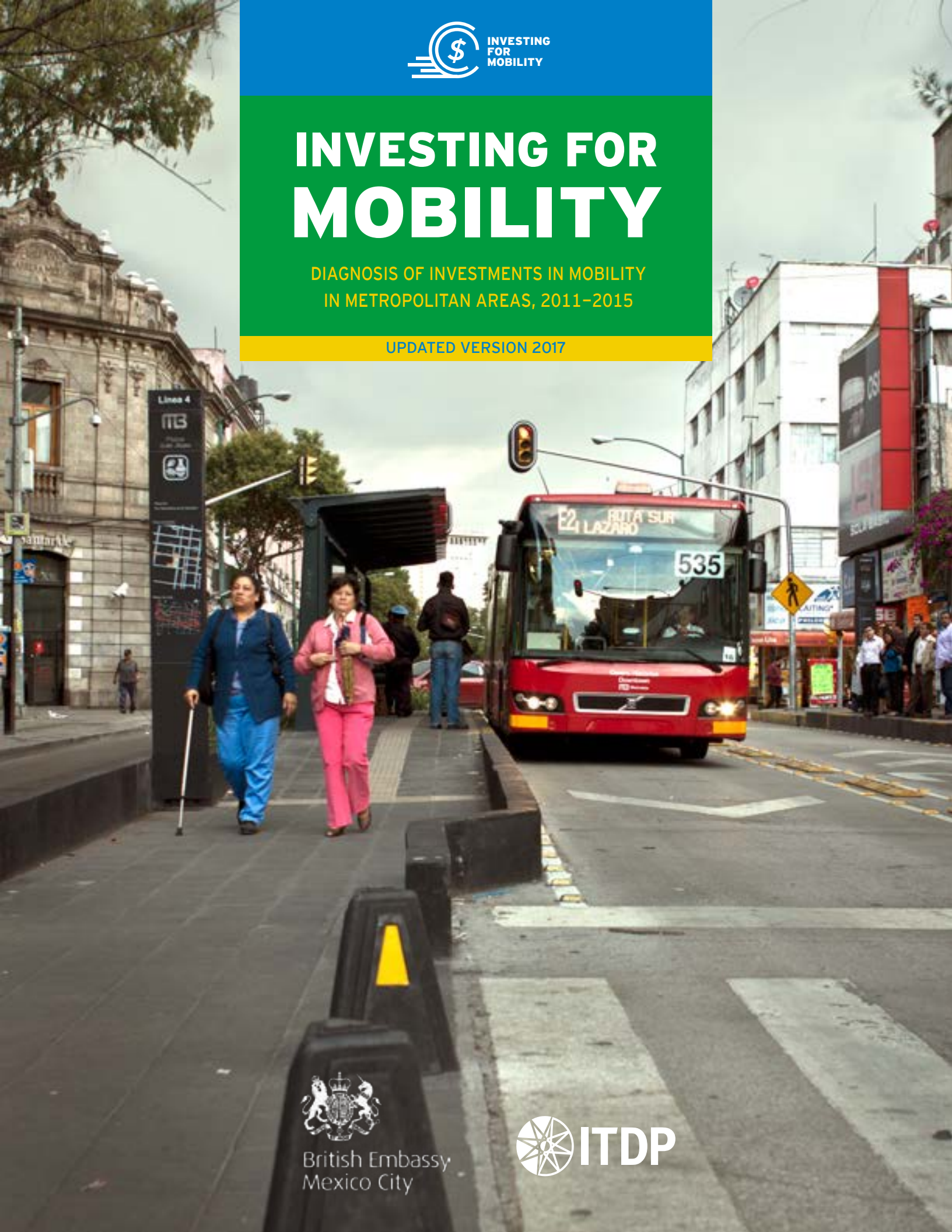


INVESTING FOR MOBILITY

DIAGNOSIS OF INVESTMENTS IN MOBILITY
IN METROPOLITAN AREAS, 2011-2015

UPDATED VERSION 2017



British Embassy
Mexico City





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INDEX

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| | |
|---------------------------------|----|
| Charts | 4 |
| Boxes | 5 |
| Tables | 5 |
| Acronyms and abbreviations..... | 6 |
| Federal funds acronyms | 7 |
| Presentation | 9 |
| Executive summary | 12 |

| | |
|--|-----------|
| 1 INTRODUCTION..... | 14 |
| 2 ANALYSIS OF FEDERAL RESOURCES FOR MOBILITY..... | 17 |
| 3 ANALYSIS OF INVESTMENTS OF FEDERAL FUNDS BY METROPOLITAN AREA 2015..... | 26 |
| Good practices | 35 |
| 4 FEDERAL FUNDS ANALYSIS 2015..... | 38 |
| 5 CHANGES IN THE ZERO-BASED BUDGET AND ALIGNMENT WITH THE PND & EMUS..... | 44 |
| 6 CONCLUSIONS..... | 53 |
| 7 REFERENCES..... | 56 |

CHARTS

| | | |
|------------------|---|----|
| CHART 1. | Percentage distribution of state revenue 2015..... | 16 |
| CHART 2. | Percentage proportion of federal funds intended to mobility in metropolitan areas, Mexico 2011-2015..... | 18 |
| CHART 3. | Total expenditure of federal funds for mobility in ZM and the annual trends, 2011-2015 (millions of constant pesos 100=2012)..... | 19 |
| CHART 4. | Percentage distribution in mobility projects, 2011-2015..... | 20 |
| CHART 5. | Modal distribution and investments aimed at urban mobility in metropolitan areas, Mexico 2015 (percentage)..... | 21 |
| CHART 6. | Total amount allocated for mobility projects, 2011-2015 (million pesos 100 =2012)..... | 22 |
| CHART 7. | Percentage distribution of expenditure by sub-headings, 2015..... | 23 |
| CHART 8. | Percentage distribution of expenditure by type of project, 2015..... | 24 |
| CHART 9. | Percentage distribution of expenditure for mobility in Metropolitan areas, 2015..... | 27 |
| CHART 10. | Amounts intended for mobility by metropolitan area, 2015 (million pesos, 100= 2012)..... | 29 |
| CHART 11. | Percentage for MUS infrastructure vs car by metropolitan area, 2015..... | 30 |
| CHART 12. | Percentage distribution by type of mobility in metropolitan areas, 2015..... | 31 |
| CHART 13. | Amounts intended for MUS by metropolitan areas, 2015 (million pesos at current prices)..... | 33 |
| CHART 14. | MUS by metropolitan area, investments and percentage of modal distribution, 2015 (percentages)..... | 33 |
| CHART 15. | Amounts held by each fund in federal ZM, 2015 (million pesos 100= 2012)..... | 39 |
| CHART 16. | Percentage distribution of federal funds used in mobility in ZM, 2015..... | 40 |
| CHART 17. | Percentage distribution of federal funds for mobility projects, 2015..... | 41 |
| CHART 18. | Percentage distribution by type of federal fund for mobility projects, 2015..... | 42 |
| CHART 19. | Amounts for urban mobility by type of federal fund projects, 2015 (constant prices 2012)..... | 42 |
| CHART 20. | Annual budget items, 2008-2016..... | 45 |
| CHART 21. | Comparison of programs and funds dedicated to sustainable urban mobility, 2011- 2017 (million pesos 100= 2012)..... | 49 |

TABLES

| | | |
|-----------------|--|----|
| TABLE 1. | Comparison of space required to transport 200 people at the same time by different modes to transport..... | 34 |
| TABLE 2. | Branch 11 in public education & Branch 48 in culture..... | 46 |
| TABLE 3. | Branch 15, agricultural, territorial and urban development..... | 47 |
| TABLE 4. | Branch 33, wage and economic provisions..... | 48 |
| TABLE 5. | Branch dedicated to adaptation and mitigation to climate change and sustainable urban mobility..... | 50 |

BOXES

| | | |
|---------------|--|----|
| BOX 1. | Why is that more infrastructure for vehicles increases traffic..... | 25 |
| BOX 2. | Why investing in infrastructure for vehicles is inequitable and inefficient..... | 34 |
| BOX 3. | Guadalajara's metropolitan funds..... | 35 |
| BOX 4. | East-green line. La Laguna, Coahuila..... | 36 |
| BOX 5. | BRT Route, Puebla..... | 37 |
| BOX 6. | Which kinds of investments encourage the use of private cars..... | 43 |
| BOX 7. | General Law of Human Settlements, Territorial and Urban Development..... | 52 |

ACRONYMS AND ABBREVIATIONS

| | |
|-----------------|--|
| CONAPO | National Population Council |
| EMUS | Sustainable Urban Mobility Strategy |
| GHG | Greenhouse Gas |
| INEGI | National Institute of Statistics and Geography |
| ITDP | Institute of Transportation and Development Policy |
| MUS | Sustainable Urban Mobility |
| ODS | Sustainable Development Goals |
| PBC | Zero Base Budget |
| PEF | Federation Expenditure Budget |
| PIMU | Program to Promote Urban Mobility |
| PND | National Development Plan |
| PNDU | National Urban Development Program |
| SCT | Secretariat of Communications and Transportation |
| SEDATU | Secretariat of Agrarian Territorial and Urban, and Development |
| SEMARNAT | Secretariat of Environment and Natural Resources |
| SHCP | Secretariat of Finance and Public Credit |
| ZM | Metropolitan Area |
| ZMVM | Metropolitan Area of the Valley of Mexico |

FEDERAL FUND ACRONYMS

| | |
|-------------------|---|
| CAPUFE | Federal Roads and Bridges |
| FAETA | Contribution Fund for Adults and Technological Education |
| FAFEF | Contribution Fund for the Strengthening of Federal Entities |
| FAIP | Contribution Fund in Infrastructure and Productivity |
| FAIS | Contribution Fund for Social Infrastructure |
| FAM | Multiple Contributions Funds |
| FAPD | Accessibility Fund for Persons with Disabilities |
| FASP | Contribution Fund for Public Security |
| FASSA | Contribution Fund for Health Services |
| FCID | Culture and Recreational Infrastructure Fund |
| FH | Hydrocarbons Sectorial Fund |
| FIIEMS | Investment Fund for Higher Education Infrastructure |
| FM | Metropolitan Fund |
| FNE | National Entrepreneur Fund |
| FOMI | Mixed Funds |
| FONADIN | National Infrastructure Fund |
| FONDEN | Emergency Care Fund |
| FONE | Contribution Fund for Education |
| FONHAPO | National Fund for Low-Income Housing |
| FONREGION | Regional Fund |
| FOPADEM | Fondo de Pavimentación y Desarrollo Municipal |
| FOPEDAPRIE | Fund for paving, sporting areas, and lighting, etc. |
| FOPREDEN | Fund for the Prevention of Natural Disasters |
| FOREMOBA | Program to Support Communities in the Restoration of Monuments and Artistic Goods of Federal Property |
| FORTAMUN | Contribution Fund for the Strengthening of Municipalities and their Demarcations |
| FOSS | South-South East Fund |
| HÁBITAT | Habitat Program |

- PAICE**..... State Cultural Infrastructure Support Program
- PAM**..... Municipal Assistance Program
- PDZP**..... Program for Priority Areas Development
- PET**..... Temporary Employment Program
- PFTPG**..... Program for the Strengthening of Gender Perspective Transversally
- PII**..... Indigenous Infrastructure Program
- PM**..... Migrant Program
- PNDH**..... National Human Rights Program
- PROGAN**..... Livestock Development Program
- PROJOVEN**..... Youth Entrepreneurship Program
- PROMARNAT**..... Environment and Natural Resources Sectorial Program

PRESENTATION

“Among the major challenges Mexico faces due to the implementation of the New Urban Agenda, is funding. **SEDATU has made a call to not spend recklessly available resources**, but rather focus them on strategic and comprehensive outreach projects at a neighbourhoods-city-metropolis scale, to promote resilience, security, inclusion and sustainability of Mexican cities, thus materializing the new urban agenda, the new General Law on Human Settlements, Spatial Planning and Urban Development and the SDGs”.



Edgar Rodolfo Olaiz
GENERAL DIRECTOR OF PUBLIC SPACES, SEDATU



“Guadalajara’s Metropolitan Area has experimented changes in its mobility, even though the public spending invested in infrastructure record has been directed in favour of the private car. **This trend is changing thanks to public pressure** and new management and information tools, such as ITDP’s Investing for Mobility”.

Mario Silva
GENERAL DIRECTOR OF MOBILITY AND TRANSPORT, MUNICIPAL GOVERNMENT OF GUADALAJARA

“It is unacceptable that the Federal Government claims being committed to stop climate change, while investing in infrastructure that induces more motorized trips, which only serve a small minority of the population. **Enough of empty speeches: it is time to invest public money in public transport and sustainable mobility**, which is what is most needed”.



Areli Carreón
Bicitikas



"The Budget Expenditure of the Federation is the most important public policy document because there the State's priorities are decided. Therefore, Fundar commends that organizations like ITDP are working to provide relevant information on the need to finance the construction of a sustainable transportation system, allowing us to have **more human cities and enjoy complete right to the city**, through the document Investing for mobility: Diagnosis of investments in mobility in Mexico's metropolitan areas."

Diego de la Mora
RESEARCHER, FUNDAR

México will not be able to reach the GHG emissions reduction targets -established in the Climate Change General Law- if public expenditure continues to favor the use of fossil fuels through private car incentives and unsustainable city development. Investing for Mobility shows us how public expenditure has promoted this trend and gives us the tools we need to make decisions in the right direction: sustainable mobility and low-carbon urban development.

Jorge Villarreal Padilla
MEXICO'S CLIMATE INITIATIVE



WHAT DOES THE NEW 2015 REPORT CONTAIN?

The **INVESTING FOR MOBILITY 2015** report contains, as major developments, the following:

A HISTORICAL ANALYSIS

An analysis of 2011 to 2015 is carried out to identify changes and trends in mobility investment in the country's different metropolitan areas.

COMPARISON OF MODAL DISTRIBUTION VERSUS INVESTMENTS IN MOBILITY

Trips made in different transport modes versus the investment received in each mode are compared, using the mobility data found in INEGI's Midterm Survey of 2015.

ANALYSIS OF CHANGES IN THE FEDERATION EXPENDITURE BUDGET

An analysis on the effect of the "Zero Base Budget" and the federal budget cuts set for 2017 in the budget for sustainable urban mobility are included, along with an analysis of the budget used for climate change.

A NEW INTERACTIVE MICROSITE

A microsite adapted for different devices, including comparative graphs by metropolitan area, by transport mode, an interactive map, the methodology, a yearly report, as well as the databases used.

EXECUTIVE SUMMARY

The annual report “Investing for mobility” by the Institute of Transportation and Development Policy (ITDP) since 2011 has focused on analysing public resources in the 59 Metropolitan Areas of Mexico to identify the investment priorities that promote urban mobility.

The objective is to evaluate investments focused on Sustainable Urban Mobility (MUS), such as infrastructure to facilitate walking, cycling or dedicated to public transport, as an indicator of the approach of sustainability and social equity public policy.

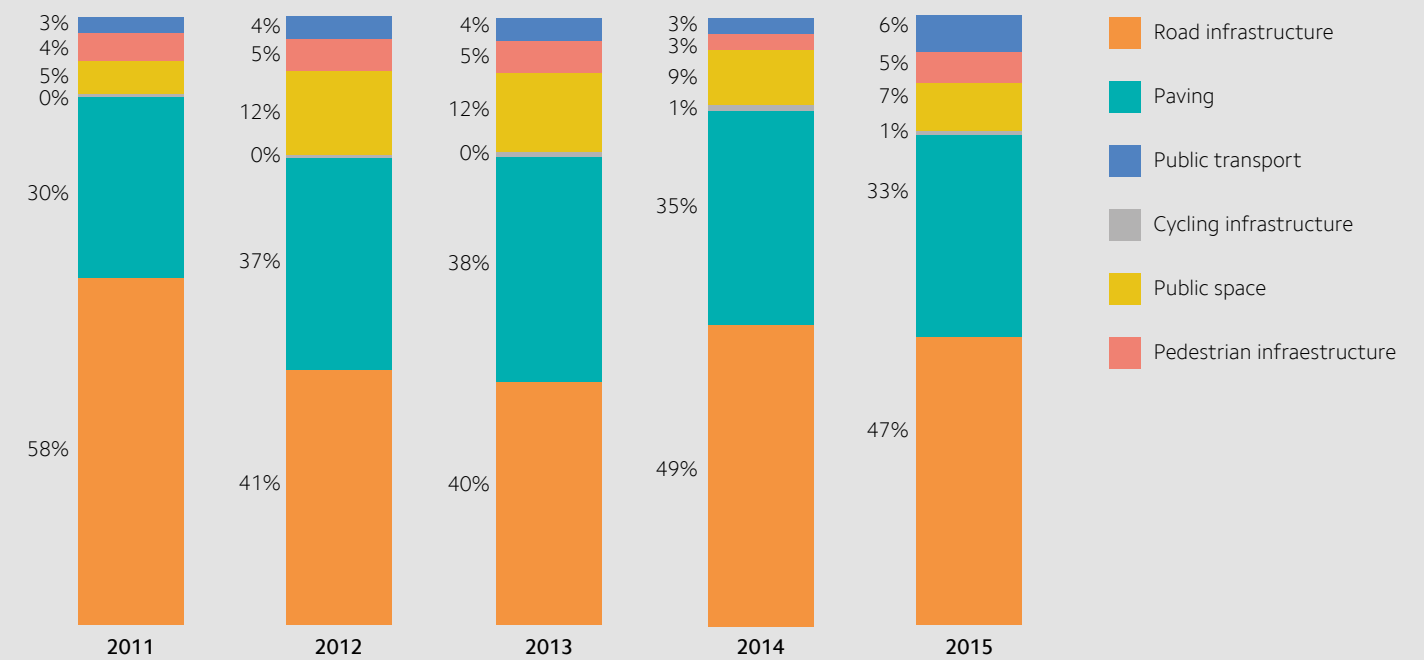
It is important to note that state entities are predominantly financed through federal funds, which is the reason why these are used to analyse public investment in urban mobility.

