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1. ACTIVITY PLAN FOR INTRODUCING THE *SCOOTER* SHARING SYSTEM OF ELECTRIC VEHICLES IN THE CITY OF ZAGREB

1.1. *Activities that can be implemented and the number of planned light electric vehicles*

In early 2015, the Environmental Protection and Energy Efficiency Fund co-financed on the national level a total of 91 L category electric vehicles. Using the Fund's resources, natural persons purchased a total of 27 electric vehicles (16 of L1 category, 1 of L3 category and 10 of L7 category), while legal entities purchased a total of 64 electric vehicles (42 of L1 category, 3 of L2 category and 19 of L3 category). Due to a successful campaign and great public interest, the Fund will allocate further HRK 7.5 million for co-financing of electric vehicles in 2015.

Under the assumption that the Fund will continue the program of co-financing of electric vehicles, and given the current trend of purchasing these vehicles through the existing programme, the number of purchases of new L category electric vehicles in the coming period in the City of Zagreb can be projected.

Taking into account the fact that the City of Zagreb is the administrative and political centre of the Republic of Croatia it is expected that of the total number of purchased vehicles of L category in Croatia (using the Fund's resources) nearly 50 percent will be registered in the City of Zagreb. Thus, the approximate purchase of 75 electric vehicles of L category annually in the City through the Fund's system of co-financing is foreseen. With additional assumptions of the increase in purchases of such vehicles without using the Fund's financial resources (30 percent in the first three-year period, 35 percent in the second three-year period and 40 percent after 2021), the approximate number of 1,425 electric vehicles of L category in 2025 is expected (950 legal entities, 475 natural persons). These projections do not include vehicles that are part of the *scooter sharing* scenario.

