URBAN CYCLING

MAPPING ROUTES AND USING DATA TO IMPROVE DECISION-MAKING

3RD JUNE 2019

Researcher: Mihai Avram

CONTENT

INTRODUCTION

13,000 cyclists from Chisinau participated in the 2016 "VeloHora" City Marathon. We have a large cyclists' community that appears in public in its full capacity about once a year for marathons. At the same time, only a very small part of these cyclists use their bikes for commuting. The bicycle, as a form of transport will never be able to completely replace cars or public transport such as buses. Even so, there are a number of obstacles that prevent cyclists from using bikes as a way of transport more both for leisure and commuting (going to work or university).

To understand this cycling community, public authorities can and must take action. Cycling as an alternative form of transport is not an extra problem for the authorities, but rather a partial solution to some of the problems that Chisinau city has had in recent years. The problem of parking places in the city centre, the problem of excessive traffic in peak hours, the problem of air pollution in the city - can be partially solved by increasing the number of cyclists in Chisinau.

Since 2014, public authorities are trying to better understand how cyclists can be involved in city traffic, but each time these attempts are not very effective. Of all cycling infrastructure projects, the most successful was the arrangement of the Valea Morilor Park bike lane, which became the most popular bicycle route according to the Strava application. This leisure route, unfortunately, does not support commuting and does not in any way encourage people to use their bike to commute from Botanica to the city centre on workdays.

In order to develop better policies and respond to the needs of citizens, local authorities need to engage in an active dialogue with representatives of the cycling community and gather information about their habits, needs and concerns. Collecting the data and creating intelligent solutions is not very complicated, and in the following chapters I will try to explain how to work with the data, analyse the available data and come up with concrete proposals on how the Chisinau municipality can promote urban cycling.

SCOPE AND METHODOLOGY

The scope of this research is to analyse the biking habits of people in Chisinau and how the local authorities can respond to the needs of these citizens. In order to understand whether people in Chisinau prefer to bike for leisure or for commuting (getting to work by bike) the existing data on participation in bike marathons and data charts generated by fitness apps, will be analysed. In order to better understand how the public sector makes decisions regarding bike infrastructure, our research analysed funding regulation, online city budget reports and online tender reports.

Based on all of this collected information it is possible to see what are the flaws of the current decision-making mechanism and to come up with proposals for how to improve it. The research will explain how local authorities could use a **user-centered**[1] design and react to user needs in real time using data. Even with limited or no financial resources, it is still possible to collect and use data that will improve decision-making. Smart data-based decision-making is used in all major cities and corporations and in the case of Chisinau in can lead to healthier citizens, less traffic congestion and a cleaner city for all of us.

---

[1] User-centered design (UCD) or user-driven development (UDD) is a framework of processes (not restricted to interfaces or technologies) in which usability goals, user characteristics, environment, tasks and workflow of a product, service or process are given extensive attention at each stage of the design process. User-centered design can be characterized as a multi-stage problem-solving process that not only requires designers to analyse and envision the way users are likely to consume a product, but also to validate their assumptions with regard to the user behaviour in real world tests. More at: https://en.wikipedia.org/wiki/User-centered_design

STATUS QUO: CYCLING AS A FORM OF TRANSPORT

Biking can never fully substitute cars and public transport as the only form of transport in a city. There are factors that prevent people from using bikes as a transport that are not connected to a location, meaning that both in the Germany and in Moldova people will not use bikes when there is ice on the roads or when there is hail. Here is a brief list of reasons to NOT use bike for going to work compiled by someone that bikes in New York[2] :

- The unpredictable weather (sunny can turn into rainy and you have to accept this),
- Biking gear is expensive and maintenance is costly,
- The fear of having your bike stolen or vandalized,
- The bike can get damaged or broken, sometimes even on your way to work,
- Biking to work may need you to carry an extra shirt, t-shirt, bath towel, etc.
- Sweating is a problem and this is not only on hot days,
- Biking can never be your only way of transport (you often have to leave it at the office or to use public transport to get somewhere faster)
- Drivers and pedestrians are not bike-friendly or bike-aware,
- Accidents (that range from no scratches to deadly if you collide with a car).

