.0%) and AS2 reaches 3,939 kg (–39.6%) by 2037.
- **NO_x emissions:** 187,032 kg (2023) reduces to 86,551 kg under BAU. AS1 reaches 84,804 kg (–54.7%) and AS2 reaches 68,018 kg (–63.6%) by 2037.
- **Road traffic deaths:** 32.0 deaths per 100,000 inhabitants (2023) reduce to 28.5 under BAU (–10.8%). AS1 reaches 19.4 (–39.5%) and AS2 reaches 19.3 (–39.8%).
- **Road traffic injuries:** 540.7 injuries per 100,000 inhabitants (2023) reduce significantly; both AS1 and AS2 reach around 314.1–308.8 per 100,000 (≈–42% compared to 2023).

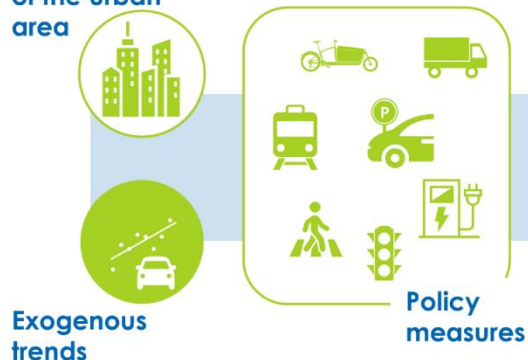
While AS2 performs best for emissions, AS1 demonstrates a strong improvement compared to BAU while remaining more feasible within Kochani’s delivery capacity and likely funding pathway. On this basis, AS1 was selected as the Preferred Scenario, with AS2 elements retained as a longer-term ambition set that can be activated if additional funding, institutional capacity or policy support becomes available.

Table 1. Measure Evaluation

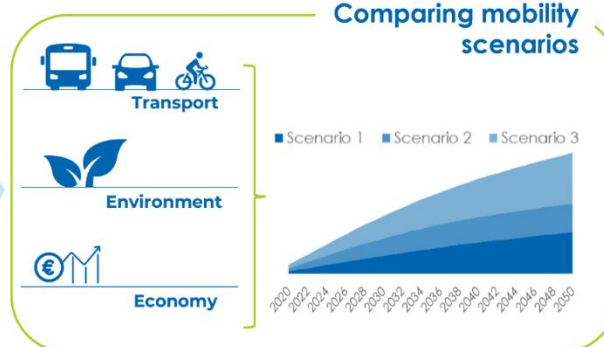
Measure Code	Measure List	ASI	Policy Area / Measure Package	AS1	AS2	Public Acceptance Survey Results	Technical Evaluation	Weighted Average
M1.2	Improve pedestrian crossings and ensure vehicle-free access to them	S	Walkability and Accessibility		+	3,00	4,50	4,20
M1.4	Upgrade walking paths near schools and key public facilities	S	Walkability and Accessibility		+	5,00	4,69	4,75
M1.5	Create pedestrian-only zones in central and recreational areas	A	Walkability and Accessibility	+	+	5,00	4,38	4,50
M2.1	Implement car-free or low-emission zones in strategic urban areas	A	Access Regulation and Traffic Calming		+	4,00	3,13	3,30
M2.2	Apply speed limits and traffic calming measures in pedestrian-prone zones	I	Access Regulation and Traffic Calming	+	+	5,00	4,44	4,55
M2.3	Define regulated routes for through-traffic to limit central area congestion	A	Access Regulation and Traffic Calming		+	3,00	1,94	2,15
M2.4	Implement school streets	A	Access Regulation and Traffic Calming	+	+	5,00	3,69	3,95
M2.5	Apply tactical urbanism	S	Access Regulation and Traffic Calming	+	+	4,00	3,75	3,80
M3.2	Redesign intersections for safer crossing and traffic flow	I	Road Network	+	+	3,00	3,00	3,00
M4.2	Adjust parking fees to reduce long-term car use in central areas	A	Parking Systems	+	+	4,00	4,25	4,20
M4.3	Enforce regulations against illegal parking, especially in pedestrian and cycling zones	A	Parking Systems		+	5,00	5,00	5,00
M4.4	Develop park-and-ride facilities near key transit hubs	S	Parking Systems	+	+	4,00	3,25	3,40
M5.1	Develop a connected and safe cycling network	S	Urban Cycling	+	+	5,00	3,63	3,90
M5.2	Launch public bike-sharing systems	S	Urban Cycling		+	5,00	3,13	3,50
M5.3	Install secure public bike parking solutions	I	Urban Cycling	+	+	4,00	3,25	3,40
M6.1	Increase the frequency of public transport services	S	Public Transport	+	+	5,00	2,88	3,30
M6.2	Extend route coverage to underserved neighborhoods	S	Public Transport		+	5,00	2,88	3,30
M6.3	Provide real-time information on arrival times and delays	I	Public Transport	+	+	5,00	3,00	3,40
M6.4	Allocate dedicated lanes for PT and upgrade the conditions of stops and stations	S	Public Transport	+	+	3,00	2,75	2,80

Measure Code	Measure List	ASI	Policy Area / Measure Package	AS1	AS2	Public Acceptance Survey Results	Technical Evaluation	Weighted Average
M6.5	Invest in low-emission or electric public transport vehicles	I	Public Transport		+	4,00	2,88	3,10
M7.1	Establish a local mobility coordination unit	I	Mobility Management	+	+	3,00	4,50	4,20
M7.2	Appoint mobility managers for institutions and companies	I	Mobility Management		+	3,00	3,75	3,60
M7.3	Promote flexible work and school schedules to reduce peak-hour demand	A	Mobility Management	+	+	5,00	4,75	4,80
M7.4	Collaborate with schools to develop safe routes for students	S	Mobility Management	+	+	5,00	4,75	4,80
M8.1	Install accessible public EV charging infrastructure	I	Electric Mobility	+	+	5,00	3,19	3,55
M8.3	Realize a local e-mobility strategy including sharing schemes for EVs	I	Electric Mobility		+	5,00	2,19	2,75
M8.4	Launch test drives for e-cargo bikes	S	Electric Mobility	+	+	4,00	3,50	3,60
M9.1	Schedule deliveries outside peak hours	A	Urban Freight Transport		+	4,00	3,56	3,65
M9.2	Develop urban logistics hubs or consolidation centres	S	Urban Freight Transport	+	+	5,00	3,38	3,70
M9.3	Support the use of cargo bikes for last-mile deliveries	S	Urban Freight Transport		+	5,00	3,50	3,80
M10.1	Launch safety campaigns targeting all road users	I	Public Awareness and Engagement	+	+	5,00	4,75	4,80
M10.3	Offer sustainable mobility education in schools and workplaces	S	Public Awareness and Engagement	+	+	5,00	4,19	4,35

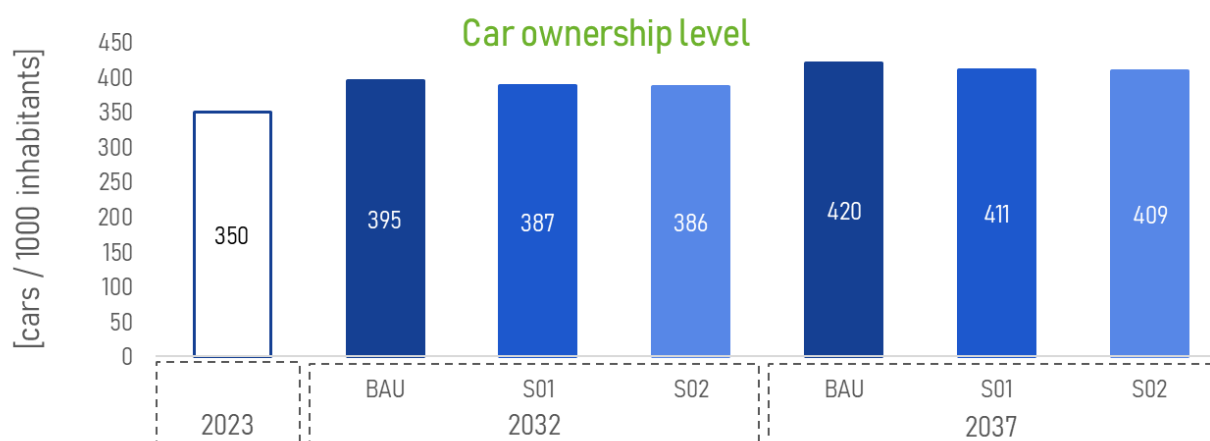
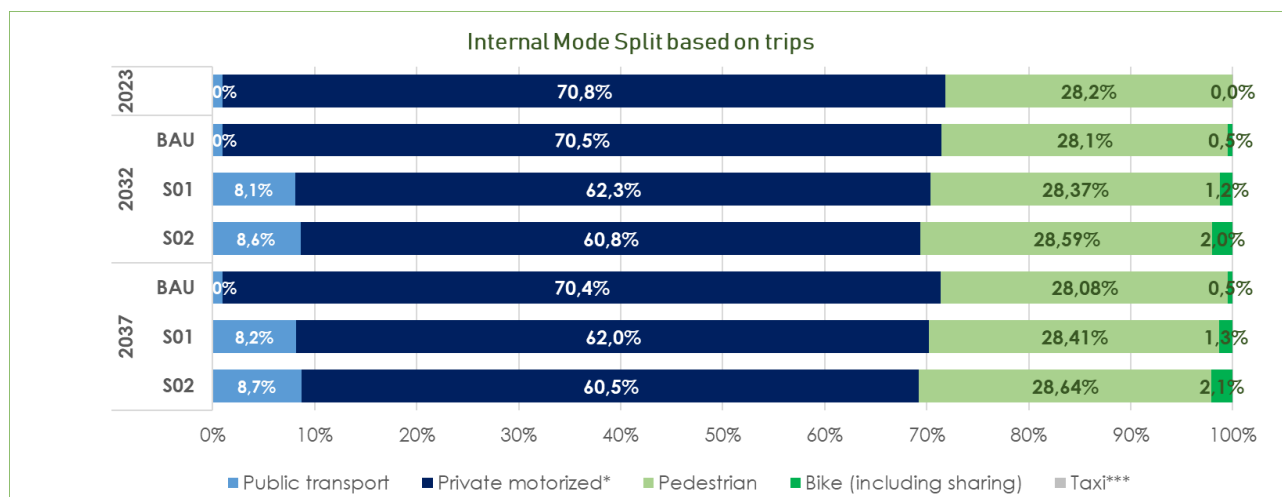
Characteristics of the urban area

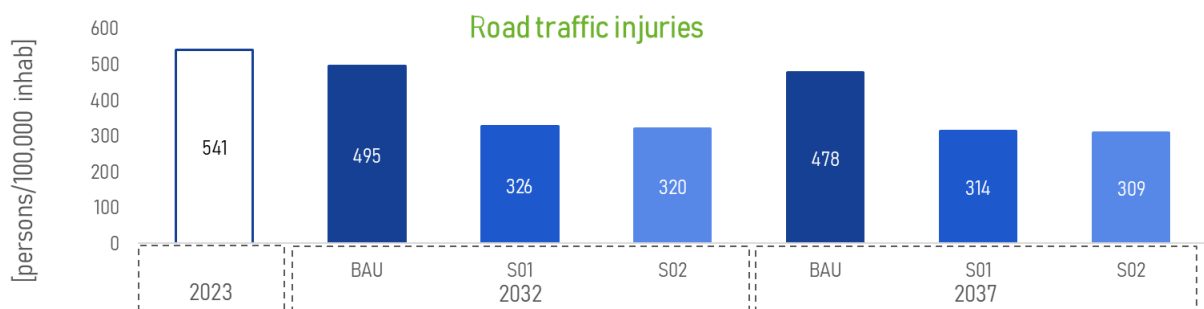
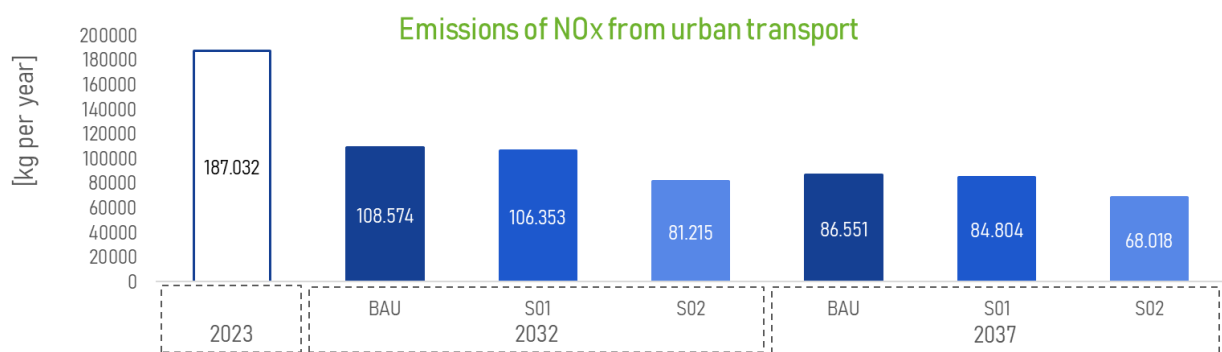
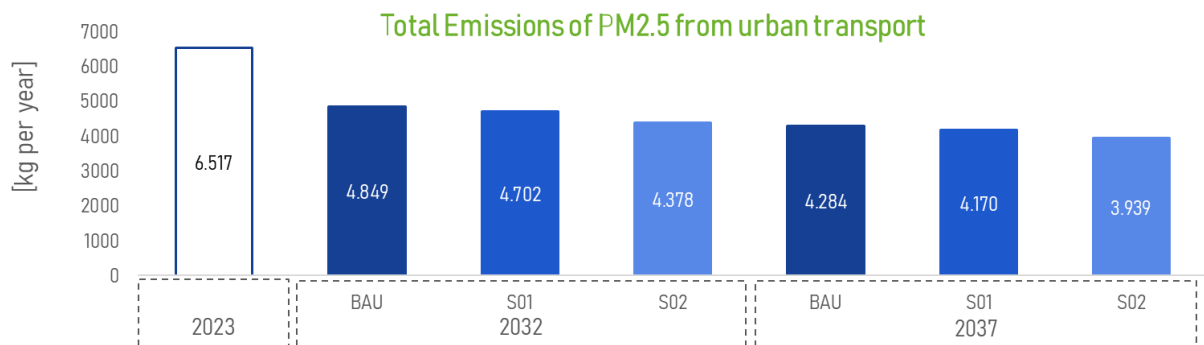
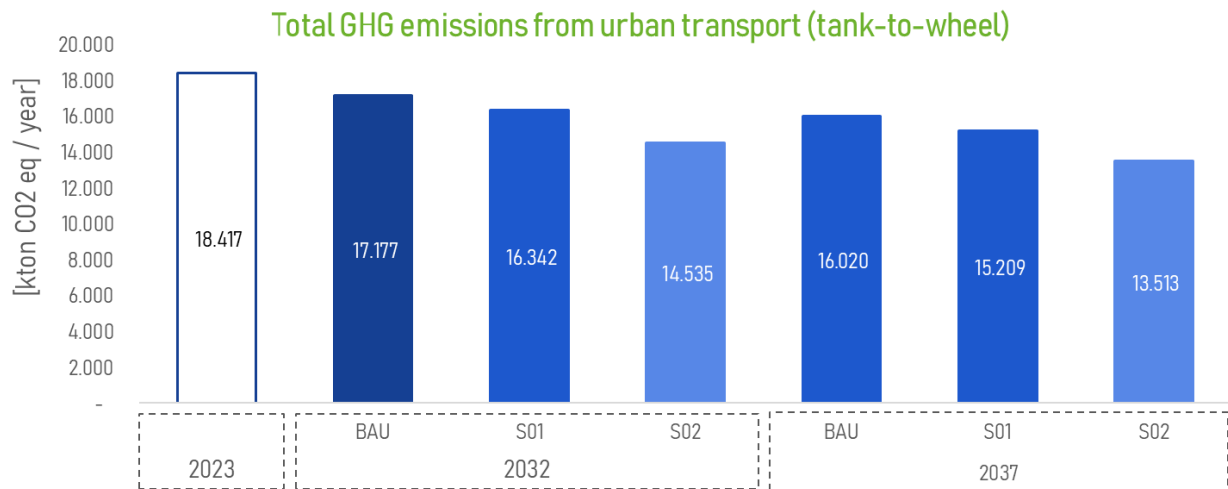


Comparing mobility scenarios

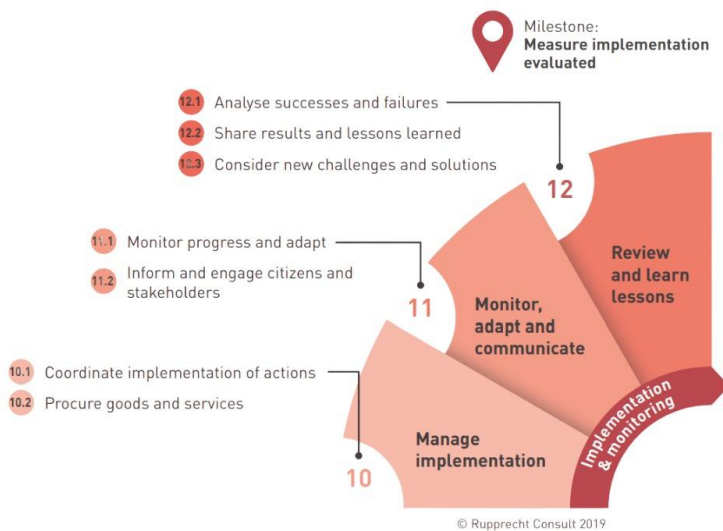


Beyond individual indicators, the scenario analysis demonstrates the systemic efficiency of an integrated policy package. AS1 achieves cross-cutting benefits across mobility efficiency, environmental performance and safety without relying on high-cost or institutionally complex interventions, confirming that coordinated, people-centred measures—rather than large-scale infrastructure expansion—are the most effective and feasible pathway for Kochani. Some MOMOS model results for comparison of the scenarios are given in below.





6 Action Plan



The Action Plan translates the preferred scenario into a structured set of measures and actions, grouped by policy area and aligned with the ASI approach. It provides the implementation logic for the SUMP: what will be delivered, by whom, and in what sequence, including early 'quick wins' (e.g., regulatory measures, pilots and maintenance programs) and medium-term investments (e.g., corridor upgrades, network continuity and fleet renewal).

Actions are designed to be mutually reinforcing across policy areas. For

example, pedestrianization and cycling improvements are supported by traffic calming and parking management; public transport upgrades are complemented by improved information, interchange quality and demand management; and freight and e-mobility actions are introduced with clear operational rules and pilot programs to build acceptance.

SUMP PROCESS HIERARCHICAL APPROACH

From General to Specific



6.1 Walkability and Accessibility

This policy area prioritizes a safe, comfortable and universally accessible walking environment as the foundation of urban mobility in Kochani. It responds to the identified challenges in the city center and around key destinations (schools, public services, markets and interchanges), where high pedestrian activity is

currently affected by vehicle dominance, discontinuous sidewalks, and limited accessibility for vulnerable users.

The plan combines pedestrianization with traffic calming to create a legible hierarchy of streets and public spaces. The center-focused interventions are paired with corridor-level upgrades (crossings, lighting, curb management and maintenance) to ensure that walking becomes the default option for short trips and the primary ‘first/last mile’ mode for public transport.

Key actions under this policy area include:

- **Raised pedestrian crossings around the central square to reduce speeds and improve visibility (M1.2.1).**
- **Signalized crossings with audio-visual aids near key public facilities (e.g., Sivi Dom and Osnoven Sud) to support vulnerable users and PRM (M1.2.2).**
- **Tactile paving and guiding surfaces on priority access routes (M1.2.3).**
- **Sidewalk widening and walking route upgrades on school and park access corridors, including shading and lighting improvements (M1.4.1-M1.4.2).**
- **Pedestrianization of the central square and car-free riverfront recreation areas, with regulated delivery hours where needed (M1.5.1-M1.5.3).**

This policy area strengthens walking as the backbone of everyday mobility and improves universal accessibility. Priority locations include the central square and high-footfall connections to Stari Park, schools and key public facilities. Measures address crossing safety, barrier-free design, and the quality of pedestrian public space.

6.2 Public Transport

Public transport actions aim to improve service quality, reliability and attractiveness so that buses become a credible alternative to private car use for daily trips. The plan addresses key issues identified in the baseline analysis, including limited-service coverage, inconsistent service frequencies, and the need for higher-quality stops, passenger information and operational management.

The measures are designed to deliver measurable gains in accessibility for residents without a car and to support wider modal shift objectives.

Key actions under this policy area include:

- **Reduce headways on central routes and optimize fleet allocation to improve coverage and reliability (M6.1.1-M6.1.2).**
- **Upgrade bus stops and waiting areas (shelter, lighting, accessibility) across the network (M6.4.1).**
- **Provide real-time passenger information starting with the central square stops and expanding citywide (M6.3.1-M6.3.2).**
- **Introduce dedicated lanes/priority treatments where feasible and improve interchange quality at key nodes (M6.4).**
- **Expanding coverage to underserved neighborhoods and developing an integrated transfer hub; and piloting electric buses on central routes (M6.2, M6.5).**

6.3 Urban Cycling

Urban cycling measures create a connected, safe and attractive cycling network that links residential neighborhoods with the city center, schools, key services and public transport nodes. The plan responds to the current lack of continuous infrastructure and the perception of safety risk, which limits cycling uptake despite Kochani’s relatively compact urban structure.

The program combines strategic network delivery (primary and secondary cycling corridors) with supporting measures such as bicycle parking, junction treatments, and integration with traffic calming zones. Cycling is treated as both a daily mobility mode and a complementary ‘last mile’ solution, including the potential use of cargo bikes for local logistics.

Key actions under this policy area include:

- **Develop a connected cycling network, including protected segments along the Bregalnica River corridor and shared low-speed streets around schools and residential areas (M5.1.1-M5.1.2).**
- **Improve continuity and safety through junction treatments and signage (M5.1.3).**
- **Install secure public bike parking at the central square and other trip generators (M5.3.1).**
- **A bike-sharing system is identified as a longer-term expansion option (M5.2) once a minimum network quality and operational capacity are in place.**

6.4 Access Regulation and Traffic Calming

Access regulation and traffic calming measures manage car access and speeds in sensitive parts of the city, improving safety and the quality of public space while supporting walking, cycling and public transport. These actions are particularly relevant in the central area and around schools and other vulnerable-user destinations, where conflicts between through-traffic and local movement are most acute.

The plan proposes a step-by-step approach, starting with pilots and clearly communicated rules (signage, enforcement and exemptions), and scaling up to a coherent regulated zone network. This approach allows the Municipality to build public acceptance and operational capacity while demonstrating benefits such as reduced noise, fewer conflicts and improved conditions for local commerce and social life.

Key actions under this policy area include:

- **Area-wide speed limit implementation and micro-infrastructure (raised tables, chicanes, curb extensions) to calm traffic in pedestrian-prone zones (M2.2.1-M2.2.2).**
- **School streets with temporary restrictions during peak school times, integrated with pedestrian priority zones and safe routes to schools (M2.4.1-M2.4.2).**
- **Tactical urbanism pilots (pop-up pedestrian areas, temporary street furniture) supported by monitoring and iterative refinement (M2.5.1-M2.5.2).**
- **Low-emission and low-traffic access regulation (M2.1-M2.3) is included as a scalable pathway to be introduced progressively, building on pilot results and enforcement capacity.**

6.5 Road Networks

The Road Networks policy area focuses on raising the functional quality, safety and resilience of Kochani’s street network. It responds to identified issues such as inconsistent maintenance, drainage and winter service gaps, limited accessibility in street design and high-risk junctions. The aim is to ensure that the existing network operates safely and efficiently for all users, while gradually transforming oversized or car-dominated corridors into balanced urban streets.

