Behaviour Change towards Sustainable Mobility triggered by Nudging Initiatives

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1 ABSTRACT

This paper presents a comprehensive overview about methods and practice cases regarding behavioural change initiatives towards sustainable mobility triggered by nudging techniques. "Nudges refer to purposeful changes in the choice architecture that influence peoples' behaviour by making changes in the environment that guide and enable individuals to make choices almost automatically. This can be done by simplifying the information provided or by offering default choices in a way that facilitates socially desirable decisions. Thus, nudges do not try to change one's value system or increase information provision. Instead they focus on enabling behaviours and private decisions that are beneficial for society and usually in the individual's long-term interests, as well." Lehner et al. (2016). Four types of tools are part of nudging: 1) simplification and framing of information, 2) changes to the physical environment, 3) changes to the default policy, and 4) the use of social norms. The objective of nudging originally is to promote certain behaviour, which is beneficial for individuals as well as the society and increases the effectiveness of policy. All these techniques are well known, successful and applied in many areas such as for super markets selling their products or in politics campaigning for the next elections. Surprisingly, such techniques are less known in the field of mobility aiming at leading people towards a more sustainable behaviour. Nevertheless, isolated activities were successfully applied already as pilot actions.

Regarding 1): Simplification and framing mean that information is made more straightforward. It fits the information processing capabilities and decision-making processes of the target group because not only the amount or accessibility of provided information matters, but also how the information is presented. Therefore, it matters how the situation/nudge is presented or with what words. E.g. people in a rush will try to reduce complexity regarding the information they use to make a decision. As examples in the area of sustainable mobility information about public transport such as time tables need to be visible and easily understandable, e.g. not only at the bus stops, but at public places, restaurants, hotels, working places as well, ideally online screens with departures. Nudging through changes in physical environment is well known, for example in placement of preferred products in shelves in supermarkets. Good examples are to place sustainable mobility options with a higher priorisation on a homepage and leaflet, or to put the bus stop area closer at a destination as the car park. Defaults are set standards, which determine the result as long as the addressed person does not take action and insist in making changes, e.g.: "print double sided copy" as standard instead of "print single pages" at a printer. An example in the area of sustainable mobility can be the strategy, if one asks in a tourism office or at the hotel reception, how to reach a specific destination, he/she get explained how to reach by means of public transport or bicycle and not by car instead of. Social norms are a strong force that influence human behaviour. However, social norms can influence human behaviour if they are salient and visible for the target group. Examples are announcements such as "in our company already xx km were cycled this month for commuting with the bicycle already, saving xx CO_2 emissions at the same time" which are send out to the employees in the course of an active mobility campaign in a company.

Keywords: Intervention, Behaviour change , Sustainable Mobility, Nudging, Tools

2 INTRODUCTION

Within the project SMACKER - funded under the Interreg Central Europe programme - mobility issues related to peripheral and rural areas, and main barriers are assessed and addressed by providing solutions that draw on the best international know-how. SMACKER promotes demand-responsive transport services to connect local and regional systems to main transport corridors and nodes such as the TEN-T network: soft measures (e.g. behaviour change campaigns) and hard measures (e.g. mobility service pilots) are used to identify and promote eco-friendly solutions for public transport in rural and peripheral areas to achieve more liveable and sustainable environments, better accessibility for the population to main corridors and better

feeder services. SMACKER also encourages the use of new transport services through motivating and incentivizing campaigns (Batiajew et al. 2019). The direct beneficiaries of the actions are residents, commuters and tourists. This paper presents a comprehensive overview about methods regarding behavioural change initiatives based on nudging techniques. This overview will allow to identify suiting methods for supporting the implementation of new mobility offers or promote existing, but underused supplies of sustainable transport. In the first part of this paper a definition about nudging is given and the target groups of the methods are described. Different channels for the communication of the nudging methods are explained as well as potential points of contact, which may act as entry point for the introduction of a nudging method. In the second part a comprehensive overview presents all the methods and an overview is given.