There are of course methods to reduce the risks and to combat some of the shortcomings of biking to work. It is important to understand that biking **is an alternative form of transport,** ideal for short distances on days in which the weather is tolerable. It is great for commuting to work if the distance one-way is less than 20 minutes (for Chisinau), however it is not the cheapest form of transport (not in Chisinau at least because Public transport is cheaper).

Biking is not just for leisure and sport. Modern cities have adapted their infrastructure to fit in bikers with cars and public transport an in cities like Amsterdam and Copenhagen, bikes make up for 40% of all city transport.[3] Biking is reducing the strain on car roads and the need for parking lots especially in central areas where it is almost impossible to create more parking spaces.

Biking can coexist within the car and public transport system as a healthy and efficient alternative that is both noise-neutral and environmentally-friendly. For the local authorities, promoting cycling for commuting can cut costs that would otherwise be invested in relatively more expensive public transport and car roads' infrastructure. At the same time, more cyclists in Chisinau could offer a partial solution to the problem of scarce parking spaces in the city centre. For local authorities, investing in biking infrastructure may often seem as an unrealistic, obscure and expensive option, but this research paper will present methods for optimising the biking infrastructure system without million euro investments.

[2] Articol Medium:
https://medium.com/@aarontsuru/8-reasons-you-should-definitely-not-ride-your-bike-to-work-120ca800e18e
[3] https://victorchironda.eu/category/cycling/

MARATHONS AND URBAN CYCLING IN CHISINAU

The two biggest bike events in Chisinau are the Criterion Bike Marathon[4] that has been happening yearly for the last 6 years and VeloHora Bike Marathon[5] that has had 7 editions the first of which was in 2009. Both Criterium and VeloHora were created and are organized by the Moldovan private company, Simpals.[6] The biggest VeloHora Marathon (2016) gathered more than 13,000 cyclists, on a 20 km route through Chisinau's central streets which are usually used by cars.[7]

The Criterium Marathon is divided into a professional marathon that is for prepared cyclists racing on professional racing bikes, and Velo Fun by Skoda which is a 15-km entertaining ride in Chisinau on any type of bike for those who are underprepared for the Criterium cycling race.

Based on this data, it is safe to assume that Chisinau has a big community of cyclists that are eager to use their bikes through the city. When we talk about biking for leisure, people in Chisinau know how to do it, they have special events dedicated to this and they have all the needed resources (bikes, equipment, participation fee, clothing) to practice this sport activity. Not only there are many cyclists in Chisinau, but they are increasing in number based on their participation to the yearly biking events. The scope of this research is to better understand what is stopping these bikers (currently around 13,000) from using bikes not just for leisure, but also for commuting. By commuting, we mean using a bike as an alternative form of transport (instead of a car or a bus) for getting to work and back home on workdays.
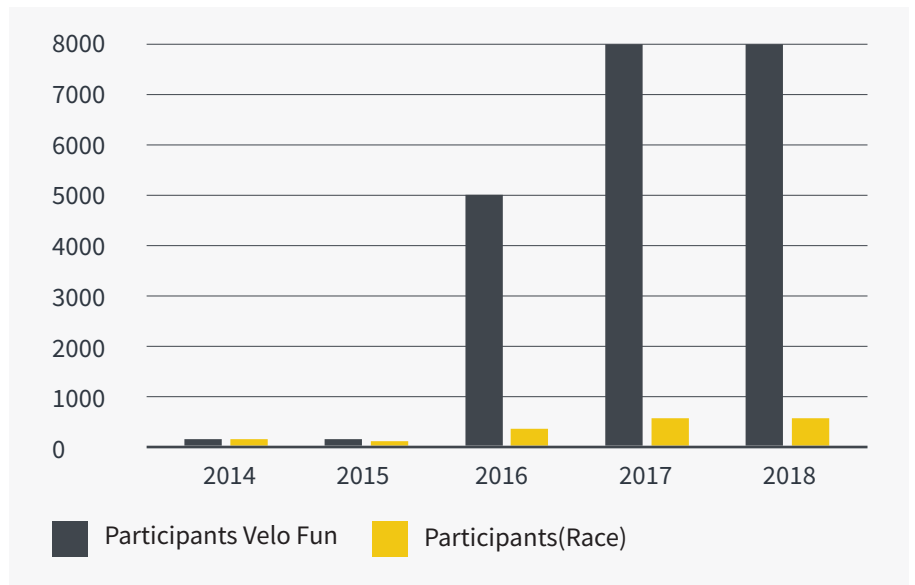

