

# SUSTAINABLE URBAN MOBILITY and LOW EMISSION ZONES (LEZs)



**Participatory Training Program**

Cairo, October - November 2020

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Supervised by: Ahmed El-Dorghamy

## Summary

This report covers the program and learning journey of 10 trainers in the field of sustainable mobility and Low Emission Zones (LEZs). The training is conducted by CEDARE and Friedrich Ebert Stiftung with a contribution from Tabdeel, electrified and Megawra. The training had a mixed-learning approach made of four immersive *WalkShops* (Walking workshops) in the streets of Cairo and online learning materials including video presentations, webinars and readings. After completing the training, the participants were able to design an intervention that responds to one of the urban issues covered in the WalkShops, as well as, an advocacy concept to promote their intervention. A final online exam was also given to the participants which covered the learning materials and knowledge gained throughout the learning journey.

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## Introduction

The training of trainers is designed to provide a contextualized education on sustainable urban mobility and low emission zones to individuals whose work involves activism, advocacy or education around the topic. The module covers different types of low emission mobility modes including non-motorized mobility (walking and cycling), electric mobility and public transportation. Through four physical meetings and one online session, the training covers four main themes as follows:

1. Electrification, micro-mobility and connectivity
2. Historic sites and sensitive areas
3. Sustainable mobility and vulnerable groups (children, women, elders, ...)
4. Low emission zones

The module is designed in blended learning approach mixing audiovisual materials, readings and self-learning with the learning process during the sessions. In order to maximize the interaction with the topic, the session took place outdoors in four *WalkShops* (Walking Workshops) through different urban contexts in Cairo. The outdoor activity is also intended to minimize gatherings indoors as a way of mitigating COVID-19. The participants are also assigned to work on advocacy products to use in their organizations or future activities.

## The WalkShop sessions

### WalkShop 1: Electrification, micro-mobility and connectivity

The first WalkShop focused on the innovations in electric mobility and micro-mobility, their presence in the Egyptian market and potentials in the future of our cities. This session hosted a guest speaker, *Ayman Mohamed*, from the Egyptian startup *Electrified* who gave the participants an overview on the state of electric mobility in the Egyptian market, the types of vehicles available and their respective technical specifications, especially in regards to batteries and milage, and he reflected on the consumer behavior related to the different vehicles.

As an advocate for E-mobility, the guest speaker also shared with the participants his advocacy journey to promote e-mobility in Egypt and build a community around it using social media platforms and online discussion groups, and how these advocacy efforts led to shaping the startup *Electrified* and its online platform.





*Figure 1 The participants getting introduced to a variety of electric vehicles guided by electrified*

Finally, the participants got a first-hand experience on electric micro-mobility through test rides of different vehicles including e-bikes and e-kick scooters and inspecting other vehicles like e-cars and e-scooters.



*Figure 2 Electrified team explain the specifications of an electric scooter (left) and an electric car (right)*

## WalkShop 2: Historic sites and sensitive areas

This WalkShop took place in a part of historic Cairo where air pollution and the local urban mobility situation have a visible negative impact on historic buildings, local businesses as well as the wellbeing of both residents and tourists. Guided by *Ahmed Tarek Al-Ahwal* as a guest speaker from *Megawra Built Environment Collective*, the participants visited *Al-Khalifa* area and toured through its streets to know more about the mobility situation and its impacts.

The participants first got introduced to the historic hierarchy of streets in old Cairo and how this hierarchy relates to the type of movement intended to these streets, and how this movement changes overtime with introducing vehicular movement as well as changes in the morphology of the area. These changes were sometimes welcomed, but in other cases were threatening the local lifestyle of this old part of Cairo and hence the residents were always finding creative ways to informally intervene to make their streets either safer by calming or blocking the traffic or more



*Figure 3 Walking through old Cairo and examining its recent developments by the inhabitants and the civil society*

accessible by opening a new way to vehicular movement. The participants were introduced to these interventions in different locations and the history behind them. Throughout the tour, the participants have been guided to a number of historic buildings that were built in limestone in different eras and some of them have seen a visible damage due to traffic-resultant air pollution and the high concentration of sulfur oxides in the surrounding.

The participants visited Megawra's office and listened to a presentation on different projects that Megawra is working on with its partners to study or improve the mobility situation in the area. Many of these projects are focused on the improvement of the public space and making it accessible to non-motorized mobility. They also presented a proposal that is now in the planning phase in cooperation with the local government to increase tourism penetration to the area through a tour designed to have zero local emissions through the use of electric vehicles or facilitating walking in some parts of the tour.



Finally, the participants visited Al-Khyameya street and listened to one of the local tentmaking artisans about the impact of air pollution on his business and how the high concentration of pollutants in the air causes damage and requires high maintenance of his products. The tour was finally concluded on one of old Cairo gate with a panoramic view of the city.



Figure 4 (left) the participants listening to a presentation on the work done by Megawra in Al-Khalifa, (right) a craftsman in Al-Khyameya explains how air pollution is affecting his business



Figure 5 a group photo on top of Cairo's old gate "Bab Zuweila"

### WalkShop 3: Pedestrianizing Heliopolis

The third WalkShop took place in Heliopolis neighborhood. Originally established as a new city outside Cairo, Heliopolis was a model of a new paradigm in urban planning and architecture, notably known for its electric railway connecting the new suburb to downtown Cairo. The WalkShop guided by *Ahmed Mansuor*, an architect specialized in the conservation of historical areas, took the participants to different sites in Heliopolis highlighting the changes in the urban fabric, social life and urban mobility.

The tour started in a location of an urban intervention led by civil society to erect bicycle parking and outdoor sport facilities in front of Merryland park in Heliopolis and many other sites in Heliopolis and downtown Cairo under the name “*Sekketak Khadra*”. One of the initiators of this project was *Ahmed Al-Dorghamy*, who is also the facilitator of the WalkShop series explained to the participants the process of inter-sectoral cooperation and the lessons learned from introducing a new urban element to the streets of Cairo. He also reflected on how the street users appropriated the facilities especially during the COVID-19 lockdowns and limitation of indoor trainings.



Figure 6 the Walkshop started at Sekketak Khadra sports facility and bike parking location



The second stop was in Heliopolis Horse Racing site and Granada Building that used to be one of the hotspots of cultural activities in the city. Now the site is divided by an urban highway, covering part of the racing track and turning the former heritage site to islands of different urban uses including a park, a housing project and the historical grandstand of the racing track which is currently under renovation. This was a clear example of the impact of motorization on a sensitive historical site and how cars contested the urban spaces that were once used for public and social life.