The program combines routine maintenance and asset management with targeted redesign of intersections and corridors. Safety audits, improved signage and markings, and better pedestrian crossing quality are used as near-term interventions, while corridor redesigns and complete-street upgrades are prepared as medium-term investments. Accessibility and vulnerable-user needs are integrated into all works through design standards and implementation checks.

Key actions under this policy area include:

- **Safety assessment of intersections and identification of priority redesign locations (M3.2.1).**

- **Improved pedestrian crossings and signal timing where needed to reduce risk and delay for pedestrians (M3.2.2).**
- **Geometric redesign and traffic-flow improvements, including added turning lanes or channelization where justified, alongside protected pedestrian phases (M3.2.3-M3.2.4).**

This policy area is also a key enabler for other packages: improved junction design and maintenance directly support reliable public transport operations, safer cycling routes, and more predictable freight movement.

6.6 Parking System

Parking management is used as a practical tool to reduce congestion, support modal shift and improve the quality of the public realm—especially in and around the city center. The baseline analysis highlighted the pressure of long-stay parking in central areas, inconsistent enforcement and limited availability of structured alternatives that would allow drivers to complete trips by walking or public transport.

The plan combines pricing, enforcement and supply management. Central-area pricing and regulation are designed to prioritize short-stay activity and turnover, while peripheral parking and Park & Ride options provide alternatives for longer stays. Clear signage, modern payment options and consistent enforcement are essential to ensure that parking management is perceived as fair and predictable.

Key actions under this policy area include:

- **Introduce differentiated parking tariffs in central and sensitive areas to discourage long-stay parking and improve turnover (M4.2.1).**
- **Manage peripheral and transition parking areas to reduce pressure in the core and support access to key destinations (M4.2.2).**
- **Strengthen parking control and enforcement, including physical protection of pedestrian and cycling infrastructure from illegal parking (M4.3.1-M4.3.2).**
- **Develop park-and-ride facilities near key gateways and connect them with improved public transport services (M4.4.1-M4.4.2).**

Parking management supports the preferred scenario by reducing long-term car dependence in central areas, improving compliance and using pricing and supply measures to manage demand.

- Adjust parking fees and time regulations in central zones to discourage long-stay parking and to improve turnover for local activity.
- Strengthen enforcement against illegal parking, especially in pedestrian and cycling priority areas and near crossings and junctions.
- Develop Park-and-Ride facilities near key public transport hubs to intercept car trips and enable easy transfer to transit.
- Provide peripheral parking options that encourage walking into the center, complemented by clear signage and pedestrian-friendly routes.

6.7 Mobility Management

Mobility management measures focus on influencing travel behavior through organizational change, incentives and targeted programs—often with relatively low capital cost. They complement infrastructure investments by reducing peak-hour demand, improving safety for children and encouraging routine use of sustainable modes.

The plan promotes cooperation with major employers, public institutions and schools to manage trip timing and route choice. It also supports the development of safe routes and mobility education for students, helping to reduce car-based school trips and to embed sustainable habits early.

Key actions under this policy area include:

- **Establish a local mobility coordination unit to manage SUMP delivery, data collection, stakeholder coordination and reporting (M7.1).**
- **Promote flexible work and school schedules to smooth peak demand and reduce congestion (M7.3.1-M7.3.2).**
- **Develop and implement safe routes to schools, linked with traffic calming, crossings and school streets (M7.4.1-M7.4.2).**

Mobility management measures complement infrastructure and service upgrades by influencing travel choices through information, coordination and targeted programs.

- Develop school and workplace mobility initiatives that promote walking, cycling and public transport, supported by safe route planning and awareness activities.
- Provide user-friendly journey planning and service information through digital channels, integrating public transport and active mobility options.
- Introduce behavior-change campaigns and incentive schemes (e.g., targeted promotions, pilot programs) to support the shift away from private car use.
- Coordinate mobility management with major events and seasonal peaks to reduce congestion and improve safety during high-demand periods.

6.8 Electric Mobility

Electric mobility actions support Kochani's transition toward low-emission transport by addressing infrastructure readiness, market uptake and local operating conditions. The plan recognizes that electrification is most effective when combined with modal shift and reduced vehicle kilometers, but that it still plays a key role in reducing remaining emissions—especially for fleets and essential trips.

The program starts with a practical charging network that is accessible to residents without private driveways and that supports municipal and commercial fleet electrification. It is paired with a local e-mobility strategy that clarifies responsibilities, standards and business models for shared services and future scaling.

Key actions under this policy area include:

- **Deploy public charging points in central and strategic locations, with accessibility standards and digital payment interoperability (M8.1.1).**
- **Expand charging infrastructure to peripheral gateways and park-and-ride sites to support longer-distance access and fleet electrification (M8.1.2).**
- **Pilot e-cargo bike programs for urban logistics and short local trips, linked to micro-hubs and delivery management (M8.4.1-M8.4.2).**
- **A broader local e-mobility strategy, shared EV schemes and fleet electrification (M8.3) can be developed as an expansion pathway, aligned with market uptake and funding opportunities.**

Electric mobility actions support cleaner transport by enabling the uptake of low-emission vehicles and aligning infrastructure rollout with realistic demand and investment capacity.

- Plan and deploy a basic public charging network in strategic locations (municipal facilities, activity hubs, and mobility nodes), with clear operational responsibilities.
- Promote the gradual electrification of municipal and service fleets where feasible, ensuring procurement and maintenance readiness.
- Enable electrification for key user groups such as taxis and urban logistics operators through supportive policies, parking/charging access and pilot projects.
- Coordinate electric mobility with public transport fleet renewal to maximize emissions reduction benefits across modes.

6.9 Urban Freight Transport

Urban freight measures improve the efficiency and sustainability of deliveries while reducing conflicts in the center and residential areas. The plan addresses issues such as peak-hour delivery impacts, curbside conflicts, and the need for clearer rules for freight access in regulated zones.

The approach combines operational regulation with new logistics solutions. Off-peak delivery windows and restricted access rules reduce conflicts at the most sensitive times and places, while consolidation and last-mile alternatives (cargo bikes) reduce the number and size of vehicles entering the center. These measures are coordinated with business stakeholders to ensure practicality and compliance.

Key actions under this policy area include:

- **Develop an urban logistics hub / consolidation center, with secondary micro-hubs at the edge of pedestrian-priority areas (M9.2.1-M9.2.2).**
- **Pilot e-cargo bike delivery operations from micro-hubs to reduce vehicle kilometers in the core (M9.3.1-M9.3.2).**
- **Define delivery windows and authorized access rules, supported by permitting and enforcement mechanisms where relevant (M9.1.1-M9.1.2).**
- **Introduce digital coordination tools for logistics operations as capacity grows (M9.4.1-M9.4.2).**

6.10 Public Awareness and Engagement

Public awareness and engagement activities ensure that infrastructure and regulatory changes are understood, accepted and used correctly. They are essential for improving road user behavior, building trust in the SUMP and sustaining political and community support over time.

The plan includes targeted safety campaigns for different user groups (drivers, pedestrians, cyclists, freight operators), complemented by ongoing sustainable travel promotion and practical information services. Communication is designed as a continuous program rather than one-off events, using schools, community organizations, media and digital channels.

Key actions under this policy area include:

- **Citywide safety campaigns for pedestrians, cyclists and drivers, linked to enforcement and school-focused actions (M10.1.1).**
- **Sustainable mobility education programs in schools and workplaces to embed long-term behavior change (M10.3.1).**
- **Targeted communications accompanying pilots (tactical urbanism, school streets, parking changes) to ensure transparency and responsiveness.**

Engagement activities are integrated with monitoring and annual reporting so that residents and stakeholders can see progress, understand trade-offs and contribute to adjustments during implementation.

Public awareness and engagement actions ensure that safety and behavior change accompany physical investments, and that stakeholders remain informed and involved as implementation progresses.

- Launch citywide road safety campaigns targeting all road users, reinforcing safe speeds, crossing behavior and mutual awareness between modes.
- Deliver targeted campaigns for vulnerable groups (children, older people and persons with disabilities) and for high-risk behaviors and locations.
- Run seasonal and thematic campaigns (e.g., back-to-school, winter safety) aligned with the implementation timetable and visible improvements on the ground.
- Maintain ongoing communication and feedback channels to build ownership, track concerns and support adaptive implementation.

[illegible]

Measure Package	Actions	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Year - 6	Year - 7	Year - 8	Year - 9	Year - 10
M6.2	M6.2.1										
	M6.2.2										
M6.3	M6.3.1										
	M6.3.2										
M6.4	M6.4.1										
M6.5	M6.5.1										
M7.3	M7.3.1										
	M7.3.2										
M7.4	M7.4.1										
	M7.4.2										
M8.1	M8.1.1										
	M8.1.2										
M8.3	M8.3.1										
	M8.3.2										
M8.4	M8.4.1										
	M8.4.2										
M9.1	M9.1.1										
	M9.1.2										
M9.2	M9.2.1										
	M9.2.2										
M9.3	M9.3.1										
	M9.3.2										
M9.4	M9.4.1										
	M9.4.2										
M10.1	M10.1.1										
M10.3	M10.3.1										

7.1 Short Term Implementation Program

The short-term program (approximately 0–5 years) prioritizes measures that are feasible to deliver quickly, visibly improve daily mobility conditions and create enabling conditions for larger investments later in the plan period. The focus is on safety, accessibility and service quality improvements, coupled with the preparatory work needed to de-risk mid/long-term projects.

Short-term delivery combines low-to-medium cost interventions with ‘enabling’ actions such as feasibility studies, detailed designs, regulatory updates, procurement preparation and improvements in baseline data systems. This ensures that when capital-intensive projects are ready to start, the required technical documentation, permits and financing pathways are already in place.

- Road safety quick wins at high-risk locations, including safer pedestrian crossings, lighting and visibility measures, and targeted intersection treatments.
- Walkability and accessibility upgrades to remove barriers, improve footway continuity and strengthen safe routes to key destinations (schools, services and central public spaces).
- Public transport service enhancements that can be implemented rapidly, such as bus stop upgrades, passenger information improvements and operational refinements to strengthen reliability.
- Early cycling network steps through pilot corridors, completion of missing links where feasible and safer junction treatments, building towards a coherent network over time.
- First-phase parking management actions (clear rules, improved enforcement, demand management pilots and better organization of on-street parking in sensitive areas).
- Mobility management and public awareness programs (e.g., school travel initiatives and behavior change campaigns) that increase acceptance of sustainable modes.
- Project pipeline preparation: feasibility and preliminary design for mid/long-term investments, including refined cost estimates and packaging for funding applications.

The short-term plan should be reviewed annually through the monitoring cycle. Adjustments should prioritize actions that demonstrate measurable progress toward the preferred scenario and that strengthen institutional readiness for scaled delivery in the second half of the program.

7.2 Mid-Long Term Implementation Program

The mid and long-term program (approximately 6–10 years) scales up the transformation by delivering measures that require larger capital budgets, multi-year procurement and stable financing arrangements. This horizon consolidates the preferred scenario by making walking, cycling and public transport structurally more attractive than private car use for a wider range of trips.

Mid/long-term delivery builds on lessons from early pilots and short-term measures, converting successful interventions into permanent upgrades and completing the network-level improvements needed for sustained mode shift.

- Completion and quality uplift of walking and cycling networks, moving from fragmented interventions to connected, legible and safe systems supported by consistent design standards.
- Public transport modernization, including investments to improve comfort, accessibility and reliability, and where applicable, fleet renewal aligned with operational funding capacity.
- Expansion of traffic calming and access management in sensitive urban areas, supported by permanent street redesign where short-term measures demonstrate positive results.
- Mature parking system reforms, progressing from organization and enforcement toward comprehensive demand management (zoning, pricing tools where appropriate and reinvestment of revenues into mobility improvements).
- Scalable electric mobility steps, expanding beyond pilots through coordinated infrastructure planning and alignment with national energy and climate programs.
- Urban freight measures that reduce conflicts in pedestrian-priority areas and improve logistics efficiency through routing, curbside management and delivery management practices.

Throughout this horizon, integration with other municipal and national strategies is essential so that mobility investments support broader objectives for public space quality, economic development, environmental performance and social inclusion.

7.3 Financial Planning



Financial planning aligns the Action Plan with realistic funding opportunities and municipal capacity. A phased budgeting approach links near-term measures to available municipal and national resources, while preparing a pipeline of well-defined projects suitable for external co-financing in later phases.

The financing approach supports implementation through prioritization and packaging of measures into deliverable project groups, progressive refinement of cost estimates through feasibility and design work, and a co-financing logic that blends sources for larger investments.

Municipal budgets constitute the core financing source, particularly for short-term, low-cost, and high-impact measures such as traffic calming, pedestrian and cycling improvements, accessibility upgrades, signage, road markings, and awareness-raising activities. Integrating SUMP priorities into annual and multi-

annual municipal budget planning is essential to ensure continuity between strategy and implementation, as well as to provide co-financing for externally supported projects.

National funding programmes related to transport, environment, climate action, and regional development represent an important complementary source of finance, especially for larger-scale or technically complex interventions. Alignment with national investment priorities and coordination with central government institutions are therefore critical for accessing these resources.

European and international funding instruments play a decisive role in enabling capital-intensive SUMP measures. In particular, the Instrument for Pre-Accession Assistance (IPA III) provides significant opportunities for financing sustainable transport infrastructure, public transport improvements, active mobility networks, intelligent transport systems, and institutional capacity building. Additional support from international financial institutions such as the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), and the World Bank may be mobilised for mature projects with clear climate, environmental, and social benefits.

Parking management is recognised as both a mobility management tool and a sustainable local revenue source. Revenues generated through controlled parking systems, permits, and enforcement can be reinvested in walking, cycling, public transport, and public space improvements, strengthening the financial sustainability and public acceptability of SUMP measures.

Public–Private Partnerships (PPPs) may complement public funding for selected actions such as parking infrastructure and management, electric mobility charging, shared mobility services, and smart mobility solutions, provided that public interests, affordability, and accessibility objectives are safeguarded.

Overall, the proposed financial framework enables a phased, credible, and financially sustainable transition from planning to implementation, consistent with European SUMP guidelines and tailored to the realities of North Macedonian municipalities.

This financing approach aligns with ELTIS and European Commission SUMP guidance in the following ways:

Integration of planning and budgeting

- Clear linkage between SUMP measures, Action Cards, cost estimates, and municipal budget cycles.

Diversification of funding sources

- Combination of local, national, European, international, and private financing instruments.

Phased implementation

- Short-term low-cost measures, medium-term infrastructure investments, and long-term strategic projects.

Use of demand-management revenues

- Parking management revenues reinvested into sustainable mobility (polluter-pays / user-benefits principle).

Financial realism and prioritisation

- Measures prioritised based on affordability, impact, and implementation capacity.

Monitoring and transparency

- Financial performance monitored alongside physical implementation progress.

This structure supports bankability, improves access to external funding, and strengthens institutional credibility.

8 Monitoring and Evaluation

This chapter sets out how Kochani will track delivery of the SUMP, measure whether the preferred scenario is being achieved, and ensure that the plan remains a living document over the full implementation horizon. Monitoring provides regular, objective evidence on what has been delivered and what has changed in the mobility system, while evaluation assesses whether the observed changes are sufficient to meet the long-term vision and targets.

The Monitoring and Evaluation (M&E) approach combines an annual monitoring cycle linked to municipal planning and budgeting, a structured set of Key Performance Indicators (KPIs) aligned with the SUMP objectives, and two formal evaluation milestones at mid-term and at the end of the plan period. The approach is designed to support transparency, accountability and timely corrective action.



Figure 2. SUMP Monitoring Structure

8.1 Monitoring Framework and Mechanisms

A dedicated coordination and data-management function is required to run the M&E system effectively. The Municipality leads the process through the SUMP Coordinator and a small SUMP Coordination / Monitoring Unit responsible for consolidating data, maintaining indicator definitions, calculating KPIs and preparing monitoring outputs. The Project Steering Committee (PSC) provides oversight, validates annual findings and supports cross-institution coordination to resolve delivery bottlenecks.

To ensure consistency over time, all participating institutions use a common monitoring calendar, agreed data formats and clear responsibilities. Data collection draws on routine administrative sources (e.g., public

transport operations, road safety statistics, infrastructure delivery records) and is complemented by targeted surveys and periodic measurements when gaps are identified.

8.1.1 Annual Monitoring Cycle

The yearly monitoring cycle follows five phases across the calendar year. This structure ensures that progress is reviewed continuously, and that findings are integrated into the next year's work program and budget decisions.

- **Phase 1 – Data collection (Q1):** institutions compile previous-year data on infrastructure delivery, public transport performance, traffic and parking conditions, road safety, emissions/air quality and citizen feedback.
- **Phase 2 – Technical analysis (Q2):** the SUMP technical team analyses trends, compares results against KPIs and targets, and identifies causes of delays or underperformance.
- **Phase 3 – Annual Monitoring Report (Q3):** results are consolidated into a single report summarizing KPI values, delivery status of actions (e.g., completed / on track / delayed / not started) and priority issues.
- **Phase 4 – Stakeholder and public review (Q3–Q4):** findings are shared with the PSC and key stakeholder groups; consultations help validate results, capture user experience and identify emerging needs.
- **Phase 5 – Adjustment and next-year planning (Q4):** the Municipality updates the implementation program, refines priorities, reallocates resources where needed and integrates new opportunities (e.g., funding calls, regulatory changes).

This cycle allows Kochani to detect issues early, build public trust through transparent reporting, and keep the SUMP aligned with real mobility trends rather than waiting for a single end-of-plan review.

Table 2. Annual Monitoring Cycle

Phase	Time Period	What Happens?	Purpose	Key Actors
1. Data Collection	1 st Quarter	All institutions collect detailed data from the previous year: • New cycling or walking facilities • Road improvements • Bus frequency changes • Safety incidents • Traffic counts • Air quality levels • Citizen feedback, etc.	To obtain a complete and accurate picture of mobility developments in the previous 12 months.	• Municipal technical units • PT operators • Traffic Police • environmental agencies • ITS systems
2. Technical Analysis	2 nd Quarter	Experts analyze the collected data • Compare results with KPIs • Check if actions are on schedule • Identify early warning signs for delays underperformance, or resource gaps.	To understand • What improved? • What did not progress as intended? • Why?	SUMP Technical Team
3. Annual Monitoring Report	3 rd Quarter	All findings are consolidated into a single report summarizing the year's progress. The status of every action card is presented clearly using a color-coded system (Completed / On Track / Delayed / Not Started).	To produce an official, transparent, public record of SUMP progress.	SUMP Coordination Unit

Phase	Time Period	What Happens?	Purpose	Key Actors
4. Stakeholder & Public Review	3 rd & 4 th Quarter	- Results are shared with citizens, NGOs, schools, businesses, public transport users, and neighborhood communities. - Public workshops, online consultations, and targeted meetings are held.	- To gather feedback - Identify local needs - Increase community support and ownership.	- Municipality - Project Steering Committee
5. Adjustment & Next-Year Planning	4 th Quarter	Based on the monitoring results and public feedback, - The municipality updates the action plan for the next year - Adjusts priorities - Reallocates budget if necessary - Integrates new measures	To ensure that the SUMP remains relevant, realistic, and aligned with actual mobility needs.	Municipal leadership & technical departments

8.2 Key Performance Indicators (KPIs)

KPIs translate the SUMP vision and strategic objectives into measurable outcomes. They provide an objective basis for answering whether Kochani is moving toward a safer, cleaner and more accessible mobility system, and they support evidence-based decisions on which measures to scale up, redesign or postpone.

Following SUMP good practice, the KPI framework distinguishes between two complementary layers: long-term achievement indicators that describe system-level outcomes, and short-term outcome (output) indicators that track what has been delivered on the ground each year.

Table 3. Policy Area – KPIs (Key Performance Indicators)

Area	What Is Delivered?	KPIs
Walkability and Accessibility	- Sidewalk repairs - Safer crossings	- Number of upgraded pedestrian crossings - Increase in pedestrian zone area (m²) - Walkability score at the neighborhood level - Total length of pedestrian path network
Access Regulation and Traffic Calming	- Traffic Calming Measures - Upgrading street designs	- Traffic calming zones (m²) - Number of streets with reduced speed limits - Number of streets upgraded with safety/traffic calming measures
Road Network	- Maintenance, Resurfacing and Drainage designs - Intersection upgrade - Smart Signaling/Monitoring System	- Km of road surface improved - Number of intersections to be upgraded with redesign - Number of intersections to be implemented in smart signaling system
Parking Systems	- Regulated zones - P+R facilities	- Share of regulated parking in city center (%) - Number of parking lots with park & ride facility - Number of parking with occupancy tracks
Urban Cycling	- New bike lanes - Improved connections	- Length of cycling network constructed (km) <i>(with the detail recreational green routes)</i> - Number of bicycle users

Area	What Is Delivered?	KPIs
	Developed bike infrastructure	- Modal share of bike trips (%) - Bike parking capacity - Number of shared bike station <i>(if stationary option implemented)</i>
Public Transport	- New bus line routes and current routes upgrade - Modernized stops - Passenger informative system	- Number of new/renovated bus stops - Population that can reach the city center within 30 minutes by public transportation - Population ratio with public transportation access within a 500m radius - Yearly Passenger-km - Modal share of public transport use (%) - Number of zero emission vehicle in the fleet
Mobility Management	- Safety - PT usage	- Number of accidents - Number of bus users
Electric Mobility	- Charging stations - E-bikes - E-vehicles	Number of public EV chargers installed
Urban Freight Transport	- Consolidation centers - Delivery policies	Off-peak delivery compliance (%)
Public Awareness and Engagement	- Workshops - Campaigns	- Participatory numbers - Performance evaluation report

9 Conclusion

The preparation of the Sustainable Urban Mobility Plan (SUMP) for Kochani represents a comprehensive and structured effort to guide the city toward a more sustainable, safe, and inclusive mobility future. Building on the analytical foundation established in the earlier tasks—ranging from the assessment of current mobility conditions to the development of a shared vision, scenario evaluation, and measure selection—the plan brings together all components into a coherent and actionable framework. Through this process, Kochani has gained a clear understanding of the challenges and opportunities shaping its mobility landscape, as well as a long-term strategy supported by measurable objectives and a robust set of interventions.

The Action Plan provides a detailed roadmap for implementation, offering practical steps that address walking and accessibility, cycling infrastructure, public transport improvements, road network management, and public engagement. These measures, grounded in local context and informed by spatial analysis, contribute directly to enhancing mobility efficiency, safety, environmental performance, and the overall quality of urban life. The 10-year Implementation Plan further ensures that actions are prioritized, phased realistically, and matched with institutional responsibilities and potential funding sources.