figure 1: Number of participants at the "Criterium" Bike Marathon / Participants Velofun / Participants (Race)

figure 2: Velohora Marthon 2016th edition

---

4 https://criterium.md/ru/

5 https://velohora.md/

6 https://sporter.md/info/about

7 http://agora.md/stiri/19693/velohora-a-adunat-un-numar-record-de-participanti

The way to better biking infrastructure in Chisinau starts with understanding how the current bike infrastructure in Chisinau is: financed, designed, built and used by bikers. Here are a few photos of the way in which money is already being spent on bike infrastructure.

Figure 3: Bike lane on Grigore Vieru Boulevard, developed in 2014

figure 4: Bike lane on Stefan cel Mare Boulevard, developed in 2016

figure 5: Bike lane in Valea Morilor Park, developed in 2018

According to **the official** statement from May 29, 2019 of the Chisinau City Hall's Transport Department, at the request of "Primaria Mea", the cycling infrastructure was never budgeted separately in 2016-2018 and is not included in the 2019 - 2020 budget. It seems that existing bike lanes have been developed from other budgets, such as pedestrian infrastructure and park development funds.

Even if there was is not a clear strategy for allocating funds to biking infrastructure there has been at least one example in which the local authorities a significant amount of money on such projects. This is the Valea Trandafirilor park pedestrian lanes and bike lanes project which was started in 2018 via public tender and repairs are currently underway. The contract amount for this project is 14,411,581 lei.[8] According to the documentation explaining the tender offer (caietul de sarcini) these 14 million lei will be spent on pedestrian lanes, bike lanes and other road elements such as support platforms for trash-bins and benches. It is difficult to separate the bike lane costs from the other costs, but building bike lanes seems to be a project priority and more information about this can be read on the Achizitii.md website.

Even if it is impossible to pinpoint the exact expenditures (and amounts) spent for biking infrastructure, it is clear that these are in range of a few million Moldovan lei per year. Valea Trandafirilor is the second park, after Valea Morilor, that will get biking lanes alongside pedestrian lanes (or running lanes). Some people disagree with the fact that the Chisinau local authorities should create bike lanes in parks and that this may even be illegal according to the Moldovan Regulation on Traffic (Regulamentul Circulatiei rutiere).[9] Even Victor Chironda, urban development expert, is of the opinion that combining a biking lane with a pedestrian side-walk is a bad idea and several experiments in both American and European cities have proven this:

"
… creating bicycle lanes on the sidewalks is inefficient and dangerous as it generates a constant conflict between pedestrians and cyclists due to the difference in travelling speed. While the average speed of a pedestrian is 4 km / h, cyclists can easily develop a speed of 20 km / h, which inevitably leads to serious accidents… [10]
"

More importantly, building infrastructure in parks is encouraging citizens to use bikes for leisure instead of commuting. Simply speaking, if 5 million Moldovan lei are being spent yearly on biking infrastructure, it should be spent to encourage people **to use bikes to get to work instead of using bikes purely for leisure.** This priority needs to be become a funding strategy and it should aim to: **make biking in Chisinau a good alternative to cars and public transport.**

It is strange that the local authorities have a problem with improving public transport because new buses are expensive and they have problems with creating more car parking spots in the city centre and at the same time they are directing funds towards leisure-biking when these funds can be invested in helping solve both of the above-mentioned big problems. In addition, biking could alleviate traffic congestion, could reduce noise and air pollution in the city.