The results of this year’s report again stress the importance of investing in urban mobility in the metropolitan areas of the country (32% of federal funds). However, a reduction in investment in MUS is registered, making 2015 the year with the lowest budget in this period with 19% of the total investment allotted to urban mobility. This is an alarming situation, which is also accompanied by an overall trend of declining federal funds, which have decreased from 95.7 billion pesos to 57.6 billion pesos over the same period (at 2012 prices).

This implies that the amounts allocated only totalled 3.7 billion pesos (at 2012 prices); an 68% reduction compared to 2012. This amount results to be rather scarce for the 59 metropolitan areas, and the remaining sum (15.4 billion pesos) is mainly focused towards infrastructure dedicated to private cars, which only moves 31% of work-related commutes, and 25% of trips made to schools in metropolitan areas. This form of investment is both unsustainable and inequitable.

This situation occurs despite the increase in demand for non-motorized transport, stipulated by the objectives of the National Development Plan 2013-2018, which outlined the need to create public spaces and streets accessible for people with disabilities, in addition of including the promotion of public transport, which could also be used to reinforce the targets of the National Urban Development Programme 2014-2018, and the Strategy for Sustainable Urban Mobility, raising the importance of promoting sustainable mobility. For the 2015 fiscal budget, the percentage of investments in these areas did not exceed 19% at the national level, while in 2012 it reached 22% of the federal funds dedicated to sustainable urban mobility.

PERCENTAGE DISTRIBUTION OF MOBILITY PROJECTS, 2011-2015



Source: ITDP.

Moreover, the Base Zero Budget, which was intended to optimize public spending, had the objective to eliminate programs and re-structure budget items but that did not achieve changes that decidedly favoured sustainable mobility in the country. To the previous point we add the fact that the Federation Expenditure Budget 2017 is still not contemplating funding for the Program to Promote Urban Mobility (PIMU), and includes significant resource cuts for the SEDATU and the SEMARNAT, the federal institutions in charge of driving this issue. Also, the budget allocated to the mitigation of greenhouse emissions (GHG) and climate change adaptation does not consider items for Sustainable Urban Mobility. This situation inhibits the possibility of achieving, in the short and medium terms, goals established by the federal government in reducing GHG emissions through measures of sustainable transportation and land use as established in the Paris Agreements on Climate Change, the General Law on Climate Change, the National Development Plan (PND) and the National Urban Development Program (PNDU). This implies a trend that will continue to see further national resources invested in infrastructure intended for automobile use, which only benefits a small portion of the population, thereby increasing the inequality gap in Mexico.

Finally, recent budget cuts imply the need to work on policies that allow municipalities to increase budget revenues by applying charges to the use and ownership of cars to finance sustainable mobility. Otherwise, financing sustainable urban mobility and reducing the level of inequality will become an increasingly difficult task.



INTRODUCTION



During the last 4 years, the Institute of Transportation and Development Policy (ITDP) has carried out several diagnostics on the expenditure of federal funds by local governments for infrastructure projects, especially those related to urban mobility. This is done for identifying whether current programs are directed towards financing Sustainable Urban Mobility (MUS) projects, or are solely focused on further developing infrastructure aimed at encouraging the use of private cars; which contributes nothing towards sustainability nor equity in the country.

The importance of analysing the destination of federal funds lies in the fact that state and local governments rely mostly on income coming from the federation to expand or maintain infrastructure. For example, from the total income of all the states in the country, 84% come from federal sources (see chart 1). Therefore, it is relevant to know the number of federal funds used by local governments to finance urban mobility projects, and with these understand their investment dynamics.

Similarly, this report allows monitoring the fulfilment of the National Urban Development Programme 2014-2018 (PNDU), which includes, as one of its strategies, the promotion of sustainable mobility, and the use of a percentage of federal fund resource directed towards investment to promote public transportation and motorized mobility as one of its indicators.

Thus, the analysis focuses on the existing 59 metropolitan areas of Mexico, which accounted for 53% of the population in 2015¹. For this purpose, the records found in the "Report on the Economic Situation, Public Finances and Public Debt" of the Secretariat of Finance and Public Credit (SHCP) from 2015 were utilized. In total, there were 51,102 projects financed by 18 funds and programs for this report, through which 57.6 billion were invested in metropolitan areas, corresponding to 31% of what is executed by state and municipal governments through federal funds.

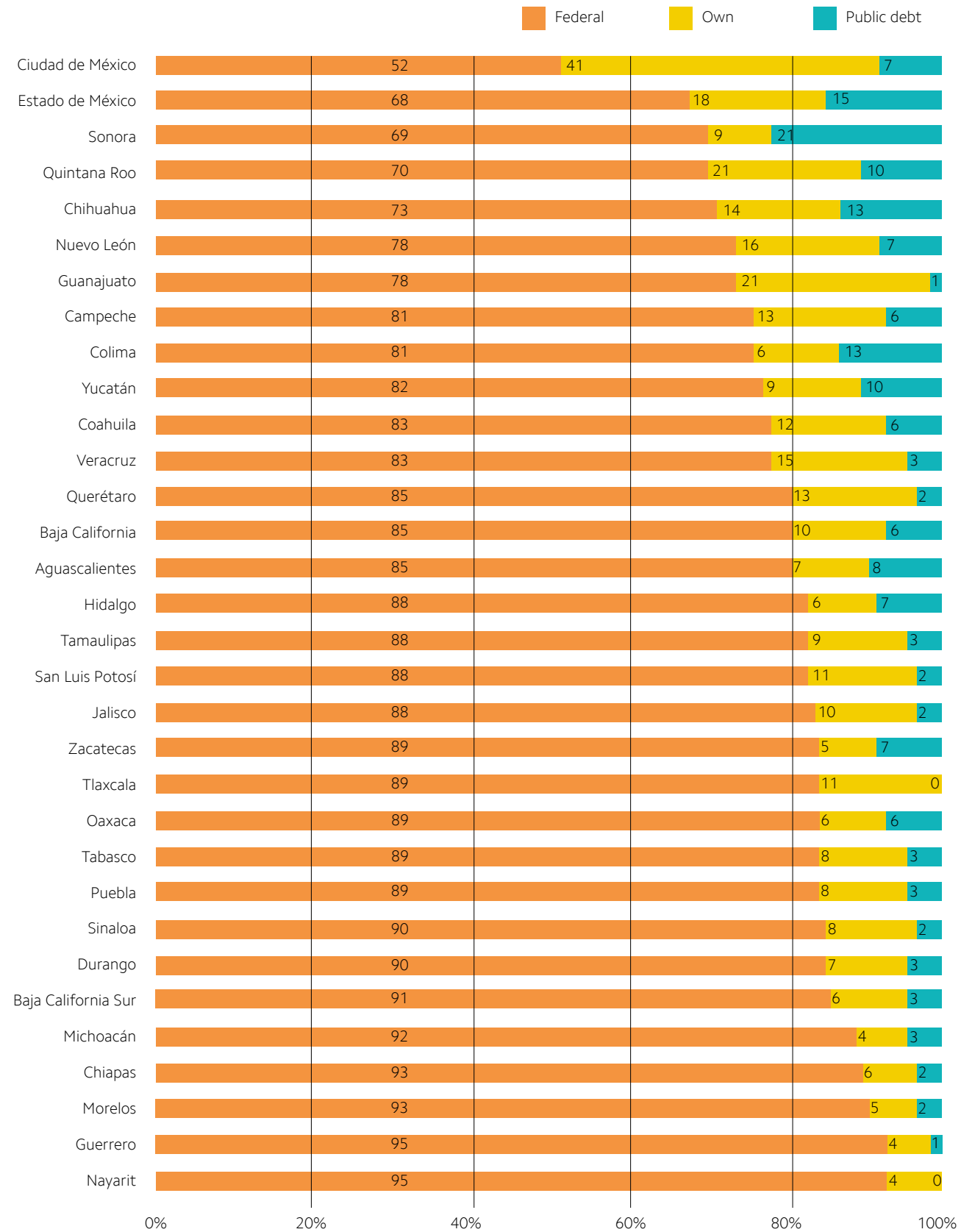
It should be noted that this document is an updated version of the report previously released in 2016. A review that consisted in standardizing the use of projects classified as "state coverage" from 2011 to 2015; for more information see ITDP (2016).

This document is divided into 6 sections. The first section consists of this introduction. The second section discusses how federal funds resources have been spent on MUS in the last 5 years. In the third section, results by metropolitan area during 2015³ are studied, as well as examples of good practice set out at the national level. The fourth section provides an analysis of how each federal fund is utilized. In the fifth section, the main changes in the federation's budget expenditure along with the alignment with the National Development Program (PND) 2013-2018, and national climate change targets are analysed. Finally, in the last section, recommendations on the elements that would stimulate public policies to promote sustainable urban mobility, as well the general conclusions of the analysis are provided.

¹ Using the intercensal survey 2014, a total of 68,054,946 inhabitants were calculated for the 59 metropolitan areas of the country.

² Given the objective of the analysis, investments made with local funds at the state and municipal level are excluded. As data collection is complex. Similarly, resources from federal secretariats and non-budgetary (fiduciary) funds are excluded. In this sense, projects such as the Mexico-Toluca Train or the construction of line 3 of the Guadalajara Light Rail, among others, are not contemplated within the results of this report. Projects classified as "state coverage" were excluded, since most of them could not be assigned a particular metropolitan area, except those belonging to the Metropolitan Fund; which generates an underestimation of the amounts invested by each metropolitan area. For more information, see the Methodology for developing the study: Investing for Mobility (ITDP, 2016).

CHART 1. PERCENTAGE DISTRIBUTION OF STATE REVENUE 2015



Source: INEGI.



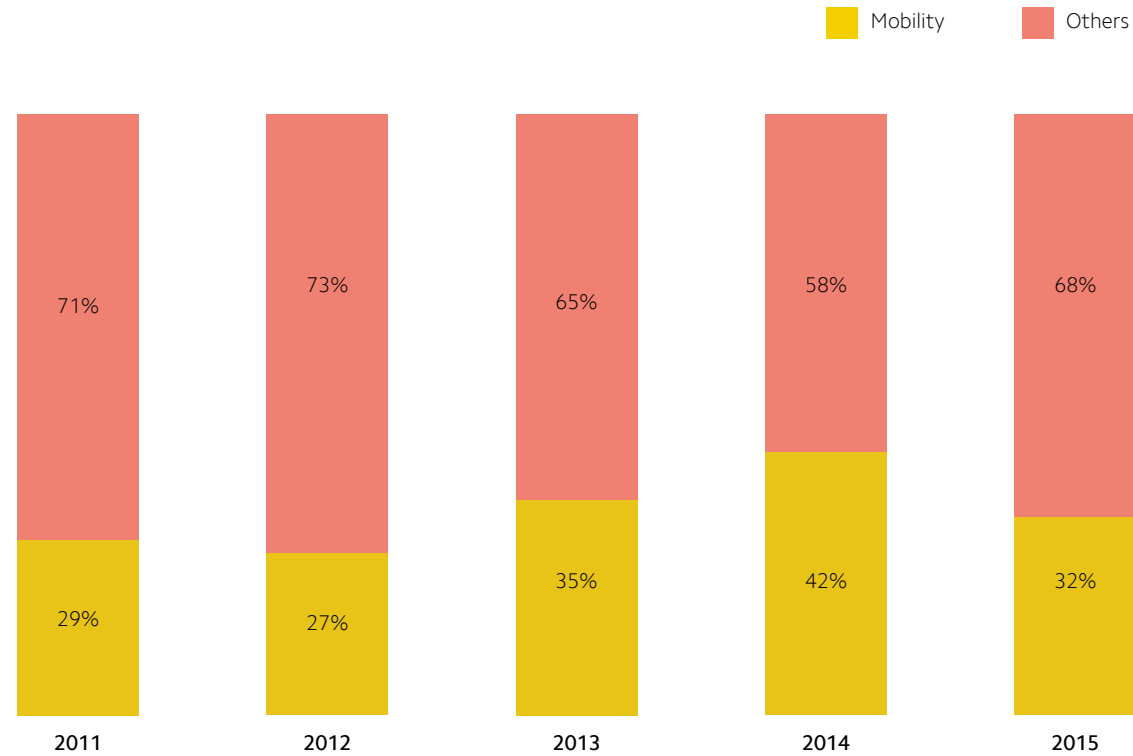
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ANALYSIS OF FEDERAL RESOURCES IN MOBILITY

This section discusses the evolution of public investments coming from federal funds from 2011 to 2015 in the metropolitan areas (ZM) of the country, to understand what have been their priorities in regards to urban mobility.

First, the percentage share of federal funding for urban mobility³ has remained at an average of 33% over the past 5 years. However, in 2015, there was a 10 percentage points reduction (Chart 2), which implies a decline in importance of mobility projects at a metropolitan level.

CHART 2. PERCENTAGE PROPORTION OF FEDERAL FUNDS DEDICATED TO MOBILITY IN 59 METROPOLITAN AREAS 2011-2015

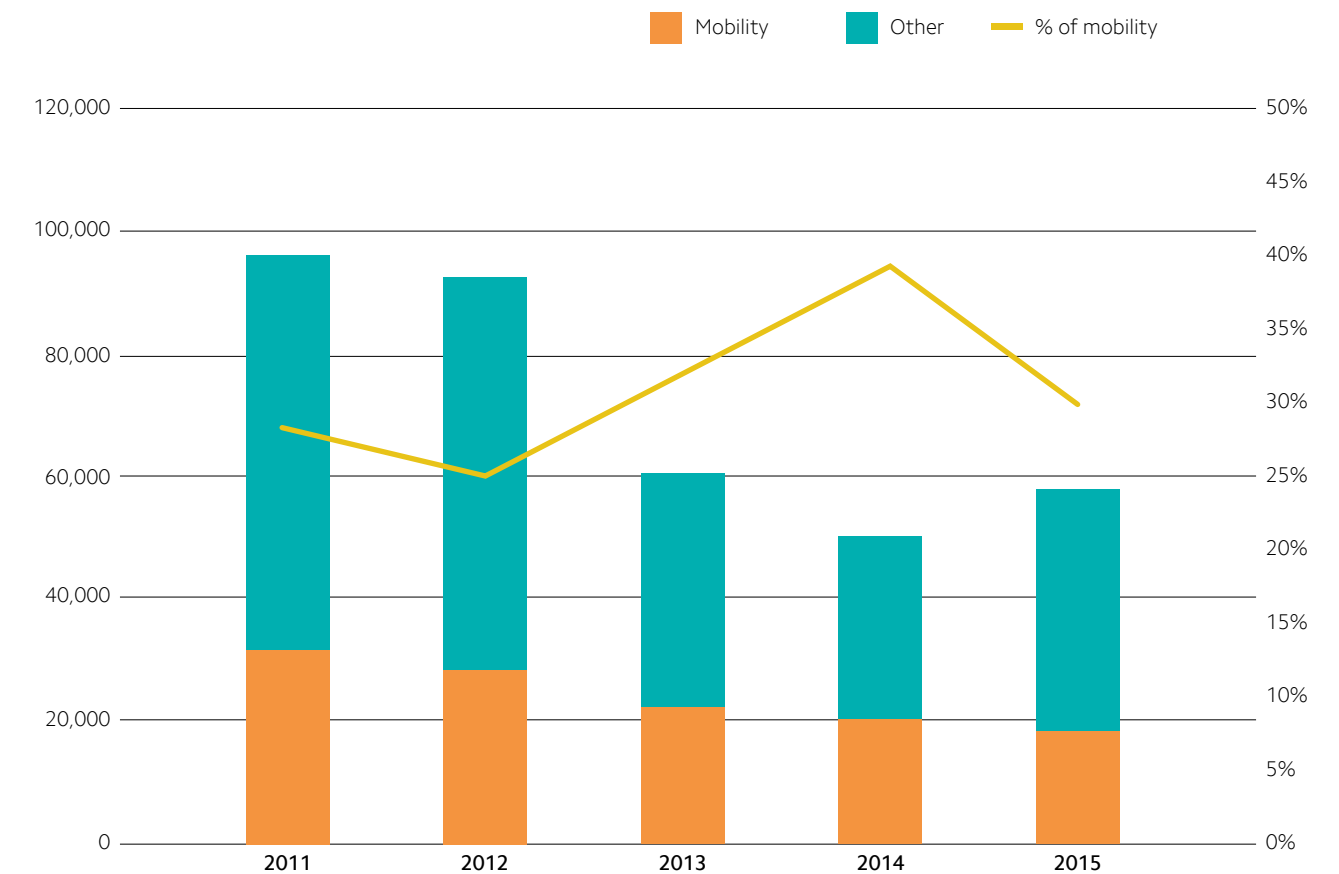


Source: ITDP.