The Monitoring and Evaluation Plan equips Kochani with a structured mechanism to track progress, ensure accountability, and maintain alignment with the city's long-term goals. This iterative framework reinforces the SUMP as a living document—one that evolves through evidence, stakeholder engagement, and changing mobility needs. By integrating continuous monitoring, mid-term and final evaluations, and adaptive feedback loops, the plan supports a responsive and resilient mobility transition.

Ultimately, the SUMP positions Kochani to advance toward a more sustainable and future-ready mobility system. It provides the municipality with not only a technical plan but also a strategic governance tool that strengthens institutional capacity, builds public trust, and aligns with European mobility and climate objectives. As implementation progresses, the SUMP will serve as a guiding framework for improving accessibility, reducing emissions, enhancing public spaces, and ensuring a high quality of life for current and future generations.

10 Annex-Action Cards

Walkability and Accessibility

M1.2: Improve pedestrian crossings and ensure vehicle-free access to them

M1.2.1: Raised pedestrian crossings at square



Cost

150.000 €



Period

Short



Priority

High

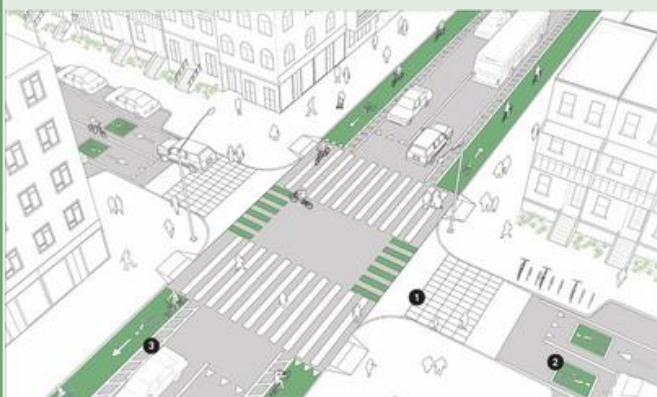


Description

The Square, as the central gathering space in Kochani, is surrounded by busy streets where vehicles and pedestrians interact daily. Installing raised pedestrian crossings here will force drivers to reduce speed, increasing visibility and safety for walkers. These crossings will also eliminate height differences between sidewalks and the road, creating barrier-free movement for wheelchair users and parents with strollers. Families, elderly citizens, and children heading to the market or cultural facilities will benefit from safer, more comfortable walking routes. In addition, raised crossings create a psychological signal for drivers that they are entering a pedestrian-priority area. This intervention not only improves traffic safety but also makes the Square a more inclusive and attractive public space, strengthening Kochani's central identity as a people-oriented city.



Image



Walkability and Accessibility

M1.2: Improve pedestrian crossings and ensure vehicle-free access to them

M1.2.2: Signalized crossings with audio-visual aids near Sivi Dom & Osnoven Sud



Cost

150.000 €



Period

Short



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Shift



Efficiency

High



Description

Near Sivi Dom (cultural center) and Osnoven Sud (courthouse), pedestrian flows are heavy throughout the day. Introducing signalized crossings with audio-visual aids will ensure that residents of all abilities can safely navigate these intersections. Audio signals, countdown timers, and improved lighting will give clear cues for pedestrians, while warning drivers of the need to stop. These features are particularly important for children, elderly users, and visually impaired citizens, who currently face difficulty in crossing busy junctions. By modernizing these crossings, Kochani will reduce red-light violations, improve accessibility, and create an inclusive environment around its most important civic destinations. Over time, safer pedestrian crossings in these institutional areas will increase walking rates and enhance the perception of safety in the city.



Image



Walkability and Accessibility

M1.2: Improve pedestrian crossings and ensure vehicle-free access to them

M1.2.3: Tactile paving & guiding surfaces at Square and Stari Park access routes



Cost

400.000 €



Period

Short



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Shift



Efficiency

High

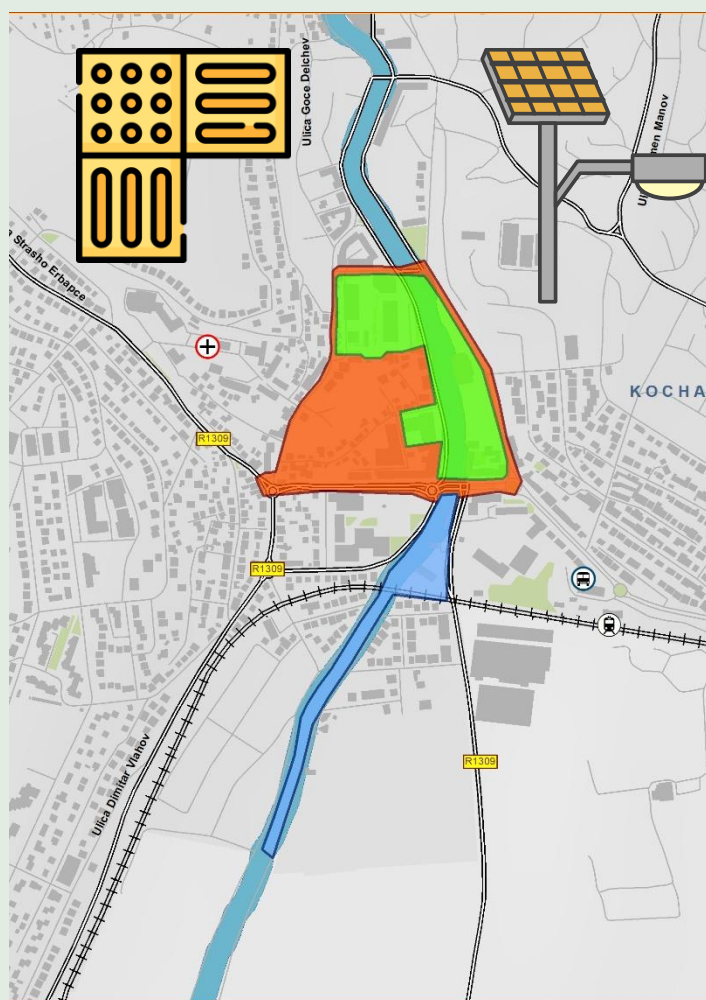
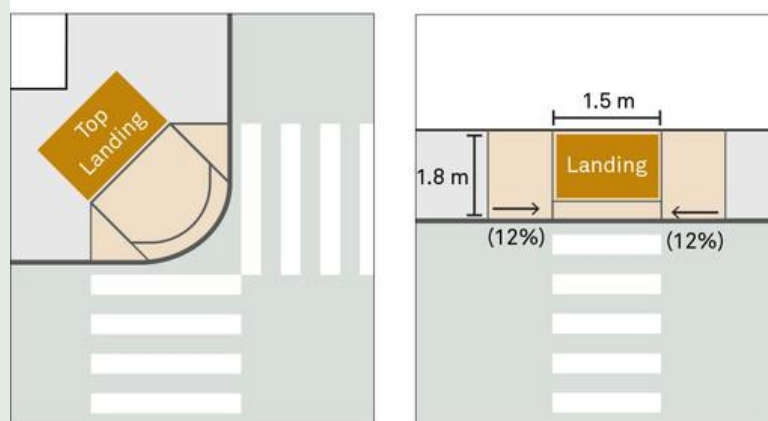
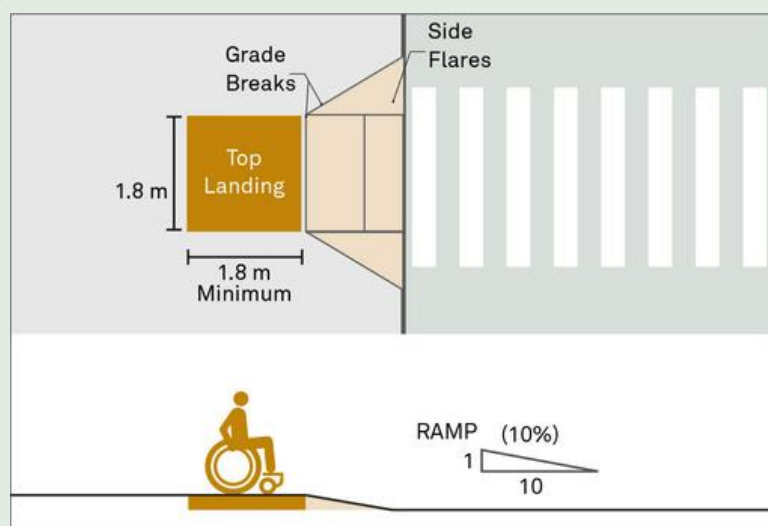


Description

Introducing tactile paving and guiding surfaces at the Square and along key access routes to Stari Park will ensure that visually impaired residents and visitors can move safely and independently. These features will provide clear guidance from sidewalks to crossings, bus stops, and park entrances, reducing risks of stepping into traffic unexpectedly. When combined with audible signals and proper surface alignment, the system creates a continuous accessible network across the central city. Installing tactile paths also benefits elderly pedestrians and families with children, who can use the clearer guidance for safer movement. Maintenance and cleaning protocols will be critical to guarantee durability and reliability over time. By implementing these universal design measures, Kochani reinforces its commitment to inclusivity, ensuring that public spaces are safe, welcoming, and accessible for all.



Image



Walkability and Accessibility

M1.4: Upgrade walking paths near schools and key public facilities

M1.4.1: Sidewalk widening on routes to Stari Park and nearby schools



Cost

400.000 €



Period

Medium



Priority

Medium



Description

The routes leading to Stari Park and nearby schools are heavily used by children, families, and elderly citizens, yet sidewalks are often too narrow or obstructed. By widening sidewalks and adding protective edging, Kochani can provide more space and safety for pedestrians, ensuring children can walk to school without being forced into the roadway. Wider sidewalks also allow people with wheelchairs or strollers to move comfortably. Physical barriers separating pedestrians from vehicles will reduce conflict and risk. Street furniture, shading, and lighting upgrades will further improve comfort. These improvements will transform school routes into safe corridors that parents trust, promoting walking as a primary mode of access to education and recreation. In the long run, safer school routes will support social inclusion and healthier mobility habits for the younger generation.



Image

Before



Existing

Before



Existing

After



Redesign

After

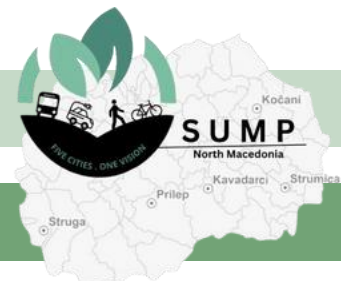


Redesign

Walkability and Accessibility

M1.4: Upgrade walking paths near schools and key public facilities

M1.4.2: Shaded and well-lit walking loops around Sivi Dom and Osnoven Sud



Cost

475.000 €



Period

Short



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Shift/Improve



Efficiency

Medium



Description

The areas surrounding Sivi Dom (cultural center) and Osnoven Sud (courthouse) generate continuous pedestrian flows during both day and evening hours. Currently, insufficient shading in summer and poor lighting at night limit safe and comfortable use. Establishing shaded walking loops with trees, pergolas, and covered seating will create comfort during hot periods, while modern lighting systems will eliminate dark zones and improve night safety. These interventions will extend the active use of public spaces beyond working hours, supporting evening cultural and civic activities. Well-designed walkways will also make the area more inclusive for elderly people and women, who often avoid poorly lit routes. The investment strengthens public trust in urban spaces and positions Kochani as a city committed to safe, human-centered design.



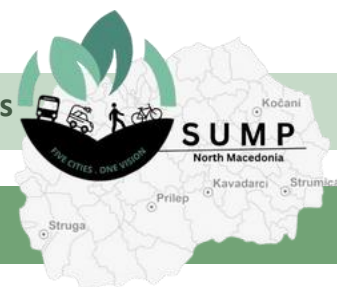
Image



Walkability and Accessibility

M1.4: Upgrade walking paths near schools and key public facilities

M1.4.3: "School-street" style time-based traffic restriction near park-school links



Cost

750.000 €



Period

Short



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Improve/Shift



Efficiency

High



Description

In the streets that connect Stari Park with nearby schools, implementing time-based traffic restrictions during school start and finish hours will transform the area into a safer environment for children. This "school-street" model limits car access at critical times while maintaining local resident access. Bollards, temporary barriers, and clear signage will help enforce the restrictions, while police or community wardens can provide additional support at peak periods. Such measures reduce road safety risks, noise, and pollution around schools, while encouraging walking and cycling. Parents will gain confidence that their children can move independently and safely. In the longer term, these restrictions help to rebalance street space in favor of people rather than cars, creating a more child-friendly, livable neighborhood environment in Kochani.



Image

Safe

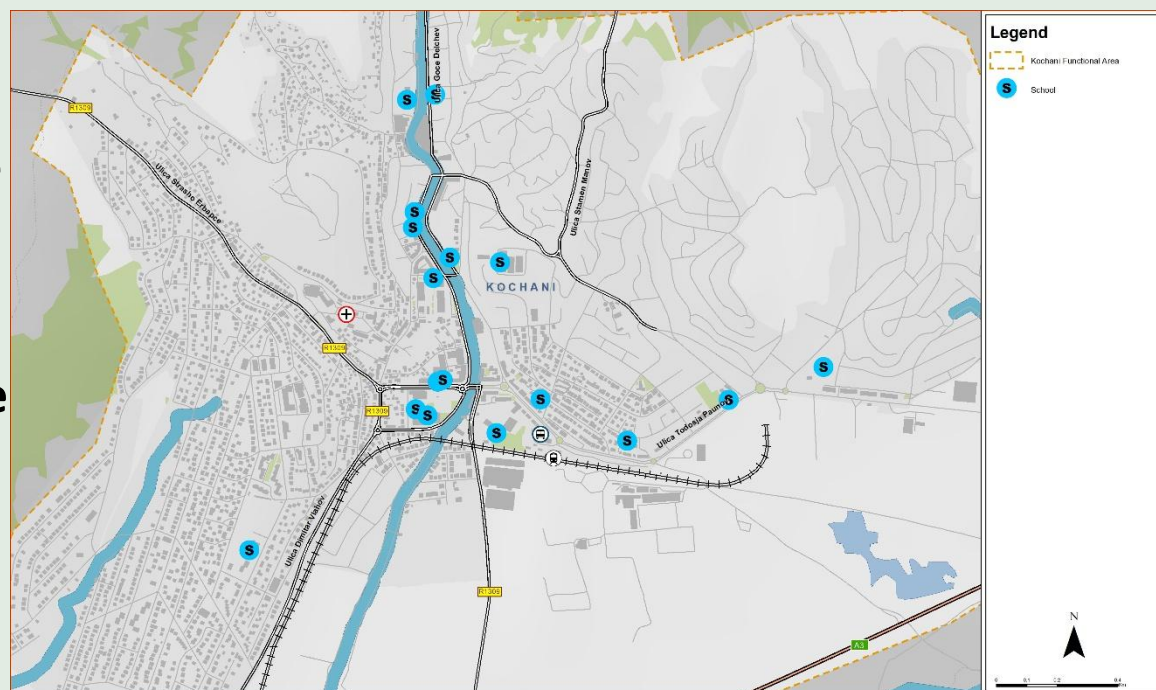
Inclusive

Adaptive

Accessible

Child-friendly

Re-design



Walkability and Accessibility

M1.5: Create pedestrian only zones in central and recreational areas

M1.5.2: Car-free riverfront in Recreation areas



Cost

220.000 €



Period

Medium



Priority

High



Description

The Recreation areas along the Bregalnica River are among Kochani's most valued leisure spaces, yet vehicle access currently reduces their safety and attractiveness. Establishing a car-free riverfront will give priority to pedestrians, joggers, and cyclists, creating a continuous green corridor that promotes active lifestyles. Shaded seating, lighting, and accessible pathways will make the riverbank usable throughout the day and evening. Restricting vehicle access to only emergency and maintenance services will preserve safety and protect the natural environment. This car-free transformation will encourage families and young people to spend more time outdoors, contributing to public health and social interaction. In the long run, the riverfront will become a landmark public space, showcasing Kochani's commitment to sustainable mobility and ecological resilience.



Image



Walkability and Accessibility

M1.5: Create pedestrian only zones in central and recreational areas

M1.5.3: Regulated delivery hours within pedestrianized cores



Cost

30.000 €



Period

Medium



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Avoid



Efficiency

High



Description

Even in a pedestrianized Square, commercial deliveries remain necessary to support local businesses. By introducing regulated delivery hours, Kochani can balance the needs of commerce with pedestrian safety. Deliveries will be permitted during early mornings and late evenings, avoiding the busiest pedestrian periods of the day. Controlled access points, signage, and smart monitoring systems will enforce the rules effectively. This approach reduces conflicts between delivery vehicles and pedestrians, minimizes noise pollution, and ensures that the Square remains a pleasant, safe environment for social and cultural activities. Local businesses will benefit from predictable logistics schedules, while the public enjoys uninterrupted pedestrian use during the day. Over time, regulated delivery hours will enhance both safety and commercial vitality in Kochani's central area.



Image



EARLY MORNING

REGULATED DELIVERY HOURS



LATE EVENING



REDUCE NOISE

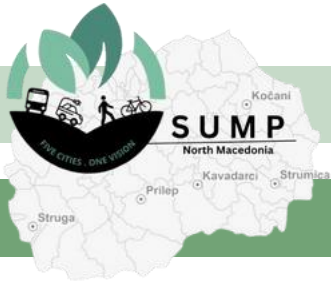


SAFETY

Access Regulation and Traffic Calming

M2.1: Implement car-free or low-emission zones

M2.1.1: Pedestrianization of the Historic Centre



Cost	125.000 €	Responsible Authority	Municipality of Kochani
Period	Medium	ASI Status	Avoid
Priority	High	Efficiency	High

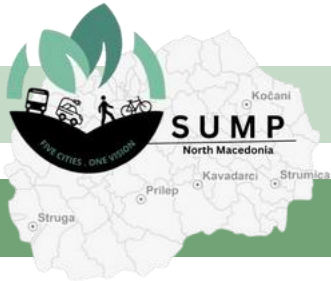
Description

Fully pedestrian streets are introduced in Kochani’s historic city centre, including streets around the Municipality of Kochani, central commercial areas, and extending southwards toward the stadium and adjacent recreational and green areas. Pedestrian-prioritized streets along the river corridor create a continuous north–south axis linking civic, commercial, and leisure functions. Access is permitted only for authorized users, including residents, emergency services, and time-restricted deliveries. LTZ permits and automated entry/exit cameras ensure compliance, while parking is regulated through short-stay zones. Main regional roads (R1309) and industrial/distributor streets remain accessible to maintain regional connectivity.

Image



Access Regulation and Traffic Calming



M2.1: Implement car-free or low-emission zones

M2.1.2: Establish Low-Emission Streets

Cost	40.000 €	Responsible Authority	Municipality of Kochani
Period	Medium	ASI Status	Avoid
Priority	Medium	Efficiency	Medium

Description

Low-emission zones are applied to streets surrounding the historic core, providing a buffer area that links residential and mixed-use neighborhoods to the pedestrian-prioritized center. These zones reduce noise, congestion, and parking spill-over from surrounding streets while supporting local commerce, walking, recreation, and tourism. Vehicle access is controlled via LTZ permits, signage, and electronic monitoring, and delivery times are limited to off-peak hours. Streets serving logistics, markets, or large commercial facilities are excluded to maintain operational functionality.

Image



Access Regulation and Traffic Calming

M2.2: Apply speed limits and traffic calming measures

M2.2.1: Area-wide Speed Limit Implementation



Cost	18.000 €	Responsible Authority	Municipality of Kochani
Period	Short	ASI Status	Improve
Priority	Medium	Efficiency	Medium

Description

Residential neighborhoods outside the LTZ but within the urban area are designated as 30 km/h zones to protect local streets that connect to main traffic corridors. Streets between R2432 (west), A4 (north-east), and R1401 (south/south-east) are included, particularly those feeding into Balkanska Street and local connectors toward the center. These streets serve local access rather than regional movement and have a high presence of residents, children, and pedestrian or cycling trips.

Image



Access Regulation and Traffic Calming

M2.2: Apply speed limits and traffic calming measures

M2.2.2: Micro-Infrastructure for Traffic Calming



Cost

40.000 €



Period

Short



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

High

Description

Traffic calming interventions include raised pedestrian crossings, junction tables, narrowed carriageways, visual treatments (trees, surface patterns), and parking reorganization. Pedestrian and cyclist priority is enforced at key intersections to reduce conflicts with motorized traffic and improve safety for everyday local trips. These measures slow traffic before it enters the LTZ, ensuring a smooth transition from residential neighborhoods to pedestrian-prioritized streets.

Image



Access Regulation and Traffic Calming

M2.3: Define regulated routes for through-traffic

M2.3.1: Main Corridor Routing



Cost

15.000 €



Period

Short



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Avoid



Efficiency

Medium



Description

Through-traffic is directed along primary corridors (R1309 and industrial access roads) to prevent vehicles from using central streets as shortcuts. This maintains safety and comfort in the pedestrian-prioritized core and reduces congestion, noise, and air pollution.



Image



Access Regulation and Traffic Calming

M2.3: Define regulated routes for through-traffic

M2.3.2: Local Street Access Management



Cost	40.000 €	Responsible Authority	Municipality of Kochani
Period	Short	ASI Status	Avoid
Priority	High	Efficiency	High

Description

Local streets within the LTZ serve only authorized users: residents, public transport, service vehicles, and deliveries with time restrictions. Enforcement combines LTZ permit systems, entrance/exit cameras, and periodic monitoring. Parking is controlled through short-stay permits to avoid spill-over, while circulation design discourages non-local traffic.

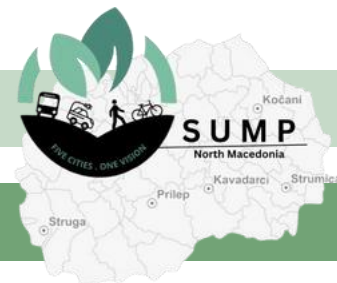
Image



Access Regulation and Traffic Calming

M2.4: Implement school streets

M2.4.1: Temporary School-Time



Cost

20.000 €



Responsible
Authority

Municipality of Kochani



Period

Medium



ASI Status

Avoid



Priority

High



Efficiency

High



Description

Traffic is restricted around schools during peak arrival and dismissal times. Barriers, signage, and, where needed, traffic wardens ensure safe access for children and reduce motorized traffic conflicts. Air quality improvements and promotion of walking and cycling are prioritized.



Image



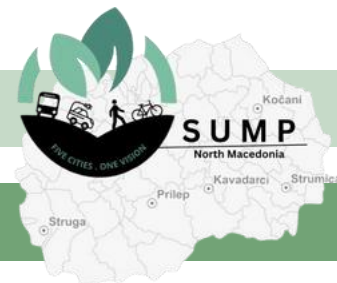
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Access Regulation and Traffic Calming

M2.4: Implement school streets

M2.4.2: Measure Implement school streets



Cost

40.000 €



Period

Medium



Priority

High



Responsible
Authority

Municipality of Kochani



ASI Status

Avoid



Efficiency

High



Description

School streets are coordinated with adjacent pedestrian-prioritized and traffic-calmed zones. LTZ systems control access for authorized vehicles while maintaining safety and continuity for children commuting on foot or by bike.