*Figure 7 the guided tour covered past and present of Heliopolis' mobility scene*

Throughout the walk, the participants were introduced to new projects, and discussed its positive and negative impacts on the city. One of which was Egypt's first automatic hydraulic parking garage "*the Roxy smart parking*" that was introduced as an alternative to street-side car parking. Other projects included the removal of the tram networks in Heliopolis and replacing them with urban highways. And finally, the tour ended in front of the newly renovated Baron Empain palace where one of the old tram wagons is exhibited and where the memory of the visionary entrepreneur who founded Heliopolis and its electric railways is restored.

#### WalkShop 4: Closing and Final presentations

The final WalkShop was a wrap-up for all the previous sessions and learning materials. The participants, divided in pairs, presented their advocacy projects to each other and to the facilitators in an interactive speed-dating set up. In this way, it was insured that all the groups shared their ideas with every participant and got a direct feedback from them. After the presentations, participation certificates were awarded and the day closed with a free networking session.

The location of the final session was chosen symbolically at a venue named "Malmö" as a playful reference to the first city to implement Low Emission Zones (LEZs) along with Stockholm and Gothenburg in Sweden.



*Figure 8 a group photo of the participants after receiving their certificates*

## Complementary learning activities:

### Webinar: Low Emission zones – advocating for green mobility

On Monday, the 9<sup>th</sup> of November, an online session was organized via Zoom. One of the participants, Maha Attia, shared with her peers a presentation on Low Emission Zones (LEZs) and the case study of Rotterdam which was the topic of her Masters dissertation at *IHS, Erasmus University Rotterdam*. The presentation covered different aspects of *LEZs*, starting from the definition of *LEZs*, its their impact in different countries, the future of *LEZs*, and their potential in Egypt.

A second presentation followed by Heba Mousa, the co-facilitator of the program, who gave the participants some guidance about their advocacy assignments and examples of different advocacy tools and their impact on their respective causes. The tools included public art, community building activities, urban interventions and tactical urbanism. The participants had the chance to discuss the two presentations with the facilitators and among the group. The sessions were also recorded and access to the recordings were given to guide the participants through their assignments and also to give the chance for the absent participants to listen to the presentations and give commentary on them.

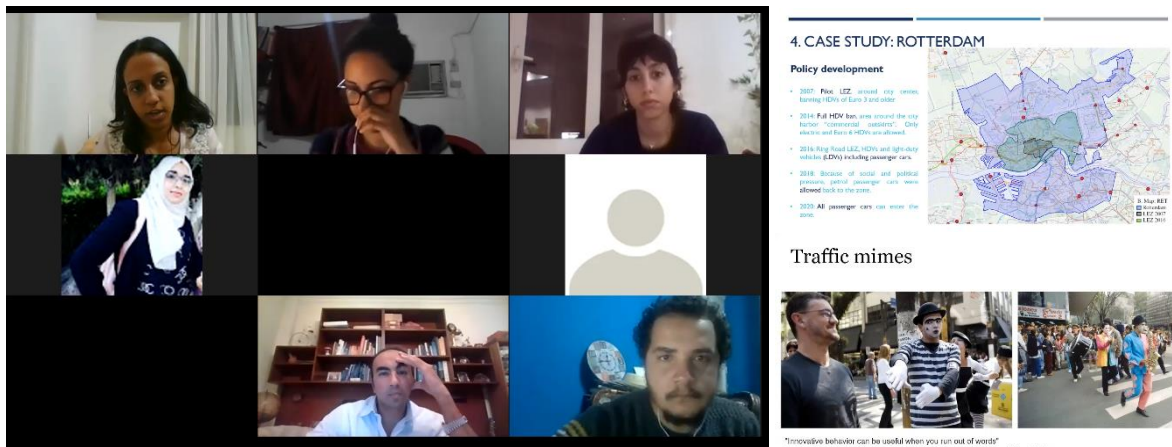


Figure 9 screenshots from the webinar showing part of the attending participants (left) and two slides from the presentation on LEZs (top left) and advocacy (bottom right)

## Video presentations

Before each WalkShop, the participants were given access to video presentation about relevant topics prepared and presented by Ahmed Dorghamy, the program facilitator. The online video presentations covered the following topics:

1. Sustainable mobility and the case of Egypt
2. Walkability and public space
3. Cycling activism in Egypt
4. The future of urban mobility

The participants were also given access to the educational materials in the presentations as a potential resource for their future trainings or activism in the field.



Figure 10 screen-shots from the video lectures (5 videos), which were part of the learning process



Additionally, two videos were shared with the participants from previous green mobility advocacy efforts by Ahmed Dorghamy on two concepts: induced demand, and traffic evaporation. The two videos are uploaded on social media and are oriented towards awareness raising for the public.

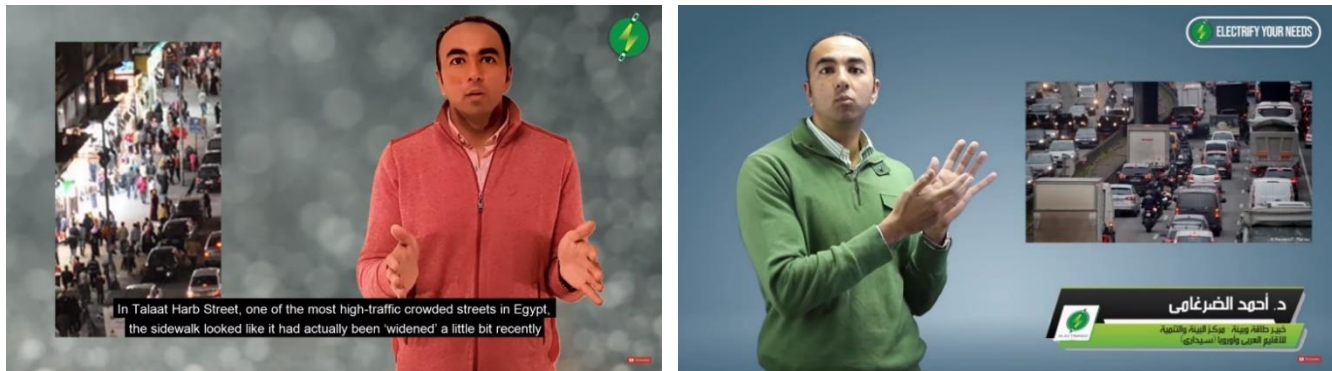


Figure 11 Advocacy videos by Ahmed Dorghamy on induced traffic, and traffic evaporation were given to the participants as complementary learning materials

## Readings

Next to the online presentations and the WalkShops, the participants were given a set of recommended readings tailored around the topics discussed in the WalkShops. The recommended list of readings was the follows:

Cairns, S., Atkins, S., & Goodwin, P. (2002). *Disappearing traffic? The story so far*. Roadspace reallocation schemes, 151(1), 13:22.