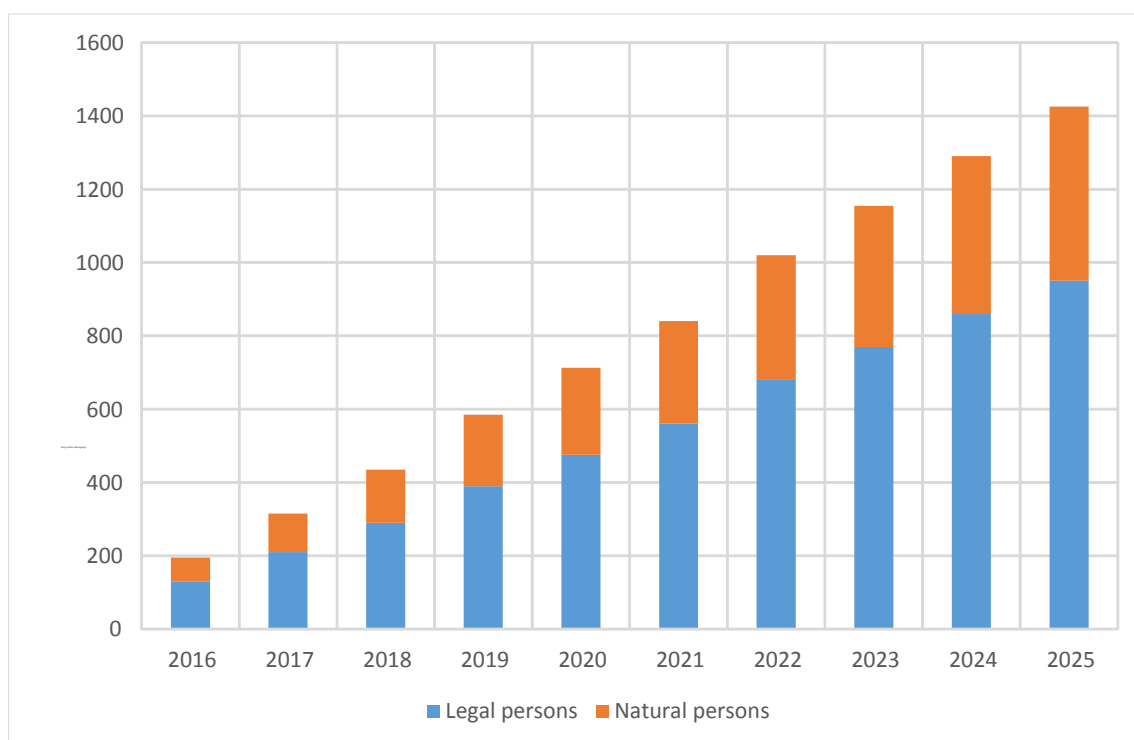


Figure 1.1. Projection of the number of L category electric vehicles in the City of Zagreb

It is definitely recommended to the City of Zagreb to consider making the decision on a partial replacement of the existing vehicle fleet with electric vehicles in one of the upcoming procurement procedures. For the local government, popularisation of cleaner technologies in traffic is a mechanism of public relations that can achieve maximum effects of acceptance by citizens for a relatively small investment. The city authorities can properly communicate with the general public by their own example, sending a clear message about the trends of development and implementation of the city's thoughtful sustainable development policy.

1.2. Key participants in the preparation and implementation of the electric vehicles sharing system

The project of implementing the *scooter sharing* system in the transport system of the City of Zagreb, including the activities of promotion of light electric vehicles and *scooters*, requires a comprehensive, integrated and interdisciplinary approach. In order to implement the project as successfully as possible, it is essential to categorise stakeholders and define their roles in each phase of the project implementation. The most important stakeholders can be categorised into three groups:

- business stakeholders (suppliers and distributors of electric vehicles, infrastructure and technology, equipment service, system operators, electricity suppliers, etc.)
- demand stakeholders (large companies, schools, university facilities, tourist offices, hotels, shopping centres, etc.)

- institutional stakeholders (local authorities, public bodies, associations, research institutes. etc.)

The interest of individual categories of stakeholders to participate in the programme of implementing the electric *scooters sharing* system is wide and can be systematised with respect to each category;

- The interest of business stakeholders
 - promotion of products and services in a broad range of end users (efficient marketing)
 - penetrating new markets (geographically and in terms of new users)
 - easier placement of products and services on the market due to incentives that are expected in the programme
 - opportunity for innovative products and services taking into account user feedback
 - achieving financial profit
 - cooperation with local authorities and the possibility for new projects
- The interest of demand stakeholders
 - raising awareness of sustainable mobility and innovative means of transport
 - own promotion and promotion of services (hotels, shopping centres, ...)
 - improving accessibility and acquiring new customers and influx of tourists
 - possibility of combining and integrating own services (e.g. discounts in shopping centres)
 - strong promotion with regard to participation in an innovative mobility model
 - cooperation with local authorities and the possibility for new projects
- The interest of institutional stakeholders
 - increasing social responsibility
 - reduction in energy consumption and pollutant gas and substances emissions
 - increasing the quality of life of citizens
 - raising awareness of the problem of sustainable mobility development
 - improving the quality of offer for the influx of tourists
 - promotion of sustainable mobility and alternative technologies

Although all the above stakeholders are not equally represented in all phases of the project implementation, their harmonic interaction is required in order for the resources to be properly used and the results to be optimal.

For the implementation of the *scooter sharing* project it is necessary to identify the **operational manager** who will be responsible for monitoring, managing, directing and supporting the project in all its phases. The operational manager is obliged to be familiar with all the project phases and all possible issues for the overall coordination of the project in order to optimise the use of time and all other resources of each stakeholder.

The **City Office for Energy, Environmental Protection and Sustainable Development** in cooperation with the **City Office for Physical Planning, Construction of the City, Utility Services and Transport** are proposed as the operational manager.



The City Office for Energy, Environmental Protection and Sustainable Development carries out activities related to energy and energy development planning, the efficient use of energy in direct consumption, sustainable development, renewable energy sources and environmentally friendly energy sources, environmental protection, air protection, noise protection. The Office's activities are based on initiating, promoting and creating appropriate programmes, plans, decisions and guidelines for the rational use of energy in direct consumption, preserving and improving the environment, while supporting the economic and industrial development, improvement in the standard of living, and thus the sustainable development of the City of Zagreb.