Image



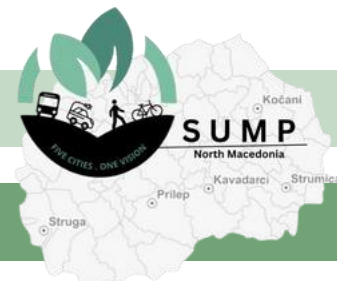
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Access Regulation and Traffic Calming

M2.5: Apply tactical urbanism

M2.5.1: Pop-up Pedestrian Areas and Street



Cost

20.000 €



Period

Medium



Priority

Medium



Responsible
Authority

Municipality of Kochani



ASI Status

Avoid



Efficiency

Medium



Description

Temporary, low-cost interventions—such as pop-up pedestrian areas, planters, street furniture, and modular pavements—are implemented in streets and squares of strategic interest to test pedestrian and cycling prioritization.



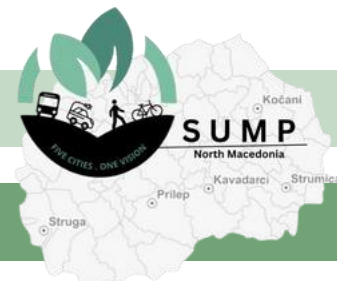
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Access Regulation and Traffic Calming

M2.5: Apply tactical urbanism

M2.5.2: Pilot Street Modifications and Monitoring



Cost

30.000 €



Responsible
Authority

Municipality of Kochani



Period

Medium



ASI Status

Avoid



Priority

Medium



Efficiency

Medium



Description

Tactical interventions are evaluated before permanent implementation. Painted crossings, surface treatments, and temporary closures allow the municipality to adjust design, assess impacts on traffic and pedestrian flows, and optimize public space use while reducing private-car dominance.

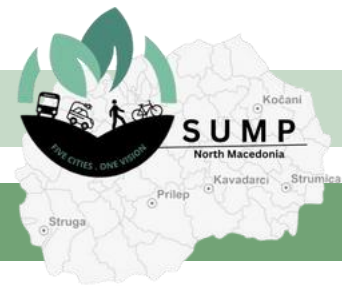


Image



Road Network

M3.2: Redesign intersections for safer crossing and traffic flow



M3.2.1: Safety Assessment of Intersections



Cost

760.000 €



Responsible Authority

Municipality of Kochani



Period

Short



ASI Status

Improve



Priority

High



Efficiency

High

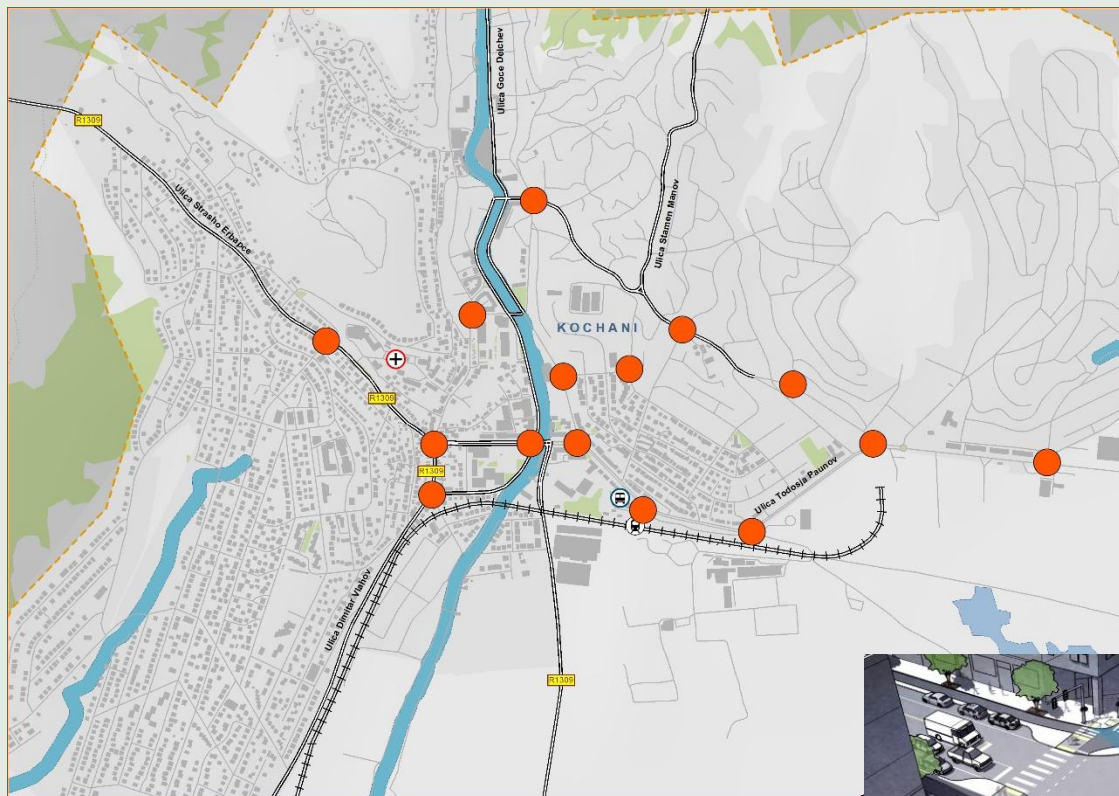


Description

Carrying out a systematic safety assessment of intersections near the Square and around Stari Park is essential for identifying risks and planning targeted improvements. These areas combine high pedestrian flows with continuous vehicle traffic, creating conditions for frequent conflicts. By collecting traffic counts, pedestrian volumes, and accident data, the municipality can prioritize the most dangerous spots for redesign. Mapping walking and cycling patterns will also reveal where users experience difficulties. Community input will complement technical studies, ensuring that interventions reflect real needs. This evidence-based approach not only ensures efficient allocation of resources but also builds public trust. Over time, the program will reduce accident risks, strengthen safety perception, and create safer, more inclusive intersections for all road users in Kochani.



Image



Legend

Kochani Functional Area

Junction



Safer Crossing



Improve Visibility



Analyse Accidents



Analyse Traffic Patterns



Better Signal Timing

Road Network

M3.2: Redesign intersections for safer crossing and traffic flow

M3.2.2: Improved Pedestrian Crossings



Cost

160.000 €



Period

Medium



Priority

High

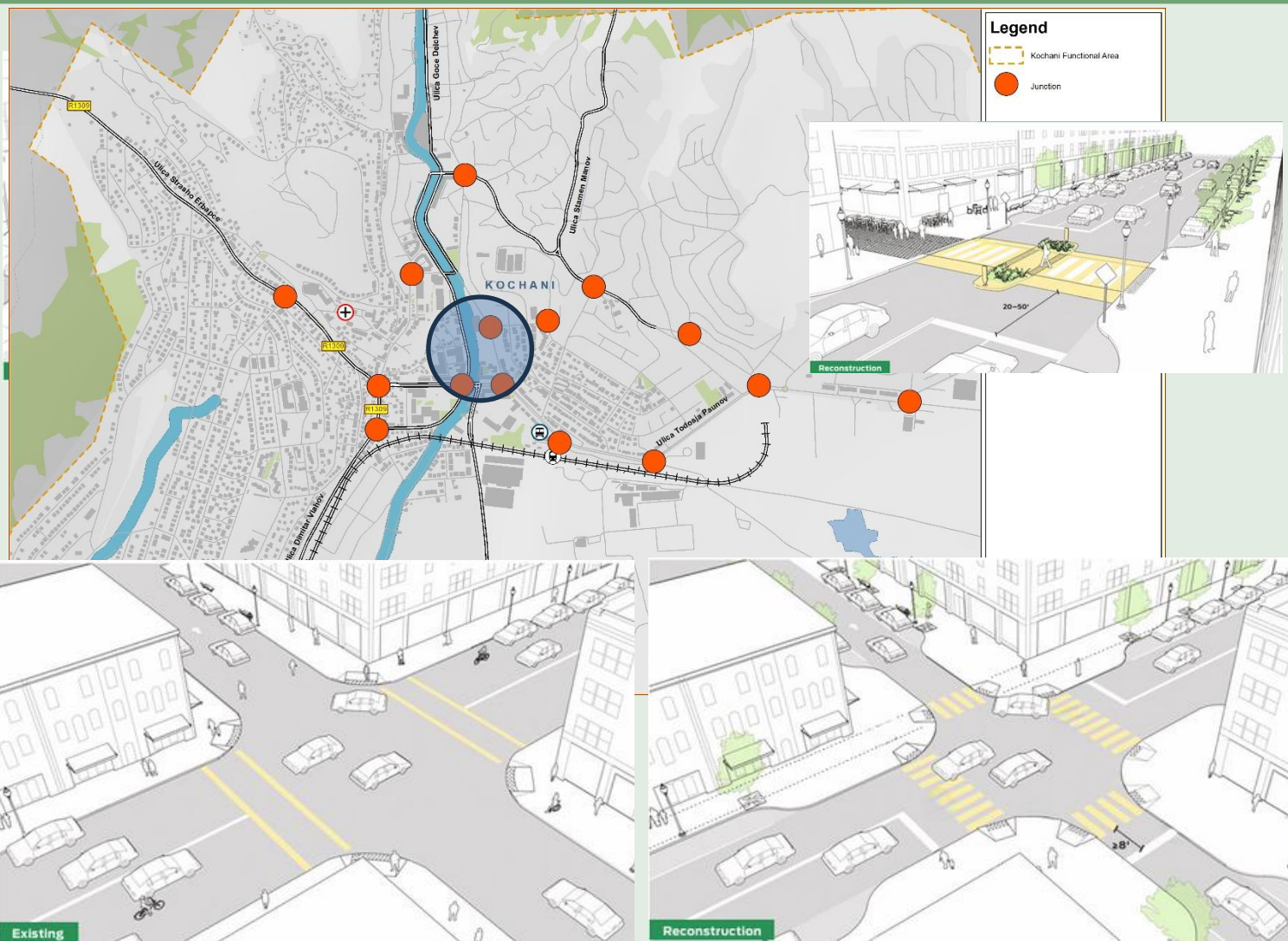


Description

The intersections surrounding the Square are among the busiest in Kochani, yet crossing them can be unsafe and inconvenient for pedestrians. Installing raised crosswalks, curb extensions, and refuge islands will shorten crossing distances and improve pedestrian visibility. Better pavement markings, signage, and lighting will further support safety, especially in evening hours. These features will be designed with accessibility in mind, including tactile paving and barrier-free ramps, so that children, elderly people, and people with disabilities can use them comfortably. Improving pedestrian crossings will not only reduce accidents but also encourage more residents to walk to the city center. This in turn increases local business activity and strengthens the role of the Square as a vibrant civic hub.



Image



Responsible Authority

Municipality of Kochani



ASI Status

Improve



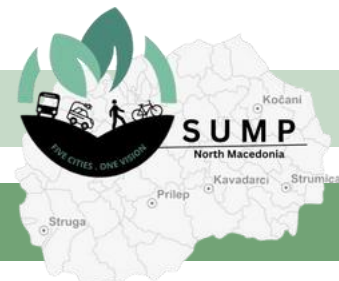
Efficiency

High

Road Network

M3.2: Redesign intersections for safer crossing and traffic flow

M3.2.3: Cycling-Friendly Intersection Design



Cost

90.000 €



Period

Medium



Priority

Medium

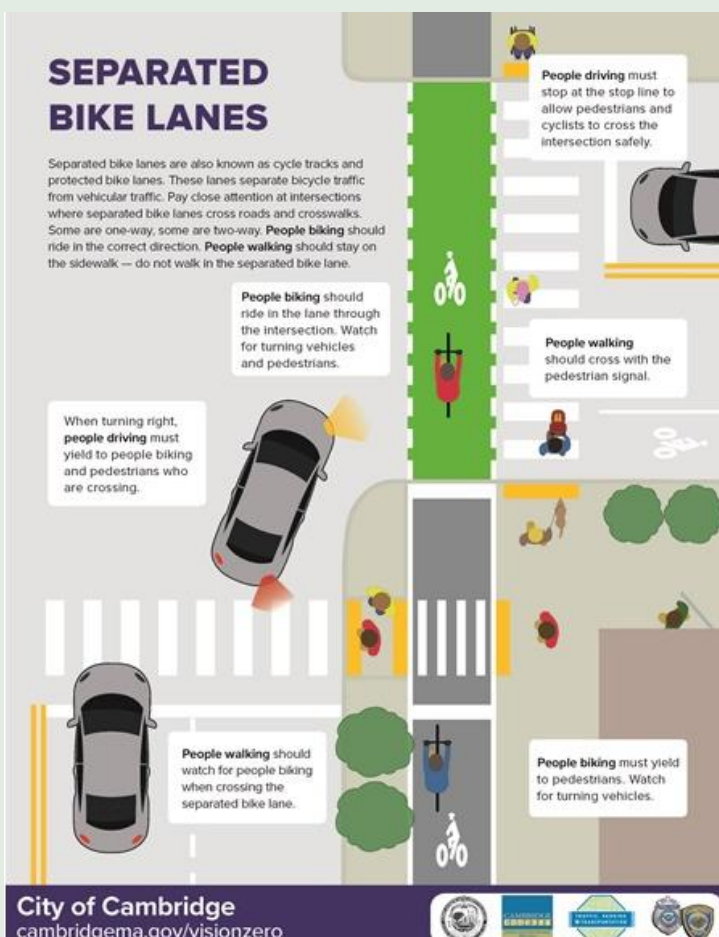
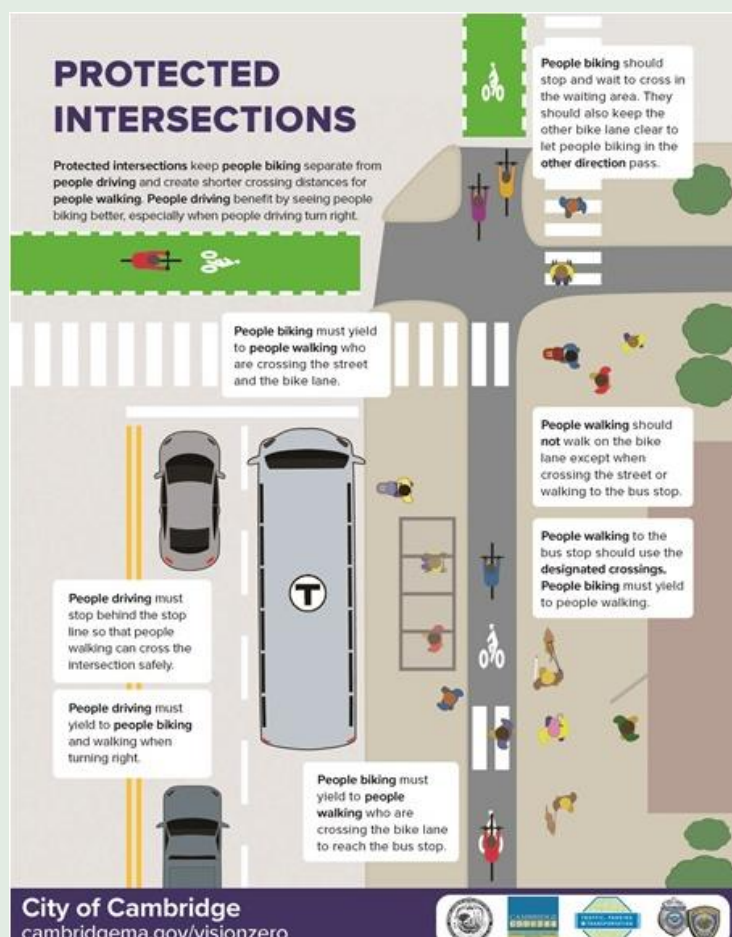


Description

The corridor linking the Square to the Recreation areas along the River has strong potential for cycling but current intersections are not safe for bicycle users. By implementing cycling-friendly intersection designs such as colored lanes, protected waiting areas, and bicycle-specific traffic signals, the city can reduce crash risks and improve cyclist visibility. These designs will integrate cycling into the broader road network, connecting neighborhoods with recreational spaces and the city center. Safer intersections will encourage both daily commuters and leisure cyclists to use the routes more often. Over time, this intervention will support a modal shift away from cars, promote healthier lifestyles, and position Kochani as a progressive, bike-friendly city.



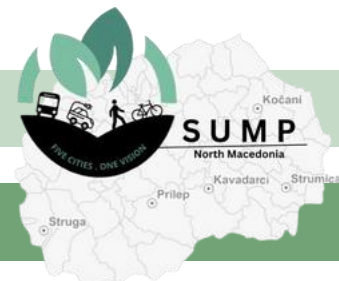
Image



Road Network

M3.2: Redesign intersections for safer crossing and traffic flow

M3.2.4: Smart Signaling & Monitoring



Cost

240.000 €



Period

Medium



Priority

Medium

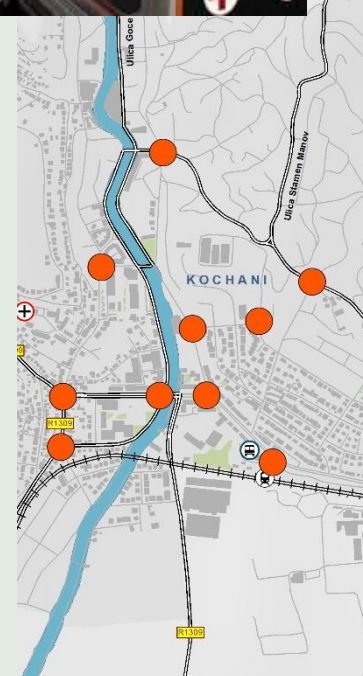
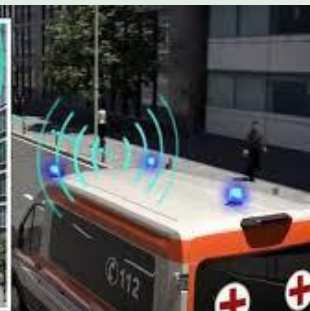


Description

Modernizing traffic management through smart signaling systems around the Square will optimize traffic flow while prioritizing safety. Adaptive traffic lights that respond to real-time demand will give pedestrians more crossing time when needed and reduce waiting periods during low traffic volumes. Sensors and cameras will help monitor intersection use, providing valuable data for continuous adjustment. Smart systems will also improve traffic flow, reducing congestion and vehicle idling, which lowers emissions. By integrating pedestrian and cyclist detection into signal timing, Kochani ensures that vulnerable users are not overlooked. These upgrades will make intersections safer, more efficient, and environmentally friendly, reflecting a forward-looking approach to urban mobility.



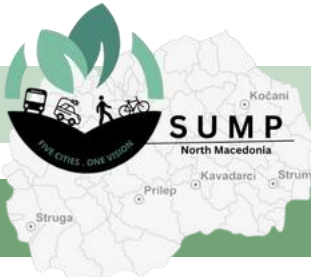
Image



Parking Systems

M4.2: Adjust parking fees to reduce long-term car use in central areas

M4.2.1: Differentiated Parking Tariffs in Central and Sensitive Areas



Cost

20.000 €



Period

Medium



Priority

High

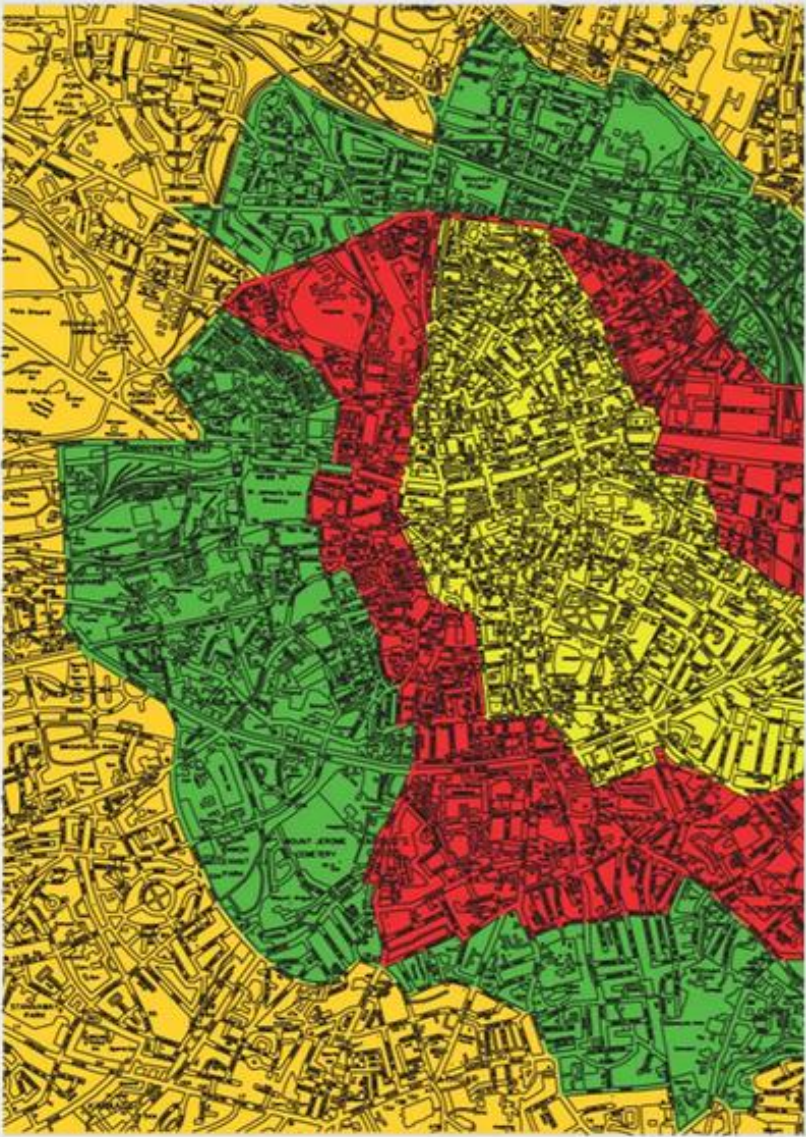


Description

Differentiated parking tariffs are applied across Kochani, with higher fees and stricter time limits in areas close to the historic core, riverfront, and central commercial streets. These measures discourage long-term parking in locations with high pedestrian activity and limited public space, reducing parking pressure and circulation related to parking search. Resident permits, reserved spaces for people with reduced mobility, short-stay shoppers, and service vehicles are integrated into the system to ensure necessary access without undermining access regulation objectives.