3 THE CONCEPT OF NUDGING

3.1 Definition

"Nudges refer to purposeful changes in the choice architecture that influence peoples' behaviour by making changes in the environment that guide and enable individuals to make choices almost automatically. This can be done by simplifying the information provided or by offering default choices in a way that facilitates socially desirable decisions. Thus, nudges do not try to change one's value system or increase information provision; instead they focus on enabling behaviours and private decisions that are beneficial for society and usually in the individual's long-term interests, as well." Lehner et al. (2016) based on Thaler and Sunstein (2008). According to Lehner et al (2016) these four types of tools are part of nudging: 1) simplification and framing of information, 2) changes to the physical environment, 3) changes to the default policy, and 4) the use of social norms. Regarding 1): Simplification and framing mean that information is made more straightforward. It fits the information processing capabilities and decision-making processes of the target group because not only the amount or accessibility of provided information matters, but also how the information is presented (Lehner et al. 2016). Therefore, it matters how the situation/nudge is presented or with what words (Lehner et al. 2016). E. g. people in a rush will try to reduce complexity regarding the information they use to make a decision. Nudging through changes in physical environment is well known, for example in placement of preferred products in shelves. Defaults are set standards, which determine the result as long as the addressed person does not take action and insist in making changes, e. g.: "print double sided copy" as standard instead of "print single pages". According to Lehner et al. (2016) social norms are "a strong force that influence human behaviour". However, social norms can influence human behaviour if they are salient and visible for the target group (Chialdini and Goldstein 2004). The objective of nudging originally is to promote certain behaviour, which is beneficial for individuals as well as the society and increases the effectiveness of policy (Thaler and Sunstein, 2008 in Lehner et al. 2016).

3.2 Target groups

Target groups relevant for nudging towards the use of flexible transport are residents, commuters and visitors (tourists) of a specific region, which may need to be addressed in different ways and through different channels. Residents are very open for interventions in regard to their mobility choice, if changes in their individual stages of life take place, like starting at a new school or workplace, relocation of the place of residence, the household size is extended (e. g. children were born), the household size was decreased (e. g. grown up children were leaving the household, divorce), medical reasons, which implicate the need to change mobility patterns. These framework conditions often cause the reflection of usual activity patterns and the need to adapt individual behaviour. Each new stage of life offers the possibility to nudge residents towards the use of sustainable mobility. Mobility patterns of commuters are highly repetitive and thus have a high potential to provoke sustainable behaviour. In particular, employees that change their work place are open to new mobility options due to changed framework conditions. Contrary to this, tourists usually do not have habitual trips at their holiday destination. They often have to find their way themselves in a new area, thus, they are open for mobility options offered (especially, if they do not have their car available at the holiday destination). Addressing tourists offers a high potential to nudge towards sustainable mobility and could stimulate them to rethink their mobility at home as well.

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3.3 Channels of communication

This chapter includes a description of channels which can be used as starting point for nudging. These channels describe ideas how to get in contact with the target groups. At first there is an alternative to directly contact your target group or indirectly via a third party. Direct ways of contact are direct written information paper based or electronic. This includes sending an information letter and a registration postcard for further information to potential participants by post or email. An alternative, but more costly are direct face-to-face information. One can get in touch with potential participants directly on local events or by creating an own event, knocking on the door, at public meeting points etc. A third alternative are direct phone contact and getting in touch with potential participants directly by phone. But usually, telephone lists are outdated or incomplete and there are some legal restrictions. So there need to be a strategy established to collect the phone numbers, either via direct contacts or via mail (which usually includes the agreement to contact these persons via telephone).

Indirect ways of contact means to include a trustful third party to convey the nudgings, ideally local stakeholders, employees in contact with the envisaged target group or any other multiplier or role model who is getting into direct contact with the target group. If these persons play a main role in the campaign, they need to be prepared and trained for this task. Not to let others do too much work, sending an information letter/ email and/or face-to-face contact from such persons could be a door opener (by creating a friendly background for the direct contact with the participants) and then get in direct contact with the target groups. Other indirect channels (but only supporting a more interactive campaign) can be the usage of info boards, which can provide relevant information for the target group in different settings, (preferably local) radio or TV providing relevant information for the target groups, so many potential participants can be reached. Ideally the messages are not reduced on advertisement jingles only but embedded in infotainment sections of the programme, e.g. interviews or editorial contributions.

4 NUDGING INTERVENTIONS FOR SUSTAINABLE MOBILITY

The different types of action and intervention are described below. All of these were already carried out in different target areas, reference is given in each chapter.

