



Non-Motorized Transport Policy for Oaxaca City, Mexico.

Mexico 2019



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Introduction

In recent years in Mexico, the interest and importance in establishing sustainable urban mobility solutions has grown for the improvement of existing problems such as poor air quality and congestion, and to mitigate the effects of climate change. Many cities have begun promoting and investing in Non-Motorized Transportation (NMT) as a multi-faceted sustainable solution. Fostering NMT investments and policies are integral as they present numerous benefits for the environment, air quality, road safety and access to basic services.

In Oaxaca, the government has been working on various Non-Motorized Transport projects, with the aim of improving the accessibility and connectivity throughout the city through the establishment of new NMT routes that connect various attraction points and public spaces.

The collaborative efforts of UN Environment, Share the Road initiative and World Resources Institute Mexico supported the development of this public policy that will help the city to make decisions about Non-Motorized Transport.

As a first step, an assessment on the current situation of urban mobility in general was made, followed by the specific situation regarding Non-Motorized Transportation in Oaxaca. Additionally, a workshop was held on the subject in the city, attended by an array of stakeholders coming from government institutions to civil society. During the two day workshop, the participants from government and civil society attended and presented information on urban development, urban mobility, road safety and health, environmental and air quality, among others, in order to get a proper diagnosis of the current situation within the city also participants made a strength, weakness, opportunity and threat (SWOT) analysis to identify necessary projects to generate a city vision, objectives and actions for an NMT Plan for the city of Oaxaca.

The NMT Policy for Oaxaca is composed of five goals and general objectives focused on the five guiding axes, in which each of these contain strategies for each of the subtopics to achieve the general objective of each of the guiding axes.



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Preliminary Information

Prior to structuring the NMT Policy for Oaxaca, supporting information was researched, collected and analysed in different topics related with NMT such as: urban mobility, land use, environmental, legal and regulatory frameworks, traffic and mobility regulations, new mobility, economics, among other data to provide the actual context an up-to-date assessment and follow-up on projects and public policies that are planned in the city.

Action Plan 2018-2019

Based on the WRI team's international experience, as well as information collected in the Workshop: "NMT Policy for Oaxaca city", the following structure was proposed for preparing the Action Plan.

1. Assessment
2. Events and workshops
3. Strategies
4. Conclusions

In this document, each of these points will be elaborated on, with the objective of providing more detail information on the metropolitan area of Oaxaca City, establishing clear and concise strategies to reach an "Action Plan for Oaxaca City".



Foreword and NMT Vision from the State Government of Oaxaca

The State Government of Oaxaca, through the Secretariat of Infrastructure and Sustainable Land-Use Planning, formed a collaborative relationship with the World Resources Institute (WRI) and the United Nations Environment Program to develop a Non-Motorized Transport public policy for the Metropolitan Area of Oaxaca through local capacity building and developing instruments for policy and planning.

Since the addition of Mexico to the New Urban Agenda and the publication of the New General Law on Human Settlements, Land-Use Planning and Urban Development, the State government of Oaxaca has been working on various projects that aim to reinforce public policies for urban development and infrastructure to improve our cities.

The aim of the State Government proposal for the Metropolitan Area of Oaxaca is to improve the accessibility and connectivity throughout the city.

The projects fall within the New Urban Agenda and the UN Sustainable Development Goals, which guide country efforts for the sustainable transformation of cities and communities by 2030. As well as in the institutional framework at the federal level, in accordance with the General Law of Human Settlements, Land-Use Planning and Urban Development; the Street Manual: road design for Mexican cities; the State Development Plan 2016-2022 and the recently updated Law of Land Use Planning and Urban Development for Oaxaca State, in which the rights to the city and to mobility were established.

The intervention proposals are rooted in the improvement of public spaces as places of transit, where pedestrians have a predominant role. Connecting various attraction points in the city will generate benefits in urban image, public health, sustainability, road safety, mobility, tourism, economic reactivation, among others.

Strategic Projects:

1. State Land-Use Planning Program
 2. Land-Use Planning Program for the Metropolitan Zone of Oaxaca
 3. Regulation of the Law of Land-Use Planning and Urban Development for the State of Oaxaca
 4. Strategic Urban Infrastructure Projects for the metropolitan area.
- Technological Stadium (Estadio Tecnológico in Spanish) – Central plaza (Zócalo in Spanish) Corridor. The route connecting the Technological Stadium and the central plaza has a length of 3 km and is located along the streets of Madero and Independencia, connecting various relevant locations. It will be possible to walk the entire route in 35 minutes and 18 minutes by bicycle with the implementation of the adequate infrastructure.
 - Zócalo – Canteras Corridor. This route has a length of 2.5 km connecting the historical center with different emblematic sites, which will aid in reactivating the local economy as well as improving the mobility between the Municipality of Santa Lucía del Camino and the center



of Oaxaca. It will be possible to walk the entire route in 30 minutes and 12 minutes by bicycle with the implementation of the adequate infrastructure.

- Canteras - Tule Corridor. This route has a length of 8 km from Las Caneras City Park to Santa María del Tule centre, connecting various relevant locations. Also, this route connects several municipalities as well as provides a connection to the Southeast Acro cycleway through the Tlaxiactac town entrance junction. It will be possible to cycle the entire route in 30 minutes.
- Corredor Calzada de la Republica. This route has a length of 1.5 km along the Republic road, starting from Niños Héroes road and ending at Eduardo Vasconcelos Boulevard. Along this route there are 17 plazas joined as a large public space capable of being revived and transformed into a linear park. It will be possible to walk the entire route in 17 minutes and 8 minutes by bicycle with the implementation of the adequate infrastructure.