CEDARE/FES. (2018). *Policy brief: Mainstreaming electric mobility in Egypt*. Cairo: Center for Environment and Development for the Arab Region and Europe (CEDARE).

CEDARE/FES. (2019). *POLICY BRIEF: Cleaner Fuels for Cleaner Air: Towards cleaner, low-Sulphur Diesel Fuel*. Cairo: Sustainable Growth Program, Center for Environment and Development for the Arab Region and Europe (CEDARE).

CEDARE/FES. (2020). *Policy brief: Mainstreaming Electric Mobility in Egypt, Seeing the bigger picture of sustainable cities*. Cairo: Center for Environment and Development for the Arab Region and Europe (CEDARE).

European Comission, Directorate-General for the Environment. (2004). *Reclaiming city streets for people: chaos or quality of life?* EU.

ITDP. (2018). *Pedestrians First, Tools For a Walkable City*. New York.

ITDP; EMBARQ. (2012). *The life and death of urban highways*.

National Association of City Transportation Officials. (2016). *Global Street Design Guide*. New York: Island Press.

Participatory Development Programme in Urban Areas (PDP). (2011). *Maximising Use Value: Action guide for informal areas*. Cairo: Participatory Development Programme in Urban Areas (PDP).

Urban Arenas. (2020). *Drivers of injustice in the context of urban sustainability*. Barcelona.

WRI. (2015). *Cities safer by design: Guidance and examples to promote traffic safety through urban and street design*. Washington.

## Advocacy product/ assignment

The participants were paired in groups of two and asked to select one intervention that might respond to some of the problems they witnessed in the WalkShops and envision how will they advocate for their intervention. In the following section, parts of the participants' presentations are summarized (selected highlights):

### Group 1: Connecting micro to macro mobility

The intervention aims at connecting macro-mobility to micro-mobility through creating spaces for walking and cycling in Heliopolis, especially in a spine that connects two Metro stations (Saraya Al-Koba and Al-Ahram). The proposed idea is to find a parallel pathway for active mobility that only intersects with motorized mobility in a safe and convenient way. The proposed project also provides a safe intersection on the motorized street via raised intersection (elevated plaza) as a traffic calming measure.

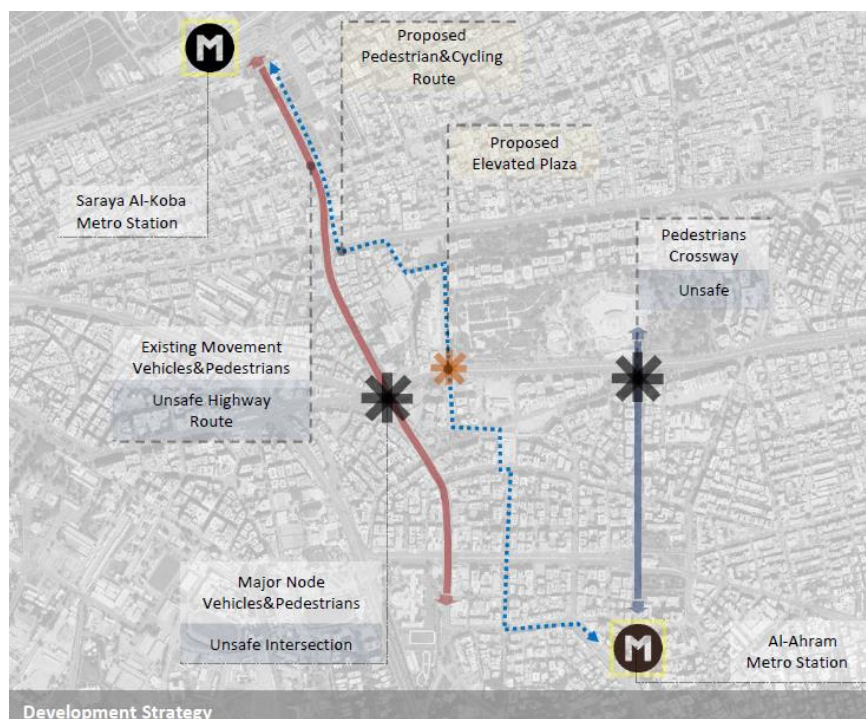


Figure 12 the proposed strategy for pedestrian streets in Heliopolis. Photo: Alaa Emad, and Amr Essam