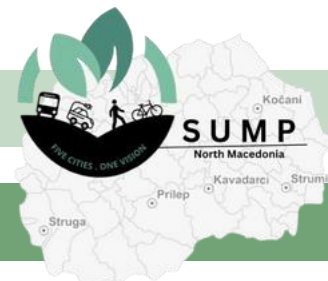
Image



Parking Systems

M4.2: Adjust parking fees to reduce long-term car use in central areas

M4.2.2: Peripheral and Transition Parking Management



Cost

20.000 €



Responsible Authority

Municipality of Kochani



Period

Medium



ASI Status

Shift



Priority

Medium



Efficiency

Medium

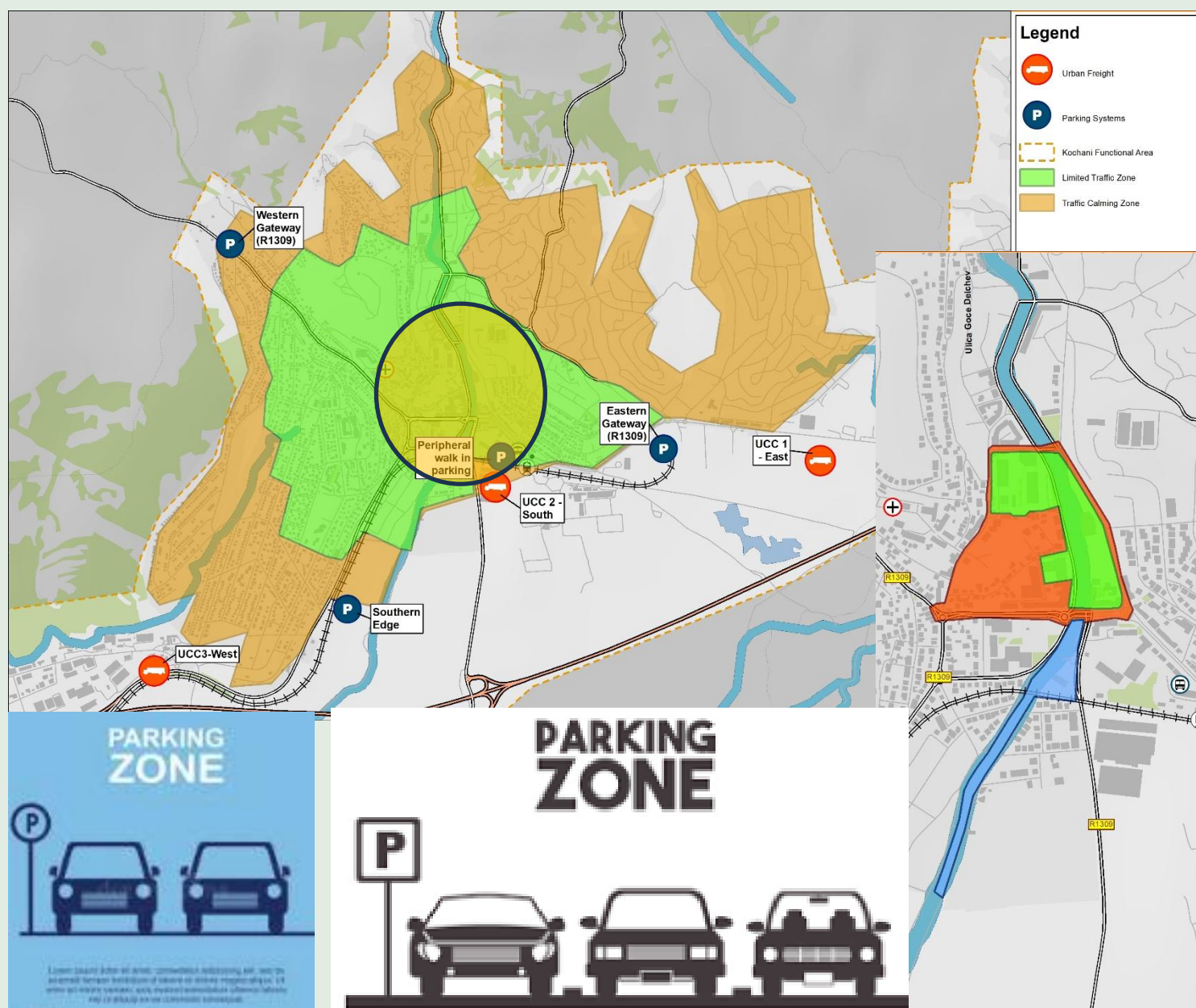


Description

Lower or free parking tariffs are maintained at peripheral locations, including park-and-ride (P&R) facilities and short-stay parking areas outside the pedestrian-prioritized core. These spaces support walking access into the centre and act as transition zones between car-oriented access and pedestrian-friendly areas. Parking duration controls and clear wayfinding encourage short stays and reduce spill-over into residential streets.



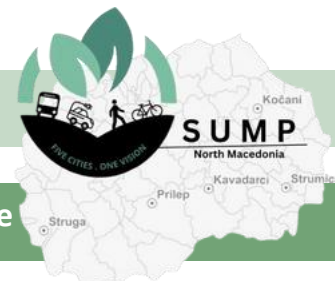
Image



Parking Systems

M4.3: Enforce regulations and physical barriers against illegal parking

M4.3.1: Physical Protection of Pedestrian and Cycling Infrastructure



Cost

40.000 €



Period

Short



Priority

High



Description

Physical measures such as bollards, planters, and kerb extensions are installed to prevent illegal parking on sidewalks, pedestrian crossings, cycle lanes, riverfront promenades, and in school surroundings. These interventions are concentrated in the historic centre and pedestrian-prioritized streets, where illegal parking directly compromises safety, accessibility, and traffic calming objectives.



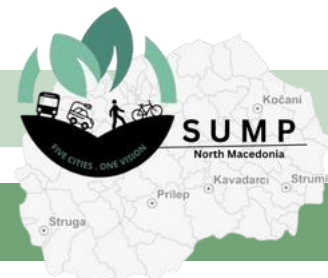
Image



Parking Systems

M4.3: Enforce regulations and physical barriers against illegal parking

M4.3.2: Parking Control and Enforcement Measures



Cost	20.000 €	Responsible Authority	Municipality of Kochani
Period	Short	ASI Status	Shift
Priority	High	Efficiency	High

Description

Clear signage, consistent enforcement, and targeted monitoring ensure compliance with parking regulations in sensitive areas. Enforcement supports safe pedestrian and cyclist circulation, reduces conflicts with motor vehicles, and reinforces the function of traffic-calmed and pedestrian-prioritized zones, particularly in areas with high footfall and vulnerable users.

Image



M4.4.1: Strategic Park-and-Ride Infrastructure Development



Cost

125.000 €



Period

Medium/Long



Priority

Medium



Description

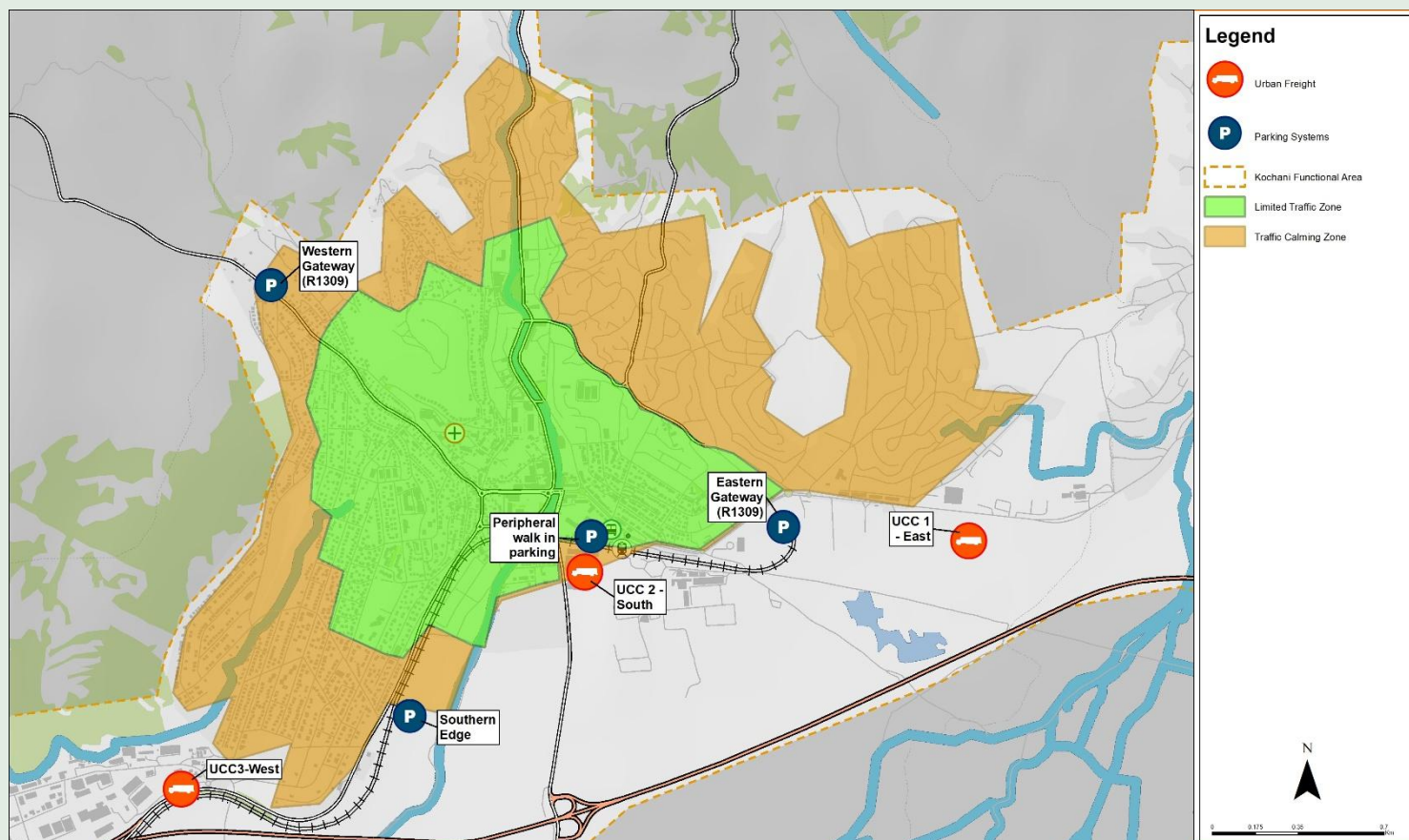
Three strategic P&R facilities are implemented at the main urban gateways:

1. Northern Gateway (R1309 – Industrial/Commercial access near KAM Market / Autowelt MK), intercepting northbound commuter and freight traffic;
2. Western Gateway (R1309 approach from the Blashka side), intercepting traffic from surrounding settlements;
3. Southern Edge (near the stadium and recreational area), serving visitor and event-related traffic.

These facilities reduce pressure on central streets by capturing car trips before they reach pedestrian-prioritized and traffic-calmed areas.

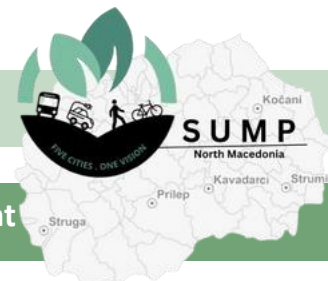


Image



Parking Systems

M4.4: Develop park-and-ride facilities near key transit hubs



M4.4.2: Integration with Public Transport and Seasonal Management



Cost

40.000 €



Period

Medium/Long



Priority

Medium



Description

All P&R sites are connected to public transport stops and cycling routes and provide inclusive parking options. They support park + walk + cycle and park + public transport trips. Seasonal management strategies include higher parking tariffs in central areas, temporary entry controls during peak periods or events, and digital signage to guide drivers toward available P&R capacity, ensuring adaptive management of parking demand.



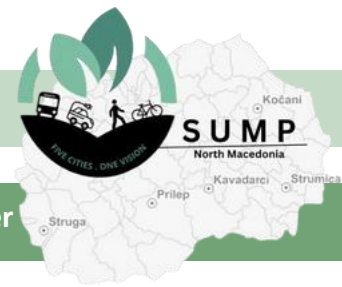
Image



Urban Cycling

M5.1: Develop a connected and safe cycling network

M5.1.1: Build the first protected cycling lane along the Bregalnica River



Cost

300.000 €



Period

Short



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Shift



Efficiency

High

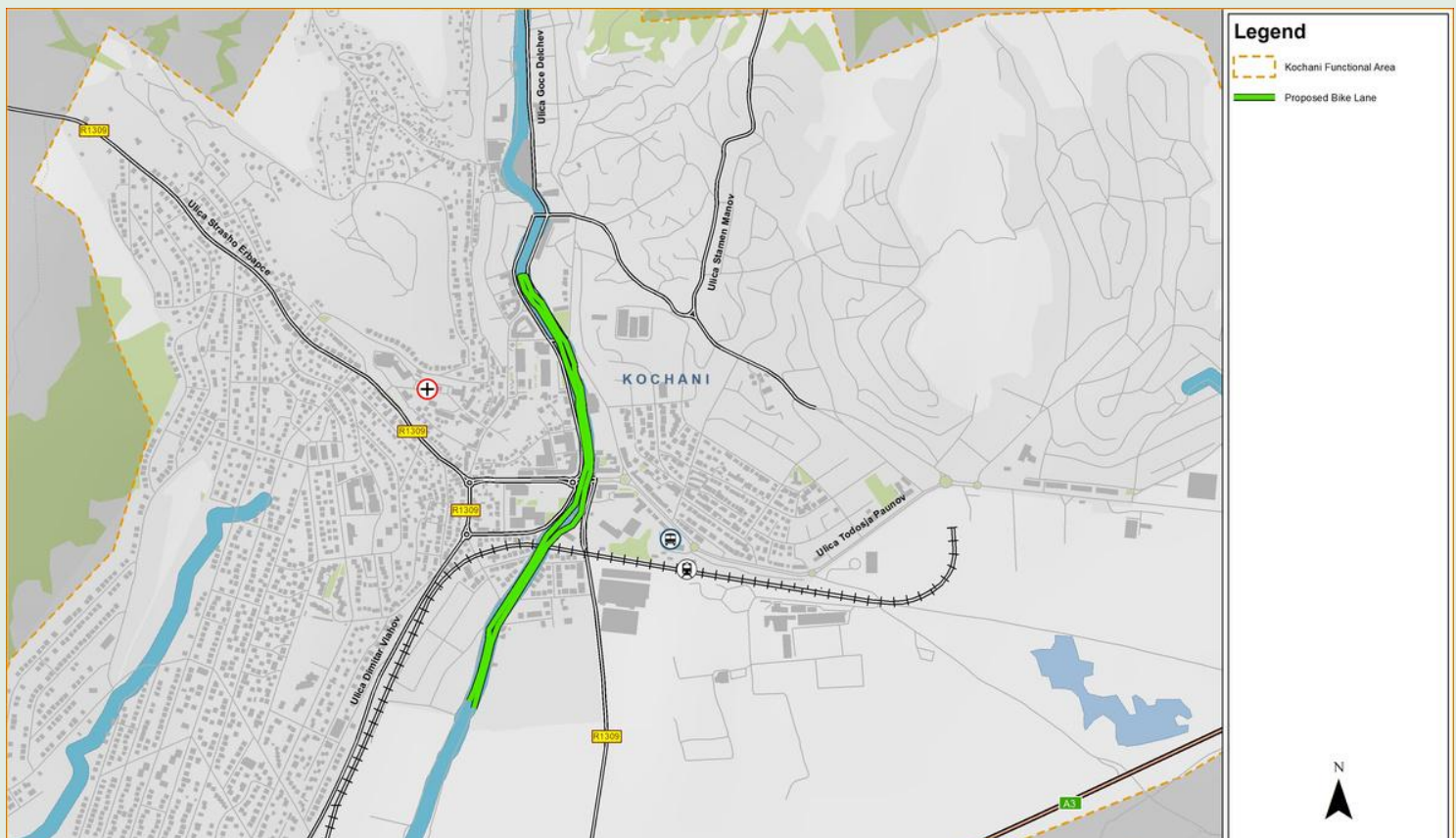


Description

Kochani should begin its cycling network with a dedicated, protected lane along the Bregalnica River, connecting the Recreation Zone with nearby residential streets. This scenic and low-traffic area offers ideal conditions for introducing cycling to the public. The lane should be physically separated from vehicles with bollards or curbs, properly illuminated, and accessible for all age groups. The project would immediately demonstrate the benefits of cycling—safer, cleaner, and quieter travel—while supporting leisure and tourism. Once completed, it will serve as the first visible segment of Kochani's future citywide network, proving the city's capacity to deliver real, high-quality cycling infrastructure.



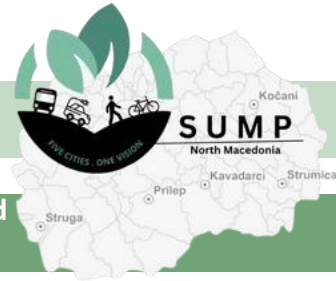
Image



Urban Cycling

M5.1: Develop a connected and safe cycling network

M5.1.2: Introduce shared pedestrian–cycling streets around schools and residential areas



Cost

300.000 €



Period

Short



Priority

High

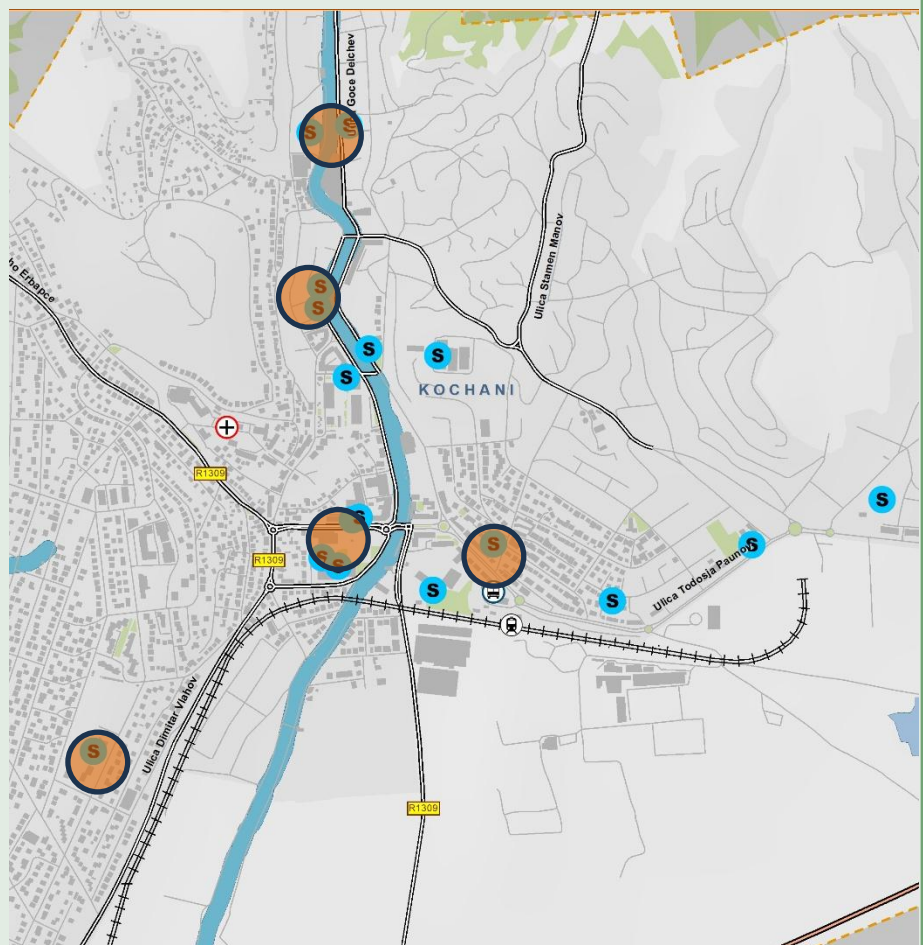


Description

To integrate cycling into community life, Kochani should redesign selected residential streets in Strishani and Ruen as shared zones where bicycles and pedestrians have priority. These “calm streets” will feature reduced speed limits, traffic-calming humps, and clear pavement markings to indicate shared use. Creating a direct and safe link between schools, playgrounds, and local shops will make cycling a natural daily choice for families and children. This approach also helps test cycling behavior and infrastructure acceptance before larger citywide expansion. By promoting shared mobility in neighborhoods, Kochani builds public trust and nurtures an early culture of sustainable, human-centered mobility.



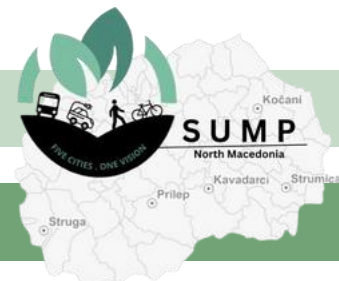
Image



Urban Cycling

M5.1: Develop a connected and safe cycling network

M5.1.3: Install public bike repair stations and safe parking points at key locations



Cost

15.000 €

Period

Medium

Priority

Low

Responsible Authority

Municipality of Kochani

ASI Status

Shift

Efficiency

Low

Description

A dedicated cycling link between the Square and Kochani's main transport corridors will allow residents to combine cycling with other mobility modes. By creating direct, protected lanes leading into the city center, cyclists can safely access bus stops and urban services. This intermodal approach will reduce the need for private car trips, especially for residents living in peripheral neighborhoods. Secure bike racks near central stops will further strengthen the system, making it easier to switch between cycling and public transport. Clear wayfinding and lighting will ensure safe use at all hours. By promoting seamless multimodality, Kochani will increase the competitiveness of sustainable transport and offer more flexible travel choices to its citizens.

Image



Urban Cycling

M5.2: Launch of public bike-sharing systems

M5.2.1: Install bike-sharing stations in the central core



Cost

250.000 €

Period

Medium

Priority

Medium

Description

Introducing bike-sharing stations at the Square will establish the heart of Kochani as the flagship hub for sustainable urban transport. The Square is where commercial activity, cultural events, and daily foot traffic converge, making it the most visible and strategic location for bike-sharing. Installing docking stations with modern locking technology, digital payment systems, and clear signage will ensure accessibility and ease of use for both residents and visitors. The central placement will encourage people to substitute short car trips with shared bikes, especially for shopping, commuting to public services, or attending cultural events. As the system becomes part of daily life, it will not only reduce congestion in the core but also reinforce the Square as a vibrant, people-first space. Over time, this investment will position Kochani as a forward-looking city where sustainable choices are practical, safe, and convenient.

Image



BIKE-SHARING SYSTEM



Urban Cycling

M5.3: Install secure public bike parking solutions

M5.3.1: Secure bike parking at Square



Cost

120.000 €



Period

Medium



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

Medium

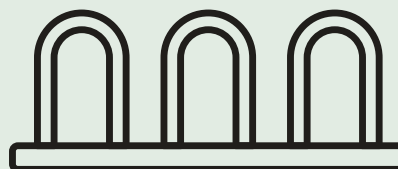
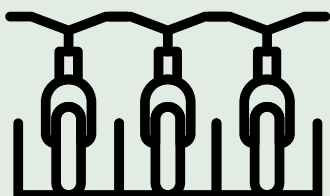


Description

The Square, as Kochani's busiest civic and commercial hub, requires visible and secure bike parking facilities to support cycling as a daily mobility option. Installing modern racks with weather protection, CCTV surveillance, and smart-lock compatibility will allow cyclists to confidently leave their bicycles while shopping, working, or attending cultural events. The central placement will also normalize cycling by making bike use more visible in the city's most important public space. This visibility acts as a signal of municipal commitment to sustainable mobility. Over time, central bike parking will reduce barriers of theft and insecurity, encouraging higher usage rates. The result will be a stronger cycling culture in Kochani, where residents view bicycles as a practical, safe, and integrated part of everyday life.



Image



Public Transport

M6.1: Increase the frequency of public transport services

M6.1.1: Reduce headways on central routes



Cost

120.000 €



Period

Short



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Shift



Efficiency

High



Description

In Kochani, the Square and its surrounding streets represent the busiest transit corridors, where passengers often face long waiting times during peak hours. Reducing bus headways in this central area will significantly improve the attractiveness of public transport. Shorter intervals between buses mean that commuters, students, and elderly residents will have a more dependable service for reaching schools, health facilities, and markets. Reliable frequency also reduces overcrowding and makes buses a competitive alternative to private cars. This measure will not only increase ridership but also decrease congestion in the city center, leading to cleaner air and improved quality of life. By prioritizing central routes with tighter headways, Kochani demonstrates its commitment to building a people-oriented, efficient mobility system.