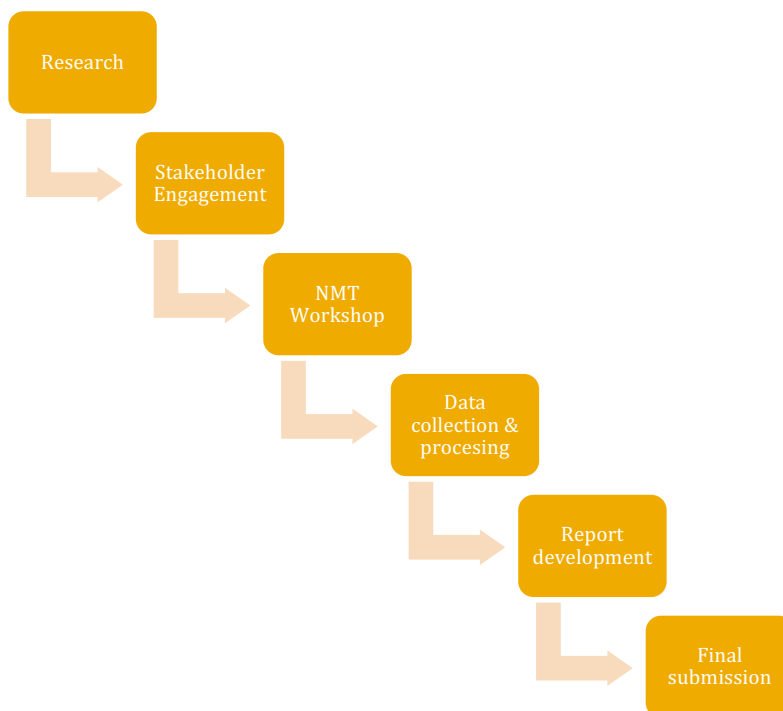
Before the strategy outlined above, the state government of Oaxaca received support to develop a public policy for Non-Motorized Transport that promotes assertive public policies to implement strategic projects correctly in the Metropolitan Area of Oaxaca.

The collaboration with WRI Mexico further supported these works by enhancing the technical capabilities as well as incorporating civil society in this process. We also express our commitment to collaborate and promote these types of initiatives.



Methodology

The methodology used during the development of this document is presented below:



1. **Research.** – General research on both the state and city of Oaxaca was made, with a focus on public policies, particularly on urban mobility and NMT for the metropolitan area following the topic of mobility, to be able to arrive at the topic of NMT in the metropolitan area.
2. **Stakeholder Engagement.** – Based on the research, and with the help of the Infrastructure State Minister (SINFRA from the initials in Spanish) of the State of Oaxaca, the stakeholders were identified, mapped and contact for the engagement process.
3. **NMT Workshop.** – Based on the preliminary research results and stakeholders engagement process, a two-day workshop on August 2018 was held in order to develop a public policy on NMT for the city of Aguascalientes. This workshop aimed to develop specific NMT actions for implementation in the short and mid-term to improve conditions on walking and cycling in the City of Oaxaca and its metropolitan area.
4. **Data collection & processing.** Based on the information obtained during the workshop, compilation and processing was made in order to identify and organize specific data and identified solutions presented by participants to generate an action plan.
5. **Report development.** – A final report was carried out showing the general diagnosis and current state of urban mobility and NMT in Oaxaca city, followed by the related public policies and plan, as well as the next steps to follow in order to develop and implement the actions of the NMT plan.
6. **Final submission.** – the development process of the report will be reviewed with stakeholders in the city for their final approval.



National Context

The inclusion of NMT in public policies and programs is relatively new in Mexico and was greatly neglected previously due to the high rate of private motor vehicle use in cities. As a result, the majority of funding allocated to urban mobility projects has been used for improvements to road infrastructure. Most cities lack the necessary infrastructure to allow for safe pedestrian and cyclist trips, either due to poor conditions, poor road design, lack of signage or the inexistence of space allocated to pedestrians and cyclist. In addition, if the infrastructure exists, the space is commonly misused or obstructed, complicating possible trips and forcing users to occupy other road space.



On the other hand, as NMT is gaining importance around the country after being included in the National Development Plan 2013-2018, many cities have begun promoting these modes through the construction of routes and infrastructure networks, the establishment of bike sharing systems, educational and cultural programs for citizen socialization, among others.





Context of Oaxaca

The area of Oaxaca state represents 4.8% the country's total area, bordering the Pacific Ocean to the south, Puebla state on the north, Chiapas on the east and Guerrero on the west. It is made up of 570 municipalities, and the metropolitan area of Oaxaca is made up of 22 municipalities. Oaxaca State, according to the last population census from 2015, has a total population of 3,967,889.



Image 1 Location of Oaxaca State with respect to the Mexican Republic, (source: Elaborated by WRI Mexico based on Carto)

Urban Growth

The city of Oaxaca has been physically expanding towards the periphery and apparently it will continue to do so. To this date the city demonstrates three phenomena: its historic centre (mainly for its architecture), the informal city, (with progressive and indiscriminate urbanization and construction), the formal city (with demonstrations of urbanism and architecture such as commercial centres and middle-class housing areas).

Mobility

In the Metropolitan Area of Oaxaca, based on work and study purposes, the modal split was developed in the following way:

- Trips to work: 20% walking, 4% by bicycle, 48% with public transport, 23% with private transport and 5% with other modes.
- Trips to school: 44% walking, 1% by bicycle, 37% with public transport, 14% with private transport, and 4% with other modes.

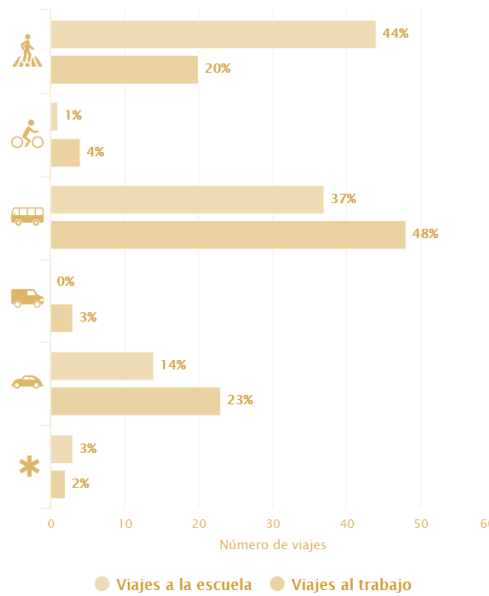


Image 2 Modal Split by trip purpose, (source: Invertir para movernos ITDP, 2015)

The number of vehicles in Oaxaca total 527,466, producing a motorization rate of 130.6 (vehicles / thousand people).