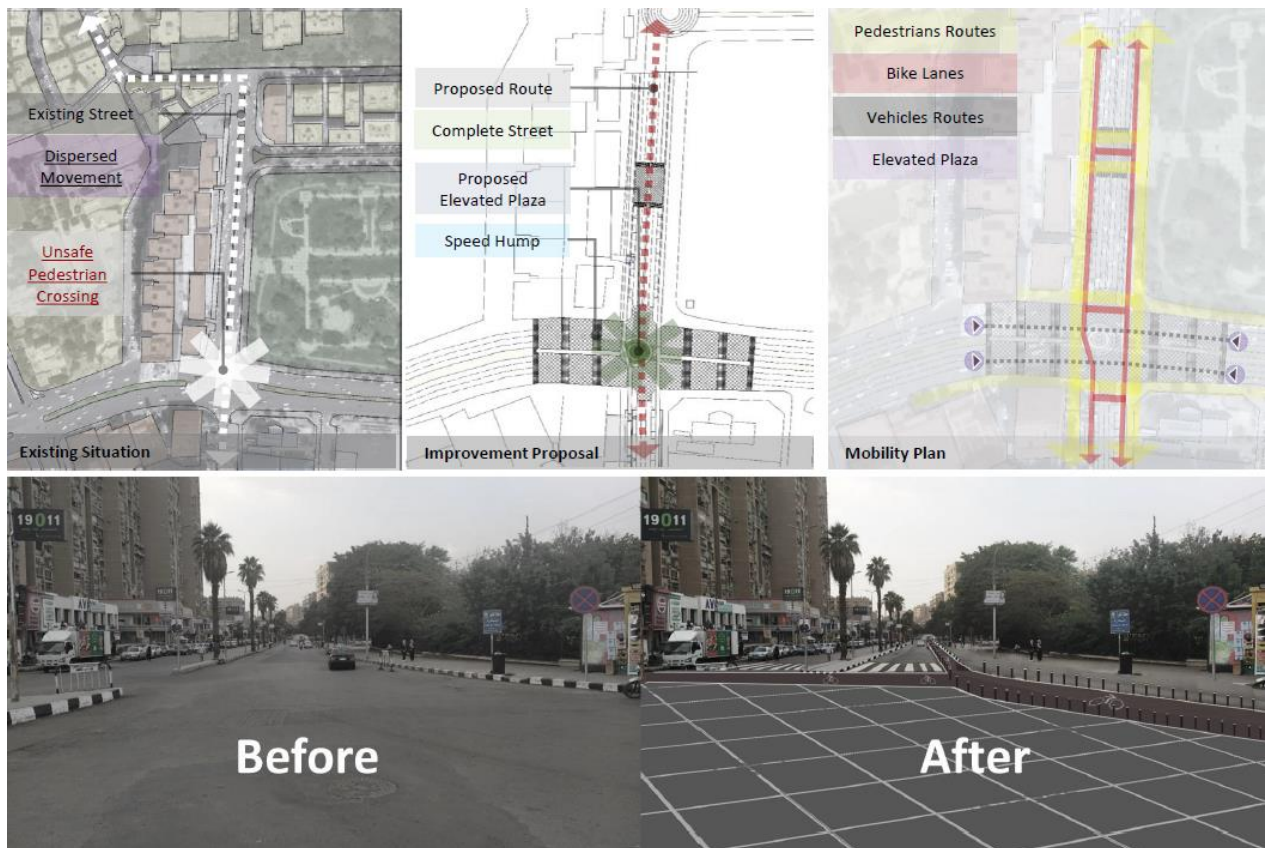


Figure 13 the analysis of the current situation (top, left) and the proposed intervention of an elevated plaza (raised intersection). Photo: Alaa Emad, and Amr Essam

The group also proposed some advocacy strategies to attract walking and cycling to the proposed active mobility spine. One of the strategies was to invite sports events as a cultural catalyst for using the street, and build on the growing movement of walking, cycling and street gymnastics that were covered in WalkShop 3. Another advocacy tool is to provide new themed shopping stalls (for example: farmer's market, healthy food producers, etc.) that might attract wide segments of the population from the area and also create an ambience to the walking and cycling experience.

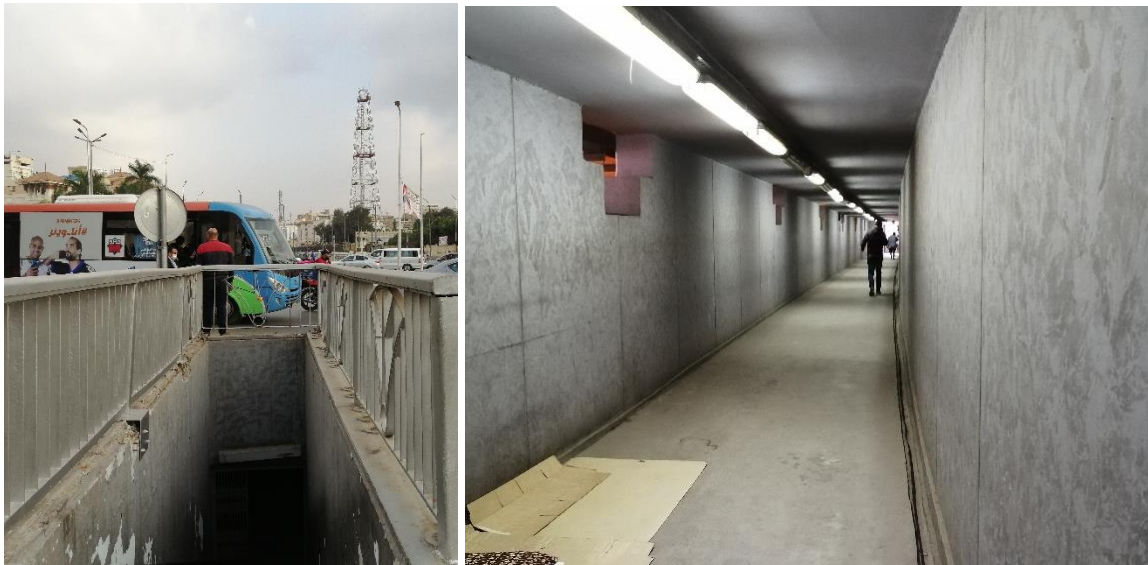
### Group 2: Rethinking pedestrian facilities

This intervention focuses on one of the locations covered by WalkShop 3 in Heliopolis, the pedestrian crossing tunnel in Salah Salem St. The two participants took a critical approach to rethink the pedestrian crossing facility and its link to the heritage site of Baron Empain Palace that is situated right at one end of the tunnel. From site observations, the designers of this intervention noticed that many of the pedestrians are not aware that the underpass exists and therefore risk their lives by crossing a highway to reach the palace or elsewhere in the area. In addition, through observing the tunnel users, they found out that only 25% of the pedestrians crossing in the underpass were women and 66% of the underpass users were heading to the palace on the



opposite side. At the end of the tunnel, started a long queue of palace visitors waiting for their turn at the ticket booth.

These observations and other close examinations of the tunnel's design and conditions led the two participants to conclude some of the problems that undermines the usability of the underpass and guided them to their recommended interventions. One of the main problems pointed at by the participants was the visibility of the underpass and lack of information about it on the street level. Another problem was the interior of underpass that doesn't provide a convenient experience due to the noise level on the motorized tunnel connected to the pedestrian underpass through openings in the wall, the unattractive grey walls and narrow space, and the insufficient lighting that might reduce the feeling of safety despite having a guard throughout the day. One major problem on the street level was also the lack of sidewalks leading to the underpass and that is generally located in a highly motorized area that also lacks facilities for the bus stops.



*Figure 14 the current situation of the underpass' entrance (left) and interior (right) Photo: Amany Arisha and Maha Attia*

The participants took inspiration from case studies in Egypt and around the world where underpasses have been successful to satisfy their function thanks to clever designs. Large entrances, ease of access, lighting and attractive designs were the main features concluded from the case studies.