The City Office for Physical Planning, Construction of the City, Utility Services and Transport carries out activities related to the development and adoption of physical planning documents, traffic management, public land use, roads and road transport, traffic.

For the purpose of an easier and more efficient implementation, the operational manager should pay special attention to the presentation of the overall project to the general public, identify potential investors or the operators of the future implemented system, partners and stakeholders.

The **carrier of the investment** is a legal entity and the main actor in the project implementation. Its domain is primarily the construction of infrastructure and operational management of the overall programme. The basic idea of the programme for introducing the electric *scooter sharing* is self-sustainability, and certain financial profitability. In close cooperation with the Operational manager, the carrier of the investment will define the business model, sign agreements with stakeholders and develop a detailed investment study.

In the initial phase of the project there is a possibility of financial support from the **Environmental Protection and Energy Efficiency Fund**, whose activities relate to financing the preparation, implementation and development of programmes, projects and similar activities in the field of preservation, sustainable use, protection and improvement of the environment and in the area of energy efficiency and the use of renewable energy sources. Within this project, the most important functions of the Fund are prescribed by the Act on the Environmental Protection and Energy Efficiency Fund. These include the financing of the preparation, implementation and development of various projects and programmes aimed at preserving the environment, i.e. promoting new and environmentally friendly technologies that lead to a reduction in the environmental burden.

Within the Ele.C.Tra project, the City of Zagreb set the goal to promote the electric *scooter* transport model. One of the activities is the inclusion of as many stakeholders as possible in the creation of the common vision. In order to achieve synergies in the promotion of e-mobility with the citizens and tourists, the City of Zagreb endeavours to cooperate with institutions and organisations in the city. So far, cooperation agreements have been signed with the **Zagreb Tourist Board**, **Zagrebparking** and **Energy Institute Hrvoje Požar**.



1.3. Promotional activities and education

The promotion represents the communication of a business entity (system operator of the *scooter sharing*) with their existing and potential markets. It is a process of communication between companies and users in order to create a positive attitude about the services and which should lead users to prefer their implemented concept.

Promotional activities at the beginning of the project are carried out with the aim of informing the citizens about the existence of new services and introducing them to its basic characteristics so that the potential clients develop a positive attitude to the service, while in later project phases they are aimed at improving sales.

In promotion, as well as in any other manufacturing process, good management is essential. The process of promotion management takes place in six basic steps that include the selection of the target market, setting the promotion objectives, budgeting, selection of the promotion media, selection of the promotional mix and, finally, evaluation of the promotion.

Selection of the target market

Setting of the promotion objectives is preceded by determining or identifying the target market in order to achieve effective communication with potential customers and consumers. The target market is determined on the basis of characteristics, of which the most significant are demographic characteristics, lifestyle, geographic micro-location and a number of other specific features that cause similar behaviour of a certain group. These include the so-called archetypal psychographic segmentations, based on lifestyles, attitudes, interests, opinions of people as individuals and as members of social groups.

The target market consists of potential users, existing users (if the system has already been implemented), but also those that affect purchase decisions. In this step, it is very important to determine the initial views and beliefs that a particular target group has toward the service or the organisation itself.

Accordingly, the market research in the City of Zagreb must be carried out in segments, taking into account the respondent's age, sex, professional qualifications, whether the respondent is employed, whether he/she owns a private car or other vehicle, whether he/she is a user of public transport or taxi service, etc.

Before the research it is necessary to determine the sample size on which to perform the research and to determine the research methods (in person, by telephone, via the Internet), and to create a short questionnaire which will give an answer to the main question; is there a demand for the service of electric *scooter sharing* and what is its real scope.