In Oaxaca city, there are nine zones that attract trips, which are Atzompa, Monte Albán, Estadio Alebrijes, Facultad de Medicina, Corredor turístico, Estadio Guerrero, Canteras, Universidad and Plaza.

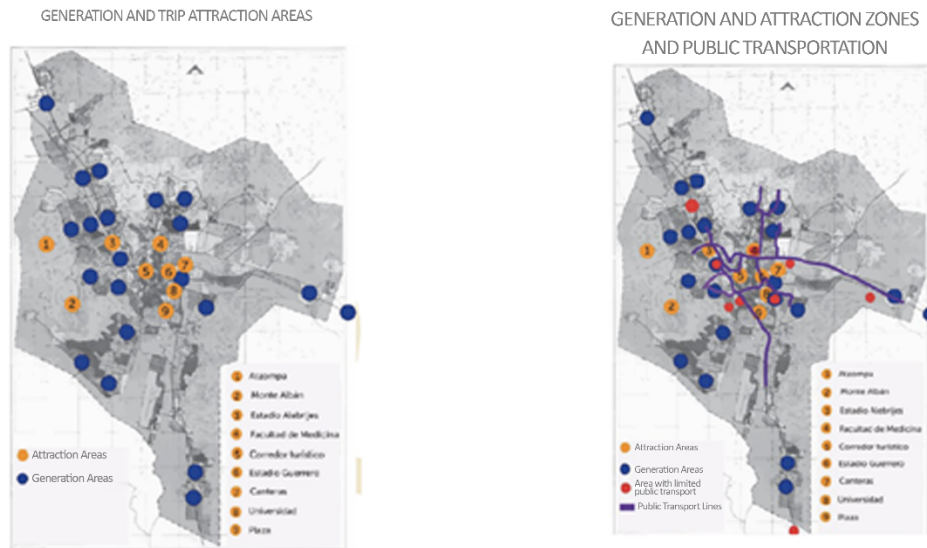


Image 3 Areas that attract and generate trips, (source: Casa de la Ciudad 2017)



Road Infrastructure

In Oaxaca City, the investments made in the construction of roads are mainly for automotive use. In the state, there is currently a road system with its main axis on the Cuacnopalan-Oaxaca superhighway, which links the state capital with the cities of Puebla and Mexico; this function fell on the Pan-American highway which still connects Oaxaca city in the east with Tuxtla Gutierrez and Tapachula. From this axis the front network that is integrated with radial routes was developed; three of which originate in Oaxaca city and extend to Tuxtepec, Puerto Angel and Puerto Escondido.



Image 4 Modal share by trip purpose, (source: Invertir para movernos)

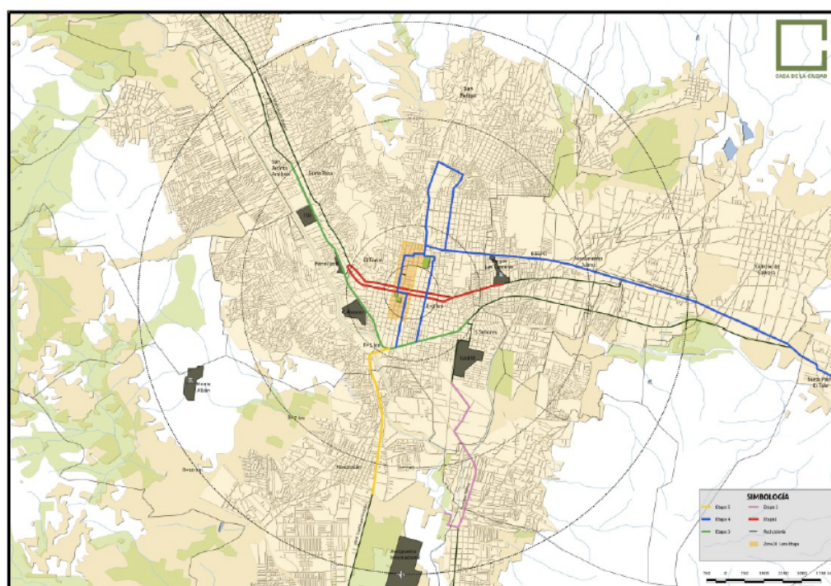


Image 5 Zoom of the road network of the City of Oaxaca, (source: Casa de la Ciudad)

Mobility Planning Instrument

In the municipality there is a metropolitan urban planning strategy, within the ordinance plan of the Metropolitan Area of Oaxaca City, which addresses:

- Real and complex territorial problems
- Legal basis
- Government competencies
- Supplement to municipal faculties

It is necessary to have a Metropolitan vision, where the role of the municipality in the metropolitan area is identified, providing a long-range strategy and structure, identifying priority issues and areas, establishing strategic actions and projects, and a frame of reference for municipal planning.

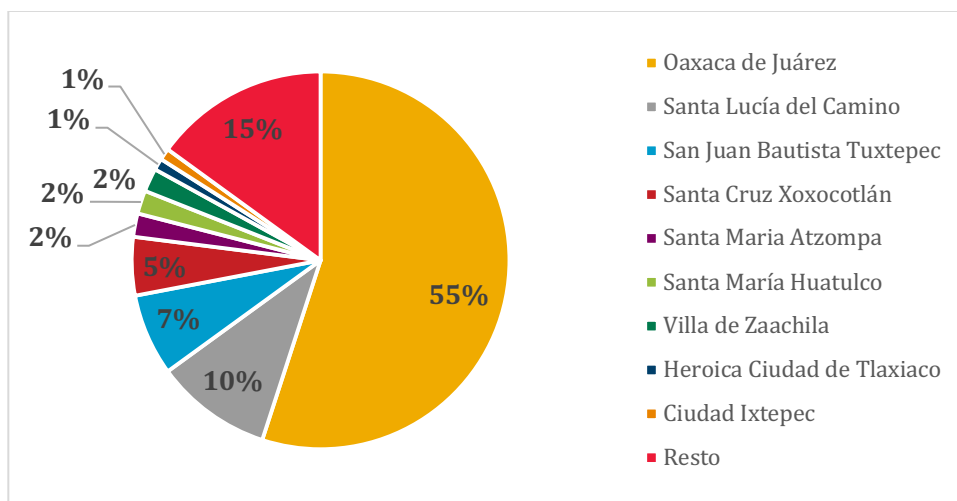
According to this the initiative to implement a planning instrument in terms of mobility arose, which attends the negative externalities at both state and municipal levels, under the principal of implementing sustainable urban mobility, that aids in improving the quality of life of the people living in the state.