As shown in Chart 3, mobility investments have declined not only in terms of percentage, but have also been reduced to half their amounts, as these have decreased from 27.9 billion pesos in 2011 to 19.4 billion pesos in 2015, at 2012 prices. In fact, this is a trend that corresponds to a total reduction of federal funds decreasing from 95.7 billion pesos to 57.6 billion pesos in the same period (at 2012 prices); a phenomenon that has been generated by various budget cuts in government spending in recent years, especially resulting from reduction in oil revenues.

³ Within the methodology followed by the ITDP, the mobility category concentrates automobile infrastructure, pedestrian infrastructure, cycling infrastructure, public transport, public spaces and paving. The participation of others, combined the expenditure for infrastructure in water services, educational services, culture and sports, as well as the payment of wages and salaries, public safety, and so on.

CHART 3. TOTAL EXPENDITURE OF FEDERAL FUNDS ON MOBILITY IN ZM AND ANNUAL TRENDS, 2011-2015 (MILLION PESOS 100=2012)



Note. Deflated with the Producer Price index of INEGI (2016).
Source: ITDP.

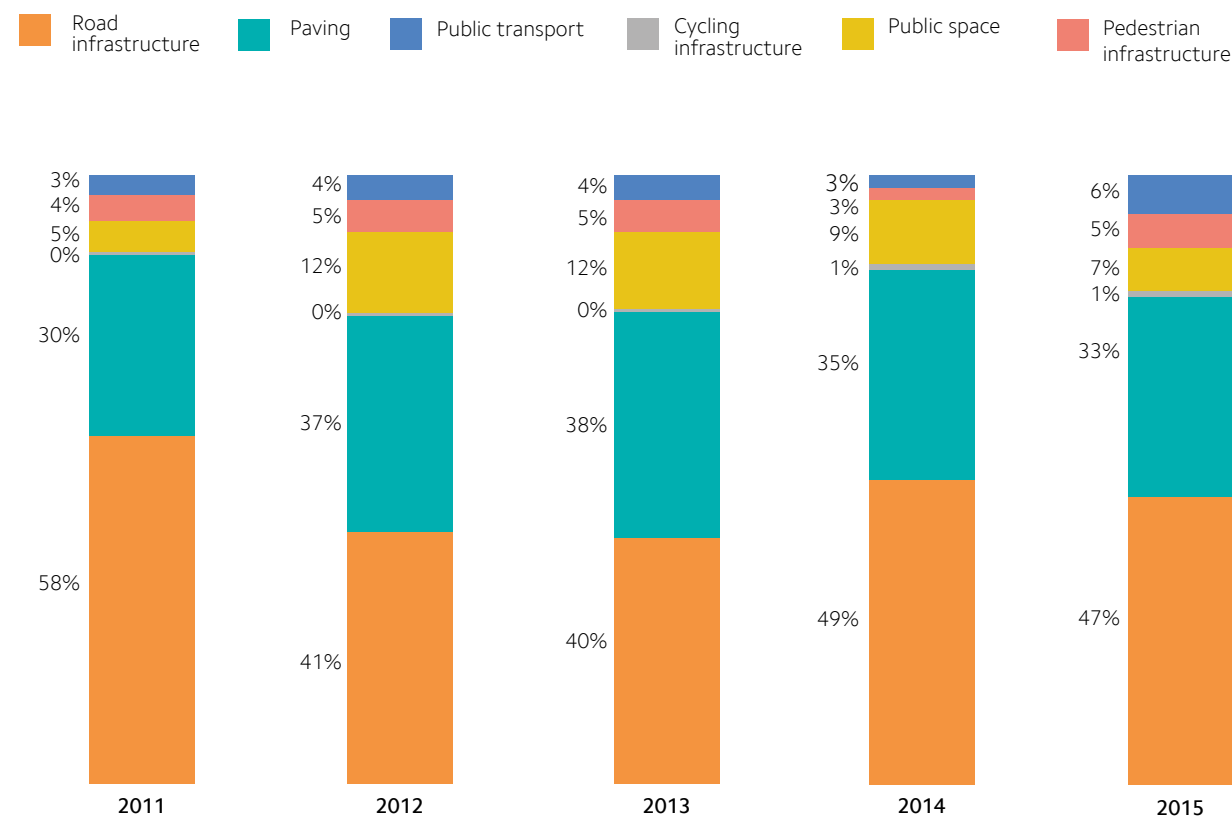
In regards to investments exclusively for MUS versus infrastructure primarily intended for car use (investment for maintenance and expansion of road infrastructure and paving), it has been found that the latter has been given priority for the past 5 years, surpassing 80% of the amounts allocated to urban mobility. In 2015 this percentage reached 81%; although it is accompanied by an improvement, compared to previous years, in the percentage allocated to pedestrian infrastructure and public space (excluding cycling infrastructure), which together accounted for 19% of total investments in that year (see Chart 4).

In this same chart in the period 2011-2015, investments for the development of cycling infrastructure have not increased, although, per the operating rules of Metropolitan Funds, local governments are urged to invest in it. In addition, expenditure for public transport projects has increased mar-

ginally in metropolitan areas, from 3% to only 6%, despite the urgency of generating options for accessible, affordable and sustainable public transport⁴. This creates a discrepancy with respect to the real needs that exist in regards to urban mobility, which are not entirely for automobile use, but for the entire allotment of the population who daily roam the cities by public transport, and this is insufficient.

The way in which investment favours the use of private cars is unsustainable due to all the negative social externalities it generates, such as increasing greenhouse gases noise, congestion, traffic accidents, and air pollution, among others (Medina, 2012). The analysis also shows that public investments are inequitable, since only 31% of trips to work and 25% of trips to school were made by car⁵, yet they obtained 80% of resources, compared to the 45% of work trips made by public transport, which only received 6% of investments (see Chart 5). Furthermore, car ownership is concentrated in the higher income defiles, and thus this type of public policy is regressive

CHART 4. PERCENTAGE DISTRIBUTION IN MOBILITY PROJECTS IN 2011-2015



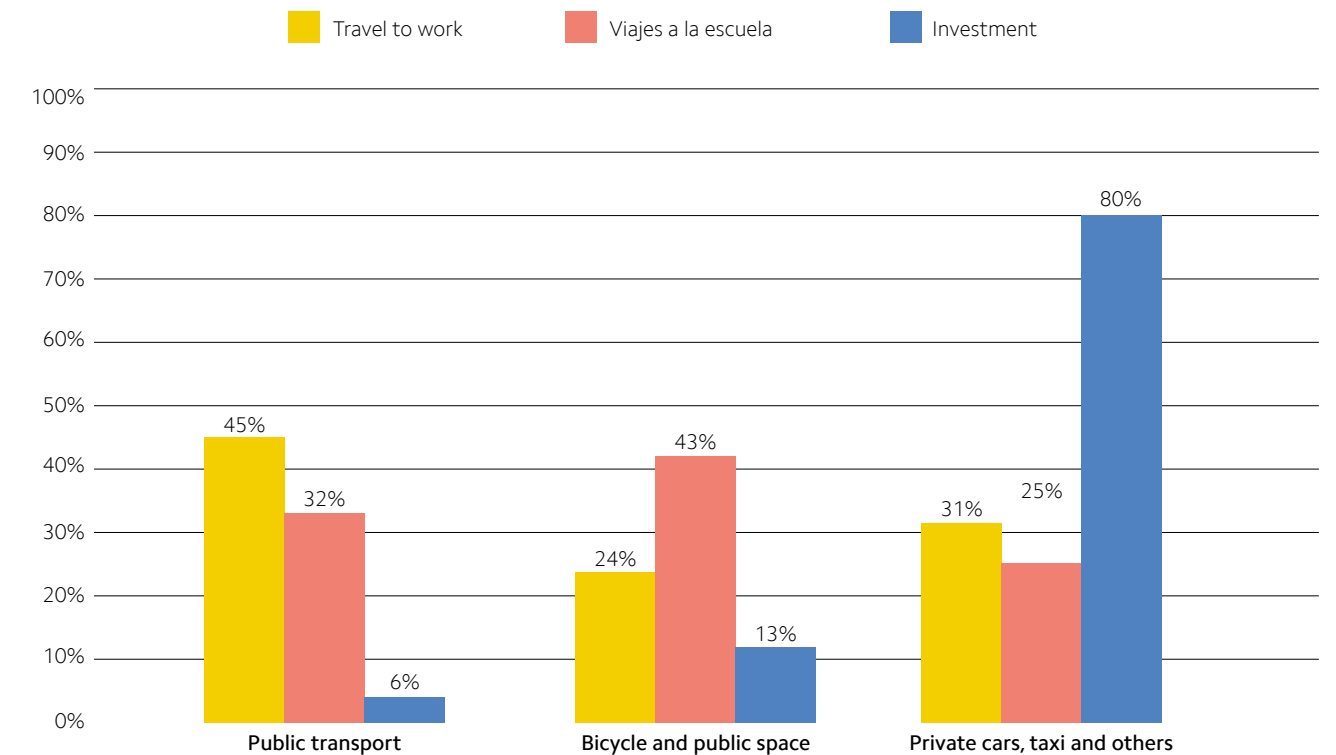
Source: ITDP.

⁴ It should be noted that this does not imply that there are no investments in the improvement of mass public transport financed by the federal government, such as FONADIN-BANOBRAS's Federal Transportation Support Program (PROTRAM), which has supported different BRT and metro in the country. Although, as Garduño (2013) points out, FONADIN has mainly focused its investment on road projects.

and does not contribute to sustainability (Medina, 2015).

It is noteworthy that this expenditure trend in mobility does not contribute to meet the national and international targets for reducing GHG emissions, targets to which the nation has committed to in the framework of the General Law on Climate Change and the newly ratified Paris Agreement⁶. In addition, it is also not aligned to the principles set by the Habitat III New Agenda Urban⁷, and does not contribute to lay the foundations for meeting the targets set by the Sustainable Development Goals (SGD), especially target 11 that seeks to build inclusive safe, resilient and sustainable cities and human settlements.

CHART 5. MODAL DISTRIBUTION* AND INVESTMENT AIMED AT URBAN MOBILITY IN THE METROPOLITAN AREA, MEXICO 2015 (PERCENTAGE)



* For comparability purposes the trips are ranked as follows: Public transport trips (bus, taxi, subway, light rail or BRT and work/school transport); Bicycle trips (cycling and walking); Car trips and other (private vehicle: car, truck or motorcycle and others). Source: SHCP, INEGI and Centro Mario Molina, elaborated by ITDP.

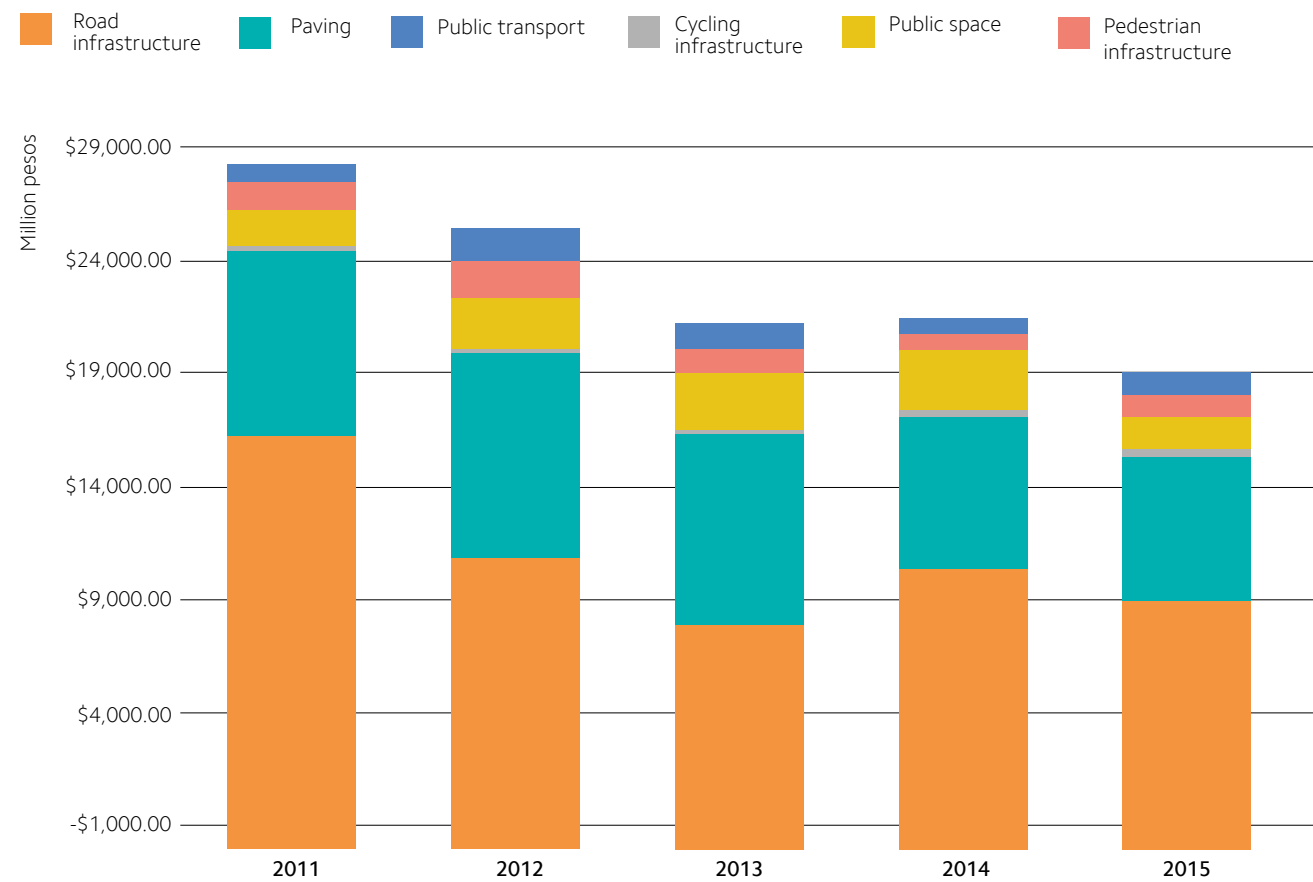
⁵ Calculations prepared by the Mario Molina Center, and by ITDP with data from INEGI 2015.

⁶ A reduction of 25% of GHG emissions to 2030 (with respect to the baseline) has been proposed, in an unconditioned way, reaching 36% in a conditioned way (SEMARNAT, 2015). In the case of the transport sector, it is a key sector, accounting for 21% of the country's total GHG (SEMARNAT, 2013).

⁷ UN-HABITAT, 2016.

This unequal distribution of resources also coincides with a reduction of these resources, because, as mentioned above, these have been drastically decreased due to various public budget cuts. For example, the amounts allocated to MUS totalled 5.4 billion pesos in 2012, and in 2015 only totalled 3.7 billion pesos (at 2012 prices); a reduction of 68% (see Chart 6). An amount that, for 59 Metropolitan Areas, is scarce and which is, in addition, concentrated primarily in infrastructure dedicated to the use of the private car.

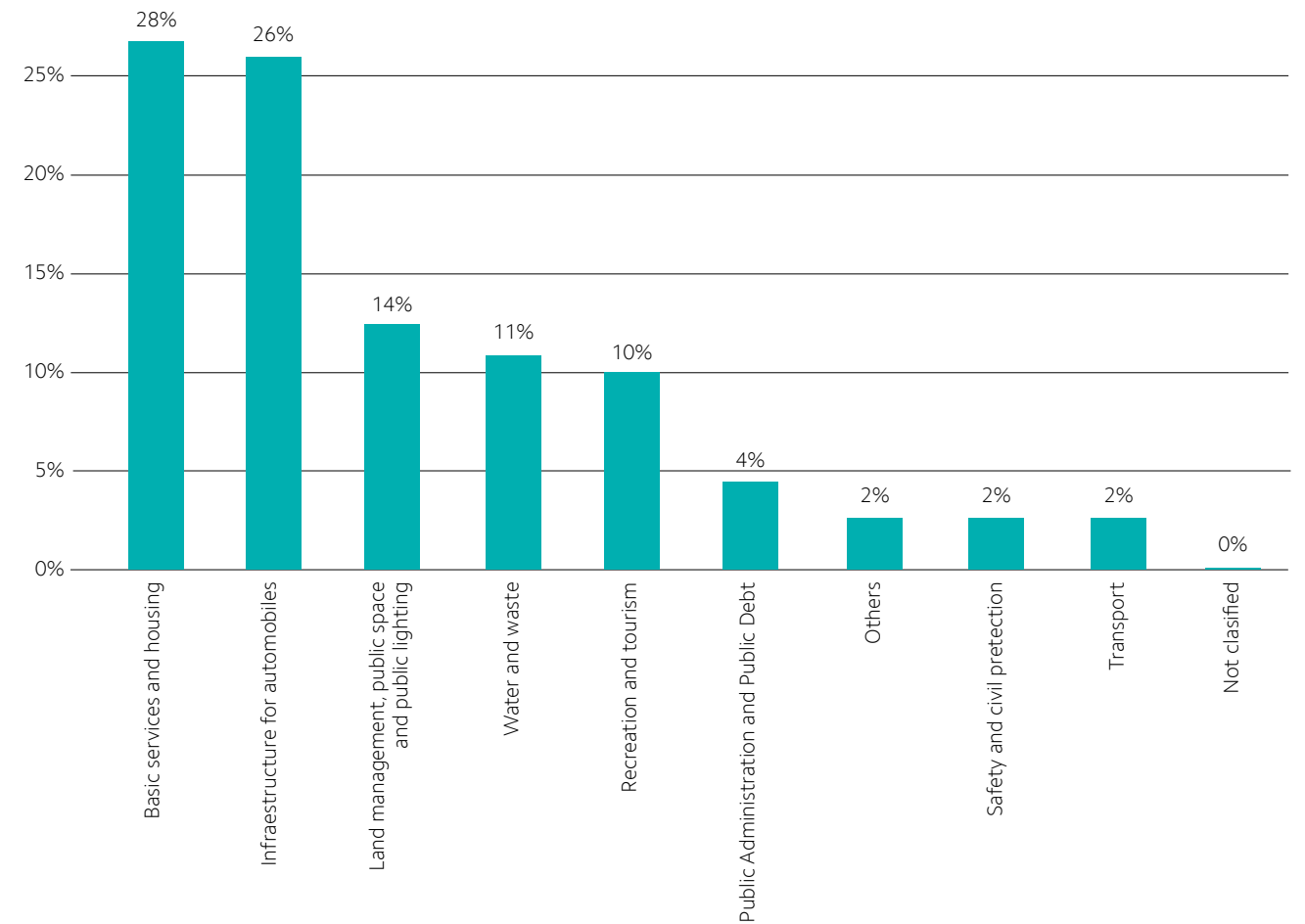
CHART 6. TOTAL AMOUNT ALLOCATED FOR MOBILITY PROJECTS, 2011-2015 (MILLION PESOS 100=2012)



Source: ITDP.