4.1 Mobility stand on local or regional event

At regular local events (e.g. farmer's market) a mobility stand provides general explanation of sustainable transport modes and in detail the following question get answered: How to get the information I need, e. g. in the case of flexible transport offers in the area: How to get a bus picking me up? How much will the using of (flexible) PT cost for the customer? The information is provided by trained staff for individual dialogs and consultation but also via infofolders and other information material to take away. Specific information for commuters, pupils etc. can be provided. An example is the Verkehrsverbund Rhein Sieg, Germany, see www.vrs.de/fileadmin/Dateien/downloadcenter/VRSundNVR_gemeinsam_fuer_die_Region_2014.pdf.

4.2 Self-organized event about sustainable local mobility

Self-organized events about sustainable local mobility supported by the municipality or the PT/mobility provider take place. Presentation and discussions about local PT provide information and insights. Contrary to measure 3.1, an additional task is to motivate people to visit the event by including an attractive program for this event (e.g. games, demonstrations of vehicles, presentations, discussion rounds etc.). A location needs to be organised: An accessible site within the municipality, e.g. municipal office. Often the municipalities or local organisations (social clubs, health care centres, schools, homes for elderly and similar) can offer relevant infrastructure. Depending on the target group, daytime, duration and kind of day need to be arranged, ideally a date which is not favouring a specific group. Trained staff from a mobility agency or PT/mobility provider or project partner need to provide adequate presentations, depending on the target group. It is important, how the invitations to the event will be sent out. Often the municipalities can assist because they are owning relevant address lists (if not selective, excluding some groups of citizens), but also can publish the event in their media or at their homepages. Additionally, local media can be contacted to report about the event. Prepare layout and contents of the presentation. When sending out an invitation letter, participants can be asked for the most important information they want to hear. This can be a valuable input, if preparing the presentations. Typical topics to be presented are: Understanding the operation times, maps of

area of operation, tariff information (specific and general), how to book or modify a trip (if flexible system is in operation), how the local bike sharing system works, the bicycle infrastructure in the area etc. Hand out material should be provided for the event. Gaming elements, lotteries, the presentation of vehicles and test rides or other mobility related demonstrations can accompany the event. An example of this action is the Project Midas, see https://ec.europa.eu/energy/intelligent/ projects/en/projects/midas.

4.3 Presentations at periodic local meetings, establishment of a local mobility forum

Open periodic discussion rounds/open meetings about important local concerns in the municipality (or within a bigger company) provide a good platform where topics about sustainable local mobility are attached. Target groups get addresses by the local municipality. This could be either a regular meeting series, where all topics residents are concerned with, are included or periodic meetings with a focus on mobility within the municipality (or within a bigger company). A regular meeting is chosen, which guarantees an "open" characteristic, so that no citizens are excluded in these events and various issues are discussed. Local stakeholders/multipliers should be included in the meetings attracting citizens/employees to attend. An example of this action are the partner regions of the SMACKER project, see https://www.interreg-central.eu/Content.Node/SMACKER.html.

4.4 Empowering pupils to use public transport

Trained staff presents threats of car usage and highlights alternatives in schools. Pupils learn how to use PT, biking or even walking including the legal situation. If possible, try out activities are provided in cooperation with the transport providers. Discussions with pupils about e. g. daily mobility patterns in a playful way shall encourage the process of reflexion. Schools need to be contacted to provide time and space for the event (directors and teachers, where the activity could be integrated in the courses). In case, try out activities are planned, local transport providers need to be contacted as well. If there exists an initiative for sustainable behaviour already (e.g. Fridays for Future), representatives of this initiatives within the school can be integrated in the activities. Trained staff needs to provide a presentation, which is well tailored for the target group (preferably children in primary school or young children in high school due to openness for new mobility options and the need to establish new daily mobility routines). Information material is a must have to bring, to provide information not only for the pupils but also for their parents. Gaming elements could support the usage of public transport (e.g. traffic snake game, where classes are compared with regard to their sustainable mobility). An example of this action is the Staffordshire County Council case study, see https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/575323/ Home_to_school_travel_and_transport_guidance.pdf.

4.5 Mobility managers in companies, institutions or other organisations

Work places or organisations like schools, tourist accommodations set up a representative, who is a contact person to provide help for individual mobility concerns but also to provide information about alternatives to car usage in general (e. g. through presentations or include aspects in newsletters). Preferably, this representative acts as a role model (uses PT or the bicycle for way to work), but actively contacts the employees to put sustainable mobility on the agenda within the company or organisation. Furthermore, organisations implement a bonus system, which encourages the usage of PT and active transport modes. Work places and organisations need to be contacted and empowered to highlight the importance of the action. Benefits need to be pointed out and the work places and organisations need to be supported by developing and implementing a strategy for mobility management. Information material and options of concrete actions (job ticket, commuter lottery for sustainable mobility) need to be provided for the representative to forward these actions within the companies or organisations. An example of this action is the Travel Smart Initiative in Singapore http://viajeoplus.eu/wp-content/uploads/sites/4/2015/11/ Viajeo_PPT_Travel-Smart-LTA.pdf.