Road Accident Rate

The metropolitan area of Oaxaca is where half of the road accidents in the state take place. In Oaxaca from 2016, presenting the most recent official information, registered 4,647 road accidents, of which 4,267 were located in the urban and suburban areas. There were 442 recorded deaths. An increase in both road accidents and injuries was observed, whereas there was a decrease in number of deaths. There were 11 registered pedestrian deaths and 7 cyclist deaths. The five municipalities with the highest number of fatalities according to user type from highest to lowest are: Oaxaca de

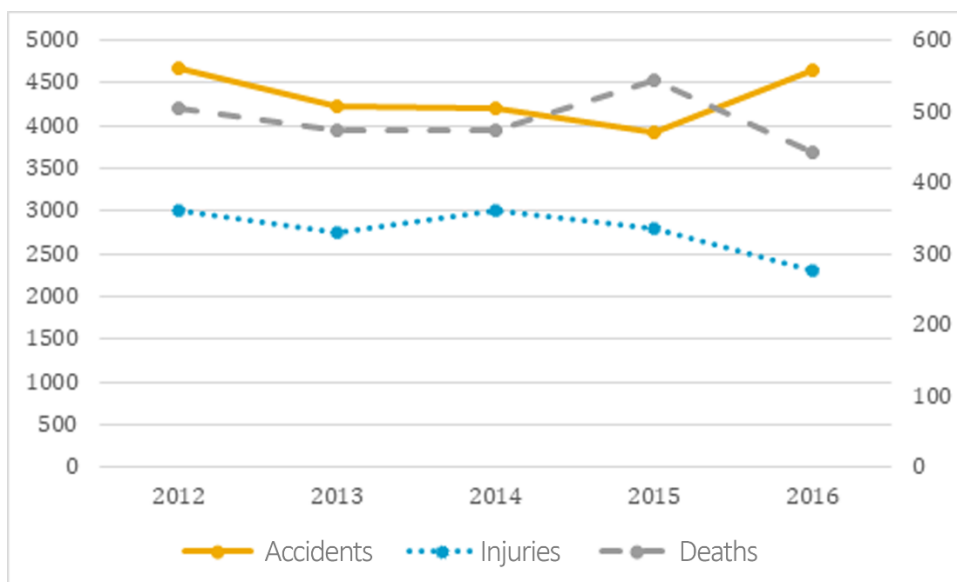


Juárez, San Juan Bautista Tuxtepec, San Bartolo Coyotepec, Santo Domingo Tehuantepec, Heroica Ciudad de Huajuapam de León.



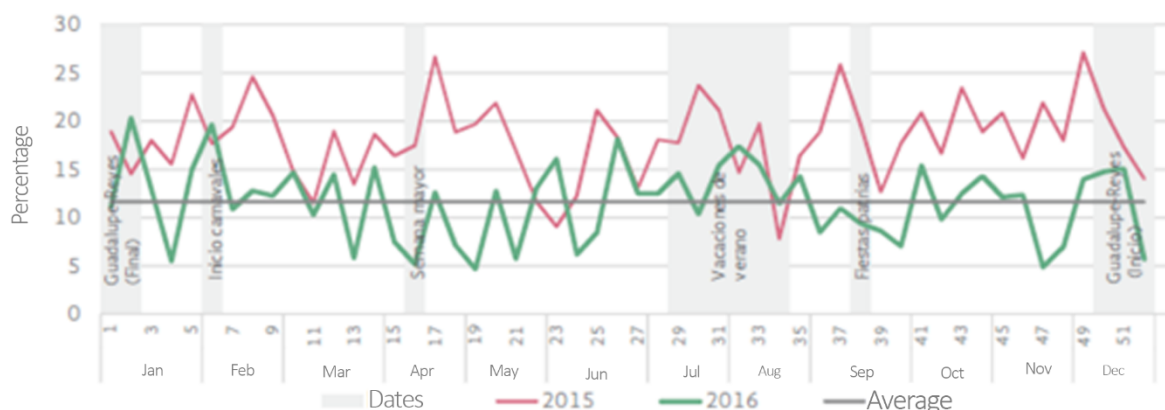
Graph 1 Oaxaca State distribution in terms of road accidents, (source: Report about the situation on Road Safety, Mexico 2017)

In relation to 2015, accidents increased by 18.4%, while injuries and deaths decreased by 16.9% and 18.4%, respectively.



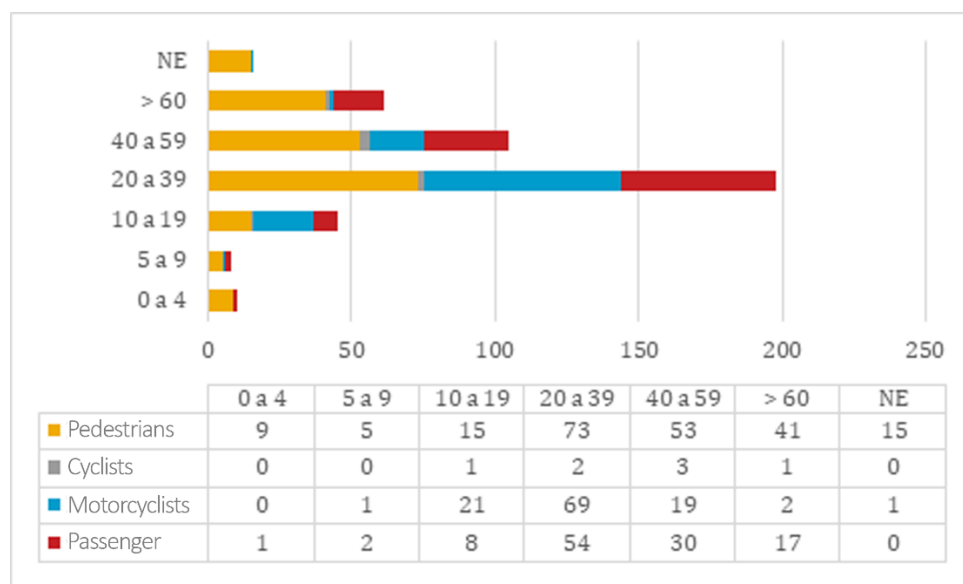
Graph 2 Number of accidents, injuries and deaths, 2012 a 2016, (source: Report about the situation on Road Safety, Mexico 2017.)