Figure 16 underpasses entrances in Canada and in Singapore

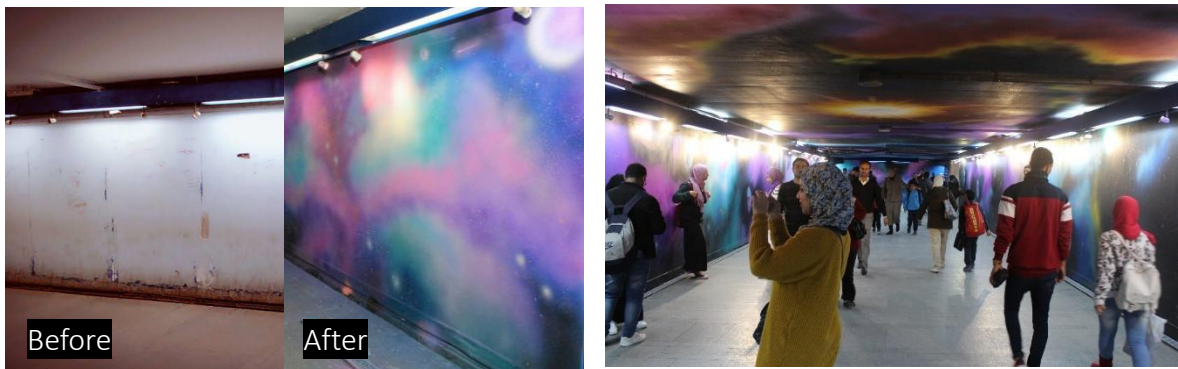


Figure 15 a case study of a pedestrian tunnel becoming an attraction following a community arts intervention in Opera metro station in Cairo. Photos: Ahmed Hossam Saafan

Based on the above mentioned, the proposal included a set of interventions such as a new artistic design to the underpass' interior, providing an easy access to bike users through a bike runnel, a street-level intervention to pedestrianize the area leading to the underpass and include information about it in a visible and clear way, and adding a bus stop combined with a bike parking outside the underpass.



Figure 17 a before and after images of the current situation outside the underpass (left) and the proposed intervention (right). Photos: Amany Arisha and Maha Attia



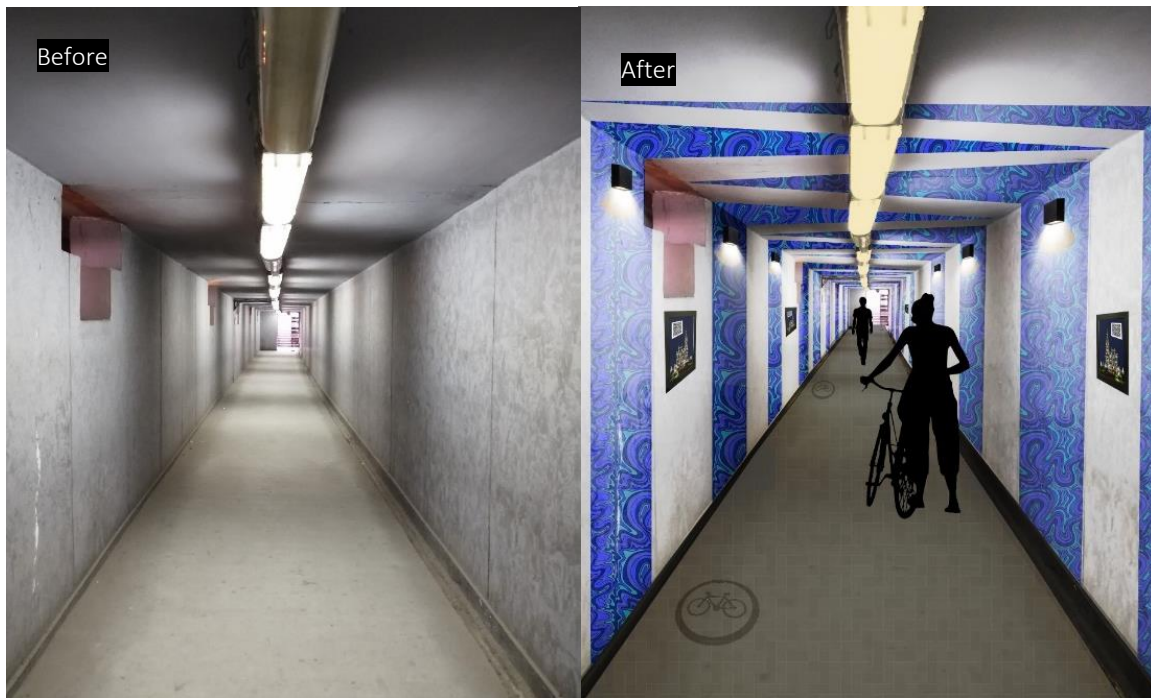


Figure 19 a before and after images of the underpass' entrance currently (left) and the proposed intervention (right).  
Photos: Amany Arisha and Maha Attia



Figure 18 a before and after images of the interior of the underpass currently (left) and after the proposed design (right). Photos: Amany Arisha and Maha Attia



In addition, a creative idea that links the heritage attraction to the pedestrian traffic came from the observation of the queues outside the ticket booth in the Baron Empain palace. So, to attract the palace's visitors to use the underpass rather than crossing the highway, the participants proposed that a QR code is placed in the underpass and by scanning it, the pedestrians get online tickets and a priority access to the palace, which will also alleviate the crowdedness of the sidewalks outside the palace. they also proposed that advertising companies might take part in encouraging safe crossings by providing offers to the users of the underpass also by scanning a QR code or any digital tool that might fit for the purpose.