4.6 Guided PT, walking or cycling tour per target group

This event takes the target groups on a tour. The tour can be combined with (small) touristic events. If focusing on PT, timetables, tariffs and ticketing are explained and tested, as well as safety rules. The tours are designed for specific target groups like elderly people, pupils, parents and commuters so attention is drawn to specific needs of the target group, e. g. usage of PT by wheelchair or walking frame for elderly

people. This event can either be attached to an existing local event (e. g. farmers market) or established on its own. Either way, trained staff needs to be found and information for the target group needs to be prepared. Potential points of contact are the following: schools, local municipality, at home, work places, doctors, participation at local events, self-organized events, club associations and radio. If the event is established on its own, a meeting point needs to be organised per target group. Club associations or local municipality and schools can provide sensible meeting points. An example of this action is an initiative in Münster, Germany, see www.stadtwerke-muenster.de/privatkunden/busverkehr/kundenservice/bustraining/vorschulkinder.html.

4.7 Personal mobility assistants for elderly people at major transport interchanges

This measure involves the provision of a personal assistance service at major public transport interchanges. The measure will help older citizens to travel independently and increase the attractiveness of PT for older people. Project staff should be located at one or two public transport interchange points for certain time slots. A group of young, trained persons are positioned ready to help older people at the bus and tram stops at public transport interchanges. These staff help older people to enter and to exit buses and trams, based on previously defined rules and advice. They can also provide information about PT connections and bus and tram schedules and assist with the use of ticket vending machines or apps. Assistants are available e. g. in the morning, every day from Monday to Friday. In order to be properly recognized, they should wear colourful jackets or T-shirts with logos (ideally provided by the local PT/mobility provider). They should also have special ID-cards that are kept visible. The idea is not only to help older people directly, but also to raise awareness among others and to encourage travellers to assist each other. As a result, it is expected that more and more younger people will help older people to enter and leave the vehicles, provide information about available connections, and help with ticket purchase, etc. Potential points of contact, which inform the target group about this service can be: Local municipality, at home, doctors, local events, self-organized events, radio, TV, club associations. An example of this action provides the AENEAS project, Krakow Poland, see http://www.eltis.org/resources/videos/krakow-assistance-service-older-people-major-public-transport-interchanges.

4.8 "Car-free day"/EU Mobility week

The EUROPEAN MOBILITYWEEK campaign provides the perfect opportunity to present sustainable mobility alternatives to local residents and to explain the challenges that cities and regions are facing. By taking part, towns and regions can showcase the benefits of cleaner transport choices and make progress towards better mobility in Europe. Local authorities are strongly encouraged to use the week to test new transport measures and get feedback from the public. It is also an excellent opportunity for local stakeholders to get together and discuss the different aspects of mobility and air quality, find innovative solutions to reduce car-use and transport emissions, and test new technologies and planning measures. (see http://www.mobilityweek.eu/the-campaign/). Interested towns and regions register for the European mobility week. Every European mobility week uses a special topic, which is the theme of the week throughout Europe (e. g. "Safe Walking and Cycling" for 2019). Participating towns can either organize activities, which promote public transport, cycling and walking and other forms of sustainable mobility or can implement permanent measures during this week. Finally yet importantly, towns can carry out a "Car free day", preferably on "World car-free day". The chosen activities are promoted through all points of contact. Depending on the chosen activities, different cooperation partners needs to be contacted. An example of this action is the city of Igoumenitsa (Greece), which is the winner of the EUROPEAN MOBILITY WEEK Award 2017 for smaller municipalities, see http://www.mobilityweek.eu/fileadmin/user_upload/materials/participation_resources/2018/2018%20EMW%20Best%20Practice%20Guide%20LR.pdf.