In 2017, an average of 26 cases were registered per week, 7 more cases than in 2016. Weeks 14, 16 and 19 recorded more cases than in the rest of the year.



Graph 3 New cases per week of traffic accident injuries, 2016 and 2017, (source: Report about the situation on Road Safety, Mexico 2017.)

The age group of 20 to 39 years represents 44.7% of all deaths. Pedestrians and motorcyclists predominate in all age groups.



Graph 4 Distribution of deaths by type of user and age group, 2016, (source: Road traffic accidents in urban and suburban areas, INEGI, 2013.)

Cultural and Educational Programs

In March 2018, the urban cycling program called 'The city on bike' was launched with the aim of seeing the bicycle as a means of transport with broad benefits for all. Youth and children participated in the first workshop for training on the topic of urban cycling, which was held in the park of Ciudad de las Canteras. Instructors gave workshops to promote the correct use of the bicycle



and learn about its benefits as a means of transport and not only for recreational use. The Town Hall coordinates the urban cycling program.



Image 6 Night Bike Ride in Oaxaca City, (source: <http://www.elorienten.net/home/2012/09/12/oaxaca-es-mas-bella-en-bicicleta-miercoles-de-paseo-nocturno>)

Oaxaca Ciclovía

- Number and characterization of participants of promotional events (recreational bike path and night bike rides)

Oaxaca's Ciclovía, started as a pilot test in the third recreational route on May 28, 2017, under the slogan "Experience the different street" along the Porfirio Díaz Road and Juárez Avenue in the Oaxaca capital under the initiative by the Town Hall, the community civil association "Experience the Street", as well as of different groups and people that promote the use of the bicycle as a means of transport; in collaboration with the Municipality of Oaxaca de Juárez

- CO2 Emissions Inventory.
- Limits or speed limit in the city.
- Average travel times and distance.
- Origin-destination survey of trips in Oaxaca to characterize the current supply and demand of transport for the population
 - Trip origin
 - Trip destination
 - Mode(s) used in trips
 - Trip purpose
 - Time and end of the trip



Projects and public policies on non-motorized transport in the metropolitan area of Oaxaca City.

Oaxaca			
<ul style="list-style-type: none"> The metropolitan area of Oaxaca is composed of 22 municipalities. 			
<ul style="list-style-type: none"> 4% of trips in Oaxaca City are made by bicycles and 17% is made walking. 			
Project	Public Policy	Goal	Status / Resource
Develop the first urban mobility plan in the state that allows for the generation of certainty and reliability in the transport of people and goods.	State Development Plan 2016 - 2022	Urban Mobility Plan of the State (document)	Pending
Implement a comprehensive transportation system for the Metropolitan Area and in the state.	State Development Plan 2016 - 2022	Integrated Transport System	Pending
Create the Mobility Law for the State of Oaxaca and reform the legal and regulatory framework that takes into account schemes and agencies for mobility management in the metropolitan area.	State Development Plan 2016 - 2022	Mobility Law	In process
Have an updated Sustainable Mobility Strategic Plan that summarizes the commitment of all stakeholders in the construction of sustainable mobility	Municipal Development Plan		
Design strategies that place the pedestrian at the top of the mobility pyramid.	Municipal Development Plan		



Rehabilitate public spaces that allow the development of educational, sports, artistic and cultural activities.	Municipal Development Plan		
Assist in the design and implementation of a metropolitan urban mobility plan and road culture, with consideration to the disabled population.	Municipal Development Plan		
Regulation of Mobility and Road Safety for the Municipality of Oaxaca de Juárez.	State Development Plan 2016 - 2022		
Pedestrian and cyclist corridor (national archive) 1.5 km			
10 km of additional cyclist infrastructure			
Pedestrian corridors			
Shared bicycle systems			

Table 1 Assessment of non-motorized and pedestrian public policy in the Metropolitan Area of Oaxaca. (source: existing public policies in the state of Oaxaca)

Events and workshops

In October 2017 during the XIII International Congress of Cities and Transport, the first stakeholder engagement event was organized by WRI Mexico's and representatives of UNEP Mexico where the preliminary results of the research on the status on NMT were presented to transport and non-motorized mobility officials from five Mexican cities (Colima, Aguascalientes, León, Guadalajara and Oaxaca) and other stakeholders from academic sectors and civil society to generate discussion and shared experiences and information on their own context.



As part of the activities in 2018, WRI Mexico's Active Mobility team, along with the Secretariat of Infrastructures and Sustainable Land-Use Planning of the State of Oaxaca (SINFRA), organized the first workshop for the development of an NMT Public Policy for Oaxaca City, during July 31 and August 1, 2018 in Oaxaca City. The aim of this workshop was to support the commitments made by the present administration, in compliance with the specifications of the General Law of Human Settlements, Land-Use Planning and Urban Development, as well as to aid in the construction of a State Mobility Program; which promote the access to knowledge and training of municipal, state and academy authorities, which would benefit the population of Oaxaca, to generate public policy schemes for NMT that coordinate the implementation of actions in the short and mid-term to improve walking and cycling conditions in the state of Oaxaca, using Oaxaca City and its Metropolitan Area as a point of reference.



Image 7 NMT Workshop participants in Oaxaca, (source: SINFRA Oaxaca)

The workshop was held in the Government Palace of Oaxaca, with an attendance of more than 48 people from 10 different organizations, including: state and municipal authorities, academia, professionals, members of civil and cycling associations, communication and media, private sector and other stakeholders from civil society, that throughout the two days of work, analysed and defined a vision of NMT for Oaxaca City, as well as noting the possible supporting actions for implementation, as part of the results this first report is included which will form an integral part of the public mobility policy document for Oaxaca City.