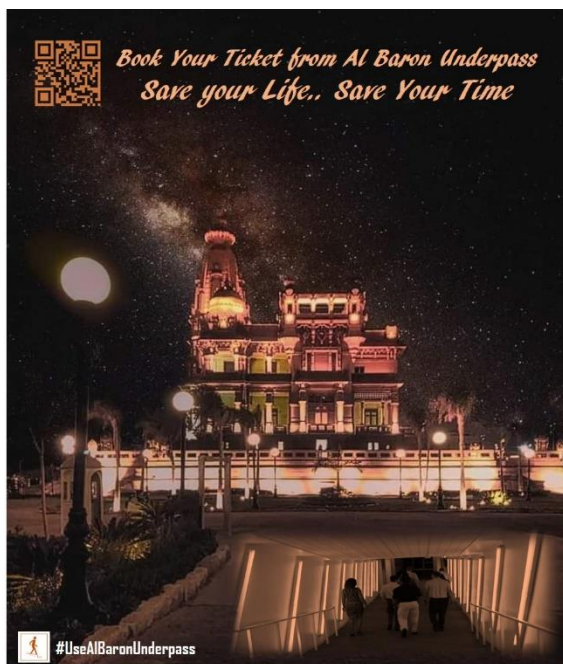
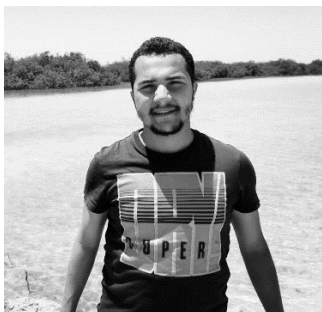


Figure 20 posters for the proposed attraction tactics to get the pedestrians to use the underpass via discounts in shops and priority entrance the Baron Empain palace. Photos of the palace: Mohamed Farouk Shawky

## Participants biographies



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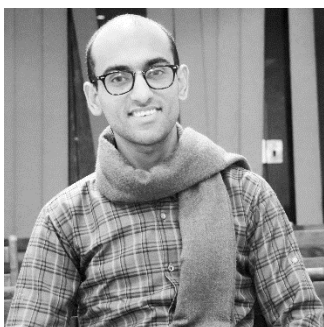
Alaa is an application design engineer at Schneider Electric Egypt, researcher in electrical power and energy engineering field and water and energy Activist at the Medywat network supervised by Center of Mediterranean Integration (CMI) where he worked in integrating renewable energy resources with sustainable blue growth economy. He has also participated and volunteered in many capacity-building programs in Egypt like YouthinkGreen, Marj3 fellowship, Ihyaa Academy, AIESEC Egypt, Engineeus, IEEEEXTREME Egypt, and Erasmus WEST program. These programs have allowed him to work directly in youth development for many areas such as energy and environmental awareness, mentoring, coaching and technology applications. He received his BS degree and MSc. in Electrical Power Engineering at Ain Shams University in 2016 and 2020 respectively. He has performed his research internship at Regional center for renewable energy and energy efficiency( 2018), where he contributed to its publications and participated in many international and local conferences as a speaker for the 8th Annual HOMER Microgrid conference in USA and a publication author for the annual international Conferences (2016-2018) on Solar Energy Solutions " hosted by the American University in Cairo and Research Institute for Sustainable Development(RISE). His current research interests are in sustainable cities, renewable resources modeling and applications, electric vehicle powertrain design, power management systems using AI and optimization algorithms.



Ahmed Mahmoud  
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Ahmed is an undergraduate student of electrical engineering. His main academic and future professional interest is solar energy, Electric vehicles, sustainable mobility and climate change. Ahmed started his journey in climate activism as a volunteer in YLF to collect plastic from the Nile river, then worked as a researcher and content creator in Monakhna (our climate) initiative. Through the initiative, Ahmed works with children and create educational materials and facilitates workshops in schools to spread awareness about sustainability, green energy, and global warming. He participated in

preparing for a conference (Lcoy Egypt) enhancing youth networks and movements to create an open forum of discussion about environmental challenges and started an initiative in his campus to support innovation and entrepreneurship. Ahmed received a training on earth observations to predict climate change effects.



Ahmed SabaaEllil  
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Ahmed Sabaa is an independent journalist and climate activist. He focuses his work on clean energy, biodiversity, environmental issues and sustainability. Ahmed was awarded multiple international fellowships in the field of climate journalism. He founded “Al Manakh Bel Araby” (Climate in Arabic) platform that aims at spreading awareness of the environmental issues among youth and especially journalism and media graduates. Ahmed is also a member of the Egyptian program of young environmental leaders and Media Lab for Climate Journalism in France.



Amany R. Arisha  
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Amany is an accredited Egyptian architect and an urban researcher from the Royal Institute of British Architects since 2013. She holds a B.Sc. of Architectural Engineering and Environmental Design from the Arab Academy for Science, Technology & Maritime Transport. Currently, she is a teaching assistant and a M.Sc. candidate in the same institution. Her architectural practice focused on interior design and renovation for abandoned projects. On the academic level, she assisted various courses and studios of site planning & housing, urban landscape, and interior design. Her research interests revolve around urban psychology and contested urbanism, focusing on the impact of socio-spatial transformations and place temporality on individuals' mental health and psychosocial well-being. She is also interested in the potential of space syntax as a pragmatic approach for understanding the complexity of social and informal practices in urban environments. Moreover, she participated in an initiative to raise gender equity awareness in her geographical area and the MENA region, through assisting in co-organizing a series of seminars that was funded by the Urban Studies Foundation. In this context, she begins to take steps forward in her research towards the compatibility of Egyptian social housing projects with the specific socio-economic



needs of women-headed families. Furthermore, she participated in documenting and preparing post occupancy evaluations for urban conservation and regeneration projects in Al-Darb Al-Ahmar, which was funded by the Aga Khan Trust of Culture, the Education Program.



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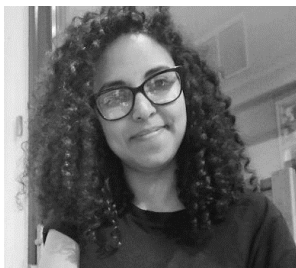
Amr holds a Bachelor of Science in Urban Planning and Post-Graduate Studies in Urban Design and Communities Development in addition to Advanced Studies from National Training Academy (NTA) in the fields of Politics, Economy and Management. He works as an Urban Planner& Designer and Researcher at one of Multidisciplinary Engineering Consulting Firms based in Cairo. Throughout more than 7 Years of experience in Professional Practices, Mr. Essam is Responsible for Designs and Studies of Urban Planning Projects in varies stages, including Schematic Design, Design Development and Construction Documents with a focus on Regional and International Large-Scale Master Planned Communities. Amr Participated as Designer and Principal Coordinator in the Initiative of Humanizing Cities in Saudi Arabia, which seeks to achieve Sustainability and Vitality in the Public Places. He also worked with the Quality of Life Code Committee, to set and develop a Code for the Quality of life in Egypt, with a focus on the Sector of Urban Quality of Life through Integrated Urban Development Codes and Regulations.