4.9 Public transport try-out activities (free PT test ticket etc.)

With this measure, potential public transport users get in contact with the public transport system either for the whole trip or in combination with other feeder systems (incl. flexible transport). With the free try-out ticket there is no financial risk for the user (e. g. that she/he did not purchase the correct ticket). Nevertheless, the persons receiving a try out ticket for public transport should be contacted again after the usage of the try out ticket asking them to report (and discuss) their experience made. At least a return ticket should be offered to test a trip to a destination within a pre-defined area. If budgetary resources are available or a sponsor can be found, full day or weekly tickets would increase the attractiveness of the measure. This

measure can be accompanied by a social media campaign, encouraging people, who try out PT the first time, to "post" a picture or similar at social media, about their experience travelling with public transport. This measure can also be extended to other sustainable modes of transport. An example of this action was carried out in the city of Salzburg, Austria, where 20.000 test tickets were distributed, https://salzburg-verkehr.at/pa_file/presseinformation-testticket-gewinnspiel-vom-testfahrer-zum-gewinner/?download=650983d5b3b7919354a5fb32fe5a1968.

4.10 "Trips for Trash" & other local charity activities

Free PT tickets are exchanged for recyclable materials like plastic bottles and paper (e. g. one ticket per 5 kg plastic waste). The measure can be extended to other charity activities too, where credits can be earned for obtaining a public transport ticket (like assisting senior citizens, doing voluntary community work etc.). Information about PT is given as well at point of exchange credits/waste against the public transport ticket. Depending on the format, companies need to be contacted to create an incentive (e. g. waste collection, social institutions etc.) A place for the exchange needs to be organised, the local municipality can probably help to find a suitable place or take over this task. In case no trash is returned and instead other social efforts are supported, these need to be proven (e. g. via notification). In case trash is returned, it is necessary to provide suitable containers for the trash. The local waste collection company or the municipality can provide these. An example of this action is carried out in the is the city of Rome, see Trips of Trash, https://www.thelocal.it/20190725/you-can-now-trade-plastic-bottles-for-metro-tickets-in-rome?fbclid=IwAR3-H5vWt_OCwAcpSnaiCkHesFAKu9Gau0Zz5TMuZ85WcllY-E-SVH2o-sk or the city of Almada (Portugal), see Trips for Trash, http://www.epomm.eu/old_website/study_sheet.phtml?sprache=en&study_id=2887.

4.11 With PT/bicycle/on foot to work/school competition with lottery

A competition with lottery is set up with a competitive character, in which people are acknowledged if using sustainable modes of transport on a specific day or can collect "kilometres" or "points/kilometre" travelled by sustainable modes and have the chance to win prizes, which, at best, encourage further travelling with sustainable modes (e. g. high quality rain jackets, umbrella etc.). Potential participants (pupils, employees) need to be contacted, e. g. via schools or work places. A website and/or app is created to give the opportunity that participants can record their travelled kilometres and with this create a basis for the lottery. Prizes of the lottery can be contributed by local PT/mobility provider or local municipality. Alternatively, to the collection of mileage approach a randomly selected day can be the reference day and all registered players win or are in the drawing of the lottery, who used sustainable modes of transport that day. Examples of this action are the "Austria cycles" initiative in Austria, https://www.radelt.at/, the LOVE TO RIDE activity, https://www.lovetoride.net/global?locale=de-DE or the Travel Smart Initiative, Singapore, http://viajeoplus.eu/wp-content/uploads/sites/4/2015/11/Viajeo_PPT_Travel-Smart-LTA.pdf.

4.12 Bonus mile programme for PT

Kilometres travelled by PT are collected via smartphone or social media and get rewarded with discounts at local shops or other goodies. Ideally, the bonus mile programme is accompanied by a social media campaign: e. g. a winner is selected each week/month etc. and gets honoured on (social) media. In principle the system works as any other customer loyalty program, e. g. of telephone companies, supermarkets etc. Potential participants (e. g. pupils and employees) need to be contacted through all points of contact, but especially via work places. Participants will register themselves to start to collect, e. g. by downloading an app or receiving a booklet. An app is created to give the opportunity that participants can record their travelled kilometres with PT and create a basis for the discounts in local shops. As low tech alternative a booklet (for stamps) or sticker album can be used, where conductors or bus drivers (in rural areas with less crowded buses advisable only) confirm the usage. If electronic ticketing system is in use (e. g. electronic check-in and checkout), this technology may be used for the recording as well. Interested local shops, museums, pubs or other potential cooperation partners need to be contacted, for preparing discounts or little presents ready to offer to the participants or other goodies need to be purchased. The handing over process needs to be defined. Selected winners, who enjoy using social media can be encouraged to post about being selected on social media. Therefore moderation of the activities need to be clarified (host of social media). Potential followers and participants need to be contacted. Examples of this action are the Bella Mossa

campaign, Bologna, Italy, https://www.bellamossa.it/ or the Better Points campaign, Wroclaw, Poland, https://www.wroclaw.pl/wroclawskie-wyzwanie-mobilnosc.