The workshop began with welcoming words from the Secretariat of Infrastructures and Sustainable Land-Use Planning of the State of Oaxaca, Fabián Sebastian Herrera Villagómez, the Undersecretary of Land-Use Planning, Fabián Alejandro Vázquez Martínez and the Director of Population Centers, Sinaí Casillas Cano, followed by Iván De la Lanza Gamíz, WRI Mexico's Active Mobility Manager, who



expressed his appreciation, presented the project that had been executed alongside UN Environment called "Status of Active Mobility in Mexico", and stated the workshop's objectives.

Expected results of the workshop

- Bring together the relevant actors for their collaboration in efforts and actions that favor NMT.
- Establish a space for an open exchange between different actors.
- Present information on mobility in general with an emphasis on NMT in the metropolitan area of Oaxaca.
- Discuss the potential for walking and cycling in cities.
- Identify plans, strategies, actions and actors to follow.
- Creation of roadmaps to determine times, activities and the people in charge.
- Policy development strategy for NMT in the metropolitan area of Oaxaca.

Presentation of the workshop

The project carried out in coordination with UN Environment was presented to the participants and the media, explaining the progress that had been made. The expected results of the workshop were described as well as the steps to be taken for the development of public policies for NMT for Oaxaca City and its Metropolitan Area.



Following the opening presentation, the participants were invited to take part in an ice breaking activity to get better acquainted with the other members, where they were assigned mixed seating in five tables with the aim of distributing attendees with others with diverse backgrounds based on the different capacities and issues that would be addressed later on, focusing of 5 strategic axes: 1) Road Safety, 2) Intermodality, 3) Culture and education 4) Legislation and Regulations and 5) Infrastructure and equipment. In this activity, the participants drew a picture of the person seated to their left and noted below in a few words their main objective of the workshop.

Mobility Context of Oaxaca



Based on the scheduled agenda (annexed format) several presentations were made by representatives of state government authorities, civil society, academia and WRI Mexico, regarding the diagnostic information of the city and the metropolitan area.

SWOT Analysis Identification of needs

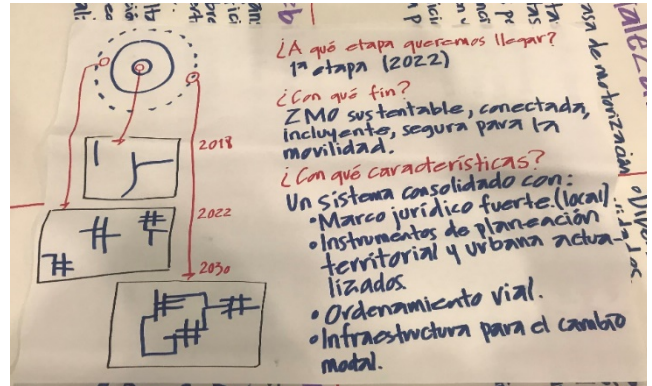
A SWOT analysis (Strengths, Opportunities, Weaknesses and Threats) regarding the situation of NMT in Oaxaca City and the metropolitan area was prepared at each table, based on the information previously presented as well as using their own knowledge on the issue. The main identified factors are listed below.

Strengths <ul style="list-style-type: none"> Existing roads Heritage city Organized society Professionals to develop projects Architectural beauty Land use planning law Road safety education program Healthy and sustainable Terrain and climate Low motorization rate Short distances between origin and destination 	Opportunities <ul style="list-style-type: none"> Linkage between the 3 levels of government Civil society relationship Economic impact Optimization of transfer times Generation of social and urban cohesion Commerce Increased use of the car Diversification of activities Improvement in living standards More articulated infrastructure Replicability of projects
Weaknesses <ul style="list-style-type: none"> Lack of a state plan for urban development Non-existent Mobility Plan Unsafe roads Narrow streets Lack of road culture Regulatory framework not clear or updated Lack of continuity of projects Lack of areas for bicycle parking Lack of diagnostics Street commerce Security (lights, safety) Lack of institutional articulation Poor public transport Oversaturation of transport 	Threats <ul style="list-style-type: none"> Increase in accidents Constant migration Unions and transport groups Public transport disorder Politicization of mobility Little road culture Lack of inter-institutional coordination Public insecurity Automobiles Peer pressure groups Disarticulated Metropolitan Area of Oaxaca Immediateness (administration changes). There is no long-term vision.



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After constructing the SWOT analysis, each of the teams were asked to produce a vision for Oaxaca City regarding NMT by noting their ideas for better mobility in the metropolitan area of Oaxaca. The constructed visions are the following:

- Metropolitan area of Oaxaca, accessible and friendly.
 - Metropolitan area of sustainable, connected, inclusive, safe mobility, by the year 2022.
 - Improve the quality of life of the people that live in the metropolitan area.
 - Implementation of the NMT project, which will guarantee the safety, sustainability, and paradigm shift of urban mobility in the four metropolitan areas of the state, beginning in September 2018.
- **Bicycle tour**

At the request of the authorities, on the second day of the workshop in the morning participants took a tour by bicycle to observe the current conditions of the pedestrian and cyclist corridor project "Archivo Nacional". The tour was attended by approximately 18 people and started in the "La Ciudad de las Canteras" park and ended at the Government Palace, almost 2.5 km by bicycle. The members were then able to identify the possible actions that the project should consider in terms of infrastructure and equipment.



Development of strategic lines for NMT Public Policy in Oaxaca

The results of the workshop were based on the integration of teams, where each table was given a topic, which was developed based on strategic lines of each tables, which were: **1) Governance, legal and regulatory frameworks 2) Infrastructure and Equipment, 3) Road safety, 4) Culture and education, 5) Multimodality.**

Based on the workshop, the strategic lines to be implemented was decided on, which would be aligned with the projects of the current administration and would be viable to implement in a short period of time.



Strategies

Based on the assessment, workshop and the information analysis, the following strategies to develop were reached with the aim to be able to implement them in a short time period.

