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◇ FOREWORD

Since its inception in 2017, the Sustainable Mobility for All (SuM4All) Partnership has been advocating for sustainable mobility in international forums, with transport decarbonization being one of the four goals for transport systems to achieve globally. The Partnership's 56 Member organizations were instrumental in framing the policy knowledge around decarbonization, universal access, efficiency, and safety that would support cities and countries on the path to achieving these goals. In recognition of the Partnership's achievements, the **United Nations Climate Change Conference (UNFCCC)** in 2021 acknowledged the Partnership as a champion of transport decarbonization in climate change action around the world.

The 27th United Nations Climate Change Conference (COP27) will take place in Egypt between November 6 and 18, 2022. COP27 is expected to advance action on several fronts—adaptation, the just transition toward decarbonization, and climate finance. Early in 2022, the Partnership engaged with country decision makers at a roundtable discussion to identify the most pressing demands for action on transport to bring forward at COP27. Appropriate e-mobility choices, international cooperation, investing in public transport, and the business of exporting used vehicles to the Global South, were the issues that took center stage. The Partnership mobilized itself into working groups to delve deep into these issues, develop a clear policy agenda for action at COP27, and influence policy debates on these matters.

We are pleased to release five important contributions to COP27 in the “GRA in Action Series.” They include: (i) E-mobility in Low-Income Countries in Africa: Finance, Governance, and Equity; (ii) Decision-Making Tool for E-Mobility Investments; (iii) Electromobility and Renewable Electricity: Developing Infrastructure for Synergies; (iv) Empowering E-mobility In the Global South: The Case of Two Cities—Cuenca and Nairobi; and (v) How to Unlock Public Transport for Climate and Sustainable Development: Six Areas for Action. The products are the outcome of a year of engagement with Member organizations, countries' decision makers, partners, and field experts.

The "GRA in Action Series" aims at generating a better understanding of transport decarbonization, collecting global experiences, and deep diving into the associated policy measures in the Global Roadmap of Action (GRA) to make them more pragmatic for countries' decision makers.

We thank the Transformative Urban Mobility Initiative (TUMI) and the International Association of Public Transport (UITP) for leading the preparation of this important decision-making tool on how various investment alternatives to electrify mobility can be evaluated. This paper outlines a simple and comprehensive decision-making tree to guide investment choices in cities—ranging from e-buses, e-bicycles, EV-charging networks, e-taxis, e-motor bikes, and e-kick scooters.

Sustainable Mobility for All Steering Committee

(On behalf of our 56 Member organizations)

November 2022, Washington, D.C.

◇ RATIONALE

Electrification of transport is fundamental for sustainable and low carbon development of the transport sector. However, e-mobility is a relatively new field of action that requires a complex understanding of the subject.

Knowledge sharing and development of support tools for decision makers in the transport sector can help improve and facilitate decision making as well as the prioritization of e-mobility funding options, especially in the Global South. The “**Decision-making tool**” aims at prioritizing considerations for financial actors of e-mobility projects in best investment or return opportunities.

◇ ABOUT THE TOOL

This tool enables city managers, especially in the Global South, to assess the suitability of specific e-mobility investments in cities to suit prevailing urban mobility contexts and specific characteristics of cities. The tool contains a 10-question roadmap that collects points based on the answers the user chooses at each step. These steps are structured as a set of questions focused on characterizing the chances of success and expected positive impact of different e-mobility investments from a high-level perspective. When completed, the tool will produce a score between 0 and 30 that will define the suitability of the e-mobility investment.

◇ OBJECTIVES

- Provide decision makers with **an easy-to-use** tool to assess and prioritize electric mobility investments in their cities.
- Distinguish electric mobility investments **based on their expected positive impact**.

◇ TARGET AUDIENCE

The tool is meant for **decision makers in the Global South** at the national and local level from the transport and energy sector, urban and rural development, and industry policy. It also aims to reach other important stakeholders such as **utilities, private investors, energy producers, public and private transport fleet operators, finance and the development community**.

It will be relevant to low- and middle-income countries (LMICs) and also to further developed regions challenged with prioritizing e-mobility investments in the transport sector such as South Asia, Sub-Saharan Africa, Eastern Europe, and Latin America.



◇ WHAT E-MOBILITY INVESTMENTS ARE INCLUDED IN THIS TOOL?



E-bus

The tool will help you to understand to what extent shifting city public bus fleets to electric would be feasible at present and to envisage the benefits of that transition. **The tool is aimed at understanding whether the timing and context are right: (i) embrace e-mobility for buses and (ii) deploy e-buses** on a larger scale if the process has already started in the city.



E-taxis

The transition from conventional taxis to electric taxis depends more on the private sector than the city authorities. Nevertheless, city managers are responsible to support this sector in taking bold steps toward decarbonization. The tool assesses the preparedness of the taxi industry and the city authorities in making progress in electrifying taxis. The foreseen city investments include providing dedicated incentives to the taxi industry and covering the costs of effective charging infrastructure for e-taxis, mainly in fast charging.