Image



SHORTENING BUS SERVICE INTERVALS



CONGESTION REDUCTION



EMISSIONS DOWN



INCREASED RIDERSHIP

INCREASED RIDERSHIP



Public Transport

M6.1: Increase the frequency of public transport services

M6.1.2: Optimize fleet size for neighborhood connections



Cost

90.000 €



Period

Short



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Improve/Shift



Efficiency

High



Description

Neighborhoods like Strishani and Ruen depend heavily on bus services to connect with Kochani's city center, yet demand fluctuates sharply between peak and off-peak hours. Optimizing fleet size by deploying more buses during rush hours and fewer during quieter times will create a more balanced and efficient system. This adjustment will prevent overcrowding on morning and afternoon services while avoiding unnecessary operational costs during low-demand periods. The result is a more comfortable, reliable, and financially sustainable public transport system. By aligning resources with actual travel patterns, Kochani ensures that residents always have adequate service levels, while also promoting trust in public transport as a modern and dependable mobility option. Over time, this strategy reduces car reliance and supports sustainable growth in ridership.



Image

OPTIMIZE FLEET

RUSH HOUR



OFF-PEAK



COMFORT



RELIABILITY



COST EFFICIENCY

Public Transport

M6.2: Extend the route coverage to underserved neighbourhoods

M6.2.1: Extend public transport coverage to underserved neighborhoods



Cost

50.000 €



Period

Medium



Priority

High



Responsible Authority

Municipality of Kochani



ASI Status

Shift/Improve



Efficiency

High

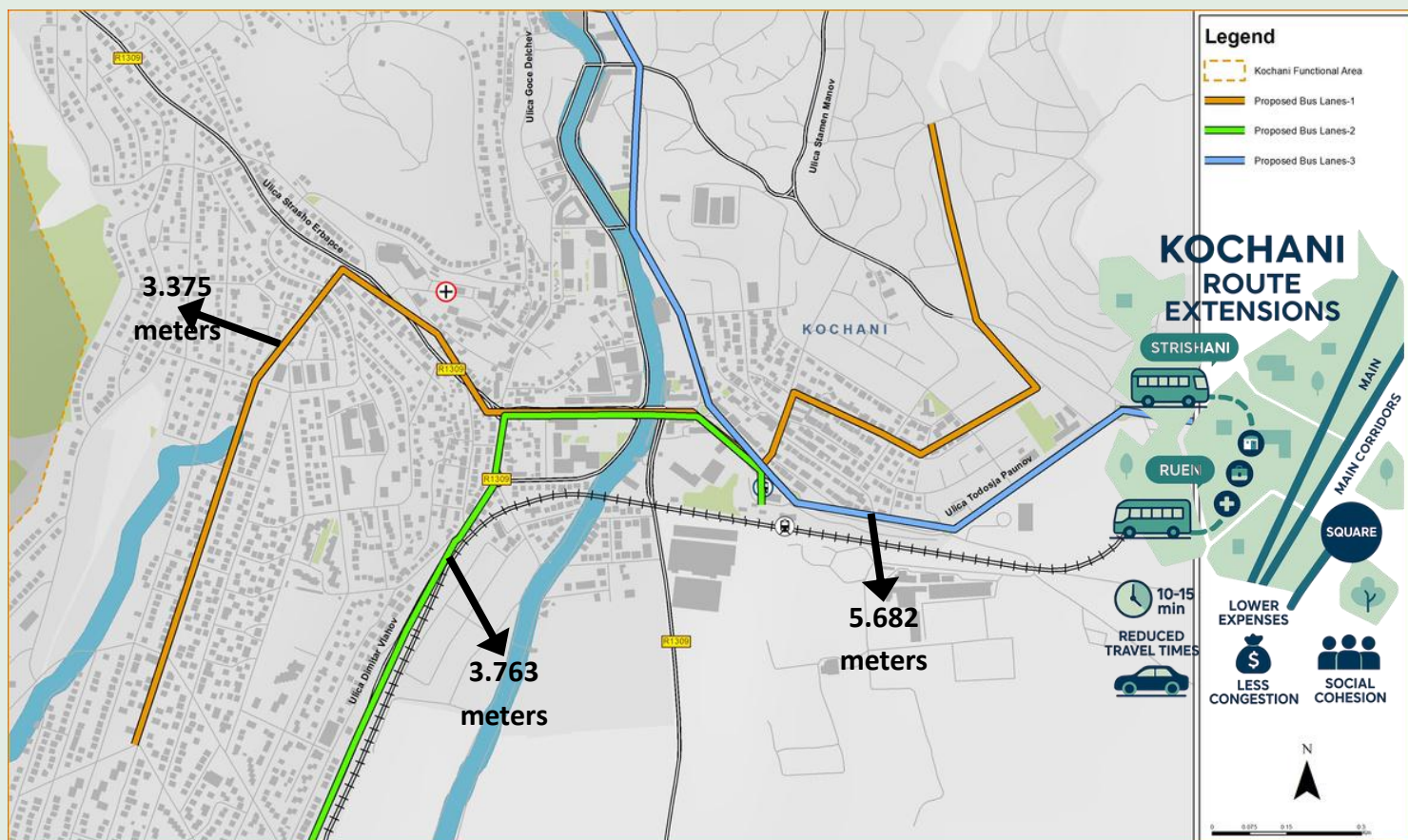


Description

Several residential areas in Kochani — including Strishani, Ruen, and other peripheral neighborhoods — currently lack adequate access to the city's public transport network. Extending bus routes and establishing new local services will ensure that every resident can reach schools, workplaces, healthcare, and community facilities without relying on private cars. New routes should be designed based on actual demand and road capacity, using smaller, energy-efficient buses suitable for neighborhood streets. Each route will connect directly to main corridors and the Square, ensuring seamless integration with the city's existing transport system. These improvements will reduce travel times, lower household expenses, and minimize congestion in the city center by shifting short trips to public transport. In the long term, equitable access to reliable mobility will strengthen social cohesion, promote sustainable urban growth, and position Kochani as an inclusive, well-connected city where all neighborhoods share the benefits of a modern, efficient transport system.



Image





Cost

500.000 €



Period

Medium



Priority

Low

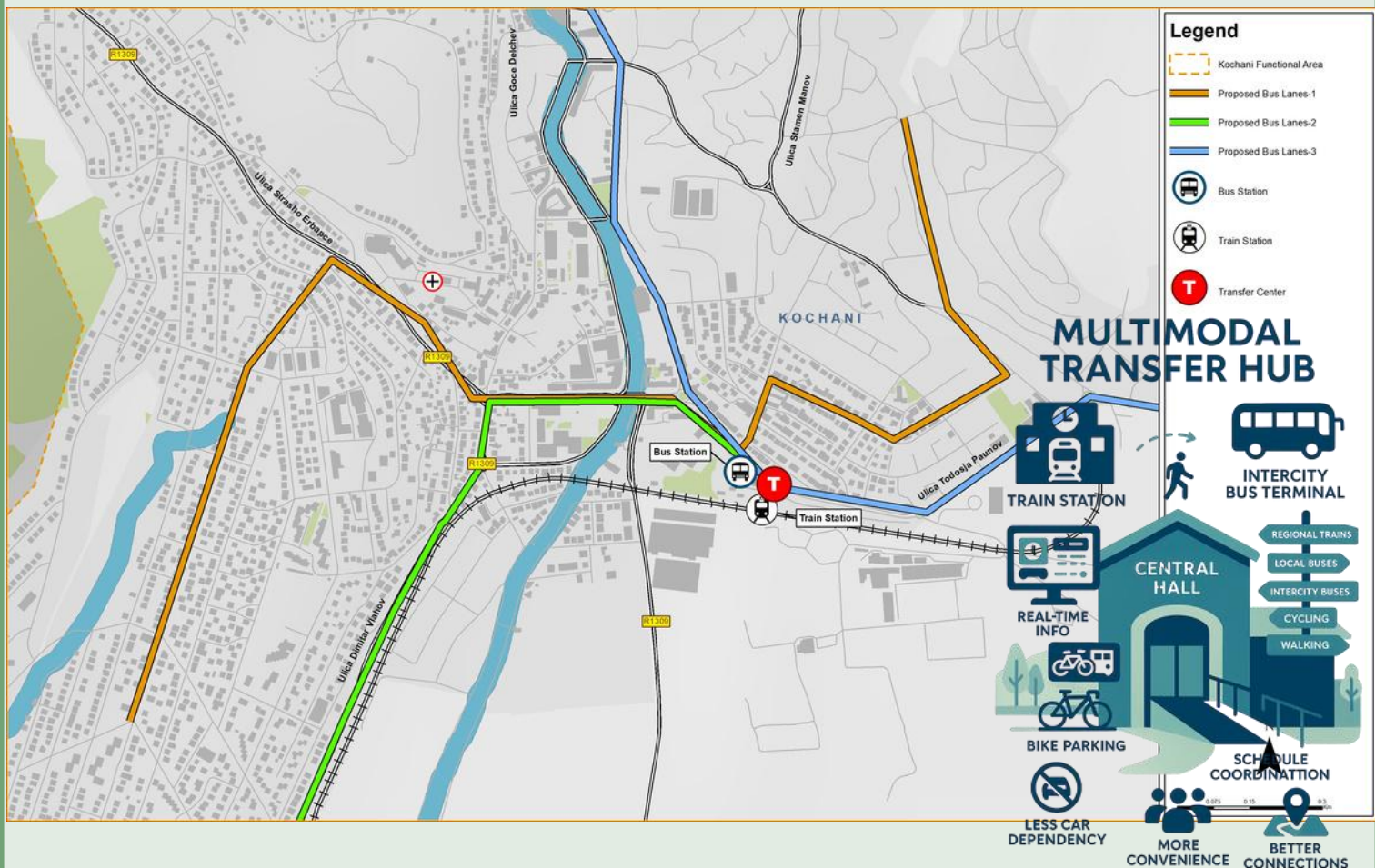


Description

Kochani has a unique opportunity to create a Multimodal Transfer Hub by integrating its train station and intercity bus terminal, which are located within walking distance of each other. This new facility will serve as the central interchange for all public transport services, connecting regional trains, local and intercity buses, and future cycling and walking routes. The hub will feature comfortable waiting areas, real-time information displays, bike parking, and barrier-free access for all users. Coordinated schedules between bus and train services will minimize waiting times and simplify transfers. By concentrating transport services in a single, accessible location, Kochani will reduce private car dependency for regional travel while improving convenience for daily commuters, students, and visitors. In the long term, the hub will act as the city's gateway for sustainable mobility, linking local routes to national transport corridors and reinforcing Kochani's position as a well-connected urban center in Eastern Macedonia.



Image





Cost

75.000 €



Period

Medium



Priority

Medium



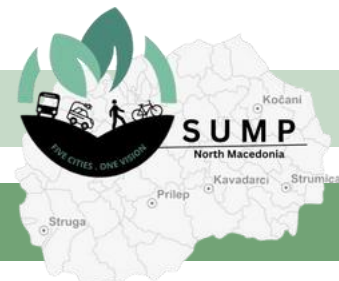
Description

The Square, as the busiest mobility hub in Kochani, should be equipped with real-time information displays at all bus stops. Digital panels showing bus arrival times, delays, and service changes will provide passengers with accurate and up-to-date information, reducing uncertainty and wait-time stress. This will improve confidence in public transport, especially for workers, students, and elderly users who depend on timely connections. Clear visual and audio announcements will also increase accessibility for people with hearing or visual impairments. By enhancing the passenger experience at the city's most central location, Kochani will encourage more residents to use public transport over private cars. Over time, the system will foster trust, reliability, and stronger integration of sustainable mobility in everyday life.



Image





Cost

400.000 €



Period

Medium



Priority

Low



Responsible Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

Medium



Description

After the successful installation of real-time passenger information displays in the city center, the system should be expanded to all areas of Kochani served by public transport. This includes residential neighborhoods such as Strishani and Ruen, as well as stops near Stari Park, the Recreation zone, and other key community facilities. By ensuring that accurate bus arrival times and service updates are available across the entire network, the municipality guarantees that no resident is left without access to reliable information. In neighborhoods where service is less frequent, real-time updates reduce stress and uncertainty, allowing passengers to better plan their journeys. Mobile applications should complement physical displays, enabling residents to check schedules before leaving home. Over time, citywide coverage of real-time information will strengthen trust in public transport, promote equitable access, and make buses a more attractive option for all residents of Kochani.



Image

Passenger Information Apps



Information System on Web Site



Call Centre



Informing with Document



Bus Stop Information Unit



Smart Stops



In-Vehicle Passenger on Board



Public Transport

M6.4: Upgrade the conditions of stops and stations

M6.4.1: Upgrade bus stops and waiting areas across the network



Cost

140.000 €



Period

Medium



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

Low

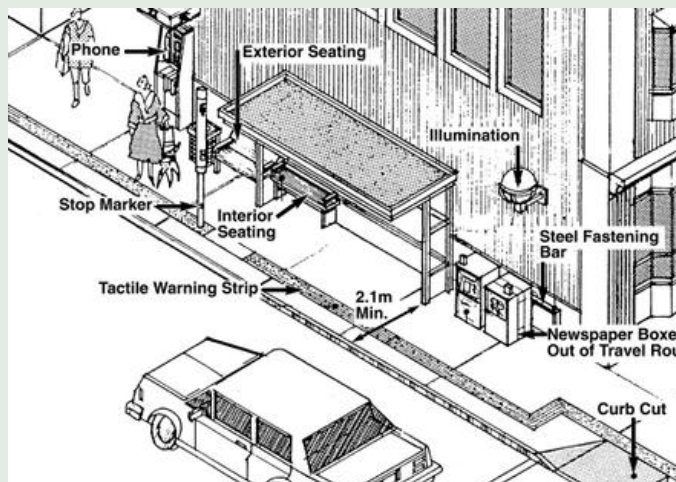
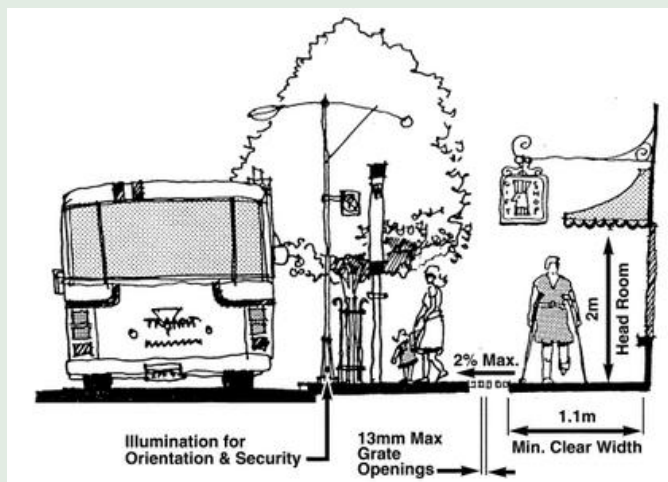


Description

Bus stops across Kochani, including those in the Square, Stari Park, Strishani, Ruen, and the Recreation zone, often lack adequate shelter, seating, and lighting. Upgrading these stops with modern shelters, real-time information displays, benches, and barrier-free access will significantly improve the passenger experience. Enhanced safety features, such as lighting and CCTV where necessary, will make waiting areas more secure for children, women, and elderly passengers. These upgrades not only provide greater comfort but also strengthen the image of public transport as a modern, reliable, and attractive mobility option. By investing in user-friendly stops citywide, Kochani will increase public trust, encourage higher ridership, and support its transition toward a more sustainable and people-centered transport system.



Image



Public Transport

M6.5: Invest in low-emission or electric public transport vehicles

M6.5.1: Introduce electric buses on central routes



 Cost

2.000.000 €

 Period

Medium

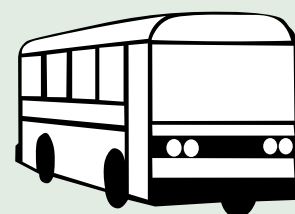
 Priority

High

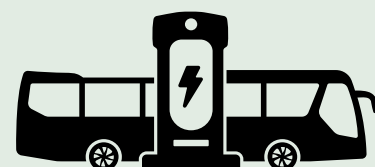
 Description

Deploying electric buses on Kochani’s busiest corridors, particularly those leading to and from the Square, will modernize the city’s public transport system and significantly improve air quality. Electric buses produce no tailpipe emissions, reducing both pollution and noise in the central areas. This change will make the Square more attractive for pedestrians, shoppers, and tourists, while improving health outcomes for residents. Charging stations can be placed strategically at depots and along central routes to ensure reliability. By branding electric buses with a distinct visual identity, Kochani can also highlight its commitment to green mobility. Over time, cleaner vehicles will lower operational costs, reduce dependence on fossil fuels, and enhance the city’s reputation as a forward-looking, sustainable community.

 Image



Change
old
busses
with
electrical
vehicles





Cost

20.000 €



Period

Medium



Priority

Medium



Description

Flexible working schedules are promoted among public institutions, large employers, and service activities in Kochani to reduce peak-hour traffic demand. Staggered start and end times help redistribute travel throughout the day, easing congestion in the historic city centre, along the riverfront pedestrian corridor, and on surrounding residential streets. This reduces pressure on central streets, park-and-ride facilities, and pedestrian-prioritized zones, improving the overall efficiency of access regulation and traffic management measures.



Image

A COMPARISON BETWEEN:

SMART WORKERS

&

OTHER WORKERS

MOBILITY

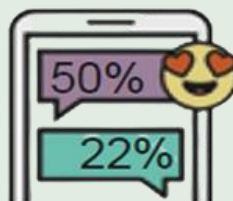


TIME SPENT AT WORK

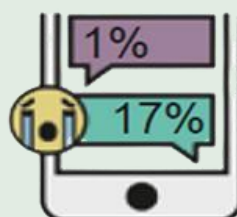


TIME SPENT WORKING FROM HOME OR ELSEWHERE

SATISFACTION



FULLY SATISFIED WITH HOW ONE'S WORK IS ORGANISED



DISSATISFIED WITH ONE'S WORK

DIGITAL SOFT SKILLS



LEADERSHIP & TEAMWORKING



SELF-EMPOWERMENT



Cost

20.000 €



Period

Medium



Priority

High



Description

Flexible school schedules are encouraged in coordination with educational institutions to avoid concentrated peak-hour travel. Adjustments to start and dismissal times reduce conflicts between school-related trips, commuter traffic, and service vehicles, particularly in areas affected by traffic calming, School Streets, and low-emission zones. The measure supports public transport use, walking, and cycling, enhancing the effectiveness of complementary infrastructure investments.



Image

A COMPARISON BETWEEN:

SMART WORKERS

&

OTHER WORKERS

MOBILITY

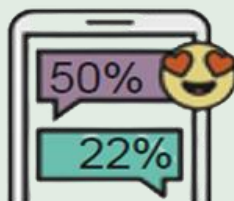


TIME SPENT AT WORK

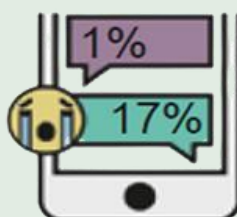


TIME SPENT WORKING FROM HOME OR ELSEWHERE

SATISFACTION



FULLY SATISFIED WITH HOW ONE'S WORK IS ORGANISED



DISSATISFIED WITH ONE'S WORK

DIGITAL SOFT SKILLS



LEADERSHIP & TEAMWORKING



SELF-EMPOWERMENT

Mobility Management

M7.4: Collaborate with schools to develop safe routes for students

M7.4.1: Identification and Implementation of Safe School Routes



Cost

40.000 €



Period

Medium



Priority

High



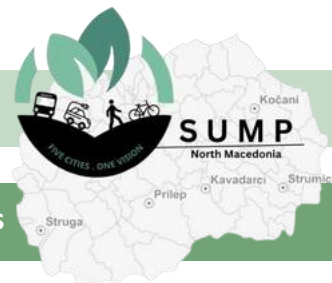
Description

Safe, well-signposted walking and cycling routes are developed to connect residential neighborhoods, schools, and the city centre. Interventions include 30 km/h zones, raised pedestrian crossings, and continuous sidewalks or cycle-friendly streets along identified corridors. These routes prioritize safety, legibility, and directness, encouraging active travel for daily school trips.



Image





Cost

20.000 €



Period

Medium



Priority

Medium



Description

Safe school routes are coordinated with traffic calming, low-emission zones, and School Streets measures (M2.1–M2.4) to ensure consistent speed management and vehicle access control. Coordination with urban logistics measures (M9.1–M9.3) minimizes heavy vehicle movements during school hours, reducing safety risks and conflicts in areas with high concentrations of children.



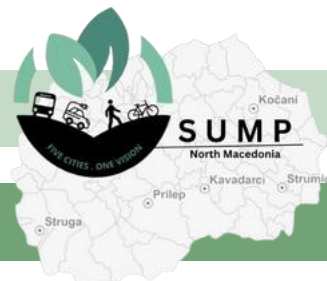
Image



Electric Mobility

M8.1: Install accessible public EV charging infrastructure

M8.1.1: Deployment of Public Charging Points in Central and Strategic Areas



Cost

40.000 €



Period

Short



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

Medium

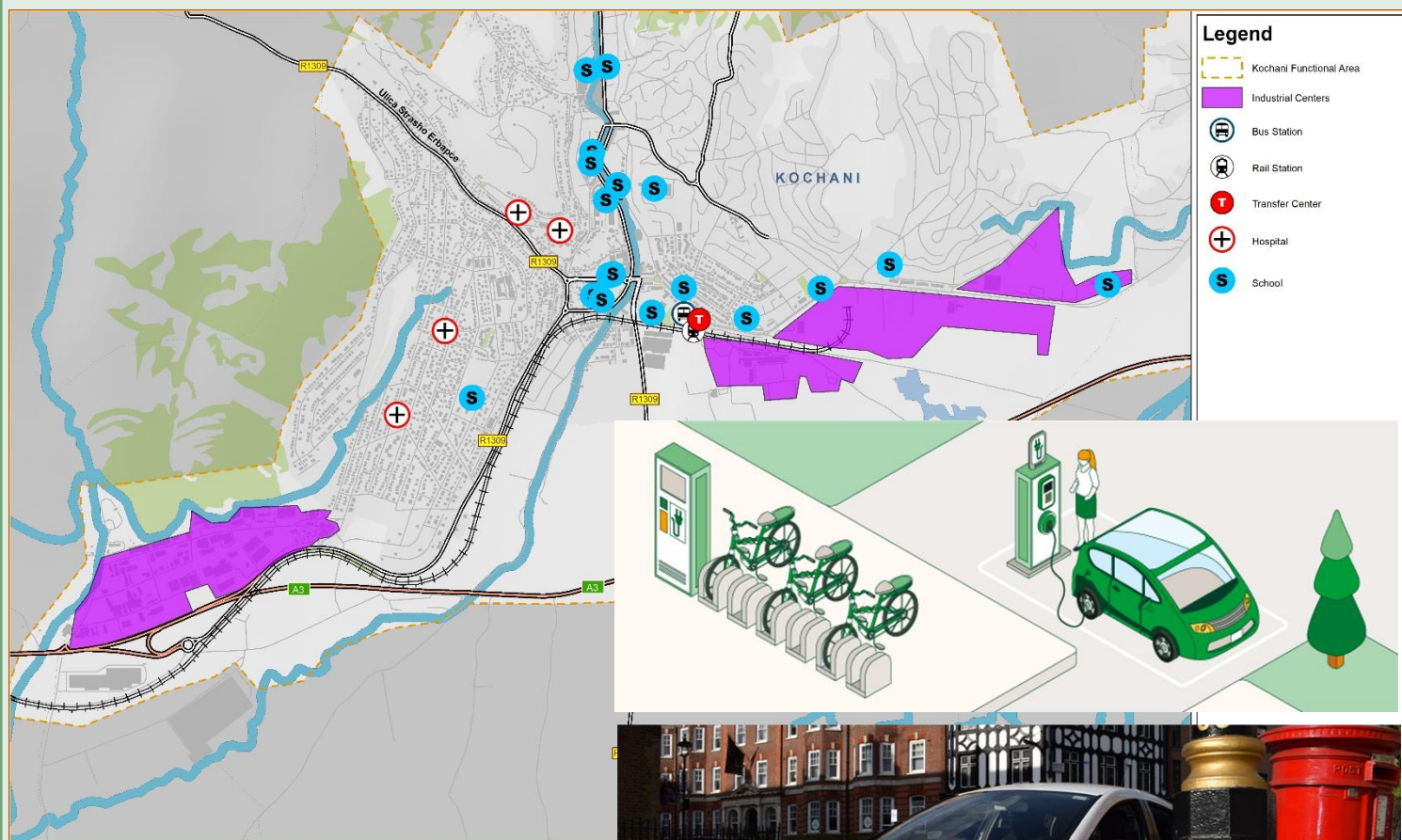


Description

Public EV charging points are installed in Kochani's historic core, along the riverfront, and in central mixed-use areas with high pedestrian activity. Charging infrastructure is integrated into existing streetscapes and public spaces, ensuring visibility, safety, and accessibility without compromising pedestrian-prioritized environments. These installations support private and shared electric vehicles and reinforce low-emission zones (M2.1) and traffic-calmed streets.