In fact, this distribution is so unequal that infrastructure expenditure focused on the use of private cars outperforms other expenses (see Chart 7) such as those focused on basic services and housing; on water and waste; on land use planning and public space, and on public administration (including debt payment). This speaks of how the priority of many governments lies in building cities focused on cars, rather than fostering sustainability and equity in the metropolises of the country.

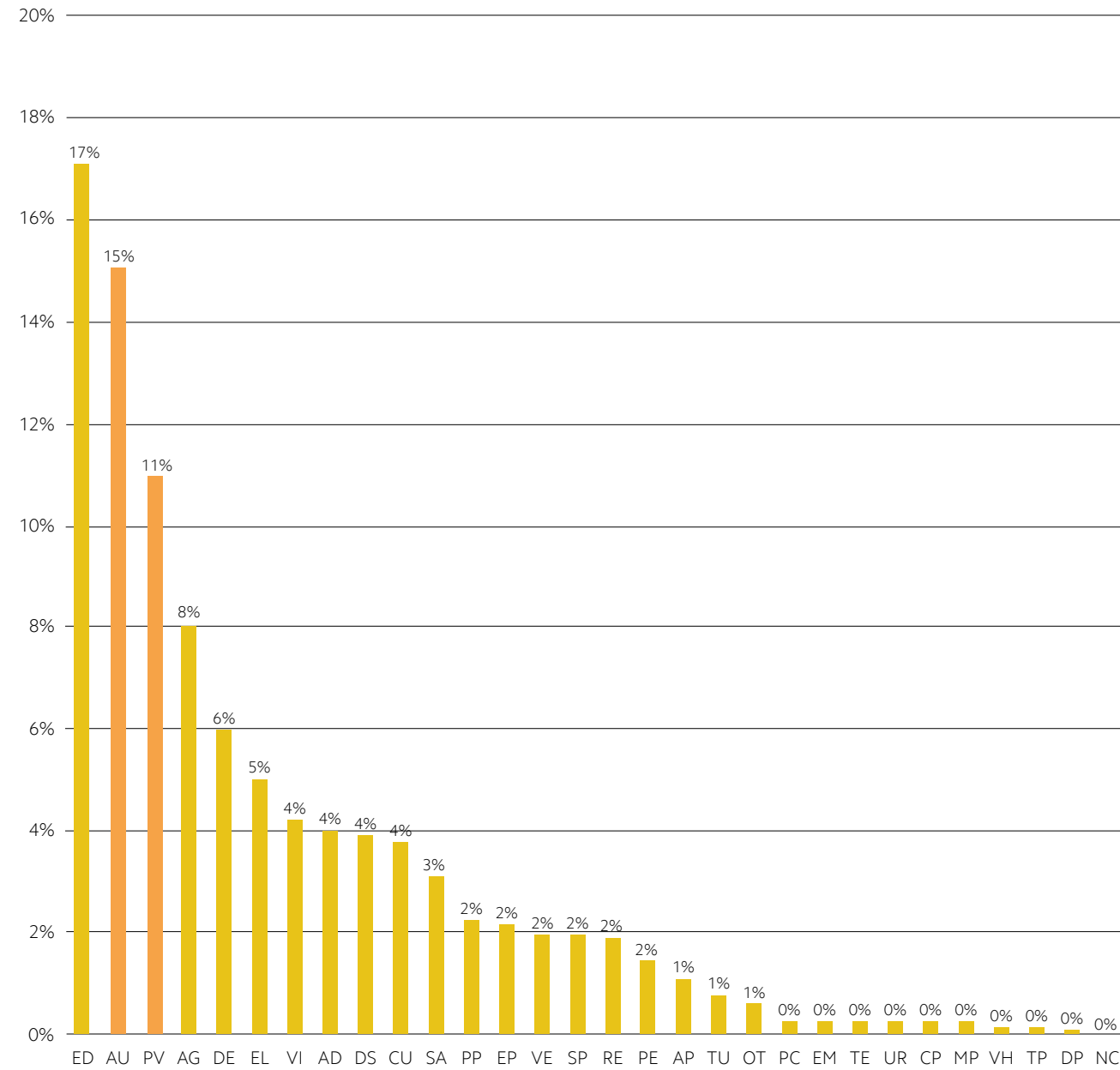
CHART 7. PERCENTAGE DISTRIBUTION OF EXPENDITURE BY SUB-HEADINGS, 2015



Source: ITDP.

This results in a situation, which, if analysed in more detail by type of project, becomes further evident. Chart 8 shows that the 2015 Federal Fund expenditure focuses on infrastructure projects for the use of private cars with 15% and paving with 11%, both standing above other key priorities such access to clean water and electricity (8% and 6% respectively).

CHART 8. DISTRIBUTION OF PROJECT EXPENDITURE BY TYPE OF PROJECT, 2015



| | | |
|-----------------------|---------------------|-----------------------------|
| DP: Public Debt | VE: Green Areas | EP: Public Spaces |
| VH: Vehicular | RE: Waste | CU: Culture |
| NC: Not Classified | TU: Tourism | PE: Pedestrian |
| PC: Civil Protection | OT: Land Management | DS: Social Development |
| TP: Public Transport | SP: Public Safety | DE: Sports and Recreation |
| MP: Massive Mobility | PP: Projects | PV: Paving |
| CP: Bicycle Lanes | EL: Electrification | ED: Education |
| TE: Telecommunication | VI: Housing | AG: Water |
| UR: Urbanization | AP: Public Lighting | AD: Administrative Expenses |
| EM: Stone Paving | SA: Health | AU: Automobile |

Source: ITDP.

BOX 1

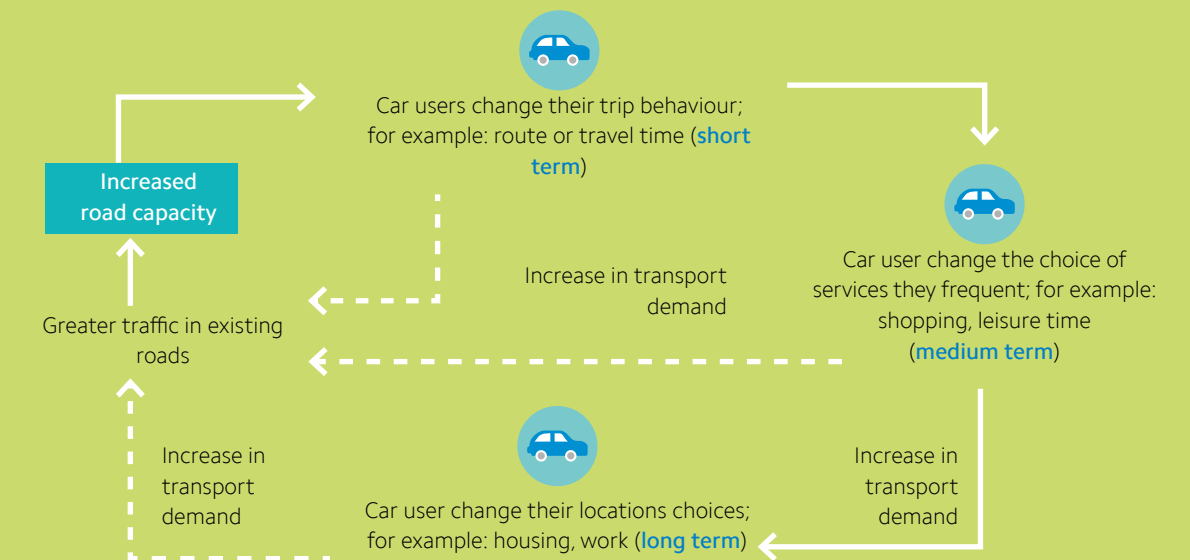
WHY MAJOR INFRASTRUCTURE FOR CAR INCREASES TRAFFIC

When the question arises on how to solve traffic problems, solutions tend to focus on how to increase space for cars to move faster and unhindered, either with overpasses, second floors, new roads, expressways and even footbridges (to transform a street to fast track). However, these “solutions” do not solve the traffic problem, on the contrary, they only induce it further.

Induced traffic refers to this new and growing vehicle traffic generated by new roads or improvements focused on automobile use. This is because traffic consists in a growing demand for space (the more space it seeks the more it expands), thereby increasing the supply of roads only increases traffic (Litman 2011; Duranton and Turner, 2011). This is because an increased offer of roads reduces the cost of car use in the short term, by lowering travel times and thereby lowering fuel consumption. This effect tends to disappear in the medium and long term, once it has induced further traffic.

Galindo and Heres (2006) have verified the existence of induced traffic in the Metropolitan Area of the Valley of Mexico (ZMVM). Their results show that when a road reduces a journey that used to take 60 minutes by six minutes it increases traffic volume by 3.8. If the trip used to take 120 minutes, a reduction of twelve minutes increases traffic volume by 7.6%, and 11.3% for trips of 180 minutes. These results indicate that, with time, the construction of new roads have limited benefits, and that the strategy of building more roads to reduce road congestion will prove to be, in the medium and long term, a failure.

Therefore, the construction of roads focused on solving congestion problems are a false solution, which will ultimately further increase all the negative externalities of car use.



Source: ITDP (2011) and Medina and Veloz (2012).

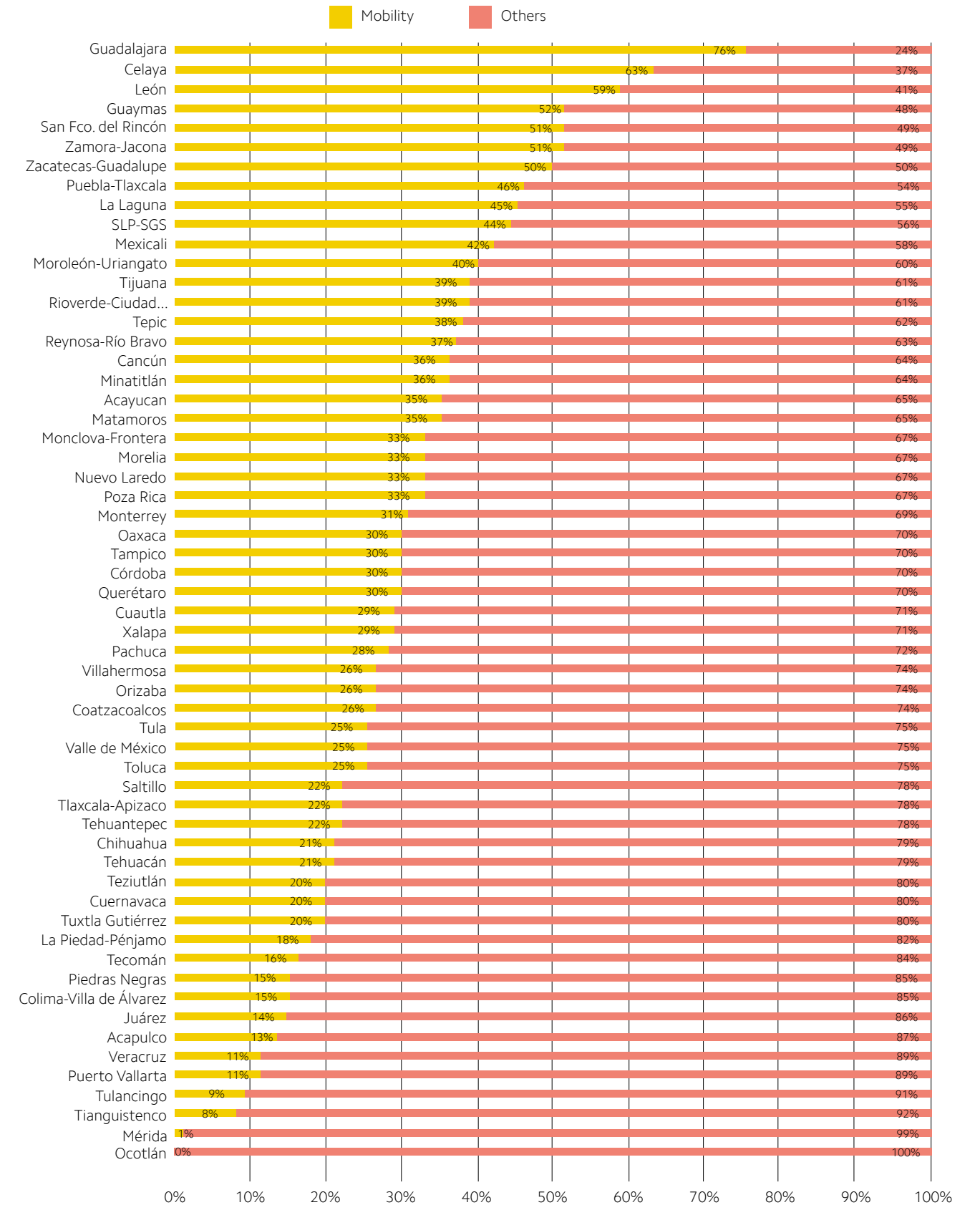


3

ANALYSIS OF INVESTMENTS OF FEDERAL FUNDS BY METROPOLITAN AREA 2015

By 2015 the most prominent ZMs in terms of percentage share in mobility investments were the ZMs of Guadalajara, Celaya, León, Guaymas, San Francisco del Rincón, Zamora-Jacona, Zacatecas-Guadalupe, with more that 50% of their investments coming from federal funds (see Chart 9).

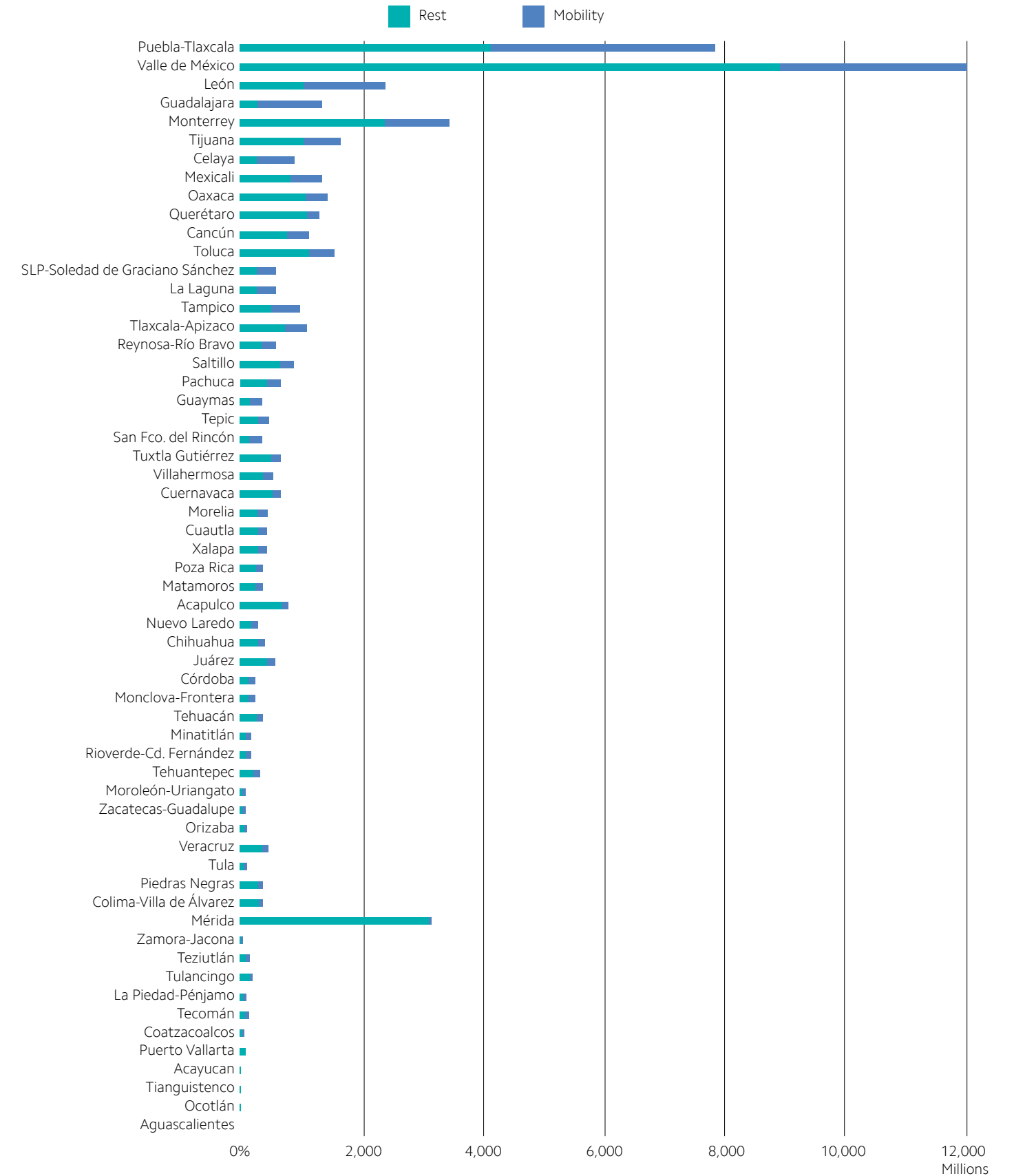
CHART 9. PERCENTAGE DISTRIBUTION OF EXPENDITURE FOR MOBILITY BY METROPOLITAN AREA, 2015



Source: ITDP.