Setting the promotion objectives

The promotion is always linked with reaching a certain objective. The long-term setting of promotion objectives implies creating an identity of a business entity which achieves a positive public image. Short-term and medium-term promotion plans are mainly oriented on



sales targets. The promotion objectives must be set in such a way, that over time, a synergy effect of promotional activities is achieved, and to achieve an adequate level of presence in the media, that is, to achieve the presence which brings the preconditions for reaching the defined marketing goals on the short and long-term basis.

Budgeting

Cost-effective and efficient promotion implies the planning of promotional budget and planning of promotional activities.

Within the activities of setting the promotion objectives and budget, it is necessary to create a visual identity which would communicate with the market and the overall public. The visual identity refers to the company name, logo and trademark, company slogan, messages of the company, etc. It reflects the values, aspirations and the characteristics of the company, helps to create the reputation, creates a sense of community, indicates the mission of the project, etc. In the process of determining the content of the message, the most important thing is to determine what that message should say to the target market. An important role in creating the message is played by the image which is transferred by the message, positioning of the company as well as the selection of appeals (emotional, rational, moral). In this case, particular emphasis should be placed on benefits of reducing air pollution. Colour is one of the important factors of the visual identity since it triggers emotions and associations and expresses the brand's personality. Furthermore, an appropriate selection of colours in catalogues, publications and printed ads can determine how and what will people see first. Wrong choice of colours can make products unattractive. Warm colours attract attention and stimulate activity, but can also be disturbing and even uncomfortable, while cool colours do not attract attention but have a relaxing effect. Since the visual identity creates the first impression about the product, the impression must be positive and must reflect the company's views.

Selecting promotion media

Selection of the media refers to the decision on the scope, frequency, and the expected effect of the promotion, because each medium has its own specific characteristics, that is, advantages and limitations. The mass media are divided into the press (newspapers and magazines), and audio-visual and digital media such as radio and television and the Internet as comprehensive media.

The public medium with the most powerful authority is television which is best at demonstrating visual and applicable characteristics of services. It has great authority in shaping public opinion and, in general, publicity. In choosing the television as a promotion medium it is necessary to determine the timing of broadcasting the message and the reach that we want to ensure. Television, however, like all other mass media, has its advantages and disadvantages. The advantages of television as a medium are that it uses all communication elements (human voice, colours), wide potential of reach, selectivity and flexibility (by selecting the channel and timing, the audience is also selected), comfortable environment while receiving the message, using the authority, etc. The disadvantages of television as a medium are the shortness of the message (if the recipient is not paying attention, he/she had not heard or seen the message, the message is lost), the reduction of

the target audience (the number of TV channels is increasing), high costs, overcrowding of programmes and other.

The print media include magazines and daily newspapers. Magazines have a high degree of selectivity, credibility, authority and prestige. They are specialised, and the area of specialisation may be: technology, fashion, family, health, business, etc. Each area of specialisation represents a particular targeted market segment whose demographic and psychological characteristics can be identified. Daily newspapers, as opposed to magazines, provide high flexibility in the use of space for promotional purposes, but on the other hand, daily newspapers are crammed with promotional messages. They have a wide readership but no selectivity like magazines.

The newspapers are increasingly transferred to the virtual environment of the Internet. In addition to newspapers, the Internet also links the on-line magazines, allows viewing of television programmes, while simultaneously supporting individual, business, institutional and other entities in creating their own contents, opinions, views, debates, that is, the search and the comparison of certain information and data.

Advertising on the radio allows greater flexibility and easier identification of the targeted segment in terms of geographical area with significantly lower costs than television. Although the main disadvantage of radio advertising is that it transmits only the sound, radio is often listened to while some other task is being performed. However, a large number of radio stations require broadcasting of shows on different radio stations, which increases costs despite the initial low price. On the other hand, the inclusion in thematic programmes is possible, as well as organising prize competitions to make it interesting to a larger number of potential users.

Outdoor advertising enables a relatively good visibility provided that the ad is catchy and simple, and posters in many places allow coverage of the entire targeted geographic area of the City of Zagreb. However, it is often difficult to present the basic idea properly because the exposure to the ad is usually rather short. However, an attractive poster will certainly attract the attention of potential customers, raise the awareness of the existence of the service, and stimulate curiosity for acquiring further information about it.