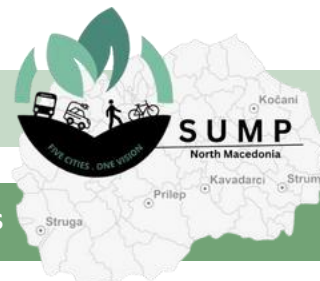
Image



Electric Mobility

M8.1: Install accessible public EV charging infrastructure

M8.1.2: Charging Infrastructure at Peripheral Gateways and P&R Facilities



Cost

40.000 €



Period

Short



Priority

Medium



Description

Additional EV charging points are developed at peripheral park-and-ride facilities near the eastern, northern, and southern gateways. These locations support longer dwell times, facilitate park + ride and park + walk trips, and encourage the use of electric vehicles for access to the city while limiting penetration into the historic core. Integration with parking management measures ensures coordinated use and demand management.



Image

City Hub

MULTIMODAL CHARGING STATION FOR ELECTRIC VEHICLES

Management of the recharging of electric cars

URBAN PLUG
with charge points and 7" touch screen

Control of the charging of electric bicycles

FAST RECHARGING OF ELECTRIC CARS

- Modular load power, from 3 kW single-phase to 22 kW three-phase
- 4 sockets for 2 charging points :Types 2 & 3 + domestic outlets
- NFC bank card reader (contactless)
- Identification by RFID badge or digital code
- Possibility to integrate the ENEDIS meter in the bollard

SECURING AND RECHARGING ELECTRIC BICYCLES

- Innovative patented automatic locking and recharging system
- Plug and play station: you position the station according to your needs.
- One totem manages up to 5 attachments.
- 7-inch touch screen for intuitive and autonomous use

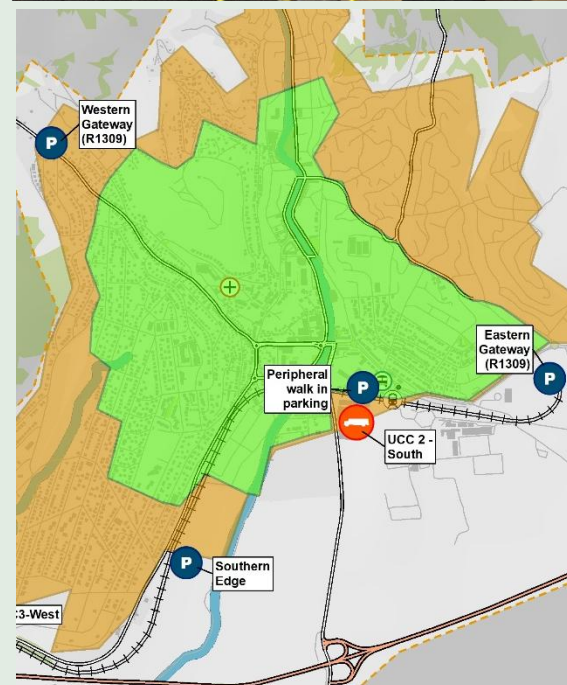
A MULTIMODAL ELECTRIC MOBILITY HUB IN THE HEART OF THE CITY

Recharging electric cars in time clock mode is payable by contactless credit card.

An e-bike can be rented thanks to an RFID badge or a Smartphone.

A management software allows you to know the status of your fleet of electric vehicles and the charging station at any moment T.

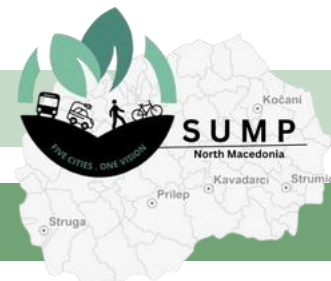
The RFID badge can also control the locking of the car recharging flap.



Electric Mobility

M8.3: Realize a local e-mobility strategy including sharing schemes

M8.3.1: Development of a Coordinated Local E-Mobility Strategy



Cost

20.000 €



Period

Medium/Long



Priority

Medium



Description

A local e-mobility strategy defines priorities, locations, and standards for EV deployment in Kochani, covering public infrastructure, municipal fleets, and private investment. The strategy ensures coordination between charging infrastructure, low-emission zones, and access regulation measures, providing a coherent framework for the gradual electrification of urban mobility.



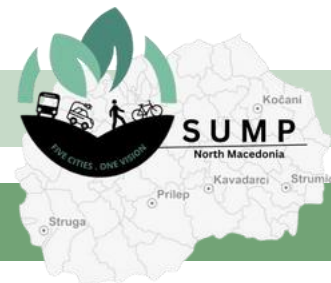
Image



Electric Mobility

M8.3: Realize a local e-mobility strategy including sharing schemes

M8.3.2: Introduction of Shared EV Schemes and Fleet Electrification



Cost

40.000 €



Period

Medium/Long



Priority

Medium

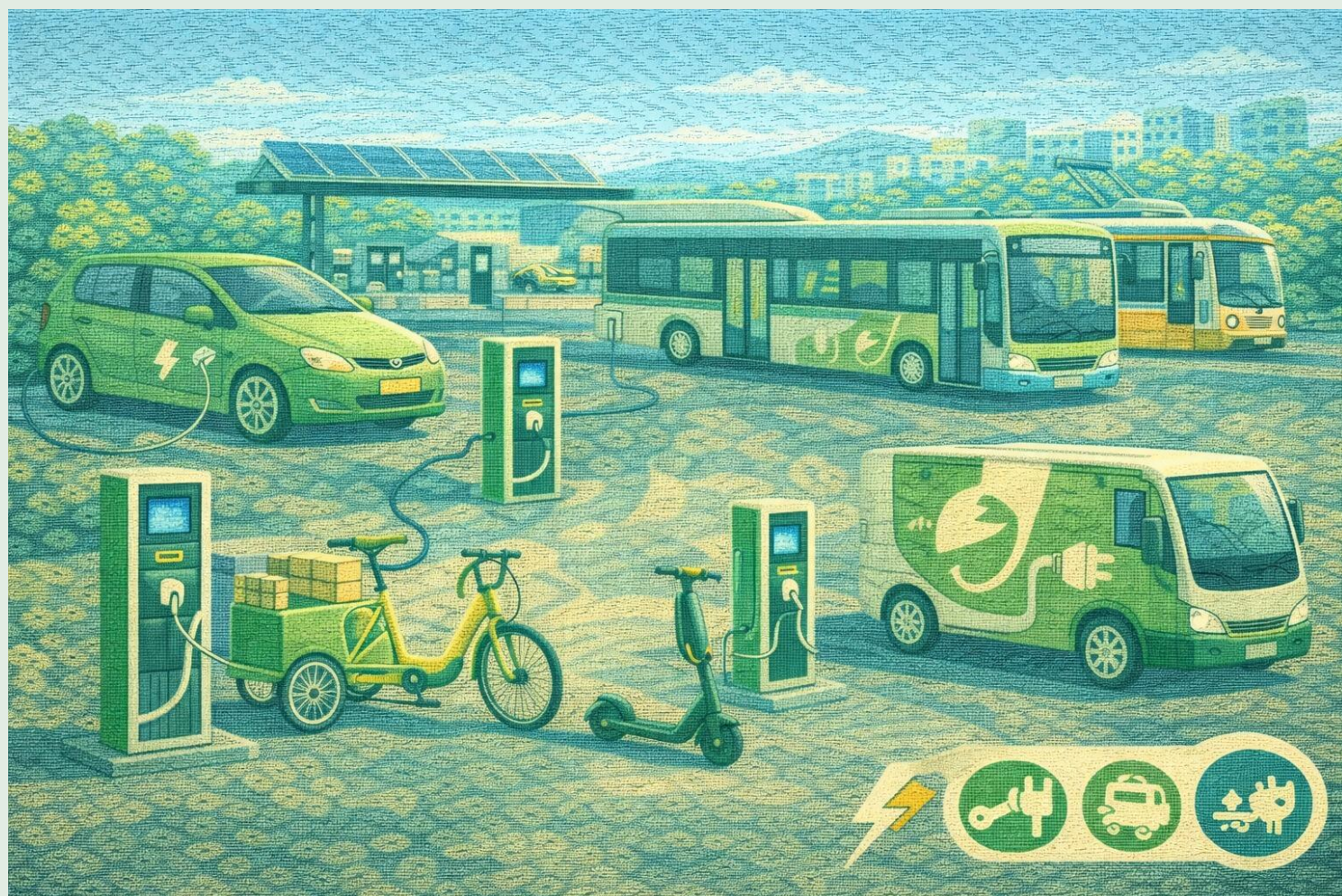


Description

Shared EV schemes are promoted for residents, businesses, and visitors, with dedicated parking and charging at strategic locations, including park-and-ride facilities and mixed-use areas. Electrification of municipal and service fleets is encouraged to reduce emissions and noise, while reinforcing the effectiveness of parking regulations (M4.2–M4.4) and flexible scheduling measures (M7.3).



Image



Responsible Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

Medium



Cost

45.000 €



Period

Medium/Long



Priority

Medium



Description

Pilot e-cargobike programs are launched for residents, local businesses, and urban logistics operators, focusing on the historic core, riverfront streets, and main commercial corridors. Managed through municipal or external sharing schemes, these programs provide an alternative to vans for short-distance deliveries and personal trips in areas with restricted access and high pedestrian activity.



Image





Cost

100.000 €



Period

Medium/Long



Priority

High



Description

E-cargobike pilots are coordinated with micro-hubs (M9.2), cargo-bike delivery operations (M9.3), and digital logistics management tools (M9.4). This integration supports low-emission last-mile deliveries, reduces congestion and conflicts in pedestrian-prioritized areas, and provides operational evidence for scaling up e-cargobike use across Kochani.



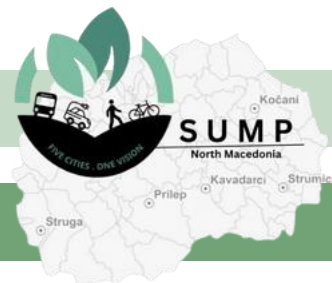
Image



Urban Freight Transport

M9.1: Schedule deliveries outside peak hours

M9.1.1: Define delivery windows and authorised access



Cost

20.000 €



Period

Short



Priority

High

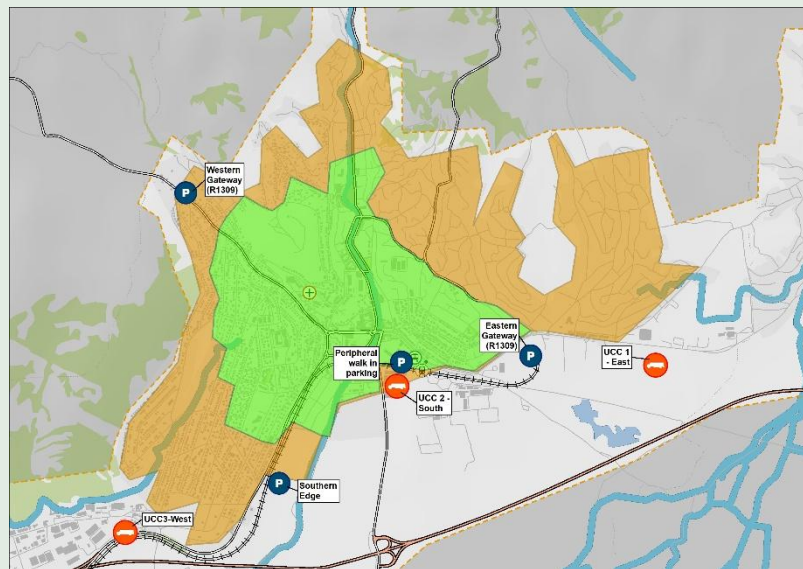


Description

In order to reduce conflicts with pedestrians, cyclists, and public transport in Kochani's city centre, freight deliveries into pedestrian-prioritised areas and the LTZ are restricted to specific early morning and evening time windows. Access is strictly limited to authorised vehicles, including resident services, public service operators, and commercial delivery vans. By defining these delivery windows, the city ensures that heavy freight traffic does not coincide with peak pedestrian activity or high cyclist flows. This scheduling approach aligns with broader traffic management and pedestrian safety strategies, preventing congestion and improving urban environmental quality.



Image



Z.T.L.
ZONA TRAFFICO LIMITATO

1

DIVIETO DI TRANSITO A: AUTOVEICOLI MOTOVEICOLI NON AUTORIZZATI

ECCETTO



CARICO E SCARICO



Feriali - (cat. N1 - N2 - N3) 07:00 - 11:30



Festivi - (cat. N1) 07:00 - 10:00
(solo alimentari deperibili, pasticceria, pane freschi e distribuzione stampa)



MODERARE LA VELOCITÀ



SPEGNERE IL MOTORE DURANTE LE SOSTE



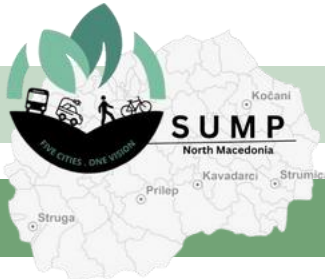
DIVIETO SOSTA/FERMATA DURANTE IL TRAGITTO

EN No Entry for motor-vehicles except for those of persons staying in hotels or apartments within this area and possessing a pass that can be asked at the hotel or apartment

Urban Freight Transport

M9.1: Schedule deliveries outside peak hours

M9.1.2: Enforcement and permit management



Cost

20.000 €



Period

Short



Priority

High



Description

Compliance is monitored through a combination of physical signage, road markings, and automated enforcement mechanisms embedded in LTZ regulations. Vehicles operating within the restricted hours are issued time-based permits and RFID chips, discouraging habitual heavy truck access. The permit system allows authorities to track and control delivery patterns, providing data to adjust time windows if necessary. This structured approach not only maintains the flow of goods but also minimises risks to pedestrians, supports traffic calming initiatives, and ensures consistency with the overall urban mobility plan.



Image



Z.T.L.
ZONA TRAFFICO LIMITATO
1

DIVIETO DI TRANSITO A: AUTOVEICOLI MOTOVEICOLI NON AUTORIZZATI

ECCEPETO



CARICO E SCARICO

**Feriali - (cat. N1 - N2 - N3) 07:00 - 11:30**

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(solo alimentari deperibili, pasticceria, pane freschi e distribuzione stampa)

**MODERARE LA VELOCITÀ**

**SPEGNERE IL MOTORE DURANTE LE SOSTE**

**DIVIETO SOSTA/FERMATA DURANTE IL TRAGITTO**

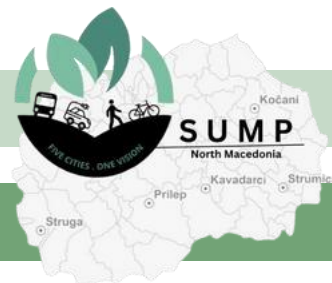
EN No Entry for motor-vehicles except for those of persons staying in hotels or apartments within this area and possessing a pass that can be asked at the hotel or apartment



Urban Freight Transport

M9.2: Develop urban logistics hubs or consolidation centres

M9.2.1: Primary Urban Consolidation Centre (UCC1)



Cost

800.000 €



Period

Medium



Priority

High

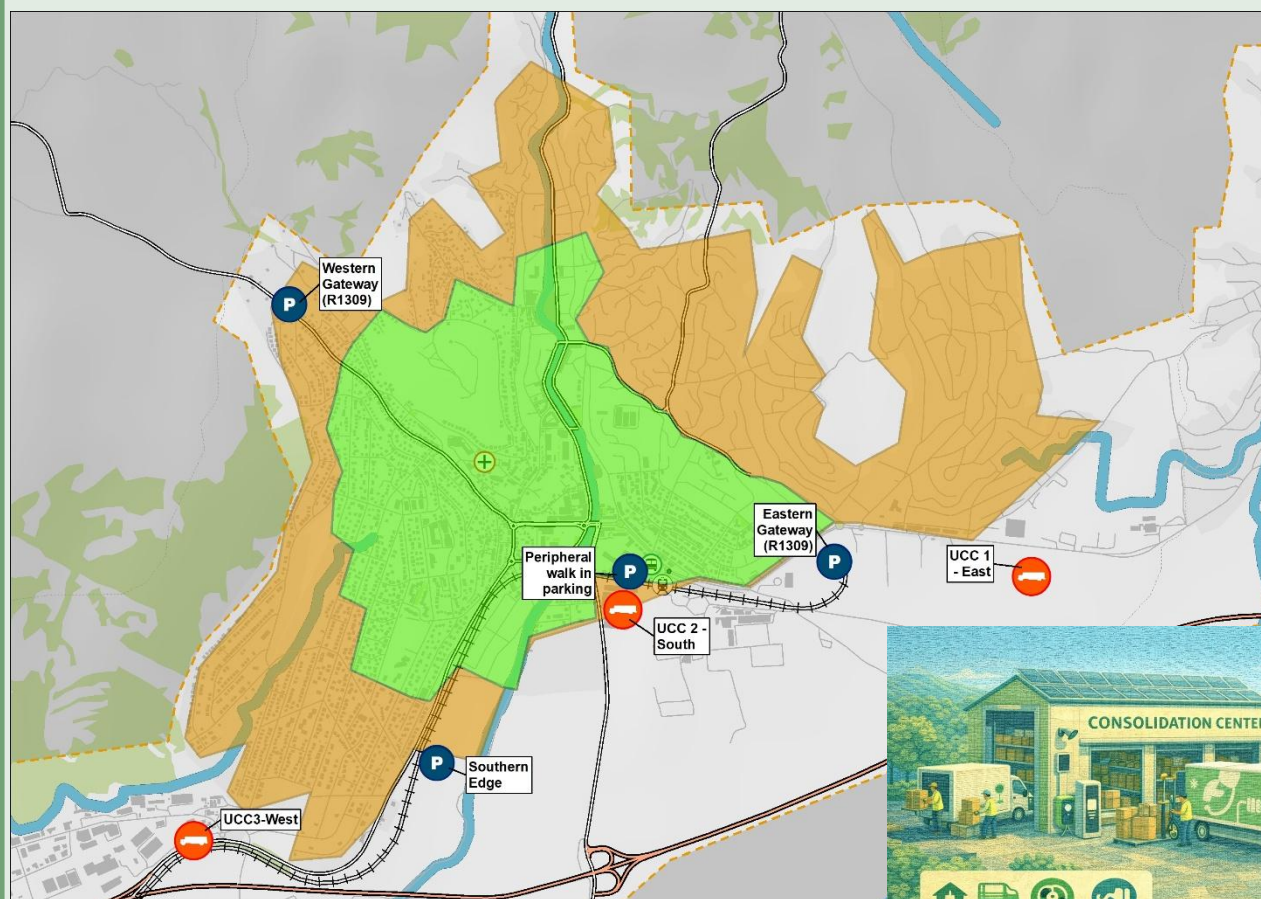


Description

UCC1 is strategically positioned along the eastern section of R1309, outside pedestrian-prioritised and LTZ areas, with direct access from the regional road network. Its location near industrial and commercial nodes such as KAM Market and Autowelt MK allows incoming freight vehicles to bypass residential streets and sensitive historic zones. At UCC1, large trucks unload goods, which are consolidated into smaller shipments suitable for last-mile distribution. Using electric vans and cargo bikes, consolidated goods are then delivered efficiently into the city centre without compromising pedestrian areas or causing noise and air pollution. This hub acts as a transshipment point, enhancing urban logistics efficiency while reducing the negative impacts of heavy freight in dense urban zones.

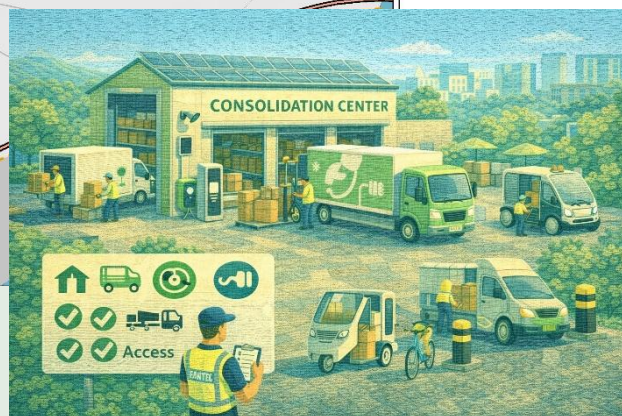
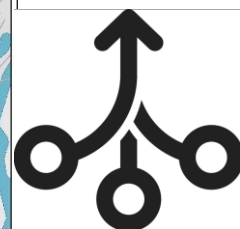


Image



Legend

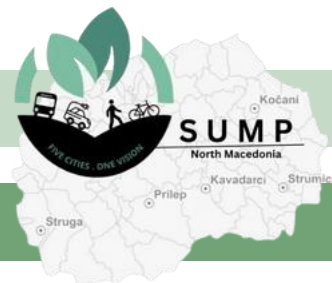
-  Urban Freight
-  Parking Systems
-  Kochani Functional Area
-  Limited Traffic Zone
-  Traffic Calming Zone



Urban Freight Transport

M9.2: Develop urban logistics hubs or consolidation centres

M9.2.2: Secondary Micro-Hub (UCC2) at LTZ edge



Cost

200.000 €



Period

Medium



Priority

High

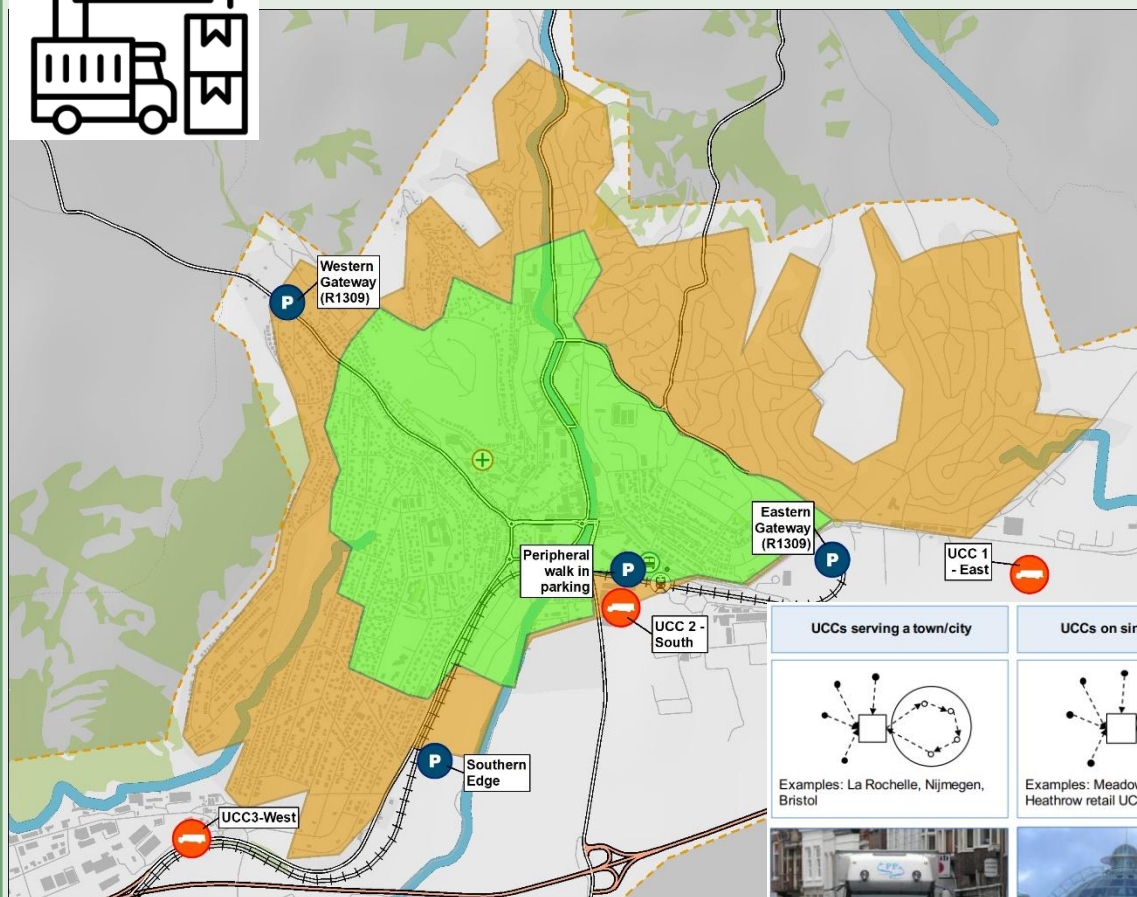


Description

UCC2 is located at the perimeter of the LTZ, close to the bus station and central commercial streets, providing a last-mile distribution point for small electric vans, cargo bikes, and handcarts. Positioned just outside the pedestrian core but within short delivery distance, it ensures frequent, low-impact deliveries to retail, HoReCa, and local service providers. The micro-hub reduces the need for direct truck access to the city centre, supporting pedestrianisation and traffic calming measures. By consolidating goods for short-distance delivery, UCC2 improves efficiency, lowers emissions, and mitigates congestion in high-density urban streets. It also allows for flexible routing, responding to seasonal or demand-based variations in delivery volumes.



Image

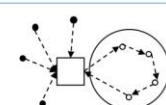


Legend

- Urban Freight
- Parking Systems
- Kochani Functional Area
- Limited Traffic Zone
- Traffic Calming Zone

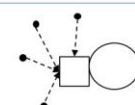


UCCs serving a town/city



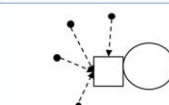
Examples: La Rochelle, Nijmegen, Bristol

UCCs on single site



Examples: Meadowhall (Yorkshire), Heathrow retail UCC

Construction project UCCs



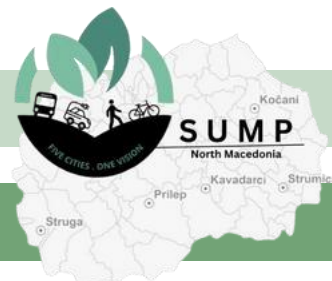
Examples: Construction material UCCs in Heathrow and Stockholm



Urban Freight Transport

M9.3: Support the use of cargo bikes for last-mile deliveries

M9.3.1: Deployment from micro-hubs



Cost

220.000 €



Period

Medium



Priority

High

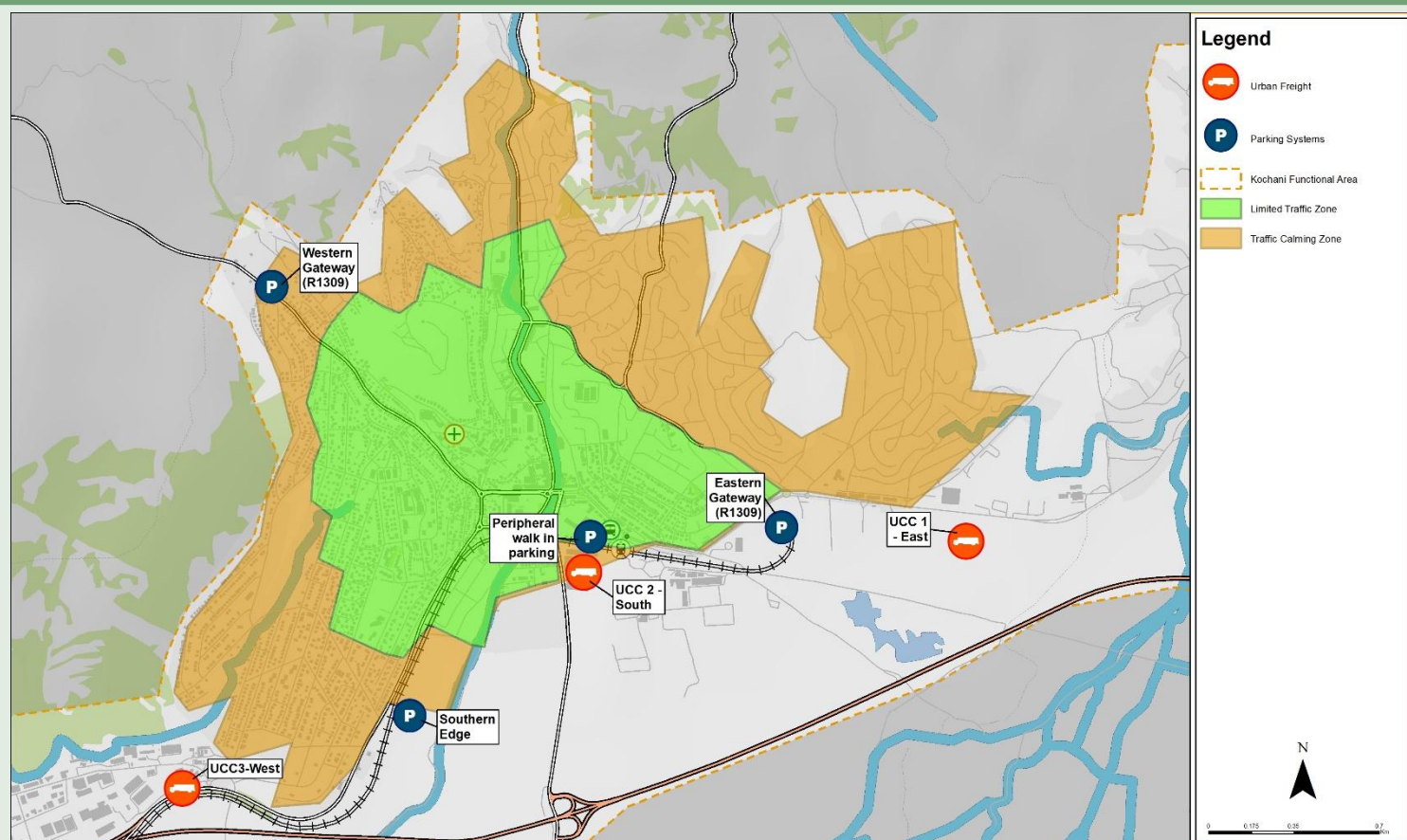


Description

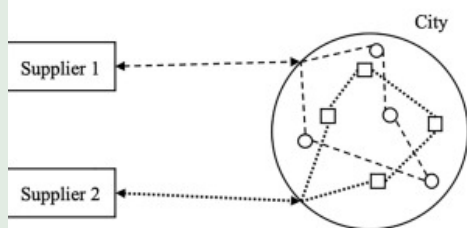
Cargo bikes operate from UCC2 and other strategically located micro-hubs at the LTZ edge. They are deployed to deliver small retail items, food and hospitality products, pharmaceuticals, and other local service goods. By using smaller, zero-emission vehicles, the city reduces both air and noise pollution while maintaining high service frequency. Cargo bikes also enable deliveries in areas that are inaccessible to larger vehicles, such as narrow historic streets or pedestrian-prioritised zones, ensuring that essential goods reach their final destinations efficiently.



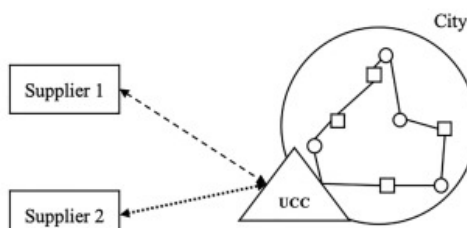
Image

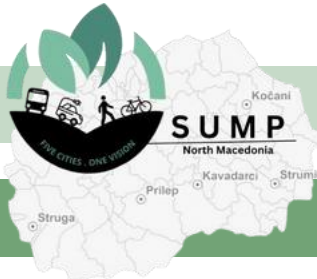


Before introduction of UCC



After introduction of UCC





Cost

140.000 €



Period

Medium



Priority

High



Description

Ideal area for cargo bikes includes the entire city centre interested by 30 km/h speed limits, pedestrian core, riverside narrow streets, and streets connected to the planned or existing cycle network. Kochani’s flat terrain, short delivery distances, and tourism-oriented public spaces make cargo bikes particularly effective. Their use allows for flexible, low-impact urban logistics, reduces dependence on motorised vehicles, and enhances sustainability in city freight operations. Additionally, cargo bikes support the integration of local businesses into a coordinated delivery system while preserving the quality of public spaces.



Image



Urban Freight Transport

M9.4: Digitalize freight logistics (tracking and scheduling) for efficiency

M9.4.1: Centralised digital coordination



Cost

40.000 €



Period

Medium



Priority

Medium



Responsible Authority

Municipality of Kochani



ASI Status

Avoid



Efficiency

Medium

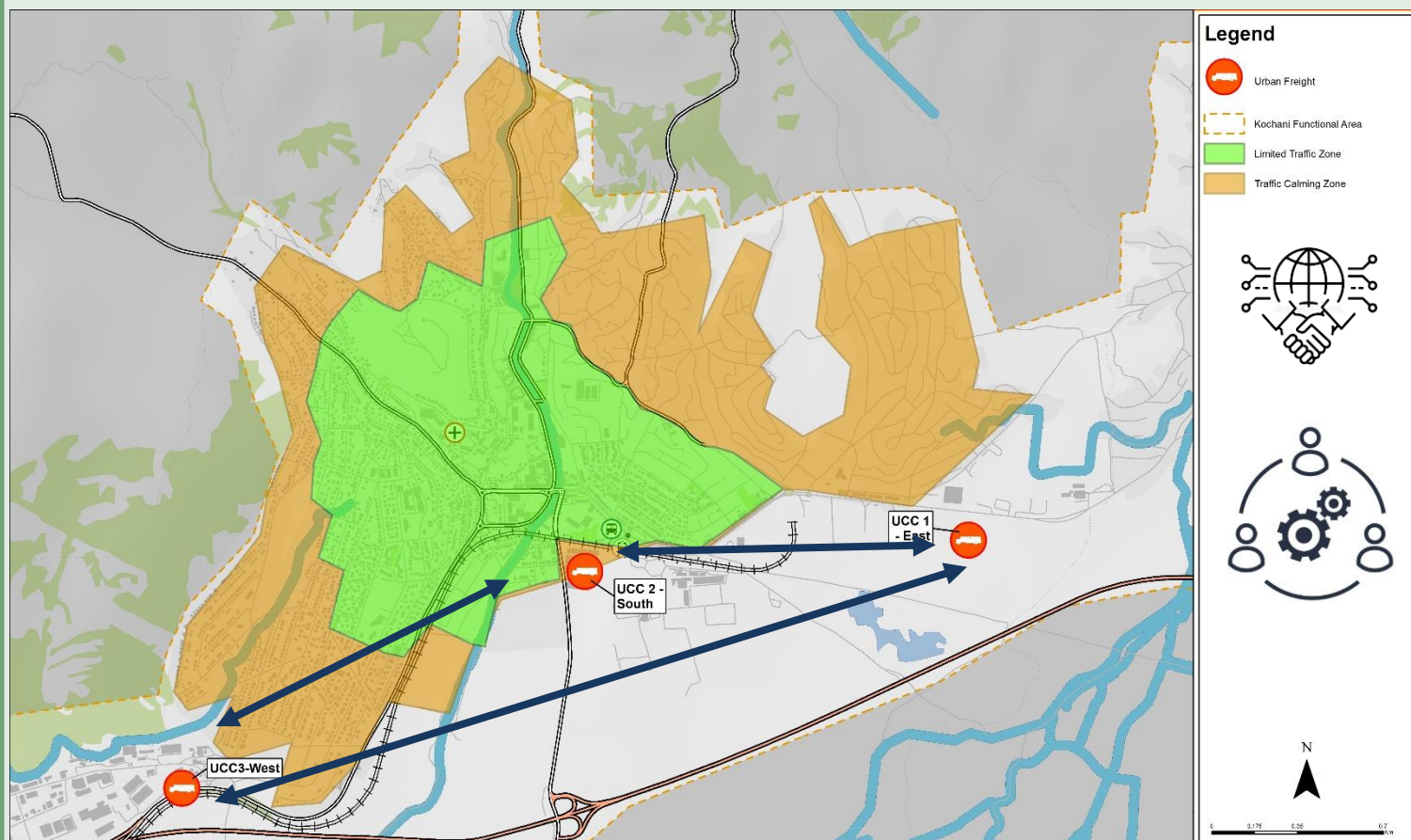


Description

A digital logistics platform coordinates scheduling, routing, and tracking of all deliveries in central streets, LTZ, and school zones. The system authorises vehicle access, synchronises operations between UCC1, UCC2, and micro-hubs, and ensures deliveries are spread throughout the day to avoid congestion peaks. Real-time monitoring allows operators and city authorities to adjust routes and schedules dynamically, ensuring timely deliveries while maintaining urban safety and traffic flow.



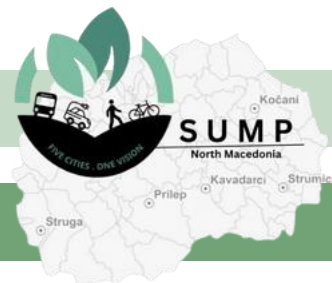
Image



Urban Freight Transport

M9.4: Digitalize freight logistics (tracking and scheduling) for efficiency

M9.4.2: Data-driven operational improvements



Cost

240.000 €



Period

Medium



Priority

Medium

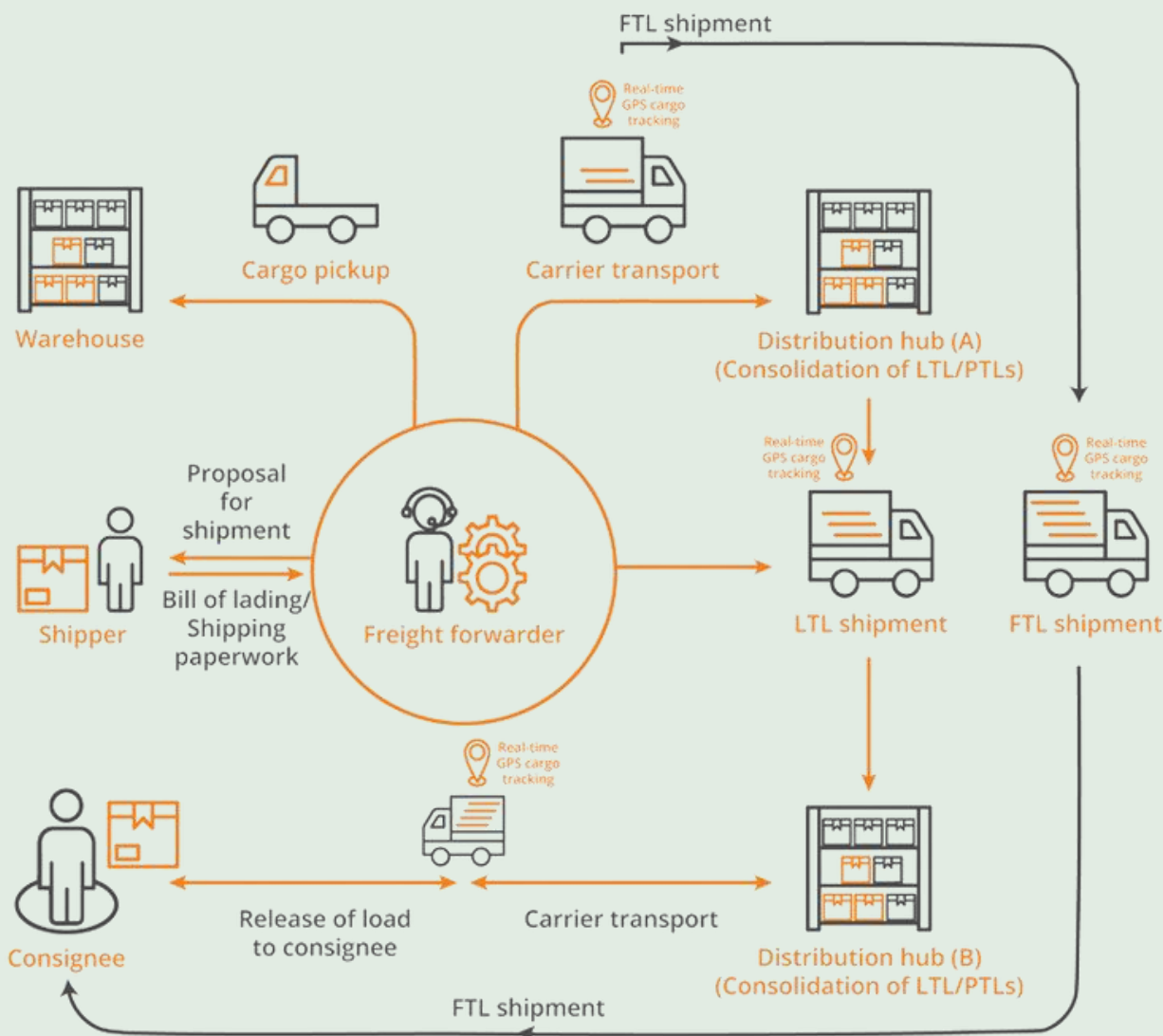


Description

The digital platform enables enforcement transparency, supports seasonal variations in delivery patterns (e.g., summer tourist season vs off-season), and provides detailed analytics for policy adjustments. By integrating operational data, the system allows continuous improvement of urban freight management, balancing efficiency, safety, and sustainability. Decision-makers can use data to refine delivery windows, optimise hub operations, and plan future infrastructure investments, ensuring that urban freight contributes positively to Kochani's mobility and environmental objectives.



Image





Cost

150.000 €



Period

Medium



Priority

##

Responsible
Authority

Municipality of Kochani



ASI Status

Improve



Efficiency

##

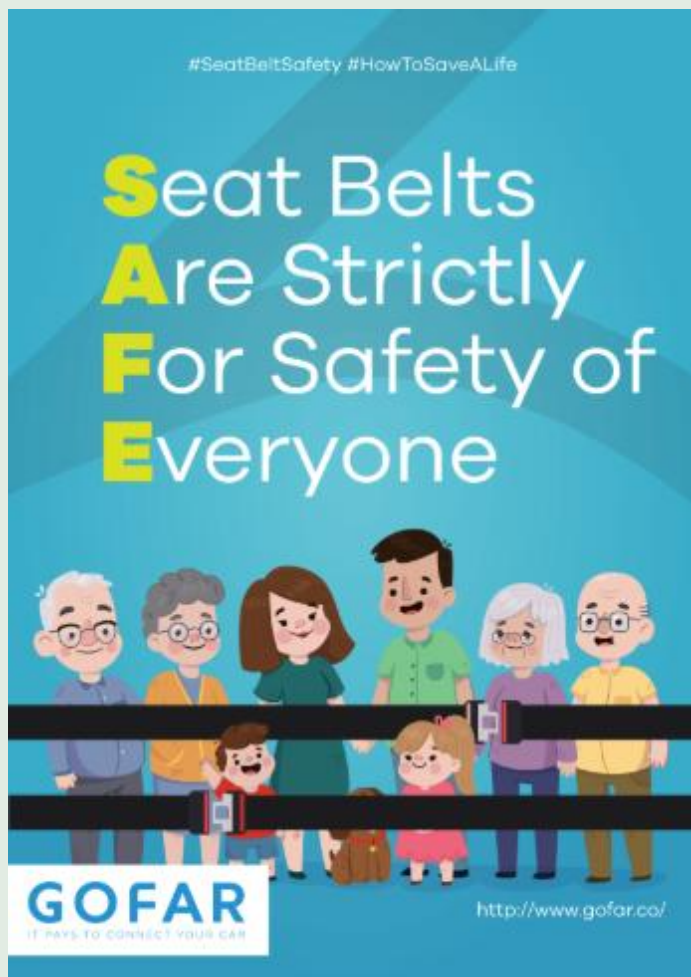


Description

Kochani should launch a citywide safety campaign targeting pedestrians, cyclists, and drivers, with a special focus on high-risk areas such as the Square, Stari Park, and the Recreation zone along the river. Campaigns should use posters, social media, school programs, and local media to highlight safe crossing behavior, cycling etiquette, and responsible driving. Public events and demonstrations can be organized in central locations to engage directly with citizens. Collaboration with schools, workplaces, and NGOs will strengthen outreach. Over time, raising awareness will help reduce traffic accidents, particularly those involving vulnerable groups. By creating a culture of mutual respect on the roads, Kochani will foster safer, more responsible mobility choices across all parts of the city.



Image





Cost

50.000 €

Responsible
Authority

Municipality of Kochani



Period

Medium



ASI Status

Shift



Priority

High



Efficiency

High



Description

Embedding sustainable mobility education in schools and workplaces across Kochani will create long-term cultural change in how residents view transport. Programs should include interactive workshops, cycling lessons in collaboration with Stari Park, and walking-to-school initiatives that encourage children to adopt healthy habits early. In workplaces, campaigns promoting carpooling, cycling to work, and public transport use can be combined with incentives for employees. Partnerships with local employers and schools ensure broad coverage and credibility. By using practical demonstrations and hands-on experiences, the city will connect mobility choices with health, environment, and cost savings. Over time, these programs will reduce car dependency, support cleaner air, and build a new generation of citizens committed to sustainable mobility.



Image