When considering total amounts, the ZMs of the Valley of Mexico, Puebla-Tlaxcala, Monterrey, Guadalajara, and Leon were those that received the most, and which together account for 50% of federal funds, the ZM Puebla-Tlaxcala⁸ stands out with 18% share. These same ZMs (excluding Leon) account for 51% of the funds dedicated to urban mobility. In other words, although some ZMs have good investments in mobility in terms of percentage, the amounts invested are, in fact, minor (see Chart 10). This effect is largely due to the size of the metropolitan areas and their population size, in other words, the larger and more populated a city is the more investment in terms of amounts will be made there.

CHART 10. AMOUNTS INTENDED FOR MOBILITY BY METROPOLITAN AREA, 2015 (MILLION PESOS, 100=2012)

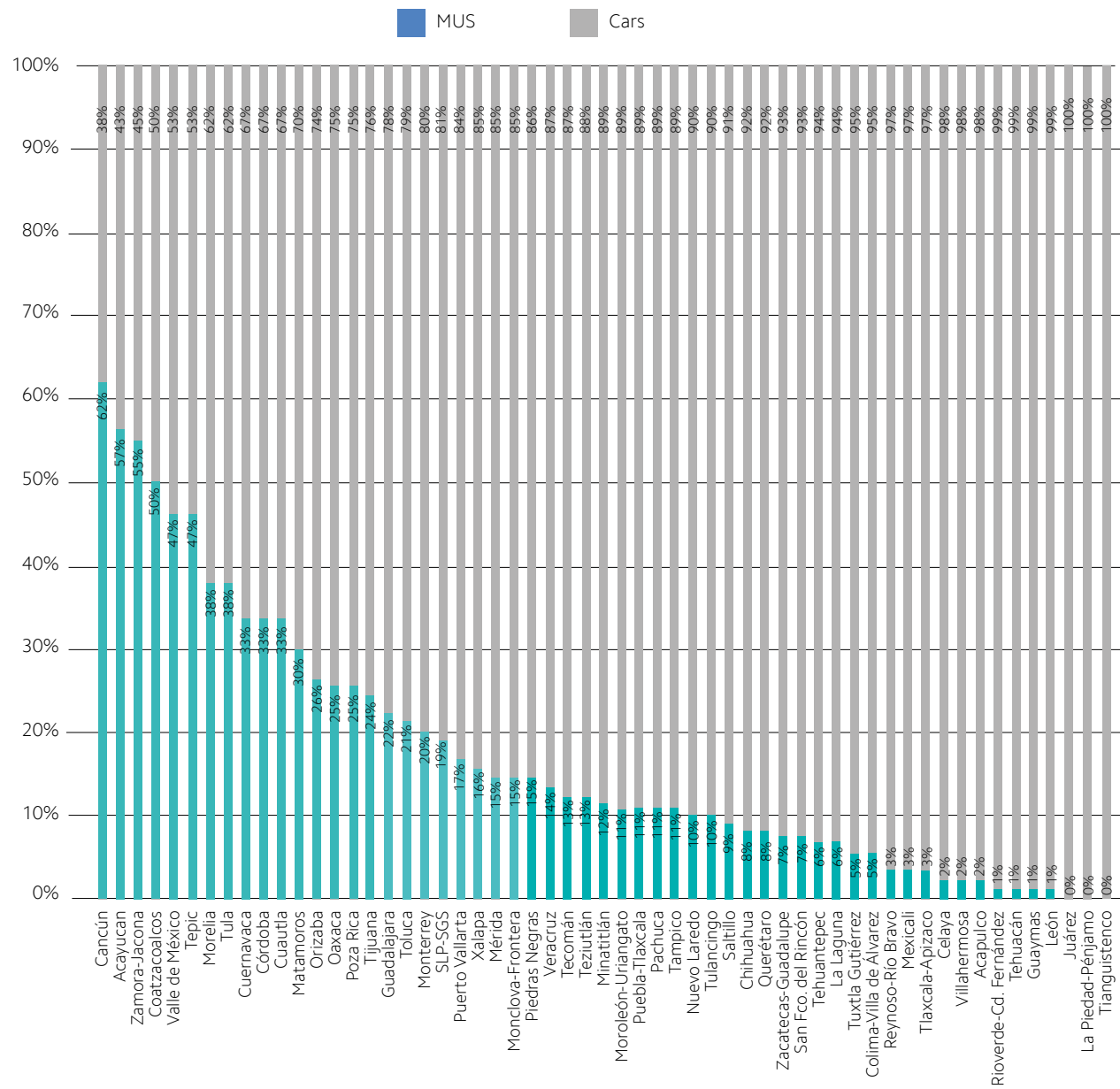


⁸ It should be noted that due to the exclusion of projects classified in the original SChP database as "state coverage" were excluded; which generates an underestimation of the investment in mobility that mainly affects the ZMVM. This is due to the exclusion of line 12, maintenance of the light rail and subway and investments of the México-Toluca Train. For more information consult the "Methodology for the development of the study Investing to Move" (ITDP, 2016).

Source: ITDP.

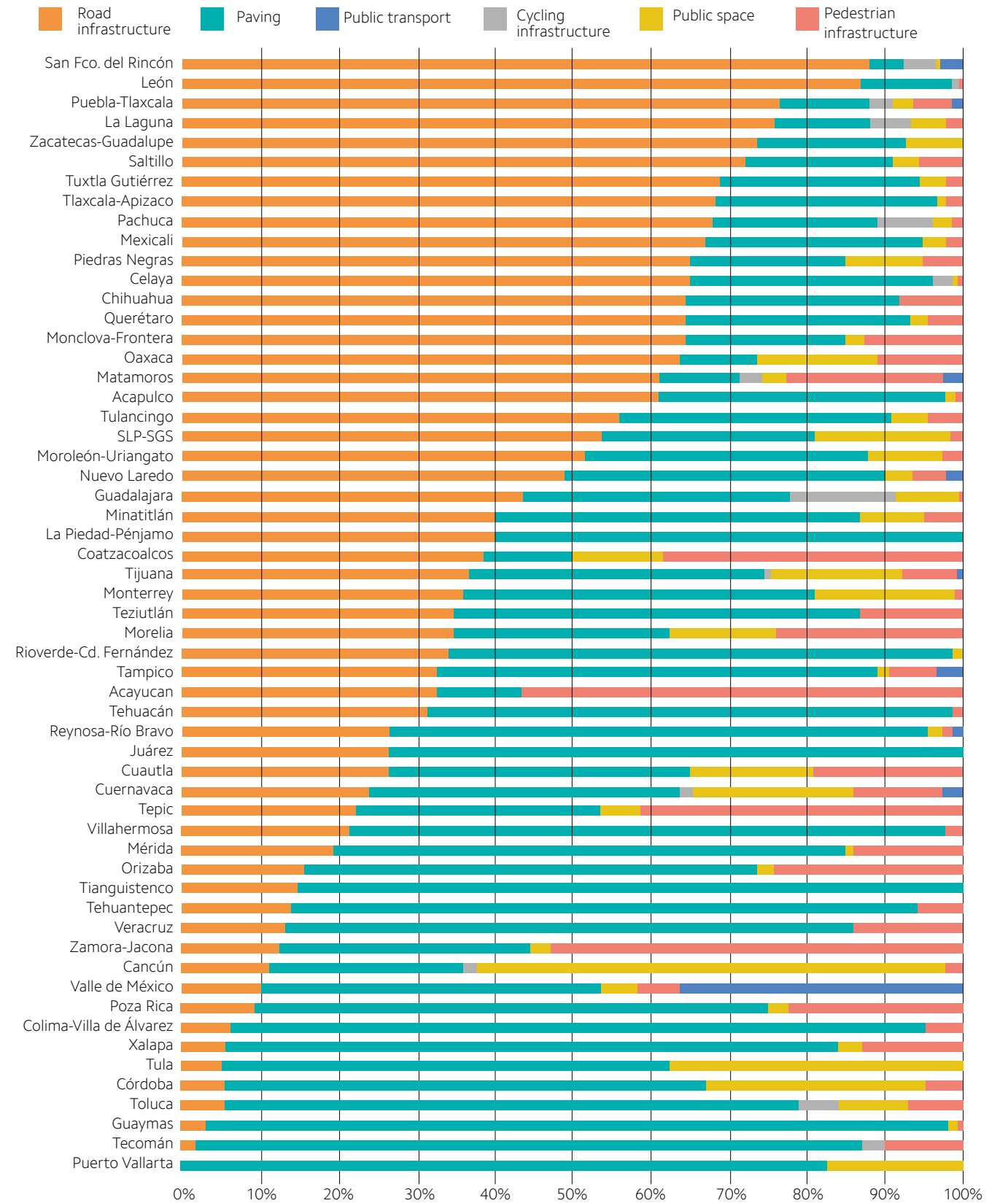
As for the ZMs that invested more of their resources in MUS in 2015, were Cancun and Acayucan, with 62% and 57% respectively of the funds received (see Chart 11). While among those ZMs that invested the largest percentage in infrastructure dedicated to automobile use is Leon, which is one of the Mexican cities that has implemented policies for sustainable mobility. This situation may signify a setback in the progress made in recent years. Chart 12 shows a breakdown by type of mobility project for each metropolitan area.

CHART 11. PERCENTAGE FOR MUS INFRASTRUCTURE VS CAR BY METROPOLITAN AREA, 2015



Note. No data available for Aguascalientes and Ocotlan ZMs in 2015.
Source: ITDP.

CHART 12. PERCENTAGE DISTRIBUTION BY TYPE OF MOBILITY IN METROPOLITAN AREAS, 2015



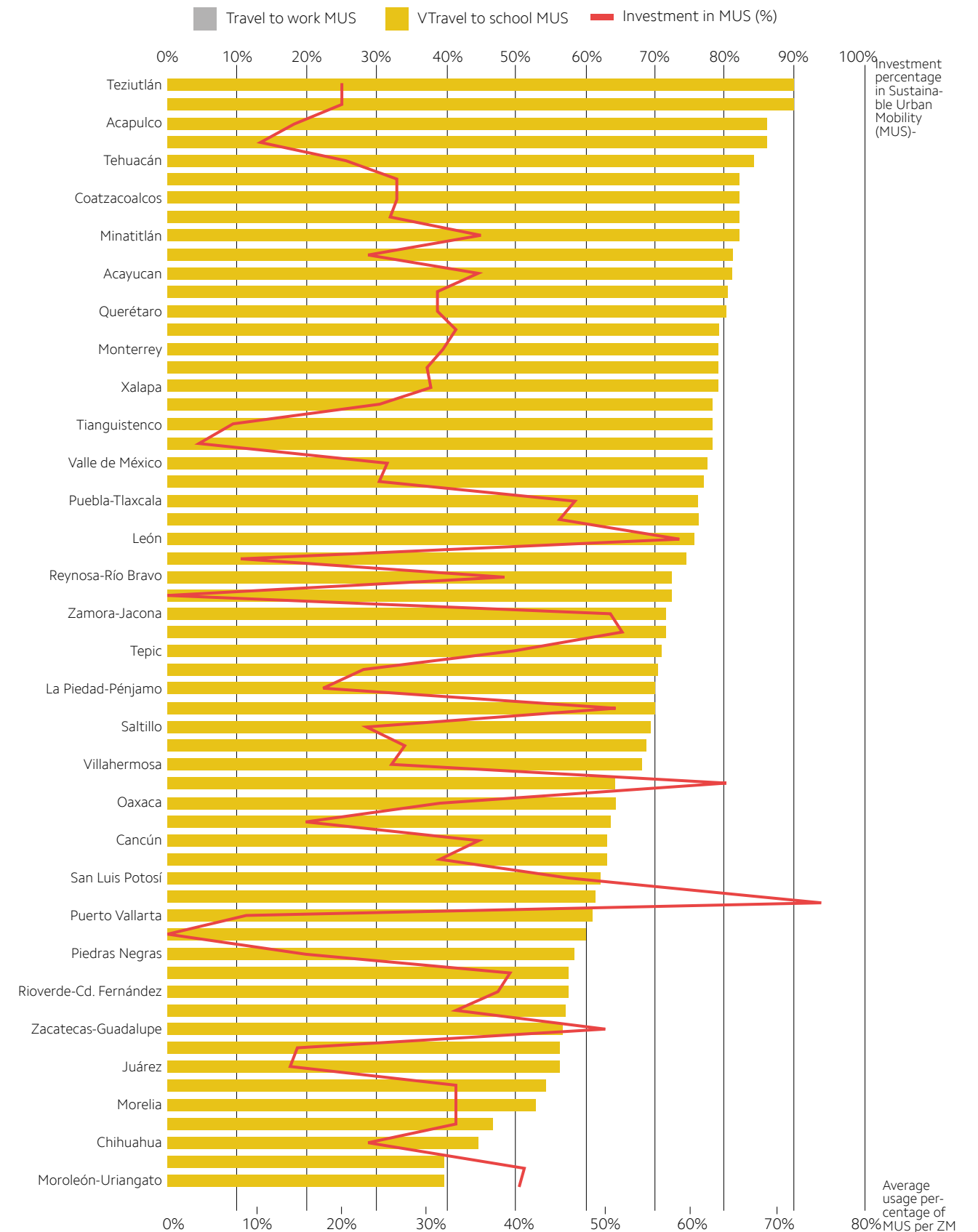
When analyzing which ZM invested the largest amounts towards MUS, Guadalajara Puebla-Tlaxcala, Cancun, Monterrey, and Valley of Mexico ZMs stand out, which together account for 58% of funding for sustainable mobility (see Chart 13). ZMs that also concentrated more than 90% of investments in road infrastructure. Leon stands out once again, by accounting for 9.5% of investments in infrastructure for car use, similar to the 10.5% amount of ZMVM, but with a much smaller urban population.

Finally, it is remarkable that the amount of investment in MUS does not correspond to modal distribution of travel. In virtually all cases, there is a higher percentage of sustainable modes of travel than investment (in percentage terms) in these modes of travel (see Chart 14). This points to the unequal distribution of investments in mobility that only serve to benefit the minority of number of travels, which are usually carried out by the higher-income segments of the metropolis.

CHART 13. AMOUNTS INTENDED FOR MUS BY METROPOLITAN AREA, 2015 (MILLION PESOS AT CURRENT PRICES)

Source: ITDP.

CHART 14. MUS* BY METROPOLITAN AREA, INVESTMENT AND PERCENTAGE OF MODAL BREAKDOWN, 2015 (PERCENTAGES)



*It is the sum of bus, taxi, subway or light rail, BRT, work transport, cycling and walking trips obtained from the 2015 midterm survey.

Source: ITDP.

WHY INVESTING IN INFRASTRUCTURE FOR AUTOMOBILES IS INEQUITABLE AND INEFFICIENT

Investments dedicated to car use are directly inequitable and inefficient threefold. First, in terms of the travel needs of the population. As mentioned throughout the report, most of the travel in metropolitan areas of the country is not made by private car, taxi or motorbike. These movements account for only 31% of trips to work, and 25% to school, but have received on average of 77% of the budget for mobility infrastructure between 2011-2015. Thus, highlighting an unequal distribution of resources.

Second, the infrastructure for private car use demands a higher occupation of urban space compared with other means of mobility that can be used to move the same number of people. Making investments in private vehicles is both spatially inequitable and inefficient in terms of transportation.

PTV Group (2016) exemplifies this by simulating a comparison of a few types of vehicles and the space required to move 200 people in cars, buses, bicycles or walking in the same period (32 seconds). The results imply that the space required for cars is 3.5 times the space required for buses, 6.5 times the space required for pedestrians and 2 times the space required by bicycles.