1. Governance, legal and regulatory frameworks

- Update the Urban and Metropolitan Area Development Plan for Oaxaca City

Objective	To have a safe working goal in terms of urban planning from which the axes of development and land-use planning would stem, and to generate an effective and sustainable mobility strategy for the metropolitan area.
Time	One year
Responsible Actor	SINFRA
Stakeholders	SINFRA, SEDATU, SEMOVI Urbana, Non-governmental organizations, Civil society.
Related Activities	<ul style="list-style-type: none"> • Guidelines and resources • Metropolitan Councils • Guidelines • Participation through proactive workshops
Risks	<ul style="list-style-type: none"> • No approval • Not completely accepted • No inter-institutional participation • No congress support
Impact	Beneficiaries (population of the state of Oaxaca)

- Alignment of Laws, Standards and Plans with an NMT vision.

Objective	Coordinate the institutional efforts related to NMT to achieve a comprehensive solution.
Time	11 months
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, Professional Associations, Academics, Civil Society, City Halls, Deputies.
Related Activities	<ul style="list-style-type: none"> • Update and adapt the existing law • Education and road awareness programs • Promote the use of NMT through incentives • Revision and participation of the guidelines through proactive workshops • Approval of guidelines • Approval of current law.
Risks	<ul style="list-style-type: none"> • No approval • Not completely accepted • No inter-institutional participation • No congress support



Impact	Beneficiaries (population of the state of Oaxaca)
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- **Creation of a Metropolitan Planning Institute.**

Objective	Guarantee the continuity of the plans, projects and urban development programs by prolonging the time of action on the governmental periods with the participation of organized civil society.
Time	6 months
Responsible Actor	Colleges of professionals and specialists.
Stakeholders	SEMOVI, Professional Associations, Organized Civil Society
Related Activities	<ul style="list-style-type: none"> • Evaluation and Monitoring in support of authorities
Risks	<ul style="list-style-type: none"> • No approval • Not completely accepted • No inter-institutional participation • No congress support
Impact	Beneficiaries (population of the state of Oaxaca)

2. Infrastructure and Equipment

- **Network of bicycle lanes for the Metropolitan Area of Oaxaca.**

Objective	Connect the different municipalities in the Metropolitan Area through a network of streets that have infrastructure for safe bicycle transit
Time	One year
Responsible Actor	SINFRA
Stakeholders	SINFRA, SEMOVI, SEFIN, Urban Development, Municipal roads
Related Activities	<ul style="list-style-type: none"> • Developing a bicycle lane network plan. • Preparation of regulations. • Preparation of preliminary project, project and network design • Project execution • Resource management • Construction permits. • Construction licenses. • Technical review of the project
Risks	<ul style="list-style-type: none"> • Lack of consensus and coordination among actors • Change of regulations • Lack of resources • Lack of liquidity of resources • Criterion of the current administration for the authorization
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)



• **Public Bikeshare System for Oaxaca.**

Objective	Generate a system that provides a service that is accessible by the whole population.
Time	One year
Responsible Actor	SINFRA
Stakeholders	SINFRA, SEMOVI SEFIN, Municipalities of the Metropolitan Area, SSP, CONVIVES, Urban Development, Municipal Roads
Related Activities	<ul style="list-style-type: none"> • Planning and regulation of the public bike system • Approval of the regulatory framework regarding traffic and roads. • Resource management • Implementation of the public bike system • Permits for implementation • Participation and acceptance
Risks	<ul style="list-style-type: none"> • Lack of resources for the preparation of the plan • There is no consensus in the congress • Lack of willingness to update regulations • Lack of liquidity of resources • Lack of resources for construction • Criterion of the current administration for authorization. • Lack of will and agreements for authorization
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

• **Calm traffic zone or 20 km / hr Zone in the Historic Centre.**

Objective	Establish a zone with controlled speed and vehicle restriction that allows pedestrians and cyclists to share the space with safe conditions for all users.
Time	One year
Responsible Actor	Municipality of Oaxaca
Stakeholders	INAH, SINFRA, Hotel and Commercial Organizations, CONVIVES,
Related Activities	<ul style="list-style-type: none"> • Planning • Management • Design • Permits • Socialization • Participation • Acceptance
Risks	<ul style="list-style-type: none"> • Lack of resources for the preparation of the plan • There is no consensus in the congress • Lack of will to update regulations • Lack of liquidity of resources • Criterion of the current administration for authorization • Lack of will and agreements for authorization
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)



3. Road safety

- **Comprehensive planning for a safe NMT system.**

Objective	Gradually reduce fatal traffic accidents in the Metropolitan Area of Oaxaca
Time	One year
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, (SINFRA, SSP (Road Police), SEFIN, Municipalities (Authorities), Civil Society, Academic Research Centres
Related Activities	<ul style="list-style-type: none"> • Assessments • Participatory planning • Project Coordination • Glossary of terms • Project management (integration) • Participation in Participatory Planning • Information systematization (statistics) • Proposals • Approval of budget • Consensus • Participation in assessments • Studies and / or projects
Risks	<ul style="list-style-type: none"> • Not concluding the workload • Assistance, participation and consensus • Not concluding the Plan for workload • Incomplete • There are no projects. • Without opinion or validation • No coordination • No willingness to collaborate on the project. • No time • No authorization • Without will and interest • No participation
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

- **Culture Road Safety.**

Objective	Sensitize the population of the Metropolitan Area of Oaxaca about the importance of Public Safety
Time	Permanent
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, SEFIN, Municipalities (AUTORIDADES), Civil society, Academic Research Centres
Related Activities	<ul style="list-style-type: none"> • Descriptive letters of training • Training



	<ul style="list-style-type: none"> • courses • Project Authorization • Resource management • Project Involvement • Promotion of the project • Participation in training
Risks	<ul style="list-style-type: none"> • No priority • Without basic budget • No authorization • Without will and interest • No interest or participation
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

• **Implementation of the Street Design Manual in the Metropolitan Area of Oaxaca.**

Objective	Improve the Road Safety in the Metropolitan Area of Oaxaca through the application and oversight of the Street Manual.
Time	Permanent
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, SINFRA, SEFIN, SSP (Road police), Municipalities (Authorities), Civil Society, Academia.
Related Activities	<ul style="list-style-type: none"> • Implementation • Diffusion • Promotion • Training • Operation • Project elaboration • Coordination • Interinstitutional • Project authorization • Resource management • Monitor the road • Apply the regulations • Coordination with municipalities • Studies and investigations
Risks	<ul style="list-style-type: none"> • Without authorization from SEFIN • Without will • Without interest • Without authorization,
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)



4. Culture and education

Education program on NMT at all academic levels.