[8] https://achizitii.md/ro/public/tender/21000322/lot/10028247

[9] https://atudos.me/nu-mai-faceti-piste-pentru-biciclisti-in-parcuri/

[10] https://watchdog.md/2018/02/23/dezvoltarea-infrastructurii-pentru-biciclete-in-chisinau-experimente-esuate-si-potential-de-dezvoltare/

WHAT IS A USER-CENTRIC APPROACH?

A user-centric approach is a technique used in software design and in architecture that focuses on understanding the user in order to make better decisions. If an architect uses the user-centric technique, he places himself in the shoes of the person that will leave in his building and starts by imagining how the resident will enter the building, how he/she will use the stairs or elevator, etc. This allows the architect to make the best decisions that result from a better understanding of how the 'user' (resident) will be using the goods that the architect produces (the building).

In the case of Chisinau, a user centric approach means that the local authorities should consult the people that bike prior to making decision with regard to building biking infrastructure. Even if the expenditure is 1000 lei, there is a way that will make this money benefit 10 people and a way for this money to benefit 200 people. The very same amount of money can be spent taking into account user needs and without any account for user needs.

In 2014, 2016 and until now, the decisions for where to "draw" bike lanes has not been coordinated with the users. The local authorities started discovering biking lanes by drawing yellow lines on the Renasterii Bulevard. Then, in 2016, they started using red instead of gray coloured pavement on the Stefan cel Mare street. Neither Bulevardul Renasterii nor Stefan cel Mare lane are the places where most bikers bike. Of course, there are urbanists that should be consulted with highly technical details such as what paint to use or what materials to use for road construction. However, if you want to build a service or a good that will be designed in accordance to how a user wants to use that good or service – you should ask a software designer.

A software designer will start with trying to understand how many people want to bike on Stefan-cel-Mare street, and this is what is meant by starting with the data. The software designer will test the software with a small group of people. The software developer will always start with a prototype. The software developer will always try to understand how many of his users are men, how many women and what are the user's needs and concerns. The software developer will try to understand how many people will use these lanes in order to commute and how many will use them for leisure.

A user-centric approach is an effort from the side of the local authorities to understand the civil society and to respond to its real needs. Smart decision-making is when the local authorities solve the problems together with the citizens and in accordance to citizen needs. Instead of guessing what the citizens want and need, local authorities actively collect data via surveys and online tools in order to respond to the most urgent concerns of the citizens. Since in 2019, we still have no proper biking infrastructure and at the same time we have 13,000 bikers at the marathon that is the first symptom of miscommunication between the local authorities and the civil society.

The first step towards opening this dialogue and active dialogue between concerned citizens and local authorities is through data collection.
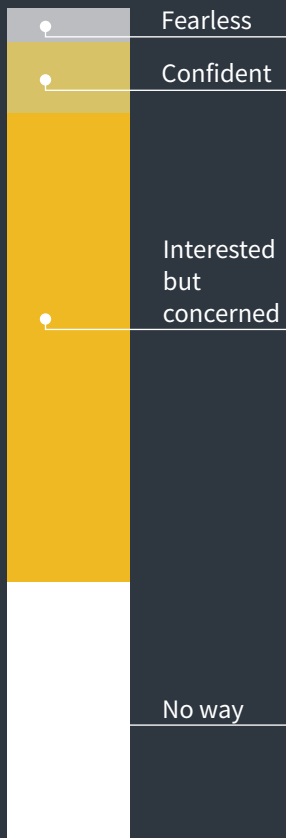
WHY START WITH DATA?

Fearless

Confident

Interested but concerned

No way

Figure 6: Survey carried out in Oregon (2014). For full link to study and video please access the link in the footnote.[11]

Data is essential for decision-making. When we want to organize a birthday party, we start by comparing prices at various restaurants and this research allows us to make a more informed decision that will not ultimately burn a hole in our pocket. There are certain misconceptions such as data is complex and data is expensive to collect, but the next few paragraphs will show how to collect and use data without major expertise and high costs.