TABLE 1. COMPARISON OF USED SPACE BY DIFFERENT WAYS TO TRANSPORT, FOR TRANSPORTING 200 PEOPLE AT THE SAME TIME

| | Average occupancy | Number of vehicles | Gauge (meters) |
|----------|-------------------|--------------------|----------------|
| Cars | 1.5 passengers | 133 | 28 |
| Bus | 20 passengers | 10 | 3.5 |
| Bicycles | 1 | 200 | 16 |
| Walking | 1 | 200 | 4.3 |

Source: PTV Group (2016).

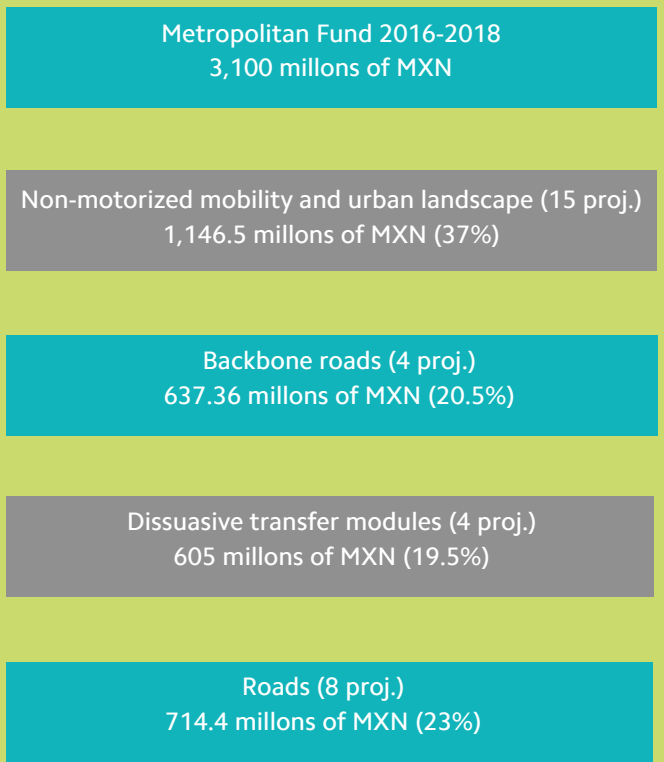
Third, besides unequal, this investment is also regressive, because car ownership is concentrated in higher income deciles (Medina, 2015); it must be added that in many states these do not pay any tax on car ownership or pay a subsidized one. In other words, a mean of transport used mainly by high-income segments is subsidized both by investment for use as well as by the reduced taxation. A phenomenon that rarely occurs in the case of public transport in the metropolises.

Since there is a serious inequality problem in Mexico, placing it within 25% of the countries with the highest income inequalities in the world (Esquivel, 2015), investing in infrastructure to promote walking, bicycling and public transport in Mexico is an important tool to reduce this problem of present in the country.

GUADALAJARA'S METROPOLITAN FUND



The state government of Jalisco, along with the municipal governments of the Guadalajara Metropolitan Area, announced that during the period 2016-2018, 1.146 million pesos would be invested in non-motorized transport and urban landscape, and 637 million pesos in main public transport routes. This corresponds to 57.5% of metropolitan funds dedicated to MUS for 3 years. Although this good practice has been put into question because of the cuts announced for the 2017 PEF.



Source: Medina y Patlán, 2016.



GREEN LINE EAST, LA LAGUNA, COAHUILA



GOOD PRACTICES



In the space formerly occupied by a disused railway line, a linear park of 5 km by 30 meters wide is being built. This project, that is a mixture of improved public space with non-motorized transport infrastructure, green areas, playgrounds, pedestrian walkways and bicycles paths, is estimated to benefit 80,000 inhabitants of neighboring areas. During 2015, the third stage (1.6 km) was carried out with an amount of \$13,558,668.00, funded by the Metropolitan Fund.

BRT RUTA, PUEBLA



GOOD PRACTICES



Through the Regional Fund (FONREGION) \$44,436,601.76 were used to complement the infrastructure of Puebla's first BRT: RUTA. With said expenditure one more route is added to the Metropolitan Area of Puebla's BRT system. Also the use of a prepaid card that allows transferring between routes without paying any extra fees, within an estimated travel time, was established. In the same project, infrastructure of other routes, such as line 2 and 3, was renewed in order to improve the commute time.



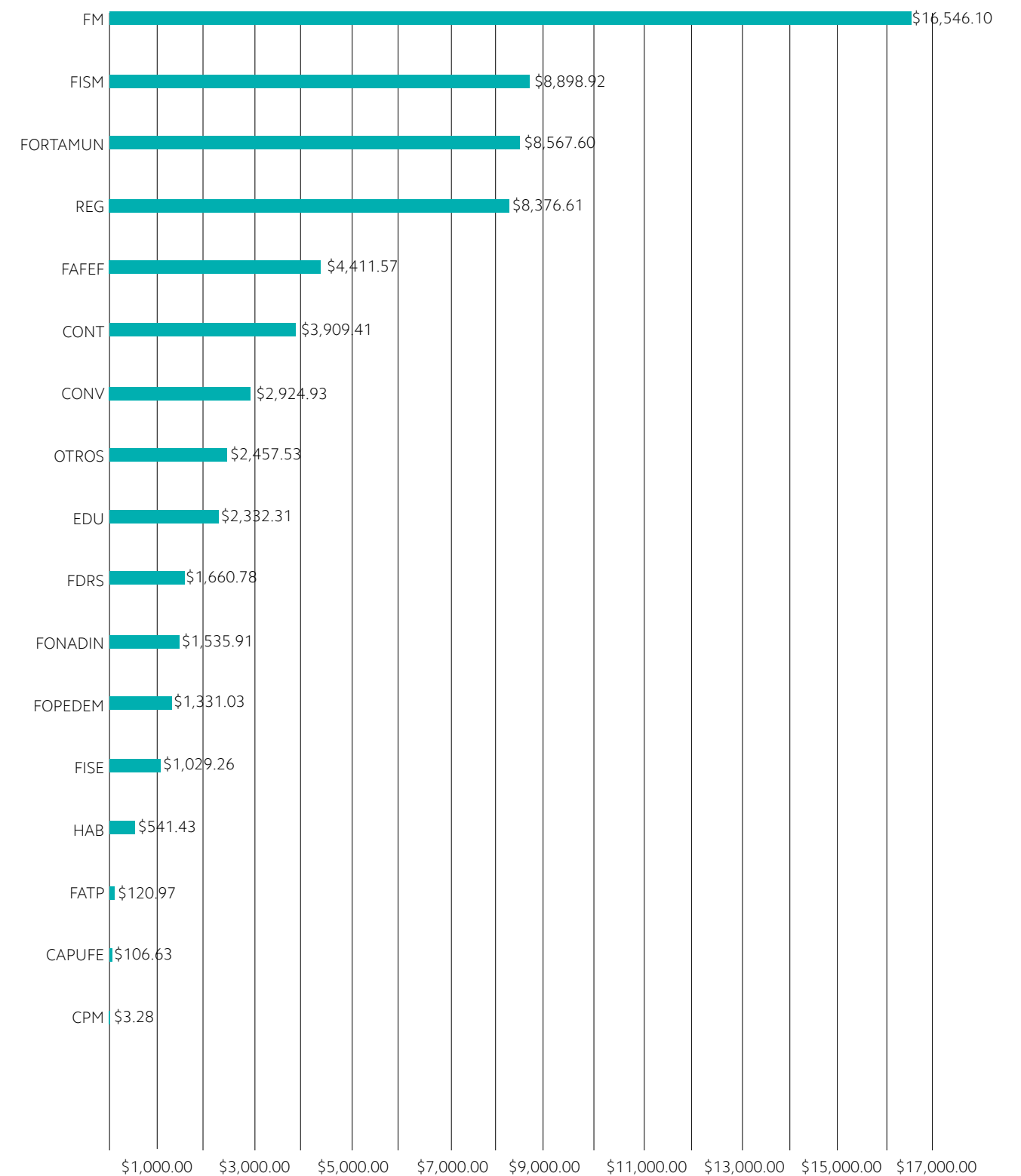
4

FEDERAL FUNDS ANALYSIS 2015

By observing the expenditures of all 18 existing federal funds invested in 2015 in metropolitan areas, it could be noted that the two of them, the Metropolitan Fund and the Regional funds, account for 60% of the resources destined for mobility investments (see Chart 16).

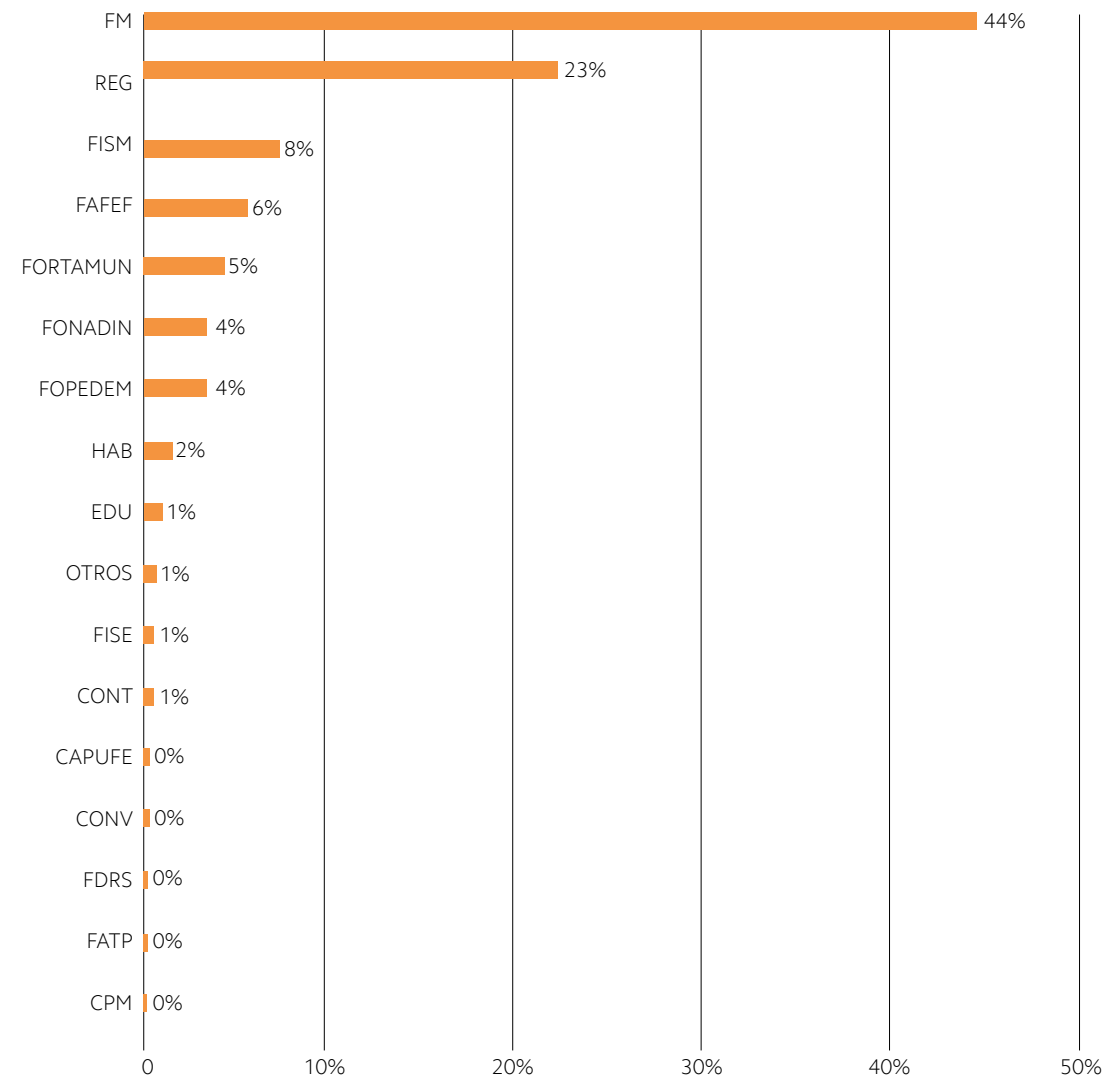
⁹ Chart 15 analyses the total of the 18 2015 federal funds, that amount to 62.3 billion MXN invested in metropolitan areas. Further ahead only the funds that had some kind of investment in urban mobility in 2015, that amount to 20.7 billion MXN, are analysed. For more information, see Methodology for the elaboration of the study: Investing for Mobility (ITDP, 2016).

CHART 15. AMOUNTS HELD BY EACH FUND IN FEDERAL ZM, 2015 (MILLION PESOS, 100=2012)



Source: ITDP.

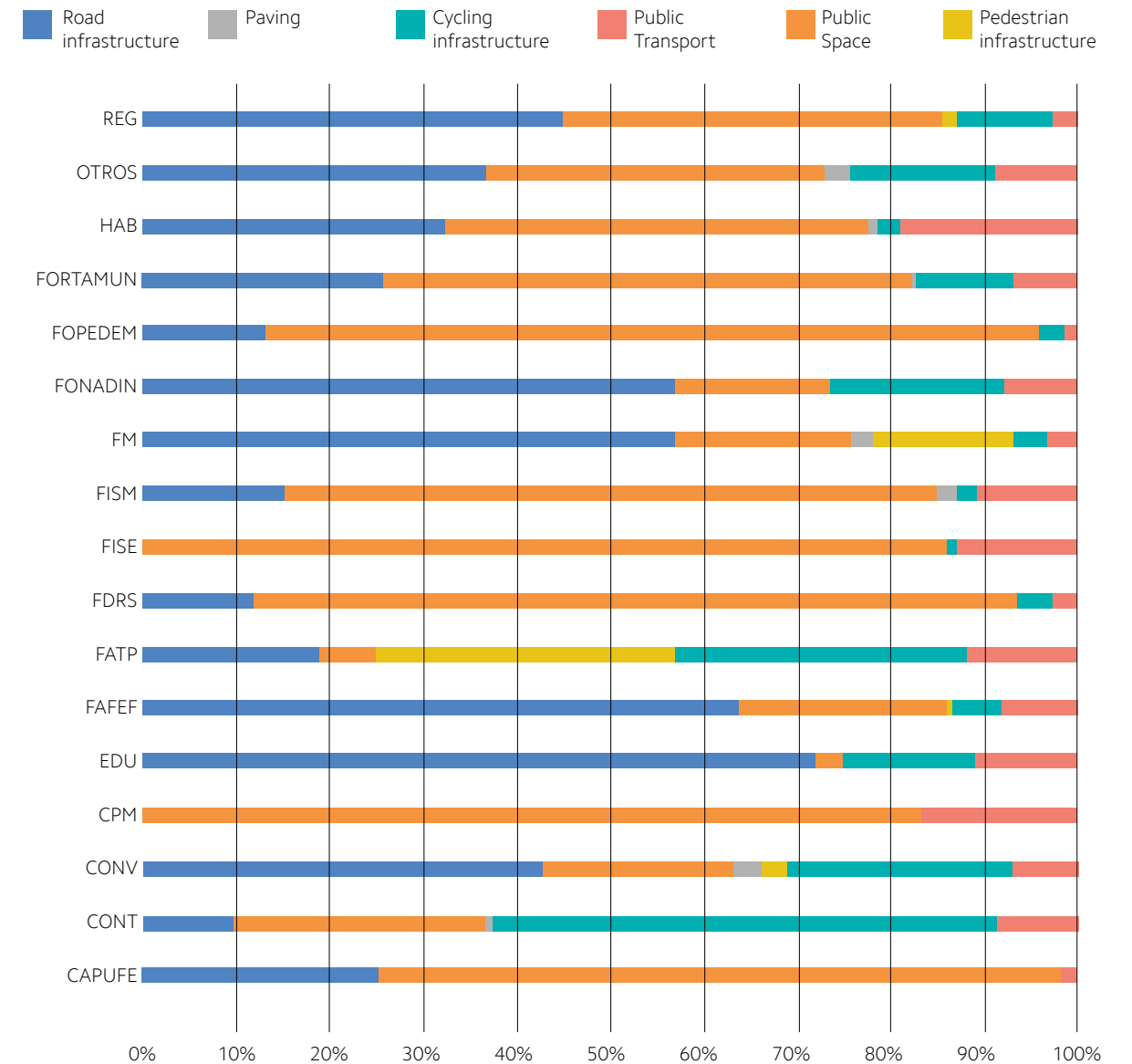
CHART 16. PERCENTAGE DISTRIBUTION OF FEDERAL FUND USED IN MOBILITY IN ZM, 2015



Source: ITDP.

Of these 21 funds that finance all types of urban mobility projects, these were mainly invested in road infrastructure and paving, although a high percentage of funds were allocated to public space and pedestrian infrastructure projects (see Chart 17) such as the Fund for Multiple Contributions (FAM), Fund for Culture and Recreation Infrastructure (FCID), and Contribution Fund for Education (FONE), which accounted for just 2% of the funds dedicated to mobility.