Objective	Generate a sustainable urban mobility, through the transmission of generational knowledge, through three fundamental stages: Basic education. - learning and application of NMT. Higher secondary education - support in the dissemination of NMT in the social service modality. Higher education. - training of professionals for the generation of diffusion and functional infrastructure
Time	One year, Permanent
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, SEFIN, SINFRA, IEEPO, State Coordination of Higher Secondary Education, Higher Education (UABJO)
Related Activities	<ul style="list-style-type: none"> • Development of educational manuals. • Training of human capital specialized in NMT. • Management and allocation of resources to achieve the objectives of the program. • Linking with training workshops on the subject. • Adaptation of the infrastructure, in accordance with the provisions of the New Urban Agenda, regarding mobility. • Framework agreement for the introduction of the topic of NMT within civic education, sports, etc. • Training of instructors in the field of NMT. • Framework agreement for the introduction of the issue of NMT within the social service, etc. • Framework agreement for the introduction of the topic of NMT in the understanding of new infrastructures, etc. • Training of instructors on infrastructure for NMT.
Risks	<ul style="list-style-type: none"> • Not having resources / deficiency in content • Lack of institutional will • Not having resources
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

• Program of incentives for cyclist officials, replicable for companies.

Objective	Motivate NMT in the workplace, generating incentives such as administrative, economic, etc. to frequent bicycle users in particular. Similarly, anchoring the program to the state government routes as an action that reinforces the introduction of this dynamic
Time	One year.
Responsible Actor	Secretary of Administration
Stakeholders	Secretary of Administration, SINDICATO, SEFIN. SEMOVI, SINFRA, All dependencies, Administrative City Operators and Judicial Cities



Related Activities	<ul style="list-style-type: none"> • Regulate the incentive program at the governmental level. • Encourage bicycle credits for public officials. • Hiring a company specializing in software for the implementation of the program. • Adopt the incentive scheme to its statutes. • Management and allocation of resources to achieve the objectives of the program. • Promotion. • Studies and road design. • Creation of necessary infrastructure. • Internal promotion and adoption of the program.
Risks	<ul style="list-style-type: none"> • Lack of institutional will • Not having resources / lack of interest of the users
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

• **Program to promote NMT activity with a heritage and tourism perspective.**

Objective	<p>Oaxaca City's historic centre's values will be enriched through the implementation of three specific projects, which motivates learning about this space of great urban-architectural interest:</p> <p>bicycle tours.</p> <p>Loaning bicycles to tourists and locals in high seasons to lessen the motorized traffic around the historic centre, generating a higher quality urban image.</p> <p>Permanent pedestrianization of emblematic streets</p>
Time	One year.
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, SINFRA, SEFIN, SECTUR.
Related Activities	<ul style="list-style-type: none"> • Road design • Diffusion. • Infrastructure based on regulations. • Management and allocation of resources to achieve the objectives of the program. • Strengthening of tourist campaigns.
Risks	<ul style="list-style-type: none"> • Lack of permissions and resources • Contrary to the provisions of the federal regulations
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)



5. Intramodality

Secure bicycle parking system.

Objective	Establish a safe and exclusive place to park bicycles for the people who use them.
Time	Construction for 6 months, but permanent operation
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, Municipal Government, SINFRA, Organized civil society, Secretariat of Culture
Related Activities	<ul style="list-style-type: none"> • Capacity assessment • Location • Use regulations • Implementation • Operation • Maintenance • Construction • Assessment and contribution of knowledge • Authorization for the installation in the historic centre
Risks	<ul style="list-style-type: none"> • Improper assessment and not placing them in suitable places (unsafe and lacking user flow) • The society wouldn't take care of the property installed
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

• Regulation of parking lots, to have bicycle stations.

Objective	Encourage the parking lots to provide exclusive spaces for bicycles
Time	Implementation of 6 months, but permanent operation
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, Municipal government, SINFRA, Organized civil society, Secretariat of Culture
Related Activities	<ul style="list-style-type: none"> • Mapping • Regulation and implementation • Surveillance • Operation • Assessment and contribution of knowledge • Approval
Risks	<ul style="list-style-type: none"> • Parking lots not respecting the rules • Users not using the service • Parking garages not guaranteeing the necessary security
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)



- **Mass public transport with bike racks. - Mass public transport has adequate bicycle carriers so that the user can transport their bicycle.**

Objective	Mass public transport has adequate bicycle carriers so that the user can transport them.
Time	Implementation of 6 months, but permanent operation
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, Transport Companies, Organized civil society
Related Activities	<ul style="list-style-type: none"> • Capacity assessment • Regulation and implementation • Installation of bicycle racks • Training • Assessment • promotion
Risks	<ul style="list-style-type: none"> • Accidents • Disagreement among transport companies • Property destruction • Lack of use
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)

- **Bicycle parking in transfer centres. - Interconnect motorized and non-motorized transport systems**

Objective	Interconnect the motorized and non-motorized transport systems
Time	Implementation of 6 months, but permanent operation
Responsible Actor	SEMOVI
Stakeholders	SEMOVI, SINFRA, Organized civil society, SEMAEDESO
Related Activities	<ul style="list-style-type: none"> • Assessment and mapping • Regulation • Implementation and construction
Risks	<ul style="list-style-type: none"> • Improper assessment and not placing them in suitable places (unsafe and lacking user flow) • The society wouldn't take care of the property installed
Impact	Beneficiaries (population of the Metropolitan Area of Oaxaca)



Conclusions

- Oaxaca City is one of the most vibrant and important cities in México.
- Non-Motorized Transport in Oaxaca City and its metropolitan area could contribute not only for sustainable mobility but also to important aspects at state level like, economic equity, accessibility to transport, interurban trips, economy, tourism and development.
- Arise of importance of NMT among adequate diagnosis information is needed in order to provide strong support on the plans and decisions to improve road safety conditions for walking and cycling
- Alignment of different stakeholders is needed and achievement of consensus and common visions around the city and urban mobility in order to get enough political will and implement actions.
- SINFRA among other authorities will be evaluating the different strategies and actions described in this plan in order to implement quick actions and get benefits to arise more support on NMT.