E-bike sharing system

The tool helps users to understand the chances of success of launching an e-bike sharing system or integrating e-bikes into an existing conventional bike sharing system. **The tool seeks to estimate the potential demand for that e-bike sharing system** according to city's characteristics and its infrastructure.



E-motorbikes

Normally, e-motorbikes sharing systems are privately promoted and operated. This means that no specific investment is expected from the city authorities when it comes to implementing this type of businesses. In any case **cities must underpin these shared mobility services by offering financial incentives to operators**, and by stimulating the demand by other means. The city will also be required to encourage the use of private e-motor bikes and include them in its own municipal fleet.



EV charging network

This tool, when considering EV charging networks, **provides advice on the suitability of investing in deploying electric charging infrastructure in a city.** It is important to be aware of the cost included in installing, operating, and maintaining this type of infrastructure and the tool will help the city managers to establish these costs.



E-kick scooters

Again, public-private collaboration is required to bring access to these types of electric mobility through specific business models and especially in touristic destinations. **Cities can at the same time support these shared mobility schemes by making key investments** aimed at enabling the growth of electric micromobility through purchase incentives, extending cycling infrastructure or building dock stations for e-kick scooters, among others.

DECISION-MAKING TOOL INSTRUCTIONS:

1 Choose the e-mobility investment you want to assess:

- E-KICK SCOOTERS
- E-BIKE SHARING
- E-MOTOR BIKES

2 Go through the diagram following the related color of the chosen option and aggregating the correspondent scores of your answers.

- +3
- +2
- +1
- 0

3 Once you have your score, go to the "Assessment scale page" to find out to what extent each investment would be positive to your city.



START

#1
What is the population of your city?

- +3 Above 1 million
- +1 From 0.5 to 1 million
- +1 From 0.2 to 0.5 million
- 0 Less than 0.2 million

#2
Is your city car centric?

- +3 Strongly agree
- +1 Reasonably agree
- +1 It is a balanced city
- 0 I don't agree

#3
Is micromobility popular among the population?

- +3 Yes, definitely
- +1 Yes but only in certain social groups
- 0 No

#4
Does the city have roads in bad shape?

- +1 No
- 0 In specific areas and parts of the city
- 1 Yes

#5
How is the presence of tourists in your city?

- +2 High
- +1 High in peak seasons
- 0 Low

#6
Does your city have a dense and large urban center?

- +4 Strongly agree
- +3 Reasonably agree
- +2 Partially agree
- 1 Not really

#7
Has the city regulated the use of e-scooters?

- +3 Yes
- +1 Not yet, but we are working on it
- 0 No

#8
How is the cycling infrastructure in your city?

- +5 Very good
- +3 Good
- +2 Acceptable
- 1 Poor

#9
Are private operators interested in the city e-Bike, e-Scooters, e-motorbikes? Do they offer such service?

- +3 Very interested
- +2 Relatively interested
- +1 A private operator is running the bike sharing
- 0 Not yet

#10
Has the city studied the terms to enable e-scooter sharing systems? (where to park, safety issues...)

- +3 Yes
- +1 Yes, however not defined yet
- 0 No

SCORE



START

#1
What is the population of your city?

- +3 Above 1 million
- +1 From 0.5 to 1 million
- +1 From 0.2 to 0.5 million
- 0 Less than 0.2 million

#2
Is your city car centric?

- +3 Strongly agree
- +1 Reasonably agree
- +1 It is a balanced city
- 0 I don't agree

#3
Mode share of bikes?

- +3 Above 6%
- +2 From 3% to 6%
- +1 From 1% to 3%
- 0 Less than 1%

#4
Does the city have steep streets?

- +2 Yes
- +1 In certain areas
- 0 No

#5
How is the presence of tourists in your city?

- +2 High
- +1 High in peak seasons
- 0 Low

#6
Does your city have a dense and large urban center?

- +4 Strongly agree
- +3 Reasonably agree
- +2 Partially agree
- 1 Not really

#7
Is there already a conventional bike sharing system?

- +3 No, but we have studied it
- +2 No
- +1 Yes, it does not work well
- 0 Yes, it works well

#8
How is the cycling infrastructure in your city?

- +4 Very good
- +3 Good
- +2 Acceptable
- 1 Poor

#9
Are private operators interested in the city e-Bike, e-Scooters, e-motorbikes? Do they offer such service?

- +3 Very interested
- +2 Relatively interested
- +1 A private operator is running the bike sharing
- 0 Not yet

#10
Is there a budget to launch the system or add e-bikes to the existing one?

- +3 Yes
- +1 Yes, however not defined yet
- 0 No

SCORE



START

#1
What is the population of your city?

- +3 Above 1 million
- +1 From 0.5 to 1 million
- +1 From 0.2 to 0.5 million
- 0 Less than 0.2 million

#2
How would you assess the air quality of your city?