Direct methods of advertising, by delivering ads to home addresses or e-mail addresses, has its advantages and disadvantages. The advantage of direct mailing is in the personalisation of the message and the possibility to present detailed information, good coverage area and relatively low cost. The main disadvantage of direct mailing is the fact that its effectiveness depends on the address list of existing and potential clients. Also, if the recipient is overloaded with various promotional messages, he/she will start to consider them worthless and disturbing, and he/she will delete them without reading. With respect to placing advertising material in mailboxes, on one hand the disadvantage is that it is considered worthless and cheap, but on the other, it allows potential users to familiarise themselves with the service when it suits them and when they have enough time.

The selection of the promotional mix

The activities for achieving and maintaining positive perceptions in the public can be directed to the company's relationships with government institutions, financial institutions, intermediaries, opinion leaders and potential or existing clients.

As with the introduction of any new product or service in the market, it is necessary to conduct a full marketing campaign, which should systematically emphasise the social, environmental and economic factors which are brought by this type of mobility.

The promotional mix consists of: advertising, sales promotion, the Internet and other forms of direct marketing communication, personal sales and public relations and publicity.

Today, public relations are extremely important for the activities of public interest, especially for those that seek to achieve some objective, and include promotional activities aimed at properly examining and accepting the company's efforts to achieve and maintain a company's positive image as an entity that cares for the public and acts in public interest.

In the *scooter sharing* promotional activities, it is necessary to promote the idea of sustainable and clean transportation as a desirable social behaviour and to highlight the flexibility of the service. The important role in these activities could be given to the brochures and the website, as well as to reports in specialised magazines and TV and radio shows where the entire *scooter sharing* concept would be presented in detail and explained to the target group of users, based on the results obtained from the market research in the first phase, but also to other interested citizens. The website would provide the possibility to book electric *scooters*, information on available vehicles, price lists, service packages, etc.

As part of the promotional activities, it is necessary to emphasise the main reasons for selecting this model of mobility in the City of Zagreb and to highlight the real environmental (air quality improvement, noise reduction, traffic congestion reduction), social (interest in new technologies, individual contribution to environmental protection) and economic (high price of oil products, costs associated with owning a car) aspects of the *scooter sharing* model.

In the process of introducing the *scooter sharing*, the personal sale is also important, which includes sales activity where the salesman and the potential user are present at the same time in the same place. It is recommended to implement this type of sale as part of various events in public spaces or meetings where potential customers would, on request, personally be introduced to the process of inclusion in membership of the *scooter sharing* service, the registration into membership, testing of vehicles and the use of membership cards would be enabled on the spot, and they would get detailed explanations of the service use. Personal sale is the most expensive form of sale and at the same time it is a promotional activity. Management of this process is challenging, but can have a very positive impact on sales results.

In a later phase of the project, promotional activities must focus on sales promotion which includes all activities aimed at increasing the purchase of products and that are directly related to the product or its purchase. Sales promotion activities aimed at final customers are designed to encourage immediate purchases of the product, whether it is the initial, repeated or increased purchase. The main activities that traditionally fall in the sales promotion

category are free minutes of using the service, discounts on a variety of service packages, prize contests, etc. These activities are considered to be an integral activity of the customer “attracting” strategy.

User education is also an integral part of the marketing campaign. It is necessary to carry out a certain type of education for using electric vehicles, having in mind their extremely poor representation in the market, to prevent avoiding the use by a certain part of the population due to the fear of the use of new technologies. On the other hand, a part of the target group could out of curiosity and interest in new technologies become important in creating the group of future users.

Education could be implemented as part of thematic fairs, but also as part of events related to environmental protection, energy efficiency, renewable energy sources, promotion of new technologies and other meetings related to urban infrastructure and transport. Also, favourable platforms for education and promotion of this type of mobility could be projects such as e-mobility, in case of electric vehicles use.