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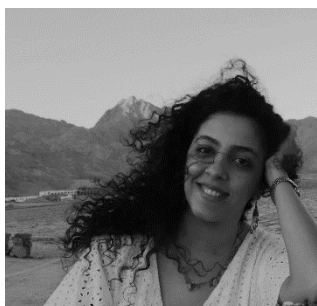
Eman is GIS specialist and expert in climate change sector. She holds a PHD degree in urban micro-climate from Cairo University. Eman works as researcher of environmental studies at the General Organization for Physical Planning (GOPP) in Egypt. Next to her work, she founded many initiatives related to climate change including “the environmental broker platform initiative”, and The Egyptian Climate Group at the Egyptian Geographical Society. She has been a rapporteur of the National Committee for Environmental Issues and the Academy of Scientific Research and Technology (ASRT). In addition, Eman has been an editorial board member at Al-Kitab journal for sciences published by Al-Kitab University, Iraq. Eman was invited as an expert in ICOMOS - Climate Change and Heritage working

group “CCHWG”, in addition to her work as a freelance consultant of climate change.



Maha Attia  
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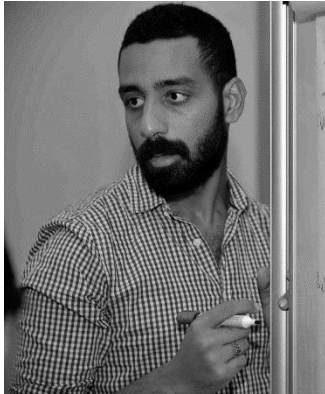
Maha is a consultant in urban mobility policies and public spaces management. Since she graduated from the Architecture engineering department, Cairo University, she has been involved in different community and participatory development projects. Her most significant civic engagement was a Street upgrading intervention in Ezbet Abu-qarn with Ezbet Project team. In this project, she participated in developing and implementing a multifunctional-street intervention by reusing local materials, identifying different street usages, and mirroring the area's identity. In collaboration with Stuttgart and Ain Shams Universities, she co-authored and published the book "Streets as a social space: a public space intervention in Ezbet Abu-qarn". The book reflected on the project, illustrating the techniques and the methodology followed through the intervention. Maha holds an M.Sc. degree in Urban Management and development from Erasmus University Rotterdam. Her M.Sc. specialization was in managing green cities' infrastructure, where she focused on studying transport emission-reduction policies in the Netherlands. She is currently pursuing an academic-based career as a researcher and an assistant lecturer in architecture and urban planning.



Sally Elfshawy  
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Sally has graduated with Bachelors of arts in political science from AUC and Laws degree from Cairo University. She is currently working as a researcher at the Ministry of Foreign Affairs in Egypt. Previously, she was an international Cooperation Officer at the Ministry of Local Development. And before that, she was selected as the first Egyptian female to intern at the Political Section-Press and Information at the Delegation of the European Union to Egypt. She has also engaged with work at governmental entities such as the Ministry of Social Solidarity and the National Council for Women. As a self-taught photographer, she is always keen on experimenting with the process of connecting the mediums of arts and politics. In 2017, she was selected to be a delegate representative at the UN premises in New York, discussing the topic of fashion, sustainability, and recycling. Additionally, her photography work has been displayed at various national and

international platforms & exhibitions including Egypt, New York and Finland. Finally, Sally likes to describe herself as an artist and a community changer at heart.



Shady Khalil  
shady@greenishheart.com

Shady is a co-founder and managing director of Greenish, a self-sustained business that raises awareness about how to live a sustainable lifestyle through Social Media campaigns and cleaning events. He also helps business through green transformation and develop technologies to enhance the recycling and collection of plastic. Before Greenish, Shady worked in multiple positions in the field of gender activism and in arts. He was an independent director of theatrical plays, as well as an actor in a number of movies. Shady was a project manager for the Train Project DDD in Upper Egypt and a project coordinator and storyteller at Bussy, and assistant researcher at Ikhtyar for gender studies.



Youmna Ahmed Hilmy  
yomnahilmy@gmail.com

Youmna is a graduate from The Architecture and Urban Design program in the GUC, with a Pre-Masters of Urban Design. She developed a very deep interest for Sustainable Urban development and design that advanced in her pre-master year and further developed in her internship at UN-Habitat Egypt in the Strategic planning and urban development program. Much more, she interned in Takween Integrated Community Development. She is currently working as an Architect at MADA Architects, while participating in urban related workshops, as well as working on her own urban projects and competitions.



## Annexes:

### Annex1: Program and agenda

- **Session-1: Saturday, Oct. 24<sup>th</sup>, Electrification, Micromobility and Connectivity,**
  - **9:30-12:00:**
    - Demonstration of Micromobility options, and visit to EV Egypt club
    - Test drives of different vehicles & interviews
    - Discussion
  - **Topics covered:**
    - Electrification and Micromobility fundamentals
    - E-mobility status in Egypt and market penetration
    - Technology innovations, and understanding products, systems, and services
    - Understanding consumer behavior
- **Session-2: Saturday, October 31<sup>st</sup>, Historic Cairo (Al-Khalifa)**
  - **9:00-14:00**
    - Walking tour in Khalifa street and Al-Khaiamyia
    - Potentials for pedestrian streets in Khalifa
    - Tourism and mobility and prospects for electrification and other Urban Vehicle Access Regulations (UVARs)
  - **Topics covered:**
    - The impact of vehicular emission on historical buildings
    - Environmental and aesthetic qualities in historical areas
    - Mobility for locals Vs Mobility for tourists
- **Session-3: Saturday November 7<sup>th</sup>, Investigating Low-Emission Measures, Heliopolis**
  - **9:30-12:00:**
    - Ice-breaking and explanation of exercises, assignment of roles
    - Heliopolis walking tour: *Observing the urban environment through the lens of sustainability*. The *discussion stops* shall be as follows:
      - Sekketak Khadra sports facility “place-making” intervention
      - Ghernata,
      - Roxy Automated Garage,
      - Break (café on the way)
      - Pedestrian underpass
      - Baron Palace,
      - Closing in front of Baron palace: Discussion of case study.
  - **Topics covered:**
    - Avoid-Shift-Improve (ASI) Framework of Planning.

- Elements of SUMPs (Sustainable Urban Mobility Plans)
- Complementary elements in sustainable cities before LEZ planning: *Softscapes, urban furniture, walkability, cultural heritage conservation, etc.*
- Field observation challenges for planners.
- Advocacy participation.
- Session-4: Wednesday, November 18<sup>th</sup>, Final day (Semi-Public Space):
  - 15:00-17:00
    - Speed-Dating session: Review and discussion of experience and project results.
    - Discussion of future prospects for advocacy, and linking science to policy to practice.
    - Awarding certificates of participation.