For Chisinau, this means conducting surveys during marathons or via the channels targeting people that follow and participate at sports events such as Velo Hora and Criterium. The data collection can be done via social media (Facebook, Ok.ru, Telegram, Instagram and Vk.ru) or via traditional online media portals (point.md, sporter.md, diez.md, agora.md). In

addition to this, the Primaria Mea website can be used to collect information and the Local Mayor's Office has its own Facebook page that can be used to collect information from citizens.

The data to be collected needs to be about how do people feel about biking in Chisinau. We need to discover how many people already have bikes and how many of the commute (home-work-home); how often do people commute and what are the things that prevent them from doing this more often? A similar survey was carried out in Oregon US and this is how the final results were shown. In addition to the answers to such simple questions, it would be very important to find out the cyclists' gender and age. This would allow the decision-maker to design better solutions accustomed to user needs.

Is data expensive?

Yes, it can be.

There are such tools as Strava Metropolitan which is an online service for cities which delivers data about biking habits of the app users to cities for a cost. The free version of the bike-map of Chisinau looks like this:

Figure 7: Full Strava Map can be seen by accessing this link: http://bit.do/StravaGlobalMap

Strava can offer a detailed data map with number of people using these routes per day, week, month, year as well as more detailed information about the user profile. However, this data for the years 2016, 2017, 2018 and 2019 costs around $ 26,000 according to an official offer provided by the Strava staff to our research team. In some cases, big cities from the US and Europe are acquiring data and even data as expensive as this in order to use this in designing better infrastructure. A city like Amsterdam, in which 40% of traffic is bike traffic would be wise to invest in such data. At the same time, a city like Chisinau should not work with such expensive data at this early stage. The alternative is to use the free available information from Strava and to design our own data-collection

channels. At the initial stages these can be simple surveys (Google Forms / Change.org / Facebook Poll) and later on these can be more complex surveys (Pol.is) and later on we can design our very own custom tools for collecting data. The key is to educate the users and people in Chisinau to be active in such citizen data collection and crowdsourcing exercises.

In order to have more people participate, the questions need to be basic at first and to increase in complexity with every single survey. This would guarantee a steady growth in participation. Similar to the "Moldovan Carpet Street Art", that collected more than 5000 votes from the citizens of Chisinau via an online voting tool on a website, we can create a regular practice of people going online and voting for where they want the next bike route to be built. We can also ask citizens to tell us what are the routes that they use to get to work every day and how many times per

month do they use a bike to go to work. We can ask, what would make them use their cars less and their bikes more and what would motivate them to only use bikes in the summer when going to work. We can consequently prioritise working with commuters that have offices in the city centre and find out exactly how many cars less are parked every year due the fact that people are using bikes to go to work instead of cars. All of these things can be accomplished through simple and cheap data-collecting.

It takes a good writer to pose a good question. It takes a good designer to create a good survey. The local authorities should use the expertise of people in the creative industries and ICT sector when designing online data-collection and survey exercises. The Facebook page of the Chisinau Mayor's office is already quite popular so that would be the best place to start and test with Polling.

WHAT DOES THE CURRENTLY AVAILABLE DATA SAY?

By analysing the Chisinau Strava Map[12], we can already see what are the most popular bike routes in the City. According to the heatmap, here are the top 9 most often used bike routes as recorded by the Strava app bike users in Chisinau:

1. The Valea Morilor Park bike lanes circuit (Centre),

2. The Alecu Russo lane (connecting Riscani with Ciocana),

3. The Mircea cel Batran Boulevard (Ciocana),

4. The Stefan cel Mare Boulevard (Centre),

5. The Viaduct section of Dacia Street + R2 leading up to the Chisinau Airport (connecting Buiucani with the Centre and with Botanica)

6. The Calea Orheiului Street + M2 road going in the direction of Orhei (Riscani + Posta Veche)

7. The Renasterii Boulevard (connecting the Centre with Riscani + Ciocana)

8. The Alba Iulia Street (Buiucani)

9. The Moscova Boulevard (Riscani)

According to the heat-map, these are the most frequently used bike routes in Chisinau and the users themselves have chosen and recorded them via the Strava Mobile App. The ranking shows the most used bike routes (#1) and in decreasing order, the other 8 most used bike routes. Based on these selections, we can form some conclusions even at this stage.