4.13 Gamification for sustainable modes

The use of sustainable modes and the collection of "kilometres" or "points/kilometres" is implemented with a playful approach. In this approach the use of sustainable modes is encouraged by visualizing the user's scores allowing the user to reach different levels, collecting "trophies", geocaching etc. (e. g. comparable to "Pokemon Go"). Progress bars, which show the amount of CO_2 or money saved by using sustainable modes shall further encourage the behaviour. An app with gamification needs to be developed. Therefore, guidelines about the goal of the app and target groups need to be clarified. A system, how to record the mileage need to be included in this app, possibly using interfaces with other tools such as electronic ticketing. Maybe responders in the buses are needed (e. g. blue tooth or nfc) to confirm the usage. In case, winners are selected, similar to measure 3.12, awards need to be organised and the handing over procedure need to be specified, preferably accompanied with a (social) media campaigning. Examples of this action are Bolzano in South Tirol, Italy https://www.masstransitmag.com/technology/press-release/12270742/onyx-beacon-gamification-in-public-transportation-passengers-quit-using-own-vehicles-and-participate-in-ecological-competition-based-on-kilometers-of-bus-travel-measured-by-onyx-beacons or the Viaggia Trento e Rovereto Play&Go, Trentino, Italy, https://www.smartcommunitylab.it/apps/viaggia-trento-e-rovereto-playgo/.

4.14 Use of social media to make sustainable modes visible

Sustainable modes will be visible in social media through its users by putting pictures and stories on the social media page e.g. of the regional/local public transport operator, etc. or at the users´ page themselves, e. g. by using a specific #hashtag. Cooperation with regional media (e. g. online magazines or print) may be a further option. Participating people can get rewarded and encouraged to join social media challenges. Moderation of the activities needs to be clarified (host of social media). Potential followers and participants need to be contacted. If foreseen, awards need to be organised for competition, e. g. for the best pictures etc. Rewards can be based on number of shares or likes. Ideally, the campaign gets recognition in regional media as well. Therefore regional media needs to be contacted. Examples of this action are the Youth Alpine Interrail initiative, see http://yoalin.org/challenges/, https://www.instagram.com/p/BwRO2OmAMF-/ and http://yoalin.org/do-the-yoaling/ or the Austrian federal railways ÖBB, see http://blog.oebb.at/schaumalraus-macht-mal-gemuetlich/ and https://www.facebook.com/unsereOEBB/posts/ fotowettbewerb-wir-rufen-unter-dem-motto-175-jahre-eisenbahn-alle-hobbyfotografi/248421711927148/.

4.15 "Thank you" – Incentives for current users of sustainable transport modes

Current users of sustainable transport modes receive a little present (like coffee, cake, flowers etc.) e. g. before or after leaving the PT or at the cycle path to show appreciation for the persons effort to actually use sustainable transport modes. PT or mobility providers or the local municipality need to be contacted, to request interest in this measure. If these institutions show interest, they can support the measure by providing staff for the distribution of the presents or sponsor such items. Points of distribution should be chosen carefully: e. g. PT interchanges, (touristic) destinations or in the PT vehicle or cycle paths itself. Activities can be done at any day, but typically to select a specific day, e. g. a jubilee of the bus line concerned, a modification or upgrading of a line or the time table, in the course of events such as the European mobility week or local events, etc. Alternatively the beginning of a typical season, e. g. school start, semester start of the university etc. can be selected as well, if the target group is defined as pupils or students. An example of this action is the Bike breakfast, Bologna, Italy, see http://salvaiciclisti.bologna.it/bike-breakfast.

4.16 Entertainment event at PT

Stand-up entertainers perform for current PT users in the PT vehicle in an unexpected way (e.g. little concerts, circus, "pub quiz" etc.), preferably at off peak time like in the evening. Alternatively interested people can participate at a "surprise ride" with PT, where they use PT on a certain day and time and PT takes them to interesting sites. An example of this action is the Verkéiersverbond Luxembourg, https://www.mobiliteit.lu/de/uber-uns/verkeiersverbond/ or the so called Staukonzert in Salzburg, Austria, see https://www.fraeuleinflora.at/salzburg/fraeulein-flora-staukonzert/.