## Annex 2: Exam and results

### Exam questions

The correct answers are underlined

Full Name: (small text box)

- 1) What are the implications of the phenomenon of “Induced traffic” (more than one answer possible)
  - a) There is a risk that widening roads to relief traffic congestion will stop the heat island effect.
  - b) There is a risk that after widening roads to relief traffic congestion, they might be filled again with vehicles due to induced demand.
  - c) The heat island effect will be lower in cities.
  - d) In some cases, it is better to conserve public spaces and find other solutions to the congestion problem rather than street widening.
  - e) In all cases, any street widening will always cause increased traffic volume once more over the long run.
  
- 2) Think about the “Avoid-Shift-Improve” frameworks for sustainable mobility. Which of the following is an example of “Avoid” measures, on an individual level or a system level? (more than one answer possible)
  - a) Improving fuel quality.
  - b) Using electric vehicles.
  - c) Cancelling an unnecessary separate trip to the grocery store by buying your needs on the way home from work (trip-chaining).
  - d) Switching a physical meeting with a virtual meeting online.
  - e) Eliminating an ingredient from your restaurant menu that comes from abroad and buying locally available ingredients instead.
  - f) Using the tramway instead of your car.
  - g) Recruiting a local consultant in Greece instead of travelling yourself to implement the fieldwork activity there.
  
- 3) What is the biggest challenge for air pollution from the transport sector in Egypt today?
  - a) Gasoline emissions contain lead (Pb).
  - b) High Sulfur in Diesel fuel (Soular) means that we cannot install filters in the heavy vehicles (buses, trucks, etc.), which results in uncontrolled emissions in the city from all diesel-powered vehicles.
  - c) Vehicle inspection is very weak.
  - d) Air pollution from the wear of asphalt and tires is hazardous, and new wear-resistant materials need to be used to reduce this.
  - e) Trees are being removed to widen streets, which reduces air-quality protection provided by tree cover in the city.



- 4) Which of the following is an example of “Travel Demand Management” measures (mobility management)? (more than one answer possible)
- a) High-Occupancy Vehicle (HOV) privileges (e.g. dedicated lane, toll exemption)
  - b) Street pavement in informal settlements.
  - c) Traffic-calming regulations (e.g. 30 km/hr. zones)
  - d) Bus-shuttle services.
  - e) Congestion fees to increase costs for private car users
- 5) When was the returning rise of the civil society cycling movement in Egypt? (more than one answer possible)
- a) 2011 during the revolution and the curfews imposed, limiting car traffic.
  - b) 2006 with the empowerment of the social media and cycling advocates, starting in Cairo, then Alexandria, then other governorates.
  - c) 2014 when the president launched a large rally of cyclists to promote cycling and healthy lifestyles.
  - d) In 2000 at the turn of the century.
- 6) How many public EV charging stations are there in Egypt now?
- a) About 10 demonstrational stations so far.
  - b) None
  - c) >100
  - d) >500
- 7) Sulfur levels in Euro-4 and Euro-5 Diesel fuel is 50 ppm (parts per million) and 10 ppm respectively. What is the average Sulfur level in diesel fuel in Egypt?
- a) 500 ppm
  - b) 1000 ppm
  - c) 1500 ppm
  - d) >2000 ppm
- 8) Which of the following is an indicator that can be used to assess walkability? (more than one answer possible)
- a) Block density (at a city level)
  - b) Visually active frontage
  - c) Physically permeable frontage
  - d) Shade
  - e) Access to local services
  - f) Sufficient availability of garbage bins

- g) Transit station proximity
- 9) Which of the following are examples of widespread Urban Vehicle Access Regulations (UVARs)? (more than one answer possible)
- a) Low-Emission Zones.
  - b) Vehicle scrapping programs.
  - c) Retrofitting program for installing filters in buses and trucks.
  - d) Congestion charging schemes.
  - e) Road-tolling systems.
- 10) Translate the following terms into Arabic:
- a) Induced traffic:
  - b) Electric vehicles:
  - c) Traffic evaporation:
  - d) Low-Emission Zones:
  - e) Sulfur:
  - f) Electric cars:
  - g) Micro-mobility:
  - h) Advocacy:
- 11) Which of the following is NOT a component of an Environmental Impact Assessment (EIA) process?
- a) Stakeholder consultation about the project to be implemented.
  - b) Assessment of potential impact on the environment and surrounding communities.
  - c) Developing a plan for avoiding or mitigating the impacts of the project during construction and during operation (and de-commissioning if applicable).
  - d) Studying different alternatives to the project (or project components) to select those with least social and environmental impact.
  - e) Assessing the potential impact on surrounding flora and fauna.
  - f) Promoting the project in the media.
  - g) Getting approval from the Ministry of Environment according to the category of the project (A, B, or C category).
  - h) Developing a monitoring, evaluation, and risk-mitigation plan.
- 12) What contribution can you do within your own field of work (or volunteer activity) to help promote concepts of sustainable mobility and LEZs?  
(text box)
- 13) Reflect on your WalkShops experiences and observations. Suggest at least five walkability elements/indicators (hard and soft) that might be missing from the ITDP Pedestrians First

Toolbox (international), in order to tailor this to Egyptian contexts and characteristics of our social and urban reality.

(text box)

### **WalkShop feedback**

If you would like to implement yourself awareness and training programs in the future, how can you improve them from your perspective? (points for improvement/further development/innovations)

(Text box)

What were your favorite (or most educative) parts of the current WalkShops program?

(Text box)

### **Please confirm the following:**

1) I have completed and submitted assignment-1 (Advocacy concept) & assignment-2 (street transformation) with my partner (or alone)

Yes – I/We submitted the final presentation or at least a draft in the shared folder.

No

Comments:

### **Results**

Participant	Points	Score
P.1	60/60	100%
P.2	54/60	90%
P.3	60/60	100%
P.4	60/60	100%
P.5	52/60	87%
P.6	40/60	67%
P.7	55/60	92%
P.8	49/60	82%
P.9	54/60	90%
P.10	(alternative task assigned)	*

\*P.10 was assigned alternative tasks for compensation to tailor to his circumstances due to reported symptoms of COVID-19 during the training period.