a. There are many cyclists in Chisinau that use the Strava Mobile App and even if we do not know exactly how many, we can assume that they like to register their progress, itinerary and habits via this health monitoring and fitness app. This means that if our local authorities were to elaborate a similar app, at least a part of the current Strava users would use the new app.

b. The cyclists in Chisinau currently use the leisure routes (park lanes) more than the city routes (car roads or side-walk bike lanes). This is based on the fact that the Valea Morilor bike route is the most used bike road in the whole city. This could be because (1) people like to ride their bikes only for leisure, (2) there is a bike rental shop in the park, and because (3) it is the safest route because it is completely isolated from car traffic.

c. The other important bike routes are the connectors: Riscani-Ciocana, Buiucani-Centre-Botanica-Aiport, Centre-Riscani. The popularity of these connecting routes are a strong indicator that people are using bikes to go to work, school, university from one region of the city to another. The local authorities should study these connectors and try to either (1) improve them or (2) find alternative connecting routes that have less exposure to car traffic and invest in improving those. These alternatives can also be discovered using the heat-map + they can be promoted via the online media communication.

d. The popularity of Valea Morilor route as opposed to other routes is an indicator that the local authorities have control over where the bikers bike. That is to say, since the Valea Morilor lanes are the best quality bike lanes in Chisinau and the safest, here is where people use bikes most. If the local authorities were to create similar quality and safe infrastructure some place else i.e. on Mircea cel Batran Boulevard – that route would be used more intensively.

e. People prefer circuits for leisure and straight roads for utility. There is still a long way before saying that people in Chisinau actively use bikes as an alternative form of transport but for increasing the utility of bikes – the local authorities should prioritise straight routes (as opposed to circuits) and connecting routes. Like blood in a human body, the flow of traffic needs to be optimised and directed so as to remove blockages, congestion and risks. As much as possible, bike traffic needs to be separated from roads and more importantly, it needs to be separated from roads that are already very busy such as Alecu Russo street during peak hours (9am / 5pm). Alecu Russo street has bike lanes on the side-walk and the bike traffic doesn't hinder the car traffic.

Even if the data that we have now is very limited (Free version of Strava Heat Map + Data from Chisinau Bike Marathons) we can already do very much with it and increase our capacity to understand the users. We can already comprehend the behaviour of people in our city and understand which routes they prefer and when we compare our city with cities like Amsterdam we will notice that in Chisinau people use the same streets for bikes as they do for cars. That is to say, if someone needs to reach Ciocana from the Centre area by car they will use almost the same route by bike as they do by car. This is neither bad nor good, but in cities like Amsterdam they try to create a separate network of roads for bikes so that they don't overcrowd streets. In Chisinau there is still much to do with regard to biking infrastructure but as mentioned before, even if there is a few million lei to spend on bike infrastructure, let us try to spend it on the connecting routes or on the busiest routes. Instead of building infrastructure for leisure, let's focus on building infrastructure for utility.

At the same time, data can show us new things that we didn't know before. For instance, the fact that the Valea Morilor route is the most used means that people are afraid to bike near cars and value their safety. If we want to increase biker safety on routes where they need to ride alongside cars then we need to: ensure that people use helmets, train new drivers to respect bike riders in traffic, train public transport drivers to respect bike riders in traffic. Additionally, we could find out today how many men, women, children ride bikes and try to monitor if these numbers change in the next years or not. This would allow us not only to make our bike infrastructure safer, but also suitable to be used by people of all genders and all ages.

FINAL THOUGHTS

We have a big community of bike users in Chisinau and at the same time we have problems with traffic in the city. The people in Chisinau like to bike and they do it because it makes them healthier, more environmentally responsible, more efficient and makes them feel happier. Local authorities can respond to the needs of this community by undertaking the following measures:

1. Invest more in bicycle infrastructure, because more bicycles mean fewer cars and more parking space in the city centre. The interests of townspeople coincide with the interests of local authorities.