Promotion evaluation

By evaluating the promotion it is possible to determine which elements of the promotion process are successful and which are not. In this way it is possible to avoid costly mistakes. In case of a large number of possible promotional investment strategies, it is necessary to explore all alternative strategies and determine which one is the most effective.

1.4. Schedule for establishing the electric vehicles sharing system

The scooter sharing system implementation into the City of Zagreb's traffic system requires the identification and inclusion of groups interested in the project and its implementation, and the analysis of their roles, interests, significance and capacity for participating in the implementation.

The project stakeholders are individuals, groups, organizations or companies which have or may have a significant interest in the success or failure of the project, whether included in the project as active participants, advisors, external interest groups or some other role. The basic postulate of the stakeholder analysis is that different groups have different interests, capacities and problems. They should be analysed individually in the project preparation process, and the project itself should be directed at adequate problem and target identification and at the selection of the operation strategy.

The objective of stakeholder inclusion is to contribute to the maximization of social, economic and institutional benefits of the project for target groups and end-users, and to minimize the potential negative effects as well as the potential conflicts among stakeholders.

By means of stakeholder analysis and coordination, project funds will be appropriately divided to achieve the objectives and meet the needs of target groups, and organize project management so as to include stakeholders and ensure their participation in the best possible way. In addition, it is necessary to enable high-quality recognition of individual interests which will be adequately addressed in drafting the project and its implementation.

For the activity of stakeholder inclusion (key stakeholder identification, sending letters of interest, face-to-face meetings and mutual coordination), the time period suggested is six months. This phase of implementation includes the recognition of a potential investor, i.e. the system operator.

The project implementation is largely conditioned with financial cost effectiveness. If the project does not prove to be financially cost effective and sustainable over a long term, there is no reason for its further implementation. The decision on project implementation will be made based on a detailed cost-benefit analysis, which will be based on real costs of the potential operator and investor in the system. It is necessary to give a funding costs overview based on which propositions can be made on funding source and model possibilities. At that, national models and mechanisms should be considered.

A positive assessment of the cost-benefit analysis provides a basis for devising and enacting the operational plan of project implementation, i.e. defining the consensus and management model among key stakeholders. In this phase, the signing of a cooperation agreement between the City of Zagreb and the infrastructure investor (it is expected that the investor will take the role of the operator, i.e. service provider) is anticipated. Also, the signing of a cooperation agreement between the operator and the key stakeholders in the project is expected. The predicted phase duration is also six months.

The next phase of implementation includes the definition of market model focused on the relationship between the service provider and the users. The objective is to select the best possible model taking into account users' needs, available facilities, infrastructural limitations and other factors which could affect the system. In this phase, it is necessary to identify the final locations for the infrastructural implementation. As a result of the model, defining tariff rates for end users is expected. It is also necessary to timely verify the financial justifiability of the project by means of analyzing costs and benefits regarding the establishment of the defined model. The phase duration is estimated at three months.

Parallel to defining the model, it is necessary to initiate activities necessary for physical implementation of infrastructure. The implementation phase duration is estimated at three months. In addition, it is suggested that the project digitalization phase does not last longer than three months. It includes the designing of an interactive website with a related real time application which will be available on mobile devices of potential users. For the application production, it is necessary to collect and coordinate data on the traffic system of the City of Zagreb (activity duration estimated at five months).

The realized system of electric scooter sharing demands a periodic surveillance and monitoring system. Aside the technical and economic indicators of the project's success, monitoring the realized savings in the context of the reduction in emissions of polluting gases and substances is required, as well as the overall influence onto the traffic system of the City of Zagreb.

The graphic display of the anticipated activities is set out below.