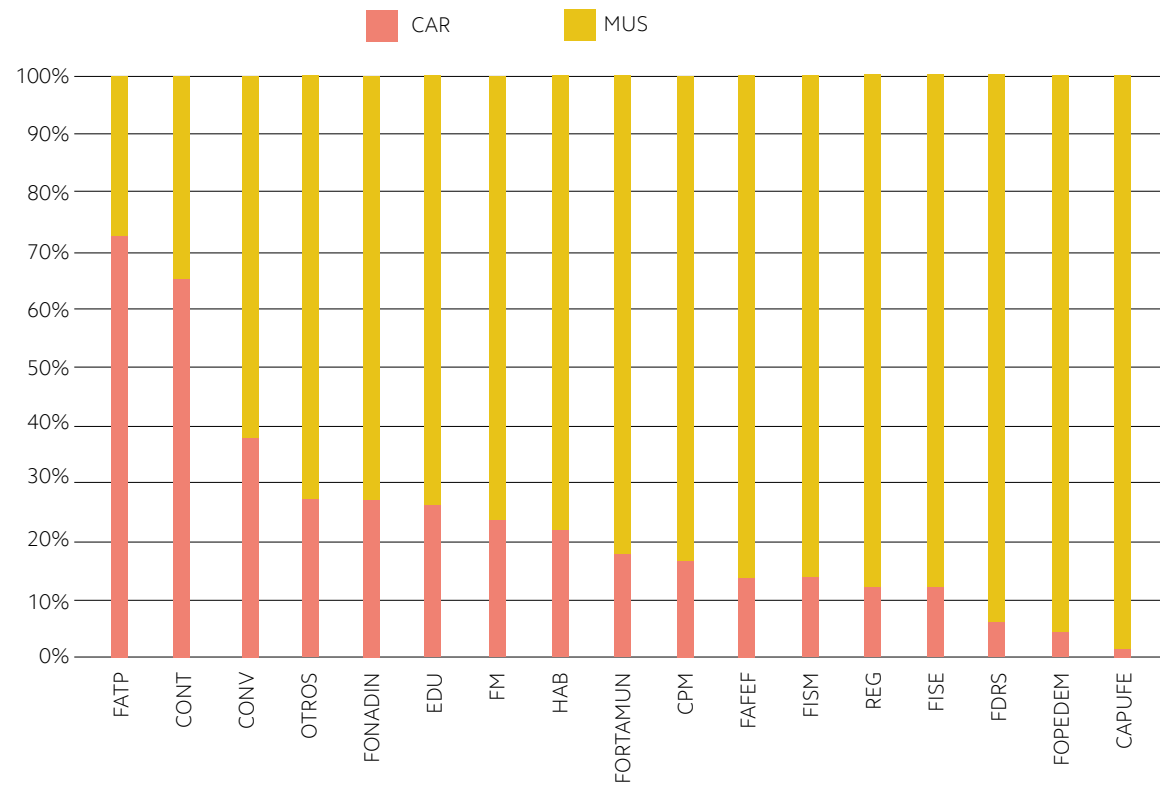
CHART 17. PERCENTAGE DISTRIBUTION IN MOBILITY PROJECTS BY FEDERAL FUNDS, 2015



Source: ITDP.

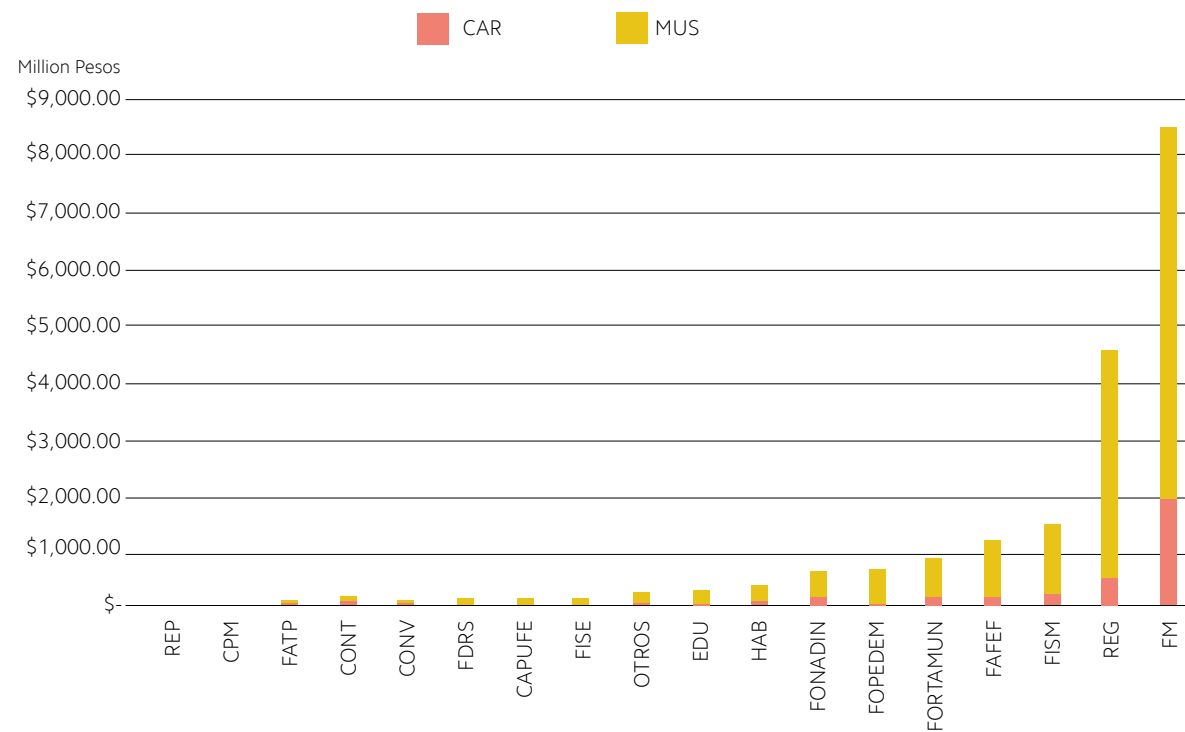
A second aspect worth noting is the fact that there are funds that have been invested in sustainable urban mobility in metropolitan areas, even though it is not necessarily its main aim. Examples of these are PROMARNAT (intended for natural resources), PET (intended for employment) or PII (infrastructure for indigenous people). These are likely due to be spent in peripheral and rural areas, also part of a metropolitan area. In turn, larger funds, such as the FM, FONREGION, FORTAMUN, and FAIS, are largely directed towards car use (see Chart 18). These latter funds are those assigned the largest portion, and even the FM operating rules allow investment in MUS (see Chart 19).

CHART 18. PERCENTAGE DISTRIBUTION BY TYPE OF FEDERAL FUND FOR MOBILITY PROJECTS, 2015



Source: ITDP.

GRÁFICA 19. AMOUNTS FOR URBAN MOBILITY BY TYPE OF PROJECT AND FEDERAL FUND, 2015 (CONSTANT PRICES 2012)



Source: ITDP.

BOX 6

WHICH KINDS OF INVESTMENTS PROMOTE THE USE OF PRIVATE CARS

Investments to promote the use of private cars were classified as those of which the main purpose is the expansion and maintenance of the road network. In the case of expansion, this type of investment includes overpasses, tunnels, distributor road, extension of main avenues, second floor highways, etc. In the second case, paving and repaving works, roadway repaving with hydraulic concrete, pavement rehabilitation and supply of paving materials are also included. While the expansion of the road network can be classified as infrastructure to promote private car use, the case of network maintenance presents major difficulties for classification. However, both investments are classified as promoting private vehicles use, since these utilize approximately 80% of the nation's urban road systems. (Negrete, 2006)

Even if the expansion and maintenance of roads may in some ways benefit freight transport (and ultimately public transport), it is more important to build on the already existing capacity and improve logistics of this type of transport to increase its value, and reduce negative externalities. For this, it is necessary to establish a comprehensive strategy for load management in urban areas, including traffic management (avoid passing traffic, set access and parking restrictions, and setting toll payments) and management areas for loading and unloading (adapting to the logistical needs of the urban distribution, generating consolidated distribution centres and logistics loading platforms). This strategy could generate higher profits for cities as opposed to continuing with the current model of road expansion. For more information see Padilla, Antún y Alarcón (2016), Antún (2004, 2009, 2010), and Herzog (2011).

Source: Garduño, 2012.



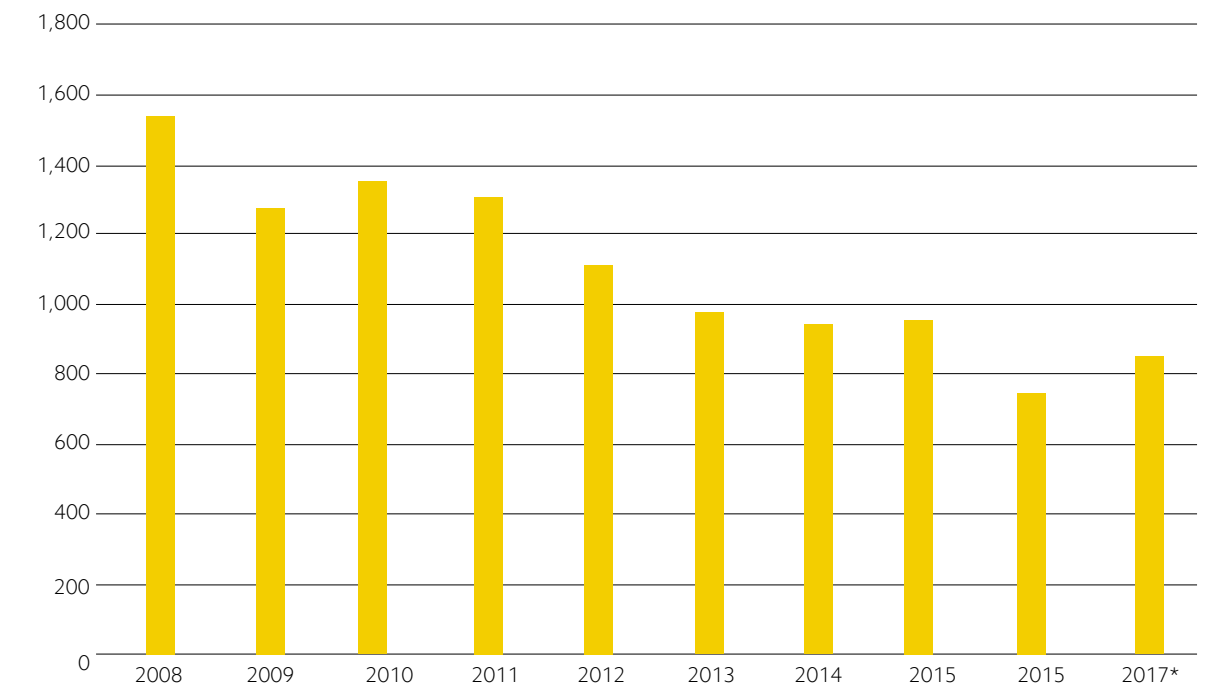
Changes in the Base Zero Budget and alignment with the PND Y EMUS

5

The implementation of the Base Zero Budget (PBC) was announced on the first of April 2015 by the Ministry of Finance based on the Pre-Economic Policy Criteria for the 2016 fiscal year. From a public finance perspective, the PBC had the mission to contain the growth momentum of the current expenditure of the federal public administration that represented 15.2% of GDP in 2013 (SHCP, 2015a). However, this is also the result of a reduction in oil revenues deriving from lower international oil prices.

For this reason, the Ministry of Finance reduced the number of budget items, considering the performance of each financial program through its Performance Indicator Matrix (MIR). Thus, 202 budget items were eliminated for the 2016 fiscal year.

CHART 20. ANNUAL BUDGET ITEMS, 2008-2016



*Scheduled for 2017 PEF (SHCP, 2016a).

Source: SHCP. For each fiscal year tax, funds and programmes with fiscal resources as well as self-financing were considered

The approval of the Programmatic Structure of the Budget Expenditure of the Federation (PEF), for the 2017 fiscal year, continued the PBC process through re-sectorization, merger and elimination of programs or federal funds pertaining to investments in sustainable urban mobility (SHCP, 2016a). Below are outlined the most representative changes related to investments in urban mobility in the PEF 2016 and 2017.

The creation of a new program¹⁰ entitled Support Program for Road Infrastructure was approved by the Administrative Branch 9 of the Secretariat of Communications and Transportation (SCT). This fact is worrisome and questionable, since it draws significantly from existing programs such as: The Reconstruction and Road Maintenance Programme, the Economic Infrastructure Project of Feeder Roads, and finally, the Rural Roads and Highways Infrastructure Conservation Program¹¹. It should be noted that in recent years the resources devoted to roads have decreased (see Chart 20), but there is still a tendency to mainly invest in projects solely directed to road infrastructure, despite large investments (70.6 billion pesos) that will result in the line 3 light rail project in Guadalajara, and the Mexico-Toluca intercity train during this six-year period (SHCP,2016b).

As for the Administrative Branch 11 programs, which are part of the Ministry of Public Education (SEP), dedicated to cities and public space under the objective of preserving cultural heritage, programs that are merged into a single program, the PEF 2016 and 2017, are then sent to the new Ministry of Culture¹². This change is neutral, because it simply consists in re-sectoring within a new Ministry of Culture with only a small amount of funding.

TABLE 2. BRANCH 11, PUBLIC EDUCATION AND BRANCH 48, CULTURE

| Type of change | Programs –Branch 11 (PEF 2016) | Re-sectorized (PEF 2017) |
|--|--|-----------------------------|
| Fusion and re-sectorization to Culture Branch 48 | World Heritage Cities | Support Program for Culture |
| | Support Program for Cultures Municipal and Community (PACMYC) | |
| | Program of Support to Communities for Restoration of Monuments and Artistic Goods of Federal Property (FOREMOBA) | |

Source: SHCP.

¹⁰ This program has already existed, it's a reactivation.

¹¹ These programs are within CAPUFE Fund (Federal Roads and Bridges).

¹² These budgetary modifications are aligned with the objective 3.3 of the National Development Plan (PND), with the National Goal of Quality in Education; as well with the objective 5 of the Education Sector Programme (PSE) which establish in its strategies 5.2 and 5.3, the urgent need of actions that allows the recovery, restoration and promotion of the cultural heritage through worthy spaces and services. Ministry of Public Education (SEP,2013)

Meanwhile Administrative Budget 15 federal programs and funds, sectorized within the Ministry of Agricultural, Territorial and Urban Development (SEDATU), also suffered major changes after merging 10 programs into only three (see Table 3). The most important of these programs is the infrastructure program that allows investing in non-motorized transport and public transport. This already occurred to a lesser or greater degree with previous funds, although they did not explicitly include these possibilities. This stands as a step forward in promoting sustainable urban mobility, but has unfortunately involved a reduction in resources due to the PBC and the proposed PEF 2017 changes (see Chart 21).

At the same time, the absence of funding in the Program to Promote Urban Mobility (PIMU) continues to be a major barrier for progress in the national policy for sustainable urban mobility, and to carry out what is stipulated within SEDATU's Strategy for Sustainable Urban Mobility (EMUS). Unlike other SEDATU programs that include subsidies for infrastructure or investments in public works, the PIMU would have the advantage of re-orienting public policy for urban mobility through training and professionalization of the technical teams in each of the planning areas¹³. Today, this barrier in changing the investment trends in road infrastructure projects by local governments continues to prevail.

TABLE 3. BRANCH 15, AGRICULTURAL, TERRITORIAL AND URBAN DEVELOPMENT

| Type of change | Name of the programs | New Program |
|----------------|---|---|
| Fusion | Implementation of policies focused on the agrarian, territorial, and urban environment | Urban Development and Territorial Planning Policies |
| | Implementation of policies focused on the agrarian, territorial, and urban environment | |
| | Implementation of policies focused on the agrarian, territorial, and urban environment | |
| Fusion | Habitat Programme | Infrastructure Programme |
| | Programme for Priority Zones Development (PDZP) | |
| | Housing Reorganization and Rescue Programme | |
| | Rescue of Public Spaces | |
| Fusion | Programme for Rural Development Promotion | Risk Prevention Programme |
| | Programme for Risk Prevention in Human Settlements (PRAH) | |
| | Programme for Territorial Planning and Schemes for Relocating Risk Area Populations (POTER) | |

Source: SHCP.

As for Budget 23 and 33, part of the General PEF, these have updated their structures for the year 2017. Specifically, Budget 23 will see changes in both the Capital City Fund and the Metropolitan Fund (within the PEF project) resulting in reductions of 68% and 100% respectively¹⁴. If the measure is approved, both Mexico City and the metropolitan areas of the country already investing in sustainable urban mobility will need to postpone the implementation of projects related to public transportation and non-motorized mobility.

Also, different Budget 33 funds, fostering mobility and public space (FCID and FAEF), have disappeared, resulting in fewer resources at the local level for the promotion of sustainable mobility. While some funds disappear, some have also been used to finance infrastructure for the use of private vehicles (FOPADEM, FOSS, FAEF).