2. To finance the utility-focused infrastructure (cycling for getting to work) instead of the leisure infrastructure. Instead of funding bicycle bands for the park, start investing in the connector routes that make the different sectors of the city easier to access.

3. Initiate the data collection process and use data analysis to make better decisions. Local authorities must actively communicate with the cycling community and support the development of cycling as an alternative transport to the city. Collecting and analysing data is not a complex process and is not expensive.

4. Local authorities can make decisions based on data analysis not only for cycling infrastructure. Once good results are achieved, the same methodology can be applied in other areas, such as the education sector and the construction of housing infrastructure. The same principles can be applied in many areas as long as decision-makers begin to apply the user-centered design and use data.

It is already clear what is required of local authorities, but we as members of civil society must also do our best to promote cycling:

5. We must actively participate in petitions, initiate polls, use the Strava mobile app and similar apps, use Facebook to form communities and interest groups, and simply use bicycles wherever we can and when we can. Bicycling is already a manifest and a form of showing that there is an interest of the citizens towards alternative ecological transport in Chisinau. Lead by example!

BIBLIOGRAPHY:

- https://www.ciclismulurban.com/
- http://agora.md/stiri/41230/chisinau-oras-prietenos-pentru-biciclisti--victor-chironda-a-prezentat-un-studiu-pentru-implementarea-transportului-alternativ-in-capitala
- https://victorchironda.eu/category/cycling/
- https://victorchironda.eu/tag/ciclism-urban/
- https://watchdog.md/2018/02/23/dezvoltarea-infrastructurii-pentru-biciclete-in-chisinau-experimente-esuate-si-potential-de-dezvoltare/
- https://www.soros.md/files/publications/documents/Transport%20Alternativ_studiu%2C%20Victor%20Chironda.pdf
- https://sputnik.md/radio_rubrica_interviu/20160622/7474941.html
- http://diez.md/2016/08/05/victor-chironda-explica-teoria-pistelor-pentru-biciclete-cum-se-fac-si-pentru-cine-se-fac/
- https://www.chisinau.md/libview.php?l=ro&idc=403&id=4326
- http://agora.md/stiri/19357/foto--varlamov-cele-mai-proaste-piste-pentru-biciclete-se-gasesc-in-chisinau
- http://autoblog.md/foto-iata-cum-vor-arata-pistele-pentru-biciclisti-pe-strazile-care-se-afla-proces-de-renovare/
- https://sporter.md/ro/posts/ciclism/chishinaul-a-gazduit-unul-dintre-cele-mai-ashteptate-evenimente-ale-verii-velohora-2016-foto
- https://sporter.md/ru/posts/velosport/objyavleni-dati-provedeniya-velohora-2016-1
- https://sporter.md/ru/posts/velosport/sporter-bike-uchastvuet-v-velohora-2016-prisoedinyajsya-k-nam
- https://simpals.com/tag/sporter/
- https://sporter.md/ru/posts/ciclism/noua-marcare-de-piste-de-biciclete-in-parcul-valea-morilor-foto
- https://www.strava.com/heatmap#7.00/-120.90000/38.36000/hot/all
- https://metro.strava.com/
- https://www.interaction-design.org/literature/topics/design-thinking
- https://en.wikipedia.org/wiki/Data_based_decision_making
- https://www.techopedia.com/definition/32877/data-driven-decision-making-dddm
- http://agora.md/stiri/45045/un-covor-imens-pictat-pe-un-perete-poate-fi-admirat-in-centrul-capitalei
- https://www.airlouisville.com/results.html
- https://en.wikipedia.org/wiki/Crowdsourcing

Information requested from Chisinau City Authorities:

- How much money was spent in the last 5 years on biking infrastructure?
- How much funding is allocated per year for biking infrastructure?
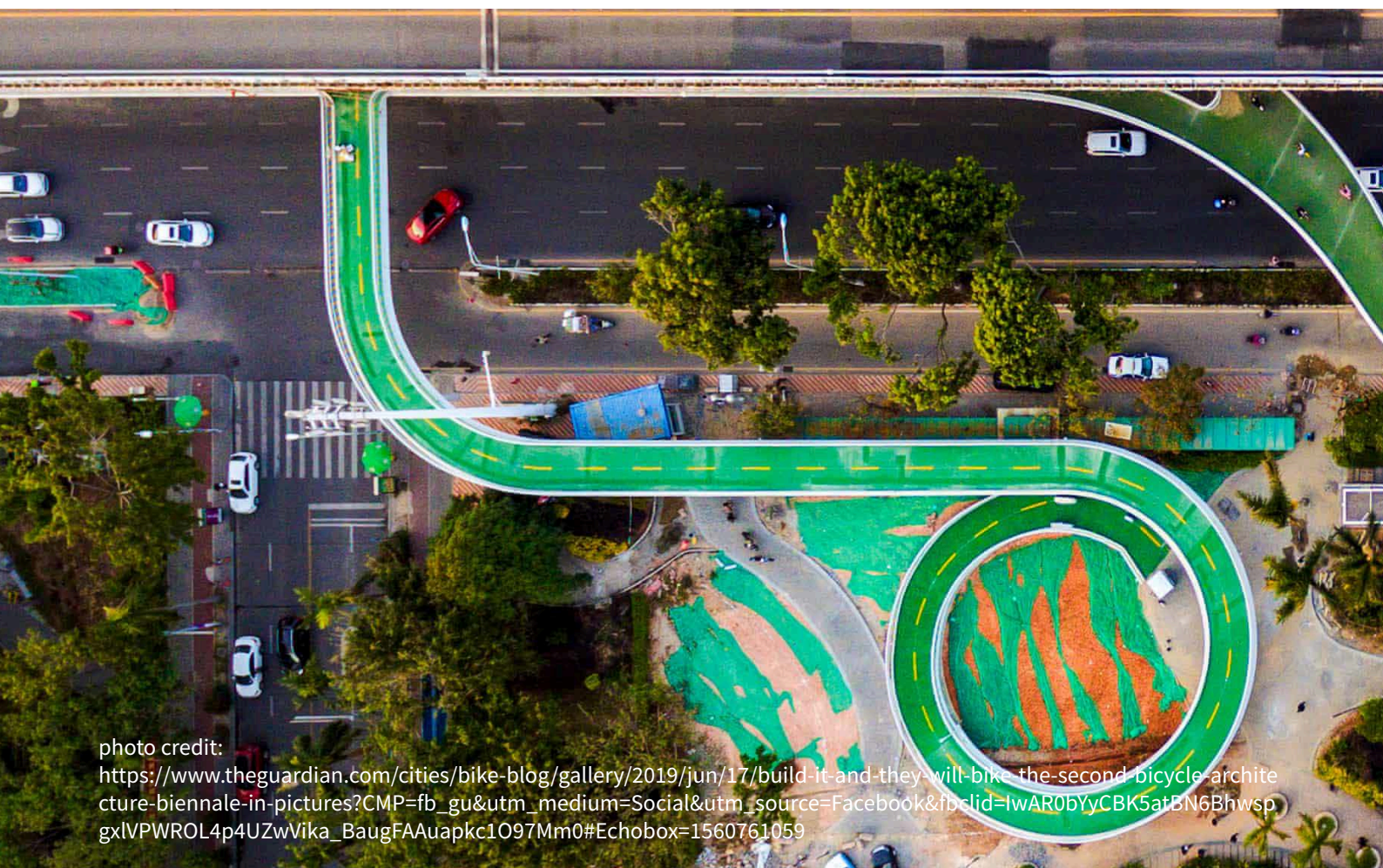- What are the funding possibilities for biking infrastructure?

photo credit:
https://www.theguardian.com/cities/bike-blog/gallery/2019/jun/17/build-it-and-they-will-bike-the-second-bicycle-architecture-biennale-in-pictures?CMP=fb_gu&utm_medium=Social&utm_source=Facebook&fbclid=IwAR0bYyCBK5atBN6BhwspgxlVPWROL4p4UZwVika_BaugFAAuapkc1O97Mm0#Echobox=1560761059

www.enable.md