4.17   Customized information packages on paper about selected topics

Interested people order customized information packages on paper in which they are interested, e. g.: ticket purchase, usage of flexible transport, receive individual time table information online & offline, PT network map or cycling network map. In a first step, they receive an order form, where they select the required documents. Some of these can be tailor made as the foot path to the next PT stop, an individual time table of their specific trip demand, an orientation map of their place of residence, a calculation of the ticket costs for their individual travel needs etc. Based on this feedback (via online form, paper form or telephone contact), the people only receive the information, which is relevant to them and do not have the burden of researching this information by themselves. An example of this action is the project SmartMove, see http://www.smartmove-project.eu/.

4.18   Welcome kit - information packages for new residents about sustainable mobility

Providing comprehensive information regarding the range of PT options/sustainable mobility available in the region/neighbourhood for new residents. A welcome kit info package will be sent individually to new residents in the area. The main objective is to inform new residents and take advantage of the change in personal life to foster the use of sustainable mobility. The target group can be accessed during the handing over the keys of a new housing development (in cooperation with the developers) or with a cooperation with other institutions like cable tv providers, water or energy providers as they know about new residents even in exisiting buildings. An example of this action is carried out in the Portuguese city of Almada, see https://www.eltis.org/discover/case-studies/new-residents-mobility-welcome-kit-almada-portugal.

4.19   Folder for specific target groups such as commuters/tourists/elderly persons/pupils

Creation of a folder, which promotes and informs about special tickets or other offers for different target groups (tickets for: commuters, tourists, elderly persons, pupils). The folder(s) will be available at all points of contacts, to reach each target group. An example of this action is the VOR – Youth ticket folder in the Eastern region of Austria, www.vor.at/fileadmin/CONTENT/Downloads/Folder/Infofolder/Jugendticket_Flyer_2019-20.pdf.

4.20   Sustainable mobility guidebook with comprehensive information for sustainable mobility of a whole region

A comprehensive guidebook including information about public transport, taxi, cycling, walking, vehicle sharing, ride sharing, taxies, micro mobility community and hiking bus offers etc. is put together. This measure aims at improving people´s mobility through the provision of information and guidance all in one. Occasionally, by sending in a reply-card, further information material can be obtained free of charge (e. g. customized PT information). Another option is to include touristic or other practical information about the region as well. The guidebook should be additionally available at important points, e. g. touristic destinations, transport nodes, in the buses at the driver, travel agencies, etc. Mobility guidance on the phone is delivered as well if requested. An example of this action is the Lungau Tälerbus, Austria, see http://www.taelerbus.at/.

4.21   Salient implementation of PT information on webpages of destinations

Work places, tourist accommodations, municipalities, tourist destinations etc. offer salient implementation of PT information on webpages. "Arrival" with PT is displayed. The nearest PT station and an interface for journey planning regarding national, regional and local PT is implemented. Where possible, the option to make a booking for PT on the webpage itself (e.g. webpage of a tourist accommodation) is provided, to offer an easy booking experience. Links to other local mobility options like flexible PT, bike/car-sharing systems, bike/car rental, etc. are displayed, too. This section should be found easily at the start page of any web pages of organizations creating transport demand. Priority should be given to sustainable modes in the web design and order of link lists. An expert should be available to support and train the organisations how to implement these information at their webpages. An example of this action is the tourist association Tyrol, Austria, see https://www.tyrol.com/good-to-know/arrival/by-train#anchor-anker-journey-planner.

4.22 Eco-labelling of organisations supporting sustainable mobility

An eco-label about sustainable mobility for municipalities and tourist accommodations highlights the efforts of the municipalities and tourist accommodations regarding sustainable mobility. Participating organisations provide the following information on the webpage and on-site: e. g. booking options for PT, information about PT (time tables etc.) before and during the stay of tourists etc. Other criteria regarding sustainable mobility are possible, e.g. offer bicycles for the guests or cooperating with a bike renting system. Participating entities receive their eco-label at a media-effective ceremony. The ceremony also can be part of a social media campaign forwarded by local municipality, tourist associations etc. It is important, criteria to receive an eco-label can be influenced by the organisation itself, e.g. if talking about hotels, pt information at the rooms available, trained staff at the recption, a poster with the time table etc. An example of this action is the Stars for mobility initiative in Tyrol, Austria, https://www.klimabuendnis.at/tiroler_mobilitaetssterne.