- +3 Very poor
- +2 Poor
- +1 Not too good
- 0 Reasonably good

#3
Does the city have an e-mobility strategy where this measure is included?

- +3 Yes
- +2 No, nevertheless it is key for the city
- 0 No

#4
Is your city car centric?

- +3 Strongly agree
- +1 Reasonably agree
- +1 It is a balanced city
- 0 I don't agree

#5
How is the presence of tourists in your city?

- +2 High
- +1 High in peak seasons
- 0 Low

#6
Does your city have a dense and large urban center?

- +4 Strongly agree
- +3 Reasonably agree
- +2 Partially agree
- 1 Not really

#7
Is traffic congestion an issue in the city?

- +3 Strongly agree
- +1 Reasonable agree
- 0 I disagree

#8
Are motorbikes popular in the city?

- +3 Strongly agree
- +1 Reasonable agree
- 0 I disagree

#9
Are private operators interested in the city e-Bike, e-Scooters, e-motorbikes? Do they offer such service?

- +3 Very interested
- +2 Relatively interested
- +1 A private operator is running the bike sharing
- 0 Not yet

#10
Is there a budget to incentivize the use of e-motorbikes in the city?

- +3 Yes
- +1 Yes, however not defined yet
- 0 No

SCORE



DECISION-MAKING TOOL INSTRUCTIONS:

1 Choose the e-mobility investment you want to assess:

- E-CHARGING NETWORK
- E-TAXI
- E-BUSES

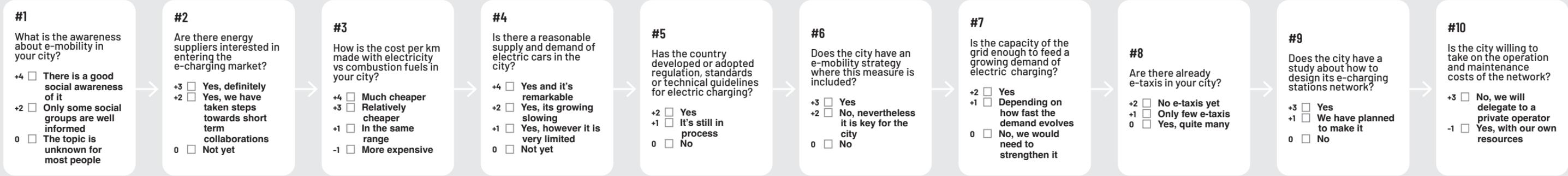
2 Go through the diagram following the related color of the chosen option and aggregating the correspondent scores of your answers.

- +3
- +2
- +1
- 0

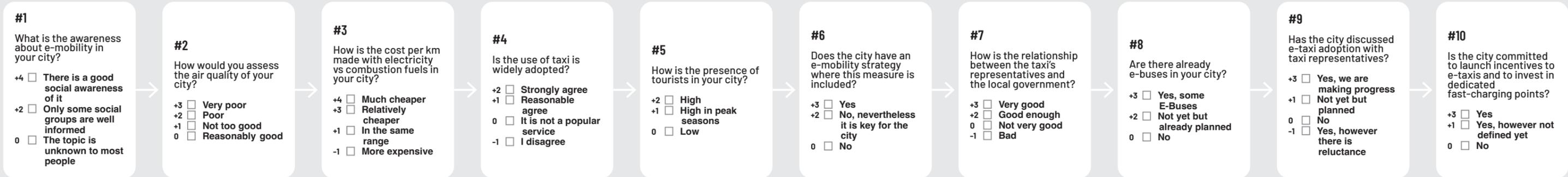
3 Once you have your score, go to the "Assessment scale page" to find out to what extent each investment would be positive to your city.



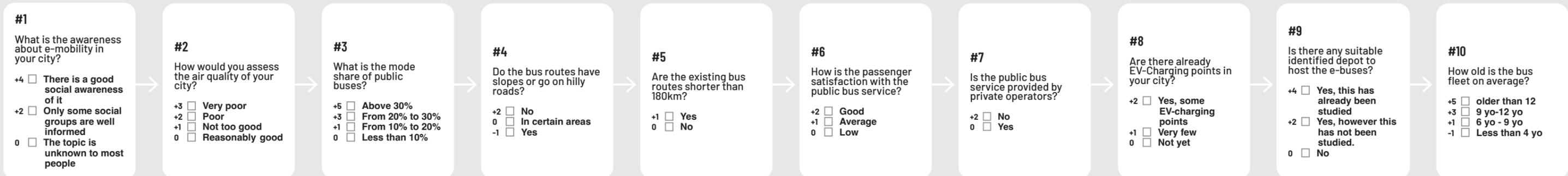
START



START



START



ASSESSMENT SCALE

With the score you get in the decision-making tree check the chances of success and suitability of the chosen e-mobility investment in the diagram shown below.



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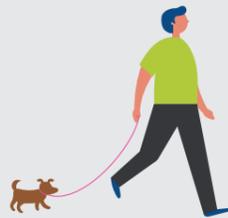
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