TABLE 4. BRANCH 33, WAGE AND ECONOMIC PROVISIONS

| Type of Change | Name of the programs | New Program |
|----------------|---|-------------|
| Elimination | Fund for Culture and Sports Infrastructure (FCID) | N/A |
| Elimination | Paving and Municipal Development Fund (FOPADEM) | N/A |
| Elimination | Fund for the Strengthening of State and Municipal Infrastructure (FAEF) | N/A |
| Elimination | South-South East Fund (FOSS) | N/A |

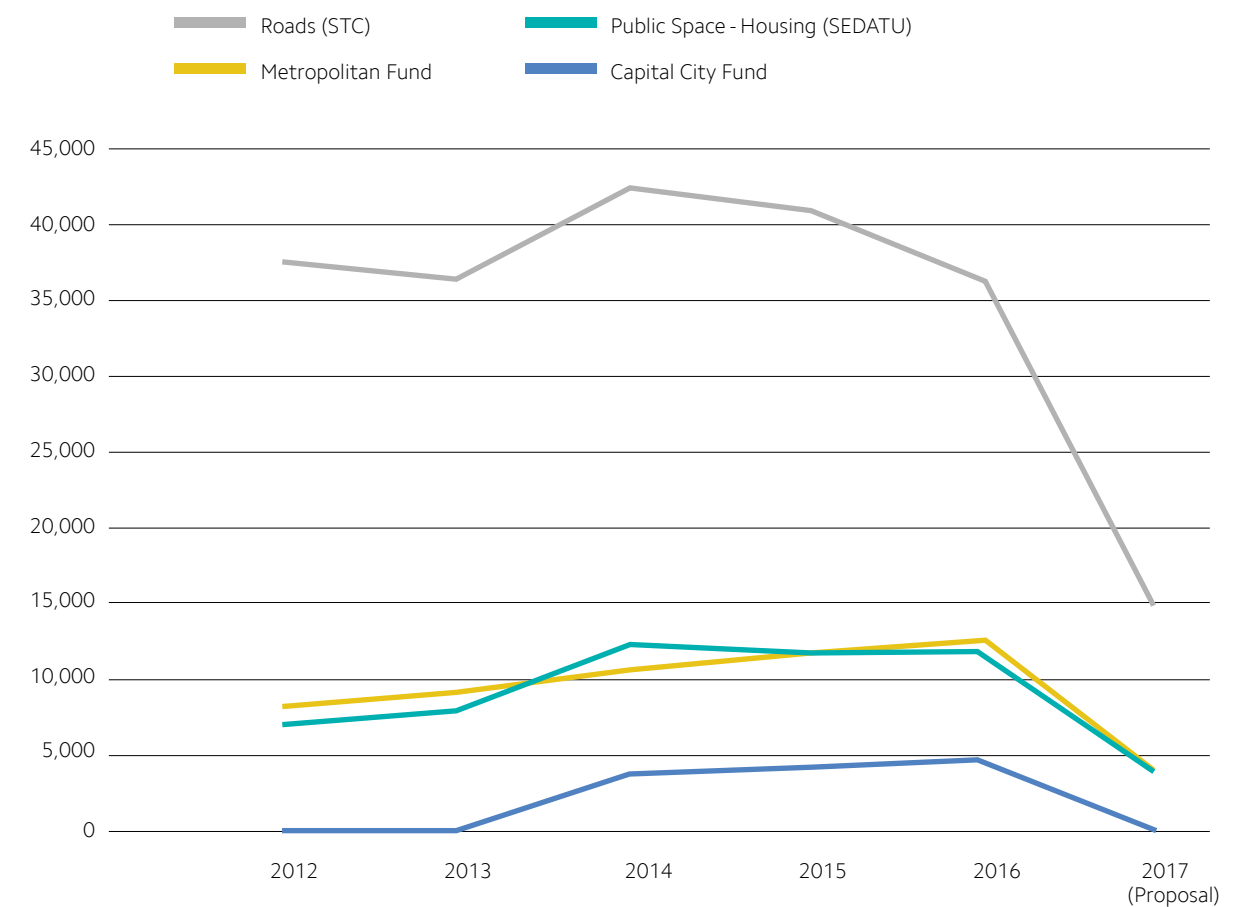
Source: SHCP.

¹³SEDATU has moved forward in this direction, by promoting capacity-building through the website "Ciudad Equitativa, Ciudad Equitativa", sponsored by the British Embassy in Mexico, the Prosperity Fund, and the Latin America Regional Climate Initiative (LARCI), and implemented by ITDP. Available at: <http://ceci.itdp.mx/>

¹⁴2012 prices.

While the implementation of a PBC is meant to optimize public spending, this optimization does not seem to incorporate the logic of sustainability and equity, since modifications to the PEF do not go in this direction and continues to leave the PIMU unfunded. Despite this, a Strategy for Sustainable Urban Mobility created by the federal government, has made an international commitment to reduce emissions¹⁵ by signing the Paris Agreement on climate change, as well as the new Urban Agenda at Habitat III, upholding the need to boost sustainable mobility.

CHART 21. COMPARISON OF PROGRAMMES AND FUNDS DEDICATED TO SUSTAINABLE URBAN MOBILITY, 2011-2017 (MILLIONS OF PESOS 2012)



Note: Roads (SCT) corresponds to the sum of the support for road infrastructure, reconstruction and road maintenance, economic infrastructure projects of feeder roads, and infrastructure and conservation of rural roads and highways programmes. Public Space-Housing (SEDATU) corresponds to the sum of the Habitat, priority development zones, reorganization and rehabilitation of housing units, rescue public spaces, promotions of rural construction and infrastructure programmes.

Source: Based on PEF data, from various years. 2017 corresponds to the PEF proposal.

¹⁵ Reduction of 30% of GHG emissions to 2020 and up to 50% to 2050, with respect to the 2000 baseline.

Current investment trends and public spending will not ensure a budget concentrating on lowering emissions through the promotion of sustainable urban mobility. Resources tagged for GEG mitigation and adaptation to climate change (Annex 16 to the PEF), only have a small share in the same PEF (less than 1%), and will also decrease in real terms in 2017, of this small percentage, nothing is aimed at MUS projects.

TABLE 5. BUDGET DEDICATED TO CLIMATE CHANGE MITIGATION AND ADAPTATION, AND SUSTAINABLE URBAN MOBILITY (PERCENTAGES AND AT A MILLION PESOS 2012 PRICES)

| Year | Total PEF | Adaptation and Climate Change Mitigation (AMCC) | | | | | |
|------|-------------|---|----------|------------------------|-----------|-----------------|----------------|
| | | Amount | % of PEF | Assigned to transport* | | Assigned to MUS | |
| | | | | Amount | % of AMCC | Amount | % of transport |
| 2013 | \$3,882,013 | \$33,865 | 0.87% | \$1,048 | 3.09% | 0 | 0 |
| 2014 | \$4,241,609 | \$35,798 | 0.84% | \$1,021 | 2.85% | 0 | 0 |
| 2015 | \$4,320,136 | \$37,566 | 0.87% | \$1,228 | 3.27% | 0 | 0 |
| 2016 | \$4,154,000 | \$38,761 | 0.93% | \$1,159 | 2.99% | 0 | 0 |
| 2017 | \$4,079,042 | \$29,559 | 0.72% | \$874 | 2.96% | 0 | 0 |

Nota: The amounts correspond to each year's PEF draft PEF; the amounts allocated for roads and transport correspond to the figures are deflated with the producer price index.

Source: Based on data of PEF, various years

Under a situation of reductions in the public budget and in federal funds, as well as environmental problems and the country's commitments on climate change and urban development, it is imperative that existing resources generate greater social benefits in terms of equity and sustainability. In other words, resources should favour investment in sustainable urban mobility, from the federal and local governments.

Finally, this trend may change in the future with the recently approved General Law of Human Settlements, Spatial Planning and Urban Development, which for the first time has recognized the importance of sustainable urban mobility, and includes new sections that take into consideration national urban planning, and recommends discouraging car use, re-establishing the hierarchy of sustainable urban mobility, and the need to promote an equitable distribution of public space. To materialize this law, the secondary legislation of federal and municipal entities must be changed to this effect and be accompanied by specific budgetary funds. Funding that could be generated through local charges, such as a tax on automobile possession and use, among other measures¹⁶; it would allow both a reduction in local dependence on federal funds to finance investments in sustainable urban mobility required by the metropolises of the country.

¹⁶ For further information about Travel Demand Management consult Medina y Veloz (2013).

BOX 7

GENERAL LAW OF HUMAN SETTLEMENTS, SPATIAL PLANNING AND URBAN DEVELOPMENT

This law for the first time, includes, urban mobility as a fundamental element in urban planning in the country, and the duty to promote and prioritize sustainable urban mobility. It states, among other provisions:

The need for equitable distribution in the use of public space for mobility and universal accessibility.

A hierarchy of sustainable urban mobility, giving priority to pedestrians, the use of non-motorized transport, public transport, freight transport, and at last, the use of the car.

The need to have consistent and effective public investments, considering transport user's vulnerabilities, transportation externalities, and social contributions to productivity.

The need to provide disincentives for using private vehicles, and recurring to demand management instruments, including charges for the use and ownership of cars, parking fees, car use restrictions, among others.

The provision of elements for Transit-Oriented Development by encouraging mixed land uses and eliminating minimum parking spaces requirements

Source: Senate of the Republic of Mexico, 2016.



6

CONCLUSIONS

During the last 5 years, federal funds have been an important source of financing for urban mobility at the local level. Trends have shown that 30% of federal fund resources are invested in mobility projects in metropolitan areas. While there are projects that show good practices in sustainable mobility throughout the nation, these are not the norm.

Year after year, investments have concentrated on projects that primarily benefit automobile use, most often over 60%, and in 2015 reaching 79%, when only 31% of trips to work and 24% of trips to school were made by car. This shows a distribution of public investment that is both unsustainable and inequitable.

The problem does not end there; it was verified that a reduction in federal funds targeting metropolitan areas were a result of from various budget cuts throughout this administration. Given the level of inequality and the lack of sustainability, a reduction in financial federal resources should be accompanied by a reordering of priorities by local governments towards projects that are sustainable and benefit most the population. In other words, projects that have the greatest cost-benefits as sustainable mobility.

Meanwhile, the Base Zero Budget has focused on making the allocation of public resources more efficient and eliminating duplicities, but it has not had an approach in promoting sustainable urban mobility. The creation of the Infrastructure Program by SEDATU, allowing investment in non-motorized transport and public transport, is progress, but it is remarkable that it still does not go hand in hand with the Program to Promote Urban Mobility (PIMU) of the same secretariat or the lack of resources dedicated to urban mobility within those for mitigation and adaptation to climate change. This calls into question what can be done by the government to reduce GHG emissions through the implementation of sustainable transportation and land use planning, or in implementing the New Agenda Urbana. The same way in which inequality exacerbates, by permitting tendencies to favour investments dedicated to car use remain.

In sum, investments in Sustainable Urban Mobility are under stress due to:

A restructuring of the Base Zero Budget that does contribute towards MUS

Budget cuts affecting federal funds and ministries that invest in MUS

Public investments that prioritizes the use of private cars

This situation will be reflected in:

The inequality and regressively in public investments

Major barriers to GHG mitigation and adaptation to climate change in the urban transport and mobility sector

Increase of other negative externalities associated with use of the car (air pollution, traffic congestion, accidents, etc.)

A negative impact in the quality of life in metropolitan areas nationwide

This trend can change in the future with the recently approved General Law of Human Settlements, Spatial Planning and Urban Development, which for the first time has recognized the importance of sustainable urban mobility, and includes new sections that take into consideration national urban planning, and recommends discouraging car use, re-establishing the hierarchy of sustainable urban mobility, and the need to promote an equitable distribution of public space. To materialize this law, the secondary legislation of federal and municipal entities must be changed to this effect and be accompanied by specific budgetary funds.

Funding that could be generated through local charges, such as a tax on automobile possession and use, among other measures; it would allow both a reduction in local dependence on federal funds to finance investments in sustainable urban mobility required by the metropolises of the country.



7

REFERENCES

- Antún, Juan Pablo. (2004). *Logística Inversa*. SD/44. México: Instituto de Ingeniería, UNAM.
- Antún, Juan Pablo. (2009). *Ocho estrategias en Logística de Distribución Urbana*. 15o Encuentro Internacional de Gerentes de Logística, Asociación Nacional de Industriales. Cali.
- Antún, Juan Pablo. (2010). *Distribución Urbana de Mercancías*. Working Paper, Washington: BID.
- CONAPO. (2010). *Delimitación de las zonas metropolitanas de México 2010*. México: CONAPO. Disponible en: http://www.conapo.gob.mx/en/CONAPO/Delimitacion_de_Zonas_Metropolitanas
- Documento relativo al cumplimiento de las disposiciones contenidas en el artículo 42, fracción I, de la Ley Federal de Presupuesto y Responsabilidad Hacendaria. Disponible en http://finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/paquete_economico/precgpe/precgpe_2016.pdf
- Duranton, Gilles, y Turner, Matthew (2011). *The Fundamental Law of Road Congestion: Evidence from US Cities*. American Economic Review, 101(6), 2616-2652. doi:10.1257/aer.101.6.2616
- Esquivel, Gerardo. (2015). *Desigualdad extrema en México*. México: OXFAM.
- Galindo, Luis Migue., Heres, David Ricardo y Luís Sánchez, L. (2005). Tráfico Inducido en México: contribuciones al debate e implicaciones de política pública. *Estudios Demográficos y Urbanos*. 21 (1), 123-157.
- Garduño, Javier. (2012). *Diagnóstico de fondos federales para transporte y accesibilidad urbana*. México: ITDP.
- Garduño, Javier. (2013). *Invertir para movernos, prioridad inaplazable. Diagnóstico de fondos federales para transporte y accesibilidad urbana*. México: ITDP.
- Garduño, Javier. (2014). *Invertir para movernos. Diagnóstico de fondos federales para transporte y accesibilidad urbana 2011-2013*. México: ITDP.
- Garduño, Javier. (2015). *Invertir para movernos. Diagnóstico de inversiones en movilidad en las zonas metropolitanas 2014*. México: ITDP.
- Gobierno de la República. (2013). *Plan Nacional de Desarrollo 2013-2018*. Disponible en: http://www.dof.gob.mx/nota_detalle_popup.php?codigo=5299465
- Herzog, Bernhard. (2011). *Transporte urbano de carga para ciudades en desarrollo*. Bonn: GIZ.
- ITDP. (2016). *Metodología para la elaboración del estudio: invertir para movernos*. México. ITDP.
- ITDP-México (2011). *Ciclociudades: Manual integral de movilidad ciclista para ciudades mexicanas*. Tomo IV: Infraestructura. México: ITDP-México y I-CE.
- Litman, Todd. (2011). *Generated Traffic and Induced Travel: Implications for Transport Planning*. Victoria: Victoria Transport Policy Institute.
- Medina Ramírez, Salvador. (2015). Transporte, fábrica de inequidad. *Nexos*. Núm 499. México: Nexos, Sociedad, Ciencia y Literatura. Disponible en: <http://www.nexos.com.mx/?p=24754>

Medina, Salvador y Veloz, Jimena. (2012). Guía de estrategias para la reducción del uso del auto en ciudades mexicanas. México: ITDP.

Negrete Salas, María Eugenia. (2006). *Transporte, Vialidad y Movilidad*. Metropoli 2025, Tomo II. Habitabilidad (p. 211). Centro de Estudios para la Zona Metropolitana, A.C.

ONU-HABITAT. (2016). *Nueva Agenda Urbana*. Quito: ONU-HABITAT. Disponible en: <https://habitat3.org/the-new-urban-agenda/>

Padilla, Xtabai; Antún, Juan Pablo y Alarcón, Rodrigo. (2012). *Distribución urbana de mercancías*. ITDP: México.

PTV Group. (2016). 5 modes of transport with 200 people each – focussing on space usage [Video]. Disponible en: https://youtu.be/g_IltWzH3Ko

SEMARNAT. (2013). Inventario Nacional de Emisiones de Gases de Efecto Invernadero (INEGEI) 1990 – 2010. México: SEMARNAT. Disponible en: <http://www.inecc.gob.mx/cpcc-lineas/1165-inem-1990-2010>

SEMARNAT. (2015). *Contribución Prevista y Determinada a Nivel México*. México: SEMARNAT. Disponible en: http://www.semarnat.gob.mx/sites/default/files/documentos/mexico_indc_spanish.pdf

Senado de la República. (2016). Por el que se expide la Ley General de Asentamientos Humanos, Ordenamiento Territorial y Desarrollo Urbano y se reforma el artículo 3º de la Ley de Planeación, devuelto para los efectos de la fracción e) del artículo 72 constitucional. México: Gaceta del Senado. Disponible en: http://www.senado.gob.mx/sgsp/gaceta/63/2/2016-10-13-1/assets/documentos/gaceta_1.pdf

SEP. (2013). *Programa Sectorial Educación 2013-2018*. Disponible en http://www.dof.gob.mx/nota_detalle_popup.php?codigo=5326569

SHCP. (2015b). *Estructura programática a emplear en el Presupuesto de Egresos 2016*. Véase en <http://gaceta.diputados.gob.mx/PDF/62/2015/jun/20150630-II.pdf>

SHCP. (2016a). *Estructura programática a emplear en el Presupuesto de Egresos 2017*. Disponible en: http://www.ppef.hacienda.gob.mx/work/models/PPEF/2017/estructura_programatica/1_EstructurasProgramaticas_paraPEF2017.pdf

SHCP. (2016b). *Proyecto de Egresos del Presupuesto de Egresos de la Federación. Ejercicio fiscal 2017. Tomo III*. Disponible en: <http://www.ppef.hacienda.gob.mx/es/PPEF2017/tomolll>

SHCP. (2016c) *Estadísticas oportunas de finanzas públicas*. http://finanzaspublicas.hacienda.gob.mx/es/Finanzas_Publicas/Estadisticas_Oportunas_de_Finanzas_Publicas