4.23 Time table and other information as APP for mobile devices

Provision of a journey planner, time tables, reservations and real-time information and if further development is wanted, the inclusion of payment and booking etc. via one App for PT and all other transport modes (like car-sharing, taxi etc.). An example of this action is the Whim APP in Finland, see https://helpcenter.whimapp.com/hc/en-us/articles/115003538029-Whim-and-the-Mobility-as-a-Service-concept.

4.24 Making public transport and other sustainable mobility visible on public places and places were people meet and likely need mobility supply

This measure can be manifold, e. g. basic information on public transport such as a network map & phone number for flexible transport on coasters at bars, at tickets for concerts, museum tickets etc. This measure shall inform potential customers about the offer, especially to present an alternative to car usage. The idea is, to be visible at places were people have time to receive such information und a big group of people can be reached. Special flyers or giveaways can be produced and distributed at places where people meet or stay, such as in waiting rooms of doctors or other social services, administrative offices etc. At these places explanations videos about how PT works are also an option. QR-Codes on flyer or at public places can link to explanation videos, flyers etc. An example of this action is the coasters as ticket for PT in Hamburg, Germany, see https://www.horizont.net/marketing/nachrichten/eins-noch.-aber-dann-ist-bus-wie-die-hvv-und-astra-ein-bisschen-bvg-magie-nach-hamburg-holen-174343.

4.25 Training events for multipliers

Staff with contact to residents, pupils, employees or tourists, acts as a "multiplier" and participate in training events to be able to provide the necessary knowledge in upcoming situations. The following jobs can be seen as "multiplier": teacher, hotel receptionists, PT drivers, staff at tourist destinations etc. These persons are the contact persons, with which people of the target group can directly communicate and therefore can provide highly relevant information about sustainable mobility. This measure can be accompanied by a (social) media campaign, in which the "multipliers" post about their engagement and at its best, also act as role models and post this as well. An example of this action is the mobility manager training in Tyrol, Austria, see https://www.tirol2050.at/de/geschichten-des-gelingens/mobilitaetscoach/.

4.26 Provision of sustainable mobility related information for touristic destinations at public places or where tourists meet

Information for touristic attractions (like information boards or signposts for hiking, cycling etc.) also provide information about the next PT station, operating times of PT, links to relevant APPS and e. g. phone number for booking flexible transport (for cyclists the options for bicycle transport as well). Recommended hiking routes and bicycle routes in info folders (and at the sites itself) are created in a non-circular way so the usage of a car becomes less attractive. Information about next PT station and time tables need to be provided with the information about recommended routes in any case and were accessible (web, boards, flyers etc.). An example of this action is the presentation of different hiking routes in Styria, Austria, see https://www.verbundlinie.at/freizeit1/freizeit/wanderfolder.

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4.27 Mobility packages for tourists

At origin: The idea is that tourists receive a package about sustainable mobility at the tourist destination before they start their travel and therefore can decide whether travelling by car is an appropriate choice or if sustainable transport modes might offer an acceptable or even a better option. Therefore, tourists receive a package directly after their booking with detailed information about sustainable mobility at the travel destination, including e. g. luggage transport, pickup service from PT etc. At destination: An information package is displayed in each room and/or at the reception desk of the tourist accommodation. In these mobility packages, tourists can find detailed information about all local sustainable mobility options. If possible, free tickets for PT are provided for the tourists, as well (included in the room price). An example of this action is the Lungau Tälerbus in Salzburg, Austria, see http://www.taelerbus.at/.

5 CONCLUSIONS

The options choosing appropriate measures nudging residents, tourists or commuters towards the use of sustainable mobility are manifold. There is a big variety of options available. All of them were implemented already in different places and environments and have proven succesful applications. Ideally - based on a complete offer of sustainable modes without any gaps in a region - these various activities accompany this integrated offer and motivate people to behave in a sustainable way. Because of the ongoing discussion due to the obvious climate crises, the majority of people are especially open to these topics and are willing to use sustainable modes in principle. In particular, if the information is easily accessible, the targeted persons would feel a social norm to use sustainable modes and to receive positive feedback when using sustainable modes, and that will break the ice. Additionally, if most of the measures described above can be implemented within the region on a permanent level, the effect will be stronger compared to single and isolated activities, because residents, commuters or tourists would be confronted with sustainable mobility on a daily basis.

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