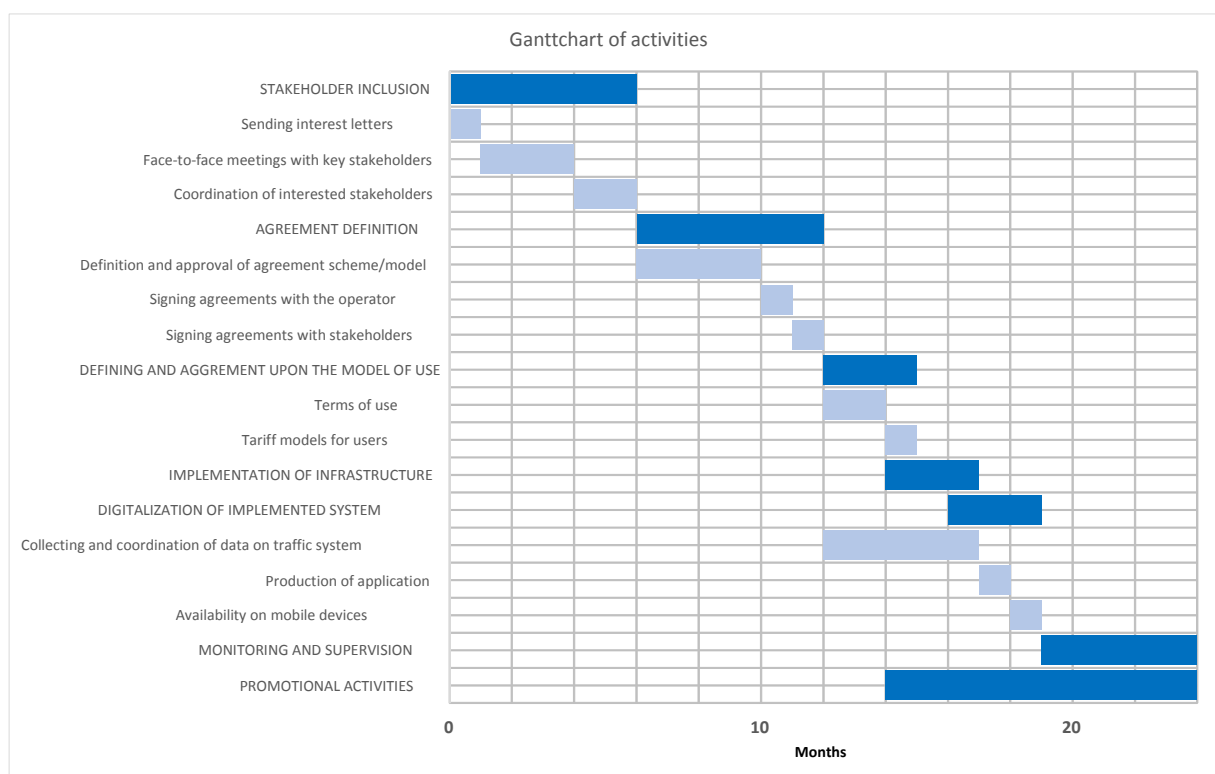


Figure 21: Ganttchart of anticipated activities

1.5. Conclusion

An approximate acquisition of 75 L-category electric vehicles in the City of Zagreb is planned in the upcoming period, using the co-financing system of the Environmental Protection and Energy Efficiency Fund. With the additional assumption of increased acquisition of such vehicles without using the Fund's financial assets, in the year 2025, it is expected that the City area will have approximately 1.425 L-category electric vehicles (legal persons 950, natural persons 475).

The City of Zagreb has recognized electromobility as an important component of sustainable urban mobility and is currently substituting its own vehicle fleet with electric vehicles and will continue to support electromobility in the future.

The project of implementing scooter sharing system in the City of Zagreb traffic system is a complex one and includes promotional activities of electric light vehicles and scooters, identification and inclusion of all key stakeholders, detailed cost-benefit analysis, definition of the market model, construction of filling infrastructure etc.

In case of implementation of electromobility in the City area according to the operative plan and the feasibility study, it is planned for the City office of energy, environment and sustainable development to be the operative leader in charge of managing, monitoring, directing and supporting the project of scooter sharing system implementation in all its stages, according to the Gantt chart of